

PART C

FOREST PLAN MONITORING REQUIREMENTS

Monitoring and evaluation results are summarized and discussed on the following pages. Each monitoring item lists:

- What is being measured;
- Frequency of measurement;
- Reporting period;
- Monitoring results; and
- Evaluation of monitoring results.

The items are arranged by resource and follow the requirements in the Nez Perce Forest Plan (Table V-1).



WILDLIFE

Item 1c: Big-Game Habitat Carrying Capacity

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Significant trend deviations (evaluated at 5-year intervals) from planned or expected forage-generating activities or events (timber harvest, prescribed fire, and wildfire).



Forage Production:

Monitoring Results:

Timber harvest (i.e., clear-cut, seed tree, and shelter wood), prescribed fire, and wildfire acreages are used as forage production indices. Forage production for elk and deer in the coniferous forests of north central Idaho is related primarily to shrub, grass, and forb stages of forest plant succession. Creating openings in forest stands through timber harvest and fire typically increases elk and deer forage. The Forest Plan projected an annual average of 4,585 acres of regeneration timber harvest and 5,000 acres of prescribed fire for elk and deer winter range. The Forest Plan also estimated wildfire acreage (based on a running 10-year average) to be approximately 4,700 acres per year.

Projected acreages for each variable identified in the Forest Plan, and their FY 2001 target and accomplishments, are depicted on the following tables.

Big Game Forage Produced by Timber Harvest

Fiscal Year	Acres Harvested
Forest Plan	4,585
1988	2,911
1989	2,544
1990	2,521
1991	2,931
1992	2,616
1993	2,304
1994	2,554
1995	1,454
1996	2,419
1997	489
1998	721
1999	495
2000	292
2001	514

Evaluation of Monitoring Results:

Since Forest Plan implementation, timber harvest that has increased big game forage has averaged approximately 1,865 acres per year (41 percent of the Forest Plan projection). Though timber harvest has fallen short of planned acreages, wildfires have helped to compensate for the shortfall.

Big Game Forage Produced by Wildlife and Wildland Fire Used for Benefits

Fiscal Year	Acres Burned
Forest Plan	4,683
1988	105,943
1989	8,888
1990	643
1991	2,207
1992	44,966
1993	4,700
1994	9,118
1995	26
1996	40,132
1997	29
1998	233
1999	1,278
2000	33,097
2001	18,160

Summer Elk Habitat:

The Forest Plan identified approximately 1,887,000 acres of elk summer range on the Nez Perce National Forest. Of this amount, approximately 866,000 acres (46 percent) of elk summer range are within the Forest's three designated wildernesses. The Forest Plan designated elk summer range effectiveness objectives at 25 percent on approximately 207,132 acres; 50 percent on approximately 463,372 acres; 75 percent on approximately 274,033 acres; and 100 percent on approximately 942,258 acres. The "Guidelines for Evaluating and Managing Elk Habitat in Northern Idaho" are used to determine if land management activities meet the elk summer habitat effectiveness objectives in the Forest Plan.

Monitoring Results:

Compliance with summer objectives for projects implemented in FY 2001 has been excellent.

Evaluation of Monitoring Results:

Current compliance with Forest Plan elk objectives is excellent, however a few areas remain below objective for a variety of reasons. Assessment of forest-wide elk summer range conditions continues to indicate:

1. Elk habitat effectiveness objectives are being met or exceeded on 78 percent of the Forest's elk summer range; and
2. Needed adjustments to meet Forest Plan elk objectives in some cases may conflict with motorized vehicle access objectives more than originally anticipated.

The Forest completed a Forest Plan minor amendment (Forest Plan Amendment #23) process to correct original Forest Plan analysis unit errors and resolve many incompatibilities created by original objective assignments.

Moose Winter Range (MA 21):

Grand fir and pacific yew canopy cover and yew browse are important components of moose winter habitat. Timber harvest on moose winter range is limited by the Forest Plan to 5 percent of MA 21 per decade.

Monitoring Results:

In FY 2001, 36 acres of MA 21 experienced limited harvest, but due to wholesale changes in forest management and harvest type philosophies in recent years, this level of impact is no longer considered damaging to moose habitats. The acres harvested in FY 2001 were well below the 5 percent per decade limit and well within Forest Plan standards. The dramatic reduction in clear-cut/burn prescriptions used in recent years in timber management has virtually eliminated risks to grand fir/Pacific yew moose habitats.

Evaluation of Monitoring Results:

Forest Plan direction to limit timber harvest to 5 percent per decade has been followed for projects initiated under the Forest Plan. Lack of funding, major changes in harvest strategies, reduced priority, and inadequate staff time has precluded the need to gather annual management data or conduct further research to better describe preferred moose winter range characteristics. Reasons related for limiting the clear-cut/burn harvest acres deal with Pacific yew's susceptibility to fire. Vegetation treatment strategies used currently are not considered nearly as harmful to sustainability of winter moose habitats.



Item 1d: Non-Game Habitat

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Significant deviation from Forest standards on a project-by-project basis triggers further evaluation.



Old Growth (MA 20):

The Forest Plan states that no timber harvest will be considered in designated old growth forest until decade 10 and/or in replacement stands until decade 16. Recognition of risks from stand-replacing fires in ponderosa pine habitat types have led to proposals to partially thin from below in some ponderosa pine old growth stands as needed. Twelve acres were reported harvested within MA 20 sites in FY 2001 (per the database), but initial review suggests that the database was in error, likely due to lack of analysis/old growth validation updates. Site-specific Forest Plan Amendments may allow selective harvest in low elevation, dry site forest types as needed to protect and restore large ponderosa pine and help prevent losses of related old growth habitats due to high-intensity fire risks. See Forest Plan Amendment 26.

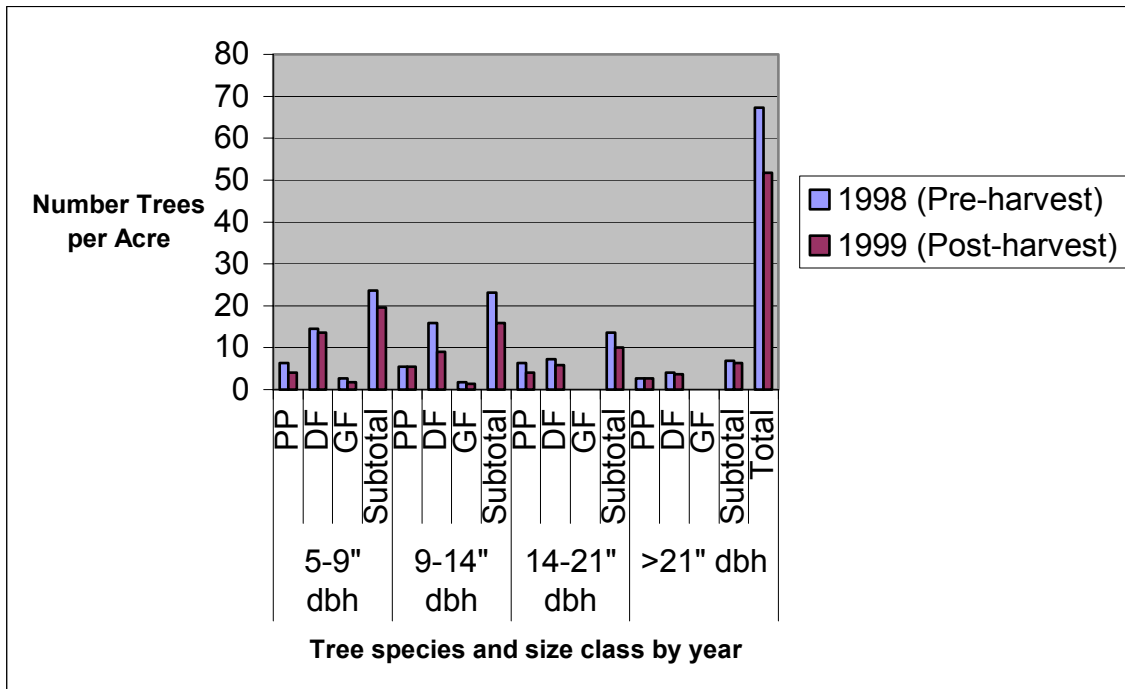
The Berg Salvage Sale treated old growth stands that were monitored in 1999. Results of pre- and post-harvest sampling of remaining trees per acre in the old growth are shown below.

Berg Old Growth Monitoring Results:

The main objective of treating the old growth stands in the Berg Timber Sale area was to reduce the stand densities, especially the understory, and protect and enhance seral, ponderosa pine old growth communities. Overall, large trees of ponderosa pine and Douglas fir over 27 inches in diameter at breast height would remain, as well as snags.

As a result of the pre- and post-harvest monitoring, overall stand densities were reduced by 15 trees per acre. The goals of maintaining/retaining snags and the larger diameter ponderosa pine and Douglas-fir were met. However, the goal of reducing and/or eliminating the understory shade-tolerant species was not met, especially the grand fir and Douglas-fir in the less than 14 inches in diameter at breast height size classes. The following graph depicts by species and size class how the structure has changed between pre- and post-harvest treatments.

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Post-harvest burning activities have not yet occurred. Once those activities are completed the old growth monitoring plots will be revisited. The outcome of monitoring this activity is to see how many trees are lost to fire (or not). The intent is to further reduce the understory trees.

Monitoring Results:

During FY 2001, old growth conditions were inventoried and validated as part of the O’Hara Environmental Analysis at the Watershed Scale inventory. Database review of acres harvested in FY 2001 showed that no stands designated as old growth were harvested. The previously used practice of clearcutting and burning in late seral stands is no longer done. To help ensure long-term sustainability of old growth in some areas, thinning of fuel conditions is necessary and healthy. The monitoring results of the Berg Sale (above) illustrate the actual changes from harvest and thinning in old growth stands. Increased awareness of stand replacement fire risks in lower elevation ponderosa pine and dry Douglas fir habitat types is stimulating changes in how these dry conifer habitats are managed. As an example, the South Fork Clearwater River Landscape Assessment proposed interim recommendations (page 209) for better meeting old growth needs in this habitat.

Evaluation of Monitoring Results:

Compliance with Forest Plan standards for retention and protection of old growth from harvest has been accomplished throughout Forest Plan implementation. Improved criteria for determining old-growth sites are being used. These new criteria have resulted in more accurate determinations of old growth forests and their conditions.

The effects of unnaturally overstocked stands and drought stress leading to stand replacing forest fires, especially where retention of old growth is desired, continues to be a concern in ponderosa pine and some drier Douglas fir cover types. The use of fire and/or some form of silvicultural thinning to remove understory trees that act as “ladder fuels” are being used more

frequently to help protect designated lower elevation old growth forests from unnatural fuel buildups and stand-replacing fires.

Snag Habitats:

Monitoring Results:

Maintaining adequate numbers and size classes of snags on some heavily managed sites throughout the managed landscape has been a challenge. Inventorying existing numbers of snags on a landscape scale is proving to be a similar challenge. Dramatic reductions in overall forest harvest levels and roading in recent years has begun to help reverse this trend and diminish these disparities relative to what would have occurred if large-scale clear cutting and burning had continued. Increased use of prescription fire is helping to create new snags and thin stands to help grow larger trees for future snags.

Threatened and Endangered Species Habitats:

Monitoring Results:

Management and protection of threatened, endangered, and sensitive (TES) wildlife and habitats are routinely evaluated in biological assessments/evaluations. In FY 2001, no instances of formal consultation were required for terrestrial species. Thirteen thousand (13,000) acres of terrestrial TES habitats were inventoried. Four hundred sixty-four (464) acres of TES habitat were improved.

Gray Wolf: Three individual wolf observation reports of five (5) total animals on or near the Forest were reported in FY 2001, including a pack of 3 reported 5 miles southeast of Elk City. Single animals were reported west of Tolo Lake (off the Forest) and on the Selway River trails. There is no evidence of livestock depredation reported on the Forest to date, as had occurred in Montana, central Idaho, or Yellowstone Park. As part of continuing wolf management for recovery, several wolves which conflicted with domestic livestock in central Idaho, were relocated into the Selway-Bitterroot Wilderness during FY 2001 by the Nez Perce Tribe Wolf Recovery Program. Most animals returned to their original locations of livestock conflict or other areas away from the release sites.

Grizzly Bear: No observations of grizzly bears were reported in FY 2001. To date no confirmation of permanent grizzly occupation exists on the Forest.

Peregrine Falcon: The peregrine falcon was delisted on August 25, 1999. Monitoring will continue through 2004. The Shingle nest exhibited no activity again in FY 2001. The Sheep Gulch nest was active in FY 2001, but it is unknown whether any young were successfully fledged.

Bald Eagle: The bald eagle was down-listed to threatened status in August 1995, by the U.S. Fish and Wildlife Service. Bald eagles have been monitored through the Forest's participation in the annual bald eagle mid-winter census. Transects and counts are shown below.

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Survey Route	Salmon River: White Bird to Vinegar Creek		South Fork Clearwater: Farrens Creek to Crooked River		Middle Fork Clearwater: Clear Creek to Selway		Grand Total
	Adult	Immature	Adult	Immature	Adult	Immature	
Age							
1984	1	0	3	1	9	0	14
1986	2	0	0	0	6	2	10
1987	1	0	1	0	5	2	9
1988	2	1	2	0	10	2	17
1989	2	0	0	0	4	3	9
1990	5	0	0	0	1	1	7
1991	3	0	1	1	4	4	13
1992	2	0	3	0	12	4	21
1993	10	5	0	0	7	1	23
1994	2	1	3	1	9	3	19
1995	6	0	3	6	15	3	33
1996	4	0	2	0	3	1	10
1997	3	0	3	0	5	1	12
1998	11	1	2	1	No data	No data	15
1999	3	0	3	0	5	1	12
2000	10	0	3	0	No data	No data	13
2001	10	0	3	0	No data	No data	13

Evaluation of Monitoring Results:

The winter survey routes located on the Forest again yielded 13 adult birds and 0 immature birds. This was similar to recent years, though not as high as 1995 (33 birds). Bald eagles are considered stable or increasing in the northwestern U.S. in general.

Forest Service Sensitive Animal and Plant Species Program:

Monitoring Results:

Inventories of Neotropical migratory bird habitats in burned and unburned ponderosa pine and dry Douglas fir sites were done in FY 2001. Limited staffing precluded opportunities to monitor most other sensitive species except for post-fire and allotment monitoring described below.

Post-Burn Monitoring:

Post-burn monitoring surveys in the 22,000 acre **Burnt Flats** fire area less than a year after the fire revealed a dozen separate sightings of black-backed woodpeckers. All black-back sightings occurred in severely burned and charred timber (ponderosa pine, Douglas fir, grand fir). Other woodpeckers observed using the overall area included: Northern 3-toed, Northern flicker, pileated, Lewis', hairy, downy, as well as white-headed woodpeckers.

Elkhorn-Jersey prescription fire monitoring revealed that some areas simply did not burn at all. A mosaic of burned and unburned areas throughout the planned burn area contributed to diversity. Individual small trees and occasional patches of mixed age live trees were killed in limited locations. Snag creation was relatively poor overall, but best on southern and southwestern aspects as expected. Benefits to ungulate range were evident but expected improvements in habitats for white-headed woodpecker, flammulated owl, and black-backed woodpecker were very limited. Given the cooler conditions under which this fire burned, multiple fire applications, or thinning and fire will likely be required to meet objectives for sensitive bird species.

South Fork Clearwater River burns resulted in multiple positive benefits for big game, their predators, and overall ungulate winter/transitional ranges. Creation of snags and reduction of tree density varied from fire to fire depending on relative temperature/humidity conditions present at each site. Multiple treatments including understory thinning may be required to yield significant benefits in ponderosa pine and dry Douglas fir cover types for flammulated owl and white-headed woodpecker habitats.

Results of Allyson Turner's (Boise State University) 3-year monitoring study of post-burn effects on neotropical migrant land-birds (reported at the April 12, 2001 Land-bird and Fire Effects Meeting), concluded the following:

1. Effects from both spring and fall burning on all neotropical migrant birds were very little or none. Out of 32 bird species monitored, only one, the dusky flycatcher, showed a possible effect from spring burning.
2. Indirect effects of spring and/or fall burning resulted in overall habitat enhancement from renewed vegetation.
3. June and July are the most critical time for successful productivity for birds. If burning is done before late May, all birds will likely renest again (Allyson Turner/Rex Sallabanks).

Rex Sallabanks, Ph.D. (Sustainable Ecosystems Institute) indicated that 5 years of results from the Twin Lakes wildfire monitoring effort in Idaho showed that:

Some species and guilds increased after the fire, while others decreased. Overall, the first 1-2 years post-fire was negative to most species, and beneficial to a few. After 5 years, the effects tend to shift to a much higher positive effect for most species, with only a few species negatively affected. Canopy foliage gleaners (warblers, kinglets, etc.) were negatively affected in moderate and severely burned sites. Aerial insectivores (dusky flycatcher, olive-sided flycatcher, western wood pewee) were much more abundant in medium and severely burned areas. Cavity nesters as a group were positively affected by the fire. Only the red-breasted nuthatch did not increase after the fire.



Item 1e: Acres of Big-Game Habitat Improvement

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: More than one year of variability from planned improvement acreages, excepting variances due to extreme fire conditions.



Wildlife Habitat Improvement:

Monitoring Results:

In FY 2001, the Forest accomplished a total WL/TE habitat target of 1,714 acres plus an additional 700 acres co-funded by the Rocky Mountain Elk Foundation. Prescription burning accounted for the improvements. Funding assistance and support of the Rocky Mountain Elk Foundation have been instrumental in thousands of acres of past habitat improvements for elk and numerous other species on the forest.

Cumulative Acres of Big Game Habitat Improved
(Prescribed Fire, Timber Harvest, Wildfire, and Wildland Fire Used for Benefits)

Fiscal Year	Acres Improved
1988	109,854
1989	13,432
1990	10,062
1991	7,738
1992	49,907
1993	7,284
1994	12,847
1995	2,030
1996	44,351
1997	3,048
1998	3,055
1999	6,623
2000	33,389
2001	26,774

Evaluation of Monitoring Results:

Improvement of elk and deer winter range has fallen short of the annual target of 5,000 acres by at least 41 percent. The cumulative shortfall over 10 years is at least 30,000 acres below Forest Plan projections.



