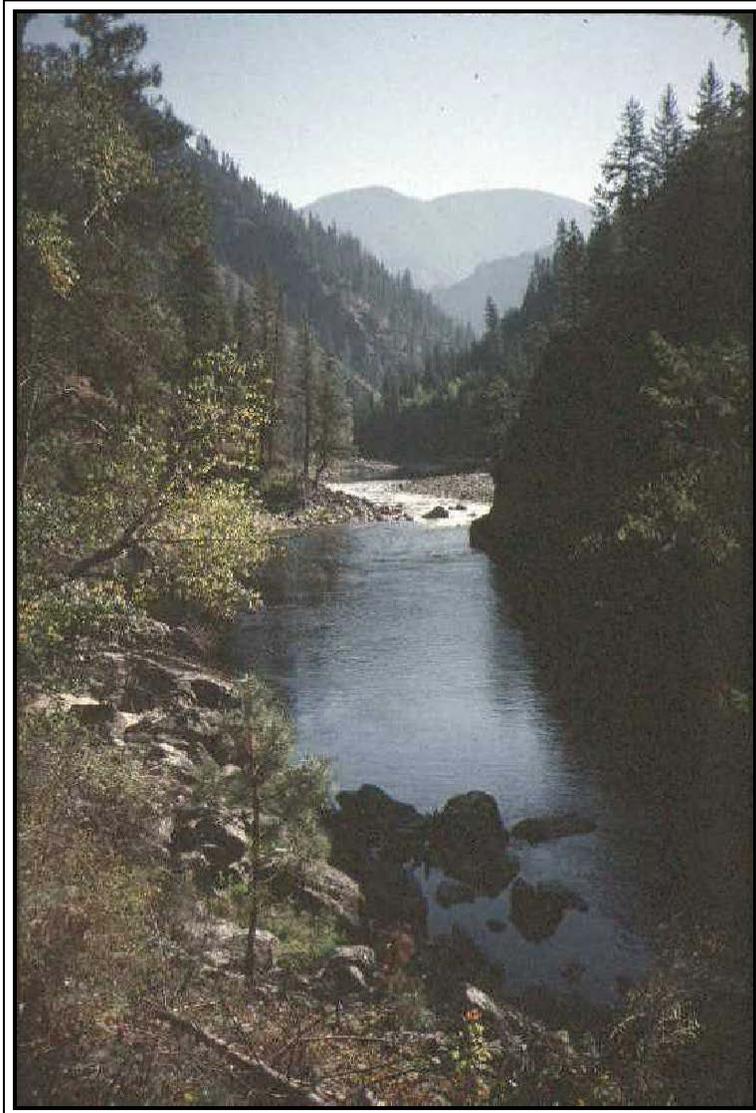


**SELWAY AND MIDDLE FORK CLEARWATER RIVERS
SUBBASIN ASSESSMENT
VOLUME 1: NARRATIVE**



**USDA FOREST SERVICE
MARCH 2001**

NEZ PERCE NATIONAL FOREST
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APPENDIX A

HABITAT TYPE GROUPS

Habitat types, or potential vegetation groups, are a useful way to group lands capable of supporting similar plant communities in the absence of disturbance. Habitat types tend to have predictable patterns of disturbance, succession, and productivity, although topographic setting of the habitat type group (Vegetation Response Unit) may also strongly influence disturbance and forest succession.

Habitat Type Groups were developed for northern Idaho and western Montana to assist with landscape assessments within these areas. The habitat type systems used on the Nez Perce include those of Cooper et al. 1992 and Steele et al. 1981. The groups described here were developed by Applegate et al. 1995. Where field data were not available, the habitat type group was predicted for each vegetation polygon using a terrain model.

HTG 1 – WARM AND DRY PONDEROSA PINE AND DOUGLAS-FIR

These habitat types are characterized by dry and open-grown park-like stands of ponderosa pine or Douglas fir with bunchgrass understories. Ponderosa pine/bluebunch wheatgrass is the habitat type in this group most frequently found in the subbasin. These habitat types usually occur on steep southerly aspects at low elevations. They are of limited extent in the subbasin.

HTG 2 – MODERATELY WARM AND DRY DOUGLAS-FIR AND GRAND FIR

These habitat types are characterized by generally open-grown stands of ponderosa pine or Douglas fir with grass and brush understories. Douglas-fir/ninebark is the habitat type in this group most frequently found in the subbasin. Most of the sites occur at lower elevations on south or west aspects. They are common in the canyons of the Selway subbasin.

HTG 3 – MODERATELY WARM AND MODERATELY DRY GRAND FIR

These habitat types are rather variable, but characterized in the subbasin by mixed species stands of grand fir, and Douglas-fir, or lodgepole pine dominated stands with beargrass and huckleberry understories. Ponderosa pine and western larch occur less frequently. Grand fir/beargrass is the habitat type in this group most frequently found in the subbasin. These habitat types are common at mid elevations on ridges or rolling hills in the south and east parts of the subbasin.

HTG 4 – MODERATELY WARM AND MOIST GRAND FIR

These habitat types are characterized in the subbasin by mixed species stands of grand fir, Douglas fir, lodgepole pine, Engelmann spruce and occasionally western larch or ponderosa pine, with diverse shrub and forb understories. Grand fir/Clintonia is the habitat type in this group most frequently found in the subbasin. These habitat types are common at mid elevations on north slopes and lower slopes in slope positions or geographic areas too dry for western red cedar.

HTG 5 – MODERATELY COOL AND MOIST WESTERN RED CEDAR

These habitat types are characterized by mixed species stands of western red cedar, grand fir, and Douglas fir, with diverse shrub and forb understories. Western white pine, larch, and ponderosa pine are less frequent components. Cedar/Clintonia is the habitat type in this group most frequently found in the subbasin. These habitat types are common in the western portion of the subbasin on lower slopes and northerly aspects, but become increasingly rare toward the headwaters.

HTG 6 – MODERATELY COOL AND WET WESTERN RED CEDAR

These habitat types are characterized by stands of grand fir and western red cedar. Douglas-fir and western white pine are less common. They often have fern and herb understories. Cedar/lady fern is the habitat type in this group most frequently found in the subbasin. These habitat types are generally limited to riparian areas along streams and moist lower slopes in the western part of the subbasin.

HTG 7 – COOL AND MOIST SUBALPINE FIR

These habitat types are characterized by stands of subalpine fir, Engelmann spruce, and lodgepole pine, with brush understories. Western larch, whitebark pine, and Douglas-fir are less common components. Subalpine fir/menziesia is the habitat type in this group most frequently found in the subbasin. These habitat types are common and occur at upper elevations on north aspects and moist lower slopes.

HTG 8 – COOL AND WET SUBALPINE FIR

These habitat types are characterized by stands of subalpine fir, Engelmann spruce, and lodgepole pine with shrub, forb or graminoid understories. Subalpine fir/bluejoint reedgrass is the habitat type in this group most frequently found in the subbasin. These habitat types are uncommon and occur at upper elevations in riparian areas.

HTG 9 – COOL AND MODERATELY DRY SUBALPINE FIR

These habitat types are characterized by stands of lodgepole pine, subalpine fir and Engelmann spruce with beargrass and huckleberry understories. Subalpine fir/beargrass is the habitat type in this group most frequently found in the subbasin. These habitat types are very common at upper elevations on ridges and southerly aspects.

HTG 10 – COLD AND MODERATELY DRY SUBALPINE FIR

These habitat types are characterized by open stands of whitebark pine, lodgepole pine, alpine larch and subalpine fir with understories of grouse whortleberry and smooth woodrush. The habitat type in this group most frequently found in the subbasin is subalpine fir/smooth woodrush. These habitat types are uncommon in the subbasin at high elevations on ridges.

HTG 11 – COLD WHITEBARK PINE AND SUBALPINE FIR

These habitat types are characterized by open stands of whitebark pine, subalpine fir, Engelmann spruce, and alpine larch with understories of smooth woodrush and grouse whortleberry. These habitat types are limited to high elevation ridges and upper slopes.

HTG 15 – GRASSLAND STEPPE

These habitat types are characterized by bunchgrass and forb communities. Bluebunch wheatgrass/Idaho fescue is the habitat type in this group most frequently found in the subbasin. These habitat types are limited to steep southerly aspects at low elevations with shallow or sandy soils.

HTG 30 – SHRUBLANDS

These habitat types are persistent alder dominated communities. They are of such limited extent in the subbasin that they are not mappable at a scale suited for this document. They occur most frequently in the western part of the subbasin above about 4500 feet elevation in concave depressions and on north aspects.

HTG 60 – MOUNTAIN BOTTOMLANDS

These habitat types are sedge meadows and wetlands dominated by sedge meadows and low shrubs. They are of such limited extent in the subbasin that they are not mappable at a scale suited for this document. They occur most frequently in meadow complexes in the headwaters of Meadow Creek, Goat Creek and on the margins of glacial lakes.

HTG 80 – ALPINE MEADOWS AND SCRUB

These habitat types are dominated by low shrubs and forbs, on rocky alpine ridges. They occur very infrequently at highest elevations along the Lochsa, Salmon, and Bitterroot divides.

HTG 0 - Rock

HTG 98 - WATER

APPENDIX B

VEGETATION RESPONSE UNITS

Vegetation Response Units (VRUs) are a land classification and mapping system that delineates units of lands based on predictable patterns of potential vegetation and disturbance dynamics, predominantly fire regimes. The potential vegetation groups used here are those developed by Applegate et al. (1992) for northwestern Montana and northern Idaho. The terrain features that affect fire regimes include elevation, slope, and drainage dissection. For example, rolling unbroken terrain at mid elevations that support subalpine fir/beargrass and subalpine fir/menziesia habitat types tend to experience infrequent, often lethal fire. Such settings are mapped as VRU 6. See map XXX which shows VRUs in the Selway subbasin. VRUs are used to interpret historic and existing condition and trend in plant community composition, structure and process.

VRU 1 – CONVEX SLOPES, SUBALPINE FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is uncommon in the Selway and occurs in the upper reaches of Meadow Creek, and the Selway Headwaters ERUs at mid and upper elevations. This VRU comprises 144,668 acres in the subbasin. It is more common in other subbasins of the Forest.

Subalpine fir habitat types are dominant, and grand fir habitat types also occur. Lodgepole pine was historically a dominant cover type in many settings. Engelmann spruce, subalpine fir, western larch, Douglas fir, and whitebark pine were less common.

Large infrequent severe fires were typical of most settings. Historically, about 700 acres burned per year. About 60-80 percent of stands originated from stand replacing fire, and 20-40 percent from mixed severity fire. Moist lower slopes were most prone to mixed fire. Lodgepole, western larch and Douglas fir sometimes survived one or more fires to form a scattered overstory. Large blocks of pole and medium size fire killed trees (500 to 2000 acres) were typically present at any time within 10,000 acres of this VRU. Mountain pine beetle activity cycled with fire and lodgepole pine, and may have been important in developing fuel conditions that favored stand-replacing fire.

Wet meadows are important elements of this landscape.

Relative proportion by size class was about 5-10 percent nonforest, 20-30 percent seedling/sapling, 20-30 percent pole, 20-30 percent medium tree, and 5-15 percent large tree at any one time over this VRU in the Subbasin. Old growth was typically limited to moist draw bottoms and north slopes, and usually comprised from 10 to 15 percent of the area.

DEPARTURES FROM HISTORIC

With advancing forest succession and fire suppression, lodgepole pine has decreased by 7 percent and Engelmann spruce-fir forests have increased by 6 percent. Western larch and whitebark pine are thought to have declined but this is poorly documented in the small sample. More shade tolerant grand fir and subalpine fir have likely increased. More than half of the shrub-dominated old burns have become forested and many are now pole-sized. Blister rust has further reduced whitebark pine. Since 1935 only about 300 acres burn per year, an 82 percent decrease. Fire suppression has also resulted in increased stand densities in mature forest and many areas of young forest with low stand density.

Harvest has affected about 10 percent of the acres in this VRU. The ratio of stand-replacement to lower severity treatment is 80 to 20, which is within natural ranges. However, recent harvest patterns have replaced large-scale infrequent fire with frequent small harvest units more uniformly distributed across watersheds than occurred historically. The average harvest unit size is smaller than historic burn patch and there is not as much diversity in frequency of structural stages within subwatersheds. Each watershed is more like other watersheds in terms of the representation of structural stages. Historically extensive snag patches are no longer created as a result of fire suppression.

VRU 2 – GLACIATED SLOPES, SUBALPINE FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is common in the Selway at upper elevations. This VRU comprises 492,253 acres. It is concentrated in the eastern part of the Forest, primarily in wilderness or roadless areas.

Subalpine fir and whitebark pine habitat types are dominant. Lodgepole pine, Engelmann spruce, and subalpine fir were historically dominant on side slopes. Whitebark pine was important on ridges. Historically about 400 acres burned per year. Mid slopes tended to experience stand replacing fire at infrequent intervals. Open ridges or moist valley bottoms were more prone to mixed severity fire. Medium blocks of pole size fire killed trees (100 to 1000 acres) were often present at any time within 20,000 acres of this VRU.

Rock outcrop, lakes, wetlands, and montane parklands were important elements of this landscape.

Relative proportion by size class was about 10-25 percent nonforest, 10-30 percent seedling/sapling, 30-65 percent pole, and 5-15 percent medium tree. Old growth was typically limited to moist trough bottoms and open ridges, and usually comprised less than 10 percent of the area.

DEPARTURES FROM HISTORIC

With advancing forest succession and fire suppression, whitebark pine has declined. Blister rust has further reduced whitebark pine a total of more than 94 percent. Lodgepole pine forest has increased 55 percent and mixed conifer forest 43 percent. Since 1935, only about 1184 acres burn per year, a 78 percent decrease. Advancing forest succession has resulted in a 54 percent decline in nonforest openings, and large increases in seedling/sapling and pole structural stages. A large decline in medium trees is not offset by increases in large trees, and may represent whitebark pine loss or other loss to mortality. Fire suppression has also resulted in increased stand densities, as shade tolerant understories develop, and as open young forests become more dense. No recorded harvest has occurred. Historically extensive snag patches are no longer being created as a result of fire suppression.

VRU 3 – STREAM BREAKLANDS, GRAND FIR AND DOUGLAS FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is common at lower to mid elevations in canyons on steep south aspects. This VRU comprises 385,883 acres in the subbasin. It is more common in the Middle and Upper Selway Canyon compared to the Lower Canyon because of the shift from maritime to more continental climate. It is more common in other subbasins of the Forest.

On south aspects, Douglas fir habitat types are dominant. Open stands of large Douglas fir and ponderosa pine were historically common. Low and mixed severity fire at frequent intervals occurred on south aspects. Here, 40-60 percent of stands showed evidence of survival through

one to many fires. Ponderosa pine old growth occupied about 40 to 60 percent of these warm dry sites.

On north aspects, grand fir habitat types are dominant. Grand fir and Douglas fir were common cover types, with ponderosa pine and western larch and sometimes Engelmann spruce or lodgepole pine. Pacific yew occurred on lower slopes. Mixed severity fire at moderate intervals was common on north aspects. About 30-60 percent of stands retained 10 or more trees per acre through at least one fire. Twenty to 30 percent of stands included at least 10 trees per acre older than 150 years. Ponderosa pine, western larch, Douglas fir, and grand fir formed the old overstory.

Small to medium blocks of pole to medium fire-killed trees were abundant at any time within 10,000 acres of this VRU.

Old growth pine, bunchgrass understories, and rock outcrop are important elements of this landscape. Old growth larch was an uncommon element.

On the VRU as a whole, relative proportion by size class was about 5-20 percent nonforest, 5-30 percent seedling/sapling, 10-20 percent pole, 20-40 percent medium tree, and 20-40 percent large tree.

DEPARTURES FROM HISTORIC

With advancing forest succession and fire suppression, ponderosa pine/Douglas fir forests have declined by 13 percent. Annual grasslands and areas non-native herbs have increased. Harvest has resulted in a 128 percent increase in nonforest openings. Forest succession and fire suppression have resulted in a 33 percent decline in seedling and sapling structural stages, an 83 percent decline in pole stages, a 36 percent decrease in medium tree stages and a 6 percent increase in large tree stages. However, more of the large trees are in mixed conifer and less in open pine stands.

Harvest has affected less than 1 percent of the National Forest lands in this VRU in the Subbasin, over 50 years. Since 1935, only about 1055 acres burn annually, a decline of 83 percent. Prescribed fire on dry south aspects burns an additional 500 to 1,000 acres annually. The ratio of stand replacement harvest to mixed or low severity treatments has been about 60 percent replacement to 40 percent less severe treatments. This is a higher ratio of stand replacement than would have occurred under natural disturbance regimes. Total canopy cover appears to have declined. Whether this is due to increased mortality from insects and disease, or harvest, is uncertain. Historically extensive snag patches are no longer being created as a result of fire suppression.

VRU 4 – ROLLING UPLANDS, GRAND FIR AND DOUGLAS FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is rare in the Subbasin, and occurs at low to mid elevations in the Middle Fork and Clear Creek ERUs, mostly on private lands. This VRU comprises 29,337 acres. It is more common in the South Fork Clearwater subbasin

Grand fir and Douglas fir habitat types are dominant. Ponderosa pine, Douglas fir, grand fir, and western larch were the dominant seral species. Lodgepole pine and Engelmann spruce were less common. Historically, this VRU exhibited high diversity in patch size and composition. Ponderosa pine, western larch, Douglas fir and grand fir often survived mixed severity fires to form a scattered overstory of large trees. Medium to large mixed severity fires occurred at frequent intervals. About 50-60 percent of stands originated from stand replacing fire and 40-40 percent from mixed and low severity fire. Small to large blocks (100 to 2000) acres) of pole to medium fire killed trees were common at any time within 10,000 acres of this VRU. Ten to twenty five percent of stands included at least 10 trees per acre older than 150 years.

Old growth pine and western larch were important elements of this landscape.

VEGETATION RESPONSE UNITS

Relative proportion by size class was 5-10 percent nonforest, 5-50 percent seedling/sapling, 10-30 percent pole, 20-30 percent medium tree, and 10-50 percent large tree.

DEPARTURES FROM HISTORIC

This VRU was not included in mapping of 1930s vegetation. Compared to historic ranges, this VRU shows more nonforest, due to agricultural and residential development, and less medium and large tree components. With advancing forest succession and fire suppression in the unharvested lands, ponderosa pine and Douglas fir have decreased while mixed conifer has increased. Stand densities in mature forest have increased and multiple canopy levels have likely increased.

Harvest has affected a large portion of this VRU. No known acres have burned annually since fire suppression became effective, a decline of 100 percent. The ratio of stand replacement harvest to mixed or low severity treatments is not known but most harvest on private lands has been clear-cut or removal of the overstory pine. This is not within the range of what would have occurred under natural disturbance regimes. Historically frequently created snag patches are no longer being created as a result of fire suppression.

VRU 6 – COLD BASINS, GRAND FIR AND SUBALPINE FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is uncommon in the Subbasin, and occurs at mid elevations in the headwaters of Meadow Creek, Halfway Creek, Meeker Creek and Lynx Creek. It comprises 14,093 acres in the subbasin. It is more common in the other subbasins of the Forest.

Grand fir and subalpine fir habitat types are dominant. Lodgepole pine was the dominant seral species. Western larch, Douglas fir, and Engelmann spruce were important. Grand fir was important on mesic sites. Whitebark pine was historically occasional. Medium to large stand replacing fires occurred at infrequent intervals. About 60-90 percent of stands originated from stand replacing fire and 10-40 percent had mixed severity fire. Moderate to large blocks (500 to 1000) acres) of pole to medium fire killed trees were common at any time within 10,000 acres of this VRU. Five to 10 percent of stands included at least 10 trees per acre older than 150 years.

Large patch sizes (100s to 10,000s of acres) and meadow complexes were important elements of this landscape.

Relative proportion by size class was 5-10 percent nonforest, 10-30 percent seedling/sapling, 30-45 percent pole, 20-40 percent medium tree, and 5-20 percent large tree, but this could fluctuate widely in response to large fires.

Departures from Historic

This VRU is poorly sampled for historic conditions in the subbasin. These conclusions also draw on observations in other subbasins. With advancing forest succession and fire suppression, lodgepole pine has increased as shrub dominated old burns have become reforested. More shade tolerant mixed conifer forests have increased. Whitebark pine has essentially disappeared as even a minor component. Forest succession and fire suppression have resulted in a 59 percent decline in nonforest, a 49 percent decline in pole structural stages, and a 708 percent increase in medium tree and an increase in large tree stages. Stand density has increased as seedlings have grown into pole stands, and as mature forest has become more multilayered.

Harvest has not affected the Forest acres. About 4 acres have burned annually since fire suppression became effective, a decline of about 99 percent. Historically extensive snag patches are no longer being created as a result of fire suppression.

VRU 7 – MOIST UPLANDS, GRAND FIR AND PACIFIC YEW

HISTORIC COMPOSITION AND PROCESS

This VRU is uncommon in the Subbasin, and occurs in Clear Creek, Ohara Creek, and Lower Meadow Creek, at mid elevations in headwater locations. It comprises 7446 acres in the subbasin. It is occasional throughout the western part of the Forest.

Mesic grand fir habitat types are dominant, and Pacific yew phases are common. Stands were usually mixed species, dominated by grand fir, and Douglas fir. Pacific yew, western larch, Engelmann spruce and lodgepole pine were less common. Usually small to medium fires of mixed severity occurred at infrequent intervals. Large stand replacing fires occurred more infrequently. About 20-40 percent of stands originated from mixed severity fire and about 60-80 percent from stand replacing fire. Small and scattered blocks (5-100 acres) and infrequent large blocks of fire killed medium and large trees were occasional at any time within 10,000 acres of this VRU. Old overstory trees were common and could be grand fir, western larch, Douglas fir, Engelmann spruce, or lodgepole pine. About 20-40 percent of stands had 10 or more trees per acre older than 150 years. Two or more age classes were common.

Pacific yew and mesic old growth were important elements of this landscape.

Relative proportion by size class was about 1-10 percent nonforest, 5-20 percent seedling/sapling, 10-25 percent pole, 25-35 percent medium tree, and 35-45 percent large tree.

DEPARTURES FROM HISTORIC

This VRU is poorly sampled in the subbasin. Conclusions also draw on observations from other subbasins. With harvest, nonforest shrub and herbaceous communities have increased. Small patches of early seral lodgepole and larch are probably declining. Old growth patches have been fragmented by harvest. Total old growth appears to be substantially below historic ranges.

Harvest has affected about 15 percent of the Forest acres within the last 50 years. This is a high percent compared to most other VRUs. About 1 acre has burned annually since fire suppression became effective, a decline of about 99 percent. The ratio of stand replacement harvest to mixed or low severity treatments has been about 80 percent replacement to 20 percent less severe treatments. This relative proportion of stand replacement is at the high end of the historic range. Historically common snag patches are no longer being created as a result of fire suppression.

VRU 8 – STREAM BREAKLANDS, CEDAR AND GRAND FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is common in the Subbasin, and occurs at low and mid elevations in the Middle Fork Clearwater, Clear Creek, Ohara Goddard, Lower Selway Canyon, and Lower Meadow Creek. This VRU comprises 158,823 acres in the subbasin. It becomes increasingly confined to lower slopes and riparian areas in Moose Creek, Bear Creek, and the Upper Selway Canyon. It is rare throughout the rest of the Forest.

Moist grand fir and cedar habitat types are dominant. Grand fir, Douglas fir and western red cedar were the dominant species. Western larch, western white pine, Engelmann spruce, and Pacific yew were less common. Ponderosa pine and lodgepole pine were minor. Small to medium fires occurred at infrequent intervals and large stand replacing fires at very infrequent intervals. About 40-50 percent of stands originated from mixed severity fire, and 50-60 percent from stand replacing fire. Small and scattered blocks (5-100 acres) of fire killed medium and large trees were common at any time within 10,000 acres of this VRU, and large blocks (500 to 1000 acres) were occasional. Old overstory trees were common on ridges and lower slopes. They could be Douglas fir, western larch, grand fir, or occasionally ponderosa pine. About 15-30 percent of stands had 10 or more trees per acre older than 150 years.

VEGETATION RESPONSE UNITS

Coastal disjunct plant species, early seral tall shrub and hardwood communities, and cedar old growth along major streams were important elements of this landscape. Western white pine was an uncommon element.

Relative proportion by size class was about 5-20 percent nonforest, 5-30 percent seedling/sapling, 10-20 percent pole, 30-50 percent medium tree, and 20-30 percent large tree.

DEPARTURES FROM HISTORIC

Western white pine has almost disappeared because of blister rust and forest succession. Shrub, stages have decline 73 percent. Hardwood communities have also probably declined, although mapping inconsistencies suggest an increase. Seedling/sapling, and pole structural stages have increased as fire-created shrub fields have regenerated to forest. Medium tree stages have decreased and large tree size classes have increased. Harvest on National Forest lands has affected 6 percent of the VRU acres. The ratio of stand replacement harvest to mixed or low severity treatments has been about 60 percent replacement to 40 percent less severe treatments on National Forest lands. This relative proportion of stand replacement is at the high end of what would have occurred under natural disturbance regimes. About 38 acres have burned annually since fire suppression has become effective, a decline of 99 percent. Historically extensive snag patches are no longer being created as a result of fire suppression. Old growth is probably at the low end of the historic range, probably because of harvest.

VRU 9 – HIGH ELEVATION RIDGES, SUBALPINE FIR AND WHITE BARK PINE

HISTORIC COMPOSITION AND PROCESS

This VRU is better represented in this Subbasin than elsewhere on the Forest. It comprises 95,528 acres in the subbasin. It occurs at highest elevations in the eastern part of the Subbasin, primarily in wilderness and roadless areas.

Cold subalpine fir and whitebark pine habitat types are dominant.

This was the major stronghold of whitebark pine. Subalpine fir, Engelmann spruce, and lodgepole pine were common. Mixed severity fire occurred at frequent to infrequent intervals. About 40-60 percent of stands originated from mixed severity fire and 40-60 percent from stand replacing fire. Small to moderate (50-200) acres of fire killed trees were common at any one time in 10,000 acres of this VRU. Old whitebark pine or lodgepole pine was common on rock outcrop and open ridges. About 5-15 percent of stands had 10 or more trees per acre older than 150 years.

Whitebark pine and open alpine communities were important elements of this landscape.

Relative proportion by size class was 30-50 percent nonforest, 5-30 percent seedling/sapling, 5-60 percent pole, 5-40 percent medium tree, and 1 percent or less large tree.

DEPARTURES FROM HISTORIC

With advancing forest succession, fire suppression, and blister rust, whitebark pine has declined by 93 percent, and lodgepole pine and mixed conifer forest have increased by 35 to 55 percent. Montane park has increased on recent burns and areas of whitebark pine mortality. About 202 acres have burned annually since fire suppression became effective, a decline of about 65 percent. Advancing forest succession has resulted in an increase in seedling/sapling and pole stages, while loss of medium and large trees have declined 31-41 percent. No recorded harvest has occurred. Historically common snag patches are no longer being created as a result of fire suppression, but whitebark pine snags are much more abundant.

VRU 10 – UPLANDS, ALDER, GRAND FIR AND SUBALPINE FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is common only in the western half of the Subbasin. It comprises 50,254 acres. It is also common in the South Fork Clearwater subbasin and to the north. It is also called the grand fir mosaic.

Moist grand fir, subalpine fir, cedar and alder habitat types are dominant. Grand fir, Engelmann spruce, subalpine fir, western red cedar, and Sitka alder were historically important cover types. Douglas fir, western larch, lodgepole pine, and Pacific yew occurred on ridges. Small fires occurred frequently, but mixed severity very infrequent fire was typical, with stand replacement usually confined to ridges. About 40-60 percent of stands originated from mixed severity fire and 40-60 percent from stand replacing fire. Small blocks of (5-50 acres) fire-killed medium and large trees were common at any one time in 10,000 acres of this VRU. About 15-30 percent of stands had 10 or more trees per acre older than 150 years.

Open canopied and multi-aged old growth and tall shrub communities were important elements of this landscape.

Relative proportion by size class was 10-25 percent nonforest, 15-25 percent seedling/sapling, 20-30 percent pole, 20-30 percent medium tree, and 15-40 percent large tree. However, extensive areas might consist of mature forest at any one time.

DEPARTURES FROM HISTORIC

This VRU has been slightly affected by harvest. Shrublands (harvested areas) have increased. Other changes in cover type and size class appear to be due to mapping inconsistencies. Areas of high tree canopy cover have increased slightly. Area in old growth is still within historic range, but has been fragmented by harvest.

Harvest has affected about 7 percent of the Forest acres within the last 50 years. About 4 acres have burned annually since fire suppression became effective, a decline of about 99 percent. The ratio of stand replacement harvest to mixed or low severity treatments has been about 80 percent replacement to 20 percent less severe treatments. This relative proportion of stand replacement is higher than would have occurred under natural disturbance regimes. Historically occasional snag patches are no longer being created as a result of fire suppression.

VRU 12 - Stream breaklands, bunchgrass and shrubs

Historic Composition and Process

This VRU is rare in the subbasin and occurs at lowest elevations in the main canyon, generally on steep south aspects, with abundant rock outcrop. This VRU comprises 11,099 acres in the subbasin. Nonforest habitat types dominate this VRU, including warm and dry grassland steppe. Bluebunch wheatgrass dominated most grassland sites. Diverse perennial forbs occurred with the grasses. Sandberg bluegrass, prairie junegrass and Idaho fescue occurred less commonly. Shrub communities and warm dry ponderosa pine habitat types occurred on more sheltered aspects or areas with deeper soil, and more mesic forest habitat types in draws. Dwarf cryptogams and litter dominated the ground cover. Low severity fires burned at very frequent intervals.

DEPARTURES FROM HISTORIC

Grasslands have been invaded by non-native grasses and forbs. Cheatgrass and other annual grasses, knapweed, sulfur cinquefoil, and other non-native forbs are established on lower slopes, especially near trails and campsites. Departures of plant species composition are greater in this VRU and in similar settings in VRU 3, than in any other. This alteration has occurred with relatively little historic use by domestic livestock. The reduced levels of root biomass and litter associated with these annual grasses and forbs suggest that soil aggregation and resistance to erosion may be reduced in these areas. Loss of forage for ungulates and small mammals has

occurred. Species, community, and genetic diversity have been lost. About 1 acre has burned annually since fire suppression became effective, a decline of about 97 percent.

VRU 17 – ROLLING HILLS, CEDAR AND GRAND FIR

HISTORIC COMPOSITION AND PROCESS

This VRU is common in the western half of the subbasin, at mid elevations in Clear Creek, Ohara Goddard Creeks, Middle Fork Clearwater, and lower Meadow Creek. It comprises 36,417 acres. It is rare throughout the rest of the Forest, but common northward.

Mesic cedar and grand fir habitat types are dominant. Western red cedar and grand fir were historically important cover types. Douglas fir was less important and western white pine and western larch were uncommon. Small fires occurred frequently, but mixed severity infrequent fire was typical, with stand replacement very infrequent and usually confined to ridges. About 40-60 percent of stands originated from mixed severity fire and 40-60 percent from stand replacing fire. Small blocks of (5-50 acres) fire-killed medium and large trees were common at any one time in 10,000 acres of this VRU. About 25-35 percent of stands had 10 or more trees per acre older than 150 years.

Open canopied and multi-aged old growth and tall shrub communities were important elements of this landscape.

Relative proportion by size class was 10-25 percent nonforest, 15-25 percent seedling/sapling, 20-30 percent pole, 20-35 percent medium tree, and 15-40 percent large tree.

DEPARTURES FROM HISTORIC

As a result of harvest, shrublands have increased by 576 percent and large trees have declined by 58 percent. Herbaceous clear-cut openings now occur. Ponderosa pine and Douglas fir have declined with succession. Other changes in cover type have been minor. Tree canopy cover has declined substantially because of harvest.

Harvest has affected about 41 percent of the National Forest lands within the last 50 years. This is more than in any other VRU. In contrast, VRU 17 is one that functioned as naturally quite stable over long periods of time. Virtually no acres have burned annually since fire suppression became effective, a decline of 100 percent. The ratio of stand replacement harvest to mixed or low severity treatments has been about 60 percent replacement to 40 percent less severe treatments. This relative proportion of stand replacement is at the high end of what would have occurred under natural disturbance regimes. Historically occasional snag patches are no longer being created as a result of fire suppression.

APPENDIX C

STREAM CHANNEL TYPES

ROSGEN METHODOLOGY

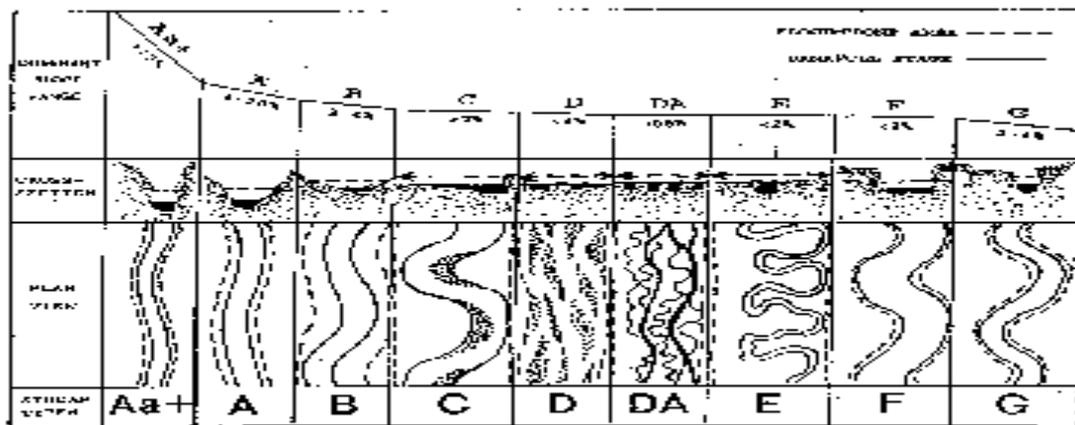
Channel types are used to classify streams based on observable characteristics. The classification system used in this assessment was developed by Rosgen (1994). It has the following objectives:

- 1) Predict a river's behavior from its appearance;
- 2) Develop hydraulic and sediment relations for a given channel type and state;
- 3) Provide a means to extrapolate site-specific data from a stream reach to streams of similar character; and
- 4) Provide a consistent and reproducible frame of reference for communication for those working with rivers.

The morphology of channels is governed by the laws of physics and is the result of the influence of stream variables, including width, depth, velocity, discharge, slope, roughness, sediment load, and sediment yield. Changes in these variables often result in channel adjustments and a change in channel pattern. This process creates measurable variables that can be used as stream classification criteria. In Rosgen's system, the major classification criteria are as follows:

- 1) Thread (single versus multiple channels);
- 2) Entrenchment (access to floodplains, measured vertically in the channel);
- 3) Sinuosity (stream length relative to valley length);
- 4) Width to depth ratio (measured at bankfull stage);
- 5) Stream gradient (measured in percent); and
- 6) Substrate size (median of inorganic bed materials).

