Chapter 1. Vision

Introduction

The vision provides direction for management of the Kootenai National Forest and is an integration of the Forest Service mission statement, Forest and national goals, trends and conditions affecting the Forest, and the best available scientific information.

Desired Condition

Desired condition statements describe the ecological, economic, and social conditions desired to exist in the future. The desired condition statements are written in present tense; however, the desired condition for some resources may currently exist, or for other resources may take many decades to reach. The Forest may need to make adjustments in the desired conditions if monitoring results indicate they are not achievable in the long term or if there is a disparity in what the Forest is accomplishing. Budget levels are an important factor in moving towards the desired conditions. The objectives in Chapter 2 identify what the Forest believes it can accomplish over the next 15 years (the life of the Plan). Desired conditions are aspirational in nature; they are not final decisions or commitments to action. The vision is expressed through three levels of desired conditions: Forestwide, geographic areas, and management areas.

Forestwide Desired Conditions

Forestwide desired conditions apply across the entire KNF. Each Forestwide desired condition contributes to the achievement of agency and Forestwide goals. The KNF intends to move toward Forestwide desired conditions over the life of the Plan (15 years) even though not all the desired conditions may be achieved for many decades. The “Forestwide Desired Conditions by Sustainability Topic” section provides a description of the desired condition, which will provide context and scale (temporal); and is followed by a list of associated monitoring questions. Monitoring questions present how the Forest intends to measure or track its progress toward the desired condition. A separate monitoring guide will describe each monitoring item in more detail.

Geographic Area (GA) Desired Conditions

While the Forestwide desired conditions describe trends that we would expect to see over the Forest, we recognize that individual places across the KNF have their own distinct characteristics and conditions. These areas, which are referred to as “geographic areas”, have desired conditions that are specific to an area, such as a river basin or valley, define a landscape that people associate with, and reflect community values and local conditions within that area. They do not substitute for or repeat Forestwide desired conditions. Identifying these areas gives us the opportunity to fine-tune our Forestwide management to better respond to local conditions and situations.

The KNF is divided into seven geographic areas (see map of the geographic areas in the KNF on page 1-36). This section includes maps, descriptions, and desired conditions.

Management Area (MA) Desired Conditions

Management area desired conditions are specific to areas across the Forest that have similar management needs and desired conditions. They contain suitability determinations, indicating the general suitability of management activities and uses to achieve their desired conditions. These desired conditions are found in Chapter 2, starting on page 2-7.

Forestwide Desired Conditions by Sustainability Topics

Access and Recreation Desired Condition

The KNF's diverse landscape offers a variety of settings for a broad range of recreational opportunities. These landscapes include primitive settings where there are opportunities for solitude and personal challenge. Less primitive, more modified settings provide opportunities for social interaction and greater comfort. Local communities, partnerships, and volunteers continue to be involved and benefit from their roles in providing recreational opportunities. Recreational activities continue to contribute to sustainability of the social and economic systems of local communities.

Recreation sites and use areas provide a quality recreation experience. A variety of safe, efficient, and environmentally responsible developed recreation experiences and opportunities are available. Developed recreation facilities are maintained. They are upgraded as necessary and as funds become available. Dispersed camping opportunities are available for a wide variety of users. However, dispersed camping may be less available in some areas because of resource concerns, activity conflicts, or over-use.

The scenic resources of the KNF complement the recreation settings and experiences while reflecting healthy and sustainable ecosystem conditions. The desired condition for scenery is reflected in the Scenic Integrity Objective maps.

Opportunities such as hunting, fishing, wildlife viewing, and bird watching are available for a wide variety of users. The Forest provides habitat for desired big game populations, fish, birds, and non-game species.

A variety of motorized and nonmotorized winter and summer recreation opportunities are provided. Organized motorized recreation events are planned and managed and, where appropriate, existing trails are redesigned to accommodate OHV use. Adequate parking, turnaround areas, and trailheads are available and maintained. Trail maintenance is performed to provide adequate corridors for the given users (saddle stock, snowmobiles, OHV users, hikers, etc.). Opportunities for seasonal activities such as berry picking and firewood gathering are available.

Solitude and nonmotorized experiences are available in wilderness and backcountry settings. Backcountry nonmotorized areas are of sufficient size and configuration to minimize disturbance from other uses. Nonmotorized use is available in more developed areas, but provides less opportunity for solitude and challenge than in the backcountry. A nonmotorized trail network is maintained, accessing locations of interest for a variety of users.

Backcountry motorized experiences during both winter and summer seasons are available. The more developed areas also provide motorized winter and summer experiences that are somewhat less challenging. The motorized trail and road network is maintained.

A minimum transportation system is in place and provides safe and efficient public and agency access to the Forest. It is efficiently maintained, environmentally compatible, and responsive to public needs and desires. Impacts from authorized roads and trails are reduced, and the development of unauthorized roads and trails is curtailed. The system provides a mix of road and trail access for recreation, special uses, other forest resource management, and fire protection

activities. User experience, safety, and resource protection is addressed in travel management planning, design, and operation.

Travel management planning is complete and a system of open roads, trails, and areas are designated for motorized use by vehicle class and season of use. Accurate signing is in place and motorized vehicle use maps are available. User conflicts are reduced. Loop systems are developed (both road and trail) where appropriate. Community involvement is promoted and user awareness programs (educational and informational) enhance the recreational experience. Partnerships and user group participation in evaluation, planning, and maintenance programs are sought. There is access for people with disabilities. Easements are obtained to help provide access to NFS lands.

The transportation system is interconnected to state, county, local public, and other federal roads and trails through collaborative travel management planning. The transportation system provides reasonable access to facilities, private inholdings, and infrastructure (i.e., buildings, recreation facilities, municipal water systems, dams, reservoirs, range improvements, electronic and communication sites, and utility lines).

Access and Recreation Monitoring Questions

1. Have appropriate management actions been taken on recreation sites where use is at or near capacity or where there are resource concerns?
2. To what level have Forest roads been maintained to provide access?
3. What motorized and nonmotorized winter recreation opportunities have been provided?
4. What motorized and nonmotorized summer recreation opportunities have been provided?

Inventoried Roadless Areas Desired Condition

Inventoried Roadless Areas (IRAs) were evaluated to identify key issues and attributes for future management. The evaluation considered wilderness characteristics, resource needs, social factors, and other ecological values. These attributes were considered in the management area allocation for all IRAs. The evaluations and the IRA maps that were used are found in Appendix K of the Comprehensive Evaluation Report (CER).

Upon plan approval, management of IRAs is determined by the Land Management Plan. The management area (MA), and associated desired conditions and uses, will be what identifies future conditions and possible activities. Approximately 63 percent of the acreage in IRAs is allocated to backcountry (MA5). An additional 19 percent of IRAs is allocated to wildlands (MA1d). The rest of the IRAs are allocated to a variety of MAs, most of which emphasize wilderness and undeveloped values such as wilderness study areas (MA1c), wild and scenic rivers (MA2b), and special interest areas (MA3). Less than 5 percent of IRAs are allocated to general forest (MA6). The specific desired condition for each of these management areas is found in Chapter 2. The allocation of each IRA to specific MAs is found in Appendix K of the CER.

Desired Condition

IRA management is in accordance with the desired conditions of the management area (MA) to which the IRA was allocated. See Chapter 2 for descriptions of each of these management areas including desired conditions.

Vegetation Desired Condition

This section is the desired condition for vegetation, both forestwide and by biophysical setting, rare plant species, and noxious weeds.

Because of the large acreage of the KNF, and the relatively small proportion of the area that is subject to annual management, progress towards vegetation desired condition is meaningfully measured at the scale of multiple decades. By trending towards these conditions, the capacity to support a balanced, integrated, and adaptive biological system is increased and ecological diversity, productive potential, and ecological integrity are sustained.

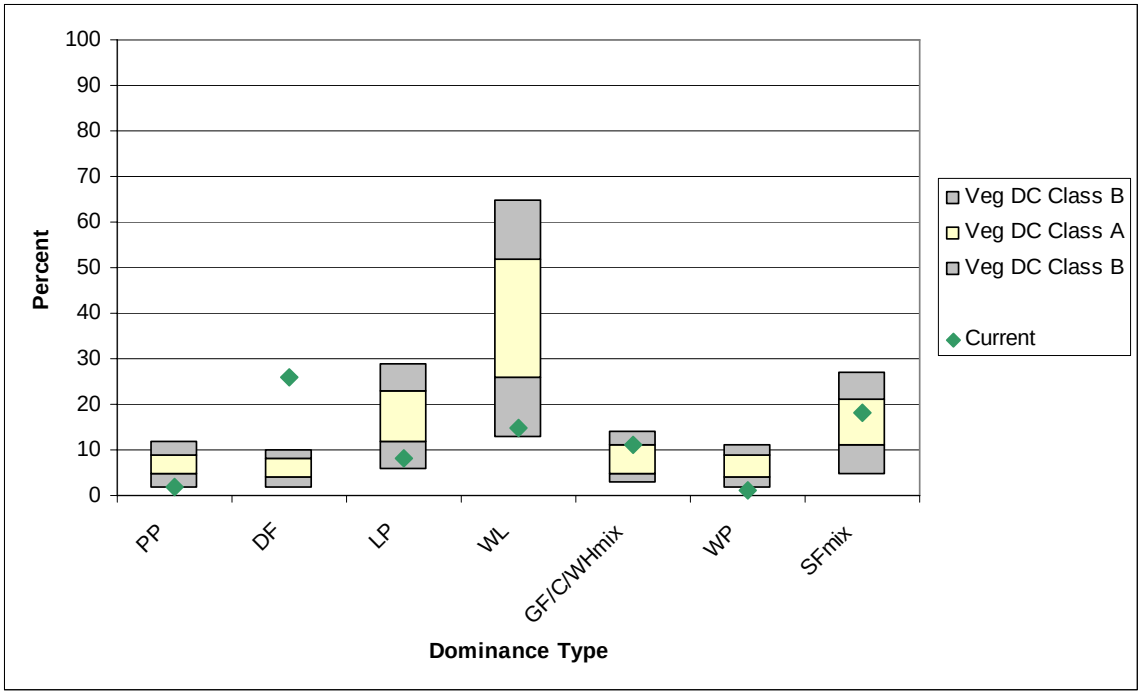
Ecosystem characteristics vary at the Forest level and by biophysical setting. Forest level descriptions provide understanding and context at a larger scale while biophysical settings provide descriptions based on influences at a smaller scale. Both levels are presented in this desired condition.

Forestwide Vegetation Desired Condition

The range of variation under historical disturbance regimes is estimated for species dominance types and size classes. These two characteristics were selected because they describe forest composition and structure, and reflect the processes important to the variation in ecosystem diversity in the Forest. The range of variation is defined using three classes: Class A, Class B, and Class C (see the glossary). Class A is defined as +/- 33 percent, Class B as +/- 34-67 percent, and Class C as +/- greater than 67 percent of the mean historic condition. Figure 2 and Figure 3 (below) display the range of variation and current vegetation composition for dominance type and size class Forestwide. Class C is not labeled on the Figures, but is represented by any percentages above or below the Class B bars.

The desired condition for these species dominance types and size classes is to trend toward Class A of these ranges. In summary, the following describes the forestwide vegetation desired conditions (reference Figures 2, 3 and 4):

- Increase the amount of forests dominated by shade-intolerant, fire-adapted, relatively drought-tolerant, potentially long-lived tree species (western white pine, ponderosa pine, western larch, and whitebark pine) (Figure 2);
- Decrease the amount of forests dominated by shade-tolerant, fire-intolerant, and drought-intolerant tree species (grand fir, western hemlock, western redcedar); and also decrease the amount of forests dominated by shorter-lived shade intolerant tree species (primarily Douglas-fir) (Figure 2);
- Increase the amount of forests within the seedling/sapling, large size class, and also old growth forests (Green and others 1992, corrected 02/2005) (Figure 4);
- Decrease the amount of forests within the small and medium size classes (Figure 3);
- Increase patch size in the large size class and also old growth forests, decreasing the fragmentation of these forests;
- Increase patch size in the seedling/sapling size class, except for areas where recent wildfires created large patches of this type;



PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; WL = western larch; GF/C/WHmix = grand fir/cedar/ western hemlock mix; WP = white pine; and SFmix = subalpine fir mix.