Item 10: Population Trends of Indicator Species - Wildlife

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: FY 2001

Variability that would initiate further evaluation: Variability thresholds which will trigger further evaluation for each species must be tailored to each species based on the amount of existing data on a given species, natural population fluctuations; and for game species, impacts of harvesting on populations. Evaluation for big-game species will be done cooperatively with Idaho Department of Fish and Game.

Variability thresholds for non-game and Threatened and Endangered species for which data is currently limited, can only be determined after sufficient baseline population data is collected. Population viability determinations for most large-bodied or wide-ranging species must be determined across the species' range, often at much larger landscape scales than simply one national forest.



This section covers those Management Indicator Species that were not previously discussed in this report within the Threatened, Endangered, or Sensitive wildlife species categories.

Elk:

Elk herds are the product of habitat quality, influenced by the effects of weather, hunting, and predation. Forest management practices directly affect habitat quality and hunter access. To determine trends in elk herds within a managed forest environment, the Idaho Department of Fish and Game routinely conducts elk winter census surveys.

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To address weaknesses in local elk herd productivity, the Nez Perce and Clearwater National Forests have partnered with Idaho department of Fish and Game (IDFG) and other interested parties to help improve conditions through the Clearwater Elk Initiative.

Monitoring Results:

Elk surveys were reported by IDFG on Nez Perce National Forest hunt units 19 and 20 in FY 2001. IDFG winter census surveys since 1988 have yielded the following results:

Elk Population¹

Unit ²	15	16	16A	17	19	20
1988	---	---	1028 ± 261	4506 ± 535	---	---
1989	---	---	---	---	1467 ± 37	1044 ± 48
1990	856 ± 81	818 ± 122	---	---	---	---
1991	---	---	961 ± 201	3783 ± 279	---	---
1992	---	---	---	---	1497	1237 ± 61
1993	1236 ± 310	1432 ± 156	---	---	---	---
1994	---	---	---	---	---	1115
1995	---	---	475 ± 114	4995 ± 555	---	---
1996	1544	1148	---	---	1566	1277
1997	No data	No data	No data	No data	No data	No data
1998	17.5 ± 7.5	No data	No data	No data	No data	No data
1999	No data	No data	539	3188	No data	No data
2000	No data	No data	No data	No data	2143 ± 228	854 ± 869
2001	No data	No data	No data	No data	2143 ± 228	854 ± 869

Bull:Cow Ratios

Unit	15	16	16A	17	19	20
Objective ³	>20	>20	>25	>25	>25	>25
1988	---	---	35 ± 14	26 ± 5	---	---
1989	---	---	---	---	21 ± 2	26 ± 4
1990	20 ± 5	10 ± 5	---	---	---	---
1991	---	---	23 ± 8	22 ± 3	---	---
1992	---	---	---	---	17 ± 2	31 ± 5
1993	11 ± 5	22 ± 4	---	---	---	---
1994	---	---	---	---	---	19
1995	---	---	19.6 ± 20.6	20.9 ± 3.7	---	---
1996	9.6	11.9	---	---	15.0	21.4
1997	No data	No data	No data	No data	No data	No data
1998	17.5 ± 7.5	No data	No data	No data	No data	No data
1999	No data	No data	12.7	16	No data	No data
2000	No data	No data	No data	No data	16 ± 4.5	23.3 ± 4.2
2001	No data	No data	No data	No data	16 ± 4.5	23.2 ± 4.2

¹ Represents total population estimate of animals on the winter range of each unit.

² Idaho Department of Fish and Game, Big Game Management Unit

³ Idaho Department of Fish and Game, 5-year Elk Management Plan Objective (1991 to 1995); expressed as number of bulls per 100 cows. Note: Hunting regulations and season structure changes implemented beginning in 1998 by IDFG were designed to help address bull:cow ratios.

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Calf:Cow Ratios
(Calves per 100 Cows)

Unit	15	16	16A	17	19	20
1988	---	---	32	27	---	---
1989	---	---	---	---	24	22
1990	39	16	---	---	---	---
1991	---	---	30	24	---	---
1992	---	---	----	---	32	34
1993	43 ± 17	21 ± 4	---	---	---	---
1994	---	---	---	---	---	24
1995	---	---	14.7 ± 5.1	22.2 ± 3.2	---	---
1996	32.4	17.9	---	---	20.1	15.2
1997	No data	No data	No data	No data	No data	No data
1998	32.8 ± 10	No data	No data	No data	No data	No data
1999	No data	No data	21.5	11.9	No data	No data
2000	No data	No data	No data	No data	26.2 ± 4.2	20.2 ± 3.1
2001	No data	No data	No data	No data	26.2 ± 4.2	20.2 ± 3.1

Evaluation of Monitoring Results:

FY 2001 results may have been skewed by temporary displacement of animals by the fires of 2000 and 2001. Elk calf recruitment remains depressed in back country hunt units further complicating population recovery. Mild winters, varying degrees of hunter success (influenced largely by hunting season weather conditions) can also affect population data within any given hunting unit.

Moose:

Monitoring Results:

Moose populations are not surveyed on the Nez Perce National Forest by the Department of Fish and Game with any techniques capable of making accurate population estimates.

Evaluation of Monitoring Results:

Moose populations appear to be relatively stable based on incidental information and sightings. Hunter permit numbers have increased substantially in recent years.

Bighorn Sheep:

Monitoring Results:

Bighorn Sheep Total Counts

Unit	17	19	20
1991	52	000	000
1992	---	52	106
1993	---	60	66
1994	28	---	87
1995	43	---	---
1996	No data	56	78
1997	No data	No data	No data
1998	No data	No data	No data
1999	No data	No data	No data
2000	No data	53	51
2001	No data	53	51

Evaluation of Monitoring Results:

Idaho Department of Fish and Game biologists suggest that FY 2000 data may have been influenced by temporary displacement of animals due to short-term habitat changes resulting from wildfires.

Pileated Woodpecker:

Monitoring Results:

Due to inadequate staffing and other priorities, including neotropical bird habitat and populations sampling, no permanent transects were sampled in FY 2001. A summary of six years of data is displayed below for pileated woodpecker from the Green Creek Point transect, the most thoroughly monitored transect on the Forest. Cumulative Forestwide survey results from other transects are available in previous year reports.

Bighorn Sheep Total Counts

Unit	Total
1988	9
1989	9
1990	6
1991	13
1992	6
1993	No survey
1994	No survey
1995	No survey
1996	5
1997	No survey
1998	No survey
1999	No survey
2000	No survey
2001	No survey

Evaluation of Monitoring Results:

Available data from previous year counts and routine sightings across the forest landscape suggest that pileated woodpecker populations are relatively healthy and stable. Dramatic declines in clearcutting of late seral and over mature grand fir stands since 1990 on the Forest have substantially helped reduce pressure on late-seral and old growth forests, this bird's preferred nesting habitats.

Pine Marten/Fisher/Lynx:

Monitoring Results:

Though no formal surveys were conducted during 2001, three incidental sightings of fishers were reported: Road 222 (approximately 100 yards south of the Darby Montana Road) and two others observed in Soda Creek on the 9541 road. The second location is an area that was heavily harvested and somewhat fragmented in the past, but the clear cuts are fully stocked now and are about 20 years old.

Three unconfirmed sightings of Canada lynx were reported on the Forest in FY 2001. Lynx are closely tied to snowshoe hare abundance in most areas, and relative numbers of sampled snowshoe hares is considered an indication of potential lynx carrying capacity. Early seral tree and shrub densities over most of the Forest fall short of high quality habitat for lynx in most places. Relatively high variability of hare densities has been monitored locally. Snowshoe hare track relative abundance surveys conducted during 1999 revealed the following:

Forest Type	Road Number	Approximate Transect Distance	Age of Snow	Track Sets
Lodge pole	492/478	<3 miles	16 hours	326
Grand fir	9804/9805/0985A	<4 miles	16 hours	23
Lodge pole	492/478	<3 miles	24 hours	31

Irrespective of presence or absence of Canada lynx on the Forest, some forest management activities within designated lynx habitats are now governed and guided by the Lynx Conservation Assessment and Strategy.

Goshawk:

Monitoring Results:

No new goshawk sightings or new nests were reported in FY 2001. Goshawk monitoring was conducted on the Cow Creek, Cayuse Meadows, and Delmage Ridge nest territories. No response from local goshawks was recorded. Only responses by gray jay and crow were recorded. Absence of current use of the only nests currently known within these territories was inconclusive. Goshawks characteristically alternate annual use of from 2 to as many as 9 different nests within a given territory to avoid predation on nestlings. Dramatic overall declines in regeneration timber harvest, but particularly in late seral and over mature stands since the mid-1990s on the Forest has substantially reduced pressure on this bird's nesting habitats. Goshawks remain relatively common on the Forest.



Item 11: Validation of Resource Prediction Models: Wildlife

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 2 to 6 years

Variability that would initiate further evaluation: Major or significant refinements to wildlife models will be determined through coordination with other agencies including the Nez Perce Tribe and should be supported by research findings and will require Forest Plan amendment. Local biologist judgment and experience is currently being used to supplement and temper the elk guidelines model in specific management situations as recommended in the current guidelines.



The Forest has completed a cooperative effort to evaluate and offer recommendations to update the elk summer habitat guidelines. Wildlife biologists and agency managers from the Idaho

Department of Fish and Game, Nez Perce Tribe, Clearwater National Forest, and Nez Perce National Forest completed the tasks explored by the Venture 20 effort. Biologists reviewed the elk model methodology for applicability and consistency, and have produced a draft of recommended changes.

A Forest Plan amendment or revision process with public input must be used if these recommended elk modeling modifications resulting from the Venture 20 exercise or similar coordination are formally proposed to update the Forest Plan.



FISHERIES

Item 1f: Fish Habitat Improvements

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: ± 10 percent of Plan targets within a decade.



This section reports the annual accomplishments in fish habitat improvement on the Forest. These accomplishments are measured as miles of stream improved. This accounts for both the direct instream improvements and improvement activities upstream or upslope of the fish habitat that result in the improvement of fish habitat condition.

The projects that contribute to fish habitat improvement include a wide variety of activities, from direct instream work to projects that address ecosystem conditions or processes that result in the deterioration of fish habitat, such as sediment contributions. The projects that contribute to fish habitat improvement often contribute to other management accomplishments. These projects are often co-funded and reported based on the funding proportions. Fish habitat improvement is reported as those that contribute to anadromous fish (species that migrate to the ocean, such as Chinook and steelhead), and inland fish (resident fish species that remain in inland waters such as westslope cutthroat trout and bull trout). Project accomplishments are reported based on their contribution to these groups and the relative funding proportions.

In FY 2001, the Forest accomplished 25 miles of anadromous fish habitat improvement. Additionally, 9 miles of inland fish improvement were accomplished. Examples of projects that contributed to this accomplishment include: Implementation of the O'Hara instream improvement project, continued road decommissioning in O'Hara Creek, and riparian and streamside planting in Peasley Creek and Meadow Creek watersheds.



Item 2e: Fish Habitat Trends by Drainage

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 1 to 5 years (FY 1998 to 1992)

Variability that would initiate further evaluation: A measured decrease of 10 percent or more below established objectives.



This monitoring item reports the trend in fish habitat condition based on evaluation of 24 permanent monitoring stations across the Forest. These stations are measured 3 years out of 5 in order to evaluate the habitat trend over long periods. Assessment of the data collected at these monitoring stations is ongoing. At this point, results of this monitoring are not available.



Item 2p: Implementation of PACFISH and Effects of Management Activities on Anadromous Fish

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually



The Nez Perce Forest Plan was amended by PACFISH (Amendment 20) in response to the need for increased focus on at risk fish species. Additionally, because some of these species are listed under the Endangered Species Act (ESA), ongoing and proposed management activities are evaluated in Biological Assessments (BA) to determine the effect of these management activities on these listed species. In FY 2001, the Forest continued to evaluate the effects of management activities on fisheries resources through the completion of Biological Assessments, and associated concurrence from the National Marine Fisheries Service (NMFS) and Fish and Wildlife Service (FWS).



TIMBER

Item 1h-1: Allowable Sale Quantity (ASQ) Sold by Components

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Any change in ASQ achievement altering the implementation of the long-term goals and objectives displayed in Forest Plan Chapter 2 (Forest-wide Management Direction) and Chapter 3 (Management Area Direction) may necessitate a Forest Plan Amendment.



Discussion:

The allowable sale quantity (ASQ) is defined as the maximum timber value that may be sold during the planning period from the suitable land base. The ASQ is a sold-volume ceiling, and is monitored early against the average annual ceiling of chargeable volume for the decade. We are now in the second decade (starting 1998) since the Forest Plan Record of Decision (ROD) was signed.

The ASQ increases from 1,080 MMBF in the first decade to 1,380 MMBF in the second decade (see page 6 of the ROD). In the past, the chargeable volume was divided into two components: regular (green live and recently dead resulting from insect/disease or fire) and non-interchangeable (pulp/cedar products and endemic mortality). Non-chargeable volume is not considered as part of the ASQ when it is sold, since this component was not use din calculating the ASQ, but is used to calculate accomplishments for Management Attainment Report (MAR) targets. Products that are included in the non-chargeable component include: firewood volume removed from unsuitable lands and volume too small or defective to meet regional utilization standards such as post and poles.

The Forest Plan does not identify how the additional 30 MMBF second decade volumes would be distributed to the regular and on-interchangeable components of the ASQ. For reporting purposes, we are assuming that the entire amount will be added to the regular portion giving the Forest a 1,330 MMBF of regular components and 50 MMBF of non-interchangeable ASQ. In addition, the Forest Plan does not identify which management areas will provide the extra volume.

Although this item is monitored on an annual basis, actual ASQ achievements will be based on the decade total. Yearly figures may be above or below the Forest Plan average annual ASQ figure of 138 MMBF per year (133 MMBF regular and 5 MMBF non-interchangeable).

The Forest Service reports accomplishments in hundreds of cubic feet (ccf). To maintain consistency and assure past figures are comparable, this report will continue to display volume in terms of MMBF. To convert MMBF to ccf, simply divide the MMBF values by .562, which is the Forest's average conversion factor. This cubic foot to board foot conversion factor is dependent on the height and diameter of the trees that are sold. On a yearly basis, some slight variability can be expected from the average Forest conversion of .562 which is used to convert the ASQ MMBF to ccf as indicated on the following table:

138 MMBF = 245,640 ccf
133 MMBF = 236,740 ccf
5 MMBF = 8,900 ccf

Monitoring Results:

Though no formal surveys were conducted during 2001, three incidental sightings of fishers were reported: Road 222 (approximately 100 yards south of the Darby Montana Road) and two others observed in Soda Creek on the 9541 road. The second location is an area that was heavily harvested and somewhat fragmented in the past, but the clear cuts are fully stocked now and are about 20 years old.

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Chargeable Volume Sold in FY 1988-2001*
(Volume Credited Toward ASQ on an Annual Basis MMBF)

	Components			
	Regular (133.0)	Non-Interchangeable (NIC) (5.)		Total
		Pulp	Cedar Products	
FY 1988	104.8	1.3	2.4	108.5
FY 1989	68.9	7.6	1.1	77.6
FY 1990	70.2	10.3	2.7	83/2
FY 1991	94.3	4.8	3.5	102/6
FY 1992	1.3	14.2	0.1	15.6
FY 1993	32.1	10.2	0.1	42.4
FY 1994	6.6	6.4	---	13.0
FY 1995	7.5	6.4	---	13.9
FY 1996	25.6	2.5	---	28.1
FY 1997	21.1	0.3	0.2	21.6
FY 1998	24.5	0.2	0.2	24.9
FY 1999	12.9	0.9	---	13.8
FY 2000	0.5	0.0	---	0.5
FY 2001	9.5	1.1	---	10.6

* The ASQ accomplishment breakdown was based on the Nez Perce Periodic Timber Sale Accomplishment Report accumulated as of September 30, 2001 (fiscal year summary).

The Forest continues to sell well below the Forest's ASQ, with this year's accomplishment being approximately 7 percent of the regular component and 22 percent of the non-interchangeable component. In FY 01, the Forest sold 1.1 MMBF of the non-chargeable component (not counted as part of the ASQ). This was preliminary firewood (both commercial and personal use) and post/pole material. Three sales were offered, sold, and awarded in FY 2001.

ASQ Volume Sold to Date

Average Annual ASQ (2 nd Decade)	2001 Chargeable Volume Sold	Total Chargeable Volume Sold to Date	% of Average Annual ASQ Sold for the First 4 years
133.0/year (saw logs)	9.5 MMBF	47.4 MMBF	12
5.0 MMBF/year (pulp/cedar products)	1.1 MMBF	2.4 MMBF	16
Total 138.0	10.6 MMBF	49.8 MMBF	12

% = Percent of average annual ASQ sold for first four years of second decade.



Item 1h-2: Finance Volume Offered Attainment by Components

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually



Discussion:

Each year congress appropriates funding to accomplish annual timber targets. Given the fluctuation in funding from year to year, these annual “timber targets” are not necessarily the same as the Forest’s average annual ASQ. The achievement of financed “timber targets” differs from ASQ achievement in the following ways:

1. Accomplishment of “timber targets” takes place when a sale is offered, as opposed to ASQ accomplishment credited when a sale is sold. Normally, 45-60 days elapse between sale offering (advertisement in the local paper) and sale selling (signing contract). Sales offered near the end of the fiscal year may be credited toward the “timber target” in one fiscal year and credited toward ASQ in the next fiscal year.
2. Non-chargeable offered volume (firewood and posts/poles) may be included in “timber target” achievement. The ASQ volume does not include non-chargeable volume.

Monitoring Results: Three sales were offered in FY 2001.

Chargeable and Non-Chargeable Volume Offered in FY 2001*

	Volume (MMBF) – FY 2001
Assigned Target	20.5
Accomplishment (Volume Offered)	10.3
% of Target	50 %

* Target accomplishment based on year-end Periodic Timber Sale Accomplishment Report (PTSAR) taken from the stars database year-end summary.

Evaluation of Monitoring Results:

Three sales were offered for sale in FY 2001. A fourth sale (9.5 MMBF) was scheduled for offer in the fiscal year but was delayed due to NEPA appeal processing. This fourth sale was offered in the first quarter of FY 2002. If this sale had been offered in FY 2001, 100 percent target accomplishment would have been completed.