The diagram below illustrates some of the major criteria used to delineate stream channel types at the broad geomorphic characterization level. It was originally published in Rosgen (1994).



Longitudinal, cross-sectional and plan views of major stream types.

APPENDIX D

AQUATIC LANDTYPE ASSOCIATIONS

Aquatic landtypes are ecological land units that delineate land areas with characteristic and distinguishable stream pattern, families of stream order and gradient, and broadly similar climatic, terrestrial and aquatic disturbance regimes, and geologic group. They are designed to help identify areas of similar aquatic potential, sensitivity, and natural disturbance setting.

ALTA 1 – BROAD CONVEX RIDGES, HIGH ELEVATION, GRANITIC

DISTRIBUTION

This ALTA is located above about 5500 feet elevation, dominantly low relief, with moderate and low gradient channels, mostly low order. These areas historically provided important spawning and rearing areas for resident and some anadromous fish species. Snowpack is high, snowmelt is sustained, and groundwater is cold. Base flows are sustained. Fire disturbance is long interval, large size (few thousand to 50,000 acres), often lethal. These areas were important refugia between disturbances at lower elevations.

This ALTA is located in the upper reaches of Meadow Creek, Lynx Creek (Running ERU), and the Upper Selway ERU, including portions of Swet and Storm Creeks and small areas in Deep Creek and the Little Clearwater River. There is also a small incursion at the headwaters of East Fork O'Hara Creek.

DESCRIPTION

Review of the location of this ALTA relative to the distribution of fish suggests a rough correlation with bull trout spawning and early rearing areas. These areas include the upper 25 percent of Meadow Creek, Lynx Creek (Running-Goat ERU), and streams in the Selway Headwaters ERU. Although bull trout spawning and early rearing occurs in these areas, it also occurs in other areas outside of this ALTA, most notably the Moose Creek and White Cap Creek watersheds. Resident westslope cutthroat trout occur in sympatry with bull trout in this ALTA. It does not appear, however, to provide significant anadromous salmonid spawning and early rearing areas. This may be a function of poor access as much as other geophysical attributes.

ALTA 2 – GLACIATED SLOPES, HIGH ELEVATION, GRANITIC

DISTRIBUTION

This ALTA is located above about 5500 feet, dominantly high relief, with high and moderate gradient channels, mostly low order. These historically may have provided some habitat for resident fish in moderate gradient reaches. Bedrock and barrier falls may occur and limit accessibility. Snowpack is high, snowmelt is usually sustained, and groundwater is cold. Groundwater upwelling in tills is likely common. Base flows are sustained. Fire disturbance is long-interval, moderate size (few hundred to 10,000 acres), and mixed or lethal.

This ALTA is located over a large portion of the assessment area. Significant inclusions are located in the upper reaches of the following CEWs: Gedney (25 percent), Three Links (60 percent), Moose Creek (65 percent), Pettibone (70 percent), Bear (75 percent), White Cap (65 percent), Selway Headwaters (30 percent, mostly on Nez Perce side), Little Clearwater (80 percent), Running (30 percent), Goat (55 percent), Ditch (40 percent), Marten (75 percent), Mink (60 percent), Otter (40 percent), and Meadow (20 percent). Small inclusions (<20 percent) are also located in O'Hara, Glover, Deep, and Middle and Upper Selway Canyons.

DESCRIPTION

In reviewing the distribution of fish across the basin, anadromous fish are in general not concentrated in this ALTA, although they occur in Bear Creek, White Cap Creek, and the Little Clearwater River within this ALTA. Distribution of salmon and steelhead in Moose Creek is well downstream of this ALTA. Known anadromous fish stronghold spawning and rearing areas are located at lower elevations. Conversely, stronghold allopatric westslope cutthroat trout populations are generally located within this ALTA (higher elevations), which may be more a function of lack of anadromous fish due to elevation or distance barriers. The potentially most significant of the westslope cutthroat subpopulations is located in the upper reaches of North Moose Creek, which is exclusively composed of this ALTA but is also located above a barrier in mainstem North Moose Creek. Other areas where high densities of westslope cutthroat would be expected are often occupied by brook trout, another confounding issue in relating fish distribution to geophysical attributes of the subbasin. A significant departure from the historic condition has likely occurred at the headwaters of Gedney, Three Links, Rhoda, and East Moose Creek which are exclusively composed of this ALTA but are occupied by brook trout. It is a virtual certainty, based on the locations of other cutthroat populations, that these areas were historically occupied by cutthroat trout. A corollary to this is potential loss of locally-adapted subpopulations which contributed to the genetic resilience of the Selway metapopulation to environmental perturbation.

Brook trout, where they occur and have established themselves downstream of high mountain lakes, are exclusively limited to this ALTA and ALTA 5 (described below). Distribution of brook trout, where they exist in allopatry, does not appear to extend beyond these two ALTAs despite other, readily accessible areas downstream. Again, this may be more a function of anadromous fish presence rather than ALTA. It may also be a function of habitat available (i.e. stream gradient, higher sediment, low stream temperatures, etc) which allow brook trout to compete better.

In general, streams in this ALTA appear to have very low levels of deposited sediment, although this may vary both with gradient and disturbance history. Stream temperatures remain cool throughout the summer and may be constant during the winter due to groundwater influence and heavy snowpack.

ALTA 3 – BREAKLANDS, LOW ELEVATION, GRANITIC

DISTRIBUTION

This ALTA is located below about 5000 feet and is comprised of high relief, steep slopes with high and moderate gradient channels, except for large order streams. Channels are usually highly confined in v-shaped valleys. Larger order streams historically provided important spawning and overwintering habitat. Snowpack is low, rain-on-snow events can occur, and snowmelt is often rapid. Peak flows may be flashy. Fire disturbances occur at short and moderate intervals, are moderate sized (several hundred to several thousand acres), and low severity and mixed. Mass wasting and debris torrents are major agents of change.

This ALTA is located upstream of Moose Creek in the Upper Selway Canyon and up into the Selway Headwaters ERU, all along the mainstem Selway River. It is also located on the west side of Moose Creek, up East Moose Creek, and on both sides of the middle portion of Meadow Creek. It extends up the lower reaches of the following CEWs: Moose, Pettibone, Ditch, Bear, Goat, Running, White Cap, Indian, Deep, Little Clearwater, and Storm/Swet Creeks, in addition to encompassing in their entirety small tributaries in the Upper Selway Canyon ERU. Stronghold anadromous fish spawning areas in Moose Creek and in tributaries upstream of Moose Creek are generally located within this ALTA. The flip side of this ALTA is ALTA 8, which is located in North Moose Creek and the subbasin below Moose Creek, extending up the lower reaches of tributaries in this area. ALTA 3 and ALTA 8 support by the most productive anadromous fish spawning and rearing habitat in the subbasin. The mainstem river provides spawning habitat for anadromous fish, but perhaps more significantly functions as THE migration corridor in the subbasin for downstream migrating juveniles and upstream migrating adults.

DESCRIPTION

Although resident fish, which include westslope cutthroat trout and bull trout, are found and may be common within the tributaries of this ALTA, streams within this ALTA do not function as an important spawning or early rearing area for either species. Exceptions include the middle reaches of Meadow Creek, the lower and middle reaches of the Little Clearwater River, and all of Lynx Creek (tributary of Running Creek). They do, however, provide extremely important adult rearing in both the tributaries and the mainstem. The subbasin supports a highly significant fluvial population of both species with various subpopulations; the mainstem river and low reaches of tributaries provide migration corridors in addition to adult rearing habitat which allows both bull trout and cutthroat trout metapopulations to function as they did historically.

Critical to this concept is the frequent disturbance history for streams in this ALTA, which are prone to debris torrents and floods, particularly in response to wildfires on south-facing slopes. In general, streams have high sediment transport capacity and transport sediment efficiently. Levels of deposited sediment are usually low except after flood or debris torrent events, where large amounts of sediment and debris are moved rapidly and redistributed across affected areas. Stream temperatures may be high during the summer months, and winter conditions are generally more variable than those at higher elevations.

Brook trout are not found anywhere in this ALTA.

ALTA 4 – LOW RELIEF HILLS, LOW ELEVATION, GRANITIC**DISTRIBUTION**

This ALTA occurs at mid elevations from 2500 to 5500 feet. Terrain is dominantly low relief, with moderate and low channel gradients. Larger order channels (3rd-4th) tend to be low gradient, with gravel and cobble substrate and low to moderate confinement. These areas historically provided important spawning and rearing habitat for resident and anadromous species (South Fork Clearwater LA). Snowpack is low to moderate, and rain-on-snow events occur occasionally. Runoff and base flows are generally sustained, but less so than in VRU 6. Groundwater is usually cool, but susceptibility to warming, especially in meadow reaches, is substantial. Groundwater upwelling in alluvial valleys may occur and is an important source of cool water. Fire occurs at frequent to moderate intervals, and is often nonlethal or mixed, but lethal fires occur occasionally. Fires may be moderate in size (several hundred to several thousand acres). Geology is granitic and metamorphic, but surface soils are usually not highly susceptible to erosion because of a volcanic ash-influenced loess layer.

DESCRIPTION

This ALTA is of very minor extent in the Middle Fork subbasin, in the middle reaches of Clear Creek, and will not be discussed further.

ALTA 5 – GLACIAL VALLEY BOTTOMS, LOW GRADIENT, GRANITIC**DISTRIBUTION**

This ALTA is located above about 5500 feet and is composed of low relief valleys with moderate and low channel gradients, often with boulders as the dominant substrate. Channels are usually poorly to moderately confined in U-shaped valleys. Bedrock barriers or falls may occur and limit access to upstream reaches. Where accessible, these historically provided important refugia for resident and perhaps some anadromous species. Snowpack is high, snowmelt is usually sustained, and groundwater is cold. Groundwater upwelling in till is likely common. Base flows are sustained. Fire disturbance is at a long to very long interval, moderate size (few hundred to 10,000 acres) and mixed severity.

This ALTA is located in Buck Lake Creek (Meadow ERU), Goat Creek, Marten Creek, Mink Creek, Three Links Creek, Rhoda Creek, Lizard Creek, Wounded Doe Creek, West Moose Creek, North Moose Creek, East Moose Creek (very upper reaches), Bear Creek, Cub Creek, Paradise Creek, White Cap Creek, Running Creek (small inclusion near the headwaters), Indian Creek, Little Clearwater River, and one

stream in Selway Headwaters ERU. All inclusions appear as narrow strips along either side of the above named streams.

DESCRIPTION

There are few areas within this ALTA that support anadromous salmonid spawning or rearing. This ALTA within Bear Creek, Buck Lake Creek, and White Cap Creek may constitute the only areas. Where neither anadromous fish nor brook trout exist, westslope cutthroat are often the dominant species. Examples in this ALTA include Wounded Doe Creek, White Cap Creek, Paradise Creek, Cub Creek, Marten Creek, and Mink Creek. Streams in this ALTA where brook trout occur in allopatry include Three Links, Gedney, Rhoda, Lizard, East Moose, and Running Creeks.

There appears to be no strong correlation between bull trout spawning and early rearing and inclusions of this ALTA. One of the most significant spawning and early rearing areas for bull trout is located in this ALTA, but there are examples where bull trout are either not present or are present in very low numbers, and there are areas bull trout are present in high numbers which are not composed of this ALTA.

ALTA 6 – LOW RELIEF HILLS, MID ELEVATION, GRANITIC

DISTRIBUTION

This ALTA occurs at mid elevations in montane basins, 4000-6000 feet, dominantly low relief, with moderate and low channel gradients. Larger order channels (3rd-4th) tend to be low gradient, with gravel and cobble substrate and low confinement. These areas historically provided important spawning and rearing habitat for resident and anadromous species (South Fork Clearwater LA). Snowpack is moderate, but rain-on-snow events are unlikely. Runoff and base flows are sustained. Groundwater is usually cold, and groundwater upwelling in alluvial valleys may occur. Fire occurs at moderate to long intervals, is often lethal, and is moderate in size (several hundred to several thousand acres). Geologic material is granitics and metamorphics, but surface soils are not usually highly susceptible to erosion because of a volcanic ash-influenced surface layer.

DESCRIPTION

This ALTA is located almost exclusively in the Meadow ERU, with small incursions at the very headwaters of East Fork O'Hara Creek. Within Meadow Creek, meadow habitat characterizes both the upland and riparian condition. This section of Meadow Creek is low gradient and provides important habitat for the resident bull trout, cutthroat trout, and rainbow/steelhead trout found in this area. This ALTA marginally or not significant to anadromous fish in the Selway subbasin, relative to the South Fork Clearwater, probably because of its small amount and difficult access.

ALTA 7 – BREAKLANDS, LOW ELEVATION, BASALT

DISTRIBUTION

This ALTA occurs below about 5000 feet, has high relief and steep slopes, with high and moderate gradient channels except for large order streams (6th to 7th order). These historically provided important overwintering habitat and some spawning habitat for anadromous species. Channels are usually highly confined in narrow valleys. Snowpack is low, rain-on-snow events can occur, and snowmelt is often rapid. Peak flows may be flashy. Fire disturbance is short and moderate interval, moderate size (several hundred to several thousand acres), and low severity or mixed. Debris torrents are major agents of change. Erosion hazard is lower than ALTA 3, but the flashiness of hydrologic regimes makes the channels subject to degradation and aggradation by cobble material

DESCRIPTION

This ALTA is located in the lower half of the Clear Creek watershed and on both sides of the Middle Fork Clearwater River downstream from Syringa, ID. It encompasses all the breaklands in Clear Creek from the mouth upstream to the Forest boundary. The mainstem Middle Fork Clearwater River functions as a migration corridor and provides overwintering habitat for both resident and anadromous fish. The river

currently supports no known mainstem spawning, although historic use by fall chinook salmon may have occurred. Low or moderate-order tributaries to the Middle Fork Clearwater River provide limited spawning for resident and anadromous species and may function as early rearing areas in some cases. Maggie and Suttler Creek both support some steelhead trout spawning, but both have been significantly degraded by land-disturbing activities. Mainstem Clear Creek functions similarly as the Middle Fork Clearwater River, in providing overwintering habitat and functioning as a migration corridor. It may also provide some early rearing and spawning habitat for anadromous fish, although habitat degradation from activities on private land may limit this. No known bull trout spawning or early rearing occurs in this ALTA.

ALTA 8 – BREAKLANDS, MOIST, METAMORPHICS

DISTRIBUTION

This ALTA is below about 5000 feet, with high and moderate channel gradients except for larger order streams (6th to 7th order). Streams are usually highly confined in narrow valleys. Large order streams historically provided overwintering habitat and spawning habitat for anadromous salmonids. Snowpack is moderate, rain-on-snow events can occur, and snowmelt is often rapid. Peak flows may be flashy. Fire disturbance is at moderate to long intervals, and fires are moderate size (several hundred to several thousand acres) and lethal. Soil substrata are sandy and highly erodible, and channels are highly subject to erosion.

Along with ALTAs 2 and 3, this ALTA is one of three which are dominant in the Selway-Middle Fork subbasin. It is located along North Moose Creek, Moose Creek, downstream on either side of the mainstem Selway River from the mouth of Moose Creek to the mouth of the Selway River, down the Middle Fork Clearwater River to about Syringa, Idaho, and throughout much of the Clear Creek watershed above the Forest Service boundary. It includes much or most of the following CEWs: Goddard, O'Hara, all North Selway Face watersheds, Island, Falls, Gedney, and all the Middle Selway Canyon streams. It is also located in the lower reaches of Meadow, Otter, Mink, Marten, and Three Links Creeks.

DESCRIPTION

Similar to ALTA 3, ALTA 8 supports significant spawning and early rearing areas for anadromous fish, particularly steelhead trout, which appear to be ideally suited to the habitat provided by this ALTA. The known steelhead "meccas" in the lower half of the subbasin are found in this ALTA. These streams include Moose Creek, North Moose Creek, the lower reaches of Meadow Creek, the lower reaches of Marten Creek, and most of Gedney Creek. Steelhead trout in general spawn and rear in all accessible streams in this ALTA that are capable of supporting fish.

Spring chinook salmon spawn and rear in some of the larger tributaries in this ALTA, but distribution is scattered, and no specific area supports high numbers. Spawning adults and redds have been documented in the mainstem Selway River throughout this ALTA. Historic spawning and rearing in the Selway River from the mouth upstream to Selway Falls by fall chinook salmon may have occurred prior to hydroelectric development downstream. Mainstem Moose and North Moose Creeks probably sustain the most spawning by salmon, other than the mainstem river. Hatchery spring chinook salmon have been introduced into Meadow Creek in high numbers every year for the past decade, and in O'Hara Creek some years. Hatchery supplementation may result in larger numbers of salmon returning to these streams than would otherwise occur.

Most tributaries and the mainstem river support westslope cutthroat trout, with larger tributaries functioning as migration corridors/adult rearing and smaller tributaries providing spawning and early rearing habitat. Most streams in this ALTA, however, do not support high densities of westslope cutthroat trout or allopatric cutthroat trout. This may be a function of high steelhead densities. Most allopatric cutthroat are located in ALTAs 2 and 5. In ALTA 8, cutthroat are present with some spawning and early rearing in tributaries but are vastly outnumbered by juvenile steelhead. The main river is extremely important to cutthroat, however, because it provides adult rearing and winter rearing habitat, in addition to functioning as a migration corridor.

For bull trout, this ALTA mainly functions as a migration corridor, as there are no known spawning or early rearing areas in the Selway or the Middle Fork Clearwater subbasins in this ALTA. The mainstem Selway and Middle Fork Clearwater Rivers both serve as important migration corridors and as winter rearing. Brook trout may appear in this ALTA, but they are usually on the downstream fringes of their range and exist in sympatry with other species. Streams where they occur in this ALTA include Gedney, Three Links, and Rhoda Creeks.

ALTA 9 - LOW RELIEF HILLS, MID ELEVATION, HIGHLY WEATHERED GRANITICS

DISTRIBUTION

This ALTA occurs at mid elevations in montane basins, 4000-6500 feet, dominantly low relief, with moderate and low channel gradients. Larger order channels (3rd-4th) tend to be low gradient, with gravel and cobble substrate and low confinement. Meadow systems are common. These areas historically provided important spawning and rearing habitat for resident species (Slate Creek EAWS). Snowpack is moderate, but rain-on-snow events are unlikely. Runoff and base flows are sustained. Groundwater is usually cold, and groundwater upwelling in alluvial valleys may occur. Fire occurs at moderate to long intervals, is often lethal, and is moderate in size (several hundred to several thousand acres). Geologic material is highly erodible decomposed granitics. Channels often have highly natural levels of sand and fine gravel, and banks are highly sensitive to disturbance. Surface soils are not usually highly susceptible to erosion because of a volcanic ash-influenced surface layer.

DESCRIPTION

This ALTA is of very minor extent in the headwaters of Lynx Creek and will not be discussed further. This ALTA is probably not significant to resident or anadromous fish in the Selway subbasin, because of its small amount and difficult access.

ALTA 10 – ALLUVIAL VALLEYS, LOW ELEVATION, LARGE ORDER STREAMS

DISTRIBUTION

This ALTA occurs at low elevations along major rivers, as terraces and floodplains. Streams are large and low gradient, and provided spawning and overwintering habitat for anadromous salmonids. Floodplains may also have provided important side channel habitat for juvenile fish. Flows respond to subbasin scale snowmelt and flooding regimes.

DESCRIPTION

ALTA 15 – PLATEAUS, MID ELEVATION, BASALT

DISTRIBUTION

Landtypes in this ALTA are between about 4000 and 6000 feet in elevation, are low relief, and have moderate to low gradient stream channels. Channels are usually fairly resistant and resilient to change. They historically provided habitat primarily for resident fish. Snowpack is moderate, rain-on-snow events unlikely, and runoff is sustained. Fire occurs at moderate intervals and are moderate size (several hundreds to 10,000 acres) and mixed severity.

DESCRIPTION

In the Selway Assessment Area, this ALTA is located in the Middle Fork Face and Clear Creek ERUs only. Streams in this ALTA are generally low order. Included are the main fork of Clear Creek downstream of the Forest Service boundary, the upper portions of Maggie and Suttler Creek (off National Forest lands), and at the top of Lodge Creek in or near the Middle Fork Timber Sale area (on National Forest land). There are no other inclusions of this ALTA upstream of the Lodge Creek area. Off National Forest land, much of this ALTA is cultivated for hay production, especially at higher elevations.

Streams in this ALTA, therefore, are relatively unimportant as directly providing fish habitat, although they may be important contributors.

ALTA 16 – PLATEAUS, LOW ELEVATION, BASALT

DISTRIBUTION

This ALTA occurs at low elevations between 2000 to 4000 feet, and consists of basalt plateaus, and has moderate to low gradient stream channels. Channels are usually fairly resistant and resilient to change. They historically provided habitat primarily for resident fish. Snowpack is low, rain-on-snow events fairly common, and runoff is not sustained. Fire historically occurred at frequent intervals, but many areas have been converted to agriculture, and both disturbance regimes, channel morphology, and flow regimes have been significantly altered in many areas.

DESCRIPTION

This ALTA is of very minor extent in the subbasin and will not be discussed further.

ALTA 17 – LOW RELIEF HILLS, MOIST, METAMORPHICS

DISTRIBUTION

Landtypes in this ALTA are between 4000 and 5500 feet in elevation, with moderate and high gradient channels. Channels are low order, in moderate to highly confined v-shaped or trough-shaped valley bottoms. They are moderately resistant and resilient. These areas historically provided limited habitat. Snowpack is moderate, rain-on-snow events can occur but runoff is not often flashy. Fire disturbance is moderate to low frequency, mixed severity, and moderate size (hundreds to 10,000 acres).

DESCRIPTION

This ALTA is located sporadically across the lower portion of the assessment area, encompassing areas in both the Selway and Middle Fork subbasins. The upper half of Clear Creek, on National Forest land, exhibits the highest percentage. There are also small inclusions on the north side of the Middle Fork Clearwater River (on the Clearwater National Forest), in West Fork O'Hara Creek, Island Creek, Falls Creek, and Horse Creek (Meadow ERU).

Streams in this ALTA are important to fish mostly as contributors to downstream reaches that support fish. In general, no significant fish-bearing streams run through this ALTA, with possible exceptions in Clear Creek. Fish present are likely resident only, consisting of rainbow/redband trout or westslope cutthroat trout.

ALTA 18 – ALLUVIAL VALLEYS, MID AND UPPER ELEVATION

DISTRIBUTION

These landtypes are above 3000 feet, with low gradient channels, poorly confined in trough-shaped valley bottoms or flat valleys in canyons. Low gradient channels are usually not resistant or resilient. These areas historically provided important spawning and rearing habitat. Snowpack is moderate to high, rain-on-snow events seldom occur, and runoff is sustained from adjacent uplands. Groundwater upwelling may be common. Fire disturbance is moderate to low frequency, low to mixed severity, and these valleys usually only burn as part of extreme fire conditions in the uplands.

This ALTA is located only one place in the assessment area. This area occurs along the valley bottom of East Moose Creek from its mouth upstream past Elbow Bend up to near the headwaters and from the confluence of North and East Moose Creeks down Moose Creek to its confluence with the Selway River. It also extends up North Moose Creek about two miles. This ALTA is a prominent feature where it occurs because of the large flats and terraces associated with it. In East Moose Creek it supports a significant coastal disjunct community.

DESCRIPTION

Streams in this ALTA are important to all species of fish. It functions as a migration corridor and supports spawning, early rearing, and adult rearing in both the larger mainstems and tributaries. It is especially important for anadromous fish.

ALTA 21 – MOUNTAIN UPLANDS, GRANITIC

DISTRIBUTION

Landtypes in this ALTA are above 5000 feet, with moderate and high gradient channels, usually well-confined in v-shaped or trough-shaped valley bottoms. Channels are usually resistant and resilient. These are cold water source areas but low order channels are often too steep or too small for high fish habitat potential. Third order channels or higher may have good habitat potential for cold water dependent resident species. Snowpack is moderate to high, rain-on-snow events seldom occur, and runoff is usually sustained. Fire disturbance is moderate to low frequency, small to moderate in size (hundreds to a few thousand acres), and mixed severity.

This ALTA is located across the assessment area, from the headwaters of Clear Creek all the way to and including the Selway Headwaters ERU. Watersheds with this ALTA include Clear, Rackliffe, 19-Mile, Boyd, Glover, Gedney, Goddard, O'Hara, Island, Meadow, Pinchot, Ballinger, Cupboard, Goat, Running, Bear, White Cap, Snake/Wyntest, Indian, Deep, and all streams in the Selway Headwaters ERU.

DESCRIPTION

Streams in this ALTA mostly support resident cutthroat and rainbow trout, although some streams in the Selway Headwaters ERU also probably support steelhead trout spawning and early rearing areas.

APPENDIX E

FIRE REGIMES

Fire regimes describe the frequency, severity, ecosystem effects, and extent of wildfire in natural or altered systems (Heinselman 1978, Agee, 1993). Fire disturbance is an important agent of change in the subbasin. Presettlement fire regimes were mapped using habitat type group, and terrain setting. See Map XXX. Fire regime classifications were adapted from Morgan et al. (1996) to more closely reflect local conditions. An assessment how fire and harvest disturbances have altered within fire regime areas provides information on likely trends in vegetation succession, wildfire behavior and effects, and insect and disease dynamics. See the fire disturbance discussion in Chapter 4.

VERY FREQUENT, NONLETHAL

This fire regime was applied to low elevation grasslands and ponderosa pine and Douglas-fir habitat types. Mean fire frequency ranged from 5-25 years. Most fire events were low severity. Mixed severity fire occurred occasionally, and stand replacement occurred infrequently. This fire regime is fairly common on low elevation, steep southerly aspects in the main canyons. It is thought to be the most highly altered since presettlement times. The likelihood of stand replacement has increased as fire intervals have been missed.

FREQUENT, MIXED

This fire regime was applied to low elevation grand fir habitat types in canyons influenced by rapid spreading fire from drier habitat types. Mean fire frequency ranged from 25-75 years. Many fires burned at low or mixed severity with localized more severe effects. Stand replacement occurred less frequently under severe burning conditions. This fire regime is fairly common on low elevation grand fir habitat types in the main canyons. It was also applied to high elevation open forests of whitebark pine and subalpine fir. Abundant rock and low fuel accumulations typically resulted in mixed fire effects in these high elevation settings. Fire suppression and mortality of whitebark pine have increased the likelihood of greater stand replacement in areas mapped as having this fire regime.

INFREQUENT, LETHAL

This fire regime was applied to mid and upper elevation, cool, dry grand fir and subalpine fir habitat types in uplands where fire spread is little impeded by drainage dissection, and where lodgepole pine was a common cover type. Mean fire frequency ranged from 75 to 150 years. A high proportion of fires burned at high severity. This fire regime was fairly common in headwater areas of the subbasin. These areas would burn similarly today, but perhaps over larger areas because of greater continuity of fuel conditions in the landscape. However, many areas in presettlement fire regimes of high frequency and lower severity are now more likely to burn with high severity over large areas.

VERY INFREQUENT, MIXED

This fire regime was applied to low elevation, moist cedar and grand fir habitat types on north aspects in canyons or on uplands. Mean fire frequency ranged from 150-300 years. About 50 percent of fires burned at high severity and 50 percent with more mixed effects. More extensive stand replacement occurred under severe burning conditions. This fire regime was fairly common in the west and north portion of the subbasin. Fire suppression has increased the continuity of fuels, and the likelihood of greater stand replacement or larger fires in areas mapped as having this fire regime.

EXTREMELY INFREQUENT, MIXED AND LETHAL

This fire regime was applied to wet cedar, grand fir and subalpine fir habitat types that usually occur along streams or on lower slopes of north aspects. Mean fire frequency could be more than 300 years. These areas usually only burned under severe drought and weather conditions, and then were likely to burn with severe effects. This fire regime is of limited extent in the subbasin. Fire suppression has little affected these areas directly. However, suppression effects in adjacent uplands may have increased the likelihood of fire and severe effects in areas mapped as having had this fire regime.

APPENDIX F
WILDLIFE HABITAT BY ERU

Clear Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	14%	86%	0%
Early Seral	86%	44%	
Mid Seral	5%	19%	
Late Seral	1%	26%	
Old Growth	0	12%	
Total Acres	64,063		
Rock	0%		
Water	0%		

Gedney-Three Links ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	5%	90%	4%
Early Seral	59%	65%	72%
Mid Seral	25%	23%	23%
Late Seral	10%	8%	4%
Old Growth	6%	5%	1%
Total Acres	59,918		
Rock	6%		
Water	0%		

Deep Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	29%	64%	7%
Early Seral	34%	37%	30%
Mid Seral	44%	49%	69%
Late Seral	0%	1%	0%
Old Growth	22%	13%	0%
Total Acres	36,234		
Rock	0%		
Water	0%		

Indian Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	31%	56%	12%
Early Seral	41%	42%	18%
Mid Seral	26%	39%	78%
Late Seral	2%	4%	0%
Old Growth	27%	14%	4%
Total Acres	31,983		
Rock	0%		
Water	0%		

Ditch Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	16%	80%	4%
Early Seral	58%	41%	49%
Mid Seral	18%	30%	46%
Late Seral	9%	17%	0%
Old Growth	16%	11%	6%
Total Acres	11,510		
Rock	2%		
Water	0%		

Lower Selway Canyon ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	14%	86%	0%
Early Seral	7%	13%	
Mid Seral	33%	44%	
Late Seral	26%	20%	
Old Growth	33%	23%	
Total Acres	18,578		
Rock	0%		
Water	0%		

Marten Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	5%	84%	11%
Early Seral	42%	32%	36%
Mid Seral	46%	36%	42%
Late Seral	4%	12%	0%
Old Growth	8%	21%	22%
Total Acres	20,972		
Rock	1%		
Water	0%		

Moose Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	4%	89%	7%
Early Seral	35%	41%	50%
Mid Seral	38%	41%	46%
Late Seral	15%	10%	0%
Old Growth	12%	8%	4%
Total Acres	233,089		
Rock	5%		
Water	0%		

Meadow Creek ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	5%	93%	2%
Early Seral	8%	33%	67%
Mid Seral	58%	49%	21%
Late Seral	8%	4%	0%
Old Growth	27%	14%	12%
Total Acres	155,087		
Rock	0%		
Water	0%		

North Selway Face ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	8%	92%	0%
Early Seral	47%	61%	
Mid Seral	23%	23%	
Late Seral	15%	3%	
Old Growth	15%	13%	
Total Acres	22,462		
Rock	0%		
Water	0%		

Middle Fork Clearwater Face ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	34%	66%	0%
Early Seral	59%	46%	
Mid Seral	18%	21%	
Late Seral	19%	26%	
Old Growth	4%	7%	
Total Acres	74,248		
Rock	2%		
Water	1%		

O'Hara Goddard ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	3%	97%	0%
Early Seral	10%	20%	
Mid Seral	64%	39%	
Late Seral	18%	21%	
Old Growth	9%	19%	
Total Acres	64,1423		
Rock	0%		
Water	0%		

Middle Selway Canyon ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	11%	88%	1%
Early Seral	37%	54%	41%
Mid Seral	25%	23%	48%
Late Seral	19%	18%	0%
Old Growth	20%	4%	10%
Total Acres	61,342		
Rock	1%		
Water	0%		

Otter Mink ERU

Canopy Density	Habitat Type		
	Xeric	Mesic	Alpine
	6%	87%	7%
Early Seral	35%	38%	31%
Mid Seral	37%	33%	39%
Late Seral	18%	17%	0%
Old Growth	9%	12%	31%
Total Acres	20,764		
Rock	0%		
Water	0%		

Pettibone Bear ERU

	Habitat Type		
Canopy Density	Xeric 13%	Mesic 80%	Alpine 8%
Early Seral	38%	39%	50%
Mid Seral	19%	34%	38%
Late Seral	5%	6%	0%
Old Growth	37%	21%	13%
Total Acres	135,747		
Rock	8%		
Water	0%		

Upper Selway Canyon ERU

	Habitat Type		
Canopy Density	Xeric 47%	Mesic 51%	Alpine 2%
Early Seral	48%	36%	30%
Mid Seral	24%	34%	68%
Late Seral	7%	15%	0%
Old Growth	20%	15%	3%
Total Acres	108,032		
Rock	3%		
Water	0%		

Running Goat ERU

	Habitat Type		
Canopy Density	Xeric 21%	Mesic 75%	Alpine 4%
Early Seral	38%	28%	45%
Mid Seral	29%	26%	50%
Late Seral	10%	6%	0%
Old Growth	22%	19%	5%
Total Acres	76,500		
Rock	2%		
Water	0%		

White Cap Creek ERU

	Habitat Type		
Canopy Density	Xeric 34%	Mesic 48%	Alpine 18%
Early Seral	43%	42%	52%
Mid Seral	17%	36%	42%
Late Seral	7%	3%	1%
Old Growth	33%	19%	5%
Total Acres	84,751		
Rock	18%		
Water	0%		

Selway Headwaters ERU

	Habitat Type		
Canopy Density	Xeric 16%	Mesic 58%	Alpine 27%
Early Seral	31%	29%	23%
Mid Seral	45%	60%	74%
Late Seral	1%	1%	0%
Old Growth	23%	11%	3%
Total Acres	142,477		
Rock	1%		
Water	1%		

APPENDIX G
RECREATION OPPORTUNITY SPECTRUM (ROS) CLASSES
AND LIMITS OF ACCEPTABLE CHANGE

Table G.1: Recreation Opportunity Spectrum Definitions

	Primitive	Semi-primitive Non-motorized	Semi-primitive Motorized	Roaded Natural	Rural
Experience Opportunity	Isolation from sights and sounds of humans. High degree challenge and risk.	Isolation from sights and sounds of humans. Independence. Moderate to high degree of challenge and risk.	Moderate isolation from sights and sounds of humans. Independence, self-reliance. Moderate degree of challenge and risk.	About equal opportunity to experience social contact or to experience isolation. Opportunity to test and practice outdoor skills in area of moderate risk and challenge.	High probability for social interaction. Outdoor skills generally not needed.
Setting	Large area of unmodified natural environment. Few human induced restrictions.	Moderate to large sized natural or naturally appearing area. Minimum of restrictions.	Predominately natural appearing moderate to large size area. Motorized use permitted.	Predominately natural appearing environment. Resource modifications harmonize with environment.	Predominately modified environment. Resource modifications obvious.
Remoteness	Usually 3 miles from transportation corridor with motorized use.	½ mile from roads, trails, etc., with motorized use.	½ mile from gravel or single-lane paved roads.	½ mile from double-lane paved roads and railroads.	None
Evidence of Humans	Evidence of humans unnoticed by traveler. Structures very rare.	Modifications don't draw attention. Structures rare.	Modifications don't draw attention of motorized visitor. Other roads and trails obvious. Structures rare.	Modifications easily noticed. Other roads, trails, obvious. Structures scattered.	Modifications often dominate. Strong evidence of roads, parking lots. Structures readily apparent/
Social Setting	Less than 6 parties per day encountered on trails. Less than 3 parties visible from campsite.	6-15 parties per day encountered on trails. 6 or less parties visible at campsite.	15-30 parties per day contacted on trails. 10 or less parties at campsites.	30 + parties per day contacted on trails. More than 10 parties visible from campsites.	Frequent to continuous contact with other parties.

