

United States
Department of
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Forest Service



Pacific
Northwest
Region

Okanogan National Forest

Annual Report on Forest Plan Implementation and Monitoring for Fiscal Year 2001

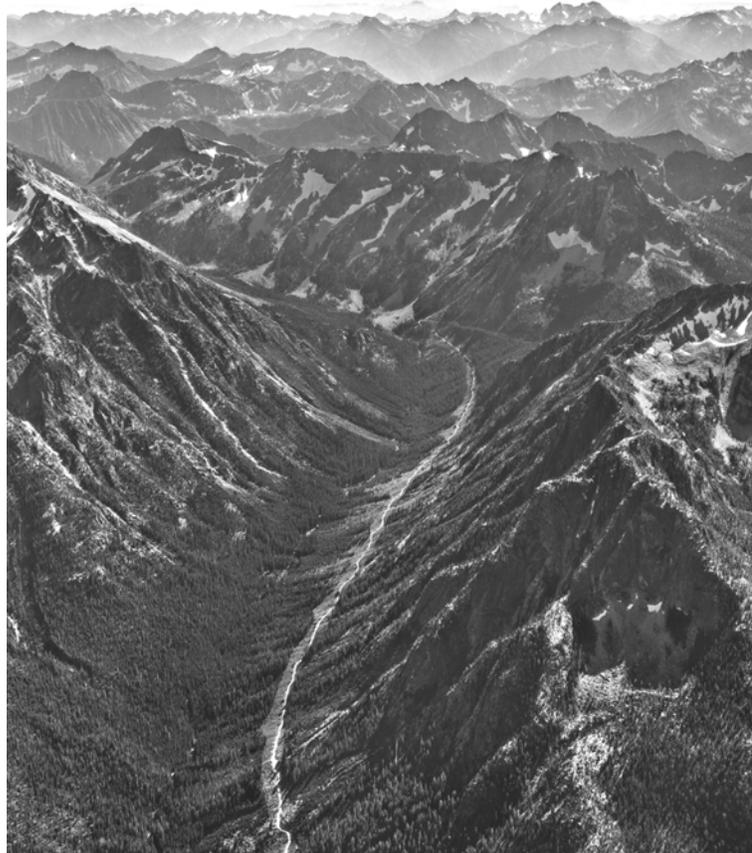


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INTRODUCTION

Monitoring is done to measure progress in *Forest Plan* implementation. It consists of gathering data, making observations, and collecting and disclosing information. Monitoring is also the means to determine how well objectives of the *Plan* are being met, and how appropriate the management standards and guidelines are for meeting the Forest's outputs, and protecting the environment. Monitoring is used to determine how well assumptions used in development of the *Forest Plan* reflect actual conditions.

Monitoring and evaluation may lead to change in practices or provide a basis for adjustments, amendments, or *Plan* revision. Monitoring is intended to keep the *Forest Plan* dynamic and responsive to change. Upon evaluation of the data and information, determinations are made as to whether or not planned conditions or results are being attained and whether they are within *Plan* direction. When a situation is identified as being outside the limits of acceptable variability, changes may need to occur.

This report covers *Forest Plan* monitoring and evaluation for the Okanogan National Forest for Fiscal Year 2001. Monitoring and evaluation processes are laid out in the amended *Okanogan National Forest Land Management Plan (Forest Plan)*. Under this process, full reports for each individual monitoring item by various resource specialists were completed. These were reviewed and evaluated by the *Forest Plan* Interdisciplinary Team (IDT). The IDT then made recommendations, and forwarded them to the Forest Leadership Team for consideration.

In this report you will find various sections explaining the *Forest Plan* itself, monitoring methods, and evaluation of monitoring practices, standards and outputs under the *Forest Plan*.

Forest Plan Decisions

The amended *Forest Plan* is a set of decisions that guide management of the Okanogan National Forest. Taken broadly, it contains three types of decisions:

- **Goals, Objectives, and Desired Future Conditions** provide general direction regarding where the Forest should be headed as the *Forest Plan* is put into practice.
- **Standards** tell how to put the *Forest Plan* into practice, or give conditions that must be met while the *Plan* is implemented.
- **Land Allocation** by management areas (MAs) as described in the *Forest Plan* and displayed on the *Forest Plan Map*, in a sense "zone" the Forest into different types of areas that are suitable and available for different types of land management and resource production.

Monitoring is gathering information and observing management activities. *Forest Plan* monitoring is organized into three levels:

Implementation monitoring determines whether goals, objectives, standards and management practices are implemented as detailed in the amended *Forest Plan*, asking, "*Did the Forest do what it said it was going to do?*"

Effectiveness monitoring determines whether management practices, as designed and executed, are effective in meeting amended *Forest Plan* standards, goals, and objectives. The question being asked is, "*Did the management practice or activity do what was intended?*"

Validation monitoring is used to determine whether the data, assumptions and coefficients used in the development of the amended *Forest Plan* are covered. The question being asked is, "*Is there a better way to meet the Forest Plan's goals and objectives?*"

Monitoring Methods

The amended *Forest Plan* defines a process that was designed to monitor implementation of the decisions above. Is the Forest doing what the *Plan* envisioned? Are the effects and outputs equivalent to what was predicted in the *Forest Plan*? Are the standards working? Do practices need to be adjusted to meet standards? Does the monitoring process need to be adjusted?

In addition to these monitoring methods, there are also monitoring procedures for timber sales, grazing allotments, fisheries, water quality, wildlife, and project effects. The results of these other types of monitoring are considered in this report.

MONITORING IMPLEMENTATION of the NORTHWEST FOREST PLAN

The *Record of Decision and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (Northwest Forest Plan)* amended the *Okanogan Forest Plan* in April of 1994. The decision resulted in some change in management emphasis for lands administered by the Okanogan Forest, generally west of the lower and middle portions of the Methow River and west of the Chewuch River and Andrews Creek.

The *Northwest Forest Plan* requires that a monitoring plan be developed and incorporated into current forest monitoring plans. The following narrative addresses the key implementation monitoring items identified on pages E-5 and E-6 of the ROD and Standards and Guidelines. Many of the effectiveness and validation monitoring items are being monitored through current efforts. As new monitoring direction arrives, it will be incorporated. This section is organized according to the following categories:

Late-Successional Reserves
Riparian Reserves
Matrix
Key Watersheds
Watershed Analysis
Participation

Late-Successional Reserves

1. Is timber harvest consistent with Standards and Guidelines and with Regional Ecosystem Office review requirements?

Planning is underway for the Fawn and Hungry Hunter projects that would include some stand treatment in the Upper Methow and Hunter Mountain LSRs, consistent with Standards and Guidelines.

2. Were other management activities consistent with standards and guides?

Other management activities included the following: renewal of several recreational special use permits, watershed restoration, noxious weed control, a mine closure, an electronic site, prescribed fire projects, road closure projects, recreation site improvements, and trail reconstruction. All projects were designed to be consistent with the Standards and Guidelines.

3. Have Late-Successional Reserve assessments been completed?

An Assessment of the Northeastern Cascades Late-Successional Reserves was published in April 1998, and guides activities in Late-Successional Reserves (LSRs) on the Okanogan National Forest.

4. Were management activities consistent with LSR assessments?

Management activities were designed to be consistent with the LSR assessment and watershed analysis documents.

Riparian Reserves

1. Width and integrity of Riparian Reserves: Did the conditions that existed before management activities were conducted change in ways that are not in accordance with the standards and guidelines?

The width and integrity of riparian reserves was maintained for all projects; no changes were made in default guidelines.

2. Was watershed analysis completed prior to management activities where required?

Watershed analysis has been completed where required prior to management activities.

3. Were management activities in Riparian Reserves consistent with the Standards and Guidelines?

If possible, management activity was designed to avoid riparian reserves. Activities in portions of riparian reserves were designed to be consistent with Aquatic Conservation Strategy (ACS) objectives, and applicable Standards and Guidelines.

Matrix

1. Did number and distribution of green trees meet standards and guidelines in harvested areas?

For applicable timber harvest prescriptions, the number and distribution of green trees met Standards and Guidelines.

2. Were appropriate amounts of snags and coarse woody debris retained?

The appropriate amount of snags and coarse woody debris were retained in timber harvest areas.

3. Was watershed analysis completed prior to harvesting late-successional stands in watersheds with less than 15 percent late-successional forest remaining?

No harvest of late-successional stands occurred in FY 2001.

Key Watersheds

1. Was watershed analysis completed prior to management activities?

Where required, watershed analysis was completed prior to management activity.

2. Was the presence and timing of activities, including restoration projects coordinated?

The presence and timing of activities was coordinated through interdisciplinary participation by various District specialists.

3. Were any new roads built in roadless areas?

No new roads were built or proposed for roadless areas.

4. Was there a net increase in roads?

In key watersheds, there was no net increase in roads. In most situations, there was a net decrease in roads due to proposed road management (obliteration).

Watershed Analysis

1. Was presence and timing of watershed analysis appropriate?

The Upper Skagit Watershed Analysis was completed in August 2001. All projects approved were consistent with the findings of completed watershed analysis.

Participation

1. Were multiple agencies, the public, and others involved in planning, implementing, and monitoring watershed analysis?

Efforts were made to include the public, American Indian tribal governments, and other agency involvement in the process of completing watershed analysis. The multi-agency, multi-public representation Eastern Washington Provincial Advisory Committee (PAC) was involved in the Hungry Hunter project.

2. Was information sharing pursued between all parties such as agencies, publics, and communities?

Yes, see above.

3. Were clear expectations and responsibilities identified?

Yes, where applicable.

4. Were active partnerships developed?

A partnership with the Pacific Watershed Institute has been useful in the implementation of in-stream and watershed restoration projects. There is an on-going effort to keep local citizens, governments, and organizations informed of monitoring activity and results.

Provincial Advisory Committee Monitoring

Monitoring under the *Northwest Forest Plan* is done by the Eastern Washington Cascades Provincial Advisory Committee (PAC). In 2001, all projects monitored by the Eastern Washington PAC were on the Wenatchee National Forest. Please refer to the 2001 Wenatchee National Forest Northwest Forest Plan Implementation Monitoring report for information.

SUMMARY OF RECOMMENDATIONS TABLE

The following table illustrates the recommended action for each Monitoring Item to be reported for Fiscal Year 2001. These recommended actions are the annual, two and three year monitoring items only.

Results Okay; Continue Monitoring

The results for these monitoring items are within the Threshold of Variability listed in Chapter V of the *Forest Plan*, or more than one year's data is needed to evaluate the results. Several years' data is generally necessary to evaluate questions of the effectiveness or validity of the *Forest Plan*. Studies are being initiated to provide the baseline data and inventories necessary to answer these questions.

Change Management Practices

Areas where the results exceeded the Threshold of Variability for a particular item in Chapter V, and an evaluation of the situation indicated the need to change practices to comply with the *Forest Plan*.

Further Evaluation/Determine Action

Results may or may not have exceeded the Threshold of Variability, but additional information is needed to better identify the cause of the concern and to determine future actions.

Propose Forest Plan Amendment

Areas where results were inconsistent with the *Forest Plan* or the *Forest Plan* direction were not clear. The action is either changing or clarifying the *Forest Plan* through the amendment or revision process. Non-significant amendments may be made by the Forest Supervisor. Significant amendments require Regional Forester approval.

Other Recommendations

Results suggest issuing action other than that specified by the above four options. Comments directing action were written by resource specialists.

Monitoring Item	Results Okay; Continue Monitoring	Change Management Practices	Evaluation	Forest Plan Amendment or Revision	Recommendations
NEPA					
1. NEPA Compliance	X				Continue monitoring. The Forest has emphasized proper closure of temporary roads over the past few years.
RECREATION					Not monitored in 2001
WILDERNESS					Not monitored in 2001
WILD and SCENIC RIVERS					Not monitored in 2001
WILDLIFE					
10. Old Growth Ecosystems	X				Completion of Forest vegetation layer is essential to be able to identify late successional and potential late successional stands across the Forest. Monitoring must be made a higher priority.
11. Primary Cavity Excavators Habitat Management	X				Continue existing project.
12. Primary Cavity Excavators Habitat Use			X		Recommend dropping this monitoring item. The current firewood policy allows snags to be cut only within 200 feet of open roads.
14. Lynx Habitat Management			X		Drop this monitoring item since it only applies to a portion of lynx

Monitoring Item	Results Okay: Continue Monitoring	Change Management Practices	Evaluation	Forest Plan Amendment or Revision	Recommendations
					habitat on the Forest. The LCAS and CA address lynx habitat management more thoroughly on the Forest until the <i>Forest Plan</i> is amended.
18. Bald Eagle Habitat Management	X				Continue to monitor next locations for activity and number of young fledged.
19. Grizzly Bear Habitat Management	X				Continue to assess the effects of projects on grizzly bears and complete consultation.
21. Bighorn Sheep Habitat Management	X				Continue monitoring.
25. Northern Spotted Owl	X				Continue monitoring with partners
FISH					
32. Fish Habitat/Riparian Condition	X				As funds become available, efforts need to be directed at resources for watershed restoration. Continue to work with federal, state and county governments and the local communities to modify operations of water diversions. Analyze and monitor roads and recreational sites within riparian areas. Modify or remove roads and/or recreational sites that prevent attainment of Aquatic Conservation Strategy Objectives or Riparian Management Objectives.
33. Riparian Acres with Timber Harvest	X				Provide consistent riparian management direction across the Forest during <i>Forest Plan</i> revision.
35. Fisheries Improvements	X				Results okay. Continue monitoring and working with livestock owners to resolve resource issues. If the current grazing strategies do not ameliorate the resource issues stated above, then modifications will need to be addressed.
RANGE					
38. Allotment Management Plans	X				Riparian objectives will be incorporated into the AMPs as the AMPs are developed. Continue to place Riparian Objectives in the grazing permits and discuss them with