Figure 2. Vegetation desired condition and current vegetation for dominance type Forestwide

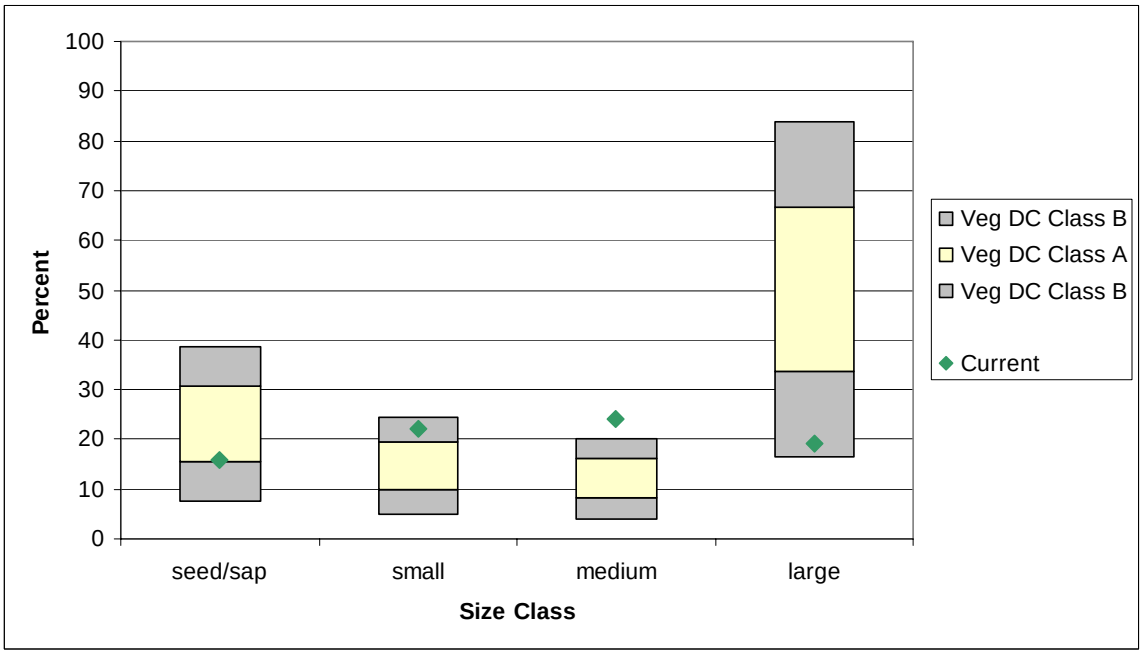


Figure 3. Vegetation desired condition and current vegetation for size class Forestwide.

- The range of patch sizes is increased for the forest in the seedling/sapling, large size class and also old growth forests;
- Decrease patch size, thereby decreasing the homogeneity of forests in the medium size classes;
- Decrease the contrast between different forest size classes patches (hard edges), especially adjacent to forests that are dominated by medium and large size trees, and old growth forests (Green and others 1992, corrected 02/2005).

The desired conditions for other forest characteristics are based upon the knowledge inferred from historical disturbance regimes and our understanding on what would be produced. The desired conditions are designed to sustain the productivity and diversity of the ecosystem. This includes desired conditions for such characteristics as dead wood, soil productivity, amount and distribution of canopy layers, landscape characteristics such as patch size, and tree densities during various successional structural stages.

Disturbance Forestwide Desired Condition

The frequency of insect outbreaks decreases. Bark beetles trend toward levels consistent with Class A of the desired vegetation condition. Outbreaks of certain insects, such as Douglas-fir bark beetle and fir engraver are decreased from current levels. Bark beetles associated with pine species increase to endemic levels as medium to large western white pine, ponderosa pine, and whitebark pine abundance increases, with beetle populations limited by low to moderate stand densities. Mountain pine beetle outbreaks occur in lodgepole pine forests, but the outbreaks are spatially smaller, more widely distributed over time, and less intense than those that occurred in the late 20th and early 21st centuries.

Occurrence of forest diseases shifts as the forest vegetation trends toward Class A. The impacts of most root diseases are reduced as stands are thinned of susceptible trees. Defoliators (i.e., western spruce budworm) associated with shade-tolerant species decrease. Dwarf mistletoe is part of ecosystems, providing habitat and a food source for wildlife. A combination of landscape patterns, tree species diversity and within stand structural conditions limits spread, intensity, and population levels of these parasitic plants. Blister-rust-induced mortality is reduced as the abundance of resistant western white pine and whitebark pine increases.

Fire (including wildland fire use and prescribed fire for resource benefits) contributes to the Forestwide desired vegetation conditions for size class and dominance types, snags, and coarse woody debris. Prescribed fire effects assist in developing desired conditions for forest floor depths of duff and mineral soil exposure.

Fire regime condition class (FRCC) is improved from condition classes 3 and 2 (high and moderate departure from conditions associated with the historical fire regime) to condition class 1 (low or no departure).

Old Growth Forestwide Desired Condition

During most of the 1900s, old growth forests were viewed as an important contributor of high quality wood products. Over time, national forest management changed to recognize that old growth forests are an important component of ecosystem diversity and represent a distinct successional structural stage. Beginning in the early 1990s, definitions and protocols were developed to inventory and monitor old growth forests, and measures were put in place to conserve this important resource.

Old growth forests provide habitat for a portion of the life histories of many wildlife species. Additionally, some plant species are more likely to be found in old growth and late-seral forests than in other successional stages.

Old growth trends toward Class A (Figure 4). Trending toward both the vegetation desired conditions (Figure 2 and Figure 3) and old growth desired conditions (Figure 4) provide for the full range of ecosystem diversity, including habitats for those species associated with late-seral structures, climax community types, and old growth forests. Wildlife richness and species richness for other life forms is high, particularly for arboreal lichens, saprophytes, and various forms of fungus and rots.

Figure 4 (see below) displays the range of variation and current levels of old growth by biophysical setting and Forestwide. Class C is not labeled on the graphs, but is represented by percentages above or below the Class B bars.

Over the life of the Plan, there is an increase in old growth by approximately 1 percent (considering forested lands) on the Forest managed for old growth in each of the biophysical settings. This increase is moving the Forest towards providing habitat conditions (ecosystem diversity) for the majority of the species that are associated with old growth. Maintaining or restoring the key elements (Green and others, corrected 02/2005) that make up old growth, (snags, down wood, decadence, etc.) provides habitat conditions to meet the specific species diversity needs of many federally listed threatened and endangered species, species of concern, and species of interest that are associated with old growth (also see Wildlife Desired Condition "Old Growth Desired Condition" section on page 1-23).

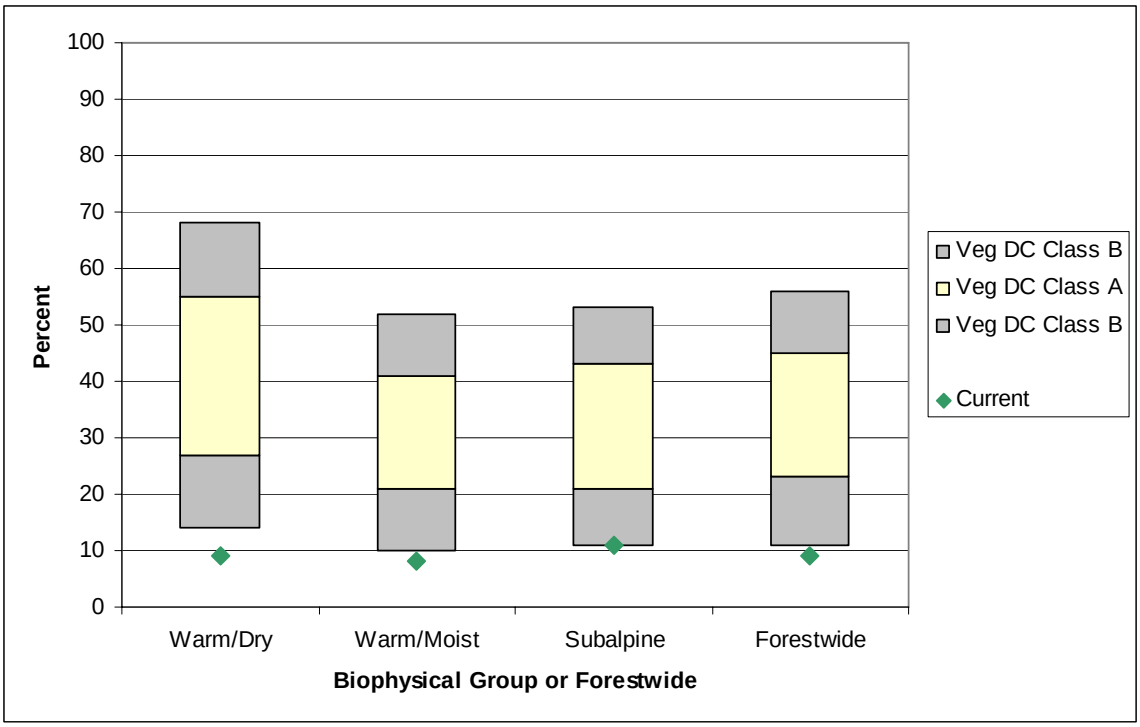


Figure 4. Old growth desired condition and current old growth by biophysical group and Forestwide

Old growth is well distributed. Connectivity increases and provides for dispersal and genetic exchange. Larger stands of old growth (up to several hundred acres or more) provide for a greater diversity of plant and animal habitats and species. The size of many existing old growth patches (especially those less than 50 acres) is increased, reducing the impacts of edge effect, increasing interior habitat, and increasing the amount of suitable habitat for associated species.

Old growth forests have a reduced risk from overcrowding, insect and disease infestations or other conditions beyond those normally associated with the historic disturbance regime (e.g., Douglas-fir encroachment in historically open ponderosa pine stands) and are restored to more natural conditions (e.g., reduced stand density). Restoration activities (including prescribed burning, thinning, and timber harvest) protect key elements (including snags, down wood, decadence, and overstory components) of old growth while improving forest health. Old growth-associated species are protected during management activities. The quality and integrity of existing old growth stands is maintained or improved, and ecosystem and species diversity is maintained or improved over the long term. Vegetation management activities (timber harvest and fuel reduction activities) adjacent to old growth are designed to minimize edge effects, including windthrow risk and edge mortality that would cause loss to adjacent old growth patches. This may include a combination of retaining medium to large trees in sufficient numbers, and modifying the timing and intensity of management activities such as prescribed burning, and the juxtaposition of adjacent activity areas to old growth patches.

The impacts of roads on old growth are minimized (such as fragmenting habitats, loss of snags and down wood) to maintain important habitat components. Accelerating the development of old growth characteristics on the Forest that are not currently considered old growth, ensures the maintenance of old growth forests.

Down Wood (Coarse Woody Debris) Forestwide Desired Condition

Dead trees (standing and down) and other down woody materials are critical components of all vegetation communities and a fundamental feature of healthy forests that have developed with historical disturbance regimes. Coarse woody debris is generally considered those pieces greater than three inches in diameter and more than sic feet in length, but includes a variety of sizes, species, lengths, and decay classes. Coarse woody debris in various stages of decay serves many important ecological functions, including nutrient cycling, erosion control, maintenance of soil productivity, and wildlife habitats. Larger size pieces (tree boles) are considered to be very important as they tend to be more stable, persist longer in the environment, and provide specific habitat needs for several species of wildlife (see Wildlife Desired Condition “Snags and Down Wood Desired Condition” section on page 1-22). Dead trees also provide firewood for the high demand that occurs in the Forest.

Maintaining coarse woody debris in the amounts (tons per acre) displayed in Table 1 ensures that enough organic matter is left to maintain long-term forest productivity (including soil productivity) when timber harvest, site preparation, and fuels treatments have been completed. The amount of down wood retained is averaged over the treatment area. Leaving a wide range of down wood including large logs where they occur encourages a diversity of wildlife species while also providing for soil productivity. Large logs left on site are considered part of the total contribution of the desired tons/acres of down wood (also see Wildlife Desired Condition “Snags and Down Wood Desired Condition” section on page 1-22).

Table 1. Recommended amount of coarse woody debris to leave after timber harvesting and fuel treatments to maintain forest productivity, meet wildlife needs, and provide an acceptable level of fire risk (Graham et al. 1994, Brown et al. 2003)

Biophysical Setting	Tons/acre (TA) >3" in diameter	Log numbers and sizes to include (where they occur). Leave the largest size material available on site.		
		Number of pieces/acre (PA)	Minimum diameter	Average length (feet)
Warm/Dry (VRUs 1-3)	For drier sites (VRUs 1 & 2) Douglas-fir/ninebark 5-9 TA; (VRU 2) Douglas-fir/ pinegrass 12-25 TA; (VRU 3) 10-20 TA	6-14 PA	12" - with at least 2 pieces >20"	20 feet- with minimum 12 feet
Warm/Moist (VRUs 4-6)	15-30 TA	20-30 PA	15"- with at least 10 pieces >20"	35 feet - with minimum 12 feet
Subalpine (VRUs 7-11)	VRUs 7 & 8: 12-25 TA VRUs 9-11: 7-15 TA, except Subalpine fir/beargrass 11-23 TA	VRU 7: 20-30 PA VRU 8-11: 15-20 PA	VRU 7: 15" – with at least 10 pieces >20" VRU 8-11: 10"	VRU 7: 35 feet -with minimum 12 feet. VRUs 8-11: 30 feet- with minimum 12 feet.