	Primitive	Semi-primitive Non-motorized	Semi-primitive Motorized	Roaded Natural	Rural
Managerial Setting	Controls primarily offsite.	On-site controls and regimentation subtle.	On-site controls and regimentation subtle.	On-site controls and regimentation obvious.	Regimentation and controls obvious and numerous.
Trail Standard					
Grade					
Sustained	20%	20%	15%	15%	12%
Maximum Pitch	no limit	30%	25%	20%	15%
Clearing					
Height	8'	8'	8'	8'	8'
Width	36"	36"-48"	36"-48"	36"-48"	48"+
Tread Width	12"	12"-18"	18"	18"	18"-24"+
Surface	Natural, many rocks, downed logs.	Natural, spot gravel. Some rocks, downed logs.	Mostly natural. Sections of gravel surface. Roots, imbedded rocks in place.	Gravel, chips, surfacing, when necessary.	Gravel, chips, or paved.
Setting Characterization	Area is characterized by essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.	Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.	Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted.	Area is characterized by predominantly natural-appearing environments with moderate evidences of the sights and sounds of man. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and	Area is characterized by substantially modified natural environment. Resource modification and utilization practices are to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate densities are provided far away from developed sites. Facilities for intensified motorized use and parking are available.

	Primitive	Semi-primitive Non-motorized	Semi-primitive Motorized	Roaded Natural	Rural
				design of facilities.	
Experience Characterization	Extremely high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.	High, but not extremely high, probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk.	Moderate probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk. Opportunity to have a high degree of interaction with the natural environment. Opportunity to use motorized equipment while in the area.	About equal probability to experience affiliation with other user groups and for isolation from sights and sound of humans. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities associated with more primitive type of recreation are not very important. Practice and testing of outdoor skills might be important. Opportunities for both motorized and non-motorized forms of recreation are possible.	Probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. These factors are generally more important than the setting of physical environment. Opportunities for wild-land challenges, risk taking, and testing of outdoor skills are generally unimportant except for specific activities like downhill skiing, for which challenge and risk-taking are important elements.

	Primitive	Semi-primitive Non-motorized	Semi-primitive Motorized	Roaded Natural	Rural
Land Based Activity Characterization	Viewing Scenery Hiking and Walking Horseback Riding Tent Camping Hunting Nature Study Mountain Climbing	Viewing Scenery Automobile (off-road use) Motorcycle and Scooter Use Specialized Land craft Use Aircraft Use Hiking and Walking Horseback Riding Camping Hunting Nature Study Mountain Climbing	Viewing Scenery Viewing Activities Viewing Works of Human-Kind Automobile (includes off-road use) Motorcycle and Scooter Use Specialized Land craft Use Train and Bus Touring Aircraft Use Aerial Trams and Lifts Use Hiking and Walking Bicycling Horseback Riding Camping Picnicking Resort and Commercial Services Use Resort Loading Recreation Cabin Use Hunting Nature Studies Mountain Climbing Gathering Forest Products Interpretive Services		Viewing Scenery Viewing Activities Viewing Works of Human-Kind Automobile (includes off-road use) Motorcycle and Scooter Use Train and Bus Touring Aircraft Use Aerial Trams and Lifts Use Hiking and Walking Bicycling Horseback Riding Camping Picnicking Resort and Commercial Services Use Resort Lodging Recreation cabin Use Hunting Nature Studies Gathering Forest Products Interpretive Services Team Sports Participation Individual Sports Participation Games and Play Participation

	Primitive	Semi-primitive Non-motorized	Semi-primitive Motorized	Roaded Natural	Rural
Water Based Activity Characterization	Canoeing Other Watercraft (non-motorized use) Swimming Fishing	Boating (powered) Canoeing Sailing Other Boating Swimming Diving (skin or scuba) Fishing	Tour Boat and Ferry Use Boat (Powered) Canoeing Sailing Other Watercraft Use Swimming and Waterplay Diving (skin and scuba) Waterskiing and WaterSports Fishing		Tour Boat and Ferry Use Boat (Powered) Canoeing Sailing Other Watercraft Use Swimming and Waterplay Diving (skin and scuba) Waterskiing and Watersports Fishing
Snow and Ice Based Activity Characterization	Snow play X-Country Skiing/Snowshoeing	Ice and Snow Craft Use Skiing, Downhill Snow play X-Country Skiing/Snowshoeing	Ice and Snow Craft Use Ice Skating Sledding and Tobogganing Downhill Skiing Snow play X-Country Skiing/Snowshoeing		Ice and Snow Craft Use Ice Skating Sledding and Tobogganing Downhill Skiing Snow play X-Country Skiing/Snowshoeing

These activities (from R1 M FSH 2309.11) are illustrative only.

LIMITS OF ACCEPTABLE CHANGE (LAC)

LAC (Limits of Acceptable Change) Planning System provides managers with clear objectives for management that will assure the integrity of the Wilderness resource. It is a management framework portraying the desired future condition for the Selway Bitterroot Wilderness (SBW), and a means for gauging and accomplishing those objectives.

The goal of this management direction is to preserve the integrity of the SBW resource to meet the purposes described in the Wilderness Act; to protect and preserve natural conditions so that the wilderness 1) generally appears to have been affected primarily by the forces of nature, with the imprint of human work substantially unnoticeable, and 2) has outstanding opportunities for solitude or primitive and unconfined recreation.

The desired future condition for the SBW is to prevent significant deterioration by preventing or correct impacts that could have an adverse cumulative effect. The “minimum tool principle” will be applied to the management of all resources within the SBW. Minimum management actions will be implemented that accomplish the objective with the least impact on the physical, biological, and social characteristics of Wilderness.

Area within the SBW is classified into four opportunity classes or zones. By allocating different opportunity classes, overall degradation of the wilderness resource can be prevented, while simultaneously establishing realistic objectives for those areas that receive more use and impacts. Each area is managed to meet the limit of acceptable change prescribed for its designated opportunity class. The opportunity class descriptions provide a managerial framework for managing toward desired future conditions by outlining the following desired resource, social and managerial settings.

SELWAY-BITTERROOT WILDERNESS

Table G. 2: Summary of Resource and Social Setting Components for Each Opportunity Class

	Opportunity Class			
	1	2	3	4
RESOURCE SETTING: General Description	Unmodified natural environment	Unmodified natural environment	Unmodified natural environment	Predominantly unmodified natural environment
1. Ecological conditions	Not measurably affected by the action of users.	Some sites slightly affected by the action of users.	Some sites moderately affected by the action of users.	Many sites substantially affected by the action of users.
2. Prevalence and duration of impact.	Not measurably affected by the action of users.	Some sites slightly affected by action of users.	Some sites moderately affected by the action of users.	Many sites substantially affected by the action of users.
3. Visibility	Noticeable to a few visitors	Apparent to a moderate number of visitors.	Apparent to moderate number of visitors.	Impacts are readily apparent to most visitors.
SOCIAL SETTING: General Description	Outstanding opportunity for isolation and solitude.	High opportunity for isolation and solitude.	High opportunity for isolation and solitude.	Moderate to low opportunities for isolation & solitude.
1. General level of encounters	Extremely rare	Very infrequent	Low	Moderate - high
2. Degree of challenge	Very high	High	Moderate	Moderate - low
3. Interparty contacts while traveling	Extremely rare	Very few	Low	Relatively high
4. Interparty contacts at the campsite	Non-existent	Very low	Low	Moderately frequent

Table G.3: Summary of Managerial Setting Components for Each Opportunity Class

	Opportunity Class			
	1	2	3	4
MANAGERIAL SETTING: General Description	Management strongly emphasizes sustaining the natural ecosystem.			
1. Contact with management personnel during normal use season	Occurs by invitation, or to correct apparent potential problems. Discussion items limited to meeting visitor information requests, distributing use, and achieving compliance with rules and regulations.			
2. Rules and regulations and visitor behavior	Will be communicated to visitors primarily outside of the wilderness areas such as at trailheads and boundary portals. When necessary, on-site enforcement and communication of rules and regulations will be conducted.			
3. Formal and Informal user education programs	Will be initiated outside wilderness to inform users about what to expect and how to employ minimum impact skills.			
4. Formal rules and regulations	May be necessary to achieve management objectives. Permits may be considered only when light-handed, less restrictive measures have consistently failed to achieve desired goals and objectives.			
5. Presence and extent of signing	No signs will be permitted, except for rare instances involving federal liability or resource damage.	Minimum necessary to meet federal liability, policy, or provide for resource protection.	Trail signs permitted. Other signs may be present for resource protection or federal liability only, and will provide only minimal information.	Signs will be placed to aid in distributing and dispersing use, for resource protection, and for fed
6. General level of trail management	No system trails. Existing trails will not be maintained.	Manage system trails to appropriate standard to accommodate light use.	Manage system trails to appropriate standard to accommodate light to moderate levels of use.	Manage system trails to appropriate standard to accommodate heavy traffic
7. Presence of administrative structures (This does not include trail structures.)	No new structures permitted. Historically significant structures and lookouts acceptable.		Allowed as described in the section Administrative Activities and Facilities	
8. Presence of permanent structures (corrals, hitch racks, etc.)	None allowed, temporary structures	None allowed, temporary structures only	None allowed, temporary structures only.	Permitted as necessary for resource protection. Native materials only.
9. Presence of temporary structures	Allowed only as last resort. To be completely dismantled and removed when not in use, or if the resource problem is corrected.	Allowed for resource protection. Removed when not in use, or if the resource problem is corrected.		Removed when not in use.

The indicators and standards are displayed in the table below.

Table G.4: Standards For Site And Social Indicators

	Opportunity Class			
	1	2	3	4
1. Maximum # of sites at a particular impact rating per square mile. ¹	0 - 1 light 0 moderate 0 heavy or extreme	1 light 1 moderate 0 heavy or extreme	2 light 1 moderate 0 heavy or extreme	1 light 2 moderate 1 heavy or extreme ²
2. Maximum # of sites per square mile. ³	1	2	3	4
3. Maximum # of other parties encountered each day.	80 % Change of Meeting No More Than ⁴			
	0 Parties	0 Parties	2 Parties	5 Parties
4. Maximum # of other parties camped within sight or sound.	80 % Change of Seeing or Hearing No More Than			
	0 Parties	0 Parties	1 Party	2 Parties

¹ A "site" will include any area of human impact, including discontinuous areas where use is likely to be by the same group, such as stock holding areas, or separate tent pads. For purposes of determining sites per square mile, this also includes dams and administrative sites, but does not infer that either will be removed. Outfitter base camps within the Selway-Bitterroot Wilderness are not subject to the impact level standard, but will be counted towards "maximum number of sites per square mile". Base camps generally function as a hub of operations servicing outlying camps. Generally an outfitter would have only one base camp in the wilderness. In some instances, an outfitter may not have this type of operational camp within the wilderness. In rare instances an outfitter might have more than one base camp when needed to service separate groups of outlying camps. Base camp impacts will be managed separately through the outfitter's special use permit, and base camp standards will be identified when management direction for special uses is updated. Impacts are evaluated by using a standardized procedure that gauges the degree of various impact parameters including vegetation loss, soil disturbance, damage to trees, developments, cleanliness, etc.

² Any sites rated as "extreme" in Opportunity Class 4 will require an administrative review to identify actions necessary to prevent further deterioration, and to strive to lessen the impacts. Recommended actions will be analyzed to predict and minimize potential adverse effects on the adjacent area.

³ Sites per square mile (Indicators 1 and 2) will be determined using a "roving" square mile grid within the given opportunity class. This means that from any given site, the maximum number of sites that fit within a roving square mile area will be counted.

⁴ Encounters will be measured and analyzed during the "use season" which is the time period during which the area is reasonably snow free, allowing for the movement of people and stock. Though there is some winter use, this will not be counted as part of the use season. The use season will vary depending on conditions such as elevation.

APPENDIX H

OLD GROWTH RECOMMENDATIONS

These are interim recommendations recognizing that Forest Plan standards were developed to meet minimum needs of a few individual species and with little recognition of the variety of old growth types, disturbance settings and historic occurrence. The recommendations given here are based on analysis of R1EDIT stand exam data, fire ecology literature, and historic photos and narratives of vegetation in the Nez Perce Forest area. The old growth types follow Green et al. 1992. Minimum requirements vary by old growth type. Minimum age varies from 120 years for lodgepole pine forest types to 150 years for other forest types. Stands must have a minimum of 3-10 trees per acre greater than 13-25 inches dbh, varying by old growth type. The types are referred to as NIOG Types in the following table. The recommendations on amount of each old growth type, most likely location, and disturbance regime, are the most soundly grounded in historic data. Percent old growth is on the basis of the cumulative effects watershed (5th code) rather than the prescription watershed or subwatershed used in the Forest Plan. Analysis would be required to see if these recommendations would be appropriate at a finer scale. Persistence through time refers to the likely age limits of the older stand components, before they would be expected to succumb to fire or other mortality. Information on patch size is based on historic data for this subbasin. Because much of the Nez Perce is dominated by mixed severity fire regimes, many stands retain some old growth attributes (scattered large old trees, snags, down wood) through one or more disturbances. To retain some of the elements of these old growth types (like two story stands of old larch over a younger understory), some periodic disturbance may be needed.

Interim Recommendations for Old Growth by Vegetation Response Unit

VRU	Percent Old Growth	Most Common Types	Most Likely Locations	Likely Persistence Through Time	Patch Size (Acres)
1	10-15	Spruce-fir, minor lodgepole or mixed conifer (NIOG types 2, 4, 5, 8)	Wet areas, north aspects	Spruce-fir: to 300 years, lodgepole to 200 years, mixed conifer to 300 years with infrequent mixed and lethal disturbance	Mean: 34 Median: 12 Max: 1073 55% of old growth acres occur in patches of 100-1100 acres
2	5-10	Spruce-fir, minor lodgepole or whitebark pine (NIOG types 2, 4, 5, 8)	Trough bottoms, north aspects, rocky ridges	Spruce-fir: to 300 years, lodgepole and whitebark pine to 200 years with infrequent mixed and lethal disturbance	Mean: 118 Median: 16 Max: 3199 54% of old growth acres occur in patches of 1000-3200 acres
3: south aspects	40-60	Ponderosa pine (NIOG Type 1)	Midslopes, ridges	To 350 years, with very frequent low severity disturbance	Mean: 57 Median: 15 Max: 5952 47% of old growth acres occur in patches of 1000-6000 acres
3: north aspects	20-30	Ponderosa pine, mixed conifer (NIOG Types 3, 4)	Ridges, upper slopes	To 350 years, with frequent mixed severity disturbance	
6	5-15	Spruce-fir, mixed conifer, minor lodgepole pine (NIOG types 2, 4, 5)	Wet areas	To 300 years with infrequent, high severity disturbance	Mean: 29 Median: 12 Max: 162 47% of old growth acres occur in patches of 100-200 acres
7	30-40	Mixed conifer, spruce-fir (NIOG Types 3, 4, 5)	Lower slopes, north aspects	To 300 years with infrequent, mixed severity disturbance	Mean: 31 Median: 19 Max: 152 59% of old growth acres occur in patches of 40-300 acres
8	10-15	Mixed conifer, western redcedar (NIOG types 3, 4, 7)	Lower slopes, large valleys	To 600 years with infrequent to very infrequent mixed severity disturbance	Mean: 57 Median: 17 Max: 1446 46% of old growth acres occur in patches of 300-1500 acres
9	5-15	Whitebark pine, spruce-fir (NIOG Types 8, 9)	Open ridges	To 300 years with frequent to infrequent mixed severity disturbance	Mean: 24 Median: 13 Max: 174 52% of old growth acres occur in patches of 40-200 acres
10	15-30	Spruce-fir, mixed conifer (NIOG types 3, 4, 5)	Lower slopes, wet areas, north aspects	To 350 years with infrequent, mixed severity disturbance	Mean: 62 Median: 23 Max: 721 67% of old growth acres occur in patches of 40-800 acres
17	20-35	Western redcedar, mixed conifer (NIOG types 3, 4, 7)	Any position	To 500 years with infrequent to very infrequent mixed disturbance	Mean: 62 Median: 20 Max: 966 48% of old growth acres occur in patches of 300-1000 acres

APPENDIX I

SNAGS AND COARSE DOWN WOODY MATERIAL

The guidelines suggested here are interim recommendations recognizing that Forest Plan standards did not address the variability found in snag and down wood dynamics in functioning natural systems. The recommendations are adapted from the Payette National Forest (USDA, 1995), but they have been applied to harvest as well as burned areas. A more rigorous analysis has been done by a regional team (USDA, 2000) and their recommendations for large snags of long-standing species have been considered, but that analysis did not result in provision for periodic pulses of snags, such as those resulting from wildfire. Nor does that protocol consider the variability associated with different severity of disturbance. Supplemental creation of snag patches through use of management-ignited fire is recommended where natural rates of fire occurrence are not allowed. In areas where timber harvest occurs, live trees may be left, and later burned, or unharvested adjacent acres may be burned when harvest fuels are burned. Minimizing salvage logging after fire or insect caused mortality would also help address the acute shortages of snag habitat compared to historic levels.

Snags are dead trees. Where dead trees are not present in a harvest area, live trees may be left in their place, in addition to the green trees left as recommended in Table I-2 for long term snag recruitment.

Snag densities should meet the guidelines on each 10-acre area considered. These numbers are closer to lower limits of natural occurrence than upper. They may be exceeded. Distribution should consist of clumps and individual trees. Few acres should be without a snag. The objective of snag distribution is diversity within and across disturbed areas.

Guidelines aim for an overall diversity of decay class and heights. Where snags of one size class are not available, other size classes may be substituted. Snags should reflect the natural condition. If the majority of trees are 30 inches or greater, then snags retained should be of comparable size.

Unharvested riparian acres can contribute to the total snag requirements for an area based on the proportion of riparian acres in the area and the occurrence of snags in these areas.

Consider the historic role of certain forest settings in providing periodic pulses of dense snag habitat. Management activities in VRUs 3 and 8 should consider supplementing the snag guidelines with management created snag patches amounting to at least 10 percent of the harvest acres. Harvest activity in VRUs 1, 2, 7, 10, and 17 should consider supplementing the snag guidelines with management created snag patches amounting to at least 5 percent of the harvest acres.

**Table I-1 Interim Recommended Snag Density: Low Severity Fire or Harvest
Removing less than 30 percent of Original Basal Area**

Cover Type	Snags/Acre 10-14.9 in. dbh	Snags/Acre 15-19.9 in. dbh	Snags/Acre 20-23.9 in. dbh	Snags/Acre 24 in.+ dbh	Total Snags/Acre	Total Snags/ 10 Acres
Subalpine fir / Engelmann spruce	5.0	2.5	1.0	1.0	9.5	95
Mixed conifer						
Canopy <40%	.5	.2	.4	1.4	2.5	25
Canopy >40%	2.5	3.0	2.0	1.5	9.0	90
Lodgepole pine						
Canopy < 40%	3.5	1.0	all present	all present	4.5+	45+
Canopy > 40%	6.0	1.7	all present	all present	7.7+	77+
Ponderosapine/Douglas- fir						
Canopy <40%	.2	.2	.1	.7	1.2	12
Canopy > 40%	1.3	1.4	.8	1.3	4.8	48

**Table I-2 - Interim Recommended Snag Density: Moderate Fire Severity, or Harvest
Removing 30 to 70 Percent of Original Basal Area**

Cover Type	Snags/Acre 10-14.9 in. dbh	Snags/Acre 15-19.9 in. dbh	Snags/Acre 20-23.9 in. dbh	Snags/Acre 24 in.+ dbh	Total Snags/Acre	Total snags/ 10 Acres
Subalpine fir / Engelmann spruce	5.0	2.5	2.0	2.0	11.5	115
Mixed conifer						
Canopy <40%	.5	.2	.6	2.1	3.3	33
Canopy >40%	2.5	3.0	3.0	2.3	10.8	108
Lodgepole pine						
Canopy < 40%	3.5	1.0	all present	All present	4.5+	45+
Canopy > 40%	6.0	1.7	all present	all present	7.7+	77+
Ponderosa pine/Douglas-fir						
Canopy < 40%	.6	.4	.6	1.8	3.4	34
Canopy > 40%	1.3	1.4	1.2	2.0	5.9	59

Table I-3 - Interim Recommended Snag Density: High Fire Severity or Harvest Removing More than 70 Percent of Original Basal Area

Cover Type	Snags/Acre 10-14.9 in. dbh	Snags/Acre 15-19.9 in. dbh	Snags/Acre 20-23.9 in. dbh	Snags/Acre 24 inches+ dbh	Total Snags/Acre	Total snags/10 Acres	Need for periodic pulses of dense snag patches
Subalpine fir / Engelmann spruce	5.0	2.5	3.0	3.0	13.5	135	Moderate
Mixed conifer							
Canopy <40%	.3	.5	.6	1.8	3.2	32	Moderate
Canopy >40%	2.5	4.0	4.0	3.0	13.5	135	High
Lodgepole pine							
Canopy < 40%	3.5	2.0	all present	all present	5.5+	55+	Moderate
Canopy > 40%	6.0	2.0	all present	all present	8.0+	80+	High
Ponderosa pine/Douglas-fir							
Canopy < 40%	.9	.6	.9	2.7	5.1	51	Low
Canopy > 40%	1.3	1.5	1.6	2.6	7.0	70	Moderate

Green Tree Snag Replacement - These recommendations consider the work of Schommer et al. 1993, and Ritter and Davis, 1994, and the snag guidelines from the Payette National Forest (USDA Forest Service 1995). Current Nez Perce Forest Plan green tree replacement standards call for 4 trees per acre to be retained to provide large old trees to become snags in the future. Monitoring has shown these trees are likely to be lost to other causes before becoming available as snags. Causes of loss include windthrow, salvage, falling for safety concerns, or slash burning (Steve Blair, personal com.).

As an interim recommendation, Table I-4 below displays recommended green tree retention densities. **Where adequate snags are not present to meet the recommended snag densities in Tables I-1, green trees will be left to meet the sum of the densities in Table I-4 below and Table I-1, I-2 or I-3 above.** For example, if no snags were present, in mixed conifer cover type and canopy > 40%, and high fire or harvest severity, total green tree retention would be 22.5 trees per acre (9 + 13.5). It is anticipated that some of these trees might be killed in post-harvest burning, and this is usually acceptable. Leave trees should represent the range of species and size classes most likely to survive natural fire disturbance, and should be located in the clustering patterns and locations most likely to have survived natural fires in the local setting (e.g. open ridges, wet areas, rocky areas).

Table I-4 - Interim Recommended Green Tree Snag Replacement Density: Minimum for All Harvest Prescriptions

Cover Type	Trees/Acre 10-14.9 in. dbh	Trees/Acre 15-19.9 in. dbh	Trees/Acre 20-23.9 in. dbh	Trees/Acre 24 in.+ dbh	Total Trees/Acre	Total Trees/ 10 Acres
Subalpine fir / Engelmann spruce	5.0	2.5	1.0	1.0	9.5	95
Mixed conifer						
Canopy <40%	.5	.2	.4	1.4	2.5	25
Canopy >40%	2.5	3.0	2.0	1.5	9.0	90
Lodgepole pine						
Canopy < 40%	3.5	1.0	all present	all present	4.5+	45+
Canopy > 40%	6.0	1.7	all present	all present	7.7+	77+
Ponderosa pine/Douglas-fir						
Canopy < 40%	.2	.2	.1	.7	1.2	12
Canopy > 40%	1.3	1.4	.8	1.3	4.8	48

Coarse Woody Debris Recommendations - The recommendations shown in Table I-3 are based on the work of Graham et al. 1994 and Harvey et al. 1987. They are adapted from guidelines for the Payette National Forest (USDA Forest Service, 1995). These guidelines assume that the more severe a disturbance affecting existing soil wood reserves, the more important it becomes to supplement the soil wood supply. Therefore, the recommendations change not only with habitat type, but also with severity of fire or harvest treatment.

Table I-4 - Interim Recommended Woody Debris Recommendations (Tons/Acre)

Harvest or Fire Severity	Habitat Type Groups 1 and 2	Habitat Type Groups 3, 9, 10	Habitat Type Groups 4, 7, 8
Low: Low fire severity of harvest leaving slash on-site, no dozer piling or hot broadcast burn	5-10	10-15	15-20
Moderate: Moderate fire severity or harvest with moderate broadcast burn	10-15	15-20	20-25
High: High fire severity, or harvest yarding tops or hot broadcast burn, or dozer pile	15-20	20-25	25-30

APPENDIX J
EXISTING VEGETATION BY VRU
FOR THE ENTIRE SUBBASIN

The tables on the following pages display the composition of the watershed in the 1990s by Vegetation Response Unit. The 1990s cover was developed from remote sensed data and stand polygons. Accuracy is not more than moderate, especially for the large tree size class in the lower Selway. The purpose of this table is to summarize existing vegetation over the entire subbasin to establish context for the comparison of existing and 1930s vegetation in the subsampled areas (Three Links, Middle Fork, and Whitecap). Data are displayed by VRU to provide an understanding of how vegetation composition and structure occur in these ecological settings .

EXISTING VEGETATION BY VRU

VRU 1: Convex Slopes, Subalpine Fir and Grand Fir Habitat Types

Size Class	1991 Acres	Percent of VRU
Nonforest	2,951	2%
Seedling/Sapling	4,034	3%
Pole (5-9 inches)	45,273	31%
9-21 inches	86,883	60%
21+ inches	5,354	4%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	29	<1%
Barren land/rock/water	224	<1%
Recent burn	16	<1%
Whitebark pine	63	<1%
Spruce/fir	71,233	49%
Lodgepole pine	39,743	28%
Mixed conifer	30,055	21%
Ponderosa pine/Douglas-fir	432	<1%
Montane park	1,196	1%
Mesic shrub	72	<1%
Cold shrub	1,138	1%
Broadleaf forest	6	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	17,449	12%
Moderate	71,599	50%
High	52,417	36%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	7,946	6%
Lodgepole pine	3,777	3%
Whitebark pine	125	<1%
Mixed conifer	4,279	3%

VRU 2: Glaciated slopes, subalpine fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	91,316	19%
Seedling/Sapling	37,528	8%
Pole (5-9 inches)	109,786	22%
9-21 inches	233,275	47%
21+ inches	19,222	4%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	325	<1%
Barren land/rock/water	19,779	4%
Recent burn	263	<1%
Whitebark pine	3,332	1%
Spruce/fir	185,187	38%
Lodgepole pine	105,578	21%
Mixed conifer	100,647	20%
Ponderosa pine/Douglas-fir	4,857	1%
Montane park	35,642	7%
Mesic shrub	8,256	2%
Cold shrub	26,636	5%
Broadleaf forest	273	<1%
Riparian Shrub	110	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	117,502	24%
Moderate	171,515	35%
High	85,564	17%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	25,344	5%
Lodgepole pine	16,678	4%
Whitebark pine	92	<1%
Mixed conifer	8,946	2%

EXISTING VEGETATION BY VRU

VRU 3: Stream breaklands, Douglas-fir and grand fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	78,946	16%
Seedling/Sapling	32,756	7%
Pole (5-9 inches)	69,653	14%
9-21 inches	150,504	31%
21+ inches	53,511	11%

Cover Type	1991 Acres	Percent of VRU
Agricultural or residential	311	<1%
Herbaceous clearcut	134	<1%
Barren land/rock/water	5,457	1%
Recent burn	293	<1%
Whitebark pine	5	<1%
Spruce/fir	35,941	7%
Lodgepole pine	40,920	8%
Mixed conifer	176,439	36%
Ponderosa pine/Douglas-fir	52,108	11%
Montane park	3,434	1%
Foothills grassland	19,606	4%
Disturbed grassland	242	<1%
Mesic shrub	41,712	9%
Cold shrub	7,198	1%
Broadleaf forest	1,009	<1
Riparian Shrub	216	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	62,451	13%
Moderate	133,637	28%
High	109,019	22%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	5,556	2%
Lodgepole pine	6,482	2%
Ponderosa pine and Douglas-fir	13,718	4%
Mixed conifer	27,000	7%

VRU 4: Low elevation uplands, grand fir and Douglas-fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	10,728	37%
Seedling/Sapling	9,410	32%
Pole (5-9 inches)	1,909	7%
9-21 inches	3,348	11%
21+ inches	3,883	13%

Cover Type	1991 Acres	Percent of VRU
Farmland	2,156	7%
Barren land/rock/water	587	2%
Mixed conifer	14,487	49%
Ponderosa pine/Douglas-fir	4,053	14%
Montane park	18	<1%
Foothills grassland	6,684	23%
Mesic shrub	1,283	4%
Broadleaf forest	8	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	1,341	5%
Moderate	13,043	45%
High	4,166	14%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Mixed conifer	12	<1%

EXISTING VEGETATION BY VRU

VRU 6: Cold basins, grand fir and subalpine fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	1,299	9%
Seedling/Sapling	1,535	11%
Pole (5-9 inches)	3,424	24%
9-21 inches	5,156	36%
21+ inches	2,789	20%

Cover Type	1991 Acres	Percent of VRU
Whitebark pine	445	3%
Spruce/fir	1,695	12%
Lodgepole pine	2,958	21%
Mixed conifer	7,503	53%
Ponderosa pine/Douglas-fir	303	2%
Montane park	24	<1%
Mesic shrub	1,050	7%
Cold shrub	97	1%
Riparian Shrub	89	1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	1,210	9%
Moderate	6,792	48%
High	4,814	34%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
White bark pine	35	<1%
Engelmann Spruce and Subalpine Fir	206	1%
Lodgepole pine	107	1%
Ponderosa pine and Douglas-fir	36	<1%
Mixed conifer	799	6%

VRU 7: Moist uplands, grand fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	582	9%
Seedling/Sapling	401	6%
Pole (5-9 inches)	907	14%
9-21 inches	3,569	54%
21+ inches	1,468	22%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	211	3%
Spruce/fir	106	2%
Lodgepole pine	937	14%
Mixed conifer	5,310	77%
Ponderosa pine/Douglas-fir	82	1%
Mesic shrub	174	3%
Cold shrub	91	1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	791	11%
Moderate	1,435	21%
High	2,576	37%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	12	<1%
Lodgepole pine	127	1%
Mixed conifer	1,113	5%

EXISTING VEGETATION BY VRU

VRU 8: Breaklands, cedar and grand fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	22,032	14%
Seedling/Sapling	10,951	7%
Pole (5-9 inches)	14,913	9%
9-21 inches	65,685	41%
21+ inches	46,165	29%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	939	1%
Barren land/rock/water	620	<1%
Broadleaf forest	904	1%
Whitebark pine	82	<1%
Spruce/fir	1,338	1%
Lodgepole pine	3,633	2%
Mixed conifer	117,718	74%
Ponderosa pine/Douglas-fir	14,049	9%
Montane park	115	<1%
Foothills grassland	724	<1%
Mesic shrub	16,063	10%
Cold shrub	2,542	2%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	14,557	9%
Moderate	55,355	35%
High	67,375	42%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	97	<1%
Lodgepole pine	194	<1%
Ponderosa pine and Douglas-fir	1,803	1%
Mixed conifer	17,332	12%

VRU 9: High elevation ridges, whitebark pine and subalpine fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	46,571	50%
Seedling/Sapling	4,701	5%
Pole (5-9 inches)	5,678	6%
9-21 inches	35,518	38%
21+ inches	334	<1%

Cover Type	1991 Acres	Percent of VRU
Barren land/rock/water	19,633	21%
Recent burn	96	<1%
Whitebark pine	1,250	1%
Spruce/fir	30,877	33%
Lodgepole pine	11,088	12%
Mixed conifer	3,004	3%
Ponderosa pine/Douglas-fir	12	<1%
Montane park	18,951	20%
Foothills grassland	54	<1%
Mesic shrub	16	<1%
Cold shrub	8,206	9%
Alpine scrub	233	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	32,184	34%
Moderate	11,945	13%
High	2,003	2%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Whitebark pine	35	<1%
Engelmann Spruce and Subalpine Fir	2,352	3%
Lodgepole pine	765	1%
Ponderosa pine and Douglas-fir	2	<1%
Mixed conifer	213	<1%

EXISTING VEGETATION BY VRU

VRU 10: Moist uplands , grand fir and alder

Size Class	1991 Acres	Percent of VRU
Nonforest	10,972	22%
Seedling/Sapling	772	2%
Pole (5-9 inches)	3,960	8%
9-21 inches	21,909	44%
21+ inches	12,016	24%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	289	1%
Whitebark pine	11	<1%
Spruce/fir	3,700	7%
Lodgepole pine	2,401	5%
Mixed conifer	32,400	65%
Ponderosa pine/Douglas-fir	213	1%
Mesic shrub	2,674	5%
Cold shrub	7,749	16%
Riparian shrub and graminoid	61	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	12,791	33%
Moderate	17,490	45%
High	8,323	22%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Whitebark pine	1	<1%
Engelmann Spruce and Subalpine Fir	569	1%
Lodgepole pine	73	<1%
Ponderosa pine and Douglas-fir	27	<1%
Mixed conifer	9,634	19%

VRU 12: Breaklands, Bunchgrass Habitat Types

Size Class	1991 Acres	Percent of VRU
Nonforest	6,479	59%
Seedling/Sapling	2,567	23%
Pole (5-9 inches)	208	2%
9-21 inches	516	5%
21+ inches	1,235	11%

Cover Type	1991 Acres	Percent of VRU
Agriculture	18	<1%
Barren land/rock/water	1,295	12%
Mixed conifer	3,481	32%
Ponderosa pine/Douglas-fir	1,044	9%
Foothills grassland	3,421 (less)	31%
Disturbed grassland	21 (more)	<1%
Mesic shrub	1,724	16%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	695	6%
Moderate	3,828	35%
High	3	<1%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Ponderosa pine and Douglas-fir	32	2%
Mixed conifer	25	2%

EXISTING VEGETATION BY VRU

VRU ??: WHICH VRU IS THIS

Size Class	1991 Acres	Percent of VRU
Nonforest	243	81%
Seedling/Sapling	44	15%
Pole (5-9 inches)	0	None
9-21 inches	2	1%
21+ inches	10	3%

Cover Type	1991 Acres	Percent of VRU
Agriculture	138	46%
Mixed conifer	51	17%
Ponderosa pine/Douglas-fir	5	2%
Foothills grassland	104	35%
Mesic shrub	1	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	0	None
Moderate	56	19%
High	0	None

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Ponderosa pine and Douglas-fir	0	None

VRU 17: Moist uplands, cedar and grand fir habitat types

Size Class	1991 Acres	Percent of VRU
Nonforest	6,696	18%
Seedling/Sapling	3,942	11%
Pole (5-9 inches)	3,726	10%
9-21 inches	8,914	24%
21+ inches	13,386	37%

Cover Type	1991 Acres	Percent of VRU
Herbaceous clearcut	773	2%
Barren land/rock/water	46	<1%
Lodgepole pine	27	<1%
Mixed conifer	28,742	81%
Ponderosa pine/Douglas-fir	911	3%
Foothills grassland	75	<1%
Mesic shrub	3,590	10%
Cold shrub	1,290	4%
Broadleaf forest	2	<1%
Riparian Shrub and	23	<1%

Tree Canopy Cover	1991 Acres	Percent of VRU ¹
Low	7,619	21%
Moderate	9,177	26%
High	12,914	36%

¹ Note: The sum may be less than 100%, since not all acres in the VRU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested VRU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	1	<1%
Lodgepole pine	2	<1%
Ponderosa pine and Douglas-fir	50	<1%
Mixed conifer	5,928	17%

APPENDIX K
EXISTING VEGETATION BY ERU
FOR THE ENTIRE SUBBASIN

The tables on the following pages display the composition of the watershed in the 1990s by Ecological Reporting Unit (ERU). The 1990s cover was developed from remote sensed data and stand polygons. Accuracy is no more than moderate, especially for the large tree size class in the lower Selway. The purpose of this table is to summarize existing vegetation over the entire subbasin to establish context for the comparison of existing and 1930s vegetation in the subsampled areas (Three Links, Middle Fork, and Whitecap). Data are displayed by ERU to provide an understanding of how vegetation composition and structure vary by these geographic areas.

