# Blue Mountain Forests' Monitoring Report – Fiscal Year 1999
# Section C - Coordinated Monitoring Items

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## Monitoring Item: AIR QUALITY AND SMOKE MANAGEMENT Malheur 31, Umatilla 1, Wallowa-Whitman 22

*Questions: Did the Forest meet the reporting obligations under the Oregon State Implementation Plan (SIP) and the Northeast Oregon Smoke Management Memorandum of Understanding (MOU)? Were emissions under the cap established for Northeastern Oregon (currently 15,000 tons per year of PM10)?*

*Questions: Did prescribed burning on the Forests result in any smoke intrusions on La Grande (Special Protection Zone) or smoke impacts to other population centers? If so, where and when were they, and what was the cause (if known)? Impacts are defined as smoke entering the community at the ground level.*

**Malheur**

The reporting obligations to the Oregon Department of Forestry (ODF) during calendar year 1999 were met. The Forest Service smoke management reporting system (FASTRACS) was not yet implemented due to programming problems, so all inputs were done directly to the ODF system at the John Day Unit office of ODF. Final calculations of PM 10 (particulate matter less than 10 microns in diameter) emissions from timbered acres, as addressed in the Northeast Oregon Smoke Management MOU, have not been calculated by the computer model due to technical program problems. The emissions listed in Table C-1 for 1999 are an approximate calculation.

A late spring snow melt and an autumn of record dry conditions limited accomplishment of planned prescribed burning. However, it should be noted that the acres in Table C-1 include mechanical treatment as well as prescribed fire application to reduce hazardous fuels.

Table C-1
**EMISSIONS TREND**
Malheur National Forest

| Year | Acres Treated | PM 10 | BD Acres | Natural Fuels Acres |
|---|---|---|---|---|
| 1993 | 6,133 | 889 | 5,286 | 847 |
| 1994 | 8,117 | 456 | 3,658 | 4,432 |
| 1995 | 11,218 | 1635 | 6,681 | 4,537 |
| 1996 | 18,019 | 1930 | 5,684 | 12,335 |
| 1997 | 32,142 | 3553 | 9,392 | 22,750 |
| 1998 | 36,124 | 1882 | 9,159 | 26,965 |
| 1999 | 26,555 | 1084 | 4,582 | 21,973 |

The Malheur N.F. did not record impact to any Special Protection Zones. A temporary Remote Automated Weather Station (RAWS) was placed at Seneca for the spring burning period to monitor atmospheric conditions to avoid burning during conditions that might impact the community.

**Umatilla**

The national forests of Northeast Oregon met the reporting obligations to the Oregon Department of Forestry (ODF) during calendar year 1999. There continued to be problems with the reporting system this year as the Forest Service changed from the DG computer system to the IBM system. Preliminary information from ODF would indicate the PM10 emissions from timbered acres as addressed in the Northeast Oregon Smoke Management MOU were well below the 15,000-ton cap.

In calendar year 1999, a variety of prescribed burning activities were used to accomplish management objectives including hazard reduction, site preparation, range improvement, and wildlife enhancement. Based on averaged fuel moistures, fuel types, and acres burned the total tons of fuel consumed and suspended particulate emissions produced are estimated (see Table C-2 below).

Table C-2
**PM10 EMISSIONS - CY 1991-1999**
Umatilla National Forest

| Year | Total Fuel Consumed (Tons) | Particulate Produced (Tons) |
|---|---|---|
| 1999 | 43,445 | 699 |
| 1998 | 63,115 | 938 |
| 1997 | 95,747 | 1,388 |
| 1996 | 53,720 | 779 |
| 1995 | 35,002 | 507 |
| 1994 | 96,235 | 1,396 |
| 1993 | 66,852 | 969 |
| 1992 | 156,436 | 2,268 |
| 1991 | 178,811 | 2,593 |

*Evaluation:*

As seen in the preceding table**,** the amount of prescribed burning and particulates decreased from 1997 and 1998. The decreased emissions, in 1999, are an indication of fewer acres burned in total for the year. Calendar year 1999 was a “poor” year for prescribed burning due to weather conditions in both the spring and fall. The total 699 tons of emissions produced by the Umatilla National Forest can be further broken down as 524 tons from prescribed burning in the State of Oregon and 175 tons from prescribed burning in the State of Washington.

No smoke intrusions were identified for La Grande in 1999. One intrusion was documented in Baker City, Oregon. The Baker City intrusion occurred on April 16, was light intensity, and lasted for 3 hours. The cause was a combination of poor air quality with forest, agricultural and ditch burning.

During the period of October 19-23, 1999, Pomeroy Ranger District did a prescription understory burn totaling approximately 850 acres. On October 21, 1999 all ignition was halted on this underburn because of air quality concerns and lack of atmospheric mixing to dissipate the smoke being generated in the Lewiston/Clarkston area of west-central Idaho and southeast Washington, respectively. Smoke intrusion from the prescribed burning was not identified as an intrusion, but there was also agricultural and residential open burning occurring at the same time.

**Wallowa-Whitman**

All reporting obligations were completed according to the terms and conditions of the State Implementation Plan (SIP). Final database edits were completed at the end of December. Emission levels were well below established cap for 1999. Complete emission data is not available until late February or March from ODF. However, experience with the process indicates that the threshold would not have been exceeded in 1999. The acres treated in 1999 produced emission levels well below the established cap.

No intrusions were reported to the Salem office of Oregon Department of Forestry, as required under the conditions of the MOU, from this area. Once again, limited fuels treatments involving prescribed fire occurred in 1999. Additionally, 1999 was a quiet wildland fire season with limited acres burned – none resulted in intrusions

*Recommended Action:*

Prescribed burning for resource reasons other than fuel hazard reduction is occurring. Currently many of these burns are exempt from reporting under the SIP, as is unwanted wildland fire. For trend analysis purposes, it may be appropriate to include emissions from these sources should revision of the SIP not allow exemptions.

## Monitoring Item: Fire Managed for Resource Benefits
## Malheur 36, Umatilla 1, Wallowa-Whitman 22

*Questions: Are natural ignitions being utilized to allow fire to play its natural ecological role in wilderness areas? Are activity fuels being treated as predicted in the Forest Plan? Are non-activity fuels being treated on forested lands as envisioned by the Forest Plan?*

### Malheur

A Fire Plan to allow use of wildland fire for resource benefit (formerly prescribed natural fire) has not been updated. New Fire Management Plan guidelines and Forest Service Manual (FSM) direction were issued in 1999. As this was not on the Forest's program of work schedule, the planning process was not instituted in 1999.

Activity fuels are being treated as identified in NEPA project analysis.

Non-activity fuels are being treated as identified in the Forest Land and Resource Management Plan based on project-level analysis and implementation. Table C-3 identifies the acres, by general objective, treated in 1999.

Table C-3
**DISTRICT ACRES BURNED, BY MANAGEMENT OBJECTIVE**
Malheur National Forest

| District | Total Prescribed Acres | Fuels Reduction | Wildlife Acres Burned | Silvicultural Acres Burned |
|---|---|---|---|---|
| Bear Valley | 8,588 | 5,701 | 2,623 | 264 |
| Long Creek | 9,391 | 3,572 | 5,701 | 118 |
| Burns | 10,302 | 7,600 | 370 | 2,332 |
| Prairie City | 6,100 | 5,577 | 3 | 520 |
| **Total** | **34,381** | **22,450** | **8,697** | **2,714** |

### Umatilla

The Umatilla National Forest experienced 124 lightning fires in 1999. Of these 124 fires, 31 occurred in wilderness areas. All were suppressed because the Forest does not have Fire Plans updated to use fire as a management tool in these areas. Current Regional direction will require revision of past plans before natural ignition fires will be allowed to play a role in accomplishing management objectives. Updating these plans is not a priority on the Forest at this time.

Even if the plans would have been updated, it is unlikely that all fires would have been considered to play a role in accomplishing management objectives, as other factors (chance of escape, lack of contingency resources, etc.) would have initiated suppression action. Human caused fires would always be suppressed.

The Umatilla National Forest Land and Resource Management Plan (Forest Plan) predicted average annual treatment of activity fuels at 8,000 acres per year. In 1999, only 2,576 acres of activity fuels were treated using prescribed fire. This level of activity has developed from a decreased timber sale program and in this particular year adverse burning conditions to treat fuels.

**Wallowa-Whitman**

The Forest did not submit a report for 1999.

*Recommended Action:*

Continue monitoring and exploring methods for treating fuels as the budget allows.

## Monitoring Item: WILDLAND FIRES
## Malheur None, Umatilla 49, Wallowa-Whitman None

*Questions: How many acres are being burned outside their normal disturbance regime? How is this changing over time? Are National Forest management practices reducing suppression costs over time?*

### Malheur

Unwanted wildland fire (human caused and natural ignitions that were suppressed) did not burn outside of the natural disturbance regime. The Forest experienced 133 wildland fires, all 10 acres or less.

### Umatilla

The 1999 fire season (Calendar Year) was actually below average in the numbers of wildfires and acres burned. The majority of the acres burned were from human-caused fires. Table C-4 exhibits the total number of human and lightning caused fires and acres burned. Table C-5 shows actual expenditures of WFSU (Wildfire Suppression and Rehabilitation Funds) in FY 1999. This is an estimate with final payments still being resolved in some contested situations.

Table C-4
**LIGHTNING, HUMAN CAUSED FIRES AND ACRES BURNED 1991-1999**
Umatilla National Forest

| Fire Cause | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|
| Human Caused: | | | | | | | | | |
| Number of Fires | 52 | 53 | 71 | 45 | 16 | 32 | 45 | 31 | 51 |
| Acres Burned | 29 | 156 | 635 | 153 | 7 | 8,289 | 3,281 | 226 | 170 |
| Lightning-Caused | | | | | | | | | |
| Number of Fires | 93 | 137 | 20 | 201 | 82 | 97 | 70 | 87 | 124 |
| Acres Burned | 49 | 278 | 3 | 5,637 | 131 | 64,228 | 37 | 195 | 86 |
| Forest Totals: | | | | | | | | | |
| Number of Fires | 145 | 190 | 91 | 246 | 98 | 129 | 115 | 118 | 175 |
| Acres Burned | 78 | 435 | 638 | 5,793 | 138 | 72,517 | 3,318 | 421 | 256 |

Table C-5
**ACTUAL EXPENDITURES OF WFSU - CY 1991 to 1999**
Umatilla National Forest

| Year | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999* |
|---|---|---|---|---|---|---|---|---|---|
| Total Expenditure | $644,293 | $1,712,671 | $1,214,588 | $4,254,935 | $1,682,486 | $30,773,407 | $2,271,815 | $234,124 | $1,507,112 |

* -- Includes the cost of personnel and other resources from the Umatilla NF, being used in suppression activities on other National Forests, or other federal agencies.

The total number of fires in 1999 represents 119% of the 10-year (1989-98) average of 147. When comparing the total number of lighting fires in 1999 to the 10-year lightning average (same period), the 1999 level was 119% of the average. Human caused fires were 118% of the human caused average (same period).

The total acres burned in 1999 represent 18% of the base period average (1991-1995) of 1,416 acres. This represents a strong suppression effort combined with a fire season when adverse fire weather situations were not occurring with fire ignitions.

The most intense fires of the 1999 season generally appeared to occur in lower elevation sites where the Forest did provide assistance to the Pendleton Unit of Oregon Department of Forestry, or late in the fall season when fuel moisture and relative humidity were extremely low.

**Wallowa-Whitman**

The Forest did not report on this item in 1999.

*Recommended Action:*

On the Umatilla and the Malheur, the fire program is within established thresholds. Continue monitoring.

## Monitoring Item: FORAGE UTILIZATION
## Malheur 21, Umatilla 10, Wallowa-Whitman 13

*Question: Are actual forage utilization levels within established Forest Plan utilization standards in riparian and/or upland areas as appropriate, particularly within those pastures identified as high priority for resource reasons?*

For 1999, Forest Plan utilization standards have been replaced for the most part by monitoring required to fulfill the terms and conditions of the various Biological Opinions. This process has been developed and approved by the Interagency Implementation Team (IIT). Implementation of these standards has required a modification in the way that monitoring is conducted. This process is continuing to evolve with further changes expected in 2000. For this reason, the results from 1998 cannot be fully compared with those of 1999. The utilization standards and monitoring requirements from the IIT are being incorporated into the Annual Operating Plans for each allotment on each Forest. Table C-6 portrays the results of the "trigger" stubble height monitoring; that is, the stubble height that determines when the livestock should be removed from a given pasture or use area. Table C-7 is a summary of the results of the end-of-season residual stubble height monitoring as required by the IIT Implementation Monitoring Module.