Item 1i: Acres Timber Harvested by Method
(Includes Precommercial Thinning)

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Unacceptable results of an interdisciplinary review.



Monitoring Results:

Harvest took place on just over 2,000 acres in FY 2000. This was an increase from FY 1999 of approximately 650 acres. By far the majority was uneven-aged management (almost 55 percent). Even-aged management was implemented on 526 acres, or 26 percent of the harvest acres. The remainder, 19 percent of harvest acres, was various kinds of cuts that removed only portions of the stands, leaving fully stocked stands in place.

Harvest Type	Acres	Percent of Harvest
Pre-commercial thinning	73	10.2%
Clear-cut w/Reserves	213	29.7%
SW Prep Cut	74	10.3%
Shelterwood Seed Cut	162	22.6%
Seed Tree Seed Cut	103	14.4%
Intermediate Cuts	93	12.8%
Total	717	100.0%

	Even-Aged Harvest	Uneven-Aged Harvest	Ratio
Planned Annual Harvest	4,815	125	38.52
FY 2001 Actual Harvest	717	0	100.0

Evaluation of Monitoring Results:

The Forest Plan envisioned the mix of harvest types to be weighted toward even-aged management. The current **mix** is a deviation from that planned mix. Because the “total acres harvested” is below the maximum shown in the plan. The **actual acres** of uneven-aged harvest are within the planned acres for the decade. This deviation from the planned mix of harvest will not result in serious consequences.



Item 2f: Vegetative Response to Treatments

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years (FY 1998)

Variability that would initiate further evaluation: Data and analysis that would indicate that projected yields from regenerated stands are in error.



Monitoring Results:

Permanent growth plots provide a means to assess and predict the forest growth response to silvicultural treatments. They specifically are used to assess the accuracy of managed stand yield tables used in the forest planning models. The Forest has a number of permanent growth plots, installed over the years. Generally a few are re-measured each year, and in FY 2001, eight were re-measured.

Evaluation of Monitoring Results:

Eight permanent growth plots were re-measured during FY 2001. For sampling accuracy, the plots from several years need to be combined and then compared to be the managed stand yield tables. That comparison will be made when there are sufficient numbers of re-measured plots by forest type and productivity class to make statistically valid samples. At this point, for individual stands, growth seems to be near the projected rates.



Item 4: Acres of Harvested Land Restocked Within 5 Years

Frequency of Measurement: Annual for 1-, 3-, and 5-year old regenerated stands (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: An interdisciplinary team reviews significant deviation from 5-year regeneration period after data.



Monitoring Results:

This item is monitored using the Regional Reforestation Indices. Data is stored in the Timber Stand Management Record System. For FY 2001, 94 percent of stands planted in the past 5 years are successfully reforesting. Ninety percent of stands planned for natural regeneration are successfully reforesting. First year plantation success for FY 2001 is at 100 percent. Those not progressing satisfactorily are scheduled for additional treatment to increase stocking to acceptable levels.

Evaluation of Monitoring Results:

Spring of 2001 was particularly warm and dry, and plantation success was a little lower than usual. It is still near the forest average, and within the range expected given to the vagaries of weather. Animal damage, primarily pocket gopher damage, also contributes to reduced plantation success.



Item 5: Site-Specific Examination to determine Suitability of Land for Timber Management

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 10 years (FY 1998)

Variability that would initiate further evaluation: Significant changes in suitable acres.



Monitoring Results:

The Forest Plan identified suitable lands when it was approved in 1987. As stands are examined, suitability is evaluated and recorded in the timber stand database. No unsuitable lands have become suitable.

Evaluation of Monitoring Results:

Since the Plan was approved, there have been individual stands that did not meet the suitability requirements set in NFMA. These minor changes in suitability do not warrant a wider review until the Plan is revised.



Item 6: Maximum Size Opening for Harvest Units

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Unacceptable results of an interdisciplinary team review.



Discussion:

Openings, as addressed in the Northern Region Guide, apply to all even-aged silvicultural systems, which include clear-cut, shelter wood seed cuts, and seed tree seed cuts. For timber management purposes, these are openings until they have adequate stocking that averages 2 ½ feet or more in height. For wildlife and watershed purposes, they are no longer openings when the total woody vegetation (including shrubs) is adequately stocked and at least 15 feet high.

Monitoring Results:

No units over 40 acres in size were sold in FY 2001.



Item 11: Validation of Resource Prediction

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: If validation efforts show a need for changes to existing resource predictions.



Validation Monitoring:

The Forest Plan contains estimates of the following four elements for the acres contained in timber sales scheduled to be sold during the first decade. These estimates were used to help derive the Forest's allowable sale quantity (ASQ) ceiling.

- Net volume per acre by silvicultural system
- Total acres by silvicultural system
- Distribution of total acres (%) by silviculture system
- Total acres by Management Area (MA)

The following four tables display the actual FY 2000 data taken from sales sold during this period. Sales contained in the actual FY 2000 sold data include all sales of chargeable (ASQ) volume having an appraisal (Forest Supervisor and District Ranger authority sales). Sales offered that did not sell are not included.

Table 11-a - Sold Net Volume/Acre by Silvicultural System

Silvicultural System	FY 2001 Volume/Acre (MBF)	Weighted Average* FY 2001 (MBF)
Clear-cuts (Units)	0.0	0.0
SW Prep Cut ¹	0.0	0.0
SW/ST Seed Cut ²	0.0	0.0
SW/ST Final Cut ³	0.0	0.0
Sanitation/Salvage	40.0	40.0
Commercial Thin	10.9	11.3
Selection Cut ⁴		
Totals	50.9	11.1

*Weighted by acres sold.

¹ First entry in a 3 or 4 step shelter wood. The goal is open up the canopy to improve seed production.

² Regeneration cut, where the trees left will provide the seed for the next stand of trees.

³ Final harvest of a SW/ST ...commonly called an "overstory removal". Figures shown in the actual sold volume/acre include both final harvest of "managed stands" and liberation harvest (overstory removal in natural stands).

⁴ This refers to an uneven aged management...either group or individual tree selection.

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Table 11-b – Distribution of Sold Acres by Silvicultural System

Silvicultural System	FY 2001 Distribution %	Weighted Average FY 2001 Distributed %
Clear-cuts (Units)	0.0	0.0
SW Prep Cut	0.0	0.0
SW/ST Seed Cut	0.0	0.0
SW/ST Final Cut	0.0	0.0
Sanitation/Salvage	1	1
Commercial Thin	99	99
Selection Cut		
Totals	100%	100%

Table 11-c – Total Acres Sold by Silvicultural System

Silvicultural System	FY 2001 Acres Sold	Average FY 2001 Acres/Year
Clear-cuts (Units)	0.0	0.0
SW Prep Cut	0.0	0.0
SW/ST Seed Cut	0.0	0.0
SW/ST Final Cut	0.0	0.0
Sanitation/Salvage	5	5
Commercial Thin	708	708
Selection Cut	0	0
Totals	713	713

Table 11 d – Distribution of Sold Acres by Management Area

MA Code	Management Emphasis	FY 2001 Acres Sold	Average Acres/Year
10	Riparian		0
12	Timber	381	381
16	Timber/Elk/Deer Winter Range	319	319
17	Visual/Scenic	13	13
20	Old Growth	0	0
21	Moose Winter Range	0	0
	Totals	713	713

The following acres and timber volume sold on the Nez Perce National Forest were within inventoried roadless areas in the second decade.

Roadless Volume and Acres Sold by Fiscal Year

Fiscal Year	Roadless Volume Sold (MMBF)	Roadless Cutting Units & Road Right-of-Way Acres
2001	0	0
Total	0	0

Roadless Acres Sold by Roadless Area

Number	Name	District	Sold Acres	Percent of Total Roadless Sold Acres
None			0	



SOIL AND WATER

Item 1j: Soil and Water Rehabilitation and Improvements

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: If the Forest did not achieve its assigned target for the fiscal year.



Implementation Monitoring:

The Forest was assigned a target of 10 acres of soil and water improvements using appropriated watershed funds in FY 2001. The Forest reported 24 acres of accomplishment using watershed funds and an additional 38 acres using other funds, for a total annual accomplish of 62 acres. The Forest Plan goal is 200 acres per year.

Summary of Improvements Accomplished in Fiscal Years 1988-2001

(by Acres Improved)

Year	Funding Source				
	Soil and Water (NFSI & NFES)	Knutsen-Vandenberg (KV)	Roads	Other Funding	Total
1988	74	52	113	70	309
1989	131	93	57	147	428
1990	159	82	76	3	262
1991	120	85	25	32	262
1992	214	79	82	12	387
1993	244	108	90	63	505
1994	243	79	77	43	442
1995	314	74	54	5	447
1996	190	46	2	1	239
1997	143	4	24	19	190
1998	85	4	0	0	89
1999	81	0	60	0	141
2000	169	7	61	0	237
2001	24	0	10	28	62

The following is a brief summary of 2001 watershed improvement projects by ranger district.

Salmon River Ranger District: The District reported 17 acres of accomplishment. Projects included completion of the Deadhorse road-to-trail conversion, Rag Station Trail improvement, North Fork Slate Creek range enclosure, Hite Springs improvement, west fork Allison road improvement, Burnt Flats Fire revegetation, and road decommissioning associated with the Taco Fire.

Clearwater Ranger District: The District reported 37 acres of accomplishment. Projects included decommissioning of roads in the 2021 area of the lower South Fork Clearwater River, revegetation of decommissioned roads in the Hungry Mill area, decommissioning of a road in

the Lodge Point area, landslide repair in Clear Creek, stream restoration in the McComas Meadows area, Fish Creek range exclosure, and Burnt Flats Fire revegetation.

Red River Ranger District: The District reported 1 acres of accomplishment. This was associated with cleaning of a sediment trap associated with the Leggett hydraulic placer mine.

Moose Creek Ranger District: The District reported 7 acres of accomplishment. Projects included revegetation of decommissioned roads in the O'Hara Creek watershed, improvements on the Copper Butte Trail, and improvements associated with the remount site on Coolwater Ridge.

Effectiveness Monitoring:

Evaluation of Monitoring Results:

From 1988 through 1996, the Forest exceeded its Forest Plan watershed improvement goal of 200 acres per year. This goal was not achieved for fiscal years 1997 through 1999, but was again exceeded in fiscal year 2000. In fiscal year 2001, the Forest had its lowest level of watershed improvement accomplishment since the Forest Plan came into effect.

An overall evaluation of the watershed improvement program has not been conducted. In recent years, the nature of improvement projects have changed, with larger projects being developed to decommission unneeded roads. This has resulted in relatively high unit cost projects and lower total acres accomplished. However, per unit area treated, the on-the-ground effects of such projects are probably more significant and long lasting than many earlier approaches. This trend reversed somewhat in fiscal year 2001, with a higher percentage of low unit cost projects again being completed. In the foreseeable future, several large projects that include watershed restoration are scheduled for implementation. Although future funding is unknown, it appears the Forest could be financially limited in its ability to implement these projects.



Item 2g: Impacts of Management Activities on Soils

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: If more than 20 percent of an activity area has sustained significant or permanent impairment of the productivity of the land.



FY 2001 Soil Monitoring:

Soil monitoring is conducted during project planning, implementation, and following completion of management activities to determine how closely Forest Plan management standards are being followed.

Implementation Monitoring determines if the potential for soil damage was evaluated during project development and if designated best management practices (BMPs) were applied.

Effectiveness Monitoring determines if the implemented practices were adequate to:

1. Maintain 80 percent of an activity area in a productive condition, without detrimental compaction, displacement of surface soil, or puddling (loss of soil structure), and
2. Minimize erosion and sloughing on road cuts and erosion on other activity areas.

Validation Monitoring determines whether the data, assumptions, and coefficients used in soil and vegetation response models are correct.

Results:

Implementation Monitoring:

Most environmental analyses and watershed assessments completed in fiscal year 2000 used soil information to describe soil limitations and opportunities within assessment areas, evaluate impacts of past management, and develop recommendations for avoidance, restoration, or mitigation.

The Meadow Face project initiated a new phase in soil monitoring and improvement in areas affected by past land disturbing activities. It is a watershed heavily impacted by past logging machinery, with extensive areas of compacted soils, filled wet areas, and skid trails that have altered slope hydrology. Aerial photo inventory identified 8,422 acres where impacts had likely occurred over some portion of the land. Field inventory in fiscal year 2001 of 1,360 acres in Orchard, Whitman, and Swan Creek subwatersheds identified 88 acres of decompaction and skid trail obliteration needs, plus additional stream channel restoration needs. Additional inventory is proposed for fiscal year 2002. Other watersheds that have sustained similar impacts will require soil restoration inventories as part of the watershed assessment process.

Soil information was consistently used to predict sediment production. Predicted sediment was used to help select number, location, and scheduling of activity areas.

Landform, stream, slope, and soil information was used with watershed historic files and photos to delineate landslide prone terrain for watershed assessments and most timber sale analyses. Field reviews were used to refine those delineations, avoid areas of risk, or adjust project designs to minimize risk. Watershed staff, sale layout foresters, marking crews, and sale administrators have become increasingly skilled at hazard identification and marking or harvest unit adjustment to minimize risks.

Effectiveness Monitoring:

Pinchot Fire Soil Erosion and Knapweed Monitoring

The Pinchot Fire was detected on July 9, 1999, and eventually burned about 374 acres under a confine/monitor strategy. Natural fire effects and recovery processes were objectives for the area under the Selway-Bitterroot Management Plan. The area is very susceptible to mass failure in channels and on steep slopes after soil disturbance. Spotted knapweed invades any disturbed area in the breaklands, and supplants native bunchgrasses. Knapweed is thought to increase the change of erosion in the breaklands, because of the abundant bare soil between plants, and reduced root biomass and ground cover. Line transects were set up to monitor increase in soil erosion and knapweed spread. Results from 1999 to 2000 were reported in the 1999 monitoring report.

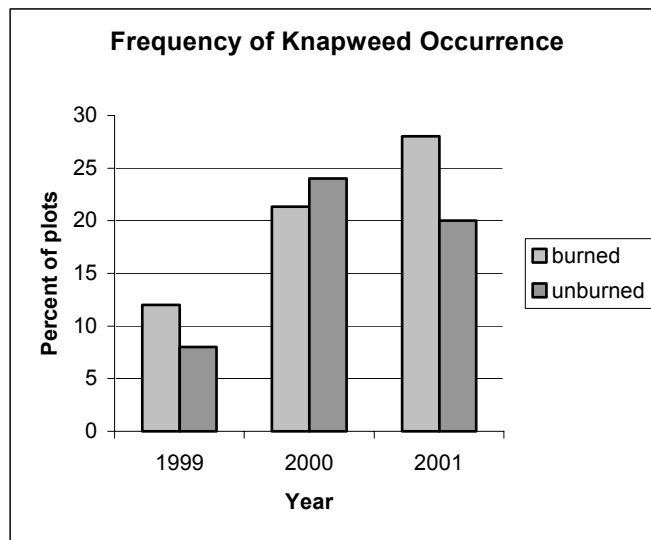
The objectives of monitoring are to:

1. Determine if knapweed expands in burned areas beyond its rate of expansion in unburned areas.
2. Determine if erosion in burned areas where knapweed becomes established exceeds erosion in areas where native plant species recover after fire, given equal burn severity and site factors.

Data Summary for fiscal years 1999-2001:

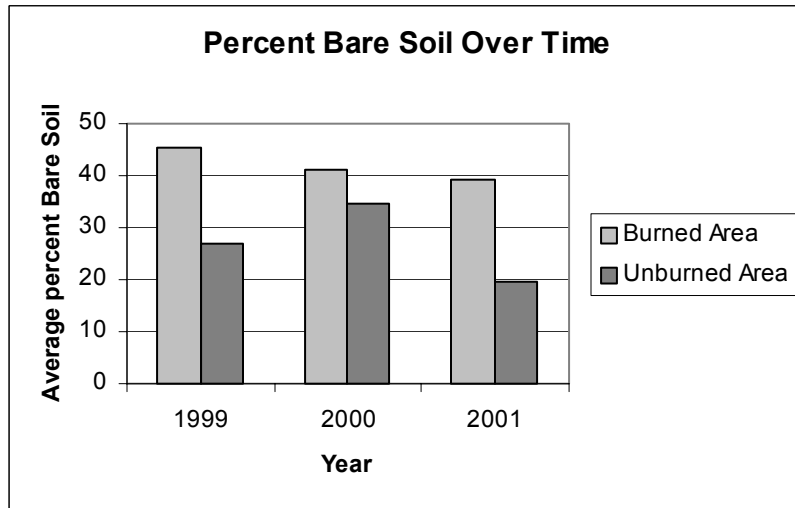
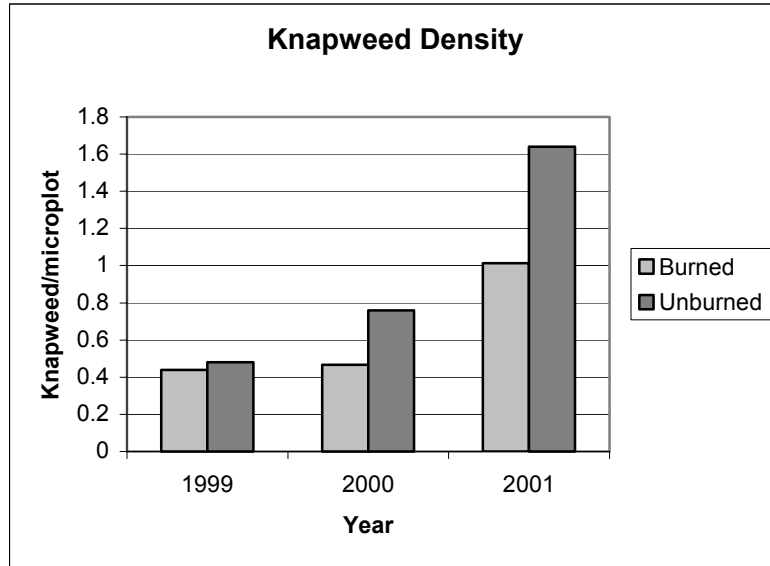
Bare soil in the burned areas has declined from 45 to 39 percent over the two years since burning. There was no evidence of accelerated erosion in knapweed plots compared to other plots. There was evident sheet erosion in transect 3 due to very steep slopes, bare soil, and grussic material. This erosion is probably chronic whether burned or not.