EXISTING VEGETATION BY ERU

Clear Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	12,699	20%
Seedling/Sapling	11,514	18%
Pole (5-9 inches)	7,228	11%
9-21 inches	12,104	19%
21+ inches	19,502	31%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential	509	<1%
Herbaceous clear cut	1,011	2%
Barren land/rock/water	498	1%
Spruce/fir	216	<1%
Lodgepole pine	270	<1%
Mixed conifer	44,578	71%
Ponderosa pine/Douglas fir	4,719	7%
Foothills grassland	4,355	7%
Disturbed grassland	7	<1%
Montane park	7	<1%
Mesic shrub	6,797	11%
Cold shrub	527	1%
Broadleaf forest	295	.1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	10,989	17%
Moderate	24,944	40%
High	13,234	21%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	1	<1%
Lodgepole pine	4	<1%
Ponderosa pine and Douglas fir	26	<1%
Mixed conifer	6,647	16%

Deep Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	492	1%
Seedling/Sapling	595	2%
Pole (5-9 inches)	13,303	37%
9-21 inches	21,289	59%
21+ inches	402	1%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	71	<1%
Recent burn		
Whitebark pine		
Spruce/fir	11,767	33%
Lodgepole pine	8,185	23%
Mixed conifer	15,396	43%
Ponderosa pine/Douglas fir	237	1%
Foothills grassland	21	<1%
Disturbed grassland		
Montane park	294	1%
Mesic shrub	36	<1%
Cold shrub	69	<1%
Broadleaf forest	6	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	4,865	13%
Moderate	19,565	54%
High	11,159	31%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	1,469	4%
Lodgepole pine	1,275	4%
Ponderosa pine and Douglas fir		
Mixed conifer	2,467	7%

EXISTING VEGETATION BY ERU

Ditch Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	1,889	17%
Seedling/Sapling	1,346	12%
Pole (5-9 inches)	2,782	24%
9-21 inches	3,565	31%
21+ inches	1,929	17%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	181	2%
Recent burn		
Whitebark pine		
Spruce/fir	3,164	28%
Lodgepole pine	1,783	16%
Mixed conifer	4,190	37%
Ponderosa pine/Douglas fir	368	3%
Foothills grassland	378	3%
Disturbed grassland		
Montane park	418	4%
Mesic shrub	625	5%
Cold shrub	286	%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	1,956	17%
Moderate	4,470	39%
High	3,197	28%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	319	3%
Lodgepole pine	249	2%
Ponderosa pine and Douglas fir	58	1%
Mixed conifer	419	4%

Gedney Three links ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	25,034	43%
Seedling/Sapling	6,668	11%
Pole (5-9 inches)	8,564	15%
9-21 inches	13,632	23%
21+ inches	4,673	8%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	2,649	5%
Recent burn		
Whitebark pine	263	<1%
Spruce/fir	10,821	18%
Lodgepole pine	6,256	11%
Mixed conifer	12,989	22%
Ponderosa pine/Douglas fir	3,228	5%
Foothills grassland	193	<1%
Disturbed grassland		
Montane park	3,035	5%
Mesic shrub	10,826	18%
Cold shrub	8,556	15%
Broadleaf forest	42	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	10,590	18%
Moderate	15,634	27%
High	7,313	12%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	842	2%
Lodgepole pine	325	1%
Ponderosa pine and Douglas fir	111	<1%
Mixed conifer	1,036	2%

EXISTING VEGETATION BY ERU

Indian Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	1,458	4%
Seedling/Sapling	1,452	4%
Pole (5-9 inches)	12,012	40%
9-21 inches	15,306	48%
21+ inches	1,744	5%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	252	1%
Recent burn	46	<1%
Whitebark pine	36	<1%
Spruce/fir	13,808	43%
Lodgepole pine	7,554	24%
Mixed conifer	8,338	26%
Ponderosa pine/Douglas fir	767	2%
Foothills grassland	169	1%
Disturbed grassland		
Montane park	577	2%
Mesic shrub	165	1%
Cold shrub	251	1%
Broadleaf forest	14	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	6,339	20%
Moderate	13,492	42%
High	10,684	33%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	2,018	6%
Lodgepole pine	1,425	4%
Ponderosa pine and Douglas fir	196	1%
Mixed conifer	1,681	5%

Lower Selway Canyon ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	1,095	6%
Seedling/Sapling	34	<1%
Pole (5-9 inches)	670	4%
9-21 inches	10,729	60%
21+ inches	5,407	30%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut	13	<1%
Barren land/rock/water	499	3%
Recent burn		
Whitebark pine		
Spruce/fir	3	<1%
Lodgepole pine	42	<1%
Mixed conifer	13,374	72%
Ponderosa pine/Douglas fir	3,421	18%
Foothills grassland		
Disturbed grassland	120	1%
Montane park		
Mesic shrub	1,046	6%
Cold shrub	50	<1%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	1,950	11%
Moderate	5,970	32%
High	8,907	48%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	3	<1%
Lodgepole pine		
Ponderosa pine and Douglas fir	1,867	10%
Mixed conifer	2,589	14%

EXISTING VEGETATION BY ERU

Marten Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	3,147	15%
Seedling/Sapling	1,853	9%
Pole (5-9 inches)	3,440	16%
9-21 inches	9,882	47%
21+ inches	2,652	13%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	205	1%
Recent burn		
Whitebark pine		
Spruce/fir	6,316	30%
Lodgepole pine	3,767	18%
Mixed conifer	7,402	35%
Ponderosa pine/Douglas fir	342	2%
Foothills grassland	234	1%
Disturbed grassland		
Montane park	764	4%
Mesic shrub	1,132	5%
Cold shrub	811	4%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	4,792	23%
Moderate	7,745	37%
High	5,290	25%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	1,550	7%
Lodgepole pine	1,091	5%
Ponderosa pine and Douglas fir		
Mixed conifer	1,217	6%

Meadow Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	7,765	5%
Seedling/Sapling	5,999	4%
Pole (5-9 inches)	35,728	23%
9-21 inches	92,277	61%
21+ inches	10,533	7%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut	78	
Barren land/rock/water	1,463	
Recent burn		
Whitebark pine	490	
Spruce/fir	33,567	
Lodgepole pine	32,382	
Mixed conifer	60,734	
Ponderosa pine/Douglas fir	17,757	
Foothills grassland	16	
Disturbed grassland		
Montane park	1,351	
Mesic shrub	1,376	
Cold shrub	4,989	
Broadleaf forest		
Riparian Shrub and graminoid	397	

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	32,367	21%
Moderate	48,964	32%
High	62,720	41%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	3,588	2%
Lodgepole pine	1,278	1%
Whitebark pine	3	<1%
Mixed conifer	13,474	9%

EXISTING VEGETATION BY ERU

Middle Fork Clearwater River ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	18,523	25%
Seedling/Sapling	16,681	23%
Pole (5-9 inches)	3,137	4%
9-21 inches	15,248	21%
21+ inches	19,096	26%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential	2,114	3%
Herbaceous clear cut	1,061	1%
Barren land/rock/water	1,793	2%
Recent burn		
Whitebark pine		
Spruce/fir	46	<1%
Lodgepole pine	355	<1%
Mixed conifer	43,470	59%
Ponderosa pine/Douglas fir	9,517	13%
Foothills grassland	6,880 (less)	9%
Disturbed grassland	103 (more)	<1%
Montane park	42	<1%
Mesic shrub	7,365	10%
Cold shrub	123	<1%
Broadleaf forest	371	1%
Dry shrub	22	<1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	5,591	8%
Moderate	35,716	49%
High	12,327	17%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	14	<1%
Lodgepole pine		
Ponderosa pine and Douglas fir	399	2%
Mixed conifer	3,115	12%

Middle Selway Canyon ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	19,293	32%
Seedling/Sapling	7,672	13%
Pole (5-9 inches)	6,869	11%
9-21 inches	15,743	26%
21+ inches	11,550	19%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	906	1%
Recent burn		
Whitebark pine		
Spruce/fir	6,509	11%
Lodgepole pine	4,415	7%
Mixed conifer	25,625	42%
Ponderosa pine/Douglas fir	5,156	8%
Foothills grassland	2,664	4%
Disturbed grassland	32	<1%
Montane park	406	1%
Mesic shrub	13,550	22%
Cold shrub	1,806???????	29%
Broadleaf forest	128	<1%
Riparian Shrub and graminoid	33	<1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	5,000	8%
Moderate	22,284	36%
High	14,542	24%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	98	,1%
Lodgepole pine	162	<1%
Ponderosa pine and Douglas fir	1,312	2%
Mixed conifer	1,105	2%

EXISTING VEGETATION BY ERU

Moose Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	47,655	20%
Seedling/Sapling	21,920	9%
Pole (5-9 inches)	38,958	17%
9-21 inches	101,350	44%
21+ inches	22,772	10%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	10,107	4%
Recent burn	108	<1%
Whitebark pine	763	<1%
Spruce/fir	64,322	28%
Lodgepole pine	43,376	19%
Mixed conifer	71,699	31%
Ponderosa pine/Douglas fir	2,299	1%
Foothills grassland	1,437	1%
Disturbed grassland		
Montane park	14,488	6%
Mesic shrub	10,926	5%
Cold shrub	10,590	5%
Broadleaf forest	941	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	45,263	20%
Moderate	88,597	38%
High	51,140	22%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	5,491	2%
Lodgepole pine	4,786	2%
Ponderosa pine and Douglas fir	182	<1%
Mixed conifer	7,122	3%

North Selway Face ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	8,396	38%
Seedling/Sapling	488	2%
Pole (5-9 inches)	5,104	23%
9-21 inches	6,871	31%
21+ inches	1,434	6%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	72	<1%
Recent burn		
Whitebark pine	55	<1%
Spruce/fir	677	3%
Lodgepole pine	217	1%
Mixed conifer	6,478	31%
Ponderosa pine/Douglas fir	5,104	24%
Foothills grassland		
Disturbed grassland	1	<1%
Montane park		
Mesic shrub	4,657	22%
Cold shrub	3,740	18%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	4,882	23%
Moderate	4,053	19%
High	4,960	24%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	428	2%
Lodgepole pine	21	<1%
Ponderosa pine and Douglas fir	1,128	5%
Mixed conifer	1,234	5%

EXISTING VEGETATION BY ERU

O'Hara Goddard ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	7,458	12%
Seedling/Sapling	2,551	4%
Pole (5-9 inches)	2,834	4%
9-21 inches	30,164	48%
21+ inches	20,253	32%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut	562	1%
Barren land/rock/water	19	<1%
Recent burn		
Whitebark pine	28(p?)	<1%
Spruce/fir	521	1%
Lodgepole pine	1,227	2%
Mixed conifer	53,184	83%
Ponderosa pine/Douglas fir	936	1%
Foothills grassland		
Disturbed grassland		
Montane park		
Mesic shrub	3,128	5%
Cold shrub	4,303	7%
Broadleaf forest		
Riparian Shrub and graminoid	28	<1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	9,927	16%
Moderate	18,057	28%
High	27,663	43%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	66	<1%
Lodgepole pine	11	<1%
Ponderosa pine and Douglas fir	83	<1%
Mixed conifer	11,979	19%

Otter-Mink ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	2,482	12%
Seedling/Sapling	2,705	13%
Pole (5-9 inches)	3,416	16%
9-21 inches	8,603	41%
21+ inches	3,559	18%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	98	<1%
Recent burn		
Whitebark pine		
Spruce/fir	7,785	37%
Lodgepole pine	3,322	16%
Mixed conifer	6,826	33%
Ponderosa pine/Douglas fir	348	2%
Foothills grassland	41	<1%
Disturbed grassland		
Montane park	506	2%
Mesic shrub	1,077	5%
Cold shrub	759	4%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	2,384	11%
Moderate	9,858	47%
High	6,041	29%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	1,398	7%
Lodgepole pine	560	3%
Ponderosa pine and Douglas fir	7%	<1%
Mixed conifer	528	3%

EXISTING VEGETATION BY ERU

Pettibone-Bear ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	38,521	28%
Seedling/Sapling	8,267	6%
Pole (5-9 inches)	28,155	21%
9-21 inches	52,285	39%
21+ inches	8,484	6%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	11,140	8%
Recent burn	97	<1%
Whitebark pine	228	<1%
Spruce/fir	37,428	28%
Lodgepole pine	22,736	17%
Mixed conifer	32,757	24%
Ponderosa pine/Douglas fir	3,945	3%
Foothills grassland	2,763	2%
Disturbed grassland		
Montane park	13,353	10%
Mesic shrub	3,142	2%
Cold shrub	8,026	6%
Broadleaf forest	96	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	29,995	22%
Moderate	40,505	30%
High	26,694	20%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	7,969	6%
Lodgepole pine	5,716	5%
Ponderosa pine and Douglas fir	1,511	1%
Mixed conifer	7,949	6%
Whitebark pine	1	<1%

Running-Goat ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	11,553	15%
Seedling/Sapling	2,837	4%
Pole (5-9 inches)	13,318	18%
9-21 inches	41,354	55%
21+ inches	6,298	8%

Cover Type	1991 Acres	Percent of ERU
Herbaceous clear cut		
Barren land/rock/water	761	1%
Recent burn	17	<1%
Whitebark pine	2,181	3%
Spruce/fir	20,228	26%
Lodgepole pine	12,181	16%
Mixed conifer	21,962	29%
Ponderosa pine/Douglas fir	7,217	9%
Foothills grassland	2,914	4%
Disturbed grassland		
Montane park	3,596	5%
Mesic shrub	1,699	2%
Cold shrub	3,653	5%
Broadleaf forest	38	<1%
Riparian Shrub and graminoid	40	<1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	14,221	19%
Moderate	31,204	41%
High	18,384	24%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

Old Growth	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Engelmann Spruce and Subalpine Fir	3,850	5%
Lodgepole pine	1,902	3%
Ponderosa pine and Douglas fir	1,957	3%
Mixed conifer	4,620	6%
Whitebark pine	90	<1%

EXISTING VEGETATION BY ERU

Selway Headwaters ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	9,142	6%
Seedling/Sapling	4,707	3%
Pole (5-9 inches)	30,463	22%
9-21 inches	95,939	68%
21+ inches	799	1%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	1,350	1%
Recent burn	226	<1%
Whitebark pine	822	1%
Spruce/fir	62,441	44%
Lodgepole pine	32,085	23%
Mixed conifer	781	1%
Ponderosa pine/Douglas fir	35,770	25%
Foothills grassland	162	<1%
Disturbed grassland		
Montane park	5,915	4%
Mesic shrub	154	<1%
Cold shrub	1,105	<1%
Broadleaf forest	8	<1%
Alpine scrub	230	<1%

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	38,867	28%
Moderate	68,179	48%
High	24,862	18%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	4,763	3%
Lodgepole pine	3,963	3%
Ponderosa pine and Douglas fir	336	<1%
Mixed conifer	5,591	4%

Upper Selway Canyon ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	25,344	23%
Seedling/Sapling	7,526	7%
Pole (5-9 inches)	23,635	21%
9-21 inches	40,114	36%
21+ inches	14,336	13%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	2,432	2%
Recent burn	151	<1%
Whitebark pine		
Spruce/fir	22,265	20%
Lodgepole pine	16,076	14%
Mixed conifer	38,389	35%
Ponderosa pine/Douglas fir	8,613	8%
Foothills grassland	9,758	9%
Disturbed grassland		
Montane park	2,880	3%
Mesic shrub	7,740	7%
Cold shrub	2,384	2%
Broadleaf forest	265	<1%
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	19,927	18%
Moderate	39,607	26%
High	26,077	24%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	2,983	3%
Lodgepole pine	2,729	3%
Ponderosa pine and Douglas fir	2,304	2%
Mixed conifer	7,267	7%

EXISTING VEGETATION BY ERU

Whitecap Creek ERU

Size Class	1991 Acres	Percent of ERU
Nonforest	27,897	33%
Seedling/Sapling	3,837	5%
Pole (5-9 inches)	19,803	23%
9-21 inches	28,856	34%
21+ inches	3,949	5%

Cover Type	1991 Acres	Percent of ERU
Agricultural or residential		
Herbaceous clear cut		
Barren land/rock/water	2,432	3%
Recent burn	24	<1%
Whitebark pine	276	<1%
Spruce/fir	25,261	34%
Lodgepole pine	10,917	15%
Mixed conifer	17,549	24%
Ponderosa pine/Douglas fir	2,441	3%
Foothills grassland	790	1%
Disturbed grassland		
Montane park	9,587	13%
Mesic shrub	1,164	2%
Cold shrub	3,169	4%
Broadleaf forest		
Riparian Shrub		

Tree Canopy Cover	1991 Acres	Percent of ERU ¹
Low	18,790	26%
Moderate	22,748	31%
High	14,909	20%

¹ Note: The sum may be less than 100%, since not all acres in the ERU have forest cover

	1991 Acres	Percent of Potential Forested ERU on USFS Managed lands
Old Growth		
Engelmann Spruce and Subalpine Fir	5,188	7%
Lodgepole pine	2,708	4%
Ponderosa pine and Douglas fir	1,366	2%
Mixed conifer	4,719	7%
Whitebark pine	25	<1%

APPENDIX L

1930S AND EXISTING VEGETATION

SUBSAMPLED AREAS IN THE SELWAY SUBBASIN BY VRU

The tables on the following pages display the composition of subsampled areas (Three Links, Middle Fork and Whitecap) in the 1930s and 1990s by Vegetation Response Unit (VRU). The 1930s vegetation cover was developed from aerial photo interpretation. The 1990s cover was developed from remote sensed data, and stand exam data. The intent of this comparison is not to use one picture of the historical landscape as an objective, but to interpret that picture in terms of the setting and disturbance processes that shape plant communities in the landscape. Data are displayed by VRU to provide an understanding of how vegetation and disturbance regimes operate in these ecological settings. It is generally not appropriate to define rigorous targets for proportion of plant community types and stages at the scale of one or a few VRU delineations, but within several VRU delineations within a fifth code watershed (at a minimum) or the subbasin.

SUBSAMPLED VEGETATION BY VRU

VRU 1: Convex ridges, subalpine fir and grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	279	202	-28%
Seedling/Sapling	0	34	+
Pole (5-9 inches)	103	453	+77%
9-21 inches	1,005	778	-23%
21+ inches	80	0	-100%

Cover Type	1930s Acres	1991 Acres	Percent Change
Recent burn	32	0	-100%
Spruce/fir	924	983	+6%
Lodgepole pine	226	210	-7%
Mixed conifer	39	72	+85%
Cold shrub	247	102	-59%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	120	277	+131%
Moderate	118	563	+377%
High	951	424	-55%

VRU 2: Glaciated slopes, subalpine fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	15,790	7,212	-54%
Seedling/Sapling	4,473	5,533	+24%
Pole (5-9 inches)	3,794	15,493	+308%
9-21 inches	30,057	21,034	-30%
21+ inches	3,164	4,196	+33%

Cover Type	1930s Acres	1991 Acres	Percent Change
Barren land/rock/water	4,530	2,702	-40%
Recent burn	4,156	19	-99%
Whitebark pine	1,344	85	-94%
Spruce/fir	19,350	20,092	+4%
Lodgepole pine	6,273	9,709	+55%
Mixed conifer	10,654	15,257	+43%
Montane park	844	3,843	+355%
Foothills grassland	18	0	-100%
Alpine scrub	98	0	-100%
Mesic shrub	1,814	1,231	-32%
Cold shrub	3,301	3,233	-2%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	10,303	11,062	+7%
Moderate	21,555	21,098	-2%
High	9,630	14,097	+46%

VRU 3: Stream breaklands, Douglas-fir and grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	9,948	7,212	-27%
Seedling/Sapling	622	3,120	+402%
Pole (5-9 inches)	898	4,882	+444%
9-21 inches	5,710	6,804	+19%
21+ inches	9,560	4,294	-55%

Cover Type	1930s Acres	1991 Acres	Percent Change
Herbaceous clearcut	0	56	+
Barren land/rock/water	48	526	+996%
Recent burn	2,198	5	-99%
Spruce/fir	1,232	2,304	+87%
Lodgepole pine	1,879	2,550	+36%
Mixed conifer	5,600	11,742	+110%
Montane park	0	293	+
Foothills grassland	1,342	1,558	+16%
Mesic shrub	5,726	4,735	-17%
Cold shrub	197	306	+55%
Broadleaf forest	0	21	+
Ponderosa pine and Douglas-fir	8516	948	-89%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	3,589	3,510	-2%
Moderate	10,152	10,478	+3%
High	3,048	5,114	+68%

VRU 6: Cold basins, subalpine fir and grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	921	381	-59%
Seedling/Sapling	401	392	-2%
Pole (5-9 inches)	121	62	-49%
9-21 inches	77	622	+708%
21+ inches	0	64	+

Cover Type	1930s Acres	1991 Acres	Percent Change
Barren land/rock/water	59	0	-100%
Spruce/fir	461	455	-1%
Lodgepole pine	0	250	+
Mixed conifer	138	396	+187%
Ponderosa pine and Douglas-fir	0	39	+
Foothills grassland	1	0	-100%
Mesic shrub	511	0	-100%
Cold shrub	351	0	-100%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	473	11	-99%
Moderate	95	1,034	+988%
High	32	95	+197%

SUBSAMPLED VEGETATION BY VRU

VRU 7: Moist uplands, grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	35	41	+17%
Seedling/Sapling	0	0	0
Pole (5-9 inches)	0	0	0
9-21 inches	0	21	+
21+ inches	55	0	-100%

Cover Type	1930s Acres	1991 Acres	Percent Change
Herbaceous clearcut	0	5	+
Lodgepole pine	25	0	-100%
Mixed conifer	30	21	-30%
Mesic shrub	35	41	+17

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	25	0	-100%
Moderate	30	21	-30%
High	0	0	0

VRU 8: Breaklands, cedar and grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	4,742	1,326	-72%
Seedling/Sapling	265	1,661	+527%
Pole (5-9 inches)	55	524	+853%
9-21 inches	8,179	5,804	-29%
21+ inches	2,163	5,569	+157%

Cover Type	1930s Acres	1991 Acres	Percent Change
Herbaceous clearcut	0	380	+
Barren land/rock/water	40	30	-25%
Spruce/fir	0	19	+
Lodgepole pine	38	104	+174
Mixed conifer	14,099	12,689	-10%
Ponderosa pine and Douglas-fir	1,525	609	-60%
Montane park	0	13	+
Foothills grassland	86	70	-17%
Mesic shrub	4,529	1,226	-73%
Cold shrub	87	0	-100%
Broadleaf forest	24	187	+679

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	2,294	1,051	-54%
Moderate	6,685	7,385	+10%
High	1,682	5,121	+204%

VRU 9: High elevation ridges, whitebark pine and subalpine fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	19,516	21,206	+9%
Seedling/Sapling	0	798	+
Pole (5-9 inches)	1,429	2,943	+106%
9-21 inches	12,829	8,915	-31%
21+ inches	402	237	-41%

Cover Type	1930s Acres	1991 Acres	Percent Change
Barren land/rock/water	11,202	12,006	+7%
Recent burn	1,647	0	-100%
Whitebark pine	2,547	181	-93%
Spruce/fir	9,718	8,582	-12%
Lodgepole pine	1,752	2,368	+35%
Mixed conifer	1,138	1,762	+55%
Montane park	2,295	7,216	+414%
Alpine scrub	2	0	-100%
Mesic shrub	0	2	+
Cold shrub	3,874	1,982	-49%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	3,752	8,119	+116%
Moderate	9,868	3,230	-67%
High	1,040	1,543	+48%

VRU 10: Moist uplands , grand fir and alder

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	2	242	+120%
Seedling/Sapling	0	30	+
Pole (5-9 inches)	0	0	0
9-21 inches	0	523	+
21+ inches	708	51	-93%

Cover Type	1930s Acres	1991 Acres	Percent Change
Spruce/fir	376	0	-100%
Mixed conifer	302	604	+100%
Ponderosa pine and Douglas-fir	30	0	-100%
Mesic shrub	0	241	+
Cold shrub	2	1	-50%

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	376	148	-61%
Moderate	332	358	+8%
High	0	98	+

SUBSAMPLED VEGETATION BY VRU

VRU 17: Moist uplands, cedar and grand fir habitat types

Size Class	1930s Acres	1991 Acres	Percent Change
Nonforest	287	1,941	+576%
Seedling/Sapling	0	1,421	+
Pole (5-9 inches)	0	267	+
9-21 inches	1,298	1,153	-11%
21+ inches	6,471	2,715	-58%

Cover Type	1930s Acres	1991 Acres	Percent Change
Herbaceous clearcut	0	206	+
Barren land/rock/water	0	37	+
Spruce/fir	51	0	-100%
Lodgepole pine	152	0	-100%
Mixed conifer	4,889	5,312	+9%
Ponderosa pine and Douglas-fir	1,116	244	-78%
Mesic shrub	220	1,873	+751%
Cold shrub	68	68	0

Tree Canopy Cover	1930s Acres	1991 Acres	Percent Change
Low	948	1,633	+72%
Moderate	3,823	1,738	-55%
High	2,997	2,106	-30%

APPENDIX M
AMERICAN INDIAN POLICY

American Indian/Alaska Native Policy

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

April 29, 1994

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

SUBJECT: Government-to-Government Relations with Native American Tribal Governments

The United States Government has a unique legal relationship with Native American Tribal governments as set forth in the Constitution of the United States, treaties, statuses and court decisions. As executive departments and agencies undertake activities affecting Native American Tribal rights or trust resources, such activities should be implemented in a knowledgeable, sensitive manner respecting of Tribal sovereignty. Today, as part of an historic meeting, I am outlining principles that executive departments and agencies, including every component bureau and office, are to follow in their interactions with Native American Tribal government operates within a government-to-government relationship with Federally Recognized Native American Tribes. I am strongly committed to building a more effective day-to-day working relationship reflective respect for the rights of self-government due the sovereign Tribal governments.

In order to ensure that the rights of sovereign Tribal governments are fully respected, executive branch activities shall be guided by the following:

- (a) The head of each executive department and agency shall be responsible for ensuring that the department or agency operates within a government-to-government relationship with Federally Recognized Tribal governments.
- (b) Each executive department and agency shall consult, to the greatest extent practicable and to the extent permitted by law with Tribal governments prior to taking actions that affect Federally Recognized Tribal governments. All such consultations are to be open and candid so that all interested parties may evaluate for themselves the potential impact of relevant proposals.
- (c) Each executive department and agency shall assess the impact of Federal Government plans, projects, programs, and activities on Tribal trust resources and assure that Tribal government rights and concerns are considered during the development of such plans, projects, programs and activities.
- (d) Each executive department and agency shall take appropriate steps to remove any procedural impediments to working directly and effectively with Tribal governments on activities that affect the trust property and/or governmental rights of the Tribes.
- (e) Each executive department and agency shall work cooperatively with other Federal departments and agencies to enlist their interest and support on cooperative efforts, where appropriate, to accomplish the goals of this memorandum.
- (f) Each executive department and agency shall apply the requirements of the Executive Orders Nos. 12875 ("Enhancing the Intergovernmental Partnership") and 866 ("Regulatory Planning and Review") to design solutions and tailor Federal programs, in appropriate circumstances, to address specific or unique needs of Tribal communities.

AMERICAN INDIAN POLICY

The head of each executive department and agency shall ensure that the department or agency's bureaus and components are fully aware of this memorandum, through publication or other means, and that they are in compliance with its requirements.

This memorandum is intended only to improve the internal management of the executive branch and is not intended to, and does not, create any right to administrative or judicial review, or any other right or benefit or trust responsibility, substantive or procedural, enforceable by a party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.

The Director of the Office of Management and Budget is authorized and directed to publish this memorandum in the Federal Register.

William J. Clinton

American Indian/Alaska Native Policy Statement
USDA Forest Service, Washington Office

It is the Forest Service's responsibility to implement Federal and Forest Service policy (FSM 1563) regarding relationships with Federally Recognized American Indian Tribes.

THE POLICY

For a complete statement of the policy, see Forest Service Manual 1563; a copy is also provided in Appendix A.

1. Maintain a governmental relationship with Federally Recognized Tribal Governments.

- Take the time to meet with tribal governments on a regular basis.
- Build and enhance a mutual partnership.
- Gain an understanding of each other to develop an effective governmental relationship.
- Pursue initiatives and efforts similar to those conducted with State governments.

2. Implement Forest Service programs and activities honoring Indian treaty rights and fulfill legally mandated trust responsibilities to the extent that they are determined applicable to National forest system lands.

- Visit our tribal neighbors.
- Learn about their treaties and rights.
- Talk with them about areas of mutual interest.
- [Seek to] reconcile Indian needs and claims with the principles of good management, multiple use, and national forest laws and policies.
- Attempt reasonable accommodation without compromising the legal positions of either the Indians or the Federal Government.
- Work together to develop ways to accomplish the goals of this policy.

3. Administer programs and activities to address and be sensitive to traditional native religious beliefs and practices.

- Walk the land with American Indians to gain an understanding and appreciation of their culture, religion, beliefs, and practices.
- Identify and acknowledge these cultural needs in Forest Service activities. We consider these values an important part of management of the national forests.

4. Provide research, transfer of technology, and technical assistance to Indian governments.

- Together, develop research and environmental programs to meet American Indians' objectives.
- Extend National Forest System, State and Private Forestry, and Forest Service Research programs to tribal governments.
- Exchange and share technical staffs and skills.

APPENDIX N
SOCIAL ASSESSMENT
AND OPINION LEADER RESPONSES

Stakeholders in the Selway Basin have varied interests and attachments to the rugged, forested lands. While many of the same people are represented in more than one interest group, seventeen areas of interest are identified here. Two to five people from each group (see table) were interviewed, and a summary of the comments and concerns is recorded. Comments of about 65 persons are generally paraphrased and quoted where indicated. A listing of the 19 interest categories is shown below.

- Interest in Timber Harvest
- Business Owners
- Elected Officials
- Local Residents
- Interest in Motorized Recreation
- Interest in Non-Motorized Recreation and Backcountry Hiking
- Riders and Pack Stock Users
- Interest in Water Recreation
- Interest in Hunting, Fishing and Camping
- Members of Environmental Groups
- Historians and Long-Time Residents
- Outfitters and Guides
- Interest in Wilderness Attributes
- Interest in Preserving Cultural and Archaeological Sites
- Pilots
- Citizens with Private Inholdings
- Former USFS Administrators and Staff
- Selway Assessment Core Team Members
- Nez Perce Tribal Members

TIMBER

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

To prevent further homesteading after the Homestead Act of 1862, the Forest Reserve Act was passed in 1891 and administered by the General Land Office. Abusive forest practices that had been observed in the Upper Midwest generated fear that exploitation of western forests would follow. In 1897, the 4.1 million acre Bitterroot Forest Reserve was established in spite of the anger from commercial interests, mainly mining. (Baird, 1999) The public land laws were well-intentioned, but not very well enforced, and much land that had been set aside for homesteaders, was acquired legally and illegally by timber companies. Large land grants were made to railroads, and they entered the real estate business. Most logging practices at that time were of the "cut and get out" type. Timber companies cut everything they wanted out of one stand and then moved to the next one. All the emphasis was on immediate profit; none was on long-term productivity. There were few trained foresters in the United States, and no forestry schools. Parsell (1986) As early as 1890, cedar logs were cut and floated down the Selway, and sold. The first advertised timber sale was on Smith and O'Hara Creeks in 1913. The Smith Creek sale was 5,000 cedar poles, and the O'Hara was 1,000 live cedar poles. Cedar pole sales were made

SOCIAL ASSESSMENT

regularly after 1914 (50 cents for a 45 ft pole and up to \$1.20 for an 80 ft. pole, and 50 cents a cord for shingle bolt) but there was not much demand for anything else. By 1923, the Selway Forest had a full-time man administering sales in the Smith Creek area. Few and difficult roads made timber harvest and forest management difficult from the western side of the forest, and the eastern side was much more accessible from Montana. By 1956, however, logging increased on the ridgetops above the north side of the lower Lochsa, and south side of the lower Selway, and both sides of the Middlefork. Timber sale preparation and administration, along with road design and construction, became the major Forest Service activity, and the wood products industry became the area's largest employer. In 1936, the Chief of the Forest Service established the Selway-Bitterroot Primitive Area (1,870,00 acres) and no new roads were allowed although those under construction were to be completed to logical stopping places. The intent was to conserve the values of such areas for purposes of public education and recreation. Studies of those primitive areas were made to determine what parts of them would be of greatest value as designated wilderness. Then in 1964, the Wilderness Act established the Selway-Bitterroot Wilderness, and in 1980 the Frank Church-River of No Return Wilderness. Thus were large areas of the Selway Basin removed from timber industry access.

In the early 1900s, as many public lands were removed from production of forest products, local saw mills were forced out of business and the area economy felt the direct effects of a significant decrease in timber production. Privately owned and state timber production increased to attempt to meet the demand for forest products.

VALUES, BELIEFS, AND LIFE-STYLES

Those in forest products management positions feel that timber harvest can create critical elk habitat and promote forest health. Most people in the timber industry are also avid hunters and recreationists and have concerns about game populations and access. "Timber harvest can make a healthy forest, but it is not allowed to happen." One timber manager suggested that forest management should be set up to manipulate vegetation so that everything can adapt to attain an even distribution and balance so that everything from early seral to old growth will be functional; and that ecosystem management should be geared to elk as the indicator and it will provide for a full range of ecosystem habitat.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Forest service ID teams have stopped everything. " 'Ologists' feel they have to express themselves and so they feel they have to input information because they don't know that else to say." Biologists are trying to get back at the system now, because they formerly did not have a say when timber had control. "Timber did have control at the expense of other specialists, and sometimes it did run rampant."