Coarse woody debris amounts vary by vegetation response unit (VRU) within biophysical settings. These amounts are not evenly distributed on every acre but vary across the treatment unit with topographical features, slope, aspect, habitat type, and successional structural stage. These amounts meet soil productivity, wildlife, watershed, and fire risk concerns over most areas. To meet safety concerns and reduce the risk of extreme wildfire, the amount of down wood after vegetation management activities in developed recreation sites, in areas adjacent to the community protection zone, and in other areas of safety concern (such as roads that provide escape routes) is reduced and may not meet historic or desired conditions for soils or wildlife.

Higher amounts of coarse woody debris are acceptable where larger piece sizes predominate. Retaining live and standing dead trees after vegetation management activities provide for future recruitment of coarse woody debris.

Other down woody materials, such as tops and limbs, are important to the cycling of several nutrients, including potassium. Retaining tops and limbs for one winter season between timber harvest and site preparation and/or fuel management activities maximizes leaching of nutrients into the soil, particularly on those soils deficient in potassium. On NFS lands within the community protection zones (see "Fire Desired Condition" on page 1-19), fire risks are balanced with soil nutrition mitigations.

Landscape Pattern Forestwide Desired Condition

The combination of management actions, natural disturbances, and plant succession contributes to the desired overall landscape pattern. Average patch size, the variance in different size patches, and interior forest conditions are increased for both seedling/sapling and large size classes.

Vegetation Desired Condition by Biophysical Setting

Vegetation response to disturbance and existing and historic conditions vary by ecological or biophysical setting. Each biophysical setting has distinctive potential natural communities: soils,

hydrologic function, landform and topography, climate, air quality, and natural processes (nutrient and biomass cycling, succession, productivity, and fire regimes). Each setting also includes moisture and temperature gradients, resulting in growing conditions that are more similar within, rather than between each setting. These characteristics have been mapped and identified as vegetation response units (VRUs) in the Forest. The VRUs range from VRU 1, which is a very warm and dry setting to VRU 11, which is cold. For the Land Management Plan, these 11 classes have been grouped into three broad biophysical settings:

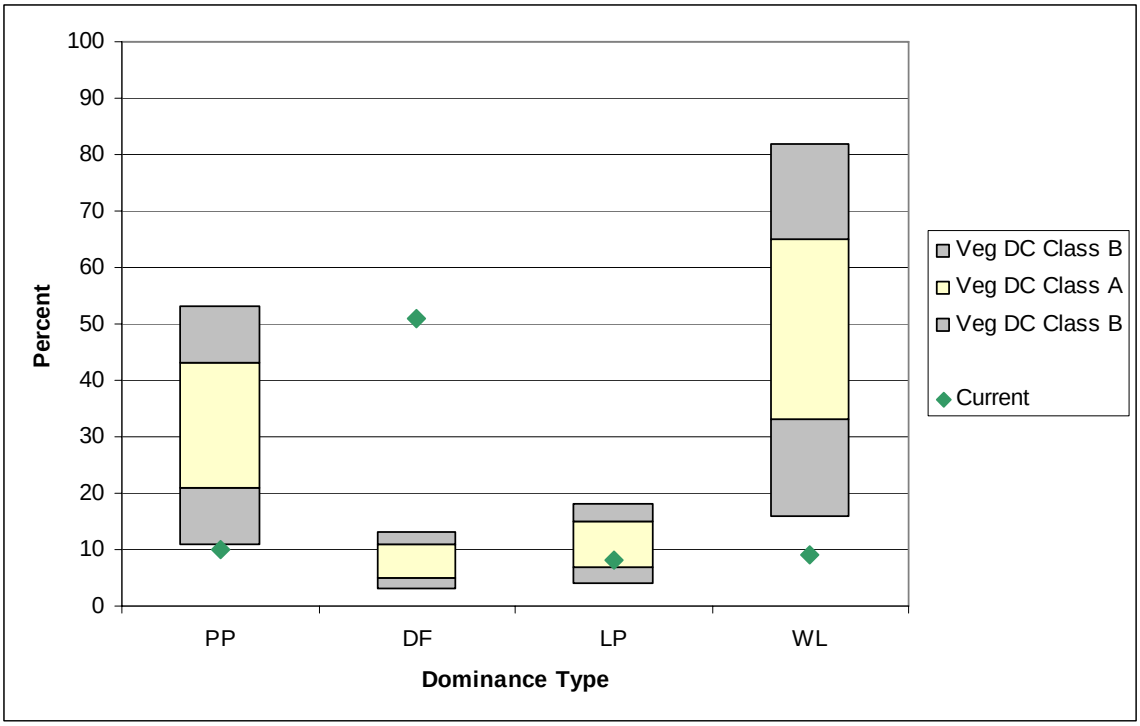
- **Warm/Dry** – This setting includes the warmest and driest forest sites that support forest vegetation, usually at low elevations or mid-elevations on southerly aspects. This setting is defined by VRUs 1-3. This biophysical setting is 22 percent of the NFS forested lands.
- **Warm/Moist** – This setting includes moist forest sites, usually low to mid-elevation sites, and includes stream bottoms and adjacent benches and toe-slopes. This setting is the most productive, with favorable soil moisture and temperature regimes that favor abundant plant growth. This setting is defined by VRUs 4-6. This biophysical setting is 37 percent of the NFS forested lands.
- **Subalpine** – This setting includes the moist, lower subalpine forest to the cool or cold, dry sites between forest and alpine tundra. The moist end of this setting is common on northwest to east-facing slopes, riparian, and poorly drained subalpine sites. The cool to cold dry sites occur at higher elevations and typically have a short growing season. This setting is defined by VRUs 7-11. This biophysical setting is 41 percent of the NFS forested lands.

A map of these three biophysical settings can be found in the Comprehensive Evaluation Report (CER). Because of variability in ecological composition, the desired condition for vegetation varies by biophysical setting. Following is a description of the desired condition for vegetation by biophysical settings:

Vegetation Desired Condition for Warm/Dry Setting (VRUs 1-3)

The desired condition for forest dominance type and size class for the warm/dry biophysical setting is displayed in Figures 5 and 6, respectively.

Desired Attributes: On the driest sites (e.g., steep, southerly/westerly aspects, VRU 1), characteristics resemble frequent, low-severity, fire/disturbance intervals, less than 50 years. Open-grown, park-like stands that contain an abundance of ponderosa pine, with lesser amounts of Douglas-fir are maintained. Bark beetle outbreaks are uncommon in these open stands, and root disease mortality is low. These stands are usually multi-aged, low density, with canopy cover usually less than 30 percent and rarely reaching 50 percent. (Multi-aged, low-density stands contain a sparse number of tree seedlings, usually no more than 50-100 established tree seedlings; with 30-40 large mature trees per acre, irregular spaced including groups and gaps in the Forest.) Low amounts of down wood and snags are present.



PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; and WL = western larch

Figure 5. Vegetation desired condition and current vegetation for dominance type for the warm/dry biophysical setting

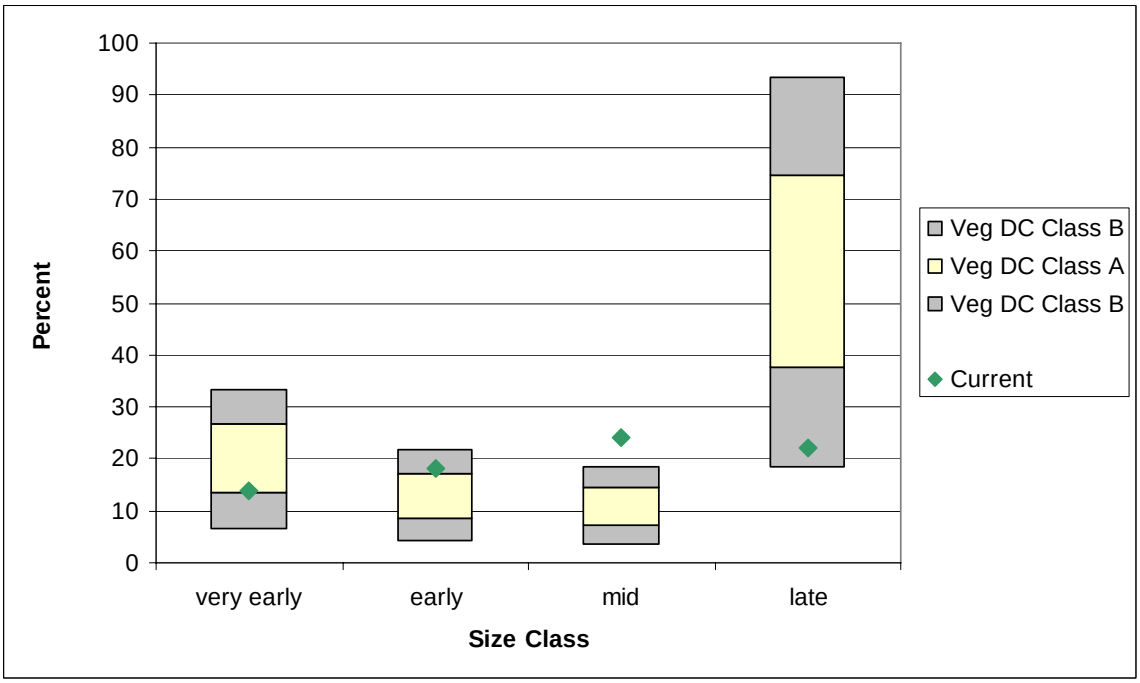


Figure 6. Vegetation desired condition and current vegetation for size class for the warm/dry biophysical setting

Where soil moisture is more plentiful, fire frequencies and severities typically become more variable and include low and mixed-severity and some occasional stand-replacing fires. At least 100-150 seedlings per acre are established after a regeneration event. At maturity, frequently 40-80 trees per acre exist, with canopy coverage often exceeding 50 percent. Species dominance varies due to soil moisture/solar radiation relationships, with Douglas-fir/western larch and ponderosa pine stands more prevalent on the moist end, and ponderosa pine and Douglas-fir stands occurring on drier, southerly aspects.

There is a variety of forest age-class structures including: 1) multi-aged, which are similar age classes usually occurring in small one to three acre patches, or intermingled age classes throughout an area; 2) two-aged, and less common, which seldom exceed 10 percent; and 3) single-age forests, which usually correlate with the most moist sites, at the upper elevation and/or northerly aspects of this biophysical setting, VRU 3. These relatively moist sites have more abundant regeneration after disturbance (usually 150-200 trees per acre) and have higher densities of trees at maturity, sometimes exceeding 100 trees per acre.

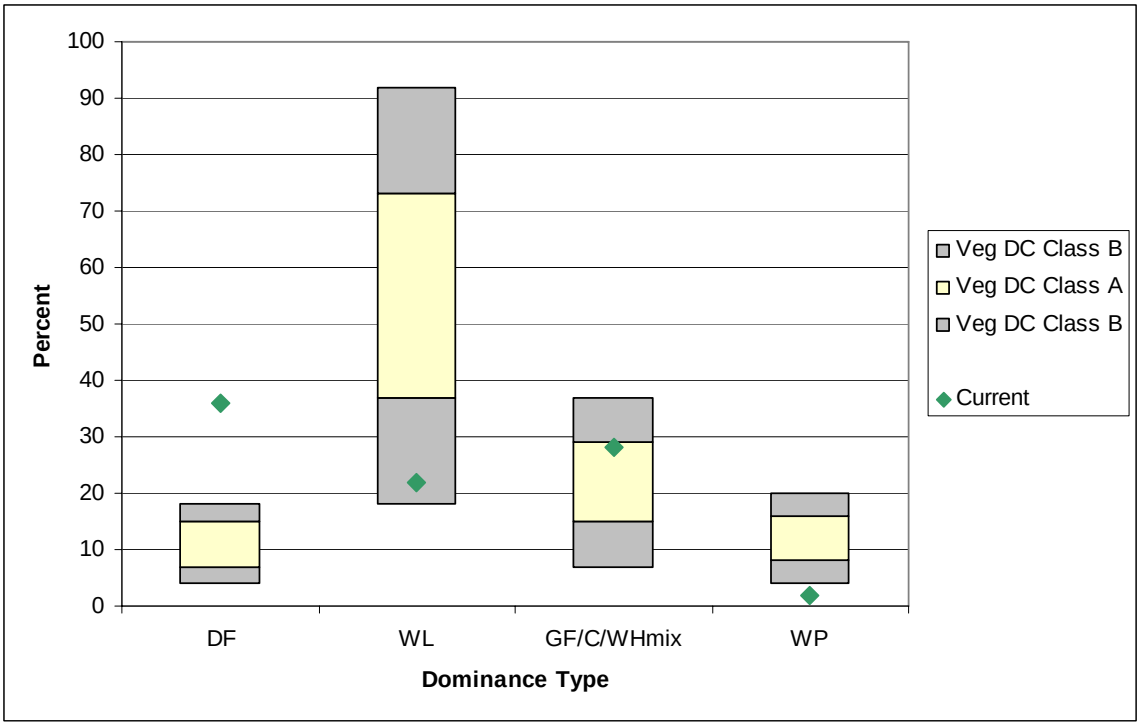
Landscape Pattern: The pattern for these landscapes is a mosaic, with small patches that have either sparse or more numerous seedlings and saplings, and small or medium-size trees (depending on the moisture availability of the site and the age of the patch) inter-mixed within larger patches containing mostly medium to large-size trees.