Table C-6
**UTILIZATION MONITORING BY FOREST - FY 99**

| | MALHEUR | UMATILLA | WALLOWA-WHITMAN* |
|---|---|---|---|
| Total number of pastures within active allotments | 418 | 129 | 499 |
| Total number of pastures monitored | 247 | 95 | 311 |
| Percent of total pastures monitored | 59% | 74% | 62% |
| Total number of monitoring data collections | 380 | 400 | 1066 |
| Total number of these within riparian areas | 257 | 233 | 731 |
| Number of monitored pastures meeting standards | 199 | 86 | 244 |
| Percent of monitored pastures meeting standards | 80% | 93% | 78% |
| Number of monitored pastures exceeding standards | 24 | 6 | 43 |
| Percent of monitored pastures exceeding standards | 10% | 6% | 14% |
| Number of monitored pastures uncertain | 24 | 1 | 24 |
| Percent of monitored pastures uncertain | 10% | 1% | 8% |

- Note: A pasture grazed more than once during the year may be reported as two pastures. A pasture within an active allotment, which is scheduled for rest, is considered to be an active pasture. In addition, there are many exclosures and small special purpose pastures. Monitoring in these areas often does not involve utilization sampling but may involve simply a check to ensure that management requirements were met.
- Priorities for monitoring were altered in 1999 with the adoption of the Interagency Implementation Monitoring Module developed to respond to the Biological Opinions of ESA listed fish species. This meant that a greater priority was placed on those pastures which "may affect" the listed species and a greater number of monitoring items were required than in the past. For this reason, some numbers and percentages may vary from what was reported in the past due to the differing emphasis.

Table C-7
**INTERAGENCY IMPLEMENTATION TEAM MONITORING RESULTS**

| Forest | Pastures Monitored | Standards Met |
|---|---|---|
| Malheur | 128 | 122 |
| Umatilla | 28 | 23 |
| Wallowa-Whitman | 73 | 59 |

Some pastures are not receiving adequate utilization monitoring, particularly the lower priority allotments or pastures. This situation is a direct result of continued insufficient funding in the range program.

*Recommended Actions:*

- Continue to emphasize utilization monitoring based on requirements from the IIT Implementation Monitoring Module as funding and priorities permit. Permittees will be requested to voluntarily conduct stubble height (utilization) monitoring.
- Continue to emphasize effectiveness monitoring to validate utilization standards with special emphasis on riparian areas in concert with the forthcoming IIT Effectiveness Monitoring Module.

## Monitoring Item: ALLOTMENT MANAGEMENT PLANNING
## Malheur 19, Umatilla 38, Wallowa-Whitman 16

*Question: Are Range Analyses, AMP-level NEPA decisions, and Allotment Management Plans (AMPs) being completed according to the Forest Plans' schedules as revised by the 1995 Rescission Bill?*

The Forest Plans developed schedules to emphasize allotment management planning on the high resource priority allotments. The 1995 Rescission Bill (Public Law 104-19) required the Forests to develop a new schedule to complete all AMP NEPA within a 15-year timeframe. All three Forests are currently behind schedule but have planning efforts on-going to bring the planning in line with the Recission Bill.

Table C-8
**STATUS OF RANGE AMPs AND EAs BY FOREST**

| | MALHEUR | UMATILLA | WALLOWA -WHITMAN |
|---|---|---|---|
| Number of Range Inventory and Analyses completed in FY 99 | none | none | none |
| Number of NEPA decisions completed in FY 99 | none | none | 1 |
| Number of allotments covered by these decisions | n/a | n/a | 3 |
| Number of AMPs completed in FY 99 | none | none | 4 |
| Number of allotments covered by these AMPs | n/a | n/a | 4 |
| Cumulative number of AMPs that are Forest Plan sufficient | 9 | 7 | 28 |
| Number of Active Allotments | 97 | 34 | 117 |
| Percent of Active Allotments with AMPs that are Forest Plan sufficient. | 9% | 21% | 24% |

Nineteen allotments on the Wallowa-Whitman were in various stages of planning in FY 99. Ten allotments are included in the Upper Grande Ronde Range Planning Area (RPA) document, which is delayed in the ESA consultation process, as does the Catherine Creek allotment. Three allotments were in the Ghostbull RPA decision that has been completed. Hootin Rock AMP was approved based on an earlier year NEPA decision. Marr Flat is in the final stages with a decision expected early in FY 2000. The work completed to date on North Pine, Snake River, and Double Pine will be rolled into a larger effort involving allotments in the Imnaha Drainage in the HCNRA beginning in 2000. In addition, work has begun during FY 99 on two additional multi-allotment planning processes on the Lower Joseph RPA (11 allotments) and the South Burnt RPA (5 allotments). These efforts were near the "draft" stage by the end of FY 99. Work continues on these projects with the intent of completing them by the end of FY 2000. The major delay at present involves the completion of ESA required consultation. If this can be resolved, these efforts, when completed, should bring the Wallowa-Whitman on track with the Recission Bill requirements.

The Umatilla received no funding for additional range inventory or NEPA planning efforts in FY 99 nor was any received to begin work for FY 2000. Multi-allotment project proposals are being developed for FY 2001, which, if funded, would bring the Umatilla substantially on track.

Twelve allotments on the Malheur were in various stages of planning in FY 99. Four allotments were close to AMPs based on previous year NEPA decisions. Eight allotments in the Middle Fork Planning Area were on track to complete a draft EIS but funding ran short and team members were needed for other priority projects such as consultation for the newly listed Mid-Columbia Steelhead. Plans are to continue this process in FY 2000 and start another group of eight allotments in the Logan Valley area in the NEPA process.

Although results show progress in analysis and planning, significant changes in program emphasis, including ESA consultation efforts, continue to cause overall accomplishments to remain low. Increases in appeals and litigation continue to result in delays and cost increases for all decisions. The threshold of variability was exceeded on the three Forests, but current efforts should allow all three Forests to be on track with the Recission Bill requirements within a few years.

*Recommended Actions:*

- Continue to update the Allotment Management Planning Schedule to reflect the requirements of the Rescission Bill as well as the actual budgets and accomplishments.
- Continue to pursue adequate funding to accomplish allotment management planning in a timely manner.
- Continue to implement the Forest processes for larger-scale analysis for multiple allotments, providing greater efficiencies and accomplishments.
- Continue to strive for a streamlined and timely ESA consultation process.

## Monitoring Item: NOXIOUS WEEDS
## Malheur 22, Umatilla 12, Wallowa-Whitman 17

*Questions: Are noxious weeds being inventoried and managed in accordance with the Regional FEIS for Competing and Unwanted Vegetation, Forest Plan direction, and applicable NEPA decisions? Are treatments effective at meeting objectives defined in the NEPA decisions and/or in associated treatment plans? What are the trends in noxious weed populations?*

Both the Umatilla and Wallowa-Whitman National Forests have approved Noxious Weed EAs. These EAs incorporated provisions from the Region 6 FEIS for Managing Competing and Unwanted Vegetation, its Mediated Agreement, and the Forest Plans. The Umatilla's EA was completed in 1995. An EIS incorporating these weed sites, along with newly inventoried areas and areas of high risk for invasion, was initiated on the Umatilla in 1997. Completion of this document has been delayed, however, due to lack of personnel and funding. The Wallowa-Whitman completed its programmatic Noxious Weed EA and Integrated Management Plan in 1992 and in 1994 completed an update to this decision to incorporate additional inventoried sites. The Umatilla and Wallowa-Whitman are currently working on a joint EIS for aerial application of herbicides in remote sites. This EIS is expected to be completed in FY 2000.

All three Blue Mountain Forests treated noxious weed infestations this year, and inventoried new sites as well. New sites probably represent some increased spread of weeds, as well as older sites that have only recently been inventoried. Table C-9 summarizes the existing inventory for the three forests and the type of noxious weed treatment conducted in FY 99. The table is incomplete because the Forests are still waiting on completion of a national corporate database; results should be reported more consistently in the future when this database is completed.

Table C-9
**NOXIOUS WEEDS - INVENTORY AND TREATMENT**
Malheur, Umatilla, and Wallowa-Whitman National Forests

| | Gross or Net Acres* | MALHEUR | UMATILLA | WALLOWA-WHITMAN |
|---|---|---|---|---|
| Total acres of inventoried noxious weeds | Gross | - | 27,647 | 18,239 |
| | Net | 492 | -- | - |
| Acres newly-inventoried in FY 99 | Gross | - | 1007 | |
| | Net | 6 | -- | - |
| Acres currently NEPA-approved for treatment | Gross | | 4,341 | 3,989 |
| | Net | | -- | |
| METHODS OF TREATMENT | Gross | -- | -- | 508 |
| Manual | Net | 59 | 563 | -- |
| Mechanical | Gross | -- | -- | 25 |
| | Net | 0 | 0 | -- |
| Biological ** | Gross | -- | -- | 245 |
| | Net | 0 | 4 | -- |
| Cultural | Gross | -- | -- | 0 |
| | Net | 0 | 0 | -- |
| Chemical | Gross | -- | -- | 2,075 |
| | Net | 0 | 1192 | -- |
| TOTAL | Gross | -- | -- | 2,853 |
| | Net | 59 | 1759 | -- |

** Gross acres are the total acres considered to be "infested". Within the gross acres, the net acres are the land base actually occupied by noxious weeds. For example, a 10-acre (gross) infestation may be occupied by widely-scattered individuals that occupy only 5% (0.5 net acres) of the area.*

*** Biological controls released in past years are not reflected here, even though biological agents may still be active and providing on-going treatment.*

TREATMENT EFFECTIVENESS:

Informal monitoring on all three Forests indicates that manual control of noxious weeds is often not very effective, especially on established sites and on deep-rooted species or those species that spread vegetatively. Informal monitoring indicates that where herbicides are used, control rates are generally high, especially when the most effective herbicide can be used. However, on established infestations with substantial seed in the ground, and with the seed capable of sustaining viability over many years, each site will need to be treated and monitored for many years if objectives are to be achieved.

On the Malheur National Forest, only manual treatments (pulling, cutting, or digging) were used. Manual methods were not effective in controlling the spread of the following weeds: spotted knapweed, diffuse knapweed, Dalmatian toadflax, yellow toadflax, Canada thistle, St. Johnswort, sulfur cinquefoil, musk thistle, whitetop, and leafy spurge. These weeds increased in area or density following manual treatments.

Manual methods contained the spread, but did not reduce the area or density, of the following weeds: yellowstar thistle, purple loosestrife, squarrose knapweed, Russian knapweed. Manual methods were effective in reducing the area and density of Scotch thistle sites.

On the Umatilla, the Heppner RD treated all known populations of knapweed, St. Johnswort, Scotch thistle, Dalmatian toadflax, hound's tongue, common burdock, Scotch broom, and tansy ragwort. Follow-up surveys indicate that hand pulling has kept populations of knapweed and tansy ragwort in check. Canada thistle populations continue to expand, as hand pulling is neither feasible nor effective. North Fork John Day RD reported that diffuse and spotted knapweed sites, which represent the majority of inventoried acres on the District, showed a slight but steady decrease in population size for sites treated manually, and a sharp decrease in population size when chemical treatments were applied. Over all sites on North Fork John Day, treatment effectiveness trends were very similar for manual and chemical treatments:

Manual treatments (129 sites): 29% increase; 62% decrease; and 19% no change
Chemical treatments (72 site): 18% increase; 67% decrease; and 15% no change

On Walla Walla RD, a reinventory of 29 selected sites, primarily diffuse knapweed infestations, showed an increase in plant density on 28% of the sites from the previous year, a decreased density on 28% of the sites, and no change on 45%. Pomeroy reports good control with the use of chemicals on knapweed sites, but yellow starthistle infestations continue to expand. In 1999, Pomeroy established test plots to evaluate the competitiveness of heavy seedings of various grass species against yellow starthistle.

NOXIOUS WEED TRENDS:

Determining trends in noxious weed populations across the three Forests has been difficult. While more infestations are reported each year, it is unknown whether these are new sites or established sites that have just recently been found and reported. However, the Noxious Weed Coordinators for the Forests have professional opinions on weed trends; these are discussed below.

On the Malheur, of the sites inventoried and treated on the Bear Valley and Long Creek Ranger Districts, the trends are:

- Increasing—spotted knapweed, diffuse knapweed, Dalmatian toadflax, yellow toadflax, Canada thistle, St. Johnswort, sulfur cinquefoil, musk thistle, whitetop, and leafy spurge.
- Stable—yellow starthistle, Russian knapweed, and squarrose knapweed.
- Decreasing—Scotch thistle, tansy ragwort.

On the Umatilla, 1,007 acres of new noxious weed infestations were inventoried in FY 99. On the North Fork John Day RD, hound's tongue populations increased on several large sites in response to a good germination year. Heppner RD is closely monitoring new populations of musk thistle and yellow starthistle. Prior to their discovery in 1998, these two species were not known to exist on the District. Several small infestations of tansy ragwort are also being closely monitored on Heppner RD due to concerns they may spread to private lands. None of these new sites have NEPA clearance, and thus treatments are limited to manual methods.