It takes the Forest Service much too long to make and carry out decisions, and they don't live up to agreements. The BLM is much easier to deal with. In the Forest Plan, the timber industry proposed 120 million board feet in hopes of getting 100 million. The Forest usually does about 80% of what it says it will harvest. The Forest Service proposed 103 million bf in response to the timber industry's 120 million bf, and 35 million was actually harvested. When the Forest Service counts what is harvested, they include firewood, Christmas trees, poles and pulp. That makes up about 20% of the cut, the remaining being saw lumber.

The Idaho Wilderness Act of 1980 allows logging in the Meadow Creek area. There is mature timber there and it is falling down near already roaded areas. In spite of the legislation cited, the Forest Service has not allowed logging. One saw mill manager contends that logging could be done there on the top, not on the slopes and out of the view of recreationists.

CONCERNS ABOUT PRESENT AND FUTURE

Dealing with environmentalists is a factor; it takes patience. The Forest Service law enforcement people are not aggressive in this respect, and they give in to pressure. Environmental groups can sue, the timber industry cannot.

Shifts at sawmills have been cut in half. Employment opportunities have declined drastically for lack of timber. One manager predicts that of the three major mills in the area, one will be eliminated.

Most natives don't like to take the time nor do the planning it takes to make long trips into the backcountry; many out-of-state people use the backcountry now. That is a change. Natives tend to hunt in the more accessible front country where they can pick up and go and there are fewer restrictions. Fish and game regulations have altered hunting patterns as well. Since many seek to utilize the fringes, the Forest Service should look at use patterns and consider allowing use of primitive roads and easier access to further in.

BUSINESS OWNERS

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

Numerous business communities sprang up around early mining camps and centers for agriculture, and a few of those remain active centers of commerce today. The communities of Grangeville, Elk City, Kooskia, in Idaho; and Darby, Missoula, and Hamilton, in Montana are located just outside the rugged Selway Basin. Those communities still serve the agricultural and timber products sector, but to a much lesser degree, and have shifted and expanded to include recreation and tourism. Within the immediate Selway Basin, two small, unincorporated communities thrive on the recreation industry. Scenic views, free-flowing white water, hunting and fishing is the stock in trade.

VALUES, BELIEFS, AND LIFESTYLES

Discussions with business owners along highway 12 comprise most of the information herein.

One business owner is a descendant of one of the first families to settle in the Selway area. He has been a logger, owned a mill, and operated restaurants along the Lochsa and Middle Fork of the Clearwater. He recently bought interest in a private inholding along the upper Selway within the Wilderness. "I love the Wilderness. Overall it is not good for logging. The Forest Service should have places for logging and places for recreation. Most people are surprised to hear that from an old logger. Environmentalists are good; that is not a bad word. Extremists on either end are not good. Craig and Chenoweth are rabble rousers." "I remember when the streams were black with salmon, and how the ranger station at Fenn was the model for the rest of the nation." The Ranger used to be a hero; he was like a rancher. He was there to take care of the land. He wasn't in it for the money, but for the land."

It is common for the younger generations to move out of the area for better economic opportunities. In the case of one family business that operates a resort and white water experiences, the opposite is true. The eastern-educated sons grew up on the Lochsa and Selway Rivers, but left and threatened not to return. They came to appreciate the life-style, the setting, and the wild places after being away and decided to come back to offer experiences to others on the rivers that they had enjoyed while they were growing up. They have a very successful river outfitting business, and feel fortunate that they could return. They understand that there are many other young people who would like to return to their hometowns in and near the unique Selway-Middle Fork Clearwater Basin, but feel that the economy is not adequate to support young families and real estate values are too high.

SOCIAL ASSESSMENT

Business owners are adjusting to a shift from visitors who come to hunt, to those who seek fun and adventure. Instead of offering the usual food and lodging, they see opportunities to offer whitewater experiences, horseback riding, fishing and photography trips.

To further capitalize on the natural wealth of the Selway- Lochsa-Clearwater, some businesses feature jams, jellies, and pies made from huckleberries, blackberries, and raspberries. That has been a supplemental income, or retirement income for a family who was employed by the Forest Service for thirty years.

People have moved to the area because they are attracted to the scenery, hunting and fishing, and relative isolation. They develop businesses they hope will sustain them so that they can remain. The area boasts many artists, craftsmen, natural foods and healing services, antique (second hand) and specialty shops. Area businesses and residents are looking to take advantage of the Bicentennial celebration of the Lewis and Clark expedition that passed through the area in 1805. They see new opportunities for guide and interpretive services, real estate sales, and increased demand for adventures and services that are presently offered.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

The Forest Service people are just interested in climbing the career ladder, not in really caring for the land. They are going up the ladder and away from the ground. Management decisions are made on whims, as if they are making their own laws. They should act according to legislation.

The Forest Service used to be geared to timber and board feet. They cut everything and ran rough shod over the land. They should be more discreet about the size and appearance of cuts. They were too lazy to take care and caused eyesores. Be sensitive about where timber is cut, not near recreation areas. They could do a better job of making it look better. No matter what happens now, timber will always be the "bad guy". "There should have been an environmental influence back in the 50s, and maybe they wouldn't have been so unrestricted."

Now careers are important. Forest Service people are always talking about GS ratings and their jobs. The Forest Service is hell to study and not to fix. Some things go unattended."

One ranger says one thing; the next one comes along and changes it. There is no centrality. "The BLM is much easier to deal with; they make quick and fair decisions."

Outfitters are not treated the same as the public, even though they are the public. In Idaho it takes constant awareness to be on top of all the regulations and where they apply. Outfitting is under the jurisdiction of the state and of the federal government.

PUBLIC CONCERN ABOUT PRESENT AND FUTURE

Concessionaires are considered a threat to private, family-owned businesses. This growing trend is a serious concern to people who find it difficult to sustain a lucrative business in the area.

Clearcuts are an eyesore to the visiting public. There should be more discreet timber harvest, not near recreation areas. The anticipated Lewis and Clark visitors should be considered and the visual impacts diminished.

Noxious weeds are threats to private property, and citizens are acting to treat their lands. They feel the Forest Service has long neglected the invasive species problem on public lands, and that the situation will never be under control again. They fear that grazing, scenery, and survival of native vegetation is at stake.

Predators such as bear and mountain lion are proliferating. Business owners feel that visitors sometimes feel threatened and that hungry animals are a nuisance in campgrounds. They also see predators as a reason that elk populations are in decline.

A business owner who was previously a logger believes that there will be more designated Wilderness in the future, and the present amount of Wilderness should never be less.

ELECTED OFFICIALS

HISTORY AND SOCIAL ENVIRONMENT

Legislative controversy has stirred around the Selway Basin since the early 1900s. Designation of primitive areas, wilderness, and wild and scenic rivers has shaped the use and history of a unique national treasure. Extraction of natural resources vs. preservation of natural resources has divided the political scene. Elected officials are challenged to satisfy constituents who express strong sentiments about land that provides for highly diversified opportunities ranging from a livelihood to land that provides for recreation, solitude and a spiritual wilderness experience.

VALUES, BELIEFS, ATTACHMENT, AND LIFE-STYLES

A mayor of a local community who was also a long-time Forest Service employee, and a former Idaho state senator are also avid recreationists in the Selway country. They are long-time hunters, hikers and floaters in the area. The state senator nominated East Meadow Creek and the Selway River as Outstanding Resource Water Areas.

EVALUATION OF FOREST SERVICE MANAGEMENT

A former FS employee explained that the FS has completely changed into an organization hamstrung by planning; that plans itself into inaction. He reiterates the statement of nearly every other person interviewed; that the Forest Service should be making it happen on the ground and save the paper.

The traffic on the Magruder and Lost Horse roads is especially bad. The mayor of Darby feels that making those roads better will only encourage faster speeds and more accidents. He has seen the public adapt to road closures, and later to other restrictions. Permit systems would be a way to control and monitor traffic. Another official thinks that if there are going to be roads, they should be fixed so that they are usable; that poor roads do not keep people out, they invite more damage. He defends allowing the public to access areas because that will allow for attachment to a special place and people will be ready to defend it and perpetuate it.

"Forest Service personnel need to invest in social capital; to live in the community; to respect and understand local culture," according to an elected official. Other people will see the Forest Service as a viable agency if Forest Service people make themselves accessible in community organizations and projects.

PUBLIC CONCERNS ABOUT THE PRESENT AND FUTURE

One public official says that just because Wilderness is law now, it won't necessarily remain so. "Everyone possible needs to be out there defending it, and the ones who have an opportunity to use it will be the ones to protect it." The same person feels that there will be increasing pressure to allow more than one launch per day on the Selway. He believes the Forest Service should provide up to three launches per day, and that will still allow for a quality river experience.

LOCAL RESIDENTS

HISTORY AND SOCIAL ENVIRONMENT

This information is found in "communities of place" section. The communities of Lowell, Syringa, Grangeville, Kooskia, Elk City, Darby, Hamilton, and Missoula are represented there. Many of the sixty-one people contacted within each "community of interest" were local residents, as well. Local residents include those people who have lived here all of their lives but most are those who have moved into the within the last thirty years.

Values beliefs and life-styles, and attachment

SOCIAL ASSESSMENT

The people who live in Idaho County and the Bitterroot Valley are attracted to naturalness, clean, free flowing waters, and sparse populations. Those qualities are sought ahead of economic factors, and people have strong connections with the land. Formerly, the land has been the economic base in terms of logging, agriculture (ranching and farming), and some mining near Elk City. As prices for farm products and available harvestable timber decrease, the economic base is shifting to recreation. Many people are moving into the river corridors along the Middle Fork Clearwater and the Selway, into the Bitterroot Valley, and into the rural areas outside of small communities. Wealthy retirees are buying land and building summer homes. Younger people are buying property with intentions of gradually building for retirement, later. The neighborly, "community spirit" is fading. Often, residents do not know the people who live next door; who are only there two or three months out of the year. The newcomers often do not choose to invest time and energy into "community". In the past, Forest Service employees have been neighbors, not commuters; they were an integral part of the community, respected for their knowledge, hard work, character, and caring for the land.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

In every discussion, people felt that the Forest Service was not getting money to the ground. They believe that much too much planning is done in offices, behind computers, by high grade personnel. It was mentioned that, "The FS is most obvious by its fancy office buildings, computers, and large numbers of vehicles." Another person suggested that Forest Service employees are only interested in climbing the ladder of success that is taking them farther and farther away from the ground. Careers seem to be more important than people and the land.

Forest Service people, even the Ranger, would, in earlier times, stop by for a cup of coffee or participate in service to the community as well as socialize with local folks. "Today, Forest Service people stay to themselves and sit around and talk about their GS ratings." Residents used to look up to Forest Service people as their heroes and idols. Today, the Forest Service is often the object of disdain. The FS is criticized for putting off decisions, or making a deal that satisfies everyone, only to change it, later on. One local resident commented that the public finds more to complain about these days; that the public is very critical and hard to please. In the past, people used to just put up with more.

CONCERNS ABOUT THE PRESENT AND FUTURE

The demographics of the area are changing. Many local people feel that the spirit of community will be lost; that newcomers will invade and change the quiet, rural atmosphere. Local people see newcomers as bringing their former, big-city life-styles with them and even attempting to impose them on long-time local residents. While people anticipate the economic boon that the Lewis and Clark Bicentennial might bring, they fear that it would include a flood of new people who will want to move in and change things even more. One Forest Service employee said that the whole valley (Lochsa-Clearwater) would be transformed after the Lewis and Clark celebration; that life would never be the same. The Bitterroot Valley population explosion is an example of attraction to the special qualities that these last, best places have to offer.

MOTORIZED RECREATION

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

There is a dramatically increasing demand for use of motorized recreation vehicles on the small percentage of the assessment area that is not roadless nor Wilderness. That implies concentrated use on a relatively small area, or pressure to open up new areas to meet the needs of motorcyclists, all terrain and off-road recreationists, snowmobilers, and traditional motor vehicle pleasure drivers.

During the past 20 years, there have been dramatic technological improvements to off-road vehicles, four-wheel drive vehicles are common, and all-terrain vehicles, trail bikes, and snowmobiles have become easier to use, more reliable, and more affordable. The result of the proliferation of these types of vehicles has greatly increased OHV use on public land. Snowmobile use in Idaho and Montana grew by 60 percent in the 1990s. More people are drawn to snowmobiling now because the machines are easier to ride and are high-performance, easy to take into rugged backcountry areas that were once inaccessible or extremely dangerous and difficult to reach. Snowmobiling has been banned in several locations, including the western boundaries of the Selway Basin. Issues revolving around noise pollution, disturbance of wildlife habitat, and air pollution generate conflicts with public land managers and environmental groups. (Spokesman Review, 1999)

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Many people who enjoy motorized recreation on the forests today were formerly avid hikers or backpackers. Now that they are older, they prefer motorized access to the places they enjoy on the forest. Most belong to organized groups or clubs that go for weekend outings based from developed campsites along roads, or from motels in nearby towns. A local motorized group has grown to 225 persons within one year. Another group of 30 members cooperates with other use groups to keep trails open and accessible.

Family groups enjoy motorized use of forest roads and trails. The president of a local group explains that more and more attacks are directed at noise pollution and damage to trails caused by motorized use. Club members from the Grangeville area believe that motorized clubs can cooperate with government agencies to maintain trails and to plan for extended use of existing forest trails. Another group feels that it is especially important to maintain historic trails, and motorcycle groups could help do that.

Many motorized users want a "backcountry experience", they want to view wildlife and take in the beauty and spaciousness of high ridges and peaks. To some OHV users it is important to test their driving skills and machine performance in rugged terrain; to meet the challenges of weather and trails conditions. Most like to travel with a least one other person or in larger groups or with their families. Coolwater Ridge by way of Glover is a favorite loop trail.

Those who ride one-trackers (motorcycles) prefer not be lumped with the 4-wheeler recreationists. Problems result when the wider 4-wheelers seek to access the same areas as motorcycles.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Motorcycle groups say that about half as many trails are open to them now than in the past, and it is difficult to find places to ride. They suggest that more trails should be opened to disperse use so that damages from concentrated use are minimized.

It was good to assemble motorcyclists, hikers, and horsemen in a survey of trail conditions at Meadow Creek. It shows that diverse groups can get along together and can successfully utilize the same areas.

Local people don't understand all the terms the Forest Service uses for studies. It gets confusing as to which assessment is which and which plan is which. They want to hear it in plain language so that average folks can understand. Many complain that there are "plans, plans, plans, and so much paper compared to the work that actually gets done." People wonder when the talking will stop and the action begin.

PUBLIC CONCERNS ABOUT THE PRESENT AND FUTURE

Motorized vehicle users fear that more access to public lands will be denied them. They are concerned that there are several "chopped up" trails, accessible for a few miles from a trailhead, and accessible for a few miles from the opposite end, but closed in the middle sections. Snowmobilers especially feel targeted, and recent outcry against their use has kindled controversy and conflict. They also worry that the President's proposal to protect roadless portions of the national forest may lock their machines out of those areas. They have already been banned from several popular recreation areas. Backcountry skiers and other winter recreationists complain about snowmobile presence, and the possible listing of the Canada lynx as threatened and endangered is likely to affect off-trail snowmobiling. Restrictions and closures to motorized use in public lands seems unfair to snowmobilers who argue that snow machines leave no trace and do not impact the land like other types of use.

Pleasure driving along river corridors or along the Magruder corridor or on mountain roads has always been an attraction to local residents as well as for tourists. Three people suggested that they want those roads to be open and in good repair so that those who are not able to walk or ride into the backcountry could have access as well. They fear that government agencies are gradually preventing access either by closures or not maintaining roads to acceptable standards.

NON-MOTORIZED RECREATION AND BACKCOUNTRY HIKING

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

Seventy-two per cent of the Selway and Middle Fork Clearwater Subbasin is roadless or Wilderness and offers extraordinary opportunities for hiking, horse-packing trips and floating. Visitors can enjoy solitude in Class I areas of Wilderness where they can expect to see no other visitors, use map and navigation skills to traverse lands without system trails, and experience the highest mental and physical challenges. The Wilderness Act of 1964 and the Wild and Scenic Rivers Act of 1968 would provide "outstanding opportunities for solitude or a primitive and unconfined recreation experience" (Wilderness Act, 1964) Those acts also provided for controlling and reducing the adverse impacts of human use in wilderness through education or minimum regulation. Conversely, recreationists can drive to a developed campground, set up a camp or live in their motor homes or trailers, and enjoy hikes, fishing, and scenery in the front country. Often, those visitors prefer to be in the company of family or friends.

VALUES, BELIEFS, LIFESTYLES, AND ATTACHMENT

One person familiar with the eastern side of the basin considers hiking, hunting and fishing with her family in more remote areas a treasured family tradition; their principal recreation. She has been active in Wilderness issues and concerns since moving to Hamilton in 1951. She emphasized, "That's **my** place, that's where I took my kids!" She is passionate about the backcountry and fiercely stands up for protection of it.

A man, who moved to the basin area in 1965, hikes about 3,500 miles per year in the Selway Basin and on the eastern side of the Bitterroot Valley. He and his wife prefer very remote areas and move out when other people show up on the trails. He observes that most people who go to the backcountry have a destination; they do not go for the process. They don't go hiking just for hiking's sake or to be in the wild places. For those folks who only want to go to a certain place and then get out, he recommends alternatives rather than Wilderness. He has been struggling

with cancer, and considers hiking an analgesic; it helps him manage the pain of chemotherapy. Although he has written three books on the trails in the Bitterroot and the Anaconda Pintler, he will not write about his favorite place because "it is too special".

A couple that hikes, rides horseback and skis in the backcountry consider designated Wilderness critical. "Wilderness is just not for recreation. It will not resemble anything like what Wilderness was intended if we don't revisit Wilderness goals and work toward them. It should be treated like a museum with living, dynamic displays."

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Backcountry enthusiasts who have had long-term associations with the Forest Service are disillusioned. They see that the Forest Service has changed over the years; that FS people are not the same nor command the respect they once did. They see the Forest Service as lacking the continuity and direction that it once had; that the confidence of the public has been destroyed. "The autonomy of the Forest Service is being eaten away. The FS is afraid of Congress. Strong and able leadership is lacking and compromise results."

Trail maintenance is considered poorer than in the past. Fewer people used to get more done, but all agree that budget problems have precipitated trail deterioration. "The main trails should be built right and should be maintained." Some are ambivalent about trail maintenance and would agree that poor trails might keep some visitors away, and that would benefit a solitude experience, but on the other hand it would be beneficial to have some secondary trails open.

The Magruder Road is a concern for those who recreate from the eastern side of the basin. They believe that building the road for access was the demise of the area. Fisheries are depleted, wild animals and snakes have disappeared because of encroachment of human activity, and knapweed has been introduced and spread within the Wilderness. Shuttle vehicles for floaters have caused tremendous damage to the road and it is badly washboarded from cars that travel too fast. Shuttle vehicles are dangerous to other recreationists; they nearly run others off the road. The road needs to be repaired and restrictions on speed need to be enforced.

Many feel that the Forest Service does not make good use of volunteers; that the FS acts superior to volunteers and considers them a bother. They suggest that much good work could be accomplished by utilizing more volunteers, and that they should be thanked and better recognized.

A hiker, rider, and member of the LAC task group feels that a permit system should be put into place. He notices that the Forest Service waits until things get beyond repair before they take action. "We have to manage people if we are going to manage the land. Permits would allow us to know what kind of use areas are getting, and it would be an opportunity to educate the users."

All non-motorized users agreed that Wilderness management lacked direction because of fragmentation in management. "Maybe it's a diabolical plan, but there is no cohesiveness when three forests and six districts attempt to manage one Wilderness, especially one as unique as the SBW. There needs to be a national leader for Wilderness." All felt Wilderness had better status when a coordinator was in place.

PUBLIC CONCERNS ABOUT THE PRESENT AND FUTURE

Private inholdings within the Wilderness areas are a serious concern. It is perceived to be a potentially tragic situation because landowners will sell parcel and turn private ranches into communities or resorts. It is not understood why the government does not buy the land or easements.

Use is concentrated in the first five miles of most trail systems. Hikers and horsemen and women feel that those areas will be pounded and damaged beyond repair.

Several people of this interest group sat on the former LAC task group. They all recognize that the system had its faults, but that they process should be reinstated. They fear that nothing concrete is being done now to manage Wilderness areas.

RIDERS AND PACK-STOCK USERS

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

Traditionally, travel by horseback and with pack stock has been the principal mode for access to remote backcountry areas. The horses the Nez Perce people acquired from the Spaniards would effect a change in the culture of the aboriginal North American, and it would be the instrument by which the Northwest was discovered and settled by Western Europeans. Travel within and development of the Selway-Clearwater basin could not have succeeded without the horse. Riding and pack stock are still considered the best way to access the steep, timbered hills near or far removed from the roaded lands.

Construction and maintenance of Forest Service administrative sites, lookouts, and trails were totally supported by stock prior to the 1930s. Local outfitters and guides almost exclusively use horses and mules to transport equipment and clients into the backcountry. For many local families and friends, an important hunting or recreation tradition is to take a camp and pack into the woods for a week or two. The Back Country Horsemen, established in 1973, is an organization to encourage perpetuating the use of horses and mules in the woods and to educate stock users in treading lightly on the land. More recently, the use of llama and pack goats has gained popularity because they require less feed, inflict less damage to sensitive vegetation, and are smaller and easier to handle.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Horses and mules are an important part of the culture in communities near the Selway Basin. Relatively few roads penetrate the area, and many of those were built since the 1940s and 50s. The horse has been the principal mode of travel here, for decades; indispensable for ranching. Stock users feel they are perpetuating traditional stock use and that other modes travel into the back would not be possible today, but for the horse. They are acutely aware of the criticism that use of large animals incurs from backpackers and "purists". Many private and commercial large stock users belong to organizations that seek to educate their members and other stock users, as well, about low impact camping techniques and treading lightly upon the land.

In the past, it wasn't uncommon for those who traveled with long strings of pack stock to take everything including the "kitchen sink". Elaborate camps with heavy tents and copious amounts of food, beverage, and the "extras" have been replaced with lighter equipment and fewer amenities of the modern world that was to be left behind. In the past, large garbage dumps and damage from tying to trees marked popular sites where stock users based hunting, fishing and recreational trips. Now stock users are restoring those sites, packing out their garbage, and are changing their methods of stock containment. The Back Country Horsemen (BCH) are valued partners with government land management agencies. Members volunteer to do work projects ranging from building bridges and packing materials, to cleaning up campsites and constructing and maintaining of trails. The BCH members take pride in their traditional skills and seek to cooperate with agencies to insure that stock use is not restricted. They see other national forest and parks where large stock has been banned, and are determined that the Selway country should be accessible by horses and mules.

As the use of pack goats and llamas becomes more popular, horsemen and women attempt to adapt to dealing with them and motorized vehicles along the trails. It was formerly held that horses and mules and other trail users did not mix; and controversy pitted backpackers against horse people. Those conflicts are mitigated through education of both user groups. Horses, backpackers, llamas and goats seem to coexist with less difficulty in Selway Basin.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

One couple, very involved in volunteer work and education, wishes that the Forest Service would more aggressively address the noxious weed problem. They are concerned that natural vegetation is being displaced and that not only feed for livestock grazing is disappearing, but forage for elk and deer as well. It looks like a hopeless situation now, because it was allowed to get out of hand.

Most stock users feel that use would be dispersed, and heavily used trails and campsites less impacted if FS management would do a better job of opening more trails. Getting money to the ground is an urgent concern. The best use of money and skills means to build trails that will last. "If using the minimum tool means scratching a trail on the hillside that will fall off after a couple of years, it is misunderstanding the concept."

A former Forest Service employee and Back Country Horseman cannot stress enough how important it is for managers to KNOW the resource, the facts, and the people who are out there on the ground. "The Forest Service needs to do a better job of being informed about the public, about political and congressional issues, and about management skills; administrators should take more risks based on research, talking with people and knowing what is going on."

PUBLIC CONCERNS ABOUT PRESENT AND FUTURE

Stock users who are strong advocates for Wilderness fear for the future of this unique North American concept. They feel that Wilderness will have to be defended; that "solitude" as an excuse to go the Wilderness or to perpetuate it will not hold up. A more concrete and readily defended premise for enjoying Wilderness is "a primitive and unconfined type of recreation that contains ecological, geological or other features of scientific, educational, scenic, or historic value".[Wilderness Act, Section 2(c), 1964]

Many stock users do volunteer work on public lands and they stress that volunteers from diverse sources can be the salvation of the resource if they are utilized on all levels, not only doing trail work, campsite restoration, and other field work, but in the political arena dealing with issues and regulations. Volunteers gain a sense of ownership, a sense of place, and they can be an important tool to educate others

All stock users agree that education has been beneficial; they see the results on the ground. They see many places healing from less use and because people are using better camping methods. It is suggested that those who are asked to make public comments on specific areas of Forest Service management (conservation groups, other interest groups, or individuals) actually visit the ground about which the comments are solicited; to see what conditions are in fact, before they make their judgment.

Stock users fear that their access to public lands will be denied or decreased. They feel that the Forest Service will succumb to pressures from conservation groups and others who are disturbed by large numbers of horses and mules on trails.

WATER RECREATION

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The Selway and Middle Fork Clearwater drainages are renowned for clear, clean free-flowing waters. From headwaters deep within the Selway Bitterroot Wilderness near the Idaho Montana border to Kooskia, Idaho, the system (including the Lochsa) drains 3,420 square miles. The Wild and Scenic River classification includes the Selway River from Race Creek to Paradise Guard Station and from the Magruder Ranger Station to the headwaters of the Selway in the Salmon River breaks. These segments (54 river miles and 14,500 acres) have no road access. The recreational river portion the of the system, where roads parallel the river segments, contains

SOCIAL ASSESSMENT

41,500 acres along 131 river miles (River Plan, Middle Fork Clearwater including the Lochsa and Selway, 1973)

Fishing has traditionally been the major recreational activity in streams that were once plentiful with salmon, and remains a popular sport for trout anglers today. Local residents have always enjoyed a cooling dip in the rivers on hot, summer days. The rivers on the Lochsa and Selway Rivers were not well known as whitewater rafting and kayaking rivers about fifteen years ago, and did not gain popularity until the last ten years. The internet and word of mouth are responsible for the recent changes. Rafters and kayakers are discovering the Lochsa-Selway. After the improvement of the old fire road, now called the Magruder Road, travel to put-in points deep within designated wilderness became much easier. The Lochsa and Middle Fork Clearwater parallel roads, but the Selway passes through 47 miles of unroaded, primitive Wilderness from Paradise to Selway Falls, and offers some of the most technically difficult rapids in the U.S. By virtue of the Wild and Scenic Rivers Act of 1968, the Selway and Middle Fork Clearwater Rivers would remain free flowing in spite of attempts to dam the Middle Fork at Penny Cliffs near Kooskia. Also, those who sought to use motorboats on those rivers were disallowed. The Selway River became very popular for white-water recreation and a group of concerned citizens and government employees sought to limit launches on the Selway. In spite of pressure by river recreationists the Selway is permitted from May 15 to July 31, and one launch per day is allowed. White-water recreation is growing dramatically in popularity and pressure to open the Selway to more than one launch per day persists.

Independent of the one launch per day permit system, the Forest Service takes administrative trips down the Selway. Three to five such trips occur each season.

VALUES, BELIEFS, AND LIFE-STYLES

A local rafting outfitter that has operated a resort on the confluence of the Lochsa and Selway Rivers says they see a shift from visitors who used to exclusively come to hunt to those who want a whitewater experience. More people are looking for new ways to realize fun and adventure. The outfitters explain that the "river crowd" is different from other traditional recreationists. They average in age from late 20s to early 40s. They are well educated and wealthy. Many who float in the Selway and Lochsa are doctors or in some sector of the medical profession. Young people who spend their summers running rivers all over the country or guide for outfitters are "trust kids" from very wealthy families. They have other sources of income, outside of their summer jobs on the river and usually a ski resort job in the winter.

Twenty per cent of river recreation is outfitted and eighty is private. There have been no fatalities among outfitted rafters, and those private fatalities are related to alcohol and not wearing a life jackets. Outfitters and their clients are very conscientious about picking up trash and leaving no trace. Low impact camping practices and land ethics are a priority. Outfitters say they pick up trash that private floaters have left behind. Generally, the boating community is considered more environmentally conscious than other national forest recreationists. Forest Service River Rangers are continuously on the river and engage visitors in education, campsite cleanup, and pulling noxious weeds.

The Selway experience is unique because it traverses only Wilderness and only one launch per day is allowed. It has been called "sacred". Many boaters have long protested the one launch per day permit system. They feel that waiting periods are not necessary and that the river resource is much too highly guarded. Once those same people have a chance to float the Selway, they completely change their minds. They can then understand why the permit system is in place, and become strong advocates of not allowing more than one launch daily. A former Forest Service employee who was instrumental in writing the Selway River Plan comments, "The Selway River is precious. Of all the decisions I have ever been involved with, that is the one with which I am most pleased." An outfitter on the Selway adds, "There is no other river experience that can offer what they Selway trip does. It is in a class by itself."

EVALUATIONS OF FOREST SERVICE MANAGEMENT

In discussions with all those who had floated or had association with the Selway River, only one person disagreed with the management direction on the river now. Some suggested that those who wrote the river plan were visionaries, and that that kind of thinking should be employed in making Wilderness management decisions today.

One person was convinced that up to three launches per day should be allowed on the Selway. He thought that floaters would space themselves to allow for solitude.

A river outfitter feels there is no centrality in Forest Service management. "One ranger tells us one thing; the next one comes along and changes it. The BLM is much easier to deal with; they make quick and fair decisions."

A former district employee thinks that education is extremely important, that managers should get out into the river corridor to talk with people. It has been a continuous struggle to maintain the special quality of floating the Selway, and seeing many visitors is the way to assure that it continues.

PUBLIC CONCERNS ABOUT THE PRESENT AND FUTURE

As stated above, no one wants to see the character of the Selway River changed, but there is pressure to allow more launches and accommodate more boaters.

River outfitters believe that the popularity of the Lochsa and Selway is relatively new and is growing rapidly and that white-water enthusiasts will seek adventure in the Selway Basin.

"A no-fee permit system should be put in place so that river use can be monitored. Then we could tell what is going on."

HUNTING, FISHING AND CAMPING

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The Nez Perce people moved about the Selway Basin to hunt and fish for sustenance. Hunting and fishing provided the major food source for the early settlers, and hunting still supplements food supplies for local and some out of state people. The elk hunt has been a fall ritual in the Basin since the 1930s when elk populations flourished after major fires. Mule deer, whitetail deer, black bear and cougar are hunted for sport and for hides, trophies, and meat. The Forest Service lands within the entire basin are allocated to outfitters and guides who offer hunting and fishing excursions. Idaho Fish and Game administers licensing and law enforcement on federal lands.

Prior to the construction of the Lewiston Power Dam in 1927, chinook salmon and steelhead were plentiful in the Clearwater and tributaries. Native fish were the food staple of aboriginal people, and sport fishing. The chinook were annihilated, and several years after the dam construction public sentiment forced construction of fish ladders and significant numbers of steelhead returned. The dam was removed in 1973, as a system of dams was being constructed on the Columbia River. Fish hatcheries were constructed at several locations and millions of eggs were planted to supplement the naturally spawning species. Non-indigenous fish have been planted since the 1930s in mountain lakes to accommodate sport fishing. Fishing continues to be very popular in the Selway Basin as local people and visitors fish for native and introduced trout.

The Selway country offers camping in remote wilderness areas where one would not expect to find other people nor established trails. It also provides camping in developed sites where elaborate motor homes and trailers can be parked on asphalt near modern restrooms and garbage dumpsters. CCC groups constructed developed campsites in the 1930s. Sites along the Selway River, the Magruder corridor, the Coolwater road, Lost Horse road, and the road into the

canyons are popular because they can be easily reached by motor vehicle. Those areas are becoming more and more popular as recreationists opt for motorized travel so that they can quickly access a retreat into the woods for a two to four day trip and get back to the demands of life in the "real world". Those shorter trips are more popular among younger people today than the longer two-week pack trips and hiking trips of that were common in the past. As sites were developed along the favorite recreation routes, camping trailers began replacing tents as the shelter of choice. While many tent campers remain, the trailers and motor homes flourish. A retired person from a community near the lower Selway commented that their family began camping with a 15 ft. trailer and now they pull a 32 ft. one. They say their camping friends have all upgraded their trailers, too.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Hunting, fishing and camping have been integral in the lifestyle of long-time local residents. Many outdoor sports enthusiasts move to the area for the opportunities the Selway-Middle Fork area offers. The fall elk hunt and the spring and fall steelhead fishing are ritual. Camping out with family and friends, every summer at a special site, is tradition. Hunters and anglers enjoy the "thrill of the chase" and they savor wild game meat and fish, but they say that just being in the woods or along the rivers is the most important part of the experience. Family camping at easily accessed areas is popular. Young parents bring their small children but when those children are in their teens, families are busy with school activities and tend not to make camping excursions so often. After children are grown, retirement age couples prefer camping in convenient trailers and motor homes. They gather with friends and sometimes spend every summer weekend at a developed campsite. Campers notice more and more people crowding into camping areas, and that many more are from out-of-state, usually Washington.

Several retirement age people mentioned that they no longer hunt or fish because they are upset with the management strategies and methods of Idaho Fish and Game and refuse to support them.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

An avid hunter and angler, former Forest Service engineer, and native of Cottonwood, ID, believes that management teams are neither efficient nor effective; that strong, knowledgeable leaders who get good input from specialists around him/her should be decisive and able to tell others exactly how work should be accomplished. "Nothing gets done when several people attempt to reach consensus."

Institutional memory and accountability are concerns for several. They feel that FS managers are promoted before they are ready; that decisions made by one administrator will probably be carried out by the person who replaces him/her. Premature promotions result in insufficient knowledge of management areas and lots of inexperienced people making decisions.

Questions and opinions about road obliteration are numerous. Many disagree with obliterating a road that has "grown in". They feel that the Forest Service should evaluate the situation more carefully before making decisions about dozing and pulling materials into the roadways.

Some campers feel that the reservation system for the one site at Johnson Bar makes it difficult, and that many are turned away, even after those who made the original reservation do not show up, as is often the case. They feel that restrictions are keeping people away. "It's like the Forest Service doesn't want anyone there."

Owners of trailers said that campgrounds should be constructed or altered to better accommodate larger trailers and that campground parking and access is inadequate. "The people who fix these campgrounds are not trailer campers. They don't understand how spaces should be level and the space it takes to turn around."

PUBLIC CONCERN ABOUT THE FUTURE

Hunters, anglers, and campers fear that there will be closures and limited access for them. They see greater numbers of people flocking to the places where they have enjoyed peace and solitude.

Most management concerns for hunters and anglers are directed at Idaho Fish and Game. Stocking streams and high mountain lakes are favored by most.

HISTORIANS AND LONG-TIME RESIDENTS

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

Those who were born near the Selway Basin and have lived in the area all their lives are the selected historians for this assessment. They have passed along written and oral accounts of the past, have experienced changes on the landscape and in the social structure over some 60 to 80 years. Others chronicles of the past are discussed in Nez Perce Tribal Perspectives section of this document.