Vegetation Desired Condition for Warm/Moist Setting (VRUs 4-6)

The desired condition for forest dominance type and size class for the warm/moist biophysical setting is displayed in Figures 7 and 8, respectively.

Desired Attributes: This setting has characteristics that resemble infrequent, mixed-severity and stand-replacing fire/disturbance intervals (mean fire interval of 200 years or more), although low-severity ground fires may also occur, especially in the drier environments. Because of the relatively long intervals between major disturbances and the high productivity of these sites, numerous successional pathways exist that include a wide variety of tree species and densities, vertical canopy arrangements, and snag and down wood conditions. The wettest sites have forest conditions that are produced by extremely long intervals between stand-replacing events.

On drier aspects at mid-elevations (grand fir habitat types, VRU 4), fire frequency is shorter, with an average range of 50-100 years when considering all types of fire severities. Early-seral tree species, such as western larch and western white pine, and in some cases Douglas-fir (where root disease risk is low), dominate throughout all successional structural stages. Other tree species occur in smaller quantities, including grand fir, and in colder locations, Engelmann spruce and lodgepole pine. On the extreme dry end on warm exposures, ponderosa pine is a seral component. Due to slower initial growth rates, grand fir, and Douglas-fir (Engelmann spruce on cold sites) often form a subordinate canopy layer during early stages of succession. Differentiation of canopy strata may occur during forest development, creating multi-storied stands, even within a single age-class of trees.



DF = Douglas-fir; WL = western larch; GF/C/WHmix = grand fir/cedar/western hemlock mix; WP = white pine

Figure 7. Vegetation desired condition and current vegetation for dominance type for the warm/moist biophysical setting

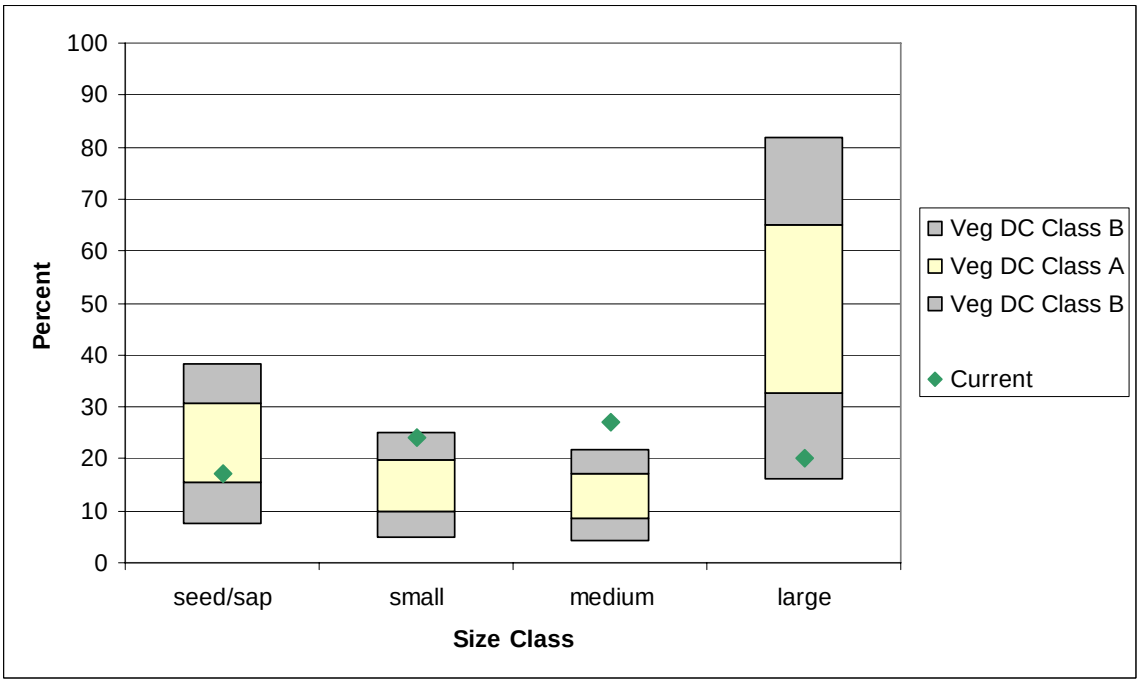


Figure 8. Vegetation desired condition and current vegetation for size class for the warm/moist biophysical setting

Two-age class stands are also desirable, resembling mixed-severity fire conditions, usually with fire-tolerant western larch and Douglas-fir in the overstory. Multi-age classes are desired when small groups of early-seral tree species are desired (usually two-five acres in size), or during later stages of succession when more shade-tolerant trees regenerate in the understory. Desired tree numbers usually include at least 250 trees per acre of established seedlings during the early developmental stage, with 100 or more trees at maturity. The desired canopy coverage at maturity is usually greater than 60 percent.

In the moderately cool and moist uplands, forests include a mixture dominated by early-seral shade intolerants (western larch, western white pine, Douglas-fir), with seral shade tolerant species (grand fir, Engelmann spruce) and climax species forming a smaller proportion of the forest. Ponderosa pine can be desirable on western redcedar habitat types (queen cup beadlily and ginger phases) on warm exposures. Single and two-age class forests are desirable during early, middle, and late-successional structural stages. Multi-storied forests increase in desirability when forests reach maturity. Desired tree numbers usually include at least 300 trees per acre of established seedlings during the early successional structural stage, with 100-150 or more medium to large sized trees at maturity. The desired canopy coverage at maturity is usually greater than 60 percent.

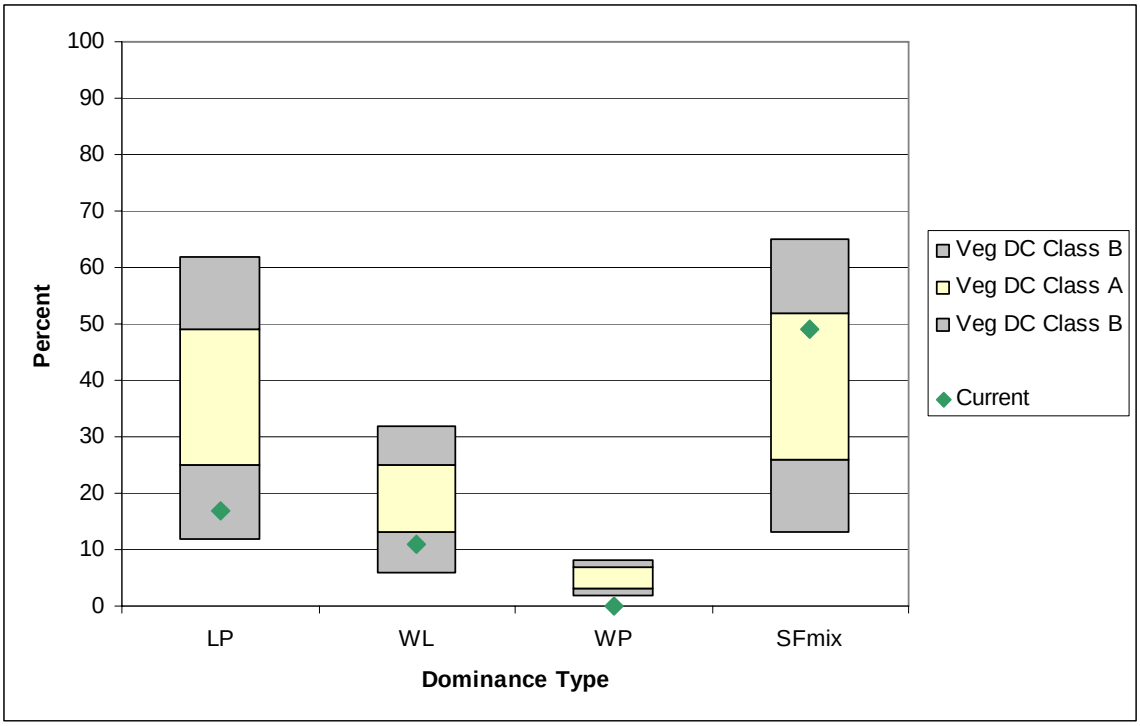
On wet sites, an abundance of large, old, mature forests occur and are often dominated by the climax western hemlock and western redcedar. These sites occur on bottomland terraces, toe-slopes and lower slope positions. Other trees that occur on these sites include both seral shade-intolerant and shade-tolerant trees; however, they are generally in less abundance than the climax species. High tree densities and canopy coverage of 70 percent or more exist through most successional structural stages. Mature stands support very large trees (often 30-50 inches in diameter), are open-grown and occasionally park-like in appearance, and are generally two- or multi-storied.

Landscape Pattern: The resulting pattern for these landscapes includes a coarse pattern, including large, distinguishable patches, with residual structural diversity and heterogeneity both within and between patches.

Vegetation Desired Condition for Subalpine Setting (VRUs 7-11)

The desired condition for forest dominance type and size class for the subalpine biophysical setting is displayed in Figure 9 and Figure 10, respectively.

Desired Attributes: On cool/moist sites, characteristics resemble fire-free intervals of 120-150 years or more, usually of mixed-severity. Western larch, western white pine, Engelmann spruce and Douglas-fir are seral dominants, while lodgepole pine dominates areas less often in colder locations. Grand fir occurs on the warmer sites. Climax species, subalpine fir and mountain hemlock, also occur on colder sites where fire-free intervals exceed the life span of lodgepole pine. Forests consist of two-aged forests (usually western larch/Douglas-fir in the overstory), and single-aged forests (seral mixed conifers, lodgepole or spruce-dominated stands). Multi-aged stands are less common, but do exist with discrete age groups (one to three acres in size), and in older forests where several canopy layers exist. Seedling stage includes at least 250 trees per acre and 80-120 trees per acre at maturity. Canopy coverage is 60 percent or more.



LP = lodgepole pine; WL = western larch; WP = white pine; SF mix = subalpine fir mix

Figure 9. Vegetation desired condition and current vegetation for dominance type for the subalpine biophysical setting

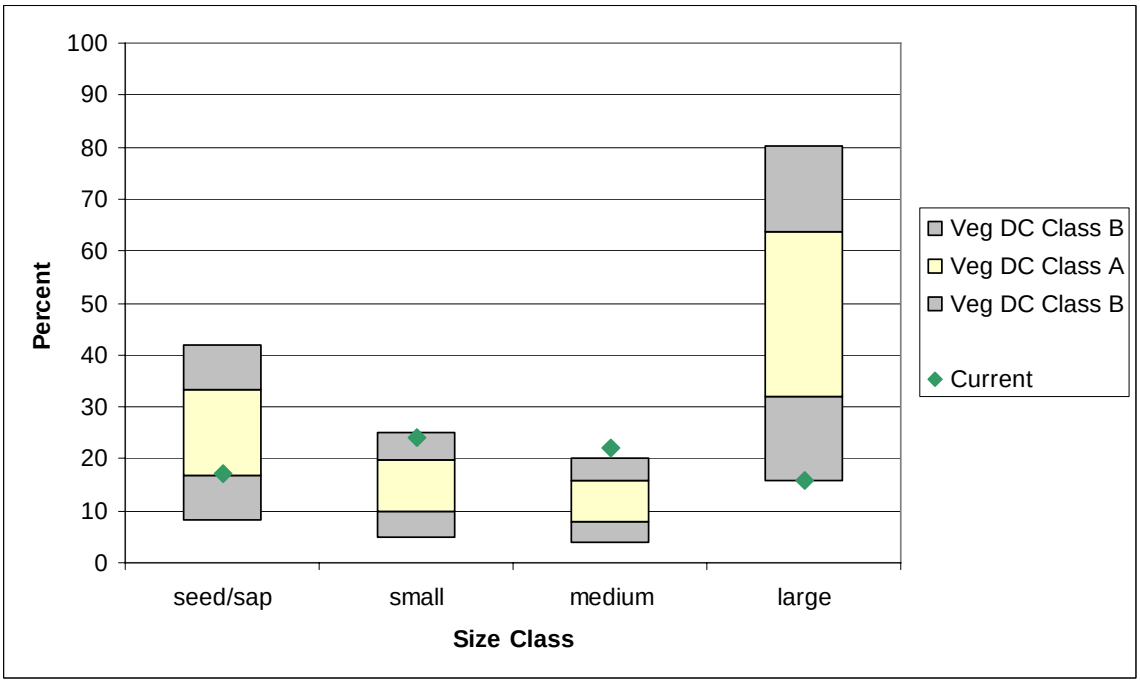


Figure 10. Vegetation desired condition and current vegetation for size class for the subalpine biophysical group

On wet sites, seasonally saturated soils occur on toe-slope positions and as riparian stringers. Engelmann spruce and subalpine fir dominate. Western larch, western white pine, and lodgepole pine are desirable at lower elevations.