The graph below shows frequency of knapweed occurrence in the sample plots. Knapweed occurrence may be increasing slightly faster on burned than unburned areas.



The graph below shows knapweed density (numbers per 200 square inch micro plot). Knapweed density appears to be increasing faster in the unburned area. In none of the three years were differences between unburned and burned areas significant. However, over burned and unburned areas together, increases in knapweed density between 1999-2001 and 2000-2001 were significant ($P = .006$ and $.015$) using a Wilcoxon signed rank test. Since the sampled unburned area is a bunchgrass habitat type most highly susceptible to invasion, it looks like habitat susceptibility may be more important than burning, but that disturbance like fire is still influential in knapweed expansion, even in somewhat less susceptible habitats like Douglas fir-ninebark.

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Bare soil has decreased slightly on both burned and unburned areas, and there is no significant correlation of bare soil on each micro plot and knapweed frequency or density. Accelerated erosion did not appear to be related to knapweed, but to slope, soil texture, ground cover, and burn severity.

Similar transects were installed in the Three Bears fire (burned 2000) in 2000 and read again in June 2001. Transects are also scheduled for installation in the Taco and Earthquake fires (burned 2001) in 2002.

Riparian Range Monitoring

No effectiveness monitoring of riparian range management occurred in 2001, because of limited funds.

Fire and Suppression Impacts Rehabilitation Monitoring

Monitoring of effectiveness of rehabilitation of fire suppression impacts occurred on the Burnt Flats fire (burned 2000) where extensive fire lines, drop point and safety zone disturbances were treated with decompaction, water barring, removal of log culverts, slope restoration, seeding, mulching, and barriers to livestock.

Where surface soil removal was shallow and discontinuous, recovery was generally good on dry sites because native seed and plants were still present and more nutrient rich surface soils were present. Sown native perennial grasses were very slow to establish and subject to grazing if not protected by slash. Native bulbs appeared to be fairly resilient to minor disturbance. In compacted areas, decompaction by excavators followed by dragging was highly effective in preparing a seed bed, and also appeared to support rapid recovery of residual native bulbs and perennials. Decompaction using a harrow was ineffective and consequent recovery or establishment of seed was poor. Temporary fencing to keep cattle and ATV traffic was necessary, but required consistent maintenance to remain effective.

In forest sites with deep soils, dozer line obliteration was effective and erosion has so far been very slight on the areas that had been reviewed. The large water bar at Little Whitebird Creek crossing could have channeled water directly into the stream and was unnecessary given the amount of slash available. On open sites, such as old clear cuts, frost heaving appears to have locally affected grass seed establishment on obliterated dozer lines, and cattle traffic and weed establishment will likely result in additional treatment needs.

Effectiveness of erosion control measures including seeding, mulching, water bars, and drainage restoration at crossings on the 9443 road are still problematic and should be reviewed in 2002, as well as the large very steep dozer line on the west side of Goose Creek, and the dozer line on the bluebunch wheatgrass site off Goose Creek Point.

Review of suppression activity impacts resulted in several recommendations for future fire management that could result in less soil, water, and plant community resource damage from suppression activities. Their implementation would be contingent on the fire management situation analysis, including risk to other resources, life and property, and safety. These recommendations include:

1. Provide interdisciplinary support to the unit and resource advisor to make sure the fire management team is aware of environmentally sensitive areas like the open ridges that support rare plant communities or heritage sites.
2. In large complex fires, provide additional support members to help with dozer line, safety zone, and drop point location and resource protection and riparian area protection.
3. Evaluate the resource risks and benefits to plantation protection
4. Work with dozer bosses and operators to make sure they recognize stream crossing and are aware of alternative construction tactics for line construction in riparian areas and on shallow soils.
5. Establish standards for the fire team to document locations of lines, safety zones, and drop points so that a cumulative record is maintained throughout the fire and available to the rehabilitation team.

6. Mobilize a dedicated suppression rehabilitation team early in the suppression of complex fires, and ensure that rehabilitation inventory and planning work is initiated in all areas safe to do so as soon as possible.
7. Incorporate effects of suppression activities into watershed assessments and watershed impact databases.
8. Ensure that rehabilitation plans are reviewed and approved by district access planner, resource staff, and district ranger.
9. A formal rehabilitation team organization was shown to be effective, where lines of authority are well defined.
10. Resource advisor support to rehabilitation is crucial and in large complex projects, multiple resource advisors may be needed to stay up with several activities going on concurrently.
11. Support from the suppression rehabilitation planning team is generally necessary through the implementation phase.
12. Strengthened technical expertise in stream crossing restoration for both dozer lines and old roads is advised for rehabilitation planning team members and resource advisors.
13. The resource advisor or implementation team members need to closely supervise operators so that erosion control structures are effectively implemented with the least ground disturbance.

Review of the Burned Area Emergency Rehabilitation measures in Bull Run Cove indicated generally good effectiveness. Rehabilitation measures to reduce impacts from the fire itself included road drainage improvement on the Bull Run Cove road, weed treatments for yellow starthistle in low elevation areas, and stream response monitoring. Runoff from the private salvaged lands above the road had been curtailed with water bars. Culvert capacity on the road had been increased and road drainage improved. Disturbance to open up the inlet at the main crossing was excessive, and rock installed below that culvert was smaller than it needed to be most effective. Other culvert and drainage work was well done. Runoff and erosion on the severely burned area was slight, thanks to a mild spring and the erosion-resistant nature of the surface soils and their high permeability.

Weed spraying was done, but the scope of yellow starthistle invasion is larger than could be addressed with hand spraying. An EIS is planned for 2002 that would evaluate more aggressive weed treatment proposals.

Validation Monitoring:

Landslides

Data from the 1997 landslide inventory has been compiled and preliminary summaries are presented here.

Heavy rains triggered numerous landslides in the winters 1994-95 and 1995-96. An inventory was done in 1997 that used aerial photos, aerial reconnaissance, and district reports to identify slope failures. Two hundred forty-two slides were identified on the Forest and 164 of these were

field sampled. The graph below shows the percent of each sample set on Nez Perce Forest lands, by apparent primary cause. Roads were highly associated with landslide occurrence, although they typically are a small proportion of the landscape. Timber harvest was not often associated with slope failures, but landslides could be very large. Areas recently burned by wildfire are a very small percent of the landscape and the incidence of landslides in this setting was also small. This was perhaps because the burned areas were out of the general storm tracks for these years.



Item 2h: Impacts of Management Activities on Water Quality

Frequency of Measurement: Annually

Reporting Period: October 1, 2000 – September 30, 2001

Variability that would initiate further evaluation: If violations of Idaho State Water Quality Standards were detected or if Forest Plan fish/water quality objectives were not met within acceptable timeframes.



Effectiveness and Validation Monitoring:

As in previous years, the Forest collected stream flow and water quality data at eight gauging stations (Rapid River, Little Slate Creek, Johns Creek, Upper Red River, South Fork Red River, Trapper Creek, Main Horse Creek, and East Fork Horse Creek). Variables sampled included stream discharge, suspended sediment, bed load sediment, water temperature, and conductivity.

Watershed personnel also maintained seven storage precipitation gauges, five recording precipitation gauges, five hydrothermographs, and two snow courses. Fire personnel conducted additional weather monitoring.

Water temperature data are collected at about 50 sites across the Forest, using electronic reading thermographs. Data collection under this program began about 1990 and has continued each year since then. The period of record varies by station.

Physical stream channel morphology measurements are taken at about 20 permanent stations across the Forest. Each of these was initially measured during the period of 1988-1990. About half of the stations have been remeasured, with the remainder planned for remeasurement.

The Northern Region continued evaluation of high mountain lakes for sensitivity to long-term deposition of atmospheric sulfate, nitrate, and ammonium. On the Nez Perce National Forest, Shasta Lake, located in the Selway Bitterroot Wilderness, was selected as a long-term study site. Field data were collected at Shasta Lake in 1996 and 1998-2001.

Evaluation of Monitoring Results:

Analysis of stream flow and sediment yield data from the gauged water quality monitoring stations is ongoing. From 1995 through 2001, particular emphasis was given to data analysis pertaining to instream water right claims filed under the Snake River Basin Adjudication.

In 1998, a computer database named Aquatemp was set up for storage and retrieval of the Forest's water temperature data. In 2001, analysis of water temperature data for the Newsome

Creek watershed was completed. Data were also prepared for the total maximum daily load (TMDL) assessment underway in the South Fork Clearwater River.

Until fiscal year 1991, the Forest issued an annual technical report entitled "Hydrologic Data Summary and Monitoring Analysis." This report summarized stream flow and climatic data collected on the Forest during the previous year. It also provided more detailed analysis of water quality and related monitoring results than the annual Forest Plan monitoring report. There is no plan to resurrect the annual report format, but the data are available upon request, both in paper copy and electronic format.



Item 2i: Water Quality – Project Level Administration Reviews and Field Studies

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: If the reviews or studies discover violations of Forest Plan standards or Idaho Water Quality Standards.



Monitoring Results:

Implementation and effectiveness monitoring was accomplished on several types of activities in fiscal year 2001. Primarily interdisciplinary teams of Nez Perce National Forest personnel conducted the monitoring, with assistance from other agencies. In one case, the monitoring was conducted under contract.

In addition to monitoring Forest Plan implementation, these field reviews also meet the Forest's obligation under a Memorandum of Understanding with the State of Idaho to monitor a target of ten percent activities that fall under the Idaho Forest Practices Act Rules.

Deadhorse Road Decommissioning

This monitoring review was conducted on August 8, 2001. The project is located in the Slate Creek watershed of the Salmon River Ranger District. In addition to the Deadhorse project, the review assessed firewood gathering within a riparian habitat conservation area (RHCA). The Deadhorse project was found to meet all applicable Idaho Forest Practices Act Rules, with the exception of notification. Below is a site-by-site discussion of the areas reviewed:

1. Firewood Gathering at Willow Creek:

This is a popular site for firewood gathering. It is accessible most of the year and there is a lot of mortality. The site is often used in late fall or early spring. Firewood collection is occurring within riparian habitat conservation areas, where it is prohibited. Trees have been marked with paint and 'wildlife tree' tags in the past. Law enforcement has been called to the site multiple times.

Opportunities:

- a. The District is discussing a seasonal gate closure below this point, at the North Fork Campground;

- b. Need to review firewood permit language to remove ambiguity, and ensure enforceability; and
- c. Install an informational sign.

2. **Road 354G Reconditioning at the mouth of Little Slate Creek:**

A heritage site was identified following contract award. Design was modified – a sediment trap was deleted and the drivable dip was constructed with the archeologist on site.

Recommendation: Add rock in ditch from last dip to bridge.

3. **Non-motorized trail constructed on road bed of obliterated Road 354G and old bridge abutment removal site:**

Revegetation (seeded annual rye, fertilizer, and straw mulch) came in very quickly and well. The ample rainfall was probably a large factor. Recontouring did not start immediately at new trailhead, because it is stable and lacks watershed concerns. Therefore, the old road is visible; 'inviting' motorized trail users. Dips in the road discourage use, but are not aesthetic. It was felt that recontouring the first 500 feet would have been more effective at vehicle control and aesthetically. Generally the cost of recontouring is about 150 percent of scarification. Removal of 36 inch corrugated metal pipe and channel reconstruction was nicely done. Work was completed during July 1 to August 15 fisheries window. Trail meanders on old roadbed; adds aesthetics.

4. **Constructed Trailhead, Road 354G:**

The trailhead/turnaround was constructed with minimal additional ground disturbance. Slopes are gentle and stable. Vegetation has established quickly. There may be a tendency to park in the turnaround area.

Recommendation: The additional need for an unloading ramp, to avoid the use and damage of the road bank was noted.

5. **Recontoured roadway (no trail):**

This piece of road had experienced multiple failures, with the debris path extending into Little Slate Creek. Work was completed during the July 1 to August 15 fisheries window. Partial recontouring of old road appears effective and efficient. Upper cutbank slopes are still exposed but stabilized.

6. **Motorized trail constructed on roadbed of obliterated Road 354G:**

The work appears to have stabilized the roadway, but probably is still functioning more like a narrow road than a trail. Abutment removal at Deadhorse Creek looks effective and stable.

Recommendation: Fords should be monitored for continued drainage functionality.

7. **General Review:** Project was well executed. Trails constructed into stream crossing may benefit from reduced gradient by turning the trail upstream, into the draw, as the ford is approached. Subsequent contracts could specify (salvaged) clump plantings in recontoured areas. Required Forest Practices for abandoned roads were met. With no in-stream work, a stream channel alteration permit was not needed.

Middle Face and Mill Helo Timber Sales

These timber sales are located in the Johns Creek and Mill Creek watersheds on the Clearwater Ranger District and were reviewed by an interdisciplinary team on October 18, 2001. All applicable provisions of the Idaho Forest Practices Act rules were met on the areas reviewed. Below is a site-by-site discussion of the areas reviewed:

1. **Unit 93/Temporary Road – Middle Face Timber Sale:**

This shelterwood/seed tree unit was tractor logged in the fall of 1999, followed by excavator piling. The access road was pre-existing and required some reconditioning. After use, it was decompacted and put into a “road storage” condition. This means that the road was closed to use with the template left in place for future use. It appeared that the treatment was effective for erosion control, though some weeds were present and cattle use was occurring.

2. **Unit 48/Road 309 R – Mill Helo Timber Sale:**

This unit was an overstory removal that was tractor logged in the summer of 1999. The unit was whole tree yarded with slash burned at the landings. It appeared that there was low ground disturbance on the skid trails. Road #309R was pre-existing, reconditioned for hauling logs, and subsequently recontoured. It was located adjacent to an unnamed tributary of Deer Creek. The recontouring was completed in an exemplary manner, including the machine work and use of vegetation transplants. Though there was evidence of cattle trailing and grazing, there was little evidence of sediment movement off the road prism.

3. **Unit 52 – Mill Helo Timber Sale:**

This was a commercial thin that was helicopter yarded. The unit was subsequently under-burned using aerial ignition. The treatment was generally successful, except for some unplanned mortality on about 17 percent of the area.

4. **General Discussion:**

Though not visited on the review, it was noted that several temporary roads that had been designated for single season use instead were used for more than one season. This pointed out the operational difficulty of single season roads in some circumstances. It was also pointed out that the watershed improvement projects designed to offset the sediment impacts of the timber sales were implemented.

Otter Wing Timber Sale

The Otter Wing area is located on the Clearwater Ranger district, south of the South Fork of the Clearwater River. A watershed analysis was conducted in the Otter Wing area in 1995 to determine the potential impacts of road building and timber harvest activities in the Otter Creek, Wing Creek, and Huddleson Creek drainages. The timber sale was described in the 1996 Biological Assessment as 558 acres of timber harvest and related activities with 12 miles of road construction, including 1 mile of temporary road. The analysis highlighted a concern for increased sediment to the streams within the sale area as well as to the South Fork Clearwater River.

In August 1995, prior to implementing the project, permanent monitoring stations were established at seven stream locations just below the sale area boundary. Stream channel cross

sections were measured to identify the channel type (Rosgen, 1994). Stream stability was recorded (Pfankuch, 1978). Large woody debris was measured and counted, and the channel substrate was recorded (Wolman, 1954).

The road construction and timber harvest activities for this sale were completed in 2000. These seven stations were remeasured in August 2001. Comparison of channel geometry, stream stability, large woody debris, and bed material do not show any consistent trend changes in stream condition. Individual parameter changes are generally slight and do not appear to represent changes in stream dynamics.

In addition to the existing stations, three additional stations were established in fiscal year 2001 at the mouths of Otter Creek, Huddleson Creek, and Wing Creek. A detailed report of this monitoring is available at the Clearwater Ranger District. Follow up monitoring will be scheduled in 3-5 years.

Mackey Day Timber Sale

This timber sale is located on the Red River Ranger District in the Tenmile Creek watershed. District personnel reviewed it several times during the year. These reviews focused on specific areas of concern within the sale area.

Blowdown had occurred on about 1/3 acre, part of which was in proximity to a wetland. This area was reviewed to determine if removal of the blowdown was feasible and also after removal. The removal was accomplished using full suspension skyline yarding and resulted in minimal ground disturbance.

System roads associated with the timber sale were reviewed for erosion control needs. Although several areas of erosion were noted, no sediment delivery to streams was documented. Where problems were noted, measures were taken to reduce the erosion and/or trap sediment prior to reaching streams.

Skid trails, forwarder trails, and temporary roads were reviewed for compliance with decommissioning provisions. The decommissioning was determined to be successful, with good decompaction, scarification, and scattering of slash. No surface erosion was noted. In one instance, additional small slash was suggested to improve protection from raindrop impact and provide more nutrients.

An area of winter logging was observed and very little soil disturbance was noted. The operation was occurring on 1.5 to 2.0 feet of snow. It was noted that there might be an inconsistency when designated skid trails are required, but follow-up treatment prescribes grapple-piling. This should be addressed in terms of the requirement that detrimental soil impacts be limited to no more than 15 percent of project areas.

Burnt Flats Fire

The Burnt Flats Fire burned about 19,000 acres in the White Bird watershed in fiscal year 2000. Established channel sites were revisited at the two upper locations in the drainage. At each location two cross sections and a longitudinal profile were surveyed. A pebble count was completed and photos taken.

Visible changes to the channel form were not evident. Shrub and forb vegetation has recovered in moderate densities in the riparian area and uplands.

Analysis of the data will begin following a revisit to all established sites next summer.

Haysfork Hydraulic Placer Mine

The Haysfork Hydraulic Placer Mine (also known as Haysfork Glory Hole) is a historic mine located in Newsome Creek on the Red River Ranger District. Rehabilitation efforts have been ongoing for many years, with the most recent being installation of an engineering sediment trap near the point where sediment-laden flow from the eroding pit would enter Newsome Creek.

The sediment trap has been effective at preventing all but the finest suspended sediment from entering Newsome Creek. In 2001, it was noticed that the two standpipes that drain the sediment pond were beginning to buckle. The pond was drawn down to a low level in the fall of 2001 and repairs are planned in 2002.

Revegetation of the eroding pit wall and deposited sediment downslope is continuing to improve overall conditions on the site, though considerable erosion is still occurring. Further monitoring and assessment of future needs is planned for 2002.