VALUES, BELIEFS, AND LIFESTYLES, AND ATTACHMENT

The "historians" lived and worked on the lands of the Selway long before modern roads penetrated the area, before the Wilderness Act and before Wild and Scenic River designations. They were accustomed to using the land for farming, logging, and ranching; to hunting and fishing, usually for food and sometimes for recreation. One person grew up in the outfitting business, and another was the child of the first district ranger at Moose Creek. They remember that modern conveniences were welcome because it lightened their workloads. Tractors, generators, telephones, and frequent flights into backcountry airfields made life easier and more comfortable. They pastured cattle and sheep in the rugged lands now labeled Wilderness. While they were deeply attached to the country, it was support to their livelihood; there was little concern about keeping it primitive. Some have mentioned that people used to feel there was no end to the resources and sometimes used them unwisely. In hindsight, they feel they could have done differently. A former game warden who stocked high mountain lakes with brook trout feels now that it was a mistake but says lakes should still be stocked with native species. This group feels that there is a danger of the forest being kept from public use. They want to see trails and access maintained. This is their home and the home of their ancestors who were the first homesteaders. They see the value of maintaining a pristine Wilderness and work to protect it, but have a more utilitarian attitude towards the land.

EVALUATION OF FOREST SERVICE MANAGEMENT

"Educated folks go to college and come back to run things. They sit at desks and never get to the ground. They start at the top, not from the bottom up. They don't know their territory." One man expressed the sentiments of several others who agreed that managers should know their areas better; that they go away before they know the land and the people in the communities. A long time resident and former outfitter says that the Forest Service makes an agreement on a sensitive issue that is favorable to the parties involved, then down the road, they change their minds and the rules. He suggests that the agency should look ahead to see what the consequences are going to be, make a decision based on that, and stick with it. All in this group agreed that there are many plans and studies done, but little action to show for it. They would prefer to see the money spent on planning get to the ground to get work done on trails.

CONCERNS ABOUT PRESENT AND FUTURE

This "old-timer" group has seen many changes in management by the Forest Service. They are concerned that the trend is toward funding more higher-grade office workers and that attention to trails and to access will continue to decrease. Former members of the LAC (Limits of Acceptable

Change) task group feel that group should reconvene to assure attention to Wilderness values. They fear the polarity between the Forest Service and the public is increasing.

OUTFITTERS AND GUIDES

Hunting and fishing guides' discussions are included here; river outfitters in the water recreation section.

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

As the West was discovered and explored (not without assistance from guides), it was inevitable that people would seek to experience the unique and wild lands of central Idaho and western Montana. Anglers and hunters heard tales of the abundance of game and of the clear, free-flowing streams teeming with trout and salmon, and they were bound to come. Local residents found that they could make a living by enabling outsiders to access the backcountry. There were no permits or assigned areas until conflicts over territory arose. The Outfitters and Guides Association was formed and outfitters paid \$5 for permits. Outfitting was usually a family operation; outfits were passed from generation to generation, and a few of the sons and daughters of the earliest outfitters are still in business today. Today, many of the older outfitters are retiring and several younger persons with dreams of starting an outfit and not necessarily associated with one before, are buying established operations.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Outfitters and guides are in the business because they love to be in the wild lands. They enjoy the backcountry themselves and providing that opportunity for others allows them to work in an environment, albeit often harsh and challenging, that they cherish. The profit margin is small, game availability and weather conditions are erratic, clients sometimes cranky, and outfitters often struggle to keep their operations going in spite of high overhead costs. But they wouldn't consider another type of work; the wild country is "in their blood". The old order of outfitters takes pride in their skills as woodsmen and their ability to handle horses and mules.

Before designated Wilderness and increased awareness of land ethics, many outfitters kept caches and left buried garbage dumps. Convenience and economics sometimes took precedence over low impact camping methods. Most outfitters realize that their future business depends on the land and strive to protect it and to educate their clients. Long-time outfitters say that people today are generally not so tough as in the past. They notice that clients want adventure, but don't want to sacrifice comforts and convenience; aren't willing to take risks. Two outfitters mentioned that society is changing. "Kids are different. They know about technology, not about hard work. Everything is too goddamned scientific!"

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Inconsistencies in management are frustrating to outfitters. Things change according to the ranger in charge, and since rangers change so often it is difficult to understand what FS managers expect. All outfitters agree that the trail system is diminishing from lack of maintenance. They believe that much more work was done on trails in the past and that adequate skills and training is lacking. They observed that in the past, every Forest Service employee who worked in the woods, even the ranger, carried an ax and "didn't just walk over stuff". Idaho Fish and Game is compared to the FS as agencies that do much planning and little action. Outfitters notice that the Forest Service, and particularly the ranger, used to be a part of their communities, that they were neighbors and friends. Today, there is polarity between the local residents and the agency. "Rangers don't stop in for a cup of coffee anymore."

PUBLIC CONCERNS ABOUT THE FUTURE

The decline in populations of elk is a major concern, and cost of operation is rising. The possibility that mountain lakes will no longer be stocked for fishing is a threat. Outfitters are seeing their client numbers diminish and are seeking to offer more diverse recreation opportunities. There is not so much activity in the woods as in the past; clients are interested in shorter trips on mainline trails and into popular areas. The "old school" type outfitter is retiring and there is a turnover to younger more inexperienced operators. A new, "modern day and age" type of outfitting operation is emerging. Recreation preferences are shifting from hunting to whitewater experiences and other types of adventure. A demise of the community spirit prevails as wealthy people move in from out of state and build summer homes in the area. Outfitters regret that they do not know who lives in those large, new homes next door and that the historical community connections are lost.

WILDERNESS

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The Selway-Bitterroot Wilderness came into existence with the signing of the Wilderness Act of 1964, and the Frank Church River of No Return and Magruder Corridor were added to the Wilderness Preservation system in 1980. Together they form the largest area of contiguous Wilderness in the lower forty-eight states. The Selway and Middle Fork Clearwater Rivers were named Wild and Scenic Rivers in 1968. Details of those designations are included in Chapter 4. Although much of the Selway Basin had already been assigned "Primitive Area" status, the changes in management that Wilderness designation wrought were significant, and individuals as well as the agency found it a difficult to adjust from use of mechanized to traditional tools; to closures of certain areas; and to other new restrictions. Wilderness seemed an unreasonable and inefficient theory for many. Struggles with the concept of a Wilderness philosophy continue, and the intent of the original Wilderness Act is constantly tested, analyzed, and interpreted. While local residents agreed that the land should be preserved, many considered it a threat to their economic future. Logging and grazing would be forbidden and lands would be shut off from the public who owned them. After some forty years, questions about how to manage Wilderness remain and Wilderness advocates decry the lack of a national Wilderness leader and organized management direction. The public is more or less satisfied that the lands and waters be protected, but fear that too much regulation and restriction will result.

Wilderness use patterns vary greatly from the eastern side in Montana to those in Idaho. The population increase in the Bitterroot Valley (increased from 2,600 to 5,000 in five years) and the ease of access to Wilderness account for heavier use.

The more remote areas of the Wilderness are used less because it is rugged country, dry, home to rattlesnakes, and is difficult to get to.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

The passion evoked by the mention of the designated Wilderness issue defies description. Wilderness Watch explains that the charge is to maintain the character of Wilderness according to strict interpretation of the law (Wilderness Act). "There can be no compromises in preserving the anchor point from which we test management points all over the world. Wilderness means that we are not going to manipulate it; it is biocentric; it is where nature has free reign." That Wilderness means recreation is a point of contention. Agency managers feel their responsibility is to make Wilderness available for people to use and enjoy. Wilderness groups would contend that recreation should be provided only to the extent that human-induced effects and degradation are prevented and Wilderness character is not compromised. Pressure from the public has eaten away at the original intent of the Wilderness Act.

SOCIAL ASSESSMENT

Wilderness advocates explain that building and maintaining necessary trails through the Wilderness is acceptable, but that fixing mistakes that human beings have made there in the past is not. "We are not smart enough to do that. Nature is not only more complex than we think, but more complex than we **can** think." The words "special", "spiritual", "unique", "precious", "magical aura", "different", are verbal attempts to express connections with Wilderness. People have difficulty conveying how the wild places interact with the human spirit, and thus, the problem of managing (or not) for those experiences presents a dilemma. Defenders of Wilderness assert, "Going into the wild country is a privilege, not a right. If people had to take a test or prove they had the skills and understanding to travel in the Wilderness before they went, the whole attitude about Wilderness would change."

While some Wilderness supporters suggest that a biocentric approach should supersede an ethnocentric approach, other avid Wilderness advocates explain, "You can't take the human factor out of Wilderness; it is our heritage. Another Wilderness activist reflects, "The Selway country has an aura. It grabs you. When a person starts exploring and really looking for it, he can find man sign, human activity, the places where people have walked, lived and built. The country comes alive. They are the signs of a different era, of a strength that was born out of this country. There was a respect for the land and a fiber that ran in the pioneering people who came into this country. Ralph Space, Bud Moore, Emil Keck are examples of those who had that special quality. They are the people who have seen the country when salmon ran so thick in creeks you could walk your horses over them. They are people who have seen what we can never understand; we will never know what it was like."

One person explained that many of the people of Idaho do not agree that Wilderness (at least, not so much) is necessary and have a deep-seated idea that they have a right to everything because they are U.S. citizens. He says people in Idaho's neighboring states do not even seem to share the same notion. This person believes that the long history of extraction from the land, and the boom and bust cycles to eke out a living has perpetuated that. He thinks that they do not have a tie with the land itself; that it has been their history to be concerned with what they can take from it.

A former Forest Service manager says the uniqueness of the Selway is its immensity; that there may be other places more beautiful, but none is so rugged, remote, and vast; and it's not so heavily used by comparison to other Wilderness areas.

EVALUATION OF FOREST SERVICE MANAGEMENT

Some present and former Forest Service managers pointed at the FS personnel department as responsible for placement of poor quality leaders. It was suggested that leadership skills; writing, speaking, supervision, organization, strength, and focus were lacking among administrators. "Strong leaders who make sound decisions and hold the line are badly needed!"

Mobility of administrators was cited as a weakness; that managers do not stay in one place long enough to be able to know it and make intelligent decisions.

In all but one discussion, reinstatement of the LAC (Limits of Acceptable Change) task group was suggested. People felt that it might have had flaws, but agreed that it was the one thread that represented a variety of interests and was a cohesive force that helped give direction and hold Wilderness management together. "It was meant to continue, to be that plan which would go on no matter if managers changed, like the Forest Plan provides institutional memory, the bridge that spans changes in management."

"More field work needs to get done, and specialists should be contracted for jobs only when they are needed instead of being full-time employees. 'Top feeders' need to be reduced. More visitors could be reached if Wilderness Rangers were stationed at each portal Lost Horse, Elk Summit, Paradise, and Selway Falls."

CONCERNS ABOUT PRESENT AND FUTURE

Population growth will result in more people seeking recreation in the woods. Everyone will want an experience outside of cities and crowds, and that will put more pressure on and jeopardize the integrity of Wilderness. Most people will be using the easily accessible and popular areas, but that will force those seeking a more remote experience deeper into sensitive Wilderness areas. We must work hard to keep what we have; not allow it to degrade in any way. If it takes permits; if it takes standing in line to get one; if we can, **never** go back. Let's keep it!"

"Wilderness management lacks a cohesive force and is lumped together with recreation and everything else. A position of National Wilderness Director needs to be established. Since the position of Selway-Bitterroot Wilderness coordinator has been eliminated, everything is fragmented, without effective leaders."

"Wilderness is in trouble because the vision has been lost. Wilderness as it was meant to be is not being managed as such. We keep eating away at the original concept, we give in to the pressures of the public." With continual eroding of the Wilderness ideal, and discussions in favor of recreation continue, there will not be Wilderness as it was intended."

Traditional skills and tools will be forgotten if those skills are not taught and perpetuated. The Wilderness Training Center at Nine Mile is the only place that focuses on use of traditional tools, Wilderness management and on understanding of Wilderness philosophy. Traditional techniques should not be replaced by blasting or other "easier methods" that aren't appropriate to Wilderness.

"Many people are forgetting, or they don't know what designated Wilderness really means. They don't see it as different from any other wild places or they don't understand. Those people should be encouraged to go to those places outside the Wilderness that will provide the same experience."

ENVIRONMENTAL ISSUES

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The word "environmentalist" did not appear in regional vocabulary until the 1960s. National attention became focused on clean air, water and soil, and the denuding of forestlands after Rachel Carson's Silent Spring and other "green" publications. The timber industry was enjoying growing profits, farmers and ranchers were increasing production by using chemicals and fertilizers; cattle were grazed on stream banks and in lush mountain meadows. Long-time local residents explain how they lived and worked believing that there was an endless supply of everything; that they didn't realize that they were making some mistakes. Many have changed their way of doing business because they understand there are better ways to take care of the land and plan for the future.

What local folks have a problem with is "outsiders" telling them how to manage their land. Because the unique forests and streams of the Northwest attracted people from all over the nation; and because conservation of the last, best places became an issue with conservation and preservation leaders and were brought to the forefront in the political arena, environmental activists did converge on the area. Extreme groups, who thought they could bury themselves in logging roads or monkey wrench logging machinery, or generally make a nuisance of themselves in local communities, gave the word "environmental" a bad name. Many area citizens still wage the ongoing battle of environmentalism vs. economics. The area has also attracted more moderate conservation groups that work through education, legislation, and cooperation with local people and land management agencies to protect the resources. They feel that radical groups have made it difficult for their organizations to make much headway. Yet, the Idaho Conservation League, Wilderness Watch, the Wilderness Society, Friends of the Bitterroot (to name a few) work tirelessly from offices in nearby larger communities of Moscow and Missoula.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Refer to the Wilderness section above. To explain what beliefs and attitudes drive the force of the environmental community is to probe the soul of each person, to describe a philosophy, a private passion. Somehow it is a spiritual responsibility to oneself and to the future of humanity. Aldo Leopold might have captured a sense of why a human being feels responsibility to the earth, "One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who see the marks of death in a community that believes itself well and does not want to be told otherwise."

EVALUATIONS OF FOREST SERVICE MANAGEMENT

A spokesperson for the Ecology Center believes that conservation biologists are not valued in the Forest Service, that the FS has its own agenda and discredit input by specialists.

Noxious weeds are an important issue among most interest groups. They feel the situation has been allowed to get so far out of hand that nothing effective can be done now. All interest communities believe that the FS should be more proactive in treatment of exotic species.

Several individuals and representatives of conservation organizations feel that the FS listens to whichever public fits its needs or plans; that public comments are disregarded and the FS does what it wants to in the name of multiple use. "Public ownership is being subverted."

CONCERNS ABOUT THE PRESENT AND FUTURE

Most conservation groups believe that the growing use of motorized vehicles is a serious threat. They are also concerned about heavier use by stock, especially in large groups.

The bicentennial offers a challenge to the FS. It is an opportunity to be in touch with many people and to educate them. They should plan for and capitalize on the possibilities.

A demand for more use of the forests and Wilderness will necessitate "zoning" or planning by the FS for best use of certain areas.

Groups are at odds about use of fire, especially in Wilderness. One person is adamant that long-time fire suppression practices have destroyed natural conditions and that ignited fire activity is needed for at least ten year to establish a normal situation. Others would say that ignition of fire is unnatural or "gardening" and that only lightning ignited fires should be allowed.

CULTURAL AND ARCHEOLOGICAL

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The Selway Basin is rich in cultural history. Native Americans have occupied these lands for some 10,000 years. Prehistoric archaeological remains may vary from a cambium peeled tree, a projectile point, a lithic scatter to a pit house or village site. Disturbance of ancient Indian sites is a sensitive issue among tribal members because they believe that their deceased elders should retain their earthly possessions and that the ghost of the owner will visit any person who molests or removes them. To display articles used in religious ceremonies or in a spiritual context is said to be exposing or exploiting a sacred tradition.

The history of European settlers left yet another fascinating archaeological trail. Cabins constructed by early trappers still dot the forests. Remnants of homesteads and Forest Service administrative sites conjure memories of the hardy spirit of pioneers. After the Wilderness Act of 1964, the Forest Service carried out a program to burn or otherwise dispose of many of those existing structures or evidence of activities by human beings.

Archaeological remains or cultural resource properties are non-renewable resources. Federal regulations have been passed which prohibit destruction of significant cultural sites and obligate Federal agencies, including the Forest Service, to protect and manage cultural resource properties. The Antiquities Act of 1906, the Historic Sites Act of 1935, the National Historic Preservation Act (NHPA) of 1966 with its 1992 amendments, the Archeological and Historic Preservation Act of 1974, the Archeological Resources Protection Act (ARPA) of 1979, and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 exemplify the long and progressive history of regulations concerning the protection of significant archaeological resources.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

There is a great deal of interest in the history and prehistory of our National Forest lands. Many members of the public visit Forestlands on a regular basis. They develop an attachment to an area, building, or river where they once worked or visited. There is a great deal of frustration on the part of the public when they visit an old ranger station or lookout that has been abandoned and allowed to deteriorate. Forest management needs to make a commitment to ensure the preservation of our non-renewable heritage resources.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Historic preservationists have worked to educate and to increase awareness and understanding of the value of historical and cultural resources. As a result, the Forest Service and other agencies are focusing more attention to preservation and protection of heritage sites. Generally, the FS is doing a good job of protecting historic structures when fires are allowed to burn in the Wilderness. An Idaho State Historical Preservation Society spokesperson feels that shrinking budgets are taking money from people on the ground and putting it into management, and encourages the FS to hire additional, well-trained archaeologists and get them on the ground. The Bicentennial of the Lewis and Clark expedition brings much attention to heritage and an opportunity for education. There is concern that agencies have not looked at the long term and planned far enough ahead to take full advantage of heritage education.

PUBLIC CONCERN ABOUT THE FUTURE AND PRESENT

Historic preservation or heritage programs within the Forest Service have not received adequate funding to carry out a full spectrum program. Emphasis lies with supporting other resource areas and projects via heritage resource surveys for activities such as timber sales, prescribed burns, recreation, and trail projects. Some cultural resource properties are discovered and evaluated for their National Register of Historic Places eligibility during these project driven surveys. The low level of funding that the Heritage Program receives does not allow for specific heritage resource projects designed by archaeologists i.e., preservation work on historic buildings, inventories, site monitoring and evaluation, etc. Due to the low number of "projects" that occur within wilderness, very little of the Selway Bitterroot Wilderness has been inventoried for the presence or absence of cultural resource properties.

AVIATION

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

Public and private airstrips were built in the 1930s for access to Forest Service administrative sites and to private land. There were no roads to service these areas; supplies could only be brought by pack strings, and travel "out" to towns could only be accomplished on horseback. Aircraft, in the spirit of the Alaska bush pilot, was the logical solution to movement of large amounts of goods and people. When the Wilderness Act passed in 1964, the aviation community protested the elimination of airfields within Wilderness boundaries, and as a compromise within the Wilderness bill, the backcountry airstrips were "grandfathered in". Aviation activity reached its

peak in the 1970s, when Moose Creek recorded some 4,000 flights in one season. The first response to a forest fire by US smokejumpers originated at the Moose Creek field, and firefighting activities are still an important function of that airstrip. Three private and two Forest Service airstrips exist in the Selway Basin today. Three other airfields that are now closed accessed private property that has since been bought by the Forest Service. Local pilots noticed a decline in general aviation in the middle 1980s and attribute that to higher costs of fuel and maintenance. The Forest Service adopted a minimum tool policy in the Wilderness and returned to traditional methods of transport. Flights at Moose Creek dropped to 539 in 1998.

VALUES BELIEFS, LIFE-STYLES, AND ATTACHMENTS

Aviation club members and flying enthusiasts from all over the country dream of flight to the heart of the backcountry to fish, hunt, hike or to enjoy the breathtaking scenery that they could never view except by air. Backcountry flying is challenging and requires specialized aviation skills. Relatively few pilots possess the expertise and the mettle for bush flying and they are modestly proud of their abilities. Several pilots have been commercial operators for many years doing what they love best and at the same time providing a service for others who long to conveniently get to the wild places. The general consensus is that airfield improvements should be made, but a few pilots want some pristine airstrips to remain unchanged for the challenge and the remoteness they offer. It was suggested that backcountry airfields should be classified like Opportunity Classes, some not maintained and others maintained at different levels. Many of the pilots have been flying to the backcountry for thirty to fifty years and enjoy reminiscing about the heydays of flying of the past, especially before Wilderness designation. Pilots feel satisfaction at their ability to respond to emergencies and to rescue injured persons who could not otherwise get timely medical attention.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Keeping the airstrips in good condition is important to aviators. They feel that noxious weed management is very poor. Pilots have experienced situations where the Forest Service did not make the public feel welcome and where they felt their opinions had been solicited but, in fact, were discounted. Some aviators feel that FS management is not consistent; that there is no institutional memory. "New people in charge have their own agendas and the public doesn't know what to expect." One pilot observed that the Forest Service does not apply the same rules to its operation as it does to the public.

PUBLIC CONCERN ABOUT THE PRESENT AND FUTURE

Most pilots fear that more and more restrictions will be put in place and that backcountry aviation might eventually be prohibited. They enjoy the camping area at Moose Creek and adamantly request that it be kept open and that the picnic tables remain. Commercial operators see numbers of hunters declining and feel that business is decreasing.

PRIVATE INHOLDINGS

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

Only four private inholdings remain from among the dozen that had been established by virtue of the Forest Homestead Act of 1906. Homesteaders could file for up to 160 acres of land and could "prove" or patent their claim by cultivating the land and maintaining residence there for five years. (After 1913, the patent requirement was three years.) A few colorful and adventurous souls dared to settle in the wildest and roughest country along the Selway and Moose Creek. Several of the earlier homesteaders were relatives and settled in neighboring claims, and a few endured until the government purchased their land. Cultivation of crops was difficult and success at raising livestock was subject to weather and other variables. A few owners operated outfitting businesses to survive or to supplement income. Other homesteads changed hands several

times, but owners relinquished to the U.S. Forest Service after their lands were surrounded by designated Wilderness in the 1960s. The Forest Service used several private residences as administrative sites.

Former landowners, still living, tell of the unique challenges and pleasures of life in the backcountry. They explained how important it was to help each other and that theirs was a specialized community. The Forest Service personnel were an important part of that community and considered neighbors. Only one former landowner expressed fear and intolerance of associations with the Forest Service. Property within the Wilderness has no equal in real estate value. Though they are difficult to access and to maintain, they provide a singular experience and only the wealthy are allowed to indulge. Recently, ownership has fallen to out-of-state owners who visit their summer homes for a few months or leave their property in the hands of caretakers. The spirit of the neighborhood is gone.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENT

Now that relationships among owners are less neighborly and traditional, but more segmented, attachment and values vary with each owner. Some owners might explore the idea of subdivision and profit, while others seek to keep their lands for their own private pleasure. Still others prefer to sell their property to conservation organizations to ensure perpetuation of the wild character of the land. Some choose to maintain the rustic quality of the buildings and others would "improve" and develop in the manner of life-styles of urban or suburban communities. Almost all consider their lifestyle to be more like that of the "outside world" and not primitive in the spirit of Wilderness. Only one private inholding operates within a scenic easement and is limited to changes only as allowed in that agreement. There is less personal attachment to these lands among those owners who live far removed from the area and who dedicate their lives to businesses totally apart from their wilderness property. While they value their unique opportunity to live in the wild, they choose not to utilize traditional tools and Wilderness management style, but enjoy more modern conveniences such as lawn mowers, tractors and other motorized equipment. They see their homes along the Selway and Moose Creek as a place to get away and relax apart from their hectic lives in cities.

EVALUATIONS OF FOREST SERVICE MANAGEMENT

Some private landowners believe that the FS tries to limit access to public lands, that there are too many restrictions. They use chainsaws and tractors and other convenient tools and find it ridiculous that the FS does not allow it in the Wilderness. Though their lands are immediately surrounded by Wilderness, some do not understand wilderness values or the need for it. One private landowner and former logger feels differently about Wilderness, and thinks it is important. He feels that if there had been an "environmental movement" in the '50s that logging would not have been allowed to run rampant. He feels that extremists are bad for everyone involved.

Some longtime owners of private inholdings explained how everyone used to admire Forest Rangers; they were heroes who were in the FS for the land and not for career advancement. They also remember when FS personnel were very community-minded and were considered friends and neighbors of local people.

"The Forest Service is hell to study and not to fix," observes one landowner, but he also says that the FS is doing a better job of listening to the public these days, and that the agency is often a scapegoat and gets blamed for everything that goes wrong.

Landowners are not too concerned with Forest Service policy since they enjoy unique circumstances and are in the enviable position of operating more or less independently of the agency.

CONCERNS ABOUT THE PRESENT AND FUTURE

One longtime area resident (his family homesteaded along the Clearwater) fears that some private inholdings might be subdivided and profits rather than maintaining Wilderness character will be the motive. He does not intend to subdivide but believes there are others who will. Those private parcels of land within Wilderness boundaries are a rarity, and there is much speculation about how landowners will manage such a precious commodity. One owner says that the right kind of people need to own those lands, to take care of it, not to make money. Some owners have shown interest in selling to conservation organizations.

FORMER FOREST SERVICE ADMINISTRATIVE STAFF

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

Former forest supervisors and forest staff were contacted and they were asked the same questions as those people representing other communities of interest. Some discussions involved management as long as thirty years ago and represent the perspective of forest leadership over the past three decades. Most individuals have a long history with the Forest Service and they have lived and worked in several other northwestern forests, but have retired and live in or near the Selway Basin now.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENTS

Every person in this group has extremely close ties with the Wilderness or Wild and Scenic Rivers. They were part of making Wilderness policy and implementing it on their Forests or Districts. Some are still active today in shaping management decisions and they conduct classes and workshops related to Wilderness management. It is interesting to note that each of this group moved into the Selway country from other regions for their work, and each has chosen to build retirement homes here in relatively remote and wooded areas, and prefer a more rustic lifestyle than others in their age group. They enjoy backpacking, river trips and horse packing trips into the backcountry, and feel it's a great pleasure now without the direct pressures of management they had to deal with as administrators.

EVALUATION OF FOREST SERVICE MANAGEMENT

All of this group agree that managers today do not stay in one place long enough to get to know the land and to make intelligent decisions in management of it. "Forest Service people should have to carry with them a folder saying what they'd done. Then they should follow up to see what happened to their plan down the road." They feel that people who make decisions need to be responsible for them for the duration. Former managers feel that personnel people are responsible for the fact that there are people in leadership positions who are doing poor jobs, they don't have a variety of skills and they are not so willing to take the risks of making tough, sometimes unpopular decisions. They think that stronger personalities should be in charge.

A former forest planner explained that political motives ultimately drove everything and that Forest Service direction comes from the political power at the time. "We never seemed to do what was obviously the right thing." It was frustrating for this person to see sound scientific advice by those who knew the ground and cared about the forest ignored in favor of political motives. He added that when law versus political pressure that management must bow to political pressure or not survive.

A former district ranger described how the mood of the Forest Service is changing; that rangers today are more figureheads who attend meetings where they meet the public outside the backcountry setting. They have to be more involved with the people of the political community.

"Studies get done and they lie around on somebody's desk somewhere, and no one acts upon it or they wait for long periods of time, sometimes until it's too late. It would be good if someone

took the information that is being gathered for this assessment and would do something with it; if they would sit down and look at it and decide how they are going to act upon it, but it won't happen."

CONCERNS ABOUT THE PRESENT AND FUTURE

Most of this group agrees that the overall condition of the resource has improved, that some impacted areas are healing, and that education has contributed to more conscientious use of the backcountry. They also note that much of the use today does not penetrate the forest for much more than five miles; use is concentrated on the fringes.

All are concerned about Wilderness and feel that the original concept is becoming lost in compromises, conditions, provisions and interpretations. They understand that Wilderness is fragile and that public pressure could be its demise.

As a summation of one interview, a former manager sadly reflected, "the Forest Service is headed for falling apart. It is losing its fiber now. It is unraveling. The future looks dismal."

SELWAY ASSESSMENT CORE TEAM MEMBERS

GEOGRAPHY, HISTORY, AND SOCIAL ENVIRONMENT

The Selway Assessment Core Team members were asked the same questions as those representing all other interest groups in order to give them an understanding of how the questions were posed to the public and to allow them input as well. It is often mentioned that the public does not usually understand agency actions because the Forest Service does not communicate well its motives and methods of operation. While FS personnel attempt to use the very best science and, in most cases, truly do care for the land, that message does not reach the people. The agency is often criticized and misunderstood.

The core team members are ecology, aquatics, wildlife, engineer, planning and technology specialists. Several have been a part of other watershed assessment teams and all are familiar with and have worked directly on the lands within the Selway Subbasin. Team members averaged 15-20 years experience working for the Forest Service.

VALUES, BELIEFS, LIFE-STYLES, AND ATTACHMENTS

All core team members recreate (hike, camp, fish, float, backpack, ride, hunt) as well as work in the forest. Most enjoy the most remote and pristine areas, and rather than identify one special place they consider every place to be special. They enjoy the diversity that the Selway Basin offers, and all dream of exploring areas they have not visited before.

The people of this group made caring for the land a career choice. That fact reflects a unique attachment to the forestland, deep ecological values, and a genuine desire to preserve the character and wildness of those special places. They also understand the value of the land to human beings, and hope to help people understand how they're connected to the web of life, ethically and aesthetically.

EVALUATION OF FOREST SERVICE MANAGEMENT

All members of the group agree that more education and interpretation is needed for the public. They feel the public should be brought to the table to participate in more management decisions. Also more inventory and assessment of transportation needs is critical, with attention to roads, and unstable, erodible soil. They notice that fire, managed for more natural conditions, is becoming more acceptable to the public, and further attention is needed in allowing that disturbance to continue, to play its natural role in ecosystems. Following are statements by individuals that summarized the thoughts of other team members, as well.

SOCIAL ASSESSMENT

“For everyone who says, ‘fix it’, there is someone who says, ‘over my dead body!’ Fixing one thing can affect another. We don’t know what that effect might be. We know more now, but we can’t do much. In many ways our hands are tied. Back when we could just do things, we did lots of things wrong. Do people want us to spend the money to do things wrong again? Some things can be fixed. So if we are going too slowly for them now, that’s OK. We’re trying to get it right this time.”

“People in the Forest Service used to be happier, friendlier, and it was more structured. In the ‘80s careers were put ahead of the resource. That’s changing again now. Although the downsizing has caused some problems, we’re getting used to it and it’s starting to get better again.”

“We should strive to maintain the naturalness of Wilderness and celebrate that. Wilderness should be the showcase of how to get a job done instead of an obstacle!”

CONCERNS ABOUT THE PRESENT AND FUTURE

The increasing use by the motorized (OHVs, aircraft) community is a concern. The strong lobby and monetary support is considered a potential threat for noise pollution, wildlife habitat intrusion, and erosion problems. The nature of the soils in the Selway subbasin does not allow for a large capacity of OHV activity.

One group member feels that the Lewis and Clark Bicentennial celebration will invite a huge influx of people into the area; it will encourage more people to move into the area, and that, finally, the complexion of the entire basin will be changed.

Attention to roads, focused in terms of aquatic watersheds, will receive much attention in the future. Access for the public could be improved by the rightsizing of roads, but management differences from forest to forest need to be addressed and consistency improved.

It is feared that poaching of fish could become a bigger problem because angler numbers are increasing and people do not see it as a serious infraction to “catch and eat a few fish”. Anglers who fish in the backcountry have a tendency to feel far removed from law enforcement, and their “innocent actions” could collectively impact rare fish within the Selway subbasin.

NEZ PERCE TRIBE PERSPECTIVE

The early history (pre-settlement) of the Nez Perce people is discussed in the Heritage Resources Section XX. Fur trappers, miners and homesteaders followed closely on the heels of the Lewis and Clark expedition into the vast lands of the Nez Perce, and their aboriginal way of life was changed forever. The events and circumstances surrounding the interaction with “white people” and government agencies shaped the perceptions that many tribal members hold today. Many books have been written about the Nez Perce people, but most do not present the history or circumstances from an Indian point of view. The tribe recognizes specific accounts that are not biased and that accurately present their history and culture. Those sources, together with information learned in recent discussions with Nez Perce elders and leaders, are the basis of the information included here.

(Slickpoo: *Noon Ne Mee Poo*; Josephy: *The Nez Perce Indians*; National Park Service: *Nez Perce Country*)

GEOGRAPHY, HISTORY AND SOCIAL ENVIRONMENT

The Nez Perce Nation occupied about 13 million acres of land in the north-central part of Idaho, southeastern Washington, and northeastern Oregon. The people were known as Tsoop-nit-palu (the walking people) or Nimiipuu (The People), but were given the erroneous name, Nez Perce (pierced or sharp noses), by a French interpreter. The Nez Perce were considered to be a noble and intelligent, and though basically a peaceful nation, demonstrated superior skills and

knowledge of warfare. Archeological data show that the ancestors of the Nez Perce have lived in the Northwest for more than 8 to 10 thousand years. For seventy-five years the Nez Perce were intimately associated with most of the historic events of the opening and early development of the Northwest by whites. At the time of the Lewis and Clark expedition, the population of the Nez Perce was estimated to be about six to seven thousand. By the 1855 treaty council the Nez Perce present were about 2,000. In the early 1900's the number decreased to about 1,400 people, and today tribal members number about 4,000.

Based on dialect differences, the People were divided into the upper Nez Perce, associated with the Great Plains life style, and the lower Nez Perce oriented toward the Plateau culture. A common misconception is that the tribe was organized as a single unit under the direction of a main chief. Rather, the social structure revolved around villages (30 to 200) made up of relatives or extended families led by a headman selected from among the elected council. Bands were made up of villages situated along the same river, and regional confederations included several bands. The system of overall chiefs was by designation of the US government, and many worthy and important headmen or leaders have not been recognized nor given due credit in historical accounts. The Nez Perce traveled extensively throughout the Northwest and their associations with other tribes included warfare, trading partnerships, and intertribal marriages.

The People did not practice agriculture, but were hunters and gatherers and collected food seasonably by traveling to areas where fish, edible plants and root crops were available at the time. They traveled to plentiful food sources on foot and packed supplies on dogs until the horse was introduced to their culture. In the mid 1700s the "walking people" became mounted and would become renowned breeders of the Appaloosa horse, selectively bred for intelligence and speed.. Now the tribe could make frequent hunting excursions to Montana, they were more efficient in conflicts, and large horse herds represented wealth. It also provided a greater opportunity to learn from and trade with other tribes.