On dry sites, characteristics resemble fire-free intervals of 50-130 years, consisting of both low to mixed severity. Desirable species are western larch, lodgepole pine and Douglas-fir in early successional structural stages, succeeding to subalpine fir and Engelmann spruce as forests age.

On high-elevation sites, whitebark pine is a dominant tree in the coldest and driest environments. Forests are low to moderate in density, and have conditions that would have been supported by mixed-severity fires. Other desirable trees include lodgepole pine, mountain hemlock, subalpine fir, and Engelmann spruce. Canopy coverage is generally less than 80 percent at maturity, much less at timberline sites. Forest conditions include numerous small openings (one-half to three acres in size) that are available for whitebark pine regeneration. Multi-aged stands are desirable, predominately occurring in discrete age-class groups. At the seedling stage, the desirable numbers include at least 100 trees per acre of whitebark pine that have some blister rust resistance, with 30-80 trees per acre at maturity. At the extreme timberline sites, trees grow in clusters.

Landscape Pattern: The resulting pattern for these landscapes includes a variety of patch sizes, with residual structural diversity and heterogeneity both within and between patches.

Rare Plant Species Desired Condition

Habitat for plant species listed under the Endangered Species Act (ESA) improves on NFS lands, which helps trend toward species recovery or delisting. Habitats are managed in a manner consistent with established and approved recovery plans, management plans, biological opinions, conservation strategies, conservation assessments, and other appropriate (e.g., scientifically credible, peer reviewed) direction. Habitat conditions are provided so that species listed as threatened or endangered under the ESA trend toward recovery or are delisted.

Threatened Plant Species

Water Howellia Desired Condition - Small vernal (appearing in the spring), freshwater glacial ponds and oxbow sloughs remain unimpaired.

Spalding's Campion (a.k.a Spalding's Catchfly) Desired Condition – Open grasslands with rough fescue or bluebunch wheatgrass associations on deep soils in valleys and foothills are maintained and free from conifer and noxious weed encroachment.

Species of Concern and Species of Interest Desired Condition

Habitat is available to sustain populations of species of concern and species of interest. A greater understanding of these plants, including their habitat requirements and effects from human activities is acquired. Populations of plant species of concern and species of interest are not isolated by management activities and populations persist and expand.

Noxious Weeds and Invasive Plant Species Desired Condition

New invasive plant species and noxious weeds are not introduced and existing populations are contained. Integrated pest management approaches are used, including best management practices

that limit introduction, intensification and spread due to management activities. Areas requiring revegetation use locally adapted, native plant species where appropriate. Agreements with cooperative weed management areas assist in noxious weed and invasive plants control across jurisdictional boundaries.

Vegetation Monitoring Questions

1. Have management activities increased the abundance of early seral, shade-intolerant dominance types as projected by the Plan?
2. Have management activities met Plan objectives and trended towards desired conditions for old growth?
3. Have management activities trended towards Plan desired conditions for threatened plant species?
4. Have management activities trended towards Plan desired conditions and preclude listing of plant species of concern and species of interest?
5. Have management activities met Plan objectives and trended towards desired conditions for management of noxious weeds?
6. Have management activities met Plan objectives to improve forest health?
7. Have management activities met Plan objectives to improve condition class?

Timber Desired Condition

As a result of trending towards the desired conditions for vegetation, timber production from NFS lands is sustainable over the life of the Plan and into the future, providing timber products for current and future generations. Timber harvest is used as a tool to achieve many objectives beyond the production of wood products. This includes the maintenance or improvement of forest health; reduced fire risk; improved wildlife habitat; and improved watershed conditions. Timber harvest is also used to restore vegetation conditions such as increases in ponderosa pine, western white pine and western larch forests, with similar number of canopy layers, patch sizes, and tree densities that are consistent with historical disturbance regimes. Extended rotation lengths (150-200 years or more) are used to create late seral structures and old growth forests to meet the desired conditions for old growth.

Production of timber from NFS lands is also one of the contributors to an economically viable forest products industry. A sustainable supply of forest products is offered, providing wood products for the nation and employment opportunities to local communities. This sustainable supply of wood products is a result of management that moves the Forest towards the desired condition for vegetation. Where consistent with other resource desired conditions, salvage of dead and dying trees captures as much of the economic value of the wood as possible, while meeting resource protection requirements. An integrated approach to forest management achieves the vegetation objectives through a mixture of timber sale contract methods and product sizes.

Lands classified as suitable for timber production have a regularly scheduled timber harvest program. Silvicultural prescriptions use the knowledge from disturbance regimes to develop a variety of harvest methods (including thinnings, other partial cuts and regeneration harvests), cutting cycles and rotation lengths to produce wood products while sustaining the productivity and diversity of the ecosystem. These lands are restocked as indicated in Table 2. Numbers in this table are an estimate of trees per acre and stocking percentage required to meet an average level of timber yield. Tree numbers and stocking percentages are displayed after five years for a final

regeneration harvest. Final regeneration harvest is defined in FSH 1909.12, 60.5, as “timber harvest designed to regenerate a timber stand or release a regenerated stand. This includes clearcut, removal cut of a shelterwood or seed tree system, and selection cut.” These numbers may be adjusted by a certified silviculturist who prepares a site-specific silviculture prescription for an area at the project scale to address fine-scale, site-specific desired conditions.

Table 2. Restocking by biophysical setting for lands generally suitable for timber production

Biophysical Setting	Trees Per Acre; 70% of Area Stocked
Warm/Dry	150-200
Warm/Moist	250-300
Subalpine	200-250

Lands classified as not suitable for timber production but where harvest could occur for other multiple-use purpose (“other lands”) have an irregular, unscheduled timber harvest program. Restocking of these lands varies, based on the purpose and reason for the timber sale, and is determined at the project level.

Harvest flows off the national forest are sustainable. To ensure sustainability, a long term sustained yield capacity (LTSYC) has been calculated for the Forest, based on management activities to achieve desired conditions. The timber sale program quantity (TSPQ) does not exceed the LTSYC. The LTSYC for the Forest is 13.9 MMCF from all lands suitable for timber harvest, with 12.5 MMCF on lands generally suitable for timber production and 1.4 MMCF on other lands. The TSPQ from other lands exceeds LTSYC for a period of time because of the need for fuel treatments and other harvests to approach desired condition for vegetation and other resources. The TSPQ for all lands suitable for timber harvest does not exceed the LTSYC.

The amount of timber sold on the KNF has averaged 64 MMBF over the past decade and 47.3 MMBF over the last five years. The average annual TSPQ for the first decade of this Plan is at similar levels as the past decade (see “Timber Objectives” in Chapter 2, page 2-3). The TSPQ is comprised of a mixture of products that are harvested using a variety of contract methods. The majority of the TSPQ is sawtimber, but a sustainable program for non-sawlog, wood fiber exists. In response to markets, smaller diameter trees (averaging 5-10 inch diameters) are harvested to improve forest health and provide a product. This TSPQ is in response to activities designed to meet desired ecological, social, and economic conditions and to move towards the desired condition for vegetation and other resources. The estimated TSPQ may change due to project-level data, unforeseen events, or modified conditions. The ability to produce this TSPQ is dependent on budgets, project-level decisions, project appeals, and litigation.

Timber Monitoring Questions

1. How much timber has the KNF sold, by suitability class, and is it consistent with projections?
2. How much non-sawlog timber has the KNF sold?
3. What percentage of lands generally suitable for timber production has been adequately restocked within five years after final regeneration harvest?

Fire Desired Condition

Wildland fire is the primary disturbance event in the Northern Rockies that has shaped the composition, structure, and function of our landscapes and ecosystems. The full range of appropriate management responses to wildfires (including wildland fire use) is consistent with management objectives, and provides for firefighter and public safety, protection of high-value resources or resource benefits, and opportunities to reduce large fire-suppression costs.

Wildland fire is used to manage vegetation, where appropriate. Restoring fire to fire-dependent ecosystems, including prescribed burning, contributes to long-term resiliency, integrity, and sustainability of productive forest ecosystems. Social concerns, such as proximity to structures, smoke management requirements, public health, and safety, limit the scale of managed fire short of historic levels. Prescribed fire and the application of wildland fire use (based on wildland fire use plans) are essential to maintaining and/or restoring high value watersheds and maintaining and /or improving wildlife habitats. Road access is maintained for fire suppression and evacuation needs as determined by travel management planning.

Hazardous fuels are reduced. National Forest System lands within the wildland urban interface (WUI) are the highest priority for fuel treatment activities to reduce the threat of extreme fire behavior and to provide fuel conditions that allow for safe and effective initial attach, especially within the community protection zone as defined and characterized in county community wildfire protection plans and the KNF fire management plan. Wildfires within the WUI are suppressed unless other appropriate management responses, including wildland fire use for resource benefit, better mitigate threats to firefighter and public safety, property, and other resource values. There may be occasions to depart from vegetation desired conditions in order to reduce threats from wildland fire to communities, especially within the community protection zone. Risk reduction and maintenance activities are focused around communities to be better prepared to withstand wildland fire.

Hazardous fuels outside the WUI, and at times outside the community protection zone within the WUI, are treated to meet vegetation desired conditions. This includes providing landscape conditions suitable for wildland fire use and prescribed burning for resource benefits. Fire regime condition class is improved or maintained in fire regimes 1, 2, and 3. Fuel loads are restored to meet vegetation desired conditions, when doing so does not create a hazardous fuel situation.

Fire Monitoring Questions

1. Have management activities met Plan objectives and trended towards desired conditions to reduce fire regime condition classes inside and outside of the WUI?
2. Has wildland fire use for resource benefit and prescribed fire been utilized to promote the long-term resiliency, integrity, and sustainability of forest ecosystems?

Wildlife Desired Condition

The diverse physical environment found in the Forest creates a zone of biological diversity where the flora and fauna of three climatic regions are able to overlap. Central Rocky Mountain plants, animals, flora, and fauna from the moist coastal forests, and boreal flora and fauna all contribute to the Forest composition. As a result, the forest ecosystems are unusually diverse. The Forest has some of the most productive and biologically diverse forest land in the Interior Columbia River Basin.

Management of the Forest for wildlife is based on 1) the ecosystem diversity (coarse filter) premise--by managing vegetation communities within or towards a desired vegetation condition, the Forest is providing habitat for the majority of the more than 350 wildlife species known to occur in the forest; and 2) the species diversity (fine filter) premise--eliminating or minimizing risks and threats to individual species where management of habitats alone is not adequate to fully provide for a particular species or group of species, especially threatened and endangered species, species of concern and species of interest. Managing for both ecosystem and species diversity helps provide appropriate ecological conditions for federally listed species, species of concern, and species of interest. Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations that are well distributed and interactive, within the bounds of the life history, distribution, and natural population fluctuations of the species; within the capability of the landscape; and consistent with multiple use objectives.

Terrestrial Habitat Desired Condition

The wildlife habitat desired condition is similar to the vegetation desired condition, both Forestwide and for each of the biophysical settings. See the section below titled “Wildlife Desired Condition by Biophysical Settings” on page 1-21 for specific information about vegetation desired condition and its relationship to wildlife habitat. Also see Vegetation Desired Condition “Down Wood (Coarse Woody Debris) Forestwide Desired Condition” section on page 1-8 and “Old Growth Forestwide Desired Condition” section on page 1-6.

Forestwide Desired Condition

The amount, distribution, and characteristics of vegetation (live and dead) representing a full range of ages, structures, and types are present at levels necessary to maintain and/or contribute to both ecosystem and species diversity; in particular, species identified as threatened and endangered, species of concern, and species of interest. Plant community attributes for species composition, size classes, canopy closures, structure, snags, and down woody material managed within or towards Class A of the desired vegetation condition provides habitats for the majority of the wildlife species known to occur in the Forest.

Terrestrial wildlife habitats are diverse with native plant communities dominating the landscape. A variety of seral stages distributed across the landscape provide interior habitat, patch connectivity, and resiliency in the long-term (many decades). Habitats are well distributed both spatially and over time in patch sizes similar to those that occurred historically as a result of natural disturbance regimes such as fires, insects, and diseases. Large, contiguous habitat blocks provide for decreased fragmentation and increased connectivity, especially those with interior habitat conditions.

The shrub/seedling/sapling stages are maintained within Class A of the desired vegetation condition, providing habitat for species such as large ungulates and a variety of bird species. Dense and immature stands susceptible to drought and damage or destruction from insects, pathogens, and wildfire are reduced while providing habitat for a wide range of wildlife species. Late seral/old forest structures are increased, including large residual trees throughout all biophysical settings providing wildlife habitat for species such as fisher, pygmy nuthatch, pileated woodpecker, and boreal owl.