The Wallowa-Whitman reports that noxious weeds are increasing in many areas. Sites are increasing rapidly in the remote backcountry with yellow starthistle and rush skeletonweed (among other species) being found in many new areas. Noxious weed spread is especially associated with road use. Many noxious weed infestations appear to be moving onto the National Forest from adjacent lands. Primary species that have been observed to be increasing include yellow starthistle, several varieties of knapweeds, rush skeleton weed, leafy spurge, purple loosestrife, Scotch thistle, goatweed, and white top. Where effective treatment actions are employed, containment and control is often achieved.

*Recommended Actions:*

- Continue to build an aggressive prevention, inventory, treatment and monitoring program for noxious weeds.
- Continue to support national development of a corporate noxious weed database.
- Implement treatments approved in the Malheur National Forest EA, especially for the weed species listed above that are increasing in size and density.
- Implement a program to establish desirable vegetation along roadways, especially cut and fill slopes, to prevent invasion by noxious weeds.
- Complete work on a remote sites aerial application EIS for the Umatilla and Wallowa-Whitman.
- Complete work on Umatilla EIS for newly inventoried and high-risk sites.

## Monitoring Item: Insects and Diseases
## Malheur 29, Umatilla 21, Wallowa-Whitman 3

*Question: What are the current levels and trends of key insects and diseases on the Forests?*

The annual aerial insect detection survey flights conducted cooperatively by the Pacific Northwest Region of the Forest Service and the states of Oregon and Washington provide data on the extent of insect infestations on all lands covered by the survey flights. Acres infested by key insects on National Forest lands, and mapped during the 1999 survey flights, are shown in the following table. Most forest diseases are not identified by aerial observers, so there is no annual tabulation of incidence/severity. Most data on forest diseases comes from stand exams and personal observations by silviculture staff and pest management specialists. Risk-rating models can be used to estimate expected disease incidence based on more identifiable stand attributes.

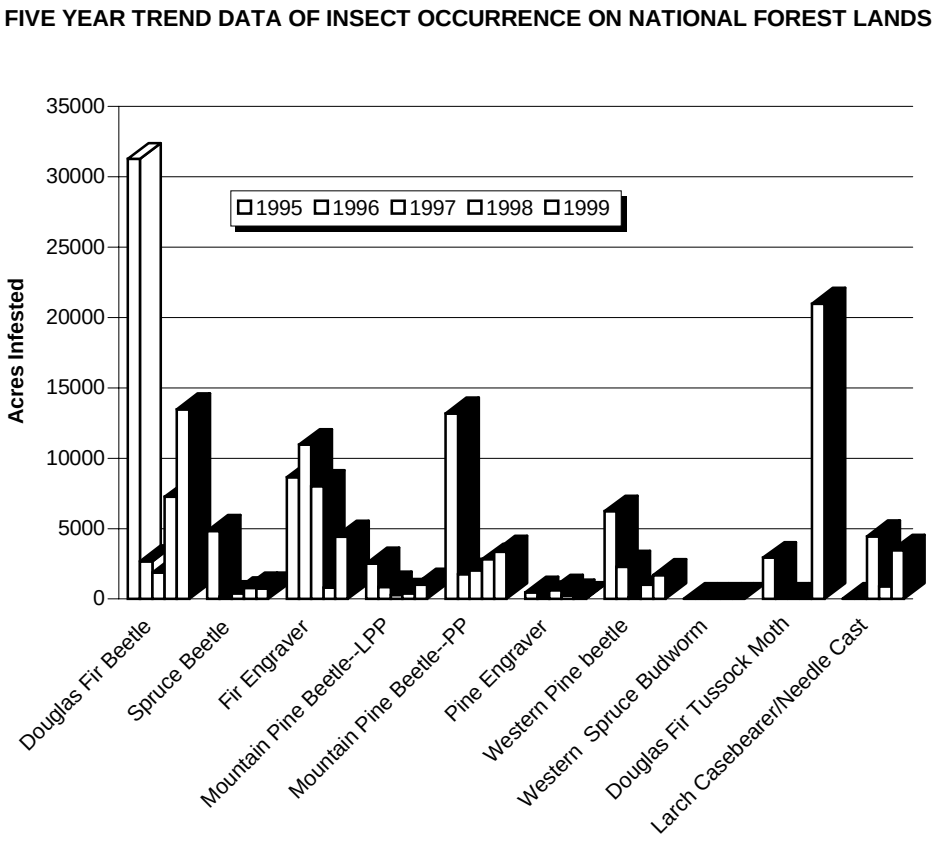
Table C-10
**FOREST SERVICE ACRES OBSERVED INFESTED BY KEY INSECTS DURING 1999 AERIAL INSECT DETECTION SURVEY[1]**

| Key Insect | Malheur NF | Umatilla NF | Wallowa-Whitman NF |
|---|---|---|---|
| Douglas-fir Beetle | 945 | 3,975 | 8,565 |
| Spruce Beetle | 17 | 70 | 663 |
| Fir Engraver | 935 | 1,374 | 2,104 |
| Mountain Pine Beetle, LPP[2] | 582 | 0 | 440 |
| Mountain Pine Beetle, PP[3] | 2,287 | 523 | 555 |
| Mountain Pine Beetle, WWP[4] | 0 | 0 | 0 |
| Mountain Pine Beetle, WBP[5] | 0 | 0 | 0 |
| Pine Engraver | 38 | 11 | 11 |
| Western Pine Beetle | 883 | 405 | 414 |
| Western Pine Beetle, Pole-Size PP[3] | 0 | 0 | 0 |
| Western Spruce Budworm | 0 | 0 | 0 |
| Douglas-fir Tussock Moth | 0 | 0 | 20,983 |
| Larch Casebearer/Larch Needle Cast | 27 | 649 | 2,784 |

[1]Not all acres were equally infested by insects. [2]Lodgepole pine. [3]Ponderosa pine. [4]Western white pine. [5]Whitebark pine.

As indicated in the preceding table, current population levels of most key insects in the Blue Mountains Province are relatively low, with a few exceptions. Douglas-fir tussock moth populations are approaching outbreak status on the Pine RD and portions of the Walla Walla RD and Pomeroy RD, although no defoliation has been aerially mapped yet on the latter two districts. The return of tussock moth in some areas may have a heavy impact on resources due to current increased trend of Douglas-fir beetle populations related to population build-up in blowdown, wind-damaged trees, and in proximity to Twin Lakes Fire on the Pine RD. Areas along the 62 Road on the Walla Walla RD (Elmo/Eden/Elbow areas) also have some similar beetle conditions and may experience more beetle and defoliator tree mortality than other areas. Fir engraver levels will likely increase in stands with tussock moth-weakened host trees. The infestation trends of selected insects are shown in the graph below.

Figure C-1




The 5-year trend of most insects in the Blue Mountains has been downward from 1995 to 1999. The largest increases in population trends from 1998 occurred in Douglas-fir beetle, Douglas-fir tussock moth, and larch casebearer. Larch casebearer has appeared in some areas the last three seasons, causing spotty, mostly light defoliation of some larches.

Unlike forest insect damage, and with a couple of exceptions, tree diseases generally do not cause periodically cyclic epidemic tree damage or mortality. Rather, they may result in slowly increasing decay, damage, defect and/or mortality as stands increase in age and the causal organisms slowly but steadily spread. As a result, most tree diseases are not readily recognizable from the air, thus they are not mapped in the annual aerial detection survey. The exceptions are larch needle cast, which may be mapped along with an insect, the larch casebearer, which causes similar-appearing discoloration of larch foliage, several other needle or leaf blights, and blister rust. Additionally, many insects and diseases work together to cause mortality, where the disease acts as the predisposing agent and the insect directly causes tree death. In such cases, the mortality may be identified in the aerial detection survey, but will most likely be attributed to the insect agent. The root disease-bark beetle relationship is a good example of this scenario.

Records of tree diseases are included in stand examination records, which have not proved to be a good monitoring tool because of infrequent and discontinuous examinations and non-standardized procedures. Quality of disease detection and assessment has also proved to be variable.

On a large scale, the Region 6 Current Vegetation Survey (CVS) probably represents the best consistent periodic (10-year) assessment, and thus long-term monitoring tool that is available for forest diseases. However, wide spacing of plots does not make this system conducive for monitoring project level work.

Over 10 years of insect and disease biological evaluations and site visits by the Blue Mountains Service Center Pathologist and Entomologist to many vegetative management projects, recreation sites, seed orchards, and progeny test plantations throughout the province has resulted in a good compilation of past, current, and predicted future disease assessments. While these assessments are documented in site visit reports, they have not been compiled into a GIS layer, which we would like to eventually see accomplished.

Laminated root rot (*Phellinus weirii*) is common in mixed conifer stands in the Mt. Emily area on the Walla Walla and LaGrande Districts. Discontinuous disease centers are known on the Pomeroy and Heppner Districts and minor levels are known on the Wallowa Valley and Long Creek Districts. Spread is occurring in cases where seral larch and pines are lacking on Douglas fir and true fir dominated sites.

Annosus root disease (*Heterobasidion annosum*) is found throughout the grand fir series communities, especially where large diameter firs were harvested over 25 years ago. Ponderosa pine is also affected by a different strain of the causal annosus pathogen. Damage to pine is most common on poor productivity pine communities, most common on the southern Malheur Forest, but also on the Unity, North Fork John Day (NFJD), and Heppner Districts. Annosus in fir is increasing, while the disease in pines is stable or decreasing.

Armillaria root disease (*Armillaria ostoyae*) is found throughout most mixed conifer communities at endemic levels. Many scattered severe cases of armillaria are known in the province and are related to a combination of high host density, site disturbance, and genetic virulence of the pathogen. Most notable are cases on the northeastern portion of the Walla Walla District and at least two areas on the Prairie City District. The armillaria in the Reynolds and Clear Creek drainages is legendary and is believed to include several of the largest known continual individual clones of the disease in existence. Armillaria root disease is spreading and intensifying throughout affected stands as well as showing up in previously uninfected stands. Stand succession to fir dominance promotes spread and intensification, while stand conversion back to seral dominance keeps this disease in check.

Blackstain root disease (*Leptographium wageneri*) is localized in a few areas in the province. Abel's Ridge (Pomeroy District) has an infected plantation we have monitored for about 10 years. Minor disease incidence has been found on the Heppner and Wallowa Valley Districts. The most severe incidence of blackstain is on the southeastern portion of the Burns District in ponderosa pine. Several research projects have been initiated in this area which are designed to identify best management practices. This disease is known to increase with certain management disturbances, while stocking level control is crucial to maintain stand health and limit bark beetle activity in pine communities. This disease is increasing in incidence and severity.

Tomentosus root disease (*Inonotus tomentosus*) seems to occur in nearly all Engelmann spruce communities, often at rather high incidence. Although occurence is high, the damage is usually restricted to root and butt rot of living trees, highest on older trees. The high levels of spruce mortality over the last two decades have reduced the population of older large spruce and the level of tomentosus has similarly been reduced. Decay will gradually increase as this spruce component matures.

Subalpine fir mortality has been severe since the mid to late 1980's throughout the province as well as elsewhere throughout the west. In some stands, such as in the Tollgate area on the Walla Walla District, some of the most affected communities have lost as much as 80% of their subalpine fir. While not closely studied here, similar fir stands have been closely studied in Region 4 and a complex of a several insects and diseases seemed associated with mortality. We believe that a similar complex is active in this province. In the Blue and Wallowa Mountains, this mortality has continued unabated and shows no sign of diminishing.

White pine blister rust is an exotic disease that causes severe losses in five-needle pines. Western white pine and whitebark pines are hosts in this province. Due to blister rust, selective harvesting (including preemptive sanitation) and poor regeneration success of pines, western white pine has diminished as a stand component throughout much of the province.

The Pomeroy District probably has done the most recent white pine restorative activity, including seed from phenotypically resistant stock for screening, and planting rust resistant stock. Whitebark pine is especially susceptible to rust and often has dramatic levels of infection where *Ribes* (species of currants and gooseberries) also occur on-site. Surveys in 1997 indicated that whitebark pine in the Wallowa, Seven Devil and Elkhorn Ranges have high levels of rust, while those stands in the Strawberry Mountains are relatively clean. Incidence of infection seemed to be closely correlated with occurrence and proximity of *Ribes.* There has been one recent restoration project on the Baker District at Marble Point. While numerous other opportunities exist, restoration in the whitebark pine type is hampered by poor access, few available management tools in Designated Wilderness, and limited funding. In some high hazard stands, the long-term viability of whitebark pine is questionable due to continued rust-caused mortality and subalpine fir intrusion, and is reliant upon natural selection and propagation of resistant hosts

Several stem decays are common in the province and contribute to defect and breakage of conifers, especially grand fir. Older grand firs in wet grand fir series communities often have high levels of Indian paint fungus (*Echinodontium tinctorium*). Defect reduces timber values and contributes to hazard trees in some recreation sites. Levels of decay are believed to be slowly and steadily increasing as more grand fir stands progress to later successional stages. An active hazard tree treatment program on several districts is needed to address this condition. A number of birds and mammals use and are dependent upon trees with stem decay for shelter and nesting sites. Some districts are introducing (inoculating) stem decay fungi into trees in instances where numbers of wildlife trees are deficient. Stem inoculation on the LaGrande, Burns, and Pine Districts has been done in the last several years. Cavity excavators have used some inoculated trees within several years of treatment.