The Nez Perce ultimately felt the indirect influences of outsiders from Russia, Spain, France and Britain as early as the 1500s. They did not see a white person until sometime in the 18th century. Three decades after the departure of Lewis and Clark in 1806, the fur trade of the white men enabled the Nez Perce to reach a position of power and influence, and at the same time entangled them with forces that would be their undoing. Guns and manufactured goods supplemented traditional weapons, clothing, and household items. Word of the strong medicine of the white man's religion tempted the Nez Perce to explore the possibility of acquiring gifts and promises from missionaries. Some felt that the real purpose of the missionaries was to pacify these who opposed the movement of settlers to the West. At first, the missionaries were welcomed; both they and the Indians felt it was a successful relationship. Sentiment began to change when the missionaries expected the Nez Perce to take up farming and to leave their old "heathen" ways. Punishment by whipping, the concept of hell for sinners, and intense conflicts among the missionaries themselves contributed to the growing mistrust and disrespect among the Nez Perce people. In spite of festering misunderstandings many Nez Perce people came to believe that the whites man's way was the only way; that associations with the white man brought prestige and respect. The Nez Perce were encouraged to forget the ways of their ancestors and their religion. " We were demoralized by the ministers of Christianity. We were soon taught to forget our native beliefs and to convert to everything white. We can trace back in the history of other nations and find that such a practice was nothing new to the white man. A nation broken in spirit and a people torn away from their traditional beliefs are easy prey. They can be convinced to accept the new, foreign culture and life primarily to benefit those who want their land." (Slickpoo, 1973). Ironically, an attempt to "civilize" the Indians through Christianity, the religion of peace and unity, resulted in dividing the cohesive Nez Perce Nation.

As settlers continued to pour into the Northwest, conflicts over lands caused concern for the US government, and an apparent solution was to put Indians on reservations. In 1855, the US government and fifty-four headmen of various tribes signed a treaty that provided for an approximately 5,000 sq.- mile reservation for the Nez Perce. The U.S. government would

SOCIAL ASSESSMENT

maintain schools, mills, blacksmith and carpenter shops and pay annuities for twenty years in blankets, clothing and other articles. Indians were allowed hunting, fishing, berry picking rights and exclusive use of reservation lands. They were to be a self-governing, legal entity. Throughout the treaty proceedings, the problems of translation and mistrust left the Indians feeling pressured and threatened. They also felt uncomfortable with the appointment of an overall chief who was especially sympathetic to the U.S. government. In spite of misgivings, at least twenty Nez Perce headmen signed the treaty, hopeful that it would halt invasion of their lands by settlers and preserve peace. Though subsequent treaties and amendments have been wrought, the treaty of 1855 is viewed by the Nez Perce as the foundation of their relationship with the US government today.

The reimbursements promised in the treaty of 1855 were never completely fulfilled prior to the generation of a second treaty. Discovery of gold on the reservation incited another torrent of intruders upon Nez Perce lands. The new influx of settlers inflicted theft, violence, rape, and drunkenness upon the Nez Perce people; and their distrust, disrespect and hatred of the “white government” grew. In an attempt to settle disputes between the tribe and the settlers rushing to the gold, the government sought to buy that part of the reservation valuable for mining. The treaty of 1863 which provided for a new and smaller reservation was finally ratified in 1866, and in 1868, the Nez Perce tribe asked for amendments to prevent exploitation of their lands, timber, and mineral deposits to preserve the natural resources for posterity. Allotments of land for each Indian were issued and those Indians living outside were to move onto the reservation at the discretion of the agent.

The treaty of 1863 and the ensuing graft and corruption by the U.S. Government, together with conflicts within and among the churches, deepened the schism among the Nimiipuu. The Upper Nez Perce, the “progressive, Christian, or treaty” group, located in the Lapwai region were separated approximately 100 miles from the Lower Nez Perce, the “non-treaty, heathens” of the Wallowa area. The Upper Nez Perce signed the treaty that further reduced the reservation size by a little more than 25percent, to 785,000 acres. No record has been found that the Lower Nez Perce were notified to attend the 1863 Council nor presented the treaty for approval. As previously stressed, the Nez Perce people had never operated under one central chief. Instead, headmen of villages were responsible for the leadership of each band. It was the white man’s way, not the Indian way, for one chief to represent all the people. They felt that federal officials styled a few head chiefs from among the Upper Nez Perce who lived near the Christian missionary region and were amenable to government goals, and that these “progressive” leaders influenced the other headmen. The Lower Nez Perce (six headmen) were not represented in the 1863 treaty as they had been in the treaty of 1855, and held that those who did sign in 1863 had no authority to commit the nation as a whole. The circumstances surrounding that treaty seriously deepened Nez Perce bitterness and resentment toward the US government, especially within the non-treaty” faction, and provoked the famous War of 1877. It caused even further polarization within the tribe to the extent that some tribal members have called it “the Nez Perces’ own civil war.” (Halfmoon, 2000) Families were torn as reservation bands (treaty) and warring bands argued among themselves over degree of loyalty. To this day, those differences continue to be sources of conflict within the tribe and with the US Government.

The war between the US and the non-treaty Nez Perce ended after a four-month struggle when some 750 heroic men, women and children, led by Joseph, were defeated as they attempted an escape to freedom across the Canadian border. The survivors were exiled to Kansas. They were not successful in their attempts to return to their beloved homeland until 1885.

A council of all adult Nez Perce males replaced chief tribal rule by 1880. That group negotiated continuing in force the principal provisions of the 1855 and 1863 treaties. Influenced by the churches, acculturation proceeded rapidly and many Nez Perce cut their hair, adopted white man’s clothing, moved into houses, took white men’s names and insured that their children learned to read and write English, advanced their knowledge of agriculture and mechanical skills, and attended church regularly. Several young Indian men prepared for the ministry and the First

Presbyterian Church of Kamiah grew to over 200 members. Ultra-conservative members of the First Church spoke out against the traditional Nez Perce religion, and suggested that the old ways were pagan and should never be recognized by Christians. Many in the church did not agree that their ancestral traditions and culture should be obliterated and formed their own church located across the Clearwater River, the Second Presbyterian Church. Again, religion was the source of turbulent discord within the tribe. Kamiah was the center of Presbyterianism and Christian celebrations while Lapwai perpetuated the traditional feasts and celebration. The missionaries labeled Lapwai “the moral cesspool of the tribe” and admonished Christians from participating in any heathen celebrations. Those barriers were lowered, however, in 1885, at the homecoming of the exiled “non-treaties”. Families were reunited and old wounds began to heal as the combined Christian and non-Christian Fourth of July “homecoming” celebrations continued for ten years. Then the Christians determined that the heathens were a bad influence, and so once more divided the Nez Perce by insisting on separating the celebration into Christian and non-Christian groups. Today the Presbyterian celebration continues annually at Talmaks.

The Dawes Act of 1891 provided for the president of the US to divide up a reservation and give each member of the tribe on that reservation a certain number of acres. Those acres were held in trust for twenty-five years after which the allottee would receive a fee patent. Many Nez Perce lost their lands because of the forced patent. “It is obvious that this act was designed to force us to give up what was left of our traditional way of life. By dividing up the communal lands, attempting to break up tribal relations, and forcing everyone to speak English, this legislation was aimed at stopping us from being Indian” (Slickpoo, 1973) As the lands were being allotted, a group of Indians was formed to assist and to act as a link between tribal members and government officials. The establishment of this committee bolstered morale and provided encouragement for the eventual establishment of a system of self-government and tribal representation.

During the first two decades of the twentieth century the Indian office regulated its program in accordance with the provisions set forth in the Dawes Act. The US Government increased its responsibility to the individual Indian and continued to provide health and education services and guidance in and agriculture and industry. Health and fitness had been extremely important to the Nez Perce, but many became ill and hundreds died of diseases introduced by the Euro-Americans. Alcohol, also introduced by the whites, the stress involved in acculturation, and the divisions within the tribe contributed to mental health problems. Boarding schools were established for young reservation Nez Perce and students were expected to learn English and the white man’s way of life; encouraged to forget the “inferior” Indian traditions. It was a difficult transition for most, especially learning a foreign language. The Nez Perce language was forbidden in schools, and in many homes.

Throughout the 1920s, there were numerous factions and controversies, most stemming from the white man’s pressures and interferences. They revolved around land ownership, claims, division of government payments, religious freedom and proposals for the development of tribal human and economic resources

By 1923, a pattern of tribal government was beginning to emerge. There were two governmental divisions, the general council and the Nez Perce Business Committee that was the permanent representative body for the tribe. The committee drew up a plan and formed the Nez Perce Indian Home and Farm Association to promote material and moral improvement within the tribe. Several Indian communities with a wide representation of communities, consistent with traditional representation of the early days under headmen, organized to gain economic competency and independence. Their Declaration of Purpose (or constitution) began:

“When in the course of the advance of civilization, the members of a tribe of Indians find themselves gradually decreasing in numbers, their lands passing from their ownership, many of their people become homeless, living in idleness and acquiring the vices of the supposedly superior race among which they live and desire to reform their ways and to assure among the people of the dominant race equal station in life and to acquire that economic competency and

independence to which the laws of God and nature entitle them. It becomes necessary and advantageous for them to declare their purpose and to organize themselves into a cooperative association for the mutual benefit in carrying forward their aims.”

The program met with great success. It gained the support of local communities and civic organizations; it was endorsed by tribal members and generated interest within the tribe to develop a permanent tribal government and leadership program. The first Nez Perce permanent executive body drafted a new constitution in 1926 and it was approved with revisions in 1927. The document proved to be inadequate because the committee was limited in its activities according to what the Bureau of Indian Affairs prescribed. The tribe realized they would need a stronger constitutional base.

In the 1930s the tribe realized that they would have to revitalize their program of self-government and put aside jealousies, conflicts and distrust of the U.S. government to formulate a new constitution. The authoritative body of the tribe would have the right to prepare census rolls, enact land management programs, develop system of tribal revenue, draw up budget, regulate hunting and fishing rights protect public health and safety, defend tribal claims and treaty rights, and promote the general welfare of tribal members. By 1948, a workable constitution was adopted and the General Council that ratified the constitution elected a nine-member group, the Nez Perce Tribal Executive Committee (NPTEC) that was empowered with authority over almost every phase of reservation activity. Some opposition groups have had conflicts with the NPTEC, but it remains an able and effective governing body. Sharp divisions of opinion among the tribe revolved around the pursuit of claims and the actions of NPTEC. The Nez Perce wanted to gain independence from the Bureau of Indian Affairs (BIA) but it was evident that until they reached a more advanced level of economic and social development and could compete on equal terms with white society, they required Federal observance of treaty-guaranteed rights. Though some off-reservation Nez Perce did not see the benefits, NPTEC has consistently opposed Federal legislature’s attempt to terminate reservations.

During the 1960s the Federal Government supported efforts to assist the economic development of reservations. It was a landmark change in relations between federal agencies and the tribe. It encouraged the tribe to develop its own programs and made funds available so the tribe could manage and control them. Government departments and agencies tailored programs according to the needs as the Nez Perce themselves saw them.

In the 1970s Indian organizations took leadership roles. The tribe built community center buildings, upgraded education and law enforcement, provided growing employment opportunities, and encouraged improved health and housing. When allotments were offered for sale, they had to be offered to the tribe, so that landholdings by the Nez Perce increased. There were 54,237 acres owned by individuals and the tribe owned 33, 642. The tribe has invested in sources of income for all the people- museums, parks and visitor centers, casinos, convenience stores, etc. Preservation of traditions and culture became important again.

VALUES, BELIEFS, AND LIFESTYLES

“Though change is evident everywhere, many of the ancient Nez Perce ways, including the use of sweathouses and shamans live on. In the new day of Indian self-determination, the Nez Perce are proud of their culture and history, and proud of their ancestors who through many trials and sufferings bequeathed to them a homeland and heritage.”

Although the tribe works together under a central agency, some division within the Nez Perce Tribe still exists. Those differences wrought by Christianity and influence of the “white man” are expressed by different philosophies. Some hold that learning the Nez Perce language and practicing a traditional way of life will only hinder an Indian’s progress in the modern world. Others feel that preserving tradition and language is the only way to take care of the land and the Nez Perce people. Language is tied to the land and is a way to perpetuate the people. “It is important to keep the language alive; the future of our children depends on it. It teaches us to

take care of the land. There is a place for English and a place for Nez Perce, the place for Nez Perce is here.” Josiah Pinkham There is increasing interest among young Nez Perce to learn their language, learn traditional dances and rituals, and to take pride in their heritage. The division of the First (strictly Christian) and Second (retain more Indian traditions) Presbyterian Churches represents the separation of views.

It is ironic that transition to reservation life facilitated the demise of traditional ways, but today the reservation is the thread that holds the tribe and its heritage together.

The family structure was the center of existence for the Nimiipuu, and still is today. Close relatives had the responsibility for the guidance, education, and training of children. Cousins, aunts and uncles, and in-laws were considered brothers and sisters. Not only are family relationships close, but the Nez Perce people feel that they are brothers with all of creation and that the earth is their mother. The challenge to raise young Nez Perce people to live in two cultures is great. An elder explained, using an analogy of the difficulty in riding two horses at once.

The upcoming Lewis and Clark bicentennial is not viewed by the Nez Perce as a celebration, but a commemoration. The history surrounding that event was to generate irreparable changes for The People.

The Nez Perce Tribe has traditionally used sound ecological practices on land. They use no pesticides and utilize practices to perpetuate fish species. They do not separate the components of the aquatic, terrestrial, wildlife, and social aspects of the land; all operates as one unit.

Religion and education are ongoing in the family; it doesn't happen just in the school or church setting.

EVALUATION OF FOREST SERVICE MANAGEMENT

A long history of misunderstandings, misrepresentation, and broken promises is difficult to repair. Often the Tribe does not trust the government or government personnel because of the turbulent relationship of the past. The Tribe cooperates with the FS in land management, fisheries and natural resource issues, but sometimes ideological management practices conflict.

The Treaty of 1855 and subsequent treaties and agreements with the Nez Perce Tribe describe the Tribe's reserved rights within lands managed by the FS and provide the basis for the federal trust responsibility over the resources for which those rights depend. Treaty tribes, such as the Nez Perce, have been recognized as managers of their treaty-reserved resources. [U.S. v. Washington, 384 F. Supp.312, 339-40,403 (W.D. Wash. 1974)] As a manager, the Nez Perce Tribe has devoted substantial time, effort, and resources to the recovery and co-management of treaty-reserved resources within its treaty territory. By virtue of its treaty and trust obligations to the Nez Perce Tribe, the United States and its agencies have a substantive duty to consult with the Nez Perce Tribe and implement measures necessary to protect and enhance tribal resources.

President Clinton's April 29, Memorandum on Government-to-Government Relations with Native American Tribal Governments provides that federal agencies "shall assess the impacts of Federal Government plans, projects programs and activities on tribal trust resources and assure that Tribal government rights and concerns are considered during the development of such plans, projects, programs, and activities." Executive Order 13175 provides that federal agencies, "respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibility that arise from the unique legal relationship between the Federal Government and Indian tribal government" and have "an accountable process to ensure meaningful and timely input by tribal official in the development of regulatory policies that have tribal implications."

A publication, *Forest Service National Resource Book on American Indian and Alaska Native Relations, April 1997*, is available for clear understanding of how to implement the U.S.

Government's and the Forest Service's American Indian and Alaska Native policies and to foster an appreciation of tribal government and help the FS further develop effective relationship. A summary of that Policy appears in the appendices.

The challenge facing the FS today is to reconcile its multiple legal obligations so that National Forest System land can be administered in a way that that fulfills the FS's treaty and trust obligation to the Tribe, while managing in a manner consistent with the public.

CONCERN ABOUT THE PRESENT AND FUTURE

The Nez Perce Tribal Executive Committee (NPTEC) developed the Nez Perce Strategic Plan (Update 2000-2001) that addresses concerns about the present and future in a vision statement as follows:

We see the Nez Perce Tribe, standing firmly upon the values and principles of our tribe, achieving our vision for the future. We envision the Nez Perce Tribe building the needed capacity within our tribe to fully protect our treaty rights and tribal sovereignty. We will protect our treaty rights and tribal sovereignty by:

- Establishing ourselves as leaders in cooperative government-to-government relationships through out the Northwest and internationally;
- Developing the needed infrastructures such as facilities, roads and public health systems to that our tribe can function to its maximum potential;
- We will have a proactive and efficient governmental structure, with clear direction and stability;
- We will maintain open communication with our members and our neighbors and base our communication on mutual respect;
- We will develop opportunities to improve the quality of life for our families, by providing active support to our youth and elders, and supportive services for families.

We see our tribe taking control of the future, setting our own course toward prosperity and cultural preservation as "the people". To take control of our future, we envision our tribe will:

- Develop opportunities for all tribal members to improve the quality of their lives, through better education, improved health and wellness, strong and supportive families, healthy and active youth and elders, elimination of destructive behaviors such as alcoholism and addiction, and reinforcement for spiritual growth;
- Foster the development of economic, cultural and social prosperity, such that we will become truly self-sufficient and vibrant as a nation and as individual families;
- Expand and protect our precious natural resources, which are fundamental to who we are as a people, including an expanded land base, access to traditional resources, and the protection of the vast family of fish, birds, vegetation and wildlife which depend upon the health of our environment;
- Ensure the preservation and perpetuity of our culture as Nez Perce people, of our values, practices and beliefs, including increasing the understanding of our culture and tribal history by our non-Indian Neighbors. And ensuring the preservation and fluency of our Nez Perce language for generations to come.

APPENDIX O
SOCIO-ECONOMIC DATA

The Selway, Middle Fork Clearwater Basins are located entirely within Idaho County. Employment and income data are included that reflect conditions in the rural areas within and the communities adjacent to the assessment area.

Table O.1: Direct Effects of “Wildland” Related Sectors Idaho County, ID

Industry Description	Industry Output (Millions of \$)	Industry Output as % of County Total	Employment	Industry Employment as % of County Total	Labor Income (Millions of \$)	Average Laborer Income (\$/Job)
<i>Timber Industries</i>						
Forestry Products	0.6	0.11	2	0.03	0.0	10,655
Agricultural Forestry, Fishery Services	1.8	0.34	92	1.26	1.0	10,444
Logging Camps and Logging Contractors	74.8	14.50	362	4.96	15.7	43,326
Sawmills and Planing Mills, General	63.8	12.36	364	4.99	16.3	44,696
Special Product Sawmills, N.E.C.	0	0	0	0	0	0
Pulp Mills	0	0	0	0	0	0
Paper Mills, Except Building Paper	0	0	0	0	0	0
Paperboard Mills	0	0	0	0	0	0
Total	140.9	27.32	820	11.25	32.9	40,171
<i>Grazing Industries</i>						
Range Fed Cattle	1.6	0.31	16	0.22	0.5	31,344
Sheep, Lambs and Goats	0.6	0.11	22	0.30	.2	7,509
Agricultural, Forestry, Fishery Services	0.0	0.01	5	0.07	0.0	10,244
Total	2.2	0.43	43	0.58	0.7	15,967
<i>Mineral Industries</i>						
Iron Ores	0	0	0	0	0	0

Industry Description	Industry Output (Millions of \$)	Industry Output as % of County Total	Employment	Industry Employment as % of County Total	Labor Income (Millions of \$)	Average Laborer Income (\$/Job)
<i>Mineral Industries (cont.)</i>						
Copper Ores	0	0	0	0	0	0
Lead and Zinc Ores	0	0	0	0	0	0
Gold Ores	0.3	0.05	1	0.02	0.0	20,008
Silver Ores	0	0	0	0	0	0
Ferroalloy Ores, Except Vanadium	0	0	0	0	0	0
Metal Mining Services	0	0	0	0	0	0
Uranium-radium-vanadium Ores	0	0	0	0	0	0
Metal Ores, Not Elsewhere Classified	0	0	0	0	0	0
Coal Mining	0	0	0	0	0	0
Natural Gas and Crude Petroleum	0	0	0	0	0	0
Natural Gas Liquids	0	0	0	0	0	0
Dimension Stone	3.2	0.62	24	0.32	1.1	45,831
Sand and Gravel	10.5	2.04	84	1.16	4.3	50,760
Clay, Ceramic, Refractory Minerals, N.E.C.	0	0	0	0	0	0
Potash, Soda and Borate Minerals	0	0	0	0	0	0
Phosphate Rock	0	0	0	0	0	0
Chemical, Fertilizer Mineral Mining, N.E.C.	0	0	0	0	0	0
Nonmetallic Minerals (Except Fuels) Service	0	0	0	0	0	0
Misc. Nonmetallic Minerals N.E.C.	0	0	0	0	0	0
Total	14.0	2.71	109	1.50	5.4	49,282

Table Base on Idaho County 1996 Implan Model Year Data

Table O.2: Quick Facts for Idaho County and the United States

People QuickFacts	Idaho County	USA
Population, 1999 estimate	1,251,700	272,690,813
Population percent change, 1990-1999 estimate	24.3%	9.6%
Male population, 1999 estimate	624,504	133,276,559
Female population, 1999 estimate	627,196	139,414,254
Percent population under 18 years old, 1999 estimate	28.0%	25.7%
Percent population 65 years old and over, 1999 estimate	11.3%	12.7%
Percent white population, 1999 estimate	96.9%	82.4%
Percent Black population, 1999 estimate	0.6%	12.8%
Percent American Indian, Eskimo, or Aleut pop, 1999 estimate	1.3%	0.9%
Percent Asian or Pacific Islander population, 1999 estimate	1.2%	4.0%
Percent Hispanic population, 1999 estimate	7.4%	11.5%
Percent White non-Hispanic population, 1999 estimate	90.0%	71.9%
High school graduates, persons 25 years and over, 1990	479,505	119,524,718
College graduates, persons 25 years and over, 1990	106,135	32,310,253
Homeownership rate, 1990	70.1%	64.2%
Single family homes, number 1990	294,987	65,761,652
Households, 1990	361,432	91,993,582
Persons per household, 1990	2.73	2.63
Family households, 1990	265,597	65,049,428
Median household money income, 1997 model-based estimate	\$33,612	\$37,005
Persons below poverty, percent, 1997 model-based estimate	13.0%	13.3%
Children below poverty, percent, 1997 model-based estimate	17.3%	19.9%
Business QuickFacts	Idaho	USA
Private nonfarm establishments, 1998	35,961	6,941,822
Private nonfarm employment, 1998	423,615	108,117,731
Private nonfarm employment, percent change 1990-1998	41.1%	15.7%
Manufacturers shipments, 1997 (\$1000)	16,952,872	3,842,061,405
Retail sales, 1997 (\$1000)	11,649,609	2,460,886,012
Retail sales per capita 1997	\$9,623	\$9,190
Minority-owned firms, 1992	2,747	1,965,565
Women-owned firms, 1992	29,946	5,888,883
Housing units authorized by building permits, 1999	12,181	1,663,533
Federal funds and grants, 1999 (\$1000)	6,164,663	1,516,775,001
Local government employment – full-time equivalent, 1997	46,035	10,227,429
Geography QuickFacts	Idaho	USA
Land area, 1990 (square miles)	82,751	3,536,278
Persons per square mile, 1999	15.1	77.1

Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, 1997 Census of Governments.

Idaho County Employment

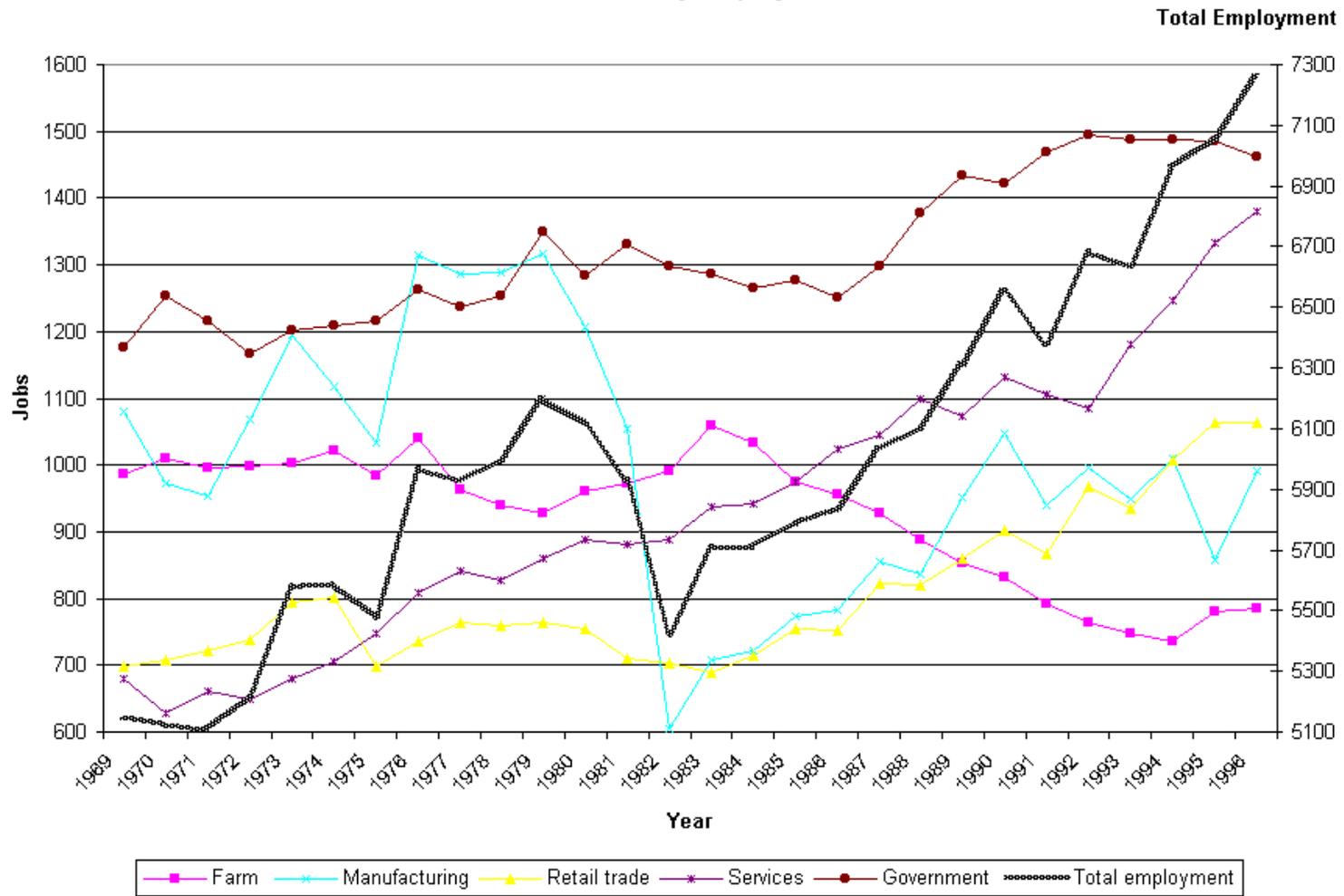


Table O.2: Idaho County Demographic Information

Income & Population	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Population (number of persons)	14800	14909	14865	14591	14618	14386	14099	13835	13647	13591	13818	13891	14155	14327	14588	14834	14879
Per capita personal income (1996 dollars)	14523.54	13491.91	12399.70	13010.32	13294.74	13536.89	13891.29	14348.87	14848.81	15889.84	15748.68	14937.50	15269.11	16010.88	15313.89	15261.58	15693.00
Employment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total employment	6114	5928	5420	5710	5714	5791	5839	6035	6105	6309	6553	6380	6684	6633	6958	7058	7260
Farm	960	973	990	1058	1033	975	956	927	888	853	831	791	763	747	736	780	785
Ag. serv., forestry, fishing, and other 3/	87	79	78	95	90	91	89	(D)	88	107	98	(D)	167	164	169	168	161
Mining	33	38	17	118	114	131	131	(D)	91	100	110	(D)	110	92	119	108	111
Construction	278	233	215	178	198	191	228	212	237	271	294	266	314	316	388	453	462
Manufacturing	1206	1054	604	708	721	774	782	856	837	952	1047	939	996	950	1011	858	992
Transportation and public utilities	161	175	203	214	229	186	224	253	248	243	286	304	327	309	322	322	338
Wholesale trade	204	199	186	185	172	185	174	184	186	194	208	191	200	189	173	170	184
Retail trade	754	709	704	688	715	754	752	822	821	859	902	866	967	936	1008	1063	1063
Finance, insurance, and real estate	258	256	236	242	237	252	228	232	233	223	225	223	262	262	298	317	321
Services	888	882	888	937	941	975	1024	1046	1099	1074	1131	1106	1084	1180	1246	1333	1381
Government	1285	1330	1299	1287	1264	1277	1251	1299	1377	1433	1421	1468	1494	1488	1488	1486	1462
Earnings (1996 Dollars)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total Earnings	144738.61	121992.98	95797.46	105910.91	108965.58	109953.27	111430.04	113069.66	124315.56	136051.49	134711.04	118146.50	131822.66	137067.24	128822.25	123176.12	130810.00
Farm earnings	15368.35	9062.37	10505.81	12744.15	10274.99	9368.99	8822.00	10359.60	11480.80	15008.03	13914.35	5598.02	3526.61	10359.03	156.36	-102.31	-1456.00
Ag. serv., forestry, fishing, earnings	625.23	564.07	349.67	1123.64	1696.24	1859.44	1556.10		1578.59	1526.83	1239.86		2480.87	2451.39	1742.00	1672.77	1567.00
Mining earnings	1953.84	2030.99	862.30	3221.20	3417.23	3700.58	3214.84		3317.88	3156.01	2891.82		3291.65	4313.85	5093.79	3848.90	4125.00
Construction earnings	7843.27	5666.10	4868.43	3514.59	4089.90	4225.62	6223.02	4813.99	4605.95	5933.41	6369.81	5553.73	6534.76	6770.61	9415.22	10542.02	10314.00
Manufacturing earnings	48557.58	36889.75	15024.57	19221.33	21295.46	23003.00	25157.61	29759.23	30103.84	38603.52	35166.00	31915.50	37106.08	32631.12	27543.60	20845.66	26855.00
Transportation and public utilities earnings	5197.21	4986.84	5300.37	5606.10	6597.14	4853.40	6310.61	7109.92	6835.00	6482.22	6992.70	7528.37	8443.13	9312.28	9195.89	9605.89	10030.00
Wholesale trade earnings	5061.38	4929.25	4439.65	4414.40	4274.82	4134.12	4079.80	4078.39	4369.41	4686.54	4861.14	4275.16	4446.60	4252.59	3967.78	3975.77	4358.00
Retail trade earnings	11890.51	10883.31	10111.84	10935.44	11527.15	12240.49	10876.26	10690.82	10802.06	11432.69	11971.08	11060.91	12035.92	12218.26	12467.92	13471.16	13359.00
Finance, insurance, and real estate earnings	3522.49	2888.10	2197.68	2345.58	2368.91	2173.33	1936.57	2298.59	2560.72	2511.00	2570.90	2248.29	2635.31	3215.50	3361.23	3839.69	3792.00
Services earnings	15448.36	14179.64	13081.63	13414.10	13935.38	13660.76	13959.72	13439.01	14973.50	14656.54	14643.82	13354.62	13490.91	14222.58	15961.37	17643.36	19346.00
Government earnings	29270.38	29912.58	29055.52	29370.38	29488.37	30733.54	29293.51	30520.11	33687.81	32054.70	34089.57	36611.93	37830.81	37320.03	39917.08	37833.21	38520.00

Transfers (1996 Dollars)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total transfer payments (thousands of dollars)	33466.49	36112.25	40404.64	38654.39	38032.18	38918.73	39222.71	38555.85	38692.26	39029.01	39642.28	43637.27	46217.68	48467.90	51041.77	54460.64	56935.00
Government payments to individuals	31706.17	34414.97	38843.01	37087.65	36322.83	36700.35	36813.97	36742.78	36936.27	37281.43	37920.45	41936.29	44361.17	46436.71	48897.84	52241.53	54684.00
Ret. & disab. insurance benefit payments	19277.89	20343.74	21489.44	22182.42	22942.19	22921.36	23190.93	23495.32	22857.48	22924.58	23386.77	24223.62	25452.93	26190.44	27873.11	28709.21	29369.00
Medical payments	4117.95	5074.92	5275.05	5519.90	5476.02	6422.88	6947.01	7305.46	8200.20	8745.33	8838.87	10077.56	10708.89	10959.79	12489.96	14404.22	16195.00
Income maintenance benefit payments	2484.17	2669.59	2827.39	2587.55	2280.10	2316.91	2323.88	2240.06	2415.45	2339.57	2302.08	2989.77	3195.68	3888.26	4133.59	4620.32	4702.00
Unemployment insurance benefit payments	4006.30	4236.44	7001.24	4450.70	3293.47	2826.46	2254.08	1863.61	1740.57	1549.02	1702.88	2850.11	3243.11	3943.07	2821.84	2871.84	2730.00
Veterans benefit payments	1656.11	1809.09	1957.18	2112.68	2080.62	1965.01	1917.41	1690.68	1569.60	1441.73	1458.93	1354.65	1378.88	1277.82	1351.63	1312.64	1352.00
Fed educ. & trng. asst. pay. (excl. vets)	161.89	242.23	245.24	178.45	195.10	185.80	127.28	87.79	100.27	187.46	163.42	116.96	111.41	89.20	88.15	214.85	191.00
Other payments to individuals	(L)	93.73	67.50	323.62	270.26	88.13	139.57	108.45	145.00								

Data Source: REIS CD-ROM, U.S. Department of Commerce Note: (D), (L), or Blank Cells Indicate Data Not Reported For That Year.

APPENDIX P
SCENERY MANAGEMENT AND VISUAL QUALITY

The Visual Management System (VMS) identifies standards for managing aesthetic values and scenic quality of forestlands. Visual management goals are to upgrade landscapes that do not meet the desired level of scenic quality and to improve landscapes that have potential for greater natural appearing variety. Within the VMS, five visual quality objectives (VQO) describe a degree of acceptable alteration of natural landscape. Presently, the assessment area is mapped to display those areas where visual quality is to be managed as: 1) Preservation (unaltered), 2) Retention (appears unaltered), 3) Partial Retention (Slightly altered), 4) Modification (moderately altered), or 5) Maximum Modification ((heavily altered).

During forest plan revision, the Scenery Management System (SMS) will replace the Visual Management System. Scenery integrity levels (SIL) instead of VQOs will be the frame of reference to describe the naturalness or visual resources of forestland. Scenic integrity levels are comparable to visual quality objectives in their reference to alterations in landscape. However, the SIL approach includes managing scenic resources to include ecological consequences. Scenic Integrity Level indicates the degree of intactness and wholeness of the landscape character where ecosystems provide the environmental context of scenery management. The assessment area has not yet been inventoried and mapped to display the SMS Scenery Integrity Levels.

The chart below illustrates the transition from VQOs to SILs

Visual Quality Objectives VMS	Degree of Landscape Alteration	Scenic Integrity Level SMS
Preservation	Unaltered Landscape	Very High
Retention	Appears Unaltered	High
Partial Retention	Slightly Altered	Moderate
Modification	Moderately Altered	Low
Maximum Modification	Heavily Altered	Very Low
None (not an objective)	Extremely altered	Unacceptably Low

Reference: *Landscape Aesthetics, A Handbook for Scenery Management*, Agriculture Handbook Number 701

APPENDIX Q
WILDLIFE SPECIES RECOMMENDATIONS

XERIC HABITATS AND REPRESENTATIVE SPECIES

MOUNTAIN LION

- Restore or approximate natural disturbance dynamics in xeric habitats to restore ungulate prey habitat. Reduce weed populations and conserve existing weed free areas to benefit ungulate forage availability that benefits mountain lions.
- Encourage and support IDFG efforts to manage harvest of wilderness lion populations to approximate expected natural age and sex structure and minimize influence on lion behavior in the spirit of wilderness wildlife management objectives.
- Cooperate with Idaho Department of Fish and Game and other entities to develop solutions for more field presence to deter unauthorized activities, including poaching.
- Consider space requirements and habitat connectivity needs of mountain lions and other large carnivores when planning additional developments in and adjacent to the sub-basin.