Forestwide Desired Condition Summary: As a result of changes in vegetation composition and structure, habitat conditions are improved for species associated with:

- interior habitat in patches of large trees or old growth;
- woody structures within successional patches;
- single storied and/or more open stand structures dominated by large trees;
- large patches of early and late-seral habitat; and
- riparian habitat dominated by large conifers or large deciduous trees.

Wildlife Desired Condition by Biophysical Setting

Wildlife Desired Condition for Warm/Dry Setting – Forest structure and composition (e.g., tree density, down wood composition and tree species) is restored to a more natural condition, increasing the suitability of habitats for species that use this setting. Open stand structures dominated by large trees (such as those found in vegetation response unit 1 (VRU) and south and west aspects of VRU 2; see "Vegetation Desired Condition for Warm/Dry Setting (VRUs 1-3)" on page 1-10), increase, providing habitat for species such as flammulated owls and white-headed woodpecker. The reduction in stand density increases the foraging capability for species such as Lewis's woodpecker, which is an aerial insectivore.

The majority of this setting (low elevation north and east aspects of VRU 2 and 3) has canopy coverage that often exceeds 50 percent, providing thermal or snow-intercept cover for most big game species that use the area during the winter season. The number of large diameter (greater than 20 inch DBH) ponderosa pine, western larch trees, and snags increase, providing nesting and/or foraging habitat for species such as white breasted nuthatch, pygmy nuthatch, and Lewis's woodpecker. Cottonwood snags are found along river and stream channels, which provide habitat for species such as Lewis's woodpecker.

Stand-replacing wildfires that occur on lands managed with a natural process emphasis (e.g., congressionally designated wilderness) provide habitat for species such as black-backed and Lewis's woodpecker. The occurrence of noxious weeds is reduced and wildlife forage quality and quantity is maintained or improved, especially on big game winter range.

Wildlife Desired Condition for Warm/Moist Setting - Canopy coverage at maturity is greater than 60 percent, providing hiding and thermal cover in big game summer range and habitat for wide-ranging carnivores such as grizzly bear and Canada lynx.

Remnant stands from stand replacing events and insect-infested stands occur, providing high concentrations of prey (wood-boring beetles) for species such as the three-toed and black-backed woodpeckers. Large contiguous areas of forested habitat are present providing habitat for martens and fishers at the home range scale.

Western white pine (rust resistant) and western larch are increased and restored where they occurred historically, increasing habitat for species associated with these forest types.

Multi-storied, multi-aged stands (comprised of species such as western larch, Douglas-fir and western white pine) with dense canopy cover and snags provide nesting and/or foraging habitat for wildlife species such as marten, fisher, flammulated owl, northern goshawk, boreal owl, northern flying squirrel, and black-backed woodpecker. Large numbers of trees, greater than 30 inches DBH with a high incidence of defect (such as

heart rot or broken topped trees), are present, providing nesting habitat for species such as pileated woodpecker.

Wildlife Desired Condition for Subalpine Setting - Vegetation treatments increase the potential for whitebark pine regeneration, which along with grouse whortleberry, beargrass, and elk sedge, are found in the upper elevations providing forage for species such as grizzly bear, hoary marmot, and blue grouse.

Large amounts of large down wood are present providing nesting and denning sites for Canada lynx and habitat for species such as the pygmy shrew. Special habitat features (talus, cliffs, and cirque basins) occur throughout the setting, providing denning habitat for wolverines and winter habitat for mountain goats. Shrub and herb riparian vegetation occurs, providing forage during the summer for grizzly bears. Large areas with low road density and minimal human disturbance provide habitat for species such as grizzly bear, wolverine, mountain goats (especially during the winter period), and habitat for Canada lynx den sites.

Snags and Down Wood Desired Condition

Snags are retained throughout the Forest. Vegetation treatment areas are patterned after historic conditions for vegetation communities and consider wildlife species needs, soil productivity, and current conditions. Snags are well distributed throughout the landscape and left in patches where possible. To meet safety concerns and provide for firewood, snags and down wood retained for wildlife are generally situated away from roads and clumped in groups. Green trees throughout the Forest, including vegetation treatment areas, provide for future snags and down wood. Resource and safety concerns are considered when identifying the amount of snags and down wood to retain in areas such as community protection zones and campgrounds.

Large snags are retained to provide habitat for a number of species such as pileated and white-headed woodpeckers. In areas with a great number of large diameter snags (such as Douglas-fir beetle infested areas), snags may be removed, consistent with historic density and composition-but retaining at least four large snags per acre, while providing for wildlife and soils needs.

The number of snags (those between 10 and 20 inches DBH and larger than 20 inches DBH) in planning subunits without desired snag levels is increased (as displayed in Table 3) providing for well-distributed habitat across the landscape. The loss of existing snags is minimized in areas where snag densities are low. In these areas, snag densities are increased to provide for populations of species that utilize snags for roosting, nesting, and foraging. Retain early seral tree species (ponderosa pine, larch, white pine, and whitebark pine) to produce large woody structures and snags.

Snags are retained within areas of vegetation management, (at least minimum numbers of snags as displayed in Table 3) providing habitat for wildlife species, nutrient recycling, and soil needs. Snags patterns and densities, in the KNF and/or planning subunit; vary by factors such as topography, slope, aspect, habitat type, successional stage, or management practices. Snag numbers are averaged over the Forest for each biophysical setting within a planning subunit.

Table 3. Snag levels to retain after vegetation treatment activities

VRU Group	Retention density (average number of snags per acre between 10 and 20 inches DBH)
Warm/Dry (VRU 1-3)	2-6 lower end for drier sites (VRU 1 & 2), upper end for moister sites (VRU 3)
Warm/Moist (VRU 4-6)	6
Subalpine (VRU 7-11)	6

Snags and green trees remaining after management activities emphasize species such as ponderosa pine, western larch, and cottonwood in sizes greater than 10 inch DBH and minimum height of 10 feet that best meet wildlife needs. Smaller sizes, heights, and species are retained if the desired height, size snags and species are not available. Where desired snag numbers are not achievable (e.g. inside the community protection zone) green trees that are three to six for each snag below desired numbers, are left on site for future snags and down wood (coarse woody debris).

Large and small logs, and other woody debris (coarse woody debris), such as stumps, root wads, bark, and piles of limbs, are retained in areas of vegetation management (see minimum amounts in Vegetation Desired Condition “Down Wood (Coarse Woody Debris) Forestwide Desired Condition” section on page 1-8) providing a diversity of habitats for wildlife such as small mammals, amphibians, and reptiles. Logs are present in or near streams, ponds, or lakes providing structure for amphibians, birds, and small mammals (i.e., beaver, mink, and otter). Retain some slash piles after harvest providing habitat for rodents, hares, and rabbits. Large down wood such as western larch, subalpine fir, Douglas-fir, and whitebark pine are present, providing denning habitat for Canada lynx.

Old Growth Desired Condition

Over the long term (many decades), there is an increase in the amount of old growth habitats in the Forest in each of the biophysical settings. In the short term (over the life of the Plan), there is an increase in the amount lands managed for old growth conditions in each of the biophysical settings that move the Forest toward providing habitat conditions (ecosystem diversity) for the majority of the species associated with old growth. Maintaining or restoring a variety of characteristics associated with old growth (as defined in Green and others 1992, corrected 02/2005), such as the key elements that make up old growth (large trees, snags, down wood, decadence etc.), contributes to habitat conditions that meet the specific needs of many species that utilize and/or are associated with old growth. See the Vegetation Desired Condition “Old Growth Forestwide Desired Condition” section on page 1-6; the “Vegetation Objectives” in Chapter 2 on page 2-2; and the “Old Growth Guidelines” in Chapter 3 on page 3-3 for further clarification.

Connectivity/Corridors/Linkages/Approach Areas Desired Condition

Movement/travel corridors, with adequate cover and minimal human disturbance, provide population connectivity and genetic exchange between large blocks of habitat (i.e., between large blocks of core). The Forest cooperates with Montana and Idaho State departments of transportation (MDOT or ITD) and private landowners to allow movement of wildlife across valley bottoms (approach areas) between large blocks of habitats on the Forest, while considering public safety (i.e., reduce automobile/wildlife associated accidents).

Security Desired Condition

Yearlong or seasonal road restrictions, area closures for key summer and/or winter range, and elk security areas provide security in small and large blocks of land for wide ranging carnivores (e.g., grizzly bear, wolverine, and Canada lynx) and many big game species (e.g., mountain goats).

Activities avoid or minimize disturbance to wildlife during critical life stages such as nesting, rearing, and wintering. The potential for reproductive success is increased, potential impacts to adults and young of the year are reduced, potential for negative outcomes resulting from human/wildlife interactions is reduced, and the potential of abandonment and possible mortality of young are reduced. Overall, the potential for species being listed as threatened or endangered is reduced.

Terrestrial Species Desired Condition

The Forest continues to provide habitat for more than 350 wildlife species (amphibians, reptiles, large and small mammals, birds, invertebrates, etc.), similar to the number of species thought to have occurred historically on the Forest. The Forest continues to have diverse and sustainable wildlife populations that persist over time. Managing for desired vegetation conditions contributes to meeting the habitat needs of threatened and endangered species, species of concern, and species of interest, and helps conserve species diversity and sustainability on the Forest. See Appendix A of this Plan for more information on species of concern and species of interest.

The Forest cooperates and/or coordinates with Canada, various states, and federal, county, local, and private entities in the management of wildlife, providing opportunities for funding sources that are otherwise not provided in National Forest budgets.

Threatened, Endangered, or Proposed Species Desired Condition

Recovery plans, management plans, biological opinions, and other appropriate (e.g., scientifically credible, peer reviewed) direction provide the details necessary for management of threatened and endangered species habitats such as habitat for the federally listed bald eagle, gray wolf, grizzly bear, and Canada lynx. Species listed under the Endangered Species Act (ESA) trend toward recovery or are delisted. Suitable habitat conditions are provided in a balanced manner benefiting many listed threatened and endangered species.

Bald Eagle Desired Condition – Large diameter trees are present adjacent to large lakes and major rivers (generally within one mile) providing for the maintenance and expansion of bald eagle populations. Activities reduce the potential for disruption of nesting, nest abandonment, and possible mortality of eaglets in occupied nest sites.

Gray Wolf Desired Condition - Vegetation communities are managed within or trend toward Class A of the desired vegetation condition, generally providing suitable habitat conditions for big game, the main prey base for wolves. When wolves are present, activities on NFS lands near den and rendezvous sites reduce the potential for displacement, abandonment of pups, and possible mortality.

Canada Lynx Desired Condition - The seedling/sapling successional stage, in those dominance types such as subalpine fir mix, is maintained within Class A of the desired vegetation condition, providing suitable habitat conditions for snowshoe hare, the principal prey of Canada lynx. Large amounts of large down wood provide denning habitat for Canada lynx in the subalpine biophysical setting. Disturbance associated with snowmobile use occurs in areas that avoid or minimize impacts to Canada lynx, by not

increasing the amount of groomed trails or play areas. The Forest provides connectivity between Canada lynx habitats in lynx analysis units allowing for dispersal of juveniles and genetic exchange. The Lynx Conservation Assessment and Strategy (LCAS) provides direction for managing adequate levels of habitat components for the Canada lynx. Dialogue with US Fish and Wildlife Service continues; to discuss ways of incorporating the science for Canada lynx into Forest Service management.

Grizzly Bear Desired Condition - Large blocks (more than 2,500 acres) of undisturbed habitat (core areas) are present providing secure areas required by bears during the active bear year (April 1 to November 30). Where den sites of females with cubs occur, activities during spring emergence (generally after April 1), reduce the potential for abandonment and possible mortality of cubs, human/bear conflicts, and displacement of animals from suitable habitat. Forage quality and quantity (grasses and forbs used during spring and huckleberry production in the fall) are increased throughout the recovery areas, improving conditions for bears as they enter hibernation.

Parameters established in the Grizzly Bear Access Amendment for core areas and total and open-motorized-route density (which include motorized use of roads and trails and high levels of nonmotorized use of trails), are met in all BMUs. Parameters for linear open and total road densities are maintained in areas established for occupancy. Guidance for food storage and grazing activities are established and implemented, and wildlife-resistant containers are placed in major activity areas (such as campgrounds), reducing the potential for mortality of grizzly bears.

Terrestrial Species of Concern (SOC) and Species of Interest (SOI) Desired Condition

See Appendix A of this Plan for lists of species of concern and species of interest. In general, vegetation communities are managed within or trend toward Class A of the desired vegetation conditions, providing habitat conditions that support both ecosystem and species diversity. Risks and threats (such as human-caused disturbance) are reduced or eliminated, especially during critical life stages such as denning (e.g., wolverine), nesting or rearing, and winter use by mountain goats. Reduce the potential for negative impacts to habitats or populations and the potential for these species to become listed as threatened or endangered.