Dwarf mistletoes infect four species of conifers in the Blue Mountains Province: Douglas fir, western larch, ponderosa pine, and lodgepole pine. Lodgepole mistletoe incidence dropped with mountain pine beetle-caused mortality 20 years ago, but is slowly increasing. Larch dwarf mistletoe is probably decreasing due to the lack of uneven-age larch stand structure. Western dwarf mistletoe has been reduced or eliminated in cases where active sanitation has occurred, but is steadily increasing where uneven-age management is being applied and infected trees occur in the overstory. Douglas-fir dwarf mistletoe is increasing due to fire suppression and the widespread development of fir understory in dry fir communities. It has spread into communities once kept primarily to ponderosa pine as a result of ground fire. Western dwarf mistletoe is most common on the Long Creek, Prairie City, Baker, and Unity Districts. Other dwarf mistletoes occur throughout most of their host type.

Hardwoods are receiving much more attention than in the past. It is clear that aspen clones have been decimated and fragmented from historical conditions. A number of insects and diseases of aspen contribute to mortality of stems, but the primary problem throughout the vast majority of sites is the poor reproduction success of clones. Restoration and rejuvenating of clones is actively occurring throughout the province; it seldom involves managing pests, but rather protecting sprouts from being browsed, removal of conifer ingrowth, and prescribed fire.

*Question: Are destructive insects and diseases remaining below potentially damaging levels following management activities?*

Insect and disease evaluations of projects indicate that management activities are not aggravating insects and diseases, and in fact may be reducing the susceptibility of stands to insects and diseases in many cases through stocking level control and increasing the seral species component in treated stands. Insect outbreaks are sometimes inevitable though every effort is taken to prevent their occurrence. The inability to respond quickly enough to insect outbreaks often contributes to the level to which they sometimes build after disturbances, like wind events that cause blowdown or wildfires. Certain insects like the tussock moth increase at an explosive rate, even though we have a reliable Early Warning (pheromone) System in place to provide us with lead time to prepare for an outbreak. The Tussock Moth Early Warning System prompted a large-scale sampling effort in critical resource areas on the three Forests last spring and fall to identify where populations were highest or would be in outbreak in 2000. Portions of over 250,000 acres of high value areas with critical resource concern were sampled for tussock moth populations in 1999. These results were summarized in a report prepared by the Blue Mountains Pest Management Service Center on February 2, 2000. These data were also provided to the Regional Interdisciplinary Team to support the analysis for the tussock moth EIS. Treatments to limit tussock moth damage in the areas of critical resource concern identified by the Forests may occur this year in portions of the Wallowa-Whitman (Pine RD) and Umatilla (Walla Walla RD and Pomeroy RD) National Forests. While anticipated damage from these outbreaks usually cannot be entirely avoided, it can be limited to some extent by prompt action.

Most tree diseases increase with tree age and proportion of hosts in the stand. Since shade-tolerant species are susceptible to a high proportion of diseases, many unmanaged stands are experiencing a gradual increase in disease activity. These same stands also increase in susceptibility or vulnerability to insects with time. Diseases should be reduced to within Historic Range of Variability (HRV), since many birds, mammals, and invertebrates use trees killed, decayed, or modified by diseases, and some level of disease incidence is required to maintain a healthy ecosystem. However, the trend toward uneven-age management will allow increased levels of root disease, defoliators, bark beetles, and dwarf mistletoes to develop, well above the HRV.

*Recommended Actions:*

- Continue monitoring, including the Douglas fir tussock moth.
- Design activities to minimize the risk of insect and disease outbreaks.

## Monitoring Item: Timber Offered for Sale
## Malheur 27, Umatilla 43, Wallowa-Whitman 4

*Questions: Are the Forests offering the Allowable Sale Quantity (ASQ) and estimated Total Sale Program Quantity (TSPQ)? Of the offered volume in the fiscal year, how much was actually awarded? How many sales and how much volume received no bids, and what were the reasons given for no bids?*

On the Malheur National Forest in FY 1999, all sales received bids and were awarded except one, the Stormy Timber Sale. Some sales were not awarded until FY 2000. The reasons given by the purchasers for not bidding included: large components of non-saw volume; small diameter to five-inch DBH, and advanced logging system requirements.

Table C-11
**TIMBER VOLUME OFFERED - FY 91-99**
Malheur National Forest

| FISCAL YEAR | VOLUME OFFERED FOR SALE | | | |
|---|---|---|---|---|
| | MMBF | | MMCF | |
| | ASQ | TSPQ | ASQ | TSPQ |
| 1991 | NA | 202 | NA | 39 |
| 1992 | NA | 102 | NA | 20 |
| 1993 | 66 | 72 | 13 | 14 |
| 1994 | 26 | 33 | 5 | 6 |
| 1995 | 65 | 67 | 13 | 13 |
| 1996 | 80 | 81 | 15 | 16 |
| 1997 | 38 | 39 | 7 | 8 |
| 1998 | 77 | 77 | 15 | 15 |
| 1999 | 32 | 34 | 6 | 7 |
| Forest Plan Projected Output | 200 | 211 | 35 | 38 |

On the Umatilla NF, the amount of timber offered for sale remains below Forest projections. About 16% of TSPQ and 14% of the ASQ were offered for bid in FY 99. All sales received bids and all offered volume was awarded. Table C-12 shows the timber offered for sale in FY 99.

Table C-12
**TIMBER VOLUME OFFERED - FY 94-99**
Umatilla National Forest

| | VOLUME OFFERED FOR SALE | | | |
|---|---|---|---|---|
| | MMBF | | MMCF | |
| FISCAL YEAR | ASQ | TSPQ | ASQ | TSPQ |
| 1994 | 1 | 9 | <1 | 2 |
| 1995 | 5 | 22 | 1 | 4 |
| 1996 | 19 | 45 | 4 | 8 |
| 1997 | 37 | 82 | 7 | 15 |
| 1998 | 38 | 62 | 7 | 12 |
| 1999 | 17 | 26 | 3 | 5 |
| Forest Plan Projected Output | 124 | 159 | 22 | 28 |

During FY 99, timber offered for sale on the Umatilla National Forest consisted mostly of salvage volume. The Forest still has some salvage potential from large-scale insect damage and mortality of the early 1990s. Salvage efforts continue on several large fires that burned in 1996. Timber killed in the Tower, Bull, and Summit fires on the North Fork John Day Ranger District is expected to be sold or resold in FY 2000 and 2001.

Table C-13
**TIMBER VOLUME OFFERED**
Wallowa-Whitman National Forest

| | VOLUME OFFERED FOR SALE | | | |
|---|---|---|---|---|
| | MMBF | | MMCF | |
| FISCAL YEAR | ASQ | TSPQ | ASQ | TSPQ |
| 1991 | 33 | 53 | Not readily available for this report | |
| 1992 | 66 | 79 | | |
| 1993 | 8 | 23 | | |
| 1994 | 17 | 29 | | |
| 1995 | 39 | 54 | | |
| 1996 | 44 | 53 | 86 | 103 |
| 1997 | 40 | 49 | 79 | 97 |
| 1998 | 32 | 40 | 62 | 78 |
| 1999 | 24 | 30 | 49 | 66 |
| Forest Plan Projected Output | 141 | 205 | | |

The Wallowa-Whitman National Forest had a target of 53,300 MBF for all products in Fiscal Year 1999--30,358 MBF was offered. All sales offered were awarded. Eight sales that were not offered account for the shortfall in the target. All of these sales were delayed due to consultation requirements of the Endangered Species Act. The sales will be offered in FY 2000 once consultation has been completed.

On all three Forests since FY 93, the annual volume targets assigned by the Regional Office have been considerably less than Forest Plans TSPQs and ASQs. Forests' output levels have been based on estimated amounts which each has determined they can produce under the newer standards of PACFISH, INFISH, Endangered Species Act Requirements, and Regional Forester's Amendment 2.

*Recommended Actions:*

- Adjust Forest Plan ASQ and TSPQ levels upon completion of the ICBEMP.
- Continue to update vegetation data and other relevant information in preparation for Forest Plan adjustment.

## Monitoring Item: HARVEST METHODS AND ACRES
## Malheur 26, Umatilla 13, Wallowa-Whitman 5

*Questions: How do the silvicultural harvest methods implemented on the ground compare to the predictions from the Forest Plan? Is clearcut acreage going down per the Chief's 1992 direction to reduce clearcutting by 25%?*

The following table displays the silvicultural harvest methods implemented on the ground compared to Forest Plan projections.

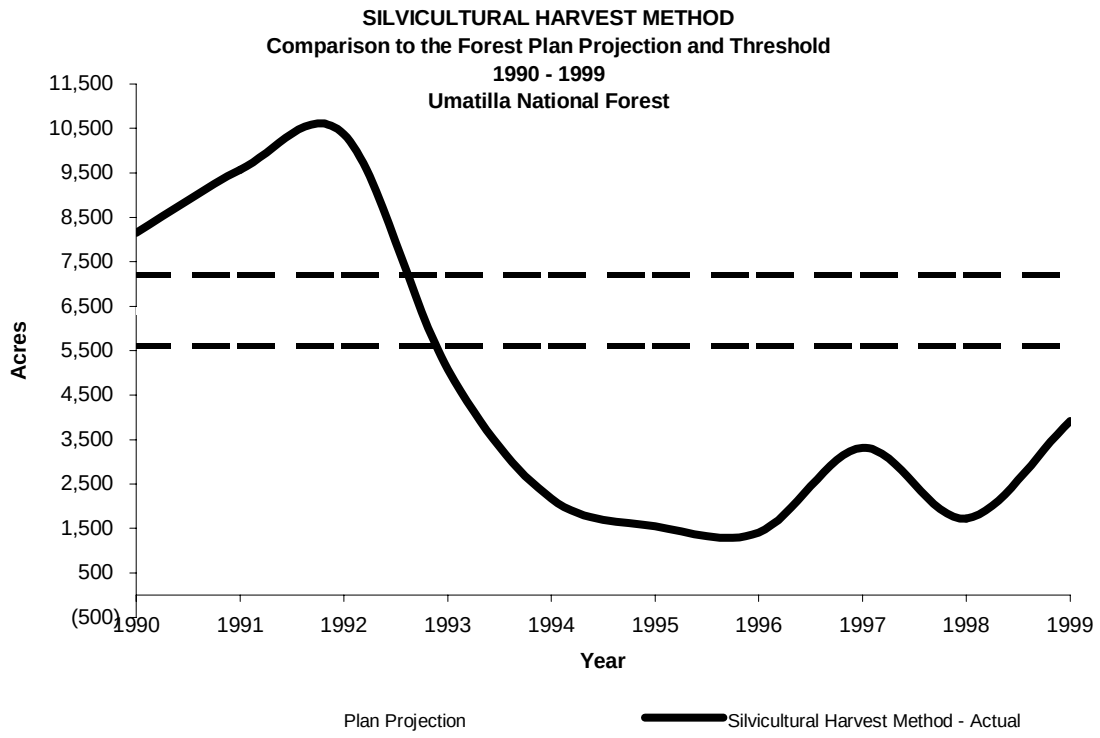
Table C-14
**SILVICULTURAL HARVEST METHODS (IN ACRES) FOR FY 99**
Malheur, Umatilla, and Wallowa-Whitman Forests

| SILVICULTURAL METHOD | MALHEUR | UMATILLA | WALLOWA-WHITMAN |
|---|---|---|---|
| Clearcut | | | |
| Forest Plan Estimate (acres/year) | 3,330 | 4,000 | 4,300 |
| Actual FY 99 Harvest (acres) | 65 | 1,352 | 1 |
| Percentage (actual/planned) | 2% | 34% | 0% |
| Shelterwood/Seed Tree | | | |
| Forest Plan Estimate | 5,084 | 2,600 | 8,500 |
| Actual FY 99 Harvest | 1,924 | 1,301 | 266 |
| Percent (actual/planned) | 38% | 50% | 3% |
| Overwood Removal | | | |
| Forest Plan Estimate | 6,301 | 1,500 | 1,200 |
| Actual FY 99 Harvest | 57 | 0 | 142 |
| Percent (actual/planned) | 1% | 0% | 12% |
| Uneven-age/Selection | | | |
| Forest Plan Estimate | 6,424 | 900 | 6,500 |
| Actual FY 99 Harvest | 1,545 | 2,563 | 99 |
| Percent (actual/planned) | 24% | 184% | 2% |
| Commercial Thinning | | | |
| Forest Plan Estimate | 6,778 | NA | 3,900 |
| Actual FY 99 Harvest | 5,033 | | 6,884 |
| Percent (actual/planned) | 74% | | 176% |
| Salvage/Sanitation | | | |
| Forest Plan Estimate | 3,956 | NA | 0 |
| Actual FY 99 Harvest | 6,578 | 1,095 | 1,601 |
| Percent (actual/planned) | 166% | NA | NA |
| Special Cut | | | |
| Forest Plan Estimate | 0 | NA | 0 |
| Actual FY 99 Harvest | 24 | | 0 |
| Percent (actual/planned) | NA | | NA |
| TOTAL | | | |
| Forest Plan Estimate | 31,873 | 9,100 | 24,400 |
| Actual FY 99 Harvest | 15,226 | 6,311 | 8,993 |
| Percent (actual/planned) | 48% | 69% | 37% |

Silvicultural prescriptions implemented in 1999 were designed to meet Forest Plan standards and guidelines, including riparian management objectives if applicable. As stated in previous monitoring reports, regeneration treatments have shifted away from clearcutting and toward other cutting methods such as shelterwood and seed tree. This shift represents national and regional direction about how to code salvage harvests (harvest of dead and dying trees following wildfire, insect outbreaks, etc.), and a response to evolving societal expectations about how the National Forest System lands should be managed.