WHITE-HEADED WOODPECKER AND FLAMMULATED OWL

- Restore or approximate natural disturbance dynamics, including fire, where feasible, in ponderosa pine-Douglas fir communities.
- Develop recommendations to sustain the integrity of old ponderosa pine-Douglas fir forest habitat spatially, temporally, and structurally in the sub-basin.
- Implement snag and live tree retention guidelines for sub-basin ponderosa pine-Douglas fir habitats to ensure maintenance of habitat integrity for white-headed woodpeckers and flammulated owls when planning timber harvest, salvage operations, fire suppression, prescribed fire, and other activities with potential for snag removal. Guidelines should approximate a natural retention and diversity range influenced by disturbance dynamics. Interim recommendations are found in Appendix I.

For white-headed woodpecker specifically, Blair and Servheen (1993) recommend that half of all retained snag and replacement green trees be greater than 20 inches diameter in ponderosa pine cover types and that all ponderosa pine greater than 28 inches diameter be protected.

- Evaluate current and proposed motorized access in ponderosa pine-Douglas fir habitats relative to white-headed woodpecker and flammulated owl habitat fragmentation and potential for removal of important snag habitat for firewood. In roaded habitat, limit ponderosa pine snag harvest to less than 15 inches diameter at breast height. Develop an information and education strategy to address white-headed woodpecker and flammulated owl habitat needs relative to firewood harvest.
- Avoid new road construction in ponderosa pine patches greater than 250 acres to prevent habitat fragmentation.
- Map and inventory suitable habitat for white-headed woodpeckers and flammulated owls for baseline information and prior to project planning.

WILDLIFE SPECIES RECOMMENDATIONS

- Conduct diurnal surveys for white-headed woodpecker and nocturnal surveys for flammulated owls within suitable habitat in both relatively undisturbed areas and areas more intensively managed.
- Following inventory, implement monitoring strategies to evaluate white-headed woodpecker and flammulated owl status prior to and subsequent to management actions and between undisturbed habitat controls and managed habitat.
- Conserve areas occupied by white-headed woodpeckers and flammulated owls until population viability, habitat requirements, and effects of forest fragmentation are known.
- Encourage and support investigation of the relationship of white-headed woodpecker and flammulated owl habitat requirements to forest management practices.

MOUNTAIN QUAIL

- Collaborate with Idaho Department of Fish and Game and other partners to develop a mountain quail conservation and restoration plan for the sub-basin.
- Develop recommendations to sustain the integrity of old ponderosa pine-Douglas fir forest habitat spatially, temporally, and structurally.
- Restore natural disturbance dynamics, including fire, where feasible, in ponderosa pine-Douglas fir communities.
- Reduce existing weed populations and prevent new infestations in xeric habitats.
- Maintain or restore the integrity of riparian communities associated with mountain quail habitat and review effectiveness of grazing management strategies.
- Avoid logging and other ground disturbing activities during nesting season in mountain quail habitat.
- Cooperate with IDFG to provide private landowners with information about mountain quail habitat conservation and the importance of native shrub galleries.

WESTERN RATTLESNAKE

- Collaborate with Idaho Department of Fish and Game and other partners to develop a rattlesnake conservation plan for the sub-basin that includes an inventory and monitoring strategy.
- Incorporate rattlesnake conservation measures into project proposals and designs, and access management strategies. Address locations and periods of greatest vulnerability during hibernation, aestivation, and birthing.
- Conserve and restore rattlesnake habitat by restoring fire, where feasible, in xeric communities.
- Reduce existing weed populations and prevent new infestations in xeric habitats.
- Cooperate with IDFG and other partners to provide private landowners with information on identification and avoidance of rattlesnake homesites when planning developments.
- Conserve areas of known rattlesnake homesites until population viability, habitat requirements, and effects of impacts are known.
- Encourage and support investigation of the relationship between rattlesnake biological and habitat requirements and forest management practices.

ROCKY MOUNTAIN BIGHORN SHEEP

- Conserve and restore bighorn sheep habitat by restoring fire, where feasible, in xeric, winter range habitats. Also restore fire to montane and subalpine meadows in bighorn summer-fall range.

- Reduce existing weed populations and prevent new infestations on winter range.
- Continue domestic sheep and cattle grazing closure on bighorn range.
- Evaluate significance of motorized activity and other disturbance to bighorns on winter-spring range, especially in the upper Selway in winter and in early spring boating season. Develop responsive management strategies. Limit further development and increased use of Selway-Bitterroot bighorn range.
- Identify and protect migration routes from disturbance and other impediments to migration.
- Prohibit off-road vehicle use in bighorn range.
- Assess significance of camps and associated pack and saddle stock grazing and salting, on bighorn range. Develop responsive management strategies.
- Cooperate with Idaho Department of Fish and Game and other partners to frequently monitor population trends of vulnerable bighorns.
- Investigate the status of genetic interchange between populations within the Selway and between Selway sheep and Salmon River populations.

ROCKY MOUNTAIN ELK

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, with associated benefits to elk foraging habitat. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response. Reduce weed populations and conserve existing weed free areas to reduce impacts on elk forage availability.
- Single species management to maximize elk populations can impact other species with different habitat needs. Collaborate with IDFG and University of Idaho to develop a carrying capacity evaluation model that is responsive to the natural dynamics of habitat availability and corresponding predator-prey population levels in the sub-basin. This effort would contribute to better projections of tag allocations and demonstrate the need for restoration of more natural fire regimes and other habitat considerations.
- Encourage and support IDFG efforts to manage harvest of wilderness elk populations to approximate expected natural age and sex structure and minimize influence on elk behavior and migration in the spirit of wilderness wildlife management objectives.
- Integrate elk security needs for reduction of open road and motorized trail density with watershed restoration efforts and the need to provide an appropriate level of motorized access. Specifically, evaluate high density areas in Clear Creek, Middle Fork Clearwater, Meadow Creek, and O'hara-Goddard ERU's.
- Evaluate impacts of motorized access and other activities in calving areas during calving season. Specifically, address upper Meadow Creek, Glover Ridge, Gedney Creek, and Moose Creek Ranches
- Evaluate impacts of motorized access and other activities on winter range in winter. In the lower Selway, address the Selway road 223 above O'hara, the Fog Mountain road 319, the Indian Hill road 9720, the Falls Point road 443, and the Swiftwater road 470. In the upper Selway, address the Deep Creek road 468 and the Paradise road 6223. Monitor elk in these areas, especially following heavy snowfall. Develop special access guidelines to address severe weather events that force elk to concentrate in confined areas with increased vulnerability to disturbance.
- Inventory seasonal and yearlong motorized access closures to evaluate effectiveness and determine existing and potential breaches. Resolve ineffective barriers and develop partnership strategies for effective compliance monitoring and enforcement.

WILDLIFE SPECIES RECOMMENDATIONS

- Design timber harvest and other landscape alterations to reflect natural disturbance dynamics in space and time that influence forest structure and patch size, shape, and distribution. Avoid impacts to important elk migration routes and travelways, and to traditional wallows and resting sites. Evaluate significance of impacts to wintering elk when winter logging is proposed.
- Outside wilderness, review effectiveness of livestock allotment grazing standards and monitor compliance to ensure adequate elk forage availability.
- Address potential conflicts between backcountry camp locations and packstock grazing in summer range meadows and elk forage availability. Review effectiveness of grazing standards and monitor compliance.
- Monitor illegal salting activity that increases elk vulnerability through habituation and changes in distribution patterns. Restore artificial lick sites.
- Collaborate with Idaho Department of Fish and Game and other entities to develop solutions for more wilderness field presence to monitor compliance and deter unauthorized activities, including illegal outfitting, wasting game, poaching, and salting.

MULE DEER

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, with associated benefits to mule deer foraging habitat. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response. Reduce weed populations and conserve existing weed free areas to reduce impacts on elk forage availability.
- Encourage and support IDFG efforts to manage harvest of wilderness mule deer populations to approximate expected natural age and sex structure and minimize influence on mule deer behavior and migration in the spirit of wilderness wildlife management objectives.
- Evaluate impacts of motorized access and other activities on winter range in winter. In the lower Selway, address the Selway road 223 above O'hara, the Fog Mountain road 319, the Indian Hill road 9720, and the Falls Point road 443. In the upper Selway, address the Deep Creek road 468 and the Paradise road 6223. Monitor mule deer in these areas, especially following heavy snowfall. Develop special access guidelines to address severe weather events that force mule deer to concentrate in confined areas with increased vulnerability to disturbance.
- Identify and avoid impacts to important mule deer migration routes and travelways.
- Collaborate with Idaho Department of Fish and Game and other entities to develop solutions for more wilderness field presence to monitor compliance and deter unauthorized activities, including illegal outfitting, wasting game, and poaching.

MESIC HABITATS AND REPRESENTATIVE SPECIES

GRAY WOLF

- Maintain healthy ungulate prey populations.
- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, with associated benefits to forage for wolf prey. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response and to minimize impacts to denning wolves. Reduce weed populations and conserve existing weed free areas to reduce impacts on prey forage availability.
- Protect active den sites from disturbance.
- Cooperate with the Nez Perce Tribe in developing a strategy for wolf relocation releases in the wilderness portion of the subbasin.

- Develop an information-education strategy for hunters, outfitters and guides, and their clientele that includes wolf identification, status, and ecology, to reduce the potential for misidentification and take of wolves.

CANADA LYNX

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, with associated benefits to lynx prey. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response and to minimize impacts to denning lynx.
- Develop a lynx habitat conservation plan for the subbasin and establish appropriate inventory and monitoring strategies.
- Field verify primary lynx denning habitat and associated foraging habitat and forested linkages.
- When planning timber harvest, provide for range-wide connectivity between denning and foraging habitat. Conserve the most optimum denning habitat and protect known active lynx den sites from disturbance.
- Survey for lynx presence in the sub-basin and develop a monitoring strategy.
- Develop an information-education strategy for hunters, outfitters and guides, and their clientele that includes lynx identification, status, and ecology, to reduce the potential for misidentification and take of lynx.

FISHER

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, for maintenance of habitats fisher evolved with. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to denning fisher.
- Develop a fisher habitat conservation plan for the sub-basin and establish appropriate population inventory and monitoring strategies.
- Plan timber harvests to approximate historic patch sizes and distribution that resulted from natural disturbance, including fire and windthrow.
- Conserve areas large enough to include many contiguous home ranges to successfully conserve fisher populations.
- Avoid timber harvest and wood cutting activities during fisher denning periods in potential denning sites.
- Identify roads, motorized trails, and snowmobile routes that may increase vulnerability of fisher for considerations in access planning. Explore solutions for mitigating impacts to fisher from Highway 12.

NORTHERN GOSHAWK

- Implement the "Habitat Conservation and Assessment Strategy for the Northern Goshawk" prepared by the HCA/CS Development Team for the State of Idaho (Patla, et al., 1995). The following conservation measures were adapted from the strategy.
- Incorporate the goshawk conservation strategy into a broad habitat management strategy with the goal of maintaining naturally functioning ecosystems.
- Partner with IDFG and others to develop a goshawk habitat conservation plan for the sub-basin and establish appropriate population inventory and monitoring strategies.
- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, for maintenance of habitats goshawks evolved with. When planning agency fire ignitions, minimize

WILDLIFE SPECIES RECOMMENDATIONS

spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to nesting goshawks.

- Search for historic data on goshawk sightings and nest locations and survey for goshawks in potential habitat, particularly in wilderness, where gaps in known nesting distribution exist. Designate specific areas for long-term study sites to monitor the goshawk response to different management strategies over time.
- Monitor the status of known nesting goshawks. Monitor nest productivity and measure habitat features.
- Survey for nesting goshawks for 2 years prior to implementation of timber harvest or any other significant habitat modification.
- Protect nest trees, alternate nests, and surrounding areas. The Northern Region USFS calls for protecting 30 acres surrounding all occupied and historic (occupied within the last 5 years) nest trees and establishing a 400 acre post-fledging family area (PFA) around every occupied nest tree. Timber harvest can occur within the PFA but up to 60 percent of the area is to be retained in old and late structure stands.
- Retain large patches of dead, dieing, deformed, and diseased trees that are important to goshawk nesting and prey habitat. Evaluate fire wood cutting areas for impacts to goshawks.
- Protect potential goshawk nesting and foraging habitat in riparian zones with mature forest structure with buffers of 330 to 1000 feet.
- Maintain prey habitat in goshawk home ranges by retaining a high number of closed canopy stands with open understory and by retaining snags and downfall.

GREAT GRAY OWL

- Partner with IDFG and the Nez Perce Tribe to develop a great gray owl conservation plan for the sub-basin and establish appropriate population inventory and monitoring strategies.
- Incorporate specific great gray owl habitat needs into a broad habitat management strategy with the goal of maintaining naturally functioning ecosystems.
- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, for maintenance of habitats great gray owls evolved with. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to nesting great gray owls.
- Search for historic data on great gray owl sightings and nest locations and survey for occurrence in potential habitat. Designate specific areas for long-term study sites to monitor great gray owl response to different management strategies over time.
- Monitor the status of known nesting pairs. Monitor nest productivity and measure habitat features.
- Survey for nesting great gray owls for 2 years prior to implementation of timber harvest or any other significant habitat modification.
- Protect nest trees and alternate nests, and develop recommendations for establishing appropriate protective buffers.
- Retain large patches of dead, dieing, deformed, leaning, and diseased trees that are important to great gray owl nesting, fledging, and prey habitat. Evaluate fire wood cutting areas for impacts to great gray owls.
- Restrict harvest unit size and favor irregularly shaped units.
- Maintain foraging habitat in great gray owl home ranges by retaining some stands with moderate canopy density and open understory with grass cover, snags and deadfall.

- Consider placement of artificial nest platforms, found to be readily used by great gray owls, in areas outside wilderness where suitable nest sites are unavailable due to habitat modification.

BROWN CREEPER

- Since the brown creeper is strongly associated with western red cedar, designate it as a Forest management indicator species for cedar habitats.
- Partner with IDFG to develop a brown creeper-western red cedar conservation plan for the sub-basin and establishing appropriate population inventory and monitoring strategies.
- Obtain more information on brown creeper ecology and incorporate specific brown creeper habitat needs into a broad habitat management strategy with the goal of maintaining naturally functioning ecosystems.
- Retain large patches of contiguous western red cedar old forest.
- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, for maintenance of western red cedar habitats brown creepers evolved with. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to nesting brown creepers.
- Search for historic data on brown creeper occurrence and survey for brown creepers in potential habitat. Designate specific areas for long-term study sites to monitor brown creeper populations over time.
- Survey for nesting brown creepers for 2 years prior to implementation of timber harvest or any other significant habitat modification.
- Protect nest trees and establish effective protective buffers.

BLACK-BACKED WOODPECKER

- Collaborate with Idaho Department of Fish and Game and other partners to develop a black-backed woodpecker conservation plan for the sub-basin that includes an inventory and monitoring strategy.
- Restore or approximate natural fire dynamics in the subbasin where possible, to provide recently burned habitat that black-backs depend on.
- Implement snag and live tree retention guidelines to ensure maintenance of habitat integrity for black-backed woodpeckers when planning timber harvest, salvage operations, fire suppression, prescribed fire, and other activities with potential for snag removal. Guidelines should approximate a natural retention and diversity range influenced by disturbance dynamics. Interim recommendations are found in Appendix I.

BALD EAGLE

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, for maintenance of early seral ungulate habitat that ultimately provides bald eagle carrion food.
- When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to late wintering bald eagles.
- Establish effective weed management strategies to restore native plant composition and improve ungulate prey forage.
- Protect wintering bald eagles from loud noise and other significant disturbance, including blasting.
- Identify habitual perch and roost sites and evaluate potential impacts from proposed activities in those vicinities.

WILDLIFE SPECIES RECOMMENDATIONS

- Seek advisement from a wildlife biologist when planning tree and snag removal, developments, or other actions in the bald eagle wintering zone along the Selway and Middle Fork Clearwater River corridors.
- Collaborate with private land owners, easement administrators, and IDFG to incorporate bald eagle conservation considerations into Wild and Scenic River easement administration.
- Investigate indications of potential nesting activity, such as bald eagle presence during nesting season.
- Protect key habitat features of nest sites including nests, perch trees, and food resources with a .25 mile buffer zone.
- Consider developing native vegetation screens to buffer important habitual eagle perch sites from the Selway River road and Highway 12.
- Cooperate with IDFG and others to monitor bald eagle use in the wilderness portion of the Selway River.

HARLEQUIN DUCK

- Implement the 'Harlequin Duck Habitat Assessment and Conservation Strategy' (Cassirer et al. 1996) prepared for the USFS and USBLM.
- Logging, road construction, and other significant disturbances within two *sight distances of riparian zones in harlequin habitat should be conducted outside the harlequin duck breeding season of April 15 through September 5. Also develop appropriate guidelines for dynamite use associated with harlequin habitat.

(*Sight distance is defined as the distance at which the green line or riparian area is obscured from view prior to leafout.)

- Maintain overstory and understory cover within two sight distances or 328 feet from the greenline vegetation. Maintain riparian vegetative structure and function, and snags and woody debris along the stream within two site-potential tree lengths from the stream.
- Manage timber harvest and road construction in uplands to maintain the natural stream flow regime.
- Avoid increasing sediment delivery to streams during the breeding season.
- Locate roads and trails in areas not visible from the stream at least two sight distances away from the stream and avoid increasing stream access.
- Restrict frequency of stream crossings and where feasible, bridge streams instead of using culverts. Avoid stream crossings at confluences because these are often frequently used by harlequin ducks.
- Conduct stream crossing construction activities outside the harlequin duck breeding season.
- Avoid construction of pullouts or parking areas within two sight distances or 328 feet of the greenline vegetation, or where stream accessibility would be increased.
- When constructing or upgrading roads, eliminate parking areas and pullouts that increase access to breeding streams.
- Move trails and roads away from the stream where feasible when reconstructing or upgrading existing roads.
- Limit potential impacts of road maintenance activities on water quality and stream habitat.
- Obliterate and stabilize roads near breeding streams no longer required for timber activities.
- Avoid spring burning adjacent to harlequin breeding streams.

- Evaluate potential impacts of packstock grazing and campsites adjacent to harlequin breeding streams.
- Evaluate potential impacts of motorized use in Meadow Creek to breeding harlequins.
- Consider impacts to potential harlequin breeding habitat when evaluating proposals for instream facilities such as fish weirs and other facilities that may generate noise, increase sedimentation, and change instream flows.
- Discourage expansion of boating activities on occupied or potential harlequin breeding streams.
- Evaluate significance to breeding harlequins of the earlier spring boating access on the Selway River that now begins in April.
- Prohibit motorized boating activity, including jet skis, on occupied harlequin duck streams. This applies to the lower Selway and possibly Meadow Creek.
- Develop an information and education strategy addressing harlequin ecology and habitat needs for the public and to assist administrators with implementing the conservation strategy.
- Monitor the Selway River, between Magruder and Moose Creek, for harlequin breeding activity. Survey between April 25 and May 25 for spring pair surveys. Survey between July 15 and August 5 for broods.
- On Bear Creek, where harlequins have been observed but breeding status is unknown, conduct a minimum of 4 surveys, 3 of which are pair surveys, over a period of 3 or more years to determine status.
- On Moose Creek, Whitecap Creek, and Meadow Creek, where potential habitat exists but no harlequins have been documented, conduct at least 4 surveys over 2 years, including at least 2 pair surveys to determine status.

COEUR D'ALENE SALAMANDER

The following measures apply to suitable Coeur d' Alene salamander habitat along perennial and intermittent streams, waterfalls, springs, and seeps. Suitable habitat is characterized by fractured rock and talus associated with persistent or intermittent water below 5000 feet in elevation. Habitat management zones are those areas within 100 feet of potential or occupied Coeur d' Alene salamander sites. Many of these measures were adapted from the draft "*Coeur d' Alene Salamander Habitat Conservation Assessment and Strategy for the State of Idaho*" (Cassirer et al. 1995).

- Monitor sites potentially affected by management actions prior to and subsequent to implementation to evaluate the effectiveness of conservation measures.
- Survey all areas scheduled for timber harvest, road and trail construction and obliteration, prescribed burns, rock removal, chemical applications, and stream flow alterations within the known range of occurrence prior to project implementation. Conduct inventories according to protocol outlined in draft "*Coeur d' Alene Salamander Habitat Conservation Assessment and Strategy for the State of Idaho*" Appendix B. (Cassirer et al. 1995).
- Conduct annual nonintrusive monitoring at selected, accessible sites across the species' range. Conduct monitoring according to protocol outlined in Appendix B. of draft "*Coeur d' Alene Salamander Habitat Conservation Assessment and Strategy for the State of Idaho*" (Cassirer et al. 1995). Conduct 10-year extensive monitoring at all sites.
- When proposing timber harvest, retain a 25 foot buffer around sites and at least 60 percent canopy cover over seep sites within salamander habitat management zones. Fall any trees removed away from the site and retain understory vegetation. Do not remove trees if canopy cover is 60 percent or less at seeps.

WILDLIFE SPECIES RECOMMENDATIONS

- Protect class 1 and 2 permanent and intermittent stream and waterfall salamander sites with a 100 foot buffer on both sides of the stream. This buffer also excludes slashing and prescribed burning.
- Avoid construction and reconstruction of roads, trails, or other developments within 100 feet below or adjacent to occupied habitat or 300 feet upslope of occupied habitat. Minimize impacts of construction within 100 feet of unoccupied suitable habitat. Also evaluate potential short-term habitat impacts from road and trail obliteration.
- Minimize frequency of trail and road stream crossings, and where necessary, bridge streams instead of constructing fords or installing culverts.
- Leave rock rubble at the base of road cuts near salamander sites to provide cover and foraging habitat.
- Avoid removing large rock from known and potential Coeur d' Alene salamander sites along the Selway River road. Investigate alternate rock sources for recreation site improvements, fish habitat restoration, and other projects that require large rock.
- Develop proactive plans with fire managers to address protection of known and potential salamander sites that may be jeopardized by fire suppression activities including ground disturbance, camp facilities, water diversions, and retardant drops.
- Avoid prescribed and slash burns in proximity to Coeur d' Alene salamander sites, especially during May and June.
- Avoid contamination of water sources used by salamanders resulting from herbicide and dust abatement applications, fire retardant, fuel spills, and other potential toxicants. Coeur d' Alene salamanders are particularly vulnerable to water contamination in spring and fall.
- Refrain from introducing non-native fish and wildlife species in areas where they could impact Coeur d' Alene salamander populations.

PACIFIC GIANT SALAMANDER

- Partner with IDFG and others to develop an effective inventory and monitoring strategy to identify Pacific Giant salamander distribution in the sub-basin and facilitate pro-active management.
- Monitor the status of known Pacific Giant salamander populations and survey for occurrence in potential habitat. Designate specific areas for long-term study sites, both within and outside wilderness, to monitor Pacific Giant salamander populations over time.
- Survey all areas scheduled for timber harvest, road and trail construction and obliteration, prescribed burns, rock removal, chemical applications, and stream flow alterations within the known range of Pacific Giant salamander occurrence prior to project implementation.
- When proposing timber harvest, buffer salamander sites and retain at least 60 percent canopy cover within salamander habitat. Retain understory vegetation and other protective salamander cover including rocks, logs, and litter. Do not remove trees if canopy cover is 60 percent or less at salamander sites.
- Within salamander habitat, protect class 1 and 2 permanent and intermittent streams with a buffer on both sides of the stream that encompasses the adjacent occupied terrestrial habitat as well.
- Avoid construction and reconstruction of roads, trails, or other developments within 100 feet below and adjacent to occupied habitat or 300 feet upslope of occupied habitat. Minimize impacts of construction within 100 feet of unoccupied suitable habitat. Also evaluate potential short-term habitat impacts from road and trail obliteration.

- Minimize frequency of trail and road stream crossings and where necessary, bridge streams instead of constructing fords or installing culverts.
- Develop proactive plans with fire managers to address protection of known and potential salamander sites that may be jeopardized by fire suppression activities including ground disturbance, camp facilities, water diversions, and retardant drops.
- Avoid prescribed and slash burns in proximity to Pacific Giant salamander sites, especially in the wet spring and fall seasons when reproduction occurs.
- Avoid contamination of water sources used by salamanders resulting from herbicide and dust abatement applications, fire retardant, fuel spills, and other potential toxicants. Pacific Giant salamanders are particularly vulnerable to water contamination in spring and fall.
- Refrain from introducing non-native fish and wildlife species in areas where they could impact Pacific Giant salamander populations.

TAILED FROG

- Partner with IDFG and others to develop an effective inventory and monitoring strategy to identify tailed frog distribution in the sub-basin and facilitate pro-active management.
- Monitor the status of known tailed frog populations, particularly the single known lake population. Survey for occurrence in potential habitat. Designate specific areas for long-term study sites, both in wilderness and frontcountry, to monitor tailed frogs populations over time.
- Survey all areas scheduled for timber harvest, road and trail construction and obliteration, recreation and facilities development, prescribed burns, chemical applications, and stream flow alterations within the known range of tailed frog occurrence prior to project implementation.
- When proposing timber harvest, avoid disturbance and siltation of tailed frog sites. Retain at least 60 percent canopy cover, understory vegetation, and other protective salamander cover including rocks, logs, and litter within tailed frog habitat. Do not remove trees if canopy cover is 60 percent or less at salamander sites.
- Within tailed frog habitat, protect perennial streams with a buffer on both sides of the stream that encompasses the adjacent occupied terrestrial habitat as well
- Avoid construction and reconstruction of roads, trails, or other developments within 100 feet below or adjacent to occupied habitat or 300 feet upslope of occupied habitat. Minimize impacts of construction within 100 feet of unoccupied suitable habitat. Also evaluate potential short-term habitat impacts from road and trail obliteration.
- Minimize frequency of trail and road stream crossings and where necessary, bridge streams instead of constructing fords or installing culverts.
- Develop proactive plans with fire managers to address protection of known and potential tailed frog sites that may be jeopardized by fire suppression activities including ground disturbance, camp facilities, water diversions, and retardant drops.
- Avoid prescribed and slash burns in proximity to tailed frog sites, especially in the wet spring and fall seasons when reproduction occurs.
- Avoid contamination of water sources used by salamanders resulting from herbicide and dust abatement applications, fire retardant, fuel spills, and other potential toxicants. Tailed frogs are particularly vulnerable to water contamination in spring and fall.
- Refrain from introducing non-native fish and wildlife species in areas where they could impact tailed frog populations. Avoid stocking naturally fishless lakes that may play an important role in maintaining the genetic pool of tailed frogs in the sub-basin.

RING-NECKED SNAKE

- Partner with IDFG and others to develop an effective inventory and monitoring strategy to identify ringneck snake distribution in the sub-basin and facilitate pro-active management. Encourage and support more research into ringneck snake ecology.
- Monitor the status of known ringneck populations and survey for occurrence in potential habitat. Designate specific areas for long-term study sites to monitor ringneck populations over time.
- Survey all areas scheduled for timber harvest, road and trail construction and obliteration, prescribed burns, rock removal, and chemical applications, within the known range of ringneck snake occurrence prior to project implementation.
- Develop proactive plans with fire managers to address protection of known and potential ringneck snake sites that may be jeopardized by fire suppression activities including ground disturbance, camp facilities, and retardant drops.
- Avoid prescribed and slash burns in proximity to ringneck snake sites.
- Develop an effective information strategy for Forest Service personnel and private land owners along the Middle Fork Clearwater and Selway Rivers to promote awareness and conservation considerations for ringneck snakes.

SHIRAS MOOSE

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible, with associated benefits to moose habitat. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response.
- Restore fragmented grand fir-Pacific yew habitats in Clear Creek and O'hara-Goddard ERUs that are critical moose winter range.
- Encourage and support IDFG efforts to manage harvest of wilderness moose populations to approximate expected natural age and sex structure and minimize influence on moose behavior and migration in the spirit of wilderness wildlife management objectives.
- Integrate moose security needs for reduction of open road and motorized trail density with watershed restoration efforts and the need to provide an appropriate level of motorized access. Specifically, evaluate snowmobile access to critical grand fir-Pacific yew winter habitats in the headwaters of O'hara Creek.
- Inventory seasonal and yearlong motorized access closures to evaluate effectiveness and determine existing and potential breaches. Resolve ineffective barriers and develop partnership strategies for effective compliance monitoring and enforcement.
- Design timber harvest and other landscape alterations to reflect natural disturbance dynamics in space and time that influence forest structure and patch size, shape, and distribution. Avoid impacts to important moose migration routes and travelways, and to calving sites. Evaluate significance of impacts to wintering moose when winter logging is proposed.
- Address potential conflicts between backcountry camp locations and packstock grazing in summer range meadows and moose forage availability. Review effectiveness of grazing standards and monitor compliance.
- Monitor illegal salting activity that increases moose vulnerability through habituation and promotes artificial distribution patterns. Restore artificial lick sites.
- Collaborate with Idaho Department of Fish and Game and other entities to develop solutions for more wilderness field presence to monitor compliance and deter unauthorized activities, including illegal outfitting, wasting game, poaching, and salting.

ALPINE HABITATS AND REPRESENTATIVE SPECIES

GRIZZLY BEAR

- Restore or approximate natural disturbance dynamics in the sub-basin where feasible. Restoration of montane parks and whitebark pine ecosystems are especially important to grizzly bears. When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective forage response.
- Reduce weed populations and conserve existing weed free areas to reduce impacts on grizzly bear forage availability.
- Review trails and road systems, recreation developments, and camp locations to evaluate consistency with grizzly bear conservation objectives. Also address grizzly bear conservation objectives when planning new developments and timber harvest activities.
- Develop a Selway-Bitterroot Wilderness sanitation program that addresses preventative measures to avoid attracting and habituating grizzly bears. Also develop a sanitation strategy for the non-wilderness portion of the sub-basin. Implement appropriate measures now to alleviate current black bear habituation problems and to prepare for potential grizzly reintroduction.
- Prior to reintroduction, develop an information and education strategy that includes grizzly identification, ecology, and safety precautions. The primary audience should include hunters, outfitters and guides, and their clientele, agency personnel, and other backcountry visitors.
- Evaluate potential for increased development and use of private inholdings in relation to grizzly bear recovery when these holdings are offered for sale. Pursue federal acquisition if appropriate.

WOLVERINE

- Conservation plans for wolverine should transcend jurisdictional boundaries because of the large home ranges size.
- Retain large refugias that are not trapped and are free from development and other land use impacts.
- Support efforts to determine cumulative impacts of habitat alteration, including trapping, timber harvest, and forest access.
- Manage access to wolverine habitat to minimize impacts on breeding wolverines and on females with kits.
- Consider size, shape, and aspect of individual clearcuts in timber harvest planning. Leave basins, south and east slopes, and edge-ecotonal areas intact (Hornocker and Hash 1981).
- Conserve potential denning habitats that provide appropriate structures, such as large cavities, coarse woody debris, and old beaver lodges.
- Investigate whether wolverines den in forested habitat below alpine elevations and what factors or attributes are important in selection of these sites.
- Determine presence/absence of wolverines with remote cameras and track confirmations, etc.
- Initiate a cooperative effort to radio collar wolverines in the Selway-Bitterroot to evaluate population densities and habitat use.

CLARK'S NUTCRACKER

- Restore or approximate natural disturbance dynamics in alpine habitats where feasible. Restoration of whitebark pine ecosystems are important to Clark's nutcrackers.

WILDLIFE SPECIES RECOMMENDATIONS

- Initiate cooperative investigations to assess and monitor representative whitebark pine communities that include Clark's nutcracker and other terrestrial species in the interdependent assemblage.

SPOTTED FROG

- Reduce brook trout populations, and secondarily, other stocked trout species, in high lakes. Ensure that methods used are not deleterious to amphibians and other non-target species. The first priority are lakes where remnant spotted frog and other amphibian populations persist.
- Establish an inventory and monitoring schedule to assess status and trend of amphibians at stocked lakes and at fishless lakes. Prioritize sites for long term monitoring.

ROCKY MOUNTAIN GOAT

- Conserve and restore mountain goat habitat by restoring fire, where feasible, in alpine summer habitats. Also restore fire to goat winter range in montane and subalpine habitats.
- Reduce extensive weed populations and prevent new infestations in important mountain goat spring-winter range in the upper Selway. White Cap and Pettibone-Bear ERUs are priorities.
- Investigate the decline in the kid population.
- Determine significance of large artificial salt lick between two goat ranges on Whitecap Creek with implications for goat habituation and vulnerability.
- Evaluate potential impacts of motorized access to alpine summering areas where goats are sensitive to disturbance and may be displaced.
 - Evaluate potential impacts of snow machine access to security of goats wintering in the upper Selway.
- Identify and protect mountain goat migration routes from disturbance and other impediments to migration.

AMERICAN PIKA

- Restore natural fire regimes in alpine communities to maintain grass forage that pikas depend on.
- Include pika populations as indicators in an integrated monitoring plan for terrestrial high lakes environments.
- Evaluate potential impacts to pika habitat from forage reduction as a result of trampling or grazing.

OTHER IMPORTANT SPECIES GROUPS

BATS

- Collaborate with Idaho Department of Fish and Game, Bat Conservation International, and other partners to develop a bat conservation plan for the subbasin that includes an inventory and monitoring strategy. Recommendations should include management and conservation of bats roosting in administrative structures where they are often unwelcome residents.
- Restore or approximate natural fire dynamics in the subbasin where possible, to provide snag habitat that bats depend on.
- Implement snag and live tree retention guidelines to ensure maintenance of habitat integrity for bats when planning timber harvest, salvage operations, fire suppression, prescribed fire, and other activities with potential for snag removal. Guidelines should approximate a natural retention

and diversity range influenced by disturbance dynamics. Interim recommendations are found in Appendix I.

NEOTROPICAL MIGRANT LANDBIRDS

- Develop a migrant landbird conservation plan for the sub-basin and establish appropriate population inventory and monitoring strategies.
- Incorporate specific migrant landbird habitat needs into a broad habitat management strategy with the goal of maintaining naturally functioning ecosystems.
- Restore natural fire regimes in the subbasin to maintain structural diversity, including shrub habitat that is important to neotropical migrants.
- When planning agency fire ignitions, minimize spring burning and favor late summer and fall burning for more natural and effective habitat response and to minimize impacts to nesting migrant birds.
- Reduce weed populations to restore breeding and foraging habitat.
- Avoid fragmentation of habitats when planning for timber harvest, road construction, and other significant disturbances.
- Allow more natural tree regeneration periods to facilitate the natural succession of shrub and hardwood communities important for migratory landbirds.