Species of Concern

Terrestrial Invertebrates (Mollusks) Desired Condition - The Forest cooperates with other state, federal, and private agencies, increasing the potential for funding to identify habitat needs, risks, and threats where little is currently known or available. Documented locations and high probability habitats are protected, minimizing the potential for mortality.

Peregrine Falcon Desired Condition – Active nest sites are protected from activities on NFS lands, reducing the potential for nest abandonment and mortality of young.

Species of Interest

Aquatic and Riparian-associated Species Desired Condition – Aquatic and riparian areas provide habitat for numerous wildlife species from invertebrates to large carnivores, including amphibians, waterfowl, and many other bird species. These areas include small to large streams, ponds, wetlands, bogs, fens, lakes, and wallows.

"Aquatic Species Desired Condition" on page 1-30; "Watershed and Aquatic Species Objectives" on page 2-4 of Chapter 2; and "Aquatic Species Guidelines" on page 3-10 of Chapter 3 provide habitat conditions that meet most associated wildlife needs and reduce potential impacts such as direct mortality (amphibians), abandonment of young (fisher, harlequin duck, common loon, black swift), or displacement. Important habitat features such as bogs, wallows, seeps, and licks are protected by project design criteria (e.g., snowmobile use is restricted on northern bog lemming habitat).

Snag-associated/dependent Species Desired Condition - Desired conditions, objectives, and guidelines for snags provide habitat conditions for snag associated/dependent wildlife species.

Old Growth-associated Species Desired Condition - Desired conditions, objectives, and guidelines for old growth provide habitat conditions for old growth associated wildlife species.

Bats Desired Condition – Large and small snags are available, providing habitat for bats. Activities near caves or mines occupied by bats for roosting or hibernacula, reduce the potential for displacement from habitat, abandonment of young, and possible mortality (e.g., restricting entrance using bat gates).

Burned Forest-associated Species Desired Condition – Some burned forest habitats resulting from both natural and human caused fires, occur throughout the Forest providing habitat for fire-dependent species, generally for up to three years after the fire occurs.

Big Game Species Desired Condition - Management of big game habitats is coordinated with State wildlife agencies. Meetings (one or more per year) between the two agencies occur providing opportunities to discuss management issues related to state population objectives, population monitoring, management of big game, and management activities that may impact big game populations.

Vegetation communities are managed within or trend towards Class A of the desired vegetation condition providing forage, cover (hiding, thermal and snow intercept), and security to meet the needs of big game species on summer and winter ranges. Design criteria for forage, cover and security varies by species is identified at the project level.

On big game winter range, as well as the warm/dry biophysical setting, canopy cover maintains favorable snow depths and conditions for animal movement, reduces wind velocity, and helps to reduce impacts from human-caused disturbance. Canopy cover ranges from less than 30 percent on the driest sites to more than 50 percent where soil moisture is more plentiful.

Densities of open roads and motorized trails on winter range are generally low, often less than one mile per square mile. Travel routes through winter range provide access to higher elevations. Winter range provides security for big game during the winter and spring seasons through the reduction of motorized use. Management activities are generally avoided during the winter season; however if they occur, activities are concentrated, minimizing impacts to big game in the project area. Openings resulting from management activities minimize the loss or reduction of suitable habitat for big game and reduce the distance animals need to reach hiding and thermal cover.

Mountain Goat Desired Condition - Winter range habitat with minimal human disturbance during the winter season reduces the potential for displacement from winter range habitats and reduces potential mortality.

Wolverine Desired Condition - High elevation cirque basins with minimal human disturbance provide wolverine den sites and reduce the potential for displacement and abandonment of young.

Migratory and Neotropical Birds (terrestrial and aquatic) Desired Condition - Managing vegetation within or toward Class A of the vegetation desired conditions, provides habitat for migratory and neotropical bird species. Conservation strategies (such as Montana Partners in Flight) and conservation plans (such as the North American Landbird Plan) are used to manage habitats and to avoid or reduce risks and/or threats to these species.

Wildlife Monitoring Questions

1. Have management activities met Plan objectives and trended towards desired conditions for connectivity and linkages?
2. Have management activities met Plan objectives and trended towards desired conditions for threatened and endangered wildlife species?
3. Have management activities met Plan objectives and trended towards desired conditions for wildlife species of concern and species of interest?
4. Have management activities met Plan desired objectives and trended towards desired conditions for big game?
5. Have management activities met Plan objectives and trended towards wildlife desired conditions for snags and down wood?

Watersheds (Water, Soil, and Riparian) and Aquatic Species Desired Condition

Watersheds Desired Condition

Watersheds (streams and lakes, wetlands, and riparian areas) have characteristics, processes and features consistent with their natural potential condition. Management actions in KNF watersheds have no sustained adverse effects on water quality, stream channel stability, or aquatic habitats.

Favorable conditions of water flow occur in watersheds, streams, lakes, springs, wetlands, and groundwater aquifers to fully support beneficial uses of the water, as well as native aquatic species and their habitats. Water quality meets or exceeds applicable State standards.

Management actions include activities to establish recovery trends in Class II and III watersheds, and for 303(d) listed segments and waterbodies. For all 303(d)-listed streams and waterbodies with approved TMDLs, apply elements and controls associated with completed restoration or implementation plans. For all 303(d)-listed streams and waterbodies without approved TMDLs, management actions lead to an improvement in parameters that resulted in the listing.

Stream channels access their floodplains regularly. These seasonal flows recharge riparian aquifers and provide late season stream flows and cold water temperatures. Channels transport

water, sediment, and woody material over time, while maintaining their dimensions (bankfull width, depth, and entrenchment ratios; slope and sinuosity). Stream channels and floodplains are dynamic, but they are resilient to disturbances. The water and sediment balance between streams and their watersheds allow for a natural frequency and magnitude of base and flood flows, and stream conditions.

National Forest water rights for consumptive and non-consumptive use are sufficient to support instream flows that provide for channel maintenance, water quality, aquatic habitats, and riparian vegetation.

Well-managed, healthy watersheds producing clean water supporting beneficial uses, including public water supply are maintained. Best Management Practices (BMPs), including Forest Service Soil and Water Conservation Practices are the primary method of protecting water quality and stream conditions during all land-disturbing activities.

Soil Desired Condition

Soil organic matter, soil physical conditions, and coarse woody material are at levels that maintain soil productivity and hydrologic functions in soil. Physical, biological, and chemical properties of soil provide desired vegetative growth and nutrient cycling.

Management actions in KNF watersheds have no sustained adverse effects on soil productivity or soil-hydrologic function. Coarse woody debris, as well as tops and limbs, remain on site after timber harvest, site preparation, and fuel reduction activities in sufficient quantities to maintain soil productivity. Desired levels of coarse woody debris are displayed in the Vegetation Desired Condition “Down Wood (Coarse Woody Debris) Forestwide Desired Condition” section on page 1-8. Management actions avoid or fully consider the limitations associated with the sensitive and highly erosive soils and the landtypes that are prone to mass failure on the Forest.

Riparian Habitat Desired Condition

Lands where riparian and aquatic resources receive primary emphasis are known as Riparian Conservation Areas (RCAs; see glossary for categories). RCAs have healthy, functioning riparian systems and associated habitats that support well-distributed native and desired non-native plant, vertebrate, and invertebrate communities.

Riparian and aquatic ecosystems, including stream channel integrity, channel processes, and sediment regimes, function characteristically under the conditions in which they evolved. In turn, stream channels provide the structure for desired stream habitat features such as pool frequency, residual pool depth, large woody material, bank stability, lower bank angle, and width-to-depth ratios (see Aquatic Habitat Desired Condition “Desired Stream Habitat Features” section below on page 1-29).

Water quality provides stable and productive riparian and aquatic ecosystems. Stream water temperatures are within the requirements for salmonid spawning and cold water biota (see Aquatic Habitat Desired Condition “Desired Stream Habitat Features” section below on page 1-29). Streams and lakes are free of chemical contaminants and do not contain excess nutrients. Sediment levels are within natural condition, supporting salmonid spawning and rearing, and cold water biota requirements (see Aquatic Habitat Desired Condition “Desired Stream Habitat Features” section below on page 1-29).

Vegetation in RCAs provides:

- amounts and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems.
- adequate summer and winter thermal regulation.
- soil cover and bank stability to help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which aquatic and riparian ecosystems developed.
- vertical structure and habitat for riparian-associated bird, mammal, amphibian, fish, and invertebrate species.

Vegetation in RCAs also effectively traps and stores sediment, builds stream banks, and promotes recovery after watershed disturbances.

Riparian vegetation is mainly composed of moist cedar/western hemlock habitat types with a well established diverse herbaceous/shrub layer under an old overstory of moist-site conifer species. Undergrowth can include devil's club, lady fern, starry Solomon-plume, oak-fern, queen's cup beadlily, sweetscented beadstraw, pathfinder, and Pacific yew. Most stands are composed of climax species such as western hemlock, western redcedar, subalpine fir, and Engelmann spruce, although seral species such as western white pine, Douglas-fir, or western larch occur in openings. Hardwood species such as black cottonwood, paper birch, and quaking aspen are found in the flood plains of rivers and streams.

Aquatic Habitat Desired Condition

Waterbodies, riparian vegetation, and adjacent uplands provide habitats that support self-sustaining native and desired nonnative aquatic communities, which include fish, amphibians, invertebrates, plants, and other aquatic-associated species. Aquatic habitats are diverse, with channel characteristics and water quality reflective of the climate, geology, and natural vegetation of the area. Streams, lakes, and rivers provide habitats that contribute toward recovery of threatened and endangered fish species and address the habitat needs of all native aquatic species. Connectivity between waterbodies provides for life history functions (e.g., migration to spawning areas) and for processes such as recolonization of historic habitats.

Desired Stream Habitat Features

Habitat features are influenced by stream gradient, channel and floodplain width, elevation, geology, and other factors. Therefore, while the following criteria generally describe desired habitat conditions, these values are not achievable in all channels.

Stream water temperatures are within the requirements for salmonid spawning and cold water biota and bull trout (see Comprehensive Evaluation Report). Surface fines (6mm or less) in salmonid spawning substrates are 20 percent or less, and fines by depth are less than 30 percent. Adequate sources of large woody debris are available for both long and short-term recruitment, and 20 or more pieces of large woody debris per mile are found in forest streams. Large (greater than 1 meter deep) pools for adult holding, juvenile rearing, and overwintering are common (in streams greater than 3 meters wetted width). The average wetted width to maximum depth ratio in pools is 10 or less in appropriate channel types. Seventy-five percent of banks are undercut in meandering non-forested channels. Streambanks are at least 90 percent stable in 80 percent of any stream reach.

Aquatic Species Desired Condition

Over the long-term, habitat is provided that contributes to the support of well-distributed self-sustaining populations of native and desired non-native aquatic species (fish, amphibians, invertebrates, plants and other aquatic-associated species). In the short-term, stronghold populations of native fish continue to thrive and expand into neighboring unoccupied habitats, and depressed populations increase in numbers. Available habitat supports genetic integrity and life history strategies of native fish populations. Cooperation and coordination with state agencies, federal agencies, tribes, and other groups ensures the upward trend of native and desired non-native aquatic species (e.g., federally listed species, species of concern/species of interest, species of greatest conservation need) and contributes to the State's population goals for native and desired non-native fishes. A greater understanding of many non-game species (e.g., amphibians, invertebrates, and fishes) and plants, including their habitat requirements and effects from human activities, is desired to aid in this upward trend.

Threatened, Endangered, or Proposed Species Desired Condition

Bull trout - Recovery and delisting of bull trout is the long-term desired condition. Spawning, rearing, and migratory habitat (see "Aquatic Habitat Desired Condition" on page 1-29) is widely available and fully inhabited. Bull trout have access to historic habitat and appropriate life history strategies (e.g., resident, fluvial, and adfluvial) are supported. Bull trout recovery plan tasks under Forest Service jurisdiction are accomplished. Bull trout populations trend toward recovery through cooperation and coordination with USFWS, state agencies, other federal agencies, and interested groups.

Over the life of the Plan, habitat conditions improve in occupied bull trout streams and connected historically occupied streams. Stronghold population numbers increase. Bull trout habitat and populations continue to be protected through design criteria (see "Aquatic Species Guidelines" on page 3-10 in Chapter 3) and strategies (see "Watershed and Aquatic Species Objectives" on page 2-4, in Chapter 2).

Kootenai River white sturgeon - Kootenai River white sturgeon are found within the Forest boundaries; however, the major risks and threats to this species are associated with the Libby Dam and are outside Forest Service jurisdiction. The recovery of Kootenai River white sturgeon is the long-term desired condition.

Aquatic Species of Concern (SOC) and Species of Interest (SOI) Desired Condition

Aquatic species of concern and species of interest have been identified for the Forest and can be found in Appendix A of this Plan. The desired condition for these amphibian and fish species is described above in Aquatic Habitat Desired Condition and Aquatic Species Desired Condition.