The following chart displays actual harvest levels since 1990. It also displays the Forest Plan projection (solid gray line) along with a threshold zone of ± 25% (the dashed horizontal lines). For the first several years of Forest Plan implementation, harvest levels were outside the threshold. After its peak in 1992, the harvest level declined precipitously and has remained well below projected Forest Plan levels since 1993.

Figure C-2[1]




[1] Source: Annual Reforestation and Timber Stand Improvement Accomplishment Report, years 1990 to 1999. For years 1990 to 1993, corrections have been made to the actual acres harvested since their first reporting. Harvest acres include clearcut, overwood removal, and uneven-age only.

There are many reasons for the decline in timber harvest levels, including restrictions related to critical habitat areas for threatened and endangered species, changing societal expectations with respect to public land management, and a timber sale screening process that was mandated for every national forest in eastern Oregon and eastern Washington in 1993. When considering all national forest lands located in eastern Oregon and eastern Washington, timber harvest levels declined by 72% between 1990 and 1995, and that trend is clearly portrayed in the Umatilla NF data shown above.

It is difficult to predict what the timber harvest levels may be during the next 10 years. Based on recent history, one can only speculate that harvest levels will remain below the Forest Plan projections for at least the foreseeable future.

The table below displays the trend in clearcut acres by Forest since 1993. The Chief of the Forest Service announced in 1992 that clear-cutting would be reduced on the national forests by at least 25% from 1988 levels.

Table C-15
**CLEARCUT ACRES - FISCAL YEARS 1993-99**
Malheur, Umatilla, and Wallowa-Whitman National Forests

| YEAR | MALHEUR | UMATILLA | WALLOWA-WHITMAN |
|---|---|---|---|
| 1988 Base | | 3,299 | |
| Forest Plan Projection | 3,330 | 4,000 | 3,900 |
| 1993 | 3,095 | 1,470 | 700 |
| 1994 | 972 | 195 | 286 |
| 1995 | 992 | 109 | 80 |
| 1996 | 265 | 895 | 4 |
| 1997 | 220 | 2,635 | 0 |
| 1998 | 392 | 1,348 | 0 |
| 1999 | 65 | 1,352 | 1 |

* Monitoring Reports for Fiscal Years 1991 through 1996 displayed acres offered for sale. Later Reports display actual acres harvested. The table begins with 1993 as older sales designed prior to implementing the Forest Plan were harvested in 1991 and 1992. 1993 reflects the first year of fully implementing the Forest Plan.

Since the Chief's announcement, all Blue Mountains National Forests have been reducing the amount of clearcutting. As was reported for last fiscal year, the Forests have reduced clear-cutting acreage by 60% or more. In 1999, the clearcutting acreage on the Umatilla National Forest represents only 40% of the 1988 base level, which means that the 1999 figure was 60% below 1988 levels. The Malheur National Forest does very little clearcutting.

*Recommended Actions:*

- Changes in harvest methods need to be evaluated and adjusted upon completion of ICBEMP.
- Continue to emphasize harvest methods other than clearcuts where appropriate.

## Monitoring Item: REFORESTATION
## Malheur 24/25, Umatilla 15, Wallowa-Whitman 8

*Questions: How many acres were reforested this year using natural and artificial regeneration practices? Are acres being satisfactorily restocked within 5 years of final harvest, per NFMA?*

Table C-16 shows acres of reforestation accomplished by treatment method as compared to assumptions made in the Forest Plans.

Table C-16
**REFORESTATION ACCOMPLISHMENT (IN ACRES) FOR FY 99**
Malheur, Umatilla, and Wallowa-Whitman National Forests

| Activity | MALHEUR | | UMATILLA | | WALLOWA-WHITMAN | |
|---|---|---|---|---|---|---|
| | Forest Plan Avg/Year | FY 99 Accomplish-ment | Forest Plan Avg/Year | FY 99 Accomplish-ment | Forest Plan Avg/Year | FY 99 Accomplish-ment |
| Site Prep for Natural Regeneration | 7,212 | 0 | Not Available* | 2,564 | 1,700 | 546 |
| Natural Regeneration without Site Prep | 0 | 13 | * | 3,601 | 8,000 | 1,570 |
| Artificial Regeneration (Planting) | 5,460 | 7,504 | 4,400 | 4,208 | 4,800 | 2,277 |

** The Umatilla NF Forest Plan does not differentiate between natural regeneration categories (with and without site preparation).*

On the Wallowa-Whitman, first year survival in 1997 was 88%. Today, the 1999 Plantation Survival and Growth Report shows that third-year survival on the same units has dropped to 72%, surprisingly better than anticipated considering both summers of 1998 and 1999 were hot and dry. There was little to no moisture throughout late July, all of August and September for both years, and well into October in 1999. In addition, the Plantation and Survival Growth Report for 1997 noted that lack of root mass on all 1-0 bare root western larch was clearly contributing to the poor first-year results of only 65% (specifically for western larch) at that time. It was anticipated that continued losses would be evident for western larch planted seedlings in the third year, as well.

The Wallowa-Whitman certified 8,500 acres as satisfactorily stocked in 1999. Of those, 81% were certified with only one treatment. Third-year exams were conducted on 4,600 acres and 69% were found to be satisfactorily stocked to date. Those areas not satisfactorily stocked will continue to be monitored through their fifth year and will be evaluated for additional treatments if needed. Those acres not adequately stocked at this time are associated with wildfires that burned these areas in the late 1980s and 1990s.

The Annual Reforestation and Timber Stand Improvement Accomplishment Report (Table 22) was not done in 1999 for harvest year 1994 by direction of the Washington Office. Therefore, we are not reporting the status of reforestation after final harvest

**Umatilla**

Results/Findings:

The following table displays natural and planted regeneration acres for fiscal year 1999. For reporting purposes, natural regeneration includes the following items: site preparation for natural regeneration, and certification of natural regeneration without site preparation (as specified by national and regional protocols).

Table C-17
**NATURAL AND ARTIFICIAL REGENERATION ACRES**
Fiscal Year 1999
Umatilla National Forest

| Activity | Heppner | NFJD | Pomeroy | Walla Walla | Forest Total |
|---|---|---|---|---|---|
| Site Preparation for Regeneration | | | | | |
| • Natural | 0 | 221 | 0 | 0 | 221 |
| • Artificial (planting/seeding) | 109 | 1,067 | 170 | 997 | 2,343 |
| Natural Regeneration Without Site Preparation | 160 | 2,342 | - | 1,099 | 3,601 |
| Artificial Regeneration (planting) | 822 | 2,680 | 251 | 455 | 4,208 |

Certification of regeneration is based on site-specific information; units must meet minimum stocking guidelines prior to certification. Currently, the Forest performs regeneration examinations following the first and third growing seasons after tree planting, and following the third and fifth growing seasons after completing a natural regeneration treatment such as site preparation. In 1999, the Umatilla NF certified that a total of 5,477 acres (planted and natural regeneration combined) met or exceeded minimum stocking standards either 3 years (planting) or 5 years (natural regeneration) after treatment.

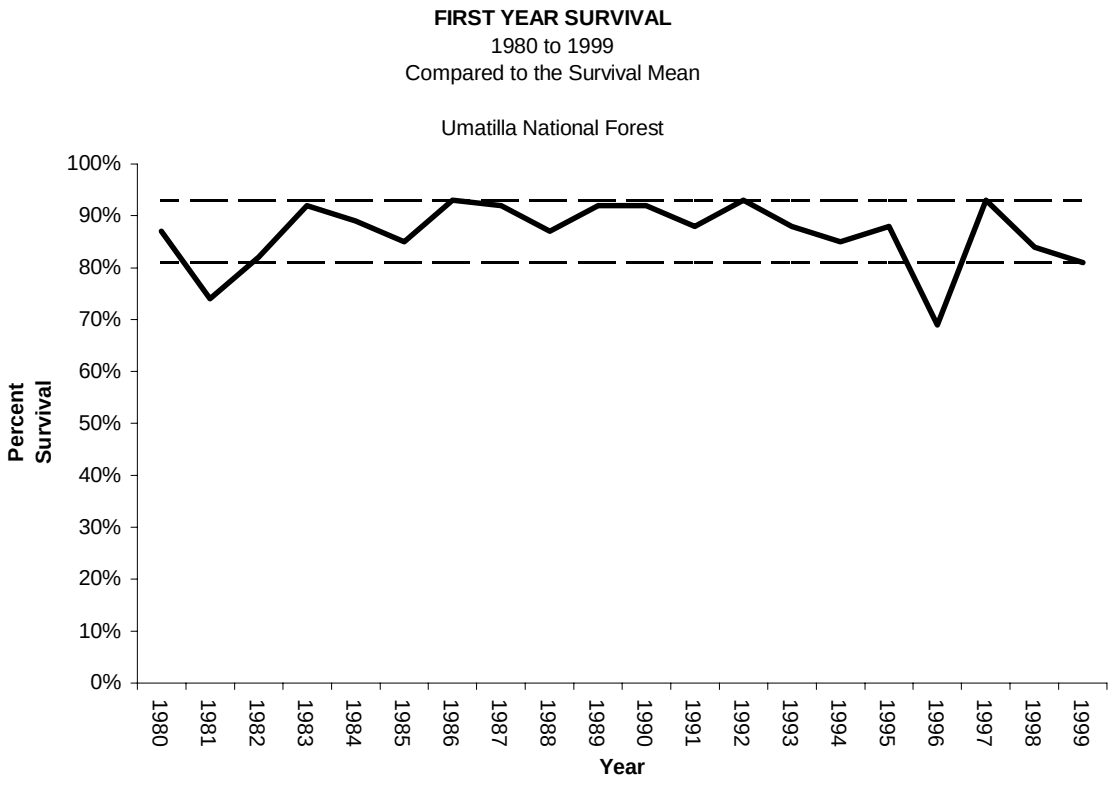
For artificial regeneration, a staked row method is used to determine survival and growth of planted seedlings. In this method, a wooden stake is placed next to all seedlings encountered along a representative transect across each reforestation unit. Each individual seedling is given a unique number to distinguish it from other seedlings along the stake row. Results from this stake-row survey are used for Forest Plan monitoring and for silvicultural reporting required by the National Forest Management Act of 1976.

Staked rows are installed at the time of planting or shortly thereafter and are measured at the end of the first and third growing seasons. Two charts display historical survival percentages for the first-year and third-year surveys; a third chart summarizes the acreage with satisfactory stocking. In addition, each chart shows an average (the horizontal gray line) and one standard deviation (two dashed lines) to provide a measure of variability.

The first-year chart shows that first-year survival rates have been relatively consistent through time. Only two significant variations occurred – in 1981 and 1996. It is unknown what occurred in 1981, but the 1996 deviation was related to four large wildfires that burned in late summer and fall of 1996. The Tower and Wheeler Point fires burned many reforestation units and, as would be expected, the small, vulnerable seedlings were consumed by the flames or died because of heat damage.