O'Hara Creek Habitat Improvement

This project is located on lower O'Hara Creek on the Moose Creek Ranger District. The project reconfigured existing fisheries habitat improvement structures and added new structures in certain locations. The objective was to improve hydraulics and habitat effectiveness of the structures. Suspended sediment and turbidity were sampled during reconfiguration of two structures. These particular structures were selected because they had the greatest potential for short-term impact during construction.

Upstream (i.e. background) turbidity ranged from 0.81 to 1.66 ntu and suspended sediment ranged from 8.7 to 31.1 mg/l. Immediately below construction turbidity in the plume ranged from 24.8 to 68.3 ntu suspended sediment ranged from 270 to 6213 mg/l. Turbidity below a mixing zone ranged from 4.8 to 7.7 ntu and suspended sediment ranged from 69 to 190 mg/l.

In one case, the State turbidity criterion of not exceeding 50 ntu above background was exceeded for an estimated duration of 10 to 15 minutes. This occurred when a considerable amount of accumulated bedload was released during removal of a structure. Ocular observations during construction of new structures suggested that turbidity was considerably less.

Salmonids, including adult Chinook salmon, were seen in the vicinity during construction. Though no direct mortality was noted, the high levels of suspended sediment were within the range that have been documented to be detrimental. This was partially offset by the short duration, but occurred during periods of high stress due to high water temperatures.



Item 2j: Impacts of Management Activities on Riparian Areas

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: If the reviews or studies discover violations of Forest Plan standards.



2001 Riparian Monitoring Results:

Riparian area monitoring is conducted during project planning, implementation, and following completion of management activities to determine how closely Forest Plan management standards are being followed.

Implementation Monitoring determines

- If riparian areas are delineated and evaluated during project design
- If preferential consideration is given to riparian-area-dependent resources in cases of irresolvable conflict;
- If appropriate provisions of the Idaho Forest Practices Act (BMPs) are applied, or a variance sought; and
- If effects on wetlands and flood plains are considered in project development.

In addition, monitoring determines if PACFISH standards that constitute Forest Plan amendments, or additional guidance from the regional aquatic conservation strategy are being followed.

National wetland inventory maps are consistently used for initial wetland and riparian area delineation, but site-specific projects usually result in identification of numerous additional wetlands and small streams. Preferential consideration of wetland resources now occurs very consistently, due to PACFISH standards, and consultation requirements under the Endangered Species Act.

Monitoring of road obliteration projects during contract inspection maintains quality of stream alignment and gradient, and soil stabilization at the crossing sites.

Effectiveness Monitoring determines

- If management practices have caused detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions and fish habitat; and
- If cover and security for riparian-dependent species have been maintained.

Validation Monitoring is used to describe riparian dependent resources, their values, and predict effects of management (Forest Plan II-12). No validation monitoring occurred.

Monitoring Results:

Implementation Monitoring:

Readily identifiable riparian areas are consistently delineated during integrated resource analysis using National Wetland Inventory maps and field observation. This delineation is based on identification of perennial and intermittent streams and areas of soils with high water tables and water loving vegetation. Estimated acres of riparian areas and wetlands are calculated from these delineations during the management area validation process. Additional wetlands are identified and protected during project layout and implementation.

Good design and administration of road obliteration projects is critical to restoration of riparian characteristics. A long-term administrative study to evaluate stream and watershed response to

road obliteration was initiated in fiscal year 2000 on the Horse Creek Administrative Study site and will continue through fiscal year 2005.

Inventory to assess riparian condition in headwater streams now has a standard protocol, but no standard data storage or synthesis capability. Data storage in the WATER national core data format will be explored in fiscal year 2002.

Effectiveness Monitoring:

No effects from prescribed burning were detected in monitoring.

The Horse Creek road obliteration study was instrumented and the environmental analysis completed, but not signed in 2001.

Validation Monitoring:

Valley gradient/stream order information was used with landforms to predict probability of certain aquatic habitat elements, with good results. Reaches derived from this information will be used to assess historic fire effects in riparian areas stratified by reach, landform setting, and potential vegetation.

Refinement of Riparian Management Objectives (RMO) as described in the PACFISH amendment to the Forest Plan have not occurred during the course of watershed analysis. This issue is proposed for elevation to the Forest scale, because sufficient range of reference sites and natural disturbance states are not available within 1/5 code watershed.

Monitoring Evaluation:

Field reviews and monitoring will continue to be needed to ensure that an accelerated prescribed fire program results in predicted and acceptable effects to riparian areas.



Item 11: Validation of Resource Prediction Models – Water Quality and Fish

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 2-5 years

Variability that would initiate further evaluation: If validation efforts show a need for changes to existing predictive models.



The Forest uses NEZSED, an adaptation of the R1/R4 Sediment Yield guidelines (USDA Forest Service, 1981) to estimate average annual sediment yields. NEZSED model tests were done on natural sediment yield for several first and second order streams in 1987. In 1994, an evaluation of NEZSED on eight 3rd to 5th order streams was completed through a master's thesis. In 1995, NEZSED was tested against sampled data from two larger sub-basins. An effort to summarize and compare results from the model tests on three scales of watersheds was initiated in 1999. No further validation was done in 2001.



RANGE

Item 1g: Animal Unit Months Grazing Permits

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: ± 10 percent of Forest Plan Estimate



Monitoring Results: The Forest permitted approximately 30,190 animal unit months (AUMs) during the FY2001 grazing season. The Forest authorized through the yearly billing process approximately 24,479 animal unit months. Actual use information indicated that permittees in general placed less than the authorized level of livestock on the allotments. Forest-level actual stocking on the allotments was approximately 25 percent less than the current permitted levels.



Item 11: Range Analysis and Allotment Management Plan Updates

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: ± 10 percent of Forest Plan Estimate



Discussion:

On July 27, 1995, President Clinton signed into law the 1995 Rescission Bill (PL 104-19). A portion of the Bill, Section 504, pertained to grazing on National Forest Lands, specifically allotment NEPA analysis, and grazing permit issuance. Under the Rescission Bill, the Forest is directed to issue new term grazing permits as they expire even if the required NEPA analysis has not been completed. The Forest is to schedule the needed and required analysis. All allotments without current or needed analysis must be scheduled within the next fifteen years.

The information contained in the schedule reflects the best information available at this time and is based on current and expected funding levels. The schedule may be updated to reflect changes in resource information, Forest management priorities as a result of Forest Plan Revision and funding. At current funding level and Forest priority, all allotments that need revising will be updated by the year 2015. Due to the work necessary to complete consultation under the Endangered Species Act (ESA) and the necessary administration, the planning effort for allotment revision has been postponed to future years. Once consultation is completed, administration and monitoring is funded for all active allotments, the Forest will review the update schedule and make necessary adjustments based on ESA requirements, monitoring requirements, and current budgets.

Implementation Monitoring

The following grazing guidelines have been incorporated into the Annual Operating Instructions for grazing allotments. The grazing guidelines are used to manage livestock and to estimate the

time when animals need to be rotated away from sensitive stream reaches. The goal of grazing management is to maintain desirable riparian conditions and achieve recovery of streams not in satisfactory condition.

Forage Utilization: 40 percent or less of the current growth by weight, measured during the grazing period.

Shrub Utilization: 40 percent or less of the available current year's growth, measured as a percent of the leader length browsed.

Bank Disturbance: 10 percent of the bank distance.

Forest personnel monitored along stream reaches that were accessible to livestock. Forage utilization, shrub browsing and bank disturbance were estimated as the inspector walked along the designated stream reaches. The percentages represent the average levels found along the stream reaches where monitoring took place.

Evaluation of Monitoring Results

Monitoring suggests that, in general, permittees were successful in meeting the grazing standards stated in the annual operating instructions. Forty-eight riparian areas were monitored for forage utilization and stream bank disturbance. Monitoring by Forest personnel found that all but one of the riparian areas inspected was within the forage utilization and stream bank disturbance standard. At the few locations where use/disturbance met allowable standards, the permittee herded animals to less sensitive areas. Each time this occurred the permittees were notified and the livestock were promptly removed from the problem area. Grazing along many streams was far below the allowable levels prescribed in the annual operating instructions for 2001. Monitoring results and grazing management were reviewed and discussed with the Fish and Wildlife Service and National Marine Fisheries Service to ensure that allotment management was in compliance with the biological assessments.



RECREATION

Item 1a: Recreation Visitor Days

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: If the Forest did not achieve its assigned target for the fiscal year.



Discussion:

The Forest Service is in the process of replacing the old Recreation Information Management (RIM) system with a new database system known as infrastructure or INFRA for short. Meaningful Measures (a sub-database of INFRA) was implemented in the fall of 1999. The Nez

Perce National Forest is updating the database by inventorying 20 percent of sites per year; in fiscal year 2001 up to 60 percent have been inventoried.

Monitoring Results:

Field personnel established baseline recreation use on the Forest through the use of traffic counters, fee campground user information, river permits, trailhead cards, and observation. Field personnel have accomplished annual updates via observation and comparison of current and previous data. Throughout the use of field observation we are able to identify recreational trends, however, we cannot generate statistically accurate recreation use numbers from this technique. Observations in fiscal year 2001 showed higher recreation visitor use than the previous year due to snow pack, lower fire activity, and less restrictions due to fire danger and excessive smoke.

Campground parking areas: The size of vehicles and towing units have increased, exceeding designed spur lengths for recreational vehicles. If these increases continue, sites will need to be modified to provide for use.

Traffic surveillance was reactivated along the roaded recreation corridors of the Selway and Salmon Rivers, as well as the Grangeville-Salmon Road. These checks were activated to record and document use, in addition to increasing accuracy in visitor numbers used in recreation planning and budget calculations.

Evaluation of Monitoring Results:

Currently, Forest recreation use numbers are updated annually based on observations, comparison with previous data, or estimates by field personnel. The fiscal year 2000 Recreation Use Survey was a statistically based survey and was available in mid-2001, but the results are not clear due to the large range of variance in the accuracy.



Item 1b: Acres of Recreation Opportunity Spectrum (ROS) Category

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Following a 5-year period, variation which would indicate that Forest Plan direction requiring a full range of recreation opportunities is not being met, or if the semi-primitive classes are being lost more quickly than specific in the Plan.



Discussion:

The Recreation Opportunity Spectrum (ROS) is used to evaluate the recreation potential of the Forest. This spectrum defines six classes of recreation opportunities on a continuum ranging from primitive (where human disturbance is minimal) to urban (where sights and sounds of people are predominant). These classes are defined in relation to physical settings, recreational activities, and experiences. The Forest has been inventoried, mapped, and divided into four Recreation Opportunity Spectrum classes. Currently, the Forest has no rural or urban class settings.

Monitoring Results:

ROS mapping for the existing situation was completed in 1979. No subsequent mapping has since been done on a Forest-wide basis. Such an effort would be necessary to update Recreation Opportunity Spectrum categories or to determine changes in category classifications due to the implementation of management activities such as timber harvest. A comprehensive review of category changes would also be needed prior to completing the Forest Plan Revision and Plan Area analysis, and to determine if Forest Plan direction is being met.

Evaluation of Monitoring Results:

Upon review of what has been completed using the Recreation Opportunity Spectrum, it is evident that another category, **roaded modified**, needs to be formally adopted. **Roaded modified**, used throughout the Pacific Northwest Region of the Forest Service, has been used in some Nez Perce National Forest analyses. It best describes the recreation spectrum characterized by timber harvest units and road systems, but little in the way of recreation oriented developments. It falls between the semi-primitive roaded and roaded natural categories.

There is a need to review and update the Forest Recreation Opportunity Spectrum maps; along with modifying our existing database to track Recreation Opportunity Spectrum acreage changes.



Item 2a: Off-Road Vehicle Impacts

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Unacceptable impacts caused by off-road vehicle use.



Monitoring Results:

The development of a systematic method to monitor off-road vehicle (ORV) use and impacts has not been a high priority for the Forest. It is generally felt that such use (particularly that of four-wheelers and snowmobiles) is increasing in several areas.

An opportunity to evaluate off-road impacts exists as part of watershed analysis.

Evaluation of Monitoring Results:

A study of off-road vehicle impacts has not been completed and the need for understanding is increasing. Inventory of uses and impacts should be addressed as part of a comprehensive off-road vehicle monitoring plan. It is recommended that evaluation of such impacts be included as part of any watershed analysis.



Item 2b: Adequacy of Cultural Resource Protection, Impacts on Cultural Resources

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: A change in Section 106 of the National Historic Preservation Act of 1966 or other pertinent cultural resource laws and regulations could necessitate altering the cultural resource monitoring procedure to comply with the changes.



Monitoring Results:

During fiscal year 2001, 30 projects were inventoried for compliance with Section 106 of the National Historic Preservation Act, as specified in the Forest Plan. As a result, 8,512 acres were inventoried for cultural resources and 20 new archaeological sites were recorded.

Since implementation of the Forest Plan, several American Indian religious rite areas have been identified on the Forest.

Cultural Resource Inventory Results

Fiscal Year	Number of Projects Inventoried	Number of Acres Inventoried	New Archaeological Sites Recorded
1988	50	3,753	36
1989	22	2,600	17
1990	35	3,137	37
1991	33	4,286	29
1992	33	3,664	37
1993	22	2,290	24
1994	42	3,429	34
1995	71	7,044	42
1996	40	4,605	62
1997	24	1,876	9
1998	34	2,365	23
1999	27	1,101	21
2000	21	1,064	13
2001	30	8,512	20

In addition to the new sites recorded, 73 previously recorded sites were revisited.

Adequacy of Cultural Resource Protection

Fiscal Year	Sites Inventoried	Evidence of Vandalism/Damage
1988	10	0
1989	28	3
1990	7	0
1991	42	2
1992	22	0
1993	32	0
1994	28	0
1995	53	0
1996	71	0
1997	66	0
1998	57	0
1999	50	0
2000	67	1
2001	73	0

Evaluation of Monitoring Results:

None (0) of the 73 sites monitored were impacted. Monitoring of the 73 sites revealed that the recommended protection measures were effective.

One current method being used to monitor cultural resources includes resurveying sites and recording any visible effects or changes. This information is documented in site report amendments or updates.

For Forest projects or undertakings with cultural sites, measurements were established for accurately monitoring sites eligible for the National Register of Historic Places. This was accomplished by identification of a permanent datum or controlled mapping point for each site. Recording bearing and distance measurements from the site datum to its boundaries and associated features allowed us to detect and document any changes or effects on a site during monitoring.

With the current cultural resource management funding level, it is not feasible to implement this procedure for all known cultural sites (including the ones outside of proposed project areas). An increase in the Heritage budget will be needed in order to develop a systematic procedure for more precise monitoring of sites. This is particularly needed for sites that are surrounded by ongoing management activities or are located along highly used areas such as the Salmon and Selway Rivers.

Heritage Projects:

The following were projects undertaken by the Heritage Department of the Nez Perce National Forest. These projects demonstrate the Forest's adherence to Section 110 of the National Historic Preservation Act of 1966.

The Nez Perce National Forest participated in Idaho Archaeology Week by hosting a display on the history of fire lookouts on the Forest. The public, as well as employees attended a slide show and presentation presented by John Crawford, Indian Hill Lookout. Mr. Crawford's

presentation included information on the history of lookouts in the area and included many beautiful photographs taken during his nearly 30 years on the lookout and also of historic lookouts on the Forest. Interest in the subject was high and everyone involved learned a great deal about the history of Nez Perce National Forest lookouts and their importance in the current fire prevention program.

The Nez Perce National Forest hosted a Passport in Time (PIT) project at a National Register of Historic Places eligible prehistoric campsite along the Selway River. Eight volunteers contributed 322 hours to the excavation project. Results of carbon analysis of materials recovered during the project indicate that the site is at least 4,080 years old. The PIT project provided volunteers with an opportunity to work alongside Heritage personnel and learn more about the field of archaeology and specifically about the prehistory of the Selway River drainage.

Restoration work continued on the National Register of Historic Places eligible Square Mountain Lookout located on the western edge of the Gospel Hump Wilderness. This log lookout was constructed in 1931 by the Forest Service to aid in the detection of fires in the area. During 2001, the shake roof was replaced with the assistance of volunteers.



Item 2c: Limits of Acceptable Change in Wilderness

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: If, after a 5-year review period, changes in wilderness exceeded acceptable limits.



Monitoring Results:

A comprehensive wilderness-wide report has been prepared for the Selway-Bitterroot Wilderness entitled: “**Selway-Bitterroot Wilderness 2000 State of the Wilderness Report.**” It contains a detailed monitoring report for the Selway-Bitterroot Wilderness. A copy is available upon request.

The Nez Perce National Forest continues to replace substandard signs in all three wildernesses as funding levels allow.

The following is a summary of wilderness implementation plans, Limits of Acceptable Change (LAC) planning, and wilderness fire plans for the Nez Perce National Forest:

Selway-Bitterroot:

This wilderness is managed under the Selway-Bitterroot Wilderness General Management Direction, 1992. This original document was signed by the Northern Regional Forester in 1982 and was replaced with the 1992 General Management Direction by a Nez Perce National Forest Plan amendment.

The 1992 amendment includes Limits of Acceptable Change planning for recreation, trails, and airfield management. Updated management direction for vegetation was added to the General Management Direction in 1996.

The fire management plan, suspended in 1988, was revised in May of 1990, and put into effect during the 1992 fire season. The current fire management plan was revised in June of 1999. The plan does not allow for planned ignition.

Gospel Hump:

A management plan for the Gospel Hump Wilderness was completed in 1985 and incorporated by reference into the Forest Plan for the Nez Perce National Forest. Campsite condition inventories are completed annually, as funding allows, establishing baseline information for the LAC process.

The fire management plan, suspended in 1988, was revised, and put into effect for the 1993 fire season. The current fire management plan was revised in 2000. The plan does not allow for planned ignition.

Frank Church River of No Return:

A coordinated environmental impact statement is being prepared for management of this wilderness. Campsite condition inventories are completed annually, as funding allows, establishing baseline information for the LAC process.

The fire management plan, suspended in 1988, was revised, and put into effect for the 1990 fire season. The plan allows for planned ignition. A revised plan is currently being developed with the expectation of completion prior to the 2002 fire season.

Coordinated Wilderness Management

Coordination of wilderness management programs and activities among adjacent administering units of the same wilderness has improved greatly. Results of this coordination are evident in all wildernesses administered by the Nez Perce National Forest.