Watersheds (Water, Soil, and Riparian) and Aquatic Species Monitoring Questions

1. Have management activities met Plan objectives and trended towards desired watershed conditions?
2. Have management activities been implemented to rehabilitate or restore 303d watersheds?
3. Have management activities met Plan objectives and trended towards desired conditions for soil quality and productivity?

4. Have management activities met Plan objectives and trended towards desired conditions for riparian areas?
5. Have management activities met Plan objectives and trended towards desired conditions for fisheries habitat (structure, composition, function, and connectivity)?
6. Have management activities met Plan objectives and trended towards desired conditions for aquatic and riparian-associated plant and animal species habitat?

Other Topics

American Indian Rights and Interests Desired Condition

The Forest maintains the special and unique legal and political relationship with the Confederated Salish-Kootenai Tribes and Kootenai Tribe of Idaho as defined by history, treaties, statutes, court decisions, and the U.S. Constitution. The rights and privileges associated with treaties and other agreements pertaining to the Forest are fulfilled. The Forest is managed to provide resources significant to treaty tribes.

The Forest recognizes American Indian culture and political integrity and the Forest's responsibility for government-to-government relationships with all federally recognized tribes having aboriginal territory within the boundaries of the KNF. Traditional and cultural use information, as provided by tribes, is integrated into natural resource management projects. American Indian values are fully considered in planning proposed actions on the Forest. The Forest provides sustainable natural resources that contribute to the American Indians' way of life, cultural integrity, social cohesion, and economic well-being.

Tribal Treaty Rights - The Forest recognizes and maintains culturally significant species and the habitat necessary to support healthy, sustainable, and harvestable plant and animal populations to ensure that rights reserved by Tribes in the Hellgate Treaty of 1855 are not significantly impacted or diminished.

Tribal Treaty Rights and Cultural Uses - The Forest recognizes, ensures, and accommodates tribal member access to the Forest for the exercise of treaty rights and cultural uses consistent with laws, policies, and regulations.

Tribal Traditional Cultural Areas - The Forest recognizes and protects traditional cultural areas (special interest areas) as associated with the traditional beliefs of a Tribe about its cultural history.

American Indian Rights and Interests Monitoring Questions

1. Has a consultation protocol been developed for each Tribe?
2. Has a policy for access and acquisition of forest products for traditional cultural uses been established in consultation with Tribes?
3. How many management plans has the Forest developed for traditional cultural areas (tribal special interest areas) and traditional use areas?

Cooperation and Community Involvement Desired Condition

Cooperative programs, such as agreements, activities, grants, volunteers, and partnerships, are developed with federal, state, and county agencies; other nongovernmental organizations; and

individuals to help achieve Forest goals and improve overall resource management. Information, interpretation, and education programs are provided that communicates Forest resource conditions and opportunities.

Cooperation and Community Involvement Monitoring Question

1. To what extent has the KNF cooperatively worked with federal, state, and county agencies, other nongovernmental organizations, and individuals?

Grazing Desired Condition

Over the life of the Plan and into the future, grazing is sustainable and provides grazing opportunities for current and future generations. Grazing use levels over the past five years have averaged 4,400 head months per year. Over the life of the Plan, grazing continues at or near this level. Allotments that have been vacant or become vacant are closed if there is no demand for the livestock forage or if other resource conditions cannot be met.

Suitable rangelands are limited on the KNF. Most of the forage produced is transitory forage, following timber harvest activities or fire. Grazing occurs where soil and vegetation conditions are not degraded and at a level that is sustainable.

Heritage Resources Desired Condition

Cultural sites are inventoried, protected if eligible, and appropriate sites are nominated to the National Register of Historic Places. Until evaluated, historic properties are treated as eligible to the National Register. Historic properties that have been evaluated as eligible to the National Register are preserved in place, when possible. Interpretation of heritage resources continues to enhance public understanding and awareness of these resources and the history of the area in and around the KNF. Knowledge and information about the past is available for public interpretation and natural resource management. Artifacts and records are curated and available for academic research. Looting of sites is reduced through increased public awareness and education about cultural resources.

Heritage Resources Monitoring Questions

1. How many historic properties have been identified, evaluated, and nominated for listing on the National Register of Historic Places?
2. How many historic properties have been protected?

Lands Desired Condition

Land ownership is adjusted (acquired or conveyed) to provide reasonable access or improve efficiency of NFS land management. Boundaries are surveyed and clearly posted and occupancy trespass is eliminated. Rights-of-way and strategic easements are acquired to provide reasonable public and administrative access. Clear titles to NFS lands are retained. Special use authorizations meet Forest management and public needs.

Minerals Desired Condition

Mineral materials are provided at appropriate use levels and in response to demand. Locatable and leasable mineral exploration and development is compatible with ecosystem capabilities and

other resource values. Reclamation of abandoned mine sites occurs where human health risks exist. Areas that are not appropriate for locatable mineral entry are withdrawn.

Minerals Monitoring Question

1. Have management activities met Plan objectives and trended towards desired conditions for reclaimed mine sites?

Other Forest Products Desired Condition

Over the life of the Plan and into the future, other forest products are sustainable and provide products for current and future generations. Gathering of other forest products (e.g., huckleberries, firewood, and mushrooms) occurs within sustainable Forest capabilities. The firewood program augments timber harvest and fuel reduction projects to capitalize on opportunities for providing firewood.

Social and Economic Systems Desired Condition

The Forest provides a variety of uses, values, benefits, products, services, and visitor opportunities (termed “outputs and values”). These outputs and values are described in the desired conditions for all resources in this Chapter. Over the life of the Plan and into the future, they are provided in a sustainable-manner for current and future generations.

Some outputs and values are a result of the natural environment, such as opportunities for solitude, and spiritual and scenic values. Other outputs and values are commodity products, achieved through forest management, permits, and contracts. The KNF contributes to the local economy through the generation of jobs and income while creating products for use, both nationally and locally.

The outputs and values provided by the KNF contribute to the quality of lifestyles in the Plan area and stable communities. The KNF is perceived as providing a range of benefits to local communities, including the following:

- Recreational opportunities are an important perceived benefit of the Forest. Individuals and groups with diverse recreational interest value the available opportunities to pursue outdoor activities close to their residence and place of work.
- Open space is a significant value for residents who see the Forest as integral to the qualities of community and place of this region. Open space contributes to the rural character of communities.
- Economic value exists in the resources that can be extracted from NFS lands (e.g., minerals, timber, and other plant material) and in the scenic, amenity, and recreational resources that attract visitors.
- Fiscal benefits accrue to counties from Payments in Lieu of Taxes, funds from the Secure Rural Schools and Self-Determination Act of 2000, timber tax, and other federal payments related to NFS lands.
- Existence benefits are associated with special places (e.g., wilderness and roadless areas) and resources (e.g., grizzly bear) as well as within the Forest as a whole. For example, providing habitat for diverse plants and wildlife and ecological conditions that contribute to water quality.

- The Forest also contributes leadership, organizational skills, facilities, and other resources to communities. Agency personnel also participate as community members in clubs, organizations, volunteer efforts, and other elements of community life. There is also some economic contribution when purchases can be made locally.
- Wildfire risk is associated with living within or near the Forest. To the extent possible, the Forest contributes to the protection of communities and individuals from wildfire within the limits of firefighter safety and budgets.

Social and Economic Systems Monitoring Questions

1. How many jobs and how much income in the planning area results from KNF management?
2. What is the percentage of jobs and income from KNF management compared to the area's total employment and income?
3. How have social indicators (persons in poverty by age grouping, physician per thousand persons, educational attainment, school enrollments, and population dependency ratios) changed?

Wild and Scenic Rivers (Eligible) Desired Condition

See Management Area 2b on page 2-14 in Chapter 2.

Wild and Scenic Rivers Monitoring Question

1. Has each eligible river segment met Plan desired conditions?

Wilderness, Wilderness Study Areas, and Wild Lands Desired Condition

See Management Area 1a for wilderness on page 2-11; Management Area 1c for the wilderness study areas on page 2-12; and Management Area 1d for wild lands on page 2-13 in Chapter 2.

Wilderness, Wilderness Study Areas, and Wild Lands Monitoring Question

1. Have management activities met Plan objectives and trended towards management area desired conditions for existing wilderness, wilderness study areas, and wild lands while maintaining appropriate recreation opportunities?

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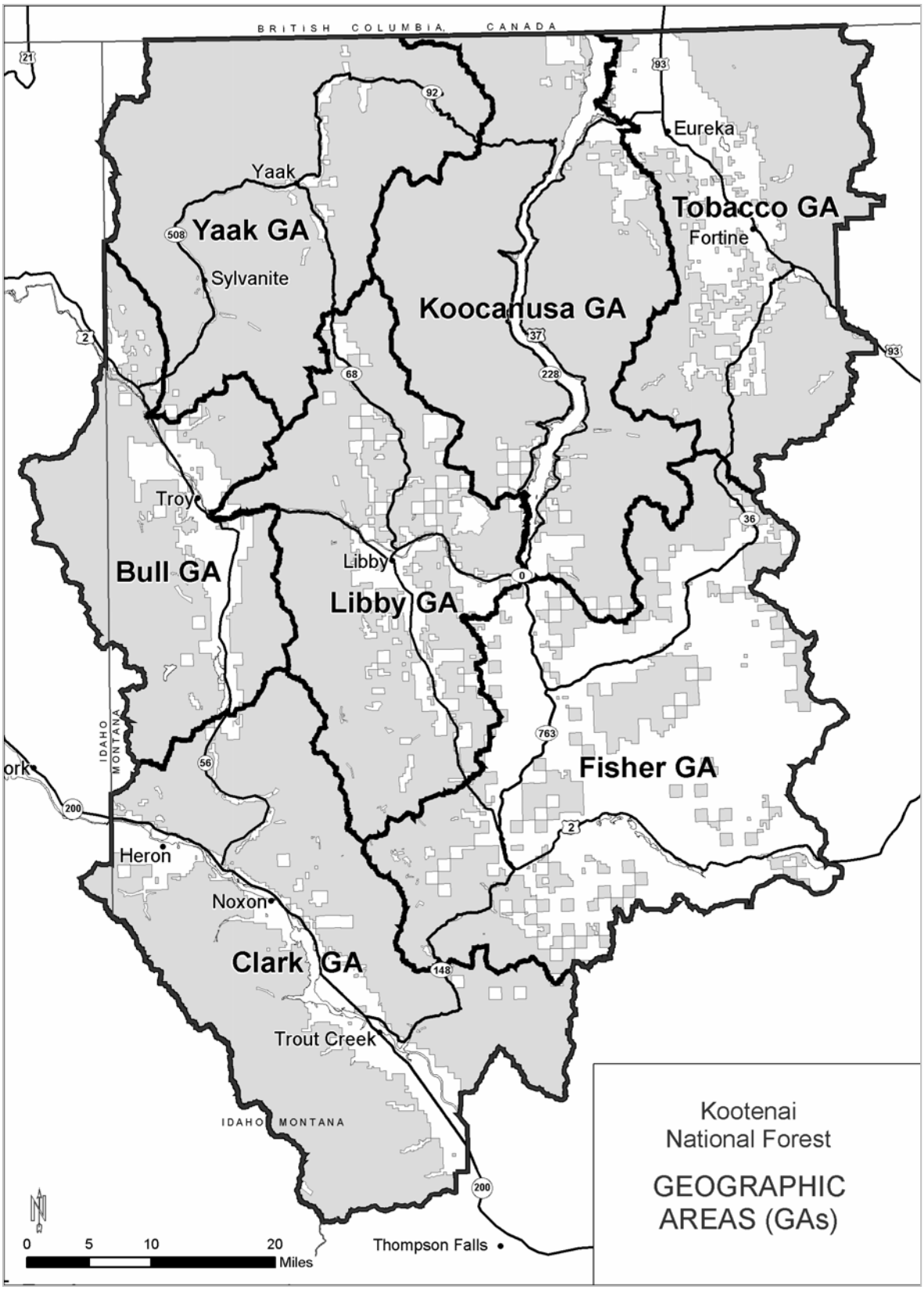

Figure 11. Geographic areas in the Kootenai National Forest

Geographic Areas Desired Conditions

Introduction

While the Forestwide desired conditions describe trends that we would expect to see across the Forest, we recognize that individual places across the KNF have their own distinct characteristics and conditions. These places are referred to as “geographic areas” (GA), such as a river basin or valley and the GA desired conditions reflect community values and local conditions for that area. However, they do not substitute for or repeat Forestwide desired conditions. The KNF has been divided into the following seven geographic areas (see Figure 11 on preceding page):

- Bull
- Clark
- Fisher
- Koocanusa
- Libby
- Tobacco
- Yaak

Geographic Areas

Each geographic area section on the following pages provides:

- Geographic area map