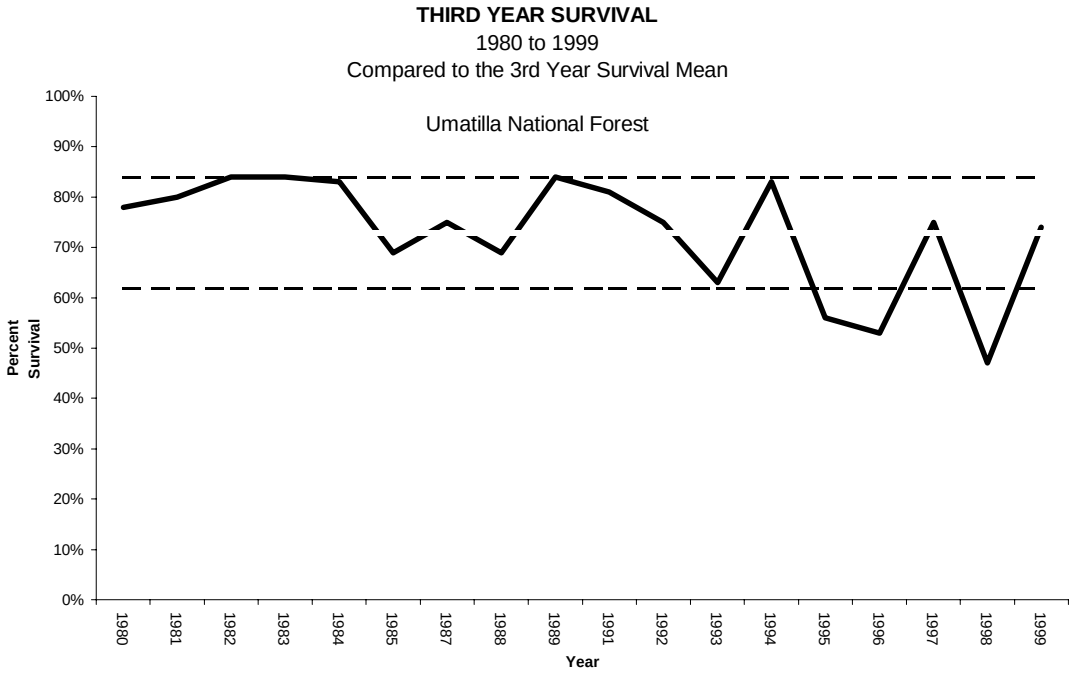
The third-year chart paints a different picture than first-year survival[2]. Note that many of the first-year survival figures occur in close proximity to the mean, whereas the third-year figures exhibit more variability. This difference indicates that much of the variation in seedling survival occurs between the first and third growing seasons.

Figure C-3




[2] Years 1986 and 1990 were excluded since the data was not available.

Figure C-4

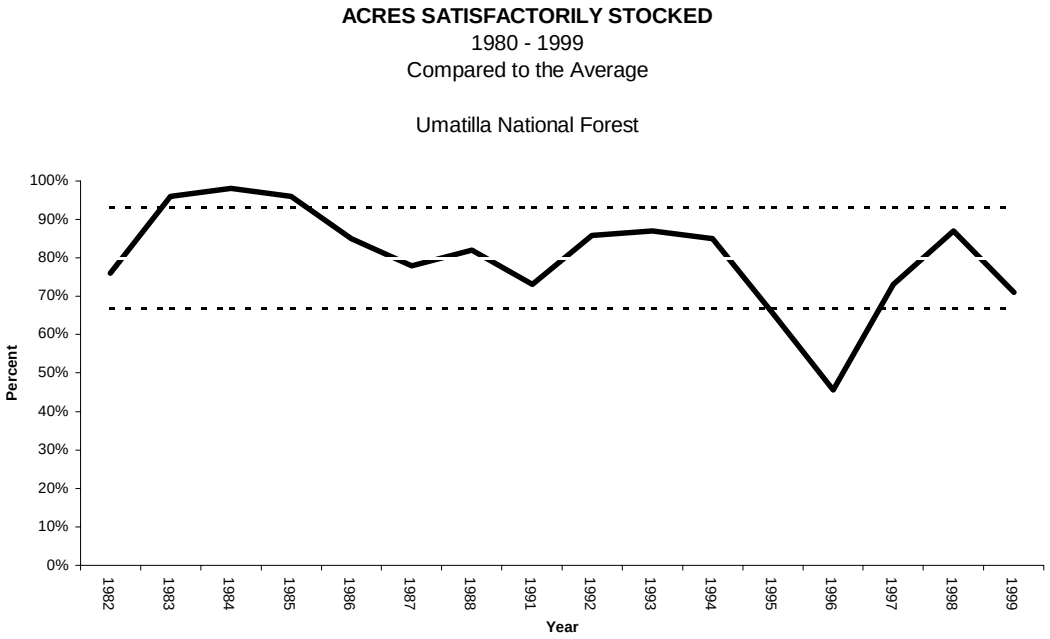



Many factors may be contributing to lower seedling survival rates by the third year. Environmental conditions are probably the most significant ones (drought, frost damage, etc.), followed by animal damage caused by gophers, other small mammals, and browsing ungulates such as elk and deer. The Forest continues to try to improve long-term seedling survival by implementing animal damage control programs and other mitigation measures.

The next chart shows the percent of the acres satisfactorily stocked from 1980 to 1999[3].

[3] Years 1980, 1981, 1989, and 1990 were excluded due to unavailable data.

Figure C-5




The acreage with satisfactory stocking is believed to best represent on-the-ground conditions because it accounts for both natural and artificial regeneration. Trends in this chart show that satisfactory stocking was considerably above average in the early 1980s, and substantially below average for 1996. Once again, the 1996 situation reflects the impact of wildfires occurring in late summer and fall of that year.

The "satisfactory stocking" chart shows that, for the most part, the Forest has successfully met the requirements of the National Forest Management Act of 1976 (NFMA), as implemented by the Code of Federal Regulations, which states that "when trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands within 5 years after final harvest" (36 CFR 219.27(c) (3)).

*Recommended Actions:*

- Umatilla – The Forest should analyze the survival data and investigate alternatives to increase third-year survival. Effectiveness of animal damage control measures should be included in this analysis.
- Wallowa-Whitman – Continue to monitor reforestation efforts and treat the stands not meeting stocking criteria.
- Malheur -- Continue to monitor.

## Monitoring Item: MINERALS
## Malheur 33,Umatilla 45, Wallowa-Whitman 38

*Questions: Do mining operations meet Forest Management Goals and Forest Plan Management Area Standards and Guidelines? Are lands disturbed by mining being reclaimed to a use consistent with rehabilitation standards and guidelines contained in the Forest Plan? Are the rehabilitation standards for mineral operations effective?*

### Malheur

All inspected operations met Forest Management Goals and Plan Management Area Standards and Guidelines. Mining activities are about the same as last year due to the low market price of precious metals. Of the 40 sites inspected, 14 had work activity. Forest resource specialists reviewed all proposed operations compliance. No heritage sites associated with mining were found this year. There were no mining activities on the Burns, Prairie City, or Bear Valley Ranger Districts, and there are no oil or gas leases on the Forest.

On all inspected operations that had work activity, rehabilitation was an ongoing process and met Standards and Guidelines. However, there are some closed historic claims that need rehabilitation when funding is available.

Rehabilitation work on the inspected claims of the past three years was checked for effectiveness and compliance with standards, techniques used, and ways in which to improve future operations. All sites were stable and had good vegetative cover.

### Umatilla

Most Forest mineral activities occur on the North Fork John Day Ranger District with little occurring on the other three Districts. There seems to be an increasing demand for landscaping and building types of mineral materials. In 1999, the North Fork John Day Ranger District had 70 claims under Plans of Operation or Notice of Intent. Forty-seven claimants filed or phoned Notices that they were going to operate during the 1999 field season. Of the total, 36 claims were worked during the 1999 season. All claims that were worked had ongoing reclamation work done during the mining operation.

The 36 active claims were monitored for compliance at least once during the year. Reclamation monitoring was done on all work of the 36 claimants that operated during the season. Findings include:

- Average disturbance was approximately 0.05 acre for 36 working claims, totaling 1.8 acres
- All 1.8 acres were reclaimed and met objectives for reclamation.

The North Fork John Day Ranger District received five new proposed Plans of Operation during the 1999 field season. Most Plans of Operation will be processed during FY 2000 depending on endangered species consultation timelines. The District reported no active sites requiring access during FY 99. The District is also discussing on how an EIS may be done on all of the mining claims located in the Granite Watershed. This is being proposed to update these Plans of Operation to comply with current NEPA.

Minerals inspections and reclamation reviews indicate that standards and guidelines are being met. One abandoned claim was reclaimed in FY 99.

**Wallowa-Whitman**

All Notices of Intent (NOI) and Plans of Operation (POO) were monitored. POOs were monitored for compliance and for water quality, where appropriate, throughout the mining season. NOIs were monitored for compliance. Sporadic and weekend assessment operations were monitored at least once. Based on this monitoring, approximately 90% of the operations met resource objectives. In cases where resource objectives were not being met, the operator was notified of needed corrective actions. Two areas where resource objectives were not initially met included garbage left on a claim where there was no reclamation bond, and work which was not approved in the POO (test hole too close to the creek). The operator resolved the non-compliance testing situation. The garbage removal was resolved through actions taken by the operator, the Forest Service, and the Eastern Oregon Mining Association.

Three mining operations were part of a formal Three-Forest Monitoring review. The results showed Forest Plan Standards for mining were being met. At an informal level, field administrators monitor Standard and Guideline (S&G) implementation as described in W-W Monitoring Item 2. This monitoring continues to show that there are several S&Gs that cannot be met in the short term during some placer operations. These standards include:

- Limiting detrimental soil conditions.
- Maintaining riparian and streamside vegetation.
- Giving preferential consideration to riparian-dependent species.
- Maintaining old-growth qualities, including solitude.

Although these S&Gs may not be met in the short term, for all mining activities that require plans of operation, reclamation plans are developed and implemented with the intent of meeting resource objectives in the long term.

Concern continues regarding insufficient resource specialist availability to accomplish the POO analysis workload. This issue was exacerbated by the increased workload associated with the listing of bull trout and compliance with Section 7 of the Endangered Species Act. Some plans submitted in 1996 still have not been approved.

There appear to be conflicts between certain S&Gs and allowing reasonable mining operations under the mining law.

*Recommended Actions:*

- The concern about possible conflicts between S&Gs and the mining law has been submitted to the Regional Forester as a potential issue to be addressed in a Forest Plan adjustment. Further evaluation will be needed. The adjustment process is currently on hold until the ICBEMP is completed.
- Coordinate mining administration activities with the Umatilla and Wallowa Whitman Forests for consistency between forests.
- Continue monitoring active claims and permits and coordinate reporting among the three National Forests.

# Monitoring Item: ROADS
# Malheur 34, Umatilla 46, 47, Wallowa-Whitman 11

*Questions: Are the Forests reducing road densities as envisioned in the Forest Plans? Are road closures effective at eliminating vehicle traffic? If a closure is breached, does the road still meet management objectives?*

## Malheur

The Malheur National Forest published a table in the FY 98 monitoring report that displayed road densities by major sub-basin from 1990 through 1998. This information showed that most categories were meeting the FY 99 goal. Exceptions included the Silvies sub-basin and winter range. Refer to last year's report for full information. The Forest was to report on this item every 3 years.

Road changes are displayed in the following table.

Table C-18
**ROAD ACTIVITIES FY 1999**
Malheur National Forest

| Activity | Miles |
|---|---|
| Obliterated | 0 |
| Decommissioned | 43 |
| Closed | 137 |
| Constructed | 2 |
| Reconstructed | 94 |

## Umatilla

For the Umatilla National Forest, the current transportation information and road use status are shown in Table C-19 below:

Table C-19
**FOREST ROAD SYSTEM**
Umatilla National Forest

| Road System | Maintenance Level | 1996 Miles | 1997 Miles | 1998 Miles | 1999 Miles |
|---|---|---|---|---|---|
| Closed Road | 1 | 2,643 | 2,364 | 2,299 | 2,298 |
| High Clearance | 2 | 1,733 | 1,960 | 1,960 | 1,960 |
| Passenger Car | 3 | 491 | 498 | 498 | 498 |
| Passenger Car | 4 | 177 | 177 | 177 | 177 |
| Passenger Car | 5 | 147 | 78 | 78 | 78 |
| Total Open | | 2,479 | 2,713 | 2,713 | 2,713 |
| Total Road | | 5,122 | 5,120 | 5,012 | 5,011 |

A minor change in road totals occurred from last year's report, due to road obliteration. Currently, the total passenger car mileage amounts to 753 miles or about 84% of the Forest Plan projection (900 miles); high clearance miles total 1,960 miles or about 77% of the Forest Plan estimate (2,530 mile). The Forest has reduced total open miles and increased closures by about 30% (compared with Forest Plan expectations). This is primarily due to a relatively assertive road closure program as well as more accurate information about the road system. The Forest Plan projection of an increase in newly constructed mileage (mostly local roads) to meet planned resource objectives has never materialized.

Ranger District Motorized Access and Travel Management Plans have been implemented on the Forest, although minor adjustments will continue to be made. During 1999, about 0.6 miles were reported as obliterated and no additional roads were reported as closed.

Total miles, specific road use types, and road construction levels are less than Forest Plan projections. However, the current road system appears to be meeting public and resource management needs. The levels of resource management, project activities, and public use appear to be occurring satisfactorily within the Forest's road management framework.

**Wallowa-Whitman**

Road Densities

Please refer to table C-19 on the following page. Road density guidelines found in the Forest Plan may be exceeded if a specific exception is determined, through the Forest Service NEPA process, to be needed to meet management objectives.