Preseason and on-the-ground coordination meetings were held in 1996 for the Gospel Hum Wilderness, administered entirely by the Nez Perce National Forest (Red River and Salmon River Ranger Districts).

Coordinated management of the Selway-Bitterroot Wilderness (SBW) has been formalized by creating the SBW Leadership Policy Council and Steering Group comprised of members from the Clearwater, Bitterroot, and Nez Perce national Forests, as well as the Northern Regional Office. An annual SBW public meeting was held on May 4, 2002.

A similar coordination structure has been established for the Frank Church River of No Return Wilderness (FCRONR). It consists of a lead working group and board of directors. The lead working group is comprised of rangers from each district charged with management of the FCRONR, whereas the forest supervisors of the Nez Perce, Payette, and Salmon-Challis National Forests staff the board of directors. The Nez Perce National Forest continues to manage 193,000 acres previously administered by the Bitterroot National Forest.

Evaluation of Monitoring Results:

Coordinated wilderness management efforts are resulting in better, more consistent management on the ground. Improved budget accountability, wilderness planning, and better coordination among all managers of a particular wilderness are all evident. Specific accomplishments, including monitoring efforts, are included in the individual annual reports prepared for each wilderness.

A great deal of effort is being directed towards completing the environmental impact statement for the Frank Church River of No Return Wilderness.

Wilderness management continues to be closely scrutinized at the local, regional, and national levels. Concerns raised most frequently by wilderness managers include funding, personnel (especially with workforce and funding reductions), and a continuing need to better communicate with the public and Forest Service employees regarding the proper use and management of wilderness.



Item 2d: Achievement of Visual Quality

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: After 5 years of monitoring, an assessment indicates visual quality objectives are not being met.



Monitoring Results:

Visual Resource Management classes were mapped forest-wide prior to the development and implementation of the Nez Perce National Forest Plan. The major task remains to review the inventoried and interim visual resource management objectives and adopt them to meet current on-the-ground conditions and Forest Plan direction.

An important step toward achieving visual quality direction occurred in 1989 with the approval of Forest Plan Amendment #4. This amendment added definitions to aid in understanding the terms **adopted**, **inventoried**, and **interim** visual quality objectives. It modified existing standards to remove inconsistencies in visual quality objectives, to make the standards more attuned to procedures described in United States Department of Agriculture Handbook 462, **The Visual Management System**, and to specify a methodology for documenting visual quality objective decisions. Visual quality objectives are now **adopted** for all or part of 34 USGS 7.5 min quadrangles (Wildernesses mapped on all or part of 52 quads). These maps are filed at the Forest Headquarters Office.

Visual quality is being considered and documented in most on-the-ground activities. The Forest continues to use paraprofessionals to provide assistance on a project-by-project basis. Documentation of updates/revisions to visual quality objectives should be more consistent.

Agency-wide, the Visual Resource Management system is being replaced with a new system called **Scenery Management System**. This process incorporates a public involvement component to assist with the determination of scenic values and objectives. The Forest is beginning to incorporate some of the concepts of the new system into different types of analysis, however, the Visual Resource Management system is still the primary program used for analyzing scenic resources. The landscape character, scenic integrity, and recreation opportunity spectrum chapters of the Scenery Management System have been used on recent Forest assessment projects.

Evaluation of Monitoring Results:

Progress in understanding and achieving adopted visual quality objectives is being made on most districts. The scenic resources inventory will use the Scenery Management System handbook. Monitoring and evaluation efforts should be organized and outlined as to type and process. A complete move to the process should occur with the Forest Plan revision.



Item 2n: Management of Designated or Eligible Wild, Scenic, or Recreational River Segments

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Following a 5-year period, information that would indicate management direction for designated eligible wild, scenic, or recreational rivers is not being followed.



Introduction:

The Forest leadership team identified river recreation as one of the high priority programs for fiscal year 1998. In 1994, the Forest was included in the **Wild River Country** subcategory of the Northern Region's Recreation Strategy, with a primary focus on river dependent uses. This attention is understandable considering the Nez Perce National Forest is responsible for management of four classified rivers (Selway, Rapid River, Clearwater, and Main Salmon). In addition, the Forest is adjacent to other classified rivers (Snake River in Hells Canyon, Lochsa, and Middle Fork of the Salmon River). Also, suitability studies have been conducted on ten Forest rivers for possible inclusion in to the classified rivers system and six others have been identified as eligible.

Current Situation:

These rivers provide a wide spectrum of opportunities for public use and enjoyment:

- The Selway and Middle Fork of the Salmon are true wilderness rivers. The Selway is pristine, with one launch per day allowed. The Middle Fork provides opportunities to float over 100 miles with the Frank Church River of No Return Wilderness.
- The Lochsa offers exceptional kayaking and is easily accessed from U.S. Highway 12.
- Rapid River was classified primarily to protect water quality for anadromous fish and is popular with hikers and stock groups.
- The Middle Fork of the Clearwater, which also parallels U.S. Highway 12, provides unlimited access to floaters and power boaters.
- The Snake and Main Salmon Rivers flow through Wildernesses, presenting the public with opportunities for floating and powerboat experiences. Many portions of both rivers are accessible by motor vehicles, aircraft, hikers, and via horseback.

Private inholdings along all of these rivers present challenges and opportunities to river managers. Partnerships have been successfully used in collaborative management of resources and preventing or minimizing degradation of the natural setting.

The following is a list of the classified rivers the classified rivers the Nez Perce National Forest is partially responsible for managing.

Classified Rivers on the Nez Perce National Forest

Attribute	Salmon River	Rapid River	Upper Selway River	Lower Selway River	Middle Fork Clearwater River
Length	79 miles	13 miles	42 miles	19 miles	10 miles
Wild & Scenic Designation	Wild	Wild	Wild	Recreation	Recreation
Recreation Opportunity Spectrum	Semi-Primitive Motorized to Roaded Natural	Primitive to Semi-Primitive	Primitive	Roaded Natural	Roaded Natural
Resource Values and Activities Associated with River	Motorboats, rafting, private property *including scenic easements), trails, several miles of primitive roads, airstrips	Grazing, trails, outstanding water quality	Rafting, trails, some private property, outstanding water quality	Developed recreation, roads, rafting, and private lands	Roads, developed recreation, powerboats, private lands

Accordingly, river management on the Nez Perce National Forest must be viewed in a regional and national context considering how our rivers contribute socially and ecologically to the Wild and Scenic River system.

A report on this time (2n) was included in the **FY 1999 Annual Monitoring and Evaluation Report**. The next report will be in the **FY 2004 Annual Monitoring and Evaluation Report**



FIRE, INSECTS, AND DISEASE

Item 1k: Acres and Numbers of Wild and Prescribed Fires

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years (last report was in FY 1997)

Variability that would initiate further evaluation: Unusual number of person-caused fires over the 10-year average, indicating a trend of specific cause(s). Unusual number of acres burned is unexplainable, such as unusually severe fire danger based on the burning index and the energy release component. Unusually high cost of fire suppression (over the 10-year average); inability to meet expectations contained in the National Fire Management Analysis for the Forest as per budget level allocated for current year.



Monitoring Results:

Fire & Aviation Management Preparedness

Our goals are to prevent, suppress, and manage fire commensurate with resource values to be protected, while recognizing the role of fire in the ecological processes. We will implement the five Key Points of the National Fire Plan (NFP) which are; firefighting preparedness, restoration and rehabilitation of burned areas, hazardous fuels treatment, community assistance, and accountability. The NFP is the Plan of Work identified in *The Impacts of Wildfire on Communities and the Environment, A Report to the President In Response to the Wildfires of 2000*.

Our objectives in 2001 were to:

Implement the Region 1 Workforce Plan; adding additional firefighting positions (key point #1 & #5).

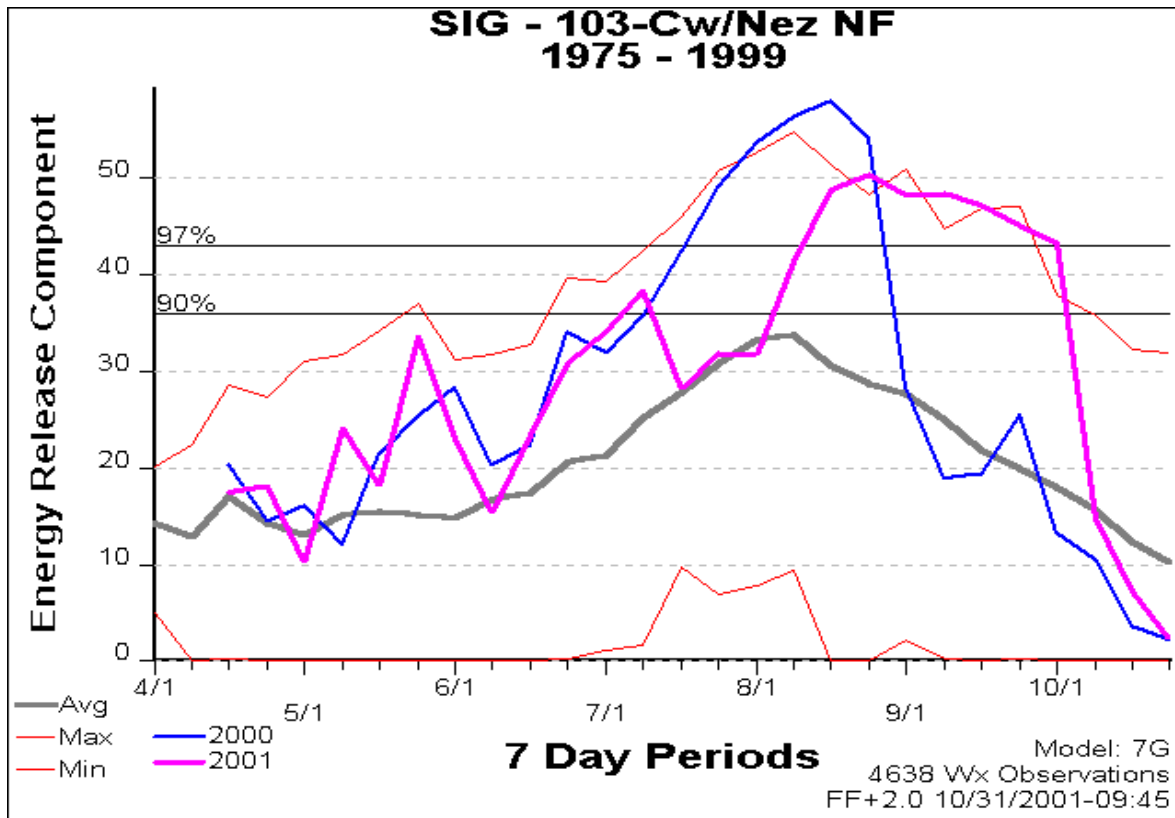
Continue to stress **SAFETY** as the first priority in all fire management activities with special emphasis on the aviation program.

Integrate "*Ecosystem Management*" concepts into fire management programs. Look at ways to utilized and incorporated fire treatment into sustaining healthy ecosystems, concentrating on restoration of fire adapted ecosystems (key point #2).

Continue fire use to accomplish management objectives for hazardous fuel reduction, site preparation, wildlife habitat improvement, and ecosystem management through prescribed fire and wildland fire use programs (key point #3). Continue wildland fire use implementation consistent with the Forest Plan and National Fire Policy.

Continue cooperation with other fire protection agencies; and evaluate fire protection boundaries to promote economic and efficient fire suppression. Work with communities to increase fire protection capability and support expansion of economic diversity (key point #4).

The winter of 2001 was quite mild with temperatures well above normal and snow pack well below normal. The 2001 fire season proved to be challenging, drought conditions developed through the winter and very high to extreme fire danger conditions existed by mid-summer. The graph displays 2001 fire danger for the fire weather zone that covers the Nez Perce Forest. Fire danger rose steadily from early June, and was above average throughout the summer. The average and maximum lines on the graph use 1975 through 1999 weather data, the 2000 and 2001 data show that the past two summers have been significantly above average. By August burning conditions became more severe with Energy Release Components (ERCs) and Burning Indices (BIs) above the 90th percentile, they remained there for nearly two more months.



The Forest continued implementation of the Federal Wildland and Prescribed Fire Management Policy. This policy was adopted nationally in 1998, incorporates nine (9) guiding principles, and provides consistent fire management direction for all federal agencies.

Funding to protect Forest resources from fire is based on the National Fire Management Analysis System, an analysis tool designed to determine the most efficient level of fire protection budget. This analysis is based on fire history, fire weather, and past organizational levels. It then establishes the most cost efficient mix of personnel, equipment, and budget needed to provide firefighting resources to meet land management objectives. The program was last certified in 1997 and the most cost efficient organization was determined, costs to produce MEL are updated annually through out year budget submissions.

The Forest's budget request for 2001 was \$3,548,000.

The Forest received the most efficient level of funding, up significantly from of \$2,732,000 for FY2000.

The Forest had 36 personnel actions adding or promoting permanent seasonal firefighting positions. Six fire management apprentices were selected and trained.

Clear/Nez Fire Zone met with Fire Cooperators on a number of issues and programs, including the development county disaster plans, community protection, hazardous fuels treatment around communities, and on economic development strategies.

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Number of Fires

Type of Fire	7	1998	1999	2000	2001	5-Year Average
Lightning Fires	69	189	145	139	68	122
Person-caused	5	5	16	7	14	9
Total	74	194	161	148	72	135
Wildland Fire Use (Not included in total)	17	19	31	2	17	17

The Forest hosted two large fires in 2001, Taco and Earthquake. The Taco Fire was an escaped lightning fire on the Salmon River District that eventually burned 3,350 acres. The Earthquake fire was a person caused event on the Clearwater District that burned 1260 acres.

Person-caused fires were common near Grangeville on lands protected by Idaho Department of Lands and the Nez Perce Forest. The number of person caused fires and resulting acres were considerably above average. A fire investigation task force was formed and staffed by several agencies, to combat the suspected arsonist. IDL and the Forest jointly staffed and managed many local incidents. Additionally the two agencies cooperatively established a staging area in Grangeville in preparation for additional incidents.

**Acres Burned by Wildland Fire
1997-2001**

Type of Fire	1997	1998	1999	2000	2001	5-Year Average
Lightning Fires	26	2,344	49	33,073	3,364	7,771
Person-caused	3	1	1,752	5	1,376	627
Total	29	2,345	1,801	33,078	4,740	8,398
Wildland Fire Use (Not included in total)	16	1,734	1,272	20	7,249	2,058

Additional data is available in the Clearwater/Nez Perce Fire Zone Aviation and Fire Management Annual Report.

Prescribed Fire

Spring burning conditions were conducive to good accomplishment in the river breaks grass and brush fuels.

An interdisciplinary team established for the Salmon River Canyon Project continued an interagency and multi-forest effort to produce an environmental impact statement. The project proposal was modified based on the fires of 2000, which burned within several project watersheds; the project now proposes to treat slightly over 100,000 acres on the Nez Perce Forest.

The projected outputs for activity fuel treatment and hazardous fuels treatment were 6265 for the 1998 the 2007 period in the Forest Plan. The Nez Perce National Forest accomplished 13,297 acres of hazardous fuel treatment and 1060 acres of brush disposal treatment. This exceeded the expected Forest Plan outputs for fuels treatment. Our fuels treatments are

expected to continue near the current level with a focus on Wildland Urban Interface treatments and in dry habitat type outside their range of natural variability. Year-end review of BD (trust fund) balances showed adequate funding available to complete all planned work.

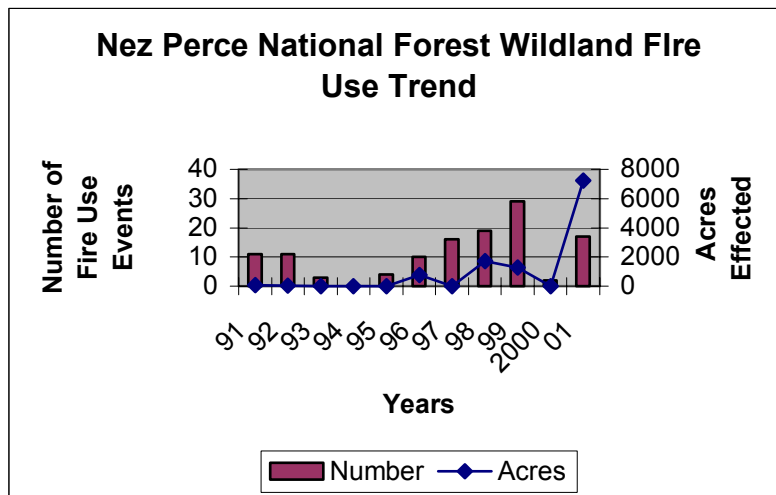
The Ranger Districts reviewed several prescribed burn projects, including Elkhorn Jersey. The monitoring of these projects shows that they are meeting objectives and that sensitive resources are being protected. Each district is also reporting burned acres for wildfires, wildland fire use, and prescribed fire, and the percentage of riparian areas burned as part of the Programmatic BA for anadromous fish.

Wildland Fire Use

Within the three Wildland Fire Use areas on the Nez Perce Forest (Gospel Hump, Frank Church River of No Return, and Selway Bitterroot), 17 fires were managed for benefits, burning 7,249 acres in FY 2001. The Wildland Fire Use program was constrained by high fire danger (National Preparedness Level 4 and 5 preclude additional Wildland Fire Use events) and a lack of support and suppression resources.

Wildland Fire Use events were very limited until the mid September storms provided more starts. Dry and warm conditions persisted for approximately 3 weeks after these ignitions resulting in 7,249 acres of Wildland Fire Use. District Fire Managers managed these events with a modest amount of outside support.

The Forest has been a leader in using lightning ignitions to capture the benefits of fire in fire dependent ecosystems. Wildland Fire Use for Resource Benefits has grown steadily over the past decade. Our increasing experience with beneficial fire and line officers willingness to take risks, have combined to increase the acres positively effected by fire use. (See chart below)



The Nez Perce National Forest, along with other federal, state, and private agencies of the North Idaho Airshed Group, continued their dialogue and cooperation to minimize or prevent the accumulation of smoke in Idaho to meet state and federal ambient air quality standards. (See the air quality discussion.)



Item 7: Insect and Disease Activity

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Significant increases in population or damage levels of insects or diseases.



Monitoring Results:

Douglas-fir bark beetle: In 2001, Douglas-fir bark beetle populations expanded rapidly around the 2000 Burnt Flats fire. Pheromone baits were used to attract the beetles to weaker trees and allow some of the fire-damaged trees to recover without being attacked by the beetle. Oregon State University entomologists assisted with the work and are monitoring both beetle populations, and pheromone effectiveness. Beetle populations elsewhere on the forest remained at the higher levels found in 2000.

Mountain pine beetle: Mountain pine beetles at Red River killed more trees in 2000. They have now expanded to almost all stands that contain medium to large lodgepole pine in the upper South Fork Clearwater basin. Intensity of attacks within those stands is increasing, and numbers of trees killed per acre is up from 6-10 in 1999, to 10-20 in 2000. Forest Health Protection specialists continue to monitor mountain pine beetle conditions. Forest Health Protection personnel expect that mountain pine beetle populations in lodgepole pine on the Red River district will continue to rise for the next three to five years. Mature lodgepole pine cover types may be functionally removed across the upper South Fork Clearwater basin.

Mountain pine beetle is also affecting whitebark pine forests, and mortality was particularly severe at Nut Basin and Southwest Butte on the Salmon River District.

Western balsam bark beetle: Mortality from this beetle and from the balsam wooly adelgid is difficult to distinguish from aerial surveys. Both are part of a larger complex of pests responsible for a general decline in subalpine fir throughout its range. Aerial surveys on the Nez Perce National Forest show intermingled patches of mortality from both his beetle and the adelgid. The effects of the two insects, together with other unidentified pests, have resulted in widespread mortality in subalpine fir here. Mortality attributed to the bark beetle is concentrated in the higher areas of the Forest, across the headwaters of Newsome Creek and American River, and the Orogrande Summit/Dixie area.

Balsam wooly adelgid: This insect was first detected in Idaho in the early 1980s. It infests true firs and is particularly destructive to subalpine fir, which it can kill in as few as three years. Higher areas of the Forest, across the headwaters of American River and Newsome Creek, and on Coolwater Ridge, have been experiencing annual mortality attributed to this insect. The recommendation from Forest Health Protection is to establish impact plots in areas with ongoing mortality in order to assess the effects of the adelgid.

Root rots: In combination with various bark beetles, root rots are causing a pervasive loss of canopy cover. *Armillaria* root disease is affecting both Douglas fir and grand fir. *Schweinitzii* root rot is affecting Douglas fir. *Annosus* root disease is affecting large, old ponderosa pines and Douglas-firs and contributing to their decline.

White pine blister rust: Whitebark pine is being severely affected by blister rust, and is a major contributor to a precipitous decline in whitebark pine populations.

Anthracnose: This fungus continues to affect the coastal disjunct population of Pacific dogwood in the Selway River drainage. Mortality has been high, and surviving plants are in poor condition. Monitoring plots have been established and are checked periodically as funding permits. No change in the downward trend is evident.

Evaluation of Monitoring Results

- Mortality in subalpine fir, affecting forest composition, structure, and density, could have long-term effects on lynx habitat.
- While losses from bark beetles and root rots are not at a critical level yet, continued losses could reduce canopy levels to the point that watersheds are affected. Concentrations of dead trees are certainly a risk factor for Wildland fire ignition, especially over the next 10 years as dead trees fall to the ground. The Red River drainage in particular is at risk to fire ignitions and has the potential to cause additional damage in a watershed system already below standard.
- Large, old ponderosa pines, a unique resource, are at risk from a combination of *Annosus* root disease, stem decay (predisposes the tree to being killed even by small ground fires), bark beetles, and wildland fire with increased fuel loads.
- Whitebark pine forests are continuing to disappear due to the combined effects of blister ruse, mountain pine beetle, and a lack of regeneration opportunities.

Subbasin and watershed assessments have recognized these disturbance processes, and their role in the ecosystem. Project analyses and subsequent vegetation treatments address them as they occur in project areas. Silvicultural prescriptions will incorporate a further step-down of the broad scope of ecosystem processes to individual stands, so that treatments are consistent with ecosystem functioning. Annual monitoring of insect and disease conditions will continue, and contribute to our understanding of disturbance trends.



FACILITIES

Item 2k: Mitigation Measures Used for and Impacts of Transportation Facilities on Resources

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: If reviews or studies indicated that mitigation was not being implemented as specified or if effectiveness was not near the levels predicted.



Discussion:

Facilities on the Nez Perce National Forest include buildings, administrative sites, property boundaries, and the Forest road and trail transportation system. Construction and maintenance of all facilities improves the safety and health of both Forest employees and the visiting public.

Buildings and Administrative Sites

Monitoring the health and safety of Forest buildings and administrative sites is not a monitoring requirement of the Forest Plan. Federal, state, and local laws and regulations govern the construction, maintenance, and use of structures, potable water systems, and sewage treatment systems.

Due to a program of regular annual inspections and forest-wide prioritization of maintenance projects, all Forest buildings, water systems, and waste water systems that are in use meet basic structural and public health and safety standards. When new research reveals potential hazards to employees and Forest visitors, testing and monitoring is done and mitigation or removal is completed to prevent human exposure to hazardous materials such as lead, radon, and asbestos in buildings, air, and water. Results of long-term radon monitoring on a regular basis across the Forest show that radon levels are acceptable except in the Slate Creek Office, where further radon mitigations measures were implemented in 2000.

Construction work completed in 2001 included the Grangeville Air Center loft addition and a new warehouse.

Major repair and maintenance projects included a main underground power line replacement at Red River Ranger Station and installation of a water meter to record water usage at the Elk City Ranger Station for the local Water District.

The Forest has three “public community” water systems that serve the Fenn, Red River, and Slate Creek Ranger Stations. There are also two seasonal work center systems and ten seasonal use lookout and recreation water systems currently operating. One system is operated by a recreation site permittee. Bacteriological monitoring of all operational water systems is completed monthly. Due to problems with aging water collection and distribution systems along the Selway River, four small campground water systems were closed and will remain closed until funding is obtained to rehabilitate the systems. This year, extensive chemical testing was required for all our public community systems. These tests were completed and showed no water quality problems. If any systems fail quality requirements, the problems must be corrected or the system closed to use.

The Forest maintains three sewage treatment plants, one each at Fenn, Red River, and Slate Creek Ranger Stations. Effluent from these plants is tested monthly in accordance with each site’s National Pollution Discharge Elimination System (NPDES) permit requirements. The information from these tests is forwarded to the Environmental Protection Agency.

Property Boundaries

There are approximately 450 miles of boundary between Forest land and private landowners. Three hundred forty nine (349) miles have been retraced and posted to standard with approximately 113 miles remaining to be posted. In addition to the property lines, there is an estimated 330 miles of wilderness boundaries on the Forest. Maintenance of the existing posted boundaries continues at about 25 miles per year. Due to more difficult terrain and areas where corners have not been reestablished for nearly 100 years, the rate of boundary location is now about 4 miles per year.

With the advent of the new IBM computer system, the Land Net is being loaded into Automated Lands Program (ALP) for a GIS layer.

Right of Ways

Although no new roads or trails are planned across private property, the Forest has a substantial backlog of roads and trails, which have been managed under prescriptive/appropriate rights. The Forest is currently working on several rights-of-ways.

Transportation System (Roads and Trails)

Monitoring is conducted during project planning, implementation, and throughout the duration of use. Project planning provides rationale for required mitigation. Upon implementation, monitoring is continuous during contract administration as documented in contract daily diaries and during program management as documented in the facility maintenance records.

Monitoring is also performed during interdisciplinary project reviews and in the annual program review.

Mitigation is accomplished using a combination of practices and specified measures. Five specific practices are:

1. Transportation Planning, which is a detailed office effort using maps, photos, historical data, GIS data, land hazard information, and geotechnical information to identify and avoid possible stability problems and mass hazard areas and to hold road mileage to the lowest possible.
2. Route location, which ground-truths the results of the planning, refines locations, and provides further information on possible problem areas.
3. Contract preparation, which assures that mitigation measures are incorporated into drawings and specifications to be followed when the facility is built.
4. Administration, which assures compliance with the contract.
5. Maintenance, which assures that the facility continues to function and provide the level of mitigation originally intended.

In addition to Best Management Practices and the practices listed above, specific design measures can be employed to reduce effects of facilities on resources. Some of these measures are:

1. Designed and controlled cut slopes, fill slopes, road width, and road grades. These effectively reduce sediment production by fitting the roads to the land.
2. Designed and controlled ditches, cross drain spacing, and culvert discharge. These prevent water from running long distances over exposed ground. Dewatered (dry) culvert installations and special drainage such as rock filter blankets and rock buttresses were demonstrated to be effective in the Horse Creek study.
3. Stabilization of road surface and ditch lines with competent rock (rock that does not rapidly disintegrate). The effectiveness of this measure in reducing surface erosion from these sources is dramatic, often over 90 percent.
4. Slash filter Windrows. This measure was developed on the Nez Perce Forest as part of the Horse Creek study. It consists of placing logging slash at the base of fill slopes and below culverts where fish passage is not required. It is very effective treatment; sediment leaving fill slopes is reduced by 80 to 90 percent.

5. Seeding and fertilizing cut slopes, fill slopes, and other disturbed areas. The objective is to reduce soil erosion from these sources after one growing season. Effectiveness has been rated at 85 percent or better once vegetation has become established.

Some of these measures are immediately effective, such as culvert dewatering. Slash filter windrows are effective immediately and during the first few years; after that they may become near capacity and in some instances begin to decompose. By that time though, revegetation becomes established and more effective.

Additional mitigation, in the form of project design in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service through the Level 1 consultation process, is not an integral part of every project. This process has been established in response to requirements of the Endangered Species Act. As a result of this process, each project receives joint evaluation and assessment of potential impacts and site specific mitigations are selected to address potential for resource impacts.

Monitoring Results:

Implementation Monitoring

All engineering projects for FY 2000 included specific mitigation measures to reduce the impact of facilities on resources. The following mitigation measurers were used (not all were used on every project).

- Windrowing of construction slash at the toe of fill slopes;
- Rock surfacing of the entire road or at contributing areas;
- Layer placement and compaction of major fills;
- Grass seeding and fertilizing of cut/fill slopes and disturbed areas;
- Rocking of ditch lines;
- Straw bales to control erosion.
- Temporary waterbars to control erosion;
- Special project specification 204 (SPS 204) to control timing of installation of mitigation measures;
- Installation of gates and/or barriers to control traffic;
- Permanent waterbars (for trails);
- Controlled Timber haul;
- Placement of durable pit run rock blanket on fill slopes at major culvert installations to control erosion;
- Installation of drop inlets at critical locations to control erosion; and
- Construction of rock buttress retaining structures.

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Mitigation Measures Implemented on Projects Awarded in FY 2001

Project	1	2	3	4	5	6	7	8	9	10
650 Gabion Repair	N/A	N/A	X		X		X	X	N/A	X
243 Road Repair	N/A***	N/A	X				X	N/A	N/A	X
Lucky Marble Timber Sale	N/A	N/A	X	X	X	X	X	N/A	N/A	X
2021 Timber Sale	60-80	N/A	X		X	X	X	N/A		X

***No sediment mitigation specifically planned, however the repair of this BST surfaced roadway will reduce sediment.

- Table Key:**
- 1 – Planned Sediment Mitigation (%)
 - 2 – Windrow Slash
 - 3 – Asphalt/Rock Surfacing
 - 4 – Rock Ditches
 - 5 – Grass Seeding Fertilization
 - 6 – Straw Bales/Mulch
 - 7 – SPS 204
 - 8 – Layer Place Fills
 - 9 – Temporary Waterbars
 - 10 Gates, Traffic Control

Road Construction Levels – Nez Perce National Forest (MAR)

Year	Reconstruction/Deferred Maintenance (Miles)**	Construction (Miles)	Obliteration (Miles)
Forest Plan	30	53	N/A
1988	53	53	
1989	152	37	
1990	91	49	
1991	144	84	
1992	101	30	2
1993	77	30	2
1994	5	14	0
1995	A2	9	5
1996	4	5	3
1997		0	10
1998	21	0	18
1999	27.5	0	22.3
2000	13.1	0	19.9
2001	6.6	0	28

**Beginning in FY 2001, these figures represent deferred maintenance in accord with national definitions established with roads policy.

Road Maintenance

The level of maintenance varies by road. Level 1 maintenance is applicable to roads with no motorized traffic and addresses priority items to prevent resource damage. Level 2 maintenance is applicable to roads maintained for high clearance vehicles. Maintenance levels 3 through 5 are performed on the open road system maintained to provide for passenger care

travel. Two hundred eighty-five miles of road were maintained to management objectives, compared to 1,911 miles maintained in FY 2000.



Item 2I: Adequacy of Transportation Facilities to Meet Resource Objective and User Needs

Frequency of Measurement: Continuous

Reporting Period: 5 years

Variability that would initiate further evaluation: If public opinion is significantly against the Nez Perce National Forest access management program or the program shows serious negative impacts upon resources.



Discussion:

The monitoring of this item is continuous. Due to the nature of transportation systems, their impacts upon management and use of the Forest, monitoring is both important and complex. Consequently, monitoring information comes from a variety of sources: Facility maintenance records, environmental assessment documents, public letters and requests, and biological evaluations. The Nez Perce Access Management Guide also contains methodology and documentation designed to assist in monitoring.

Monitoring Results:

Access Management

Road System

- Inventory:

The current Forest inventory (October 2001) shows 3,904 miles of road in the Forest Service Road system. Of this, 958 miles are open and the remaining 2,946 miles are either closed to all vehicular traffic or have use and vehicle restrictions on them.

In 2001, the Forest updated the "Road and Trail Access Guide" (an itemized listing of access prescriptions for Forest roads and trails). This was produced as a complement to the Forest Visitor Map in an effort to provide more complete information to Forest visitors.

Trail Systems

The Forest Plan did not project the trail miles to be maintained each year. The present Forest trail inventory includes 2,906 miles of Forest Development Trails.



MINERALS

Item 2m: Adequacy of Mining Operating Plans and Reclamation bonds

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 5 years

Variability that would initiate further evaluation: Operating plans that need to be updated, modified; bonds that need to be increased, decreased, or return; or case files that can be closed out.



Monitoring Results:

In order to meet Forest Plan direction in minerals, it is necessary to have Plans of Operations that contain adequate measures to protect surface resources. It is also important that mining operations be implemented in accordance with the approved plans. Reclamation bonds must be adequate to cover reclamation of areas disturbed by mining. However, once the operator completes reclamation work, the bond needs to be released. This item measures how well the Forest is implementing the Forest Plan in these areas. Monitoring data is obtained from case files, routine inspections by district employees, and interdisciplinary team field reviews.

There were 29 active Plans of Operation in fiscal year 2001, as displayed by the following table:

Ranger District	Active Plans of Operation	Plans Needing Modification	Bonds Needing Revision	Bonds Needing Release
Salmon River	9	0	0	0
Clearwater	0	0	0	0
Red River	20	0	0	0
Moose Creek	0	0	0	0
Total	29	0	0	0

The Forest Plan management direction for minerals states, “Exploration and development of mineral resources will be facilitated by providing timely responses to Notices of Intent and Operating Plans.” In recent years issues concerning cultural resources, threatened and endangered fish species, in addition to greater analysis needs relating to watersheds and riparian areas, have greatly slowed response times to mining proposals. Regulation timeframes are not met. The minerals budget is down from previous years, that combined with a smaller workforce means we will probably not be able to correct this problem.

In fiscal year 2001 the Forest continued to monitor and administer recreational suction dredging to prevent conflicts with ESA listed fish species. Administration of existing plans of operations was highest priority throughout the year.

The following table compares the above figures with those from previous years. Zero percent in each category would indicate the lowest degree of variation from Forest Plan direction.

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Year	Plans Needing Modification (% of total plans)	Bonds Needing Revision (% of total plans)	Bonds Needing Release (% of total plans)
1998	13%	11%	Unknown
1989	6%	15%	7%
1990	9%	9%	8%
1991	7%	15%	3.5%
1992	4%	6%	0%
1993	20%	54%	23%
1994	6%	121%	50%
1995	1%	64%	24%
1996	<1%	39%	13%
1997	15%	37%	4%
1998	44%	44%	0%
1999	7%	6%	0%
2000	<1%	0%	0%
2001	<1%	0%	0%

There are still some instances of unnecessary disturbance to surface resources due to unauthorized mining operations. In fiscal year 2001, we saw a reduction in interest by large mining companies, but a continued interest by recreational miners.



ECONOMICS

Item 3: Cost of Implementing Resource Management Prescriptions

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Changes in appropriations and expenditures to the degree that accomplishment of the Forest Plan’s long-term goals and objectives are affected will necessitate a Forest Plan amendment.



Discussion

The Forest’s future program is reviewed and updated annually. Future program planning is no longer an attempt to project costs of fully implementing the Plan. Instead, the Forest redistributes funds among resource areas to show current priorities, but with a total similar to past funding levels.

Monitoring Results

Table 2, found at the beginning of this report, displays budget allocations and actual expenditures for the fiscal years 1999, 2000, and 2001. Dollars have been adjusted to constant FY 2001 values.

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Table 3, also found at the beginning of this report, displays projected annual costs for FY 2002.

Corresponding activities and outputs for the years 1999, 2000, and 2001 are displayed in Table 1.

Evaluation of Monitoring Results

Past monitoring has shown that funding received has consistently been less than full Forest Plan funding levels. This situation is likely to continue. It is unclear what effect these decreased budgets will have on the long-term goals and objectives of the Forest Plan. However, the activity and output levels of some resources projected at full Forest Plan funding levels have not been attained and will likely not be attained in the future.

\$ Implementation Funding
(in millions of dollars)
FY 1988-2001

Fiscal Year	Expenditures	Planned
1988	17.4	
1989	19.2	
1990	20.1	
1991	20.0	
1992	18.0	
1993	20.5	
1994	21.4	
1995	24.4	
1996	19.6	
1997	16.7	
1998	18.0	
1999	17.5	
2000	16.0	
2001	19.4	
2002		17.9

The previous table displays funding levels expended by the Forest over the past 13 years and the project funding level for FY 2002. Dollars for all years have been adjusted to 2001 dollars. The effects of this funding level can be seen in the sections of this report describing individual resource areas.



Item 3a: Forest Resource Derived Revenues

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: 10 years

Variability that would initiate further evaluation: Any change in resource-derived revenues altering the implementation of Forest Plan long-term goals and objectives will necessitate a Forest Plan amendment.



Discussion

Resource outputs to which dollar values were assigned constitute the priced benefits included in the FORPLAN PNV (Present Net Value) calculations. While both market and non-market benefits were used in the Forest Plan to determine total price benefits, only certain resource benefits were used to determine the allocation and scheduling of prescriptions in FORPLAN. Only timber and range revenues are used in calculating returns to the government.

Monitoring Results

Timber and Range Revenues
(all figures are in 2001 dollars)

Fiscal Year	Timber	Range
Forest Plan Projection	\$17,334,482	\$58,000
1988	6,148,521	46,552
1989	9,576,306	50,172
1990	8,582,146	52,347
1991	5,625,116	45,357
1992	9,409,810	44,323
1993	10,247,623	44,438
1994	18,044,794	47,532
1995	6,012,385	37,315
1996	6,686,668	29,140
1997	3,016,936	29,741
1998	6,070,046	27,778
1999	2,667,431	26,570
2000	3,090,384	27,321
2001	2,554,416	36,515

Timber Revenues

The differences between projected Forest Plan timber revenues and actual timber revenues in fiscal years 1988-1993 were due to two factors. First, the Forest did not experience stumpage values as high as predicted in the Forest Plan. Second, timber harvest acres in fiscal years 1988-1993 were considerably lower than the predicted average annual harvest display in the Forest Plan (see Table 1).

In addition, the revenue decreased from fiscal years 1990-1991 was largely a result of the use of different accounting methods. In particular, established purchaser credits for roads were used in FY 1990, while charged purchaser credits for roads were used in FY 1991.

The review increase from FY 1991 to FY 1994 was due to the higher volume of timber harvested, higher prices, and an evening out of the accounting method used for purchaser credit for roads that had been changed in the previous year.

The revenue decrease from FY 1994 to FY 2001 was due to fewer acres being harvested in FY 1995. The revenue increase in FY 1998, an exception during this period, was due to the extremely high value of the timber in a single sale.

Prior to the completion of the Forest Plan, sensitivity analysis was performed, examining the effect of lower stumpage values on land allocation. Appendix D of the Forest Plan Final Environmental Impact Statement discusses this analysis. The analysis illustrated that while there would be significant changes in revenues, there would be little change in the programmatic allocation of the Forest Plan.

Range Revenues

Difference between projected Forest Plan range revenues and actual range revenues are attributed to changes in grazing fees and a change in how revenues are calculated.

The range revenues in the Forest Plan were incorrectly calculated by multiplying the 1986/87 grazing fee against the permitted Animal Unit Months (AUM) instead of Authorized Head Months of use. Range revenues are correctly calculated by multiplying the current grazing fees against the Authorized Head Months of use. A "head" is defined as a grazing animal, six months or older.

In FY 2001, grazing fees were \$1.35 per head month for cattle and horses, and \$0.27 per head month for sheep. In FY 2001, 25,029 cattle and horse head months and 12,144 sheep head months were billed.

Evaluation of Monitoring Results

It is unclear what effect the difference in revenues received and expected will have on the Forest Plan's long-term goals and objectives.



EFFECTS ON OTHERS

Item 8: Effects of National Forest Management on Lands, Resources, and Communities Adjacent to the Forest

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Unacceptable effects determined by the Forest Interdisciplinary Team.



Discussion

The Nez Perce National Forest is managed to do what is best for the land and resources that we hold in trust for the American people. Often those most affected by this management direction are the communities and organizations adjacent to the Forest.

Most Idaho communities and agencies are affected to some degree by the activities and management direction of the nearby national forest. One of the most obvious effects in FY 2001 was the payment in lieu of taxes (the 25 percent funds) generated from sale or lease of resources, permits, and other income generated on national forest lands. Other effects include wages from the federal work force, income from recreation and tourism, raw material to industry, cooperative agreements between agencies and the Forest Service, and demographic trends that may to some degree be attributable to activities on or condition of national forest lands.

The following are some examples of the effects of the management of the Nez Perce National Forest had on adjacent communities and agencies in FY 2001:

- Payments made to Idaho County from the sale of timber, grazing, fees, other income, etc. from the Nez Perce Forest total \$2,473,396 for FY 2001. Payments to Idaho County from all national forests were \$4,927,130; which includes the Bitterroot National Forest (\$516,099), Payment National Forest (\$894,937), Salmon National Forest (\$73,476), Wallowa-Whitman National Forest (\$1,967), and the Clearwater National Forest (\$967,258). The majority of funds from the Nez Perce National Forest were from the sale of timber. The following table displays payments (all receipts) made to Idaho County from the Nez Perce National Forest since 1988.

Fiscal Year	Nominal Dollars	Constant 2001 Dollars
2001	\$2,473,396	\$2,473,396
2000	775,556	791,998
1999	666,237	693,486
1998	1,461,044	1,542,132
1997	714,852	765,249
1996	1,576,746	1,720,860
1995	1,217,808	1,355,664
1994	3,872,891	4,404,639
1993	2,197,978	2,553,831
1992	2,042,981	2,430,534
1991	1,303,797	1,591,574
1990	1,276,546	1,619,043
1989	1,243,278	1,636,278
1988	995,846	1,360,923

- Primary lumber production facilities in the local area (Idaho, Lewis, and Nez Perce counties) depend upon national forest logs for raw materials. For a sawmill to be viable it should maintain a two to 3 year supply of raw material under contract at all times. The following table shows the uncut volume remaining under contract compared to the volume sold and volume harvested each year since 1987 on the Nez Perce National Forest. Obviously the supply of raw material (volume sold) from the Forest has declined

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since 1991. The effect likely could be added dependence on other Bureau of Land Management, State of Idaho, Nez Perce Tribal, or private timberlands for raw materials.

**Remaining Timber Volume Under Contract
And Timber Volume Harvested and Chargeable Volume Sold
(all volume figures are in millions of board feet)**

Fiscal Year	Timber Harvested	Timber Sold	Volume Under Contract
1987	89.1	92.6	235.9
1988	72.9	108.5	290.0
1989	99.5	77.6	243.6
1990	93.4	83.2	220.0
1991	72.8	102.6	255.0
1992	81.4	15.6	189.8
1993	69.2	42.4	162.1
1994	89.9	13.0	75.2
1995	38.8	13.9	60.7
1996	38.3	28.1	54.1
1997	19.4	21.6	63.3
1998	29.8	22.4	55.9
1999	14.7	13.8	64.9
2000	16.0	2.3	54.9
2001			

- Total expenditures for FY 2001 were \$24,014,016. These expenditures included funds based on annual appropriations to the Nez Perce National Forest by Congress, trust fund limitations, State and Private funding, emergency (flood, disaster, wildfire, and federal highway) allocations, and reimbursed funds. Beside salaries, rent, and other operational expenses, revenues were distributed to local economies through formal contracts (\$954,801 awarded), small purchases (\$2,047,572), and fire related purchases (\$3,695,689 to individuals and contractors, \$2,662,512 to Idaho Department of Lands and \$289,277 for range fence repairs).
- The cooperative effort called the Clearwater Basin Elk Habitat Initiative has been pooling USFS resources and involvement by state, federal, and private entities to help restore local elk herds.
- The Forest provides the setting for a variety of recreation experiences. Over 500,000 recreation visitor days are estimated annually for such uses as camping, viewing scenery, boating, hunting, cross-country skiing, snowmobiling, and fishing. The Forest is nationally known for the quality of big game hunting and white water boating. Winter sports and wildlife viewing are also increasing. The effects of these activities contribute to area economies and perhaps even real property values.
- Many rivers and streams on the Nez Perce National Forest flow onto adjacent ownerships. Management activities of watersheds on the Forest may affect water quantity and quality off the Forest. Some of these effects are monitored and reported in the **Soil and Water** section of this report (see Item 2h).

In the Future:

The Secure Rural Schools and Community Self-Determination Act of 2000 (Public Law 106-393) and the North Central Idaho Resource Advisory Committee

Public Law 106-393 (sometimes called "Payments to the States") was signed into law on October 20, 2000. This legislation ends rural communities' historic dependence on timber sale receipts to finance school and road construction. The Act give counties the option of continuing to receive payments under the 25 Percent Fund Act or electing to receive their share of the average of the three highest 25 percent payments made to the state during the period of fiscal year 1986 through fiscal year 1999 (the full payment amount).

Idaho County elected to receive the full payment amount (average of the three highest 25 percent payments). Because the county was slated to receive more than \$100,000; between 15-20 percent of the funds received were to be set aside and used for forest restoration, maintenance, or stewardship projects under Title II of the Act, county projects under Title III, or both.

The Act called for the Secretary of agriculture to appoint Resource Advisory Committees to provide recommendations to the Forest Service on allocation of funds under Title II of the Act for projects on national forests.

A Resource Advisory Committee consists of 15 members and 3 replacement members, appointed by the Secretary of Agriculture for a 3-year term. The committee had 3 types or groups, with five members each, with each group representing either:

- Industry and labor interests;
- Environmental, dispersed recreation, and archeological interests; or
- Elected officials, Tribal officials, school officials, and citizens at large.

The North Central Idaho Resource Advisory Committee covers the following counties: Idaho, Clearwater, Latah, Nezperce, and Lewis. It also includes most of the Nez Perce and Clearwater National Forests.

Payments for the year 2001 were made to states and counties in December 2001 (FY 2002). The five county area of the North Central Idaho Resource Advisory Committee received over \$6.5 million. Of this amount, over \$700,000 was allocated for projects on national forest lands under Title II of the Act.

More information on the affects of the Act will be included in the FY 2002 Annual Monitoring and Evaluation Report.

Evaluation of Monitoring Results

The decrease in the quantity of timber offered and sold to industry seems to be one of the most obvious effects of present management of the Forest on adjacent communities and agencies. It has prompted support for turning management, especially timber management, over to the State of Idaho.



Item 9: Effects of Other Government Agencies' Activities on the National Forest

Frequency of Measurement: Annually (October 1, 2000 – September 30, 2001)

Reporting Period: Annually

Variability that would initiate further evaluation: Unacceptable effects determined by the Forest Interdisciplinary Team.



Monitoring Results

❑ **Bonneville Power Administration (BPA):**

The Forest has continued work with BPA funds, along with several agencies and landowners, to improve fish habitat, stream channel stability, and riparian conditions. Projects include channel restoration along several miles of Red River located on State and private lands, continued restoration with the Nez Perce Tribe in McComas Meadows, and operation of the sediment trap below the Haysfork glory hole.

❑ **Bureau of Land Management (BLM):**

The Bureau of Land Management and Nez Perce National Forest were involved in cooperative cadastral surveys. This was beneficial to both agencies, with excellent results. An annual coordination meeting continues to take place. Activities coordinated include timber, range, mining, recreation, and water monitoring.

The Forest and Cottonwood BLM are both covered under a Master Cooperative Fire Protection Agreement and Statewide Annual Operating Plan. One of the key features of the current plan is the operation of an Interagency Dispatch Center in Grangeville.

❑ **Federal Highway Administration (FHWA):**

The Forest works with the Federal Highway Administration in matters related to the Forest highway program and Emergency Repair – Federally Owned (ERFO) program. Currently the Forest is involved in a proposed reconstruction with the Administration on 10.2 miles of the Salmon Road. NEPA was to be completed in FY 2001, with construction to begin in FY 2003.

❑ **Idaho Conservation Data Center (ICDC):**

The Forest cooperates with the Idaho Conservation Data Center in developing conservation strategies and conducting presence/distribution surveys for sensitive plants. The Data Center also provides numerous data queries about rare species sightings for biological evaluation. Each year the Data Center provides the Forest with a copy of the State Rare Element Occurrence database. The database simplifies needed data gathering and analysis required for NEPA analysis.

□ **Idaho County and Highway Districts:**

The Forest works to cooperate on road maintenance with Idaho County and the Highway Districts on road sections covered by agreements. Idaho County provides fiscal cooperation with snowmobile funding in support of the snowmobile trail grooming program as well as cooperating with snow plowing services for local park and Ski and Snowmobile programs.

□ **Idaho County Weed Control:**

The Forest works in close cooperating with Idaho County Weed Control in the management of noxious weeds and other exotic plants. The Forest and Idaho County Weed Control share resources and skills in implementing an integrated weed program across Idaho County and work together to improve the coordination and integration of weed programs

□ **Idaho Department of Environmental Quality (DEQ):**

The Forest coordinated with the Clearwater and Salmon River Basin Advisory Groups. These groups were formed by the state of Idaho primarily to coordinate activities pertaining to Water Quality Limited Streams and the Governor's Bull Trout Recover Plan. In 2001, the Forest contributed to 303(d) assessments in the Lower Selway, Middle Salmon/Chamberlain, and South Fork Clearwater subbasins.

□ **Idaho Department of Fish and Game (IDFG):**

The Idaho Department of Fish and Game works with the Forest in both collaborative and resource advocacy roles. Their involvement in FY 2001 included:

- Elk mortality research and incidental wildlife information gathering;
- Information and support to assessments of Threatened, Endangered, and Sensitive species issues on the Forest;
- Transplantation of mountain goats into wilderness lands to help maintain population viability;
- Participation in sensitive species surveys, neotropical migrant survey/monitoring, and non-game management planning;
- Input to updating winter population survey results for elk and bighorn sheep populations;
- Continuation of the interagency bull trout inventory work in the South Fork Clearwater Subbasin; and
- High lake baseline surveys to inventory fish populations and physical lake characteristics.

Idaho Department of Fish and Game activities in big game monitoring, research, collaboration in development of species conservation assessments, as well as database information from the Idaho Conservation Database provide added support and help eliminate duplicate work. Also, the department's scrutiny of Forest programs may, at times, have the potential to complicate and expand the level of detailed planning required to implement management actions.

□ **Idaho Department of Lands (IDL):**

The agreement between the State of Idaho and federal land management agencies was rewritten in 1996. One of the changes was to make the exchange of resources easier. This agreement remains in effect.

The Nez Perce Forest and Idaho Department of Lands are both covered under a Master Cooperative Fire Protection Agreement and 2001 Statewide Annual Operating Plan.

□ **Idaho Department of Transportation (DOT):**

The Forest works with the Department of Transportation on certain aspects of managing State Highway 14. The Forest's programmatic road maintenance requirements are being incorporated into all the cooperative road agreements.

□ **Idaho Department of Water Resources (IDWR):**

Under provisions of the Stream Channel Alteration Act, the Forest consulted with the Idaho Department of Water Resources with respect to activities affecting stream channels. The Department is also involved in administering the Snake River Water Rights Adjudication.

□ **Idaho Division of Aeronautics:**

The Division periodically inspects backcountry airstrips on the Forest and remains involved in new proposals and management of backcountry airstrips.

□ **Idaho Outfitters and Guides Licensing Board:**

Through a formal agreement, the Forest Service and the Board coordinate the permit and enforcement process for outfitters and guides providing public services on national forest lands.

□ **Idaho Soil Conservation District (ISCD):**

The Idaho Soil Conservation District is the lead agency for the Red River Wildlife Management Area restoration project. The project is located on lands administered by the Idaho Department of Fish and Game, and potentially on private lands. The Forest provided technical and administrative assistance on the project in 2001.

□ **Idaho State Historic Preservation Office (SHPO):**

The Idaho State Historic Preservation Office monitors the Nez Perce National Forest's compliance with Section 106 of the National Historic Preservation Act of 1966. The office reviews all cultural resource reports and site record forms. If a cultural resource is to be impacted by a Forest activity, the impact is mitigated through consultation with SHPO.

□ **National Marine Fisheries Service (NMFS):**

The National Marine Fisheries Service provided Endangered Species Act, Section 7, informal consultation support and/or concurrence on biological assessments for listed and proposed species on the Forest. In addition, NMFS provided technical assistance and support for the development of several conservation assessments and strategies for Forest species. The Forest continues working with NMFS in the Level 1 consultation process.

□ **Nez Perce Tribe:**

The Nez Perce National Forest was one of five forests that signed an experimental Memorandum of Understanding (MOU) with the Nez Perce Tribe in 1998. This particular MOU exempts tribal members from paying campground fees at developed campgrounds and from stay limits when the Tribal member is engaged in tribal hunting, fishing, or gathering activities. Forest Service law enforcement has coordinated with Tribal law enforcement to enforce the MOU and deal with any protests by tribal or non-tribal members.

□ **Nez Perce Tribe/Columbia River Inter-Tribal Fish Commission:**

The Nez Perce Tribe, as in previous years, assisted the Forest with cultural awareness, recruitment, and training activities. This assistance was of value in helping diversify the workforce and accomplish resource management objectives. The Nez Perce Tribe is sponsoring a young horseman's program called **Appaloosa**. This group will concentrate on learning packing skills through an outfitted educational trail ride program. The Forest Service is supporting this activity by teaching packing skills with both Forest and the 9 Mile Pack Train teams.

□ **State of Montana and State of Idaho (Air Quality):**

The Forest joined the Montana/North Idaho Airshed Group in 1990. This group's objective is to minimize or prevent impacts from smoke in North Idaho and Western Montana, and to meet national ambient air quality standards when conducting prescribed burning. The Airshed Group was effective in meeting the national ambient air quality standards in 2001. The Forest follows daily smoke management advisories provided by the monitoring unit (Airshed) administrator and meteorologist.

□ **U.S. Army Corps of Engineers (COE):**

The Corps of Engineers was consulted on projects involving wetlands and stream channels under provisions of Section 404 of the Clean Water Act.

□ **U.S. Fish and Wildlife Service (USFWS):**

The Fish and Wildlife Service provided informal consultation support and/or concurrence on biological assessments under the Endangered Species Act on biological assessments for listed and proposed species on the Forest. In addition, the Fish and Wildlife Service provided technical assistance and support in the development of previous year conservation assessments and strategies for several species found on the Nez Perce National Forest. This data will be provided for a statewide repository of information related to wolf, peregrine falcon, bald eagle, grizzly bear, Canada lynx, and bull trout recover efforts. Fish and Wildlife Service scrutiny and processes required by law at times have the potential to further complicate and temporarily delay Forest activity decision processes.

□ **University of Idaho:**

Each year the Forest and University of Idaho cooperate on weed management projects involving remote sensing of weeds; vegetation and biocontrol-agent monitoring; revegetation of weed-infested sites; and other research opportunities such as McComas Meadows.