Monitoring Item	Results Okay: Continue Monitoring	Change Management Practices	Evaluation	Forest Plan Amendment or Revision	Recommendations
					the permittees at the annual operation plan meetings. Continue to emphasize administration of allotments with regards to the <i>Forest Plan</i> , PACFISH, INFISH, and <i>Northwest Forest Plan</i> Standards and Guides.
TIMBER					
39. Size and Dispersion of Created Openings	X				Continue monitoring.
40. Timber Sale Program quantity				X	Projected outputs were not accomplished. Complete revision of the LMP as soon as possible, including recalculation of the ASQ and TSPQ.
43. Timber Suitability	X				Continue monitoring.
44. Reforestation	X				Continue monitoring.
45. Insect, Disease and Animal Damages				X	Substantial acreages have been impacted by insects, resulting in large amounts of standing dead. <i>Forest Plan</i> revision is urgently needed to address increasing fire risks resulting from accumulated dead biomass created by the ongoing bark beetle epidemics.
WATERSHED/SOIL					
47. Water Quality/Best Management Practices	X				Monitor water and air temperature through the Twisp River Pine Restoration (TPR) Project implementation. Collect water temperature information associated with projects in other basins that have streams on Washington State 303(d) list.
48. Water Quality	X				Projects on National Forest lands inside the four watershed mentioned should ensure that water temperatures will not increase as a result of the TPR project, and that practices occur to begin moving the water temperature to lower levels and reduce the time water temperatures remain above 61 ⁰ . Continue monitoring.
49. Soil Compaction and Displacement	X				Continue monitoring and implementing Best Management Practices to reduce soil compaction and displacement.
51. Soil and Water Improvements	X				Continue monitoring and identifying potential improvements projects. Emphasis on soil and water improvement should continue to identify projects associated with road

Monitoring Item	Results Okay: Continue Monitoring	Change Management Practices	Evaluation	Forest Plan Amendment or Revision	Recommendations
					stabilization and road closures where the greatest risk of soil erosion and sedimentation occurs. Coordinate with fisheries in jointly funding projects where soil erosion and sedimentation are a concern.
52. Water Quality Cumulative Effects				X	Recommend dropping this monitoring item. The US Geological Survey (the projected source of this information) does not collect water quality information frequently enough to make this a meaningful measure of water quality outside of National Forest land.
FACILITIES					
53. Road Miles and Operational Status	X				Continue to utilize watershed analysis, roads analysis and project level analysis to identify the need for roads and to update the Forest road inventory. Continue to decommission the remaining 23 open roads on the lawsuit inventory.
ECONOMICS					
54. Comparison of Actual and Planned Implementation Costs	X			X	Recommend dropping this item. The Okanogan and Wenatchee National Forests were administratively combined in FY 2000. The budget of both forests is combined and records of expenditures are kept only for the combined Forests, making a comparison to previous budgets meaningless.
FIRE					
55. Actual Annual Fire Wildfire Occurrence	X				Continue monitoring.
AIR QUALITY					
59. Smoke Management	X				Continue monitoring.
MINERALS					
60. & 62. Combined Operational and Administrative Effectiveness and Reasonableness		X			Forest and District priorities are usually set early in the year but this plan is too easily forgotten as unscheduled projects surface or projects resurface during the year. Greater Forest and District effort is needed to adhere to the plan or make a conscious effort to periodically review and revise it so that non-discretionary actions such as mining plan reviews can be completed within reasonable time frames.
63. Mineral Withdrawals	X				Continue monitoring.
COMMUNITY EFFECTS					

Monitoring Item	Results Okay: Continue Monitoring	Change Management Practices	Evaluation	Forest Plan Amendment or Revision	Recommendations
67. Changes in Payments to County				X	Drop this monitoring item from future reports. Payments to counties were decoupled from timber harvest levels in the Secure Rural School and Community Self-Determination Act of 2000 (P.L. 106-393). As a result, harvest levels or other resource management activities on the nation Forest no longer affect payments to counties. Therefore, payments to counties will no longer be reported in the <i>Forest Plan</i> Monitoring Report
HERITAGE					
70. Heritage Resource Site Protection	X				Continue monitoring.
VEGETATION MANAGEMENT					
71. Management of Competing and Unwanted Vegetation	X				Continue monitoring new invasive species with high potential for spread. Use tools such as GIS to track treatments to help interpret the spread of noxious weeds and help set priorities on treatment areas. Continue to use the prevention strategy in the planning of all ground disturbing project and implement the Okanogan and Wenatchee National Forests Prevention Strategy as it becomes available.
72. Survey and Manage	X				Initiate a program to locate S & M known sites on the Forest and complete work on Strategic Surveys for all categories of species. Continue pre-disturbance surveys for Category 1A and 1C species prior to project implementation, manage all known sites for Category 1A, 1B and 1E species and determine high priority sites to manage for Category 1C and 1D species. Seek continued regional support for development of local expertise in survey and manage species taxonomy.

EVALUATION REPORTS

Monitoring Item #1: Project Compliance with NEPA Procedures

Objective or Purpose: NEPA compliance including implementing standards and guidelines of the *Plan*.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: One project on each District reviewed by Forest/District Environmental Coordinators

Unit of Measure: NEPA inconsistencies and results of appeals

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Any remands or decisions withdrawn

Frequency Item is Monitored: Two field reviews per year

Evaluation: The Forest approved 9 projects under Categorical Exclusions with Decision Memos and 8 projects under Categorical Exclusions that required no Decision Memo in FY 2001. One Decision Notice approved a project documented by an Environmental Assessment. No Records of Decision were signed for Environmental Impact Statements.

One appeal of an outfitter-guide performance evaluation was received during FY 2001; as of the end of the Fiscal Year, no decision had yet been made on the appeal. The Early Winters Ditch and Horse Salvage appeals from FY 2000 were both affirmed by the Regional Forester. The Threshold of Variability was not exceeded.

Because of the severe fire season and demand on Forest personnel, the only implementation monitoring performed related to road closures from previous timber sales on the Methow Valley and Tonasket Districts. Temporary road closures relating to *Forest Plan* implementation were monitored on both Districts on the following sales: Aeneas, Annie, Bannon Fire Salvage, Barnell Salvage, Barney, Basin Salvage, Bat Resale, Beaver, Beehive, Beetle Bailey Salvage II, Black I, Bobcat, Bride Resale, Butte Bugs Salvage, Cazadero, Chick, Cockle, Corn Buyout, Cow, Cub II, Day, Dill, Eightmile, Fir Belle, Fish, Five Lakes Salvage, Gold, Goldmine, Hook, Hoot Buyout, Humbug, Kitten, Lake, Lamb Butte, Leech, Light, Lost River, LP, Lyman, Marias Buyout, McDonald, Middle Salvage, Myers Beetle Salvage, Myers LP Salvage, NG, Nicholson Salvage One, Nicholson, Old Tom, Otter, Panther, Pearl, Phoebe Salvage, Pole Pick, Radar Buyout, Ram, Ram Resell, Scatter, Ski, Slim, Split, Stag, Toats, Turner Lake, Walker and Whiteface Salvage Timber Sales. Of the 341 roads monitored, 271 were closed or obliterated, 6 had been added/were recommended for adding to the system, 2 were off system roads that were recommended for NEPA analysis to close, 2 were being planned for use in current NEPA projects, 6 had no way to effectively close and 56 were open.

Recommended Actions: Results okay; continue monitoring. The Forest has emphasized proper closure of temporary roads over the past few years.

Monitoring Item #2: Physical, Social and Managerial Setting for Recreation ***Reported every 5 years***

Monitoring Item #3 User (visitor) Needs and Expectations
Reported every 5 years

Monitoring Item #4: ORV Use Rate and Patterns
Reported every 5 years

Monitoring Item #5: Physical, Social and Managerial Setting for Wilderness
Reported every 5 years

Monitoring Item #6: Specific Area Use Levels
Reported every 5 years

Monitoring Item #7: Effects of Activities on Attributes for Potential Classification of River Segments Eligible for Wild and Scenic River Designation.
Reported every 5 years

Monitoring Item #8: Mule Deer Management as an Indicator for Deer Winter Range
Reported every 5 years

Monitoring Item #9: Mule Deer Population Levels
Reported every 5 years

Monitoring Item #10: Old Growth Ecosystems:

Objective or Purpose: Identify acres and distribution of old growth

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: GIS with field verification

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Are old growth ecosystems greater or less than assumed in the *Forest Plan*?

Frequency Item is Monitored: Every 3 Years

Evaluation: The *Northwest Forest Plan* allocated several areas as Late Successional Reserves (LSRs) where the objective is to sustain/develop late successional forests. Outside of the LSRs, patches meeting the definition of old growth in the *Okanogan National Forest Plan* are retained. These patches are identified primarily during project inventory and analysis.

Recommended Action: Completion of the Forest vegetation layer is essential to be able to identify late successional and potential late successional stands across the Forest. Monitoring must be made a higher priority.

Monitoring Item #11: Primary Cavity Excavators
Reported annually

Objective or Purpose: Habitat Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Estimate numbers of snags and wildlife trees by sampling timber management projects and established transects

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Does greater than 10% of the area have less than 90% of prescribed level of snags?

Frequency Item is Monitored: Annually

Evaluation: A project to estimate snag retention during project implementation has been initiated and the first year of data collection has been completed. The study is designed to determine project effects on existing snags, including logging, post sale activities and prescribed fire.

Recommended Action: Continue existing project.

Monitoring Item #12: Primary Cavity Excavators
Reported every 2 years

Objective or Purpose: Habitat Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Establish transects to measure longevity of snags in areas where firewood is gathered

Unit of Measure: Number of snags

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: How much of the area has less than 90% of the prescribed level of snags?

Frequency Item is Monitored: Every year.

Frequency Item is Reported: Every 2 years.

Evaluation: Monitoring project areas for snag retention and longevity should provide adequate data on existing snag levels. The current firewood restrictions of cutting within 200 feet of open roads only, will address this monitoring issue.

Recommended Action: Drop this monitoring item. The current firewood policy allows snags to be cut only within 200 feet of open roads.

Monitoring Item #13: Primary Cavity Excavators
Reported every 10 years

Monitoring Item #14: Lynx Habitat Management
Reported every 3 years

Objective or Purpose: Habitat Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Estimate amount of lodgepole pine providing lynx/snowshoe hare habitat in primary lynx area. Use Landsat and aerial photos with field sampling as imagery data or photos are updated.

Unit of Measure: Percent of sapling and pole condition providing habitat.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Are the amounts less than 10% predicted in the *Forest Plan*?

Frequency Item is Monitored: Every 3 Years

Evaluation: The Lynx Conservation Assessment and Strategy (LCAS) was completed in 2000 and included recommendations for lynx conservation based on the most current science available. The Forest Service and U.S. Fish and Wildlife Service signed a Conservation Agreement (CA) in February 2000, to be effective until forest plans can be amended to incorporate information contained in the LCAS. The LCAS contains similar recommendations as were specified in the *Okanogan Forest Plan*, e.g. restricting to 30% the amount of lynx habitat present in an unsuitable condition. The LCAS also provides information on lynx habitat and direction from the Regional Office on identifying lynx habitat. Although the monitoring item only applies to MA12, lynx habitat is much more widespread on the Forest and the CA applies to all lynx habitat.

Recommended Action: Drop the monitoring item since it only applies to a portion of lynx habitat on the Forest. The LCAS and CA address lynx habitat management more thoroughly on the Forest until the *Forest Plan* is amended.

Monitoring Item #15: Lynx Population Trends
Reported every 5 years

Monitoring Item #16: Ruffed Grouse Habitat Management
Reported every 5 years

Monitoring Item #17: Ruffed Grouse Population Changes
Reported every 10 years

Monitoring Item #18: Bald Eagle Habitat Management

Objective or Purpose: Habitat Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Sample potential nest sites for occupancy. Annual mid-winter use survey

Unit of Measure: Number of animals

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Is the Forest inconsistent with the Bald Eagle Recovery Plan?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: An active nest has been located in the Methow Valley, accomplishing the Bald Eagle Recovery target of one nest. No young were fledged in 2001. A second nest located near by was not active in 2001. Neither of these nests is located on National Forest system lands.

Recommended Action: Results okay; continue monitoring nest locations for activity and number of young fledged.

Monitoring Item #19: Grizzly Bear Habitat Management

Objective or Purpose: Habitat Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Review National Environmental Policy Act (NEPA) documents for adherence to guidelines. Field verify implementation of guidelines.

Unit of Measure: N/A

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Are Biological Assessments completed and grizzly bear guidelines followed?

Frequency Item is Monitored: Every Year

Evaluation: Biological assessments are completed to address the effects of each project on grizzly bears within the North Cascades Grizzly Bear Recovery Zone. Outside the recovery zone, projects are assessed for connectivity effects.

Recommended Action: Results okay; continue to assess the affects of projects on grizzly bears and complete consultation.

Monitoring Item #20: Bighorn Sheep Habitat Management ***Reported every 5 years***

Monitoring Item 21: Big Horn Sheep Population Changes:

Objective or Purpose: Population Changes

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Estimate numbers using annual Forest Service and Washington State Department of Fish and Wildlife bighorn sheep survey, year long observations and follow-ups to reported sightings annually.

Unit of Measure: Population

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Are bighorn sheep populations declining?

Frequency Item is Monitored: Every 3 years

Evaluation: Annual Washington State Department of Wildlife sheep count was conducted on Mt. Hull in 2001. The count was completed in the spring and 10 lambs, 30 ewes and 19 rams were counted. This population appears to be stable at the present time.

Recommended Action: Results okay; continue monitoring

Monitoring Item #22: Mountain Goat Habitat Capability
Reported every 2 years

Monitoring Item #23: Mountain Goat Population Trends
Reported every 5 years)

Monitoring Item #24: Peregrine Falcon
Reported every 5 years

Monitoring Item #25: Northern Spotted Owl

Objective or Purpose: Habitat Capability and Population Changes

Type of Monitoring: Implementation _____ Effectiveness X Validation X

Method of Monitoring: GIS with field verification to assess suitable habitat. Follow Regional protocol for population monitoring.

Unit of Measure: Habitat capability and occupancy.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Is Northern Spotted Owl suitable habitat between 92,115 and 112,585 acres?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Habitat capability has not changed. Each project proposal is assessed to determine the effects on spotted owls and spotted owl habitat, a biological assessment is prepared to document and support the effects determination, and a consultation with the US Fish and Wildlife Service occurs to address identified effects. All known nests are within Late Successional Reserves or wilderness. Monitoring of known nest sites occurred with partners. One site located outside of wilderness had a pair present in May; but no nest was located.

Recommended Action: Results okay; continue monitoring with partners.

Monitoring Item #26 and 27: Pileated Woodpecker, Pine Marten, Three-toed Woodpecker and Barred Owl
Reported every 5 years

Monitoring Item #28: Sensitive Species
Reported every 5 years

Monitoring Item #29: Raptor Nests
Reported every 5 years

Monitoring Item #30: Diversity
Reported every 5 years

Monitoring Item #31: Anadromous and Resident Fish Management Indicator Species
Reported every 5 years

Monitoring Item #32: Fish Habitat and Riparian Condition

Objective or Purpose: Determine if project implementation is resulting in expected condition for Riparian and Aquatic Ecosystems.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Environmental Assessment (EA) with field review of sample of projects annually.

Unit of Measure: Percentage of Fish/Riparian Standards and Guidelines successfully identified and applied

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Is there compliance with Forest-wide direction?

Frequency Item is Monitored: Every year

Evaluation: Temperature is being monitored cooperatively by several agencies using continuously recording thermographs in major tributaries to the Methow River. Thermograph placements and data management are coordinated with Washington State Department of Fish and Wildlife, Yakama Nations, and the Pacific Watershed Institute. Sediment is monitored annually using the McNeil core method. Washington Conservation crews collect the samples in known salmon spawning habitat. Samples were collected by coring into the substrate of the riverbed and then analyzed for particle size distribution and compared with prior year's data. In 2001, the 2000 sediment report was written and data was collected for the 2001 report. Flow monitoring data was collected and Biological Opinions were issued to three irrigation ditches that begin on federal land in the Methow Basin. Flow monitoring and reporting is required by the Biological Opinions for each project and flows are monitored using flow meters and USGS gages. This work is funded by lands and special use permit administration funds in addition to fisheries and watershed funds.

Recommended Actions: Results okay; continue monitoring. As funds become available, efforts need to be directed at resources for watershed restoration. Continue to work with federal, state and county governments, and the local communities to modify operations of water diversions. Continue to analyze and monitor roads and recreational sites within riparian areas. Modify or remove roads and/or recreational sites that prevent attainment of Aquatic Conservation Strategy Objectives or Riparian Management Objectives.

Monitoring Item #33: Riparian Acres with Timber Harvest

Objective or Purpose: Monitor impacts of timber harvest on Riparian Ecosystems

Type of Monitoring: Implementation X Effectiveness X Validation ____

Method of Monitoring: GIS, SILVA/TRACS 5-year action

Unit of Measure: Acres treated by timber harvest

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Are the Riparian acres with timber harvest more than 336 or less than 224 in the decade?

Frequency Item is Monitored: Every year

Evaluation: No timber harvest occurred within riparian areas, other than removal of incidental trees removed for safety purposes. About half of the Okanogan National Forest is under interim direction provided by either INFISH or PACFISH. The western half of the Methow Valley District has long-term direction provided under the *Northwest Forest Plan*

Recommended Actions Results okay; continue monitoring. Provide consistent riparian management direction across the Forest during Forest Plan Revision.

Monitoring Item #34: Fish Habitat Capability

Dropped in 1998

Monitoring Item #35: Fisheries Improvements

Objective or Purpose: Determine if planned fisheries improvement projects are implemented.

Type of Monitoring: Implementation X Effectiveness ____ Validation ____

Method of Monitoring: Accomplishment reports, consultation with district and field reviews

Unit of Measure: Acres, structures

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Did the Forest develop less than 14 resident or anadromous fish habitat improvements (structures)? Did the Forest develop less than 3 acres of resident or anadromous fish habitat?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: The Methow Ranger District has been determining the effects of livestock on stream habitat. Channel conditions along the south fork of Beaver Creek were collected to determine if PACFISH Riparian Management Objectives were being met. It found that channel widening is occurring in grazed areas in comparison to a fenced area.

Recommended Actions: Results okay. Continue monitoring and working with livestock owners to resolve resource issues. If the current grazing strategies do not ameliorate the resource issues stated above, then modifications will need to be addressed.

Monitoring Item #36: Range Condition
Reported every 5 years

Monitoring Item #37: Range Habitat Improvement
Combined with #38

Monitoring Item #38: Allotment Management Plans
#37 Riparian Habitat Improvement combined with #38

Objective or Purpose: Ensure allotment management plans (AMPs) are developed and implemented, and that the plans incorporate *Forest Plan* Standards and Guidelines, including Riparian Objectives

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Review environmental assessments and allotment management plans

Unit of Measure: AMPs completed

Criteria: *Forest Plan* direction, Standards and Guidelines, Riparian Objectives

Standards: Has the Forest prepared an average of six allotment management plans per year?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Three allotment management plans that include Standards and Guidelines, including Riparian Objectives, have been completed for the Okanogan National Forest. These are Clark, Squaw and Libby. No other allotment management plans have Riparian Objectives incorporated into the AMPs because they have not been updated due to lack of funding. However, as directed by the Regional Office, *Forest Plan* Standards and Guidelines, including Riparian Objectives are included in all term grazing permits and the applicable Riparian Objectives are discussed with the grazing permittees during the annual operating plan meetings which are held prior to each grazing season.

Environmental analysis began in FY 1999 on the Hull, Beaver, Frazer, Finley, Toroda, and Sheridan Allotments and were to be completed in FY 2001 but were not completed in FY 2001 due to heavy fire activity. These six AMPS are very close to completion and it is expected they will be completed in FY 2003.

Recommended Action: Results okay; continue monitoring. Riparian Objectives will be incorporated into the AMPs as the AMPs are developed. Continue to place Riparian Objectives in the grazing permits and discuss them with the permittees at the annual operating plan meetings. Continue to emphasize administration of allotments with regards to the *Forest Plan*, PACFISH, INFISH, and *Northwest Forest Plan* Standards and Guidelines.

Monitoring Item #39: Size and Dispersion of Created Openings

Objective or Purpose: Determine whether the size and dispersion of created openings is according to *Forest Plan* direction.

Type of Monitoring: Implementation X Effectiveness ____ Validation ____

Method of Monitoring: Information provided by districts.

Unit of Measure: Are harvest units that meet definition of created openings less than 40 acres, and are they dispersed as directed in the *Forest Plan*?

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Created openings are less than 40 acres in size, or appropriate review has occurred to permit larger units.

Frequency Item is Monitored: Every year.

Frequency Item is Reported: Every three years.

Evaluation: Timber harvest units that result in created openings are being dispersed as required. Created openings are less than 40 acres in size.

Recommended Actions: Results okay; continue monitoring.

Monitoring Item #40: Timber Sale Program Quantity:
Timber Sale Quantity is combined with #42 and #69

Objective or Purpose: Chargeable Saw Timber Volumes Offered is Consistent with Plan

Type of Monitoring: Implementation X Effectiveness ____ Validation ____

Method of Monitoring: Attainment Reports

Unit of Measure: MMBF

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: What is the annual average TSPQ?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: In FY 2001, the Forest offered approximately 14.396 MMBF (27.640 CCF) of merchantable timber and convertible wood products of which 13.0 MMBF (24.960 CCF) sold during the same fiscal year. Included in these figures are approximately 6.635 MMBF (12.740 CCF) of biomass, firewood, posts, and pole products.

Fiscal Year	Forest TSPQ (MMBF) Sold ^{1, 2}	Percent of Plan Projection ³
90	73.86	97.4
91	29.00	38.3
92	16.50	21.8
93	14.06	18.5
94	19.24	25.4
95	22.42	29.6
96	23.16	30.6
97	23.48	31.0
98 ⁴	6.01	8.0
99 ⁴	16.53	21.8
00 ⁴	1.26	1.6
01 ⁴	13.0	16.5

1 All timber products including saw logs and convertible products. . All volumes are based upon sales **sold** during the fiscal year.

2 Free use forest products were inadvertently omitted from monitoring reports prior to 1997. Inclusions of free use forest products in the timber sale program quantity results in an increase of overall accomplishment of up to 5 percent in some years.

3 The 1989 *Forest Land and Resource Management Plan* estimated a TSPQ of 75.8 MMBF, including 63.3 MMBF from the ASQ and 12.5 MMBF from non-chargeable wood products that did not meet merchantability standards. Non-chargeable volume includes merchantable timber removed from areas that are on lands not suited for timber production for administrative, physical, or biological reasons. It also includes wood that is smaller than the merchantability standards used in calculating the ASQ, and wood with breakage or defect that prevents its use for saw logs or veneer. Firewood, chip material used for pulp, posts, poles, and apple prop material are examples on non-chargeable wood that does not meet merchantability standards. The TSPQ and ASQ have not been recalculated to reflect changes in direction associated with the President's *Northwest Forest Plan*, PACFISH, INFISH, or Regional Forester's Amendment No. 2 to eastside Forest Plans

4 As of FY 1998, all volume is reported as CCF. Therefore, to be consistent with data reported from prior years, volume is converted to MBF for reporting. For purposes of conversion, 1 MBF is to equal approximately 1.92 CCF.

Recommended Actions: Projected outputs not accomplished. Need to revise *Forest Plan*. Complete revision of the LMP as soon as possible, including recalculation of the ASQ and TSPQ. Revision of the Forest Plan is currently in process and should be completed by 2006.

Monitoring Item #41: Distribution of Timber Harvest Acres and Volume Reported every 5 years

Monitoring Item #42: Timber Harvest Sale Harvest Quantity Combined with #40 and #69

Monitoring Item #43: Timber Suitability

Objective or Purpose: Determine whether timber harvest occurs where the management objective is timber production on lands suitable for timber production.

Type of Monitoring: Implementation X Effectiveness Validation

Method of Monitoring: Information provided by districts. Field reviews of a sample of harvested units.

Unit of Measure: Are lands that are not suited for timber production harvested when the project objective is to produce merchantable timber?

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Lands where timber is harvested for the purpose of timber production must be suitable. Where timber harvest occurs on unsuitable lands a stated objective must be to accomplish other than timber production objectives.

Frequency Item is Monitored: Every year.

Frequency Item is Reported: Every three years.

Evaluation: Timber harvest production is occurring on lands suitable for timber production.

Recommended Actions: Results okay; continue monitoring.

Monitoring Item #44: Reforestation

Objective or Purpose: Determine whether reforestation following timber harvest is consistent with *Forest Plan* direction.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Growth and survival report, annual attainment reports.

Unit of Measure: Acres reforested, first time success, first and 3rd year survival of planted seedlings.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Lands are reforested within five years of harvest, or promptly following wildfire.

Frequency Item is Monitored: Every year.

Frequency Item is Reported: Every three years.

Evaluation: Reforestation is occurring as planned. First year survival of planted seedlings is between 70% and 90%. Planting is successful between 75% and 100% of the time on the first attempt. All areas reforested are reported as fully stocked within five years.

Recommended Actions: Results okay; continue monitoring

Monitoring Item #45: Insect, Disease and Animal Damages

Objective or Purpose: Success of Integrated Pest Management

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Aerial and ground surveys

Unit of Measure: Acres and severity

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Is there a probability of significant growth loss or mortality because of insects or animal damage?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Epidemic levels of mountain pine beetle have declined. Direct mortality remains at epidemic levels, though trees killed on a per acre basis have declined as the larger lodgepole pines have succumbed to the insects. An epidemic outbreak of Englemann spruce beetle is in progress in the high elevation forests located on the central portion of the Okanogan National Forest along the boundary of the Methow and Tonasket Districts. The outbreak is expected to result in near complete mortality of Englemann spruce trees that are 10" dbh and larger. Most of the mortality from Englemann spruce beetle and mountain pine beetle is within roadless areas or in wilderness. Dead trees killed by bark beetle will remain on site and will eventually contribute to a stand replacing fire event over a large area. Douglas-fir bark beetle mortality is approaching epidemic levels on the east portion of the Tonasket District. During the summer of 2001, a Douglas-fir tussock moth suppression project was completed in the vicinity of Early Winters on about 16,200 acres of National Forest land on the Methow Valley Ranger District. Concurrently, private land owners sprayed approximately 3,000 acres of adjacent private holdings in a separate contract coordinated by the Washington Department of Natural Resources (DNR). For safety reasons and to facilitate efficient use of biological pesticides, there was close operational coordination between the Forest Service and DNR projects.

Recommended Actions: Substantial acreages have been impacted by insects, resulting in large amounts of standing dead. *Forest Plan* Revision is urgently needed to address increasing fire risk resulting from accumulated dead biomass created by the ongoing bark beetle epidemics.

Monitoring Item #46: Stream Channel Condition
Reported every 5

Monitoring Item #47: Water Quality/Best Management Practices

Objective or Purpose: To meet Federal Designated Management Agency obligations and responsibilities with respect to management of non-point source pollution. Forest Service compliance with the Clean Water Act as outlined in MOUs with the States of Washington and Oregon.

Type of Monitoring: Implementation ___ Effectiveness X Validation ___

Method of Monitoring: Interdisciplinary EA and project implementation review. Quantitative and qualitative measurement of effects.

Unit of Measure: Degree to which specific water quality objectives were met. Effectiveness monitoring of water quality can take many forms based on variables of concern. Units of measure will be consistent with Standard Methods and the selected variables.

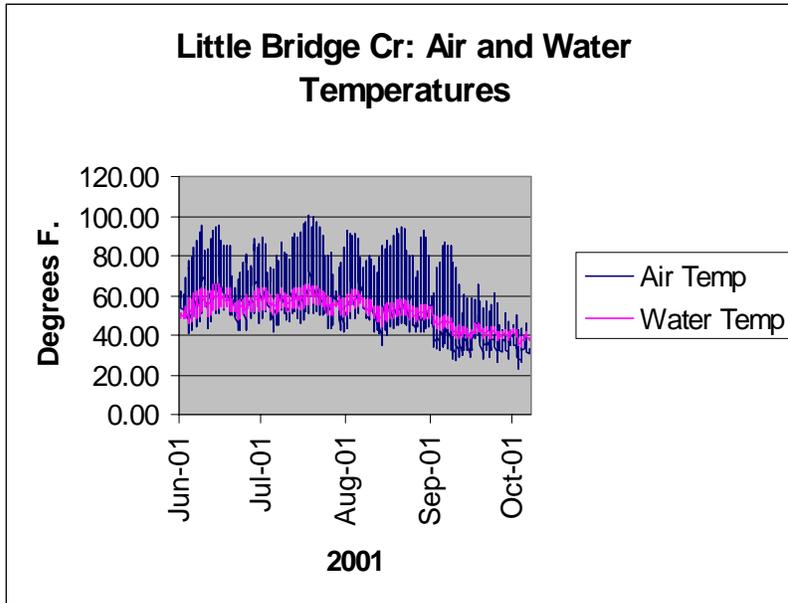
Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: State Water Quality Standards for each specific river basin

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Beginning in 1998, water temperature information was collected, cooperatively with the Washington State Department of Ecology, in the Twisp River basin to get baseline information for the Twisp River Pine Restoration (TPR) project. Two sites were located in Little Bridge Creek as part of a water temperature-monitoring program to test the effectiveness of the riparian reserves to maintain water temperature during a timber harvest project. The TPR project has not yet been implemented so no evaluation of water temperature has been completed. In 2001, Little Bridge Creek maximum water temperature was 65° F. at the mouth. Water temperature was over 61° F. for at least for 30 minutes on approximately 40 days (61° F. is approximately the Washington State Water Quality standard for water temperature).



Water temperature is closely related to air temperature at Little Bridge Creek as shown in the chart at the left. Sustained upswings in air temperature increase water temperature. Water temperature drops in late August and September as the days get shorter and air temperatures rise more slowly and fall more rapidly than in June through mid August.

Actions: Results okay.
Monitor water and air temperature through the TPR project implementation.
Collect water temperature

information associated with projects in other basins that have streams on Washington State's 303(d) list.

Monitoring Item #48: Water Quality

Objective or Purpose: To Comply with Washington State Water Quality Standards

Type of Monitoring: Implementation X Effectiveness ___ Validation ___

Method of Monitoring: Quantitative measurement of physical and chemical water quality parameters

Unit of Measure: Percent of Best Management Practices (BMPs) successfully identified and applied

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Were the BMPs applied correctly (right location, design, etc.?) Were the BMPs applied in a timely fashion?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Several streams were monitored for water temperature in 2001. The streams are listed below along with the maximum recorded temperature for 2001 and the approximate number of days when water temperature exceeded 61° F. (Washington State water temperature standard)

Streams	2001 Maximum Water Temperature degrees F	Number of Days Water Temperature > 61° F
Chewuch River above Boulder Creek	68° F	52
Chewuch River above Pete's Creek	71° F	78
Twisp River at Roads End	55° F	0
Twisp River at War Creek	55° F	0
Little Bridge Creek at Mouth	65° F	40
Little Bridge Creek at end of Forest Road 4415	54° F	0
Canyon Creek at Mouth	59° F	0
West Fork Salmon Creek	62° F	10
North Fork Salmon Creek	62° F	9
South Fork Salmon Creek	54° F	0
Toroda Creek	79° F	95
Nicholson Creek	52° F	0
Marias Creek	56° F	0
West Fork Cougar Creek	58° F	0
Cougar Creek	53° F	0
Aeneas Creek	59° F	0
North Fork Toats Coulee Creek	57° F	0
Middle Fork Toats Coulee Creek	62° F	3

Water temperatures meet state water quality standards in most monitored streams. There are four stations that exceeded the state water temperature standard by 40 to 95 days.

- Projects in the lower reaches of Bridge Creek have removed vegetation from the riparian areas over the past several decades, allowing more solar energy to reach the stream. Over the past several years of continuous water temperature collection, temperatures have been elevated in Little Bridge Creek
- The water temperatures in the Chewuch River have been elevated since water temperatures have been collected. This may be in part due to past vegetation removal along the river, but a greater factor is the relatively shallow flow across the river channel during the warmest part of the summer. Water temperature is influenced by channel width and water discharge and so it would be expected to have some increases in temperature.
- The longest period of elevated water temperature over Washington State water quality standards occurred in Toroda Creek. Toroda Creek is located on the east side of the Okanogan National Forest

and drains into the Kettle River. Land ownership along the creek is mixed and includes substantial private lands, along with federal and Washington State lands. Most of the land use on private lands is ranching related, with grazing occurring along much of the private lands. Grazing and timber harvest have also occurred on National Forest lands. Past practices have removed most of the vegetation that shaded the stream. In 2001, stream flows were very low, along with sustained high temperatures (which contributed to an extreme fire hazard condition on this portion of the forest). Water temperatures exceeded the Washington State water quality standard for nearly three months. This also was the first year that Toroda Creek had been continuously monitored, and because of the land use patterns along the creek, it is likely that water temperatures have been elevated for some time.

Water temperature information is now being collected by several agencies, including the US Fish and Wildlife, Washington State Department of Ecology, Yakama Indian Nation, U.S. Forest Service and Pacific Watershed Institute (on behalf of several clients). The Okanogan National Forest is consolidating the information into a single database that is not yet completed.

Evaluation: Water quality is high on the Okanogan National Forest and generally continues to meet Washington State water quality standards. Past land use practices have kept water temperatures high in Little Bridge Creek and Toroda Creek. The TPR project in Little Bridge Creek was designed to enhance riparian vegetation and increase the amount of shade over the creek, thus lowering water temperatures.

Increased emphasis is being placed on collecting water temperature information, especially in streams or rivers identified by Washington State as a water quality impaired water body. Washington State publishes a Water Quality Assessment every two years. The 305(d) Report details the results of water quality assessments conducted by the state and other credible sources of information. This report partially satisfies biennial reporting requirements under Section 305(b) of the federal Clean Water Act and Washington State's need for a comprehensive state reference. The State of Washington 1998 305(b) report listed several streams or rivers that originate on or flow through the Okanogan National Forest. The streams are Wolf Creek, Methow River, Salmon Creek, Twisp River, Beaver Creek, Chewuch River, Okanogan River, Sanpoil River and Early Winters Creek. This list will be reviewed and modified in 2002.

Recommended Actions: Results okay; continue monitoring projects on National Forest lands inside the four watersheds mentioned above should ensure that water temperature will not increase as a result of the project, and that practices occur to begin moving the water temperature to lower levels and reduce the time water temperatures remain above 61° F. Continue monitoring, especially Toroda Creek, Little Bridge Creek (as the TPR project is implemented) and the Chewuch River.

Monitoring Item #49: Soil Compaction and Displacement
Reported every 2 years

Objective or Purpose: Compliance standards for soil productivity.

Type of Monitoring: Implementation ___ Effectiveness X Validation ___.

Method of Monitoring: Field sampling and observations.

Unit of Measure: Each.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Did greater than 15 percent soil compaction, puddling or displacement occur during FY 2001?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every 2 years

Evaluation: All timber sale units monitored were ground based tractor logged units. On the Tonasket Ranger District, five harvest units on two timber sales were monitored that were logged during both the summer and winter. On the Methow Valley Ranger District, two winter logged harvest units on one timber sale were monitored. Six of the seven units monitored were within acceptable standards for soil compaction and displacement. One unit exceeded acceptable standards by over 10 percent. This unit was a ground based, cut to length, Forwarder operations unit. In addition to the above post-sale monitoring, three presale units were also monitored on the proposed fire restoration projects of Sneed, Cape Labelle and Bailey.

Winter logging and designated skid trails has helped reduce soil compaction and soil displacement. Reduced logging on the Forest has also resulted in fewer tractor-logging operations that have the greatest potential to create soil compaction and soil displacement. Monitoring will also continue to evaluate new types of equipment being proposed for logging to determine their effectiveness in minimizing soil compaction and soil displacement.

Recommended Actions: Results okay; Continue monitoring and implementing BMPs to reduce soil compaction and displacement. To correct the problem identified above with the effects from the temporary skidtrails exceeding the soil standards, more presale planning is needed to determine the suitability of suggested logging systems and/or more consideration should be given to dropping units if the proposed logging systems have a low likelihood of successfully meeting the soil standards.

Monitoring Item #50: Cumulative Effects on Soil Productivity
Dropped in 1991

Monitoring Item #51: Soil and Water Improvement Projects

Objective or Purpose: Accomplish projects in priority order.

Type of Monitoring: Implementation X Effectiveness ____ Validation ____

Method of Monitoring: Review attainment reports

Unit of Measure: Each

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Was scheduled attainment (90 acres) met for soil and water improvement projects?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: The Forest completed 10 acres of soil and water improvement projects for FY 2001 on the Tonasket Ranger District. These projects included stream bank (or lake bank) restoration, riparian fencing and identifying closing non-system roads and off-road vehicle trails where soil erosion and soil compaction was a concern.

Outputs & Effects (Unit of Measures)	Estimated Decade (Annual Average)	FY90	FY91	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
Watershed Improvement Acres	100	80	24	65	302	180	460	189	91	118	84	102

Recommended Actions: Results okay; continue monitoring and identifying potential improvement projects. Emphasis on soil and water improvement should continue to identify projects associated with road stabilization (jointly with Engineering input and funding) and road closure where there is the greatest risk of soil erosion and sedimentation. Coordinate with fisheries in jointly funding projects where soil erosion and sedimentation into fisheries streams are a concern.

Monitoring Item #52: Water Quality Monitoring of Cumulative Effects

Objective or Purpose: To comply with Washington State Water Quality Standards.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Evaluation of the US Geological Survey data collected beyond the Forest boundary in the Methow, Okanogan and Sanpoil Rivers

Unit of Measure: Each

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Were State Water Quality standards complied with?

Frequency Item is Monitored: Every 3 years

Frequency Item is Reported: Every 3 years

Evaluation: Results/Findings: The US Geological Survey collected water quality information at Pateros, on the Methow River in 2001.

Methow River at Pateros Water Quality Parameters			
Parameter Measured	Date	Values for State Standards	Values at Pateros Sept. 21, 2001
Water Temperature (Deg. C.)	9-21-2001	16 ⁰	13.7 ⁰
Dissolved Oxygen (Mg./L)	9-21-2001	>9.5 and <110%	9.8
Ph, Water, Field	9-21-2001	6.5 to 8.5	8.2

Water quality is high beyond the boundaries of the Okanogan National Forest. State water quality parameters sampled appear to meet the Washington State water quality standards on September 21, 2001.

Recommended Actions: Drop monitoring item. The US Geological Survey (the projected source of information for the cumulative effects monitoring item) has collected water quality information so infrequently in the Methow Basin, that it makes it impractical to track water quality changes every three years outside the National Forest lands in the Methow basin with their data. The information collected in 2001 was the first since 1972 and 1948. No USGS 2001 data is available from USGS records for the Okanogan River at Tonasket or the Sanpoil River, downstream of National Forest lands.

Monitoring Item #53: Road Miles & Operational Status

Type of Monitoring: Implementation X Effectiveness X Validation ____

Method of Monitoring: Project reviews; management reviews; public comments; Forest-wide transportation plans. Continuous updates to GIS layers (as available) with field sampling and annual updates to the Forest Transportation Plan.

Unit of Measure: Open road density, based on the miles of open road in a given discrete Management Area.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Fails to meet *Forest Plan* objectives by more than ten percent annually.

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Approximately half of the Forest is allocated to Management Areas that do not have road density standards, but have prohibitions or severe restrictions on road building (e.g., wildlife, semi-primitive, wilderness and special emphasis areas). The other half is allocated to Management Areas that have a specified road density standard.

Approximately 88 percent of the acres in Management Areas with a road density standard meet the standard. Approximately 98 percent of the acres on the forest comply with *Forest Plan* Standards and Guidelines designed to have limited or no wildlife disturbance from road densities.

Total Forest Acres	Percent Of Acres With No Road Density Standard	Percent Of Acres With Road Density Standard	Percent Of Total Forest Acres Meeting Road Density Standard
1.7 million	52%	48%	98%

Sixty-eight percent of the discrete Management Areas with road density standards currently meet the standard. Over 58 miles of road have been decommissioned since the Forest began keeping records in 1992. Since that time, efforts have been made to inventory non-system roads that were not included in the earlier inventories. These roads are the "unclassified roads" described in the roads analysis rule. This has resulted in a *higher* reported inventoried road mileage in many Management Areas. Baseline information (1992) of road length by individual Management Area is reflected in the table below. When comparing the road lengths between 1992 and 2001, 17 Management Area road lengths have increased since 1992 in Management Areas not currently meeting road density standards (not including minor increases and decreases caused by rounding) primarily due to increased reporting of non-system roads. The majority of these non-system roads existed before the *Forest Plan*, but had not been inventoried.

Twenty-four Management Area road lengths have decreased since 1992 in Management Areas still not currently meeting road density standards (not including minor increases and decreases caused by rounding). The following Management Areas are excluded from the table below because of severe restrictions or prohibitions on road building, and lack of road density standards: 4, 4M, 7, 8, 10, 11, 15A, 15B, 18, and 24. Management Areas 17 and 27 are also excluded because of lack of road standards.

Management Area	Management Area Road Length		Area (acres)	Square Miles	Density	Forest Plan Density Level (FPDL)	Meets FPDL?
	1992	2001					
12-01	57.9	40	61294	95.8	0.4	2	Y

Management Area	Management Area Road Length		Area (acres)	Square Miles	Density	Forest Plan Density Level (FPDL)	Meets FPDL?
	1992	2001					
12-02	0.0	0.0	3212	5.0	0.0	2	Y
12-03	2.8	1.6	8548	13.4	0.1	2	Y
14-01	4.7	6.5	718	1.1	5.8	2	N
14-02	2.5	4.0	532	0.8	4.9	2	N
14-03	6.0	8.0	1242	1.9	4.1	2	N
14-04	2.0	2.9	441	0.7	4.2	3 ¹	N
14-05	29.7	27.6	6877	10.7	2.6	2.6 ²	Y
14-06	72.1	64.6	20157	31.5	2.1	2	N
14-07	54.2	57.4	21396	33.4	1.7	2	Y
14-08 ³	1.5	1.1	740	1.2	0.9	2	Y
14-09	0.6	0.9	1500	2.3	0.4	2	Y
14-10	54.8	47.8	20889	32.6	1.5	2	Y
14-11	2.6	3.2	4856	7.6	0.4	2	Y
14-12	0.6	3.8	3736	5.8	0.6	2	Y
14-13	3.1	7.1	3291	5.1	1.4	2	Y
14-14	n/a	0.0	4087	6.4	0.0	2	Y
14-15	1.0	4.4	901	1.4	3.2	2	N
14-16	2.2	2.6	970	1.5	1.7	2	Y
14-17	6.1	1.8	1717	2.7	0.7	2	Y
14-18	3.8	3.5	581	0.9	3.8	2	N
14-19	1.3	0.9	195	0.3	2.8	2	N
14-20	7.6	3.8	1356	2.1	1.8	2	Y
14-21	10.9	8.1	2551	4.0	2.0	2	Y
14-22	1.3	1.4	213	0.3	4.1	2	N
14-23	21.0	17.3	4384	6.8	2.5	2	N
14-24	4.0	5.3	1512	2.4	2.2	2	N
14-25	2.5	3.0	886	1.4	2.2	2	N
14-26	12.7	10.0	4375	6.8	1.5	2	Y
14-27	5.7	6.2	689	1.1	5.7	2	N
14-28	4.1	3.9	879	1.4	2.8	2	N
14-29	1.7	1.2	573	0.9	1.3	2	Y
14-30	2.4	0.2	687	1.1	0.2	2	Y
14-31	0.4	0.4	1431	2.2	0.2	2	Y
14-32	4.3	4.8	1436	2.2	2.2	2	N
14-33	23.2	6.5	4132	6.5	1.0	2	Y
14-34	20.1	18.4	2896	4.5	4.1	2	N
14-35	5.6	4.8	1337	2.1	2.3	2	N
14-36	9.4	11.1	2410	3.8	3.0	2	N
14-37	37.8	31.4	7284	11.4	2.8	2	N
14-38	6.1	7.3	1458	2.3	3.2	2	Y
14-39	4.7	4.2	979	1.5	2.8	2	N

Management Area	Management Area Road Length		Area (acres)	Square Miles	Density	Forest Plan Density Level (FPDL)	Meets FPDL?
	1992	2001					
14-40	9.9	9.9	2507	3.9	2.5	2	Y
14-41 ⁴	0.0	0.0					
14-42	0.6	0.7	241	0.4	1.9	2	Y
25-01	216.6	198.4	47623	74.4	2.7	3	Y
25-02	54.5	46.6	26625	41.6	1.1	3	Y
25-03	11.1	9.2	1038	1.6	5.7	3	N
25-04	7.1	4.8	2708	4.2	1.1	3	Y
25-05	27.8	24.4	5678	8.9	2.7	3	Y
25-06	29.6	23.4	9796	15.3	1.5	3	Y
25-07	0.7	1.0	827	1.3	0.8	3	Y
25-08	184.2	138.7	59364	92.8	1.5	3	Y
25-09	1.4	1.3	360	0.6	2.3	3	Y
25-10	54.8	61.0	13206	20.6	3.0	3	Y
25-11	0.9	1.1	321	0.5	2.2	3	Y
25-12	47.5	33.5	24362	38.1	0.9	3	Y
25-13	13.8	13.0	4156	6.5	2.0	3	Y
25-14	4.2	2.0	1009	1.6	1.3	3	Y
25-15	34.8	33.3	15486	24.2	1.3	3	Y
25-16	52.5	62.6	57014	89.1	0.7	3	Y
25-17	21.8	34.1	9157	14.3	2.4	3	Y
25-18	55.9	45.4	15369	24.0	1.9	3	Y
25-19	0.0	0.0	51	0.1	0.0	3	Y
25-20	0.0	0.0	59	0.1	0.0	3	Y
25-21	16.1	14.8	4506	7.0	2.1	3	Y
25-22	6.7	7.7	1746	2.7	2.8	3	Y
25-23	28.0	23.4	7616	11.9	2.0	3	Y
25-24	3.5	2.7	9568	15.0	0.2	3	Y
25-25	43.8	18.7	4853	7.6	2.5	3	Y
25-26	29.8	26.5	9220	14.4	1.8	3	Y
25-28	0.6	9.4	2740	4.3	2.2	3	Y
25-29	5.3	3.6	1518	2.4	1.5	3	Y
25-30	4.9	4.8	2722	4.3	1.1	3	Y
25-31	141.8	120.8	27357	4275	2.8	3	Y
25-32 ⁵	9.9						
25-33	31.7	38.1	11249	17.6	2.2	3	Y
25-34	0.0	0.0	1295	2.0	0.0	3	Y
26-01	2.2	1.1	558	0.9	1.3	1	N
26-02	1.8	0.3	1226	1.9	0.2	1	Y
26-03	0.6	2.4	3853	6.0	0.4	1	Y
26-04	35.2	34.7	13564	21.2	1.6	1	N
26-05	4.3	7.6	2114	3.3	2.3	1	N

Management Area	Management Area Road Length		Area (acres)	Square Miles	Density	Forest Plan Density Level (FPDL)	Meets FPDL?
	1992	2001					
26-06	1.3	1.1	2498	3.9	0.3	1	Y
26-07	0.2	1.4	3658	5.7	0.3	1	Y
26-08	2.1	2.1	1481	2.3	0.9	1	Y
26-09	2.5	5.1	1642	2.6	2.0	1	N
26-10	4.9	4.6	4360	6.8	0.7	1	Y
26-11	3.5	3.3	2805	4.4	0.8	1	Y
26-12	4.2	4.7	936	1.5	3.2	1	N
26-13	3.3	3.1	377	0.6	5.3	1	N
26-14	0.0	0.0	4400	6.9	0.0	1	Y
26-15	7.2	2.8	1465	2.3	1.2	1	N
26-16	8.0	8.4	3499	5.5	1.5	1	N
26-17	1.0	0.0	775	1.2	0.0	1	Y
26-18	1.2	0.0	458	0.7	0.0	1	N
26-19	1.1	1.8	1313	2.1	0.9	1	Y
26-20		0.7	455	0.7	0.9	1	Y
26-21	3.1	4.2	624	1.0	4.3	1	N
26-22	1.5	1.5	1233	1.9	0.8	1	Y
26-23	6.0	5.6	1550	2.4	2.3	1	N
26-24	2.6	1.6	606	0.9	1.6	1	N
26-25	2.0	0.7	629	1.0	0.7	1	Y
26-26	0.0	0.0	817	1.3	0.0	1	Y
26-27	1.8	1.8	538	0.8	2.1	1	N
26-28	4.7	2.4	1045	1.6	1.5	1.56 ⁶	Y
26-29	0.0	0.0	323	0.5	0.0	1	Y
26-30	2.5	1.8	762	1.2	1.5	1	N
26-31	9.7	9.5	1426	2.2	4.3	1.3 ⁷	N
26-32	0.0	0.0	1267	2.0	0.0	1	Y
26-33	5.2	5.2	3702	5.8	0.9	1	Y
26-34	2.5	2.0	846	1.3	1.5	1	N
26-35	2.1	2.0	808	1.3	1.6	1	N
26-36	3.6	2.5	1180	1.8	1.4	1	N
26-37	3.1	1.4	381	0.6	2.4	1	N
26-38	2.8	4.4	638	1.0	4.4	1	N
26-39	1.6	1.8	1665	2.6	0.7	1	Y
26-40	7.4	11.5	5066	7.9	1.4	1	N
5-01	31.7	36.3	34746	54.3	0.7	3	Y
5-02 ⁸	15.6	21.3	4659	7.3	2.9	3	Y
5-03 ⁹	40.0	66.9	26918	42.1	1.6	3	Y
5-05	1.3	1.3	1665	2.6	0.5	3	Y
5-06	7.8	12.6	3760	5.9	2.2	3	Y
5-07	0.0	0.0	442	0.7	0.0	3	Y

Management Area	Management Area Road Length		Area (acres)	Square Miles	Density	Forest Plan Density Level (FPDL)	Meets FPDL?
	1992	2001					
5-08	20.7	28.8	5437	8.5	3.4	3	N
5-09	97.3	161.0	53721	83.9	1.9	3	Y
5-10	1.5	1.7	1587	2.5	0.7	3	Y
5-11	14.3	16.5	6517	10.2	1.6	3	Y
5-12	1.6	1.6	1090	1.7	0.9	3	Y
5-13	15.7	26.7	6642	10.4	2.6	3	Y
5-14	0.2	1.5	303	0.5	3.1	3	N
5-15	25.6	49.6	11164	17.4	2.3	3	Y
5-16	6.0	9.2	2444	3.8	2.4	3	Y
5-17	0.4	0.6	99	0.2	4.0	3	N
5-18	4.2	4.5	2847	4.4	1.0	3	Y
5-19	0.0	0.0	61	0.1	0.0	3	Y
5-20	0.0	0.0	67	0.1	0.0	3	Y
5-21	3.3	3.2	730	1.1	2.7	3	Y

FOOTNOTES

- ¹ 14-04 as per Forest Plan Amendment No.12
- ² 14-05 as per Forest Plan Amendment No.24
- ³ MA 14-08 had been incorrectly entered on the GIS layer and has been corrected to remove that part that should have been MA 5-02.
- ⁴ This MA was combined with MA-40 since it is contiguous and should have been part of that management area
- ⁵ This management area was combined with MA-31 since it is contiguous and should have been part of that management area.
- ⁶ 26-28 as per Forest Plan Amendment No.11
- ⁷ 26-31 as per Forest Plan Amendment No.29
- ⁸ MA-08 had been incorrectly entered into the GIS layer. Correction adds more area into MA-02
- ⁹ The extremely small MAs 5-04 and 5-22 in the Twisp watershed were combined with this MA to be consistent with the published preferred alternative map in the LRMP.

Road construction on the Forest continues to decrease. The rate of road construction was at its highest in 1990 when 59 miles of road were built, and the lowest in 2000 with zero miles constructed.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total System Road Construction Miles	59	15.2	7	10	1.8	3.9	1.6	4.9	3.1	1.4	0	0.8

The Forest actively began obliterating roads in 1992, removing them from the transportation system.

Miles of Road Decommissioned	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
System	4.8	8.0	0.7	3.5	0.0	2.2	12.5	2.6	0	0.0
Non-System								4.9	15	4.0

Most timber sale NEPA documents now approve road closures and decommissioning, and the trend is toward increasing closures. The table below displays the amount of road mileage approved in timber sale NEPA documents for closure or decommissioning since 1996. Because timber sales are implemented over a period of many years, these road closures are approved but may not yet be accomplished on the ground or entered into the roads database, and therefore may not yet reflected in the road densities reported above:

Fiscal Year Approved	Miles to be Closed	Miles to be Decommissioned
1996	11.2	6.9
1997	22.8	0.0
1998	56.9	32.9
1999	39.7	0.0
2000	17.0	27.0
2001	16.8	14.3
Total	164.4	67.2

Roads Lawsuit Reporting: In 1996 the Okanogan National Forest was sued by Northwest Ecosystem Alliance over failure to close non-system roads. In December 1999, the U. S. District Court of Western Washington ordered the Forest Service to examine documentation approving temporary roads to determine if such roads had been closed; those that did not have adequate closure documentation were required to be field inspected, and open roads were to be decommissioned.

During the winter of 2000, Forest personnel inspected 136 closed timber sale files covering sales from 1979 to the present. A total of 775 temporary roads were approved for those projects, 348 of which had inadequate closure documentation. Those that had inadequate closure documentation and were not shown in GIS as closed, were placed on a list to field verify closure status in 2000 and 2001. Of the original 348 roads listed as potentially open, 25 were already shown as open on existing inventories. Of those 25 roads shown as open in GIS, five were closed by a parent road closure, two had been subsequently converted to system roads, three were already closed, one was naturally obliterated and 14 were open.

Of the remaining 323 roads, 218 were field verified as effectively blocked or not drivable, 51 were effectively blocked by a parent road closure, one was recommended for addition to the system, one was planned for use in the Upper Aeneas Timber Sale, and field personnel recommended no work on 16 because the roads were not being used or re-vegetating adequately, and decommissioning would have caused unnecessary soil disturbance. Although the Court's order did not apply to roads that were open because of subsequent breaching, field personnel were instructed to inventory all 323 roads, including verification of the effectiveness of the original closures. All remaining open roads were placed on the decommissioning list, regardless of whether they had been previously closed but breached. The remaining 36 open roads were placed on a list with the 14 previously identified open roads to be decommissioned; four roads that were not drivable were added to the list.

Total Timber Sale Files Inspected	Total Temporary Road Approvals	Total Potentially Open Roads	Effectively Blocked or Undrivable	Effectively Blocked by Parent Closure	Converted to System Road	Not Recommended for Decommissioning¹	Total Roads for Decommissioning
136	775	348	221	56	2	19	54

¹ Includes roads recommended for conversion to system roads, roads naturally obliterating and roads that are not being used/re-vegetating adequately and decommissioning would cause unnecessary soil disturbance.

The Court also ordered the Forest Service to decommission 25 roads a year, starting in 2001 until all of the temporary roads identified above had been decommissioned. In 2000, if the funding was available, the Forest Service was required to decommission up to 25 roads that could be verified as open on existing inventories. Six open roads were decommissioned in 2000 in response to this portion of the order (the additional open roads in GIS were not identified as part of the original 2000 list because additional timber sale files were returned to the Forest in 2001, resulting in the discovery of more open roads). An additional 25 roads were decommissioned in 2001. Because of the expense of moving equipment to the widely separated closure sites, inspectors authorized the closure of about 15 additional breached roads in the general area of each closure, which are not reflected in the above numbers. With the above decommissioning and field verification information, 23 roads remain to be decommissioned in 2002 under the Court's order.

Trend: Road construction that adds to the transportation system is expected to remain low under current direction, and the Forest expects to continue road closures and decommissioning as funding is available. The Forest Service has a new roads policy that requires a roads analysis at several different planning levels to determine the need for existing roads.

Recommended Actions: Results okay; continue to utilize watershed analysis, roads analysis, and project level analysis to identify the need for roads, and to update forest road inventories. Continue to decommission the remaining 23 open roads on the lawsuit inventory.

Monitoring Item #54: Comparison of Actual & Planned Implementation Costs, Economic Efficiency and Economic Effects

Objective or Purpose: Determine accuracy of assumptions and data used in plan.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Review of Focus report.

Unit of Measure: Each

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Fails to meet *Plan* objectives by more than 10% annually

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: The Okanogan National Forest and Wenatchee National Forest were administratively combined in 2000. In FY 2001, the Okanogan and Wenatchee National Forests received a combined budget and records of expenditures are now only kept for the combined Forest.

Recommended Actions: Drop from future monitoring reports. Because a comparison to previous Okanogan budgets would be meaningless, this item will be dropped from future monitoring reports.

Monitoring Item #55: Actual Annual Fire Wildfire Occurrence Frequency by Statistical Cause

Objective or Purpose: Assure that fire management direction is being met.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Complete individual fire report for each wildfire.

Unit of Measure: Each occurrence.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Change of +15% in total acres burned from 5-year average

Frequency Item is Monitored: Every year.

Frequency Item is Reported: Each year.

Evaluation: The numbers presented in this chart are different than those presented in earlier years. The earlier year monitoring reports had errors, which are corrected here.

Cause	5 yr fire average	5 yr acre average	1997 fires	1997 acres	1998 fires	1998 acres	1999 fires	1999 acres	2000 fires	2000 acres	2001 fires	2001 acres
Campfire	6.8	20.4	3	0.2	8	98.9	10	1.7	3	0.3	8	9394
Debris Burn	3.6	6.1	0	0	9	0.24	4	0	0	0	1	0.01
Equipment	1.0	0.6	2	0.1	0	0	1	2.0	1	1	1	3130
Lightning	36	788	39	112	48	158.3	51	16.5	69	1931	55	2736
Misc.	3.8	0.64	0	0	3	0.2	6	0.2	5	1.5	6	3
Smoking	2.2	0.96	0	0	1	0.1	5	4.3	3	0.3	2	.03
Incendiary	1.0	0.2	0	0	?	?	?	?	?	?	0	0
Children	0	0	0	0	0	0	0	0	0	0	0	0

Recommended Actions: Results okay; continue monitoring

Monitoring Item #56:
Dropped in 1997 Report

Monitoring Item #57:
Dropped in 1997 Report

Monitoring Item #58:
Dropped in 1997 Report

Monitoring Item #59: Total Suspended Particulate (TSP) Emission Production from the Forest's Prescribed Burning Program

Objective or Purpose: Develop emission inventories for TSP for comparison with established baseline values for all prescribed burning projects predicted to consume 100 tons or greater.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Computed from the data in the Daily Smoke Management Report.

Unit of Measure: Tons/year.

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Ten percent change in TSP emission produced from baseline value of 7,600 tons per year

Frequency Item is Monitored: Daily with Annual Summary

Frequency Item is Reported: Each year.

Evaluation:

Fire Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2001
Tons TSP Produced	1486	1324	831	998	1630	1005	760	653	725	931	1404	791	757

Recommended Action: Results okay. Continue monitoring

Monitoring Item #60: Operational and Administrative Effectiveness and Reasonableness Combined with #61 and #62 in 1997 Monitoring Report

Objective or Purpose: Assure that Forest Management Direction is being met

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Annually, review reclamation compliance and success of all or a random sample of all mineral-operating plans

Unit of Measure: Cases

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Compliance reviews are performed on 80% of plans annually

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: One Plan of Operation was reissued during FY 2001. Consultation for the New Gold Hill mine project was completed in late FY 2001 and the Decision Notice was published in early FY 2002. No appeal was received on that project.

Mineral project operators accepted mitigation measures during FY 2001. Environmental protection measures were complied with and no notices of non-compliance were issued to mineral operators. Required reclamation work was completed as scheduled. Some project updates are included below:

Crown Jewel: Newmont Mining Corp/Battle Mountain Gold requested termination of their Plan of Operations for the Crown Jewel surface mine on July 2001. They notified the Forest of their intent to complete reclamation of the site beginning in FY 2002 and requested an appropriate reduction of the reclamation bond. Newmont returned the project back to Crown Resources Inc., who intends to pursue an underground mine at the site. Crown Resources indicated that they would submit a plan to conduct in-fill drilling at the site during FY 2002.

Minnie Mine: Clean up and reclamation of this abandoned site was completed in FY 1995. Water monitoring since that time has shown down-stream groundwater contaminants to be at or below background levels. Ground water elevations at the site have retreated to pre-1995 levels following historical highs noted in 1995.

Alder Mine: Interest and work at the Alder Mine by the Washington Department of Ecology was diverted, in FY 2001, to the Alder Millsite (entirely on private lands) and potentially related arsenic in Twisp-area water wells.

Recommended Actions: Change management practices. Forest and District priorities are usually set early in the year but these are too easily forgotten as unscheduled projects surface or old projects resurface during the year. Continued Forest and District effort is needed to adhere to these priorities or make a conscious effort to periodically review and revise them in order that non-discretionary actions such as mining plan reviews can be completed within reasonable time frames.

Monitoring Item #61:
Combined with #60 in 1997 Report

Monitoring Item #62:
Combined with #60 in 1997 Report

Monitoring Item #63: Minerals Withdrawals

Objective or Purpose: Monitor Accumulation of Minerals Withdrawals

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Continuously monitor total acres of existing and proposed mineral withdrawals

Unit of Measure: Acres

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: What is the increase of mineral withdrawal acreage above the current amount (644,400 acres)?

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: No new mineral withdrawals were proposed or approved during FY 2001.

Outputs and Effects (Unit of Measures)	Estimated Decade (Annual Avg)	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
Minerals Operating Plans, Notices, Sales, etc.	75	26	57	42	44	45	39	54	35	40	29	37	36
Minerals Produced (Million \$)	0.10	0.004	0.025	0.014	0.035	0.004	0.003	0.004	0.003	0.009	.002*	.001*	.007

*The FY 2000 Monitoring Report displayed this value in thousand \$ rather than million \$. The correct amount is now shown.

Recommended Actions: Results okay. Continue monitoring.

Monitoring Item #64:
Dropped in 1998 Report

Monitoring Item #65:
Dropped in 1998 Report

Monitoring Item #66:
Dropped in 1998 Report

Item #67: Changes in Payments to County

Method of Monitoring: Review payments to county reports/annual

Unit of Measure: Dollars

Criteria: *Forest Plan* direction, Standards and Guidelines

Standards: Does not achieve estimated returns

Frequency Item is Monitored: Every year

Evaluation: Payments to Okanogan County from Forest receipts were above *Forest Plan* estimates from FYs 1991-96, but have dropped below in subsequent years. Payments in FY 1991 to present were affected by the Owl Guarantee.

Year	Actual Payment	Payment Without Owl Guarantee
Forest Plan Estimate	\$1,414,272	
Fiscal Year 1990	\$1,335,748	\$1,335,748
Fiscal Year 1991	\$1,954,046	\$1,125,843
Fiscal Year 1992	\$1,626,913	\$1,131,527
Fiscal Year 1993	\$1,536,529	\$1,275,845
Fiscal Year 1994	\$1,536,529	\$1,445,500
Fiscal Year 1995	\$1,482,299	\$ 878,992
Fiscal Year 1996	\$1,428,068	\$ 687,289
Fiscal Year 1997	\$1,373,838	\$ 671,834
Fiscal Year 1998	\$1,319,607	\$ 695,734
Fiscal Year 1999	\$1,265,377	\$ 472,477
Fiscal Year 2000	\$1,211,146	\$ 339,567
Fiscal Year 2001	*	*

* Figures cannot be compiled from the current budget structure.

Payments to counties were decoupled from timber harvest levels in the Secure Rural Schools and Community Self-Determination Act of 2000 (P.L. 106-393). As a result, harvest levels or other resource management activities on the Okanogan National Forest no longer affect payments to Counties. Therefore, payments to Counties will no longer be reported in the *Forest Plan* Monitoring Report.

Recommended Action: Drop this monitoring item from future reports

Monitoring Item #68: Changes in Lifestyles, Attitudes, Beliefs and Values
Dropped in 1998 Report

Monitoring Item #69: Changes in Forest Contributions to Area Forest Products
Industries
Combined with Monitoring Items #40 and #42

Monitoring Item #70: Heritage Resource Site Protection

Objective or Purpose: Unevaluated and significant cultural resource properties are being protected as stated in the *Forest Plan* and in compliance with Federal Law and Regulation.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: Monitor a stratified sample of all unevaluated sites and of all significant sites in active project areas

Unit of Measure: Report percent unevaluated and significant sites sampled and the respective compliance with the *Forest Plan*.

Criteria: *Forest Plan* direction, Standards and Guidelines

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: In July of 2001, a permanent full time archaeologist was hired to manage the Okanogan program heritage program. This was a major step toward heritage resource site protection. With that position, adherence to Sections 106 and 110 of the National Historic Preservation Act and the 1997 Programmatic Memorandum of Agreement regarding the management of cultural resources on National Forests in Washington State was emphasized.

Heritage resource input was provided for several watershed and grazing allotment projects, prescribed burns, salvage sales, recreational developments and improvements, facilities and road projects. A total of 17 heritage resource reports were completed in compliance with Section 106 of the National Historic Preservation Act (NHPA) and the current PMOA regarding cultural resource management on National Forests in Washington. This represents an increase over FY 2000 with an emphasis on pedestrian survey, heritage resource site and project monitoring. Approximately 3300 acres received 100 percent or sample pedestrian inventory for cultural resources. As a result of these inventories, 40 new cultural resource sites were documented, most of them from large acreage surveys for fuel reduction and prescribed burns. Nine sites were evaluated for the National Register, but pending evaluation, all potentially eligible or eligible sites were protected by avoidance during project-related activities. A GIS layer identifying fire-sensitive sites was created for the Forest Fire Management Plan and it was used effectively to manage threatened sites. No site intrusions were reported during Forest undertakings.

Information about Forest projects, site identification and protection was shared with the Confederated Colville Tribes and the Yakama Nation throughout the year via Forest mailings (SOPA reports) and formal government-to-government consultation for projects requiring a decision document or when research indicated a potential tribal interest. Government-to-government consultation was a major emphasis of the FY 2001 program. Letters were sent to the Yakama Nation and to the Colville Confederated Tribes in an effort to establish an efficient and streamlined consultation protocol. The fact that no comments were received suggests that the existing system is working to the satisfaction of the tribal governments.

The Okanogan and Wenatchee National Forests archaeologist met with district staff to review the Section 106 process and a refresher course for certified cultural resource technicians was offered.

Recommended Action: Results okay; continue monitoring

Monitoring Item #71: Management of Competing and Unwanted Vegetation

Objective or Purpose: Reduce the reliance on herbicides and prescribed burning

Type of Monitoring: Implementation X Effectiveness X Validation ___

Method of Monitoring: Review attainment reports; review program effectiveness in achieving resource goals

Unit of Measure: Percent of infested acres treated with herbicides; tons of TSP emissions per year

Criteria: Mediated Agreement Requirements

Frequency Item is Monitored: Every year

Frequency Item is Reported: Every year

Evaluation: Completion of the 2001 integrated noxious weed program was complicated by several large wildfires on the Okanogan National Forest. Ranger district staffs were involved with the fires, reducing time directly spent on noxious weed management. There was a greater reliance on work provided under treatment contracts. Emergency treatments and funds for preventing or reducing noxious weed infestations were planned and implemented in the burned areas through the Burned Area Emergency Rehabilitation (BAER) process. Treatments included mechanical, cultural, chemical and the release of bio-control agents. The acres summary below includes the burned area treatments.

Emphasis is on reducing chemical control of noxious weeds, but some sites are so heavily infested that other management methods are not effective or are too expensive to reduce weed populations to below damage thresholds. Herbicide treated areas that have had follow up chemical treatment require considerably less herbicide per acre than untreated noxious weed populations.

Project plans use the prevention strategy to keep noxious weeds from becoming established in project areas. Control work on new invaders helps to improve range conditions for livestock by creating more favorable conditions for natives and desirable non-native plant growth. The use of manual, bio-control and mechanical management methods in recreational areas helps to improve recreational experiences and reduce the likelihood that noxious weeds will be transported out of the area.

Areas Treated

About 3,470 acres were treated using one of the following methods:

Treatment	Acres
Mechanical	80
Chemical	2019
Manual	789
Bio-control	210
Treated and seeded	370
Total	3468

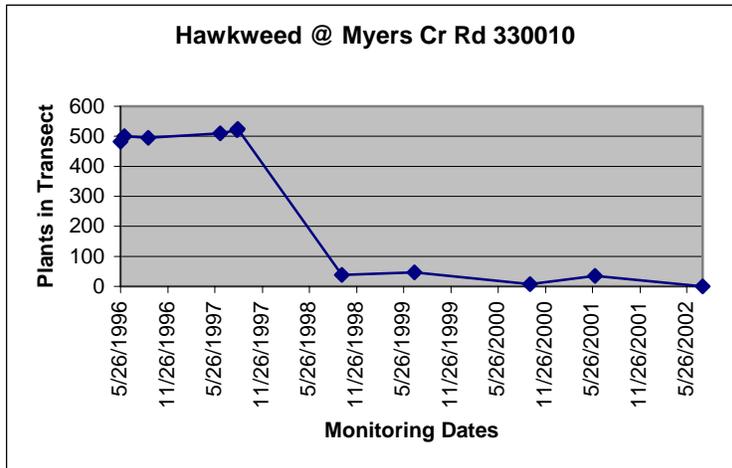
Bio-agents established in the past continue to impact diffuse knapweed and musk thistle. Chemical treatments included roadsides and spot treatments sites in weed-infested areas.

An Okanogan and Wenatchee National Forests Noxious Weed Prevention Strategy was partially developed in 2001. It incorporates national and regional strategy with local forest conditions. The Eastern Cascades Province Advisory Committee (PAC) is reviewing the strategy. Following the review, it will be implemented in late 2002 or 2003. Prevention strategies are proposed, evaluated and included in new projects plans, and are implemented as projects take place.

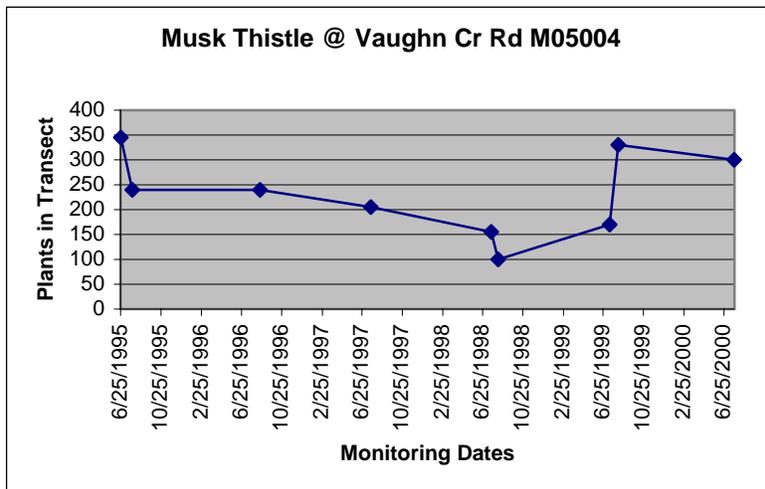
Monitoring

Infestations of hawkweed and other new invasive species are a concern. The district staff looks for undiscovered sites and inspects previously treated sites for isolated plants. Other interested parties, such as the Okanogan County Noxious Weed Board staff also provide information on hawkweed infestations on private lands adjacent to National Forest lands and on national forest lands. Generally, isolated plants are easiest to spot when they are flowering and these are either sprayed or the flowers are removed from the plant during flowering.

The amount of herbicide used on a per acre basis continues to decline because the number of individual plants is reduced and treatment of individual plants requires less herbicide than a broadcast application. Beginning in 1998, the hawkweed treatment site at Myers Creek was treated with RODEO®, the glyphosate formulation for use near water. Since glyphosate enters the plant only through the leaves, it must be re-applied when new plants grow. It was reapplied in 1999-2001.

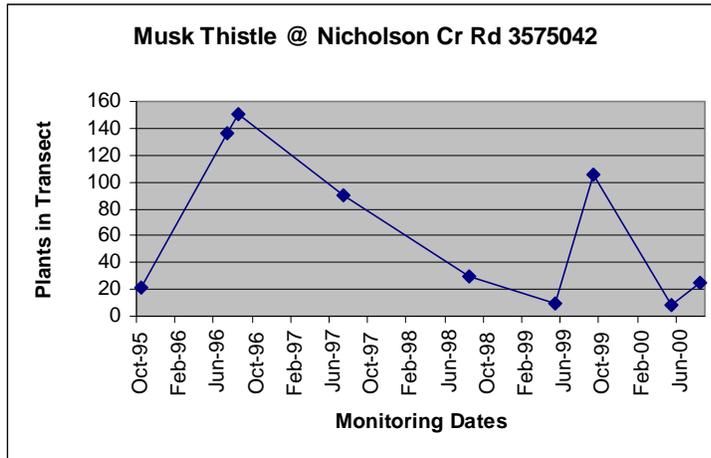


Other noxious weeds considered to be new invaders are dalmatian toadflax and musk thistle, and the number of acres these plants occupy is increasing. Much of the past work on musk thistle was limited to hand pulling. Monitoring of selected sites over the past several years shows hand pulling to be a generally ineffective treatment to reduce milk thistle populations. The Vaughn Creek site has been treated by hand pulling only, since 1995, and transect populations have yet to drop below one plant per four square feet.



The Nicholson Creek site received herbicide treatments in both late 1999 and 2000 following an earlier hand pulling treatment. The number of plants dropped to about one per fifty square feet. The amount of herbicide

decreases on a per acre basis after the initial treatment because it is being applied only to individual plants rather than being a broadcast application.



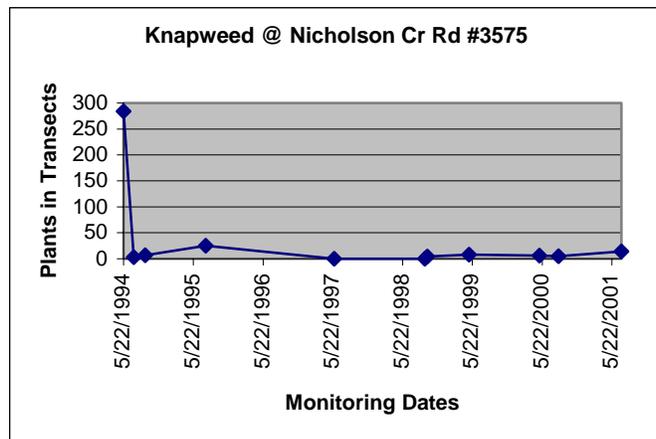
Dalmatian toadflax also continues to be a problem on national forest lands. There has been some work done in British Columbia, Canada with *Mecinus janthinus* insects. These insects inflict significant damage to dalmatian toadflax; actually killing stems or damaging the plant to such a degree that they fail to flower. Although there are no known releases or populations of *Mecinus janthinus* on the Okanogan National Forest, there are reports of pockets of these insects in northeastern Washington.

Knapweed continues to be a noxious weed of concern. It is a widespread, Class B weed in Okanogan County. It covers nearly 45,000 acres of the inventoried 50,000 acres of noxious weeds on the Okanogan National Forest. The management of knapweed includes all methods; manual, mechanical, cultural, herbicides and bio-control agents. Herbicide use has reduced plant populations in the Forest, making it easier for follow-up work to include the other methods in a more cost effective manner. Control work on several sites shows the same type of success as shown in the Nicholson knapweed site. This site was treated with picloram starting in 1994, and about every other year following to pick up the new knapweed starts. Picloram is generally effective as a pre-emergence herbicide for about 18 months (two growing seasons). Knapweed seeds are generally viable for 10 to 15 years, so follow-up treatment is necessary for several years, regardless of the control methods used. In Nicholson Creek, alternative year coverage of knapweed plants has kept the plant numbers of plants at a low level. Since individual plants are sprayed, lower plant numbers result in smaller amounts of herbicide used per acre to control the knapweed.

Some additional successes in controlling knapweed have been reported on private lands when a combination of bio-agents is living on the same plant. The end result of bio-control would be a much lower level of knapweed populations.

NEPA Documentation

An environmental assessment under the National Environmental Policy Act was started in 2000, as new weed sites were discovered and were in need of treatments to control the infestations. To complete the assessment, staff from the Okanogan National Forest worked with the U.S. Fish and Wildlife Service and U.S. National Marine Fisheries Service to finalize consultation on an Integrated Noxious Weed Management Environmental Assessment during 2001. The purpose of the consultation was to insure that noxious weed management would not result in a *take* of Threatened and Endangered species as defined through the federal Endangered Species Act.



Bio-Control

The Okanogan and Wenatchee National Forests continues to support the Quad County (Okanogan, Ferry, Stevens, and Pend Oreille) bio-control project.

Prevention Strategy

Continued emphasis on the prevention strategy for noxious weed management is included in the development of new resource projects, such as vegetation management projects, recreation site maintenance, gravel pits, new roads, etc. where there are any site disturbing activities. A prevention strategy is considered in every site disturbing activity. Where noxious weeds are established at undesirable levels, emphasis is placed on controlling new invaders, stabilizing noxious weed populations and where there is little likelihood of controlling or successfully managing weed populations, and preventing those weeds from infecting other lands.

Inventories

Noxious weed inventories are an essential tool for the control of noxious weeds and approximately 900 acres were inventoried in 2001, including confirmation of known sites, expansion of existing sites, and newly discovered noxious weed populations. Some of the inventory was done as part of other resource inventories, and some inventory work was determining what the weed status was for generally known populations. The most recent inventories show about 50,200 acres have light to heavy noxious weed infestations.

Recommended Actions: Results okay; continue monitoring new invasive species with high potential for spread in the field. Use tools such as GIS to track treatments, help interpret spread of noxious weeds and help set priorities on treatment areas. Continue to use the prevention strategy in the planning of all ground disturbing projects and implement the Okanogan and Wenatchee National Forests Prevention Strategy.

Monitoring Item #72: Survey and Manage

Objective or Purpose: Compliance with the Survey and Manage Requirements of the *Northwest Forest Plan*.

Type of Monitoring: Implementation Effectiveness Validation

Method of Monitoring: For Survey Strategy 2 species, summarize surveys completed prior to project implementation for all areas within range and suitable habitat of identified survey and manage species.

Unit of Measure: Acres surveyed.

Criteria: *Northwest Forest Plan* direction, Standards and Guidelines

Standards: Required surveys completed following established protocols.

Frequency Item is Monitored: Every year.

Frequency Items is Reported: Every year.

Evaluation: The estimates of Strategy 2 species acres surveyed in FY 2001 are listed below:

Taxa Group	Acres Surveyed
Bryophytes, Lichens, & Vascular Plants	4,480
Fungi	7,169

Recommended Actions: Results okay; continue monitoring. Initiate a program to locate S&M known sites on the Forest and complete work on Strategic Surveys for all categories of species. Continue pre-disturbance surveys for Category 1A and 1C species prior to project implementation, manage all known sites for Category 1A, 1B, and 1E species, and determine high priority sites to manage for Category 1C, and 1D species. Seek continued regional support for development of local expertise in the taxonomy of survey and manage species.

SUMMARY OF PROGRAM ACCOMPLISHMENTS

This table compares the actual levels of resource outputs and management effects with the estimated levels stated in the LRMP. Deviation from the estimates can be tolerated more the first few years of implementation because the estimates stated in the LRMP are annual averages for an eleven-year period. The accurate monitoring of these outputs and effects are essential indicators of the LRMP's success. The efficiency of dollars spent can be evaluated with respect to the achievement or non-achievement of these outputs and effects.

Outputs and Effects (Unit of Measures)	Estimated Decade (Annual Avg)	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
Developed Rec Capacity (1000 RVDs) Non Wilderness	622	622	622	622	622	622	622	622	622	622	622	622	622
Dispersed Rec Capacity (1000 RVDs) Includes WFUDS	161	161	161	161	161	161	161	161	161	161	161	161	161
Semi-primitive Non Motorized	18	18	18	18	18	18	18	18	18	18	18	18	18
Semi-primitive Motorized	86	86	86	86	86	86	86	86	86	86	86	86	86
Roaded Natural Roaded Modified	346	346	346	346	346	346	346	346	346	346	346	346	346
Wilderness Capacity (100 RVDs) Primitive	405	405	405	405	405	405	405	405	405	405	405	405	40.5
Trail Constr/Reconstruction (Miles)	30	6.9	21.4	17.3	15.1	10.6	2.7	1.2	4.7	44.9	11.9	8.5	6.5
Developed Site Construction/Reconstruction (PAOT)	20	150	0	0	125	0	0	0	0	0	0	20	0
Visual Quality Objectives (1,000 Acres)													
Preservation VQO	626	626	626	626	626	626	626	626	626	626	626	626	626
Retention VQO	332	332	332	332	332	332	332	332	332	332	332	332	332
Partial Retention VQO	53	53	53	53	53	53	53	53	53	53	53	53	53
Modification VQO	584	584	584	584	584	584	584	584	584	584	584	584	584
Maximum Modification	111	111	111	111	111	111	111	111	111	111	111	111	111
Unroaded Areas Assigned to Unroaded Management Prescriptions (1,000 Acres)	202	202	202	202	202	202	202	202	202	202	202	202	202
Wilderness Management (1,000 Acres)	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2	626.2
Cultural Resource Inventory (1,000 Acres)	15	24.3	87.4	20.1	33.0	6.6	19	392.0	44	20.5	0.6	1.4	2.9
Trail Maintenance (Miles)	900	678	683	704	715	1084	700	700	700	700	700	806	806
Anadromous Fish Habitat Improvement (1,000 lbs. of fish) ¹	1.0	0.3	Data Not Available										
Anadromous Fish Habitat Improvement (Acres)	3	0	4	15	30	100	200	125	6.5 miles	6.3 miles	6 miles	2 miles	6 miles
Anadromous Fish Habitat Improvement (Structures)	14	46	20	35	37	10	12	10	1	0	0	12	0
Res. Fish Habitat Improvement (Acres)	3	0	2	10	10	12	10	0	5.0 miles	8.2 miles	6 miles	2 miles	11 miles

Outputs and Effects (Unit of Measures)	Estimated Decade (Annual Avg)	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
<i>Management Indicator</i>													
<i>Species (Habitat Capability)</i>													
Deer: Mule and White-tailed Winter Range Forest-wide (1,000 animals)	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	17.1/35.6	7.1/35.6
Spotted Owl (pairs)	27	27	27	27	27	27	27	27	27	27	27	27	27
Barred Owl (pairs)	81	81	81	81	81	81	81	81	81	81	81	81	81
Pileated Woodpecker (pairs)	1109	1109	1109	1109	1109	1109	1109	1109	1109	1109	1109	1109	1109
Pine Marten (animals)	2949	2949	2949	2949	2949	2949	2949	2949	2949	2949	2949	2949	2949
Three-toed Woodpecker (pairs)	262	262	262	262	262	262	262	262	262	262	262	262	262
Primary Cavity Excavators Outside Wilderness/% of Maximum Potential Woodpecker Population	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62	51/62
Lynx: Forest-wide (animals)	45	45	45	45	45	45	45	45	45	45	45	45	45
Ruffed Grouse: Forest-wide (pairs)	908	908	908	908	908	908	908	908	908	908	908	908	908
Wildlife Habitat Improvement (Ac/Structures)	2500/1000	793/120	174/867	3/206	884/322	410/259	608/177	783/9	199/386	640/14	1030/0	793	945/0
Range: Permitted Grazing (1,000 AUMs)	53.2	61.9	56.9	52.8	53.8	53.5	57.7	57.7	57.3 ²	57.7 ³	56.0 ⁴	52.4	51.8
Range: Vegetation Mgmt (1,000 Acres)	717	NE	717	717	717	717	717	717	717	717	717	717	717
Noxious Weeds (Acres)	390	83	102	522	47	465	510	1391	1032	1130	3200	6334	3468
Structural Improvements/Fences (Miles)	29	19.5	12.3	8.75	10.25	11.0	27	15	7	4	4	4	5
Structural Improvements/Water Developments (num)	30	34	16	15	14	10	17	21	19	5	13	16	24
Non-Structural Improvements (Acres)	390	160	545	1036	11	555	445	403	100	0	0	0	0
Allowable Sale Quantity (MMBF/Yr) c/	63.3	69.07	24.91	18.72	5.9	7.07	15.72	7.90	16.1	4.4	13.4	0.3	6.6
Mixed conifer	46.3	56.01	19.84	17.87	4.4	5.39	11.93	6.48	15.5	4.4	13.4		
Lodgepole pine	16.2	16.06	5.07	.84	1.5	1.67	3.80	1.42	.6	0	0		
SSC	0.8	0	0	0	0	0	0	0	0	0	0		
Allowable Sale Quantity (MMCF/Yr) ⁵	12.3	13.41	4.84	3.64	1.19	1.377	3.06	1.58	3.13	.86	2.71	0.7	1.33
Mixed Conifer	8.9	10.30	3.85	3.47	.89	1.049	2.31	1.30	3.01	.86	2.71		
Lodgepole Pine	3.2	3.11	.98	.16	.30	.329	.75	.28	.12	0	0		
SSC	0.2	0	0	0	0	0	0	0	0	0	0		
Firewood (Million Cubic Feet)	0.7	.324	0.5	0.5	0.6	d/ 1.1	d/ 1.4	d/ 1.2	d/ 1.1	2.8	1.5	0.23	0.45
Reforestation (1,000 Acres/Year) e/	5.7	3.748	5.161	4.350	5.060	4.328	5.275	4.165	5.044	2220	2,036	1670	2078
Timber Stand Improvement (1,000 Acres/Year)	1.9	2.928	4.505	6.189	5.476	3.150	1.332	3.861	2.242	2,508	2,855	977	3715
Timber Growth (Million Cubic Feet)	112.1	NE	NE	NE	NE	NE							
Water Yield (1,000 Acre Feet)	2315	2315	NE	NE	NE	NE	NE	NE	33NE	NE	NE	NE	NE
Accelerated Sediment Production (1,000 Tons/Decade)	145.6	NE	NE	NE	NE	NE							

Outputs and Effects (Unit of Measures)	Estimated Decade (Annual Avg)	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
Watershed Improvement (Acres)	100	80	24	65	302	180	460	189 ⁶	91	118	84	102	10
Minerals Operating Plans, Notices, Sales, etc.	75	26	57	42	44	45	39	54	35	40	29	37	36
Minerals Produced (Million \$)	0.10	0.004	0.025	0.014	0.035	0.004	0.003	0.004	0.003	0.009	0.002	0.001	.007
Arterial and Collector Road Construction/Reconstruction	5.2	0.6	0	3.1	0.1	0.2	0	0.1	0	0	0	0	0
Timber Purchaser Road Construction & Reconstruction	41.0	30.6 58.9	31.1	32.3	26.8	16.5	3.23 16.58	1.57 1.57	4.9 7.6	0.0 0.2	1.4 6.4	0 4.1	0 6.6
Roads Suitable for Public Use (Miles)													
Passenger Car (Miles)	1029	1050	1055	1030	998	1030	1030	1030	1050	1046	1046	1025	782
High Clearance Vehicle Only (Miles)	860	1034	1037	1165	1012	1153	1158	979	930	861	866	801	581
Fuel Treatment (1,000 Acres)	6.8	7.9	4.6	6.6	4.4	3.6	1.1	2.4	2.0	5.7	5.7	6.0	3.8
Landline Location (Miles)	30	18.7	21.5	27.5	17.1	18.0	18.0	17.0	6.0	3.8	0.5	1.0	7
Landline Maintenance (Miles)	20	9.3	17	15.75	20.0	15.0	23.0	22.0	4.0	22.9	4.0	5.0	3
Land Exchange/Transfer (Acres)	300	0.95	0	0	107	4	101	920	0	0	105	0	.5

NE = Not Estimated

1 Due to natural variability, estimates of anadromous fish harvest and habitat improvement activities are impossible to accurately assess;

recommend that this item be dropped in future monitoring reports.

2 This number was shown incorrectly in the 97, 98 and 99 reports

3 This number was shown incorrectly in the 1999 report. The original number in the 1998 report was correct.

4 This number was estimated in the 1999 report because of databases were off-line. This is the correct amount for 1999.

5 Not possible to break out volumes into mixed conifer, lodgepole, or ssc for FY 00

6 133 acres KV + 56 acres soil and Water = 189 acres

FOREST PLAN AMENDMENTS

At the end of FY 01, 31 site-specific amendments had been made to the Okanogan National Forest Land and Resource Management Plan since it was signed in 1989. All have been non-significant amendments and are listed as follows:

NO.	Date	Decision Name	Standard/ Guideline Amended	Amendment
1	5/4/90	Meyers Beetle Timber Sale	MA25-8A MA25-6A	Site-specific amendments for project area only for visual quality and cover because of insect and disease problems.
	11/19/90	Forest Plan Amendment # 2	Forest wide 17-6 MA5-8B MA5-20E MA11-20C MA12-20C MA14-20C	Changes to correct errors and to ensure consistency with other standards and guidelines.
3	12/14/90	Forest Plan Amendment # 3	Forest wide 17-8	Temporary amendment to allow both Roads Nos. 4330 and 4010 to be plowed and open for two weeks to allow logging of two timber sales.
4	5/16/91	Forest Plan Amendment #4	None	Clarify the intent of some monitoring items and correct errors.
5	5/16/91	Lyman Timber Sale	MA5-6A MA11-6B MA14-6 MA14-6B MA26-61	Eliminates total rows for cover requirements and clarifies Standards and Guidelines.
6	8/6/91	Forest Plan Amendment #6	None	Updates schedule of activities in <i>Forest Plan</i> , Appendices A-F.
7	2/7/92	Forest Plan Amendment #7	17-6 17-8	Error in current wording results in allowing a segment of a road to be snowplowed, when intent was that entire route remain unplowed.
8	8/3/92	Forest Plan Amendment #8	None	Updates scheduled of activities in <i>Forest Plan</i> , Amendment A-F.
9	9/23/92	Coyote timber Sale	MA26-6A	Site specific amendment for project area only for Snow Intercept Thermal Cover and Winter Thermal Cover to treat insects and disease and provide long-term cover.
10	2/26/93	Little Bonaparte Timber Sale	Forest wide 6-1 MA14-6A MA14-6C MA5-17C MA14-17A	Site-specific amendment for project area only to allow cover values below, and road densities above forest plan standards and guidelines. Cover values are reduced to allow treatment of severe insect and disease, and road densities are exceeded to allow management of the area to reduce post sale densities.
11	5/14/93	Dragon Timber Sale	MA26-17B	Site-specific amendment for project area only, allowing road density above <i>Forest Plan</i> Standards and Guidelines in discrete MA26-28, because all roads in the management area that can be closed are already closed.
12	6/15/93	Lamb Butte Timber Sale	MA14-17A	Site specific amendment for project area only, allowing road density above <i>Forest Plan</i>

NO.	Date	Decision Name	Standard/ Guideline Amended	Amendment
				Standards and Guidelines for discrete MA14-04, because all roads in the management area that can be closed are already closed. Also allows temporary amendment for additional roads to be opened during life of sale.
13	9/3/93	Forest Plan Amendment #13	MA15A-210 MA15B-21P MA15B-21Q MA15A-21U MA15B-21Z	Clarifies wilderness Standards and Guidelines.
14	9/6/95	Forest Plan Amendment #14		Amends <i>Forest Plan</i> to allow snow plowing and wheeled vehicle use of Road 52, a designated snowmobile route, during the winter of 1995-96, to facilitate quick removal of the fire-killed, deteriorating trees in the Whiteface Fire area.
15	4/12/96	Forest Plan Amendment #15	MA15A-19E MA15B-19E	Decisions to declare any lightning fire in the Pasayten Wilderness a prescribed natural fire will follow the direction in the Pasayten Wilderness Prescribed Natural Fire Plan. A prescribed fire plan shall be approved prior to the use of prescribed fire in the Lake Chelan-Sawtooth Wilderness.
16	5/31/96	Cayuse Timber Sale	MA14-6A	Reduce snow intercept/thermal cover for deer in the winter range by an additional 1% to improve forest health and accelerate the growth of healthy future wildlife cover.
17	9/3/96	Doe Timber Sale and Associated Activities/Forest Plan Amendment #17	MA25-17C MA17-8	Allows open road density in discrete MA25-03 to exceed <i>Forest Plan</i> standard and Guideline MA25-17C during the sale. Portion of groomed snowmobile route along Road 5010 to be relocated to an adjacent planned trail, and approximately 2400 feet of the east half of Road No. 5100 beyond the sno-park may be plowed.
18	9/30/96	Shady Timber Sale	MA25-17C	Allows open road density in discrete MA25-14 to exceed the <i>Forest Plan</i> Standard and Guideline during the life of the sale.
19	2/3/97	Crown Jewel Mine/Forest Plan Amendment #19	MA27	Creates a new minerals Management Area (MA27) with goals, objectives, standards and guidelines.
20	6/9/97	Roger Lake RNA/Forest Plan Amendment #20	MA8	Establishes Roger Lake area as a Research Natural Area.
21	9/12/97	Long Draw Salvage Timber Sale/Forest Plan Amendment #21 Decision withdrawn	PACFISH RHCA widths	Modifies PACFISH interim RHCA widths where necessary to achieve riparian management goals and objectives. Subsequently withdrawn when decision was withdrawn.
22	9/29/97	Beaver Salvage Timber Sale/Forest Plan Amendment #22 Decision withdrawn	PACFISH RHCA widths	Modifies PACFISH interim RHCA widths where necessary to achieve riparian management goals and objectives. Subsequently withdrawn when decision was withdrawn.
23	4/3/98	Beaver Salvage Timber Sale/Forest Plan Amendment #23	PACFISH RHCA widths	Site-specific amendment to PACFISH interim widths for life of this sale to achieve riparian management goals and objectives.
24	5/19/98	South Twentymile Timber	MA14-17A	Amends road density in discrete MA14-05 and

NO.	Date	Decision Name	Standard/ Guideline Amended	Amendment
		Sale/Forest Plan Amendment #24 <i>Old growth amendment withdrawn</i>		restores old growth characteristics in three stands of timber; site specific to this sale only. Old growth portion of this amendment was withdrawn.
25	5/27/98	Oakley Timber Sale/Forest Plan Amendment #25	MA14-6A	Amends the <i>Forest Plan</i> to allow management activities to improve long-term winter thermal cover for deer.
26	9/30/98	Bailout Prescribed Fire for Natural Fuels Reduction/Forest Amendment #26	F/W19-8 MA26-6A	Allows site specific burning of natural fuels within 128 acres of mixed conifer <i>Forest Plan</i> old growth located in discrete MAs 26-33 and 26-34, to move structure towards historic ranges and promote late/old structure, and to protect and to develop snow intercept thermal cover which currently does not meet standards and guidelines.
27	5/18/99	Redmill Timber Sale, Road Management and Noxious Weed Management and Forest Plan Amendment #27	MA 14-6A	Reduction in snow intercept/thermal cover in MA 14-23 to help reduce disease and move stands toward conditions that maintain deer winter cover and increase long term sustainability of deer winter range.
28	5/15/99	Chewuch RNA and Forest Plan Amendment #28	MA-8	Establishes the Chewuch Research Natural Area.
29	2/11/00	Coco Integrated Resource Projects #29	MA26-17B	Changes road density standard in MA26-31 from 1.0 miles/square mile to 1.3 miles/square mile to allow main arterials and collectors to remain open
30	2/11/00	Prescribed Fire Projects from the Coco Integrated Resource Projects EA #30	MA19-8	Allows the use of prescribed fire in two old-growth stands to reduce natural fuels and encroachment of small trees.
31	7/18/00	Twisp River Pine Restoration Treatment, Road Management and Prescribed Fire #31	MA-26-20J	Allows winter logging in mule deer winter range for this project only in MA26-05 to mitigate soil impacts and reduce rate of spread of noxious weeds.

In addition, the *Forest Plan* has been amended by four Multi-Regional or Regional amendments. These are:

1. *The Record of Decision and Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old-Growth Forest Related species within the Range of the Northern Spotted Owl*, signed by Secretary of Agriculture, Mike Espy and Secretary of Interior, Bruce Babbitt on April 13, 1994.
2. *The Decision Notice and Environmental Assessment for Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales*, signed by Regional Forester, John Lowe on June 25, 1996.
3. *The Decision Notice and Environmental Assessment for the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH)*, signed by USDA Forest Service Chief, Jack Ward Thomas and USDI Bureau of Land Management Director, Mike Dombeck on February 24, 1995.
4. *The Decision Notice and Environmental Assessment for Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and Portions of Nevada (INFISH)*,

signed by USDA Forest Service Regional Foresters Hal Salwasser (Northern Region), Dale N. Bosworth (Intermountain Region) and John E. Lowe (Pacific Northwest Region) on July 28, 1995.

SCHEDULE OF PROPOSED ACTIONS

The Forest Service published revised policies and procedures for implementing the National Environmental Policy Act (NEPA) on September 18, 1992. One major change in the revised policies and procedures is the requirement that a schedule of proposed actions (SOPA) be published quarterly. The purpose of this schedule is to provide notice of proposals that may undergo environmental analysis and documentation to interested and affected agencies, organizations and individuals. All documents for which the Okanogan National Forest has developed a proposed action are listed on the quarterly schedule, and decisions made during the previous quarter are highlighted.

Projects listed in the schedule disclose the following information: Name of project, description, location, when scoping will begin, status, estimated date of decision, and contact person.

If you have any questions about the schedule, or wish to receive a copy of the schedule, call the Planning and Environment section of the Okanogan and Wenatchee National Forests at (509) 662-4335, or write to: Okanogan and Wenatchee National Forests, Environmental Affairs, 215 Melody Lane, Wenatchee, WA 98801. If you have questions or comments specific to the 2001 Okanogan National Forest Monitoring Plan, please contact Jan Flatten, Okanogan National Forest Environmental Coordinator, at (509) 826-3277 or write her at: 1240 South Second, Okanogan, WA 98840.

LIST OF PREPARERS

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