For this report, calculations have been simplified. For the Forest Plan, calculations were made by subwatershed and by Management Area. For this tri-Forest report, however, a larger area is being used as the unit for calculations.

The “unknown” miles in this report include private roads where the status (open/closed) is unknown. It also includes other roads where the GIS layer is not yet linked to the roads database. For the purposes of this report, the conservative assumption is made that all of these roads are open.

Table C-20

**ROAD DENSITIES – WALLOWA-WHITMAN NATIONAL FOREST**

| HUC4 Watershed | Mgmt Area | Area Sq mi | Open Miles | Unknown Miles | Open + Unknown Miles | Open + Unknown Density | Forest Plan Density | Approx Miles to Close |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **ANADROMOUS** | | | | | | | | |
| Hells Canyon | OTHER | 392.9 | 72.0 | 19.8 | 91.8 | 0.2 | - | |
| Imnaha | 1 | 89.5 | 277.2 | 5.1 | 282.3 | 3.2 | 2.5 | 58.7 |
| Imnaha | 3 | 59.1 | 6.8 | 11.9 | 18.7 | 0.3 | 1.5 | 0.0 |
| Imnaha | OTHER | 451.1 | 277.7 | 27.5 | 305.2 | 0.7 | - | |
| Little Salmon | OTHER | 34.1 | 0.8 | 6.5 | 7.3 | 0.2 | - | |
| Lower Grande Ronde | 1 | 202.8 | 758.5 | 17.3 | 775.8 | 3.8 | 2.5 | 268.9 |
| Lower Grande Ronde | 1W | 6.1 | 13.7 | 0.1 | 13.8 | 2.2 | 1.5 | 4.6 |
| Lower Grande Ronde | 3 | 84.9 | 36.7 | 6.3 | 43.0 | 0.5 | 1.5 | 0.0 |
| Lower Grande Ronde | OTHER | 77.5 | 67.0 | 1.0 | 68.0 | 0.9 | - | |
| Lower Snake/Asotin | 1 | 0.1 | 1.6 | 0.0 | 1.6 | 15.5 | 2.5 | 1.3 |
| Lower Snake/Asotin | OTHER | 73.3 | 32.1 | 0.1 | 32.2 | 0.4 | - | |
| Middle Fork John Day | 1 | 0.0 | 0.0 | 0.0 | 0.1 | 1.8 | 2.5 | 0.0 |
| Middle Fork John Day | 3A | 0.0 | 0.2 | 0.0 | 0.2 | 5.1 | 1.5 | 0.1 |
| North Fork John Day | 1 | 11.5 | 21.4 | 0.0 | 21.4 | 1.9 | 2.5 | 0.0 |
| North Fork John Day | 3 | 0.2 | 1.1 | 0.0 | 1.1 | 6.6 | 1.5 | 0.9 |
| North Fork John Day | OTHER | 132.4 | 194.7 | 12.5 | 207.2 | 1.6 | - | |
| Umatilla | 1 | 4.0 | 17.6 | 1.3 | 18.9 | 4.8 | 2.5 | 9.0 |
| Umatilla | 1W | 0.1 | 0.5 | 0.1 | 0.5 | 5.1 | 1.5 | 0.4 |
| Umatilla | 3A | 1.2 | 1.6 | 0.1 | 1.7 | 1.5 | 1.5 | 0.0 |
| Upper Grande Ronde | 1 | 223.1 | 486.4 | 133.0 | 619.4 | 2.8 | 2.5 | 61.6 |
| Upper Grande Ronde | 1W | 39.2 | 101.7 | 34.1 | 135.8 | 3.5 | 1.5 | 77.0 |
| Upper Grande Ronde | 3 | 162.4 | 386.9 | 50.2 | 437.1 | 2.7 | 1.5 | 193.5 |
| Upper Grande Ronde | 3A | 75.8 | 77.8 | 14.8 | 92.6 | 1.2 | 1.5 | 0.0 |
| Upper Grande Ronde | OTHER | 105.3 | 160.7 | 17.2 | 177.9 | 1.7 | - | |
| Upper John Day | 1 | 0.0 | 0.1 | 0.0 | 0.1 | 6.0 | 2.5 | 0.1 |
| Wallowa | 1 | 19.8 | 63.9 | 1.4 | 65.2 | 3.3 | 2.5 | 15.7 |
| Wallowa | 1W | 4.5 | 4.4 | 0.3 | 4.7 | 1.1 | 1.5 | 0.0 |
| Wallowa | 3A | 12.1 | 6.6 | 0.0 | 6.7 | 0.6 | 1.5 | 0.0 |
| Wallowa | OTHER | 405.7 | 14.8 | 8.4 | 23.3 | 0.1 | - | |
| **NON-ANADROMOUS** | | | | | | | | |
| Brownlee Reservoir | 1 | 41.0 | 107.2 | 0.0 | 107.2 | 2.6 | 2.5 | 4.8 |
| Brownlee Reservoir | 1W | 6.3 | 12.0 | 0.0 | 12.0 | 1.9 | 1.5 | 2.6 |
| Brownlee Reservoir | 3 | 14.0 | 37.4 | 0.3 | 37.7 | 2.7 | 1.5 | 16.6 |
| Brownlee Reservoir | 3A | 14.2 | 12.5 | 0.0 | 12.5 | 0.9 | 1.5 | 0.0 |
| Brownlee Reservoir | OTHER | 139.2 | 92.4 | 0.1 | 92.5 | 0.7 | - | |
| Burnt | 1 | 166.9 | 429.8 | 9.6 | 439.4 | 2.6 | 2.5 | 22.2 |
| Burnt | 1W | 25.4 | 47.2 | 0.4 | 47.6 | 1.9 | 1.5 | 9.4 |
| Burnt | 3 | 68.9 | 123.6 | 2.5 | 126.0 | 1.8 | 1.5 | 22.7 |
| Burnt | 3A | 17.8 | 26.7 | 0.4 | 27.1 | 1.5 | 1.5 | 0.3 |
| Burnt | OTHER | 30.8 | 22.4 | 1.7 | 24.1 | 0.8 | - | |
| Powder | 1 | 246.4 | 598.5 | 14.6 | 613.2 | 2.5 | 2.5 | 0.0 |
| Powder | 1W | 23.0 | 48.4 | 1.3 | 49.8 | 2.2 | 1.5 | 15.3 |
| Powder | 3 | 63.5 | 152.5 | 4.8 | 157.3 | 2.5 | 1.5 | 62.1 |
| Powder | 3A | 30.7 | 36.8 | 0.5 | 37.3 | 1.2 | 1.5 | 0.0 |
| Powder | OTHER | 189.9 | 102.7 | 2.6 | 105.3 | 0.6 | - | |
| Upper Malheur | 1 | 0.2 | 0.9 | 0.0 | 0.9 | 5.9 | 2.5 | 0.5 |
| Upper Malheur | 1W | 0.0 | 0.1 | 0.0 | 0.1 | 60.6 | 1.5 | 0.1 |
| Willow | 1 | 1.0 | 1.2 | 0.0 | 1.2 | 1.2 | 2.5 | 0.0 |
| Willow | 1W | 2.9 | 3.3 | 0.1 | 3.3 | 1.1 | 1.5 | 0.0 |
| Willow | OTHER | 0.5 | 1.5 | 0.0 | 1.5 | 2.8 | - | |
| | | | | | | | Total = | 848.3 |

The preceding table shows that there are still approximately 850 miles of road to be closed in order to meet Forest Plan guidelines. Over 600 of these miles are found in the Upper and Lower Grande Ronde Watershed. Even though significant progress has been made since the Forest Plan was signed, a substantial amount of work remains.

**Road Closure Effectiveness**

Table C-21
**1999 ROAD CLOSURE EFFECTIVENESS SUMMARY**
Wallowa-Whitman National Forest

| | Barrier Type | | | | | |
|---|---|---|---|---|---|---|
| | Earth Barrier | | Natural | | Gate/Guardrail | |
| District | No. Rds. | % Effective-ness | No. Rds. | % Effective-ness | No. Rds. | % Effective-ness |
| Unity | 12 | 75 | | | 13 | 85 |
| Pine | 14 | 100 | | | 1 | 100 |
| Baker | 41 | 90 | | | 16 | 81 |
| Wallowa Valley | 7 | 100 | 1 | 100 | | |
| Total | 67 | 91 | 1 | 100 | 30 | 83 |

The effectiveness is based on a sample and does not represent total effectiveness of the road closures.

Earth and Natural barriers are effective when they are properly placed. Routine inspection of barriers is a good idea so that ineffective ones can be reconstructed.

Gates can be a major maintenance problem, and should only be used where they are truly needed.

*Recommended Actions:*

- Continue monitoring the Forest road system and closing unneeded roads to achieve Forest Plan guidelines as budgeting allows. Future monitoring should focus more on addressing all the resource objectives, with emphasis on water and aquatic resources.
- Continue to pursue all possible avenues to manage restriction devices

## Monitoring Item: SOCIO-ECONOMICS
## Malheur 37-41, Umatilla 54-59, Wallow-Whitman 45-47

*The coordinated socio-economic monitoring items are addressed briefly below given the status of available information.*

### Annual Programs and Budgets

The Forest Service has been undergoing and implementing a new budget process (FFIS). Currently, the budget and program data and information previously used to analyze this question are not readily available and not expected to be available for some time due to the need to reprogram queries and higher priority reporting needs. Reporting on this monitoring item therefore has been delayed.

### Costs and Values

Information for this item is also, in part, derived from information based on the new budget process. In addition, RPA non-market values are currently under review and development by the Washington Office. No date has been given for the release of the Forest and Rangeland Renewable Resources Planning Act (RPA) data (a component of this monitoring item).

### Payments to Counties

Table C-22 is a summary of Payments to Counties generated from the three Forests. Payments continue to be significantly less than Forest Plan projections.

Table C-22
**PAYMENTS TO COUNTIES**

| State | County | 1999 Payment |
|---|---|---|
| Oregon | Baker | $229,593.28 |
| | Grant | $1,017,238.46 |
| | Harney | $204,737.64 |
| | Malheur | $1,458.71 |
| | Morrow | $98,314.67 |
| | Umatilla | $266,237.21 |
| | Union | $238,773.82 |
| | Wallowa | $446,592.49 |
| | Wheeler | $27,680.83 |
| | Total | **$2,530,627.11** |
| Washington | Asotin | $36,907.53 |
| | Columbia | $109,425.32 |
| | Garfield | $65,495.32 |
| | Walla Walla | $1,669.18 |
| | Total | **$213,497.35** |

**Employment and Income**

Information related to this item was extensively reviewed and described in the "Economic and Social Conditions of Communities" released by ICBEMP in February 1998. The Employment Specialization by Industry Category was determined for nine communities in Grant County, two in Harney County, 12 in Umatilla County, eight in Union County, four in Wallowa County, and three in Wheeler County, which represents almost half the communities in the impact zone for the Blue Mountains. Based on reduced harvest levels from the Forest Plans, expected timber jobs and income continue to be approximately 50-80% out of the range of projections.

*Recommended Action:*

The Blue Mountains Province is actively engaged in identifying and testing criteria and indicators for sustainability that involves reviewing current monitoring questions and addressing additional questions. These criteria and indicators address ecological, economic, and social elements and will also be tested during implementation of the projects and activities associated with the Governor's Demonstration Project that affects all three forests. The results from both of these monitoring efforts will be available during the fall of 2000 as a potential basis for future monitoring. The recommended course of action at this time is to continue monitoring and report FY 1999 results in next year's report.

## Monitoring Item: Cultural and Historic Site Protection
## Malheur 8, Umatilla 50, Wallowa-Whitman 44

*Question: Are the unevaluated and eligible cultural resource sites being protected so as to not compromise their potential National Register eligibility?*

### Malheur

One hundred and seventy (170) archaeological and historic sites were monitored in 1999. This is 6% of the approximately 3,000 known National Register eligible and undetermined sites on the Forest. Thirteen (6%) of the monitored sites showed some degree of impact by human activities (7 timber harvest related, 2 grazing related, 1 fire suppression, 3 recreation). None of these impacts were significant enough to adversely affect those aspects of the sites that make them eligible or potentially eligible for inclusion in the National Register of Historic Places. This is comparable to the results reported during 1998. The increase in reported site impacts during timber harvest activities probably reflects increased monitoring during and soon after harvest when the effects are more evident. There is a trend toward less monitoring of sites due to a drop in the number of projects taking place on the Forest and a concurrent drop in funding.

Table C-23
**NATIONAL REGISTER ELIGIBLE OR UNDETERMINED SITES 1997-1999**
Malheur National Forest

| Year | # of sites monitored | # of sites impacted | # of sites adversely effected | Effect = timber harvest | Effect = wildfire / suppression | Effect = grazing | Effect = looting vandalism | Effect = **recreation** | Effect = natural erosion |
|---|---|---|---|---|---|---|---|---|---|
| 1999 | 170 | 13 | 0 | 7 | 1 | 2 | 0 | 3 | 0 |
| 1998 | 203 | 13 | 0 | 4 | 0 | 3 | 2 | 4 | 0 |
| 1997 | 232 | 29 | 18 | 4 | 18 | 4 | 1 | 1 | 1 |

### Umatilla

The Umatilla did not submit a report on this item this year.

### Wallowa-Whitman

Information from all seven Ranger Districts was used to compile this report. A total of 436 cultural sites were visited in FY 99. All of these were located where potentially impacting activities have occurred. None of the sites were impacted.

*Recommended Action:*

Continue monitoring and protecting known sites.

# Special Focus Item: RIPARIAN ACTIVITIES MONITORING

## Background

Riparian systems and their management have been under increased scrutiny in recent years. This is reflected in increased fish listings under the federal Endangered Species Act, an enlarged 303(d) List of Water Quality Limited Waterbodies by the Oregon Department of Environmental Quality, and watershed health and restoration as one of the four key areas of the Forest Service Natural Resource Agenda. Considering these developments, the three Blue Mountains Forests leadership teams decided to conduct interdisciplinary field reviews of projects that may have affected riparian or aquatic habitats.

## Project Selection and Monitoring Process

Projects were submitted to the three Forest Planners. They chose to look at aspen restoration, road closure activities, mining in riparian zones, and riparian hardwood planting and restoration, on four Districts from the three Forests. Two interdisciplinary teams, consisting of Forest employees from throughout the province, conducted on-the-ground inspections over a four-day period. A representative from the Fish and Wildlife Service participated on one of the reviews. Team members were given documents and maps about the projects prior to each review. Employees familiar with the project planning or implementation accompanied the teams to guide them to the sites and answer questions.

The Team addressed the following questions during the reviews:

1. Was the NEPA planning done in an interdisciplinary manner?
2. What were the project goals and objectives? How well were they met?
3. What kind of ecological effects were observed?
4. Were mitigation and design features implemented as described in the decision documents/BA's?
5. Were there any perceived conflicts between the Forest Plan assumptions and the Desired Future Condition?
6. Were Best Management Practices (BMPs) appropriate and followed?
7. Are there other observations or comments?

## Summary of Findings

Summaries for each type of activity follow. Detailed information on each review can be obtained from the Malheur National Forest Headquarters in John Day, Oregon.

**Aspen Restoration**

One team reviewed Quakey Timber Sale units 2, 4 and 9 on the Pine Ranger District on Wallowa-Whitman National Forest. They also looked at a nearby unit in Lilly Timber Sale that had a buck and pole fenced aspen stand that was recently girdled to force root sprouting. A second team looked at aspen protection along Dry Creek in the Summit Fire area of Long Creek Ranger District on the Malheur National Forest.

On the Quakey Timber Sale, the monitoring team noted the following:

- The Categorical Exclusion (CE) was sufficient and was supported by the Eagle Creek Watershed Analysis.
- The project objective of improving the health and long-term viability of quaking aspen appears to be well met. Competition with conifers was reduced and protection with fencing will reduce browsing pressure.
- Resprouting was observed in the Lilly unit. This resulted from monitoring the stand, noting the lack of resprouting, and then experimenting with girdling the standing aspen to force a sprout response.
- Leaving some clumps of conifers in unit 2 was good for its intended purpose of providing some structural diversity. Release of the aspen from competing vegetation was evident in all units.
- The mitigation and design features of seasonal logging on dry or frozen ground, slash removal, and avoiding damage to the remaining aspen were fully met. The letdown fence in unit 4 was well constructed and serving its purpose as cattle were noted grazing just outside of the fence. One mitigation that did not seem to have been followed was the monitoring and pretreatment of noxious weeds in units 2 and 9 prior to ground disturbing activities
- Riparian Habitat Conservation Areas may have allowed more aggressive silvicultural treatment to attain the Riparian Management Objective of healthy aspen stands. That is, this type of project seems to be suitable within perennial stream RHCAs.
- BMPs were implemented as designed and were effective for water quality protection. The project itself could be called a BMP, because it is a watershed enhancement project with improved habitat diversity, nutrient cycling, and the potential for greater water storage as improved aspen stands may attract beaver.
- The Quakey 98 timber sale is an excellent example of timber harvest based on ecosystem management that is using a timber sale to maintain healthy quaking aspen clones.

In the Summit Fire area, the monitoring team noted the following with aspen protection.

Protection for aspen was covered by a Decision Memo for Summit Riparian Planting and supplements and corrections to Badger Timber Sale Environmental Analysis (EA).
The variety of caging and fencing methods used to protect aspen all seemed to show a positive response (greater growth) compared to adjacent areas not protected from elk and deer browsing.

*Recommendations:*

The mix of practices promoting aspen health provides an excellent opportunity to gauge success using different methods on the Pine Ranger District. Photo monitoring before and after project implementation on projects such as this would be an excellent way to display the results in an easily understood format. This inexpensive monitoring tool would also be useful for public displays or presentations.

A Blue Mountain coordinated effort to strategically plan projects and monitor results has been ongoing with an Aspen/Hardwood Working Group. Coordination through this type of effort should be continued.

Prioritize ESA Level 1 Consultation Team involvement. One project involved the Level 1 Team even though there was no ESA listed species occupied habitat in the project area. Reducing some of the heavy workload of the Level 1 Team would allow them time to complete other higher priority work.

**Road Closure Activities**

On the Pine Ranger District, Wallowa-Whitman National Forest, the monitoring team looked at Little Elk Creek Trailhead Relocation. The project was to close approximately 1.9 miles of road to vehicle traffic, pull existing culverts, and construct waterbars. The implementation phase had not yet begun at the time of the review. Another team looked at several road closures associated with the Summit and Tower Fire Restoration projects on Long Creek Ranger District on the Malheur National Forest and on North Fork John Day Ranger District on the Umatilla National Forest.

The teams had the following observations:

- Planning seemed to be interdisciplinary (ID) and appropriate to the scale of the project on Pine and Long Creek Ranger Districts. On the North Fork John Day Ranger District, most of the closures in the Tower EA used the analysis approved under the District Access and Travel Management (ATM) Plan. The history and implementation of this ATM was not easily tracked nor understood by the review team.
- Most project goals and objectives were met. Reducing sediment production was only partially met, as culvert removal techniques needed improvement (some sites left too much fill and some culverts were not removed).
- Recontouring the 5500-100 road on the North Fork John Day Ranger District appeared to meet all its objectives.

- Noxious weed surveys and treatment should be conducted prior to road closures being implemented.
- Closing roads to meet wildlife needs may or may not meet watershed needs. Ensuring that closed roads are hydrologically stable is very important to watershed health.
- BMPs were generally implemented as designed and fully effective. Exceptions were noted at some of the culvert removal sites where the stream gradient was improperly restored or some culverts were overlooked during the removal operation.
- There is a lack of consistency with road closure definitions such as obliteration and decommission across the Blue Mountain Forests. This leads to confusion
- Grass seeding with winter wheat in the fire areas was very effective in reducing erosion and did not appear to retard the recovery of native vegetation. It was not persisting on the site as designed.

*Recommended Actions:*

- Definitions used in road closures are not consistent across the Blue Mountains Forests. We should develop standardized definitions to clarify communication.
- We need to be more diligent when decommissioning/closing roads to find all culverts that need removal. Using road logs coupled with surveying and flagging to help locate culvert locations prior to implementation should improve this.
- Correct establishment of channel grade at culvert removal sites needs to be achieved. This will add time and cost to the job, but will minimize a potential sediment source. The Malheur Forest Hydrologist distributed recommendations for stream crossing removals to staffs on the three Forests.
- Our next Forest planning cycle should consider hydrologic needs in our road density effects models.

**Mining In Riparian Zones**

We looked at three different mining projects on Pine Ranger District: Gold Busters, a "recreational" placer operation; a small suction dredging operation; and Snow Creek, an industrial mine using heavy equipment.

The key findings of the team included:
Planning and documentation was appropriate for the three operations that we reviewed and had input and thorough documentation from a variety of disciplines.

The first two operations appeared to adequately meet project objectives. Gold Busters may provide a benefit of needed restoration as a by-product of the operation. The Snow Creek mining operation was not quite as clear. The miner wanted to amend the plan of operations to operate the claim more profitably; NEPA had not yet been completed on this. Some water quality objectives were not fully met. Some dredging into the streambank occurred and the stream crossing had exposed, loose soil up to the streambank.

Gold Busters—Restoration work was being done in an area that had been severely impacted by mining activities during the gold rush era. These reclamation activities, a benefit of the mining operation, are recontouring the modified landforms and spreading rock tailing piles. These activities are effective, although they comprise a small portion of the larger disturbance of the historic mining impacts. Other funding sources to do this type of restoration are probably not available.
Snow Creek--There were many ground disturbing activities: large settling ponds with dams; clearing of vegetation (previous seeding for erosion control had some success); newly built access roads (one with some rill erosion); a partially collapsed log bridge across the stream, and disturbed and rutted soil in the test area the bridge accessed (both these last impacts are probably the result of equipment being stuck in wet soils). We noted a petroleum product spill much of the length of the access road that was due to equipment leaking. Redband trout were observed upstream from the log crossing.

Mitigation activities were being implemented as described on Gold Busters and the suction dredging operation was consistent with the Conditions of Operation. On Snow Creek many of the mitigation measures were being followed (flagging and staking of buffered areas, buffers and no-cut trees were protected, grass seeding, mining was limited to less than 1/2 acre parcels). However, rocking the road and cleanup of contaminated soil were not yet accomplished.

Mining laws precede most regulations governing Forest activities. Meeting riparian management goals while still meeting our obligations under the 1872 mining law is difficult. The District is doing a good job of balancing resource protection with mineral extraction needs.

BMPs are more limited in scope than most Forest activities because of mining regulations. Ground disturbance and water use is allowed within RHCAs. BMPs were documented in the Plans of Operations or Conditions of Operation and were being implemented in all but one operation. A stream crossing repair was improperly installed and a petroleum spill in the access road was not cleaned up. Rocking of the road was not done. Size of the buffers may not be adequate to protect the riparian and aquatic resources. Fully monitoring suction dredging would be time consuming and difficult. District personnel have good relationships with the operators, which goes far in ensuring compliance.

*Recommended Actions:*

- Requiring absorbent pads and pans (spill kits) would be a good addition to Plans of Operation and may eliminate the need to remove contaminated soil.
- There are few opportunities for restoration of historic mines. This type of mining activity is one way to meet restoration goals with limited funding and should be highlighted and encouraged.
- Proper and timely administration is key to reducing adverse impacts associated with mining operations.
- Leaving the sites as stable as possible with erosion controls in place is important at season close-out to prepare for winter and spring runoff.

**Riparian Hardwood Planting And Restoration**

A review team looked at hardwood planting and protection measures at several sites in the Summit and Tower Fires on the Malheur and Umatilla National Forests.

The team made the following observations:

Interdisciplinary team involvement was evident. One item noted was that with large projects such as these, with limited timeframes, familiarity with all portions of the proposed action is difficult to attain.

The goals and objectives of promoting streamside shade, improving water quality, and providing stream bank stability appeared to be met. However, vigorous natural regeneration/resprouting of hardwoods was also obvious. The difference in meeting the objectives of planting hardwoods versus relying on natural regeneration (which may not occur as quickly as it did here) is hard to predict and difficult to quantify. Planting provided some insurance that these goals would be met quickly but at higher cost.

Conifer planting in some streamside zones is also important in promoting water quality because of its superior shade and larger, longer lasting structure important to stream and riparian processes. Conifer planting had also been done in the riparian zone.

Streamside plantings were growing well and functioning as designed. Greater diversity of hardwoods was seen along the planted riparian zones as a result of planting. Cattle grazing had not been allowed since the fires. Caged or fenced aspen were more robust than aspen not protected from ungulate browsing.

The Districts are to be commended for its use of native seed and stock for restoration.

*Recommended Actions:*

- Planting hardwoods in riparian zones may hasten the restoration of stream systems, but requires limited funding. We should use our recent fire experiences coupled with survey techniques to better predict where we should devote resources to restore streamside hardwoods on future similar incidents.
- Conifer planting in streamside zones is also important in promoting water quality because of its superior shade and larger, longer lasting structure important to stream processes. We found in both the Tower and Summit fires that natural regeneration of conifers is more limited in high intensity burned portions. We need to pursue funding sources to hasten reestablishment of conifers in riparian zones.

**Forest Plan Questions and Potential Conflicts**

Closing roads to meet wildlife needs may or may not meet watershed needs. Ensuring that closed roads are hydrologically stable is very important to watershed health. The current Forest Plans standards for road densities do not consider hydrology.

How mining laws and regulations interact with other laws and regulations is a source of confusion to many. A clear hierarchical process paper would alleviate some of this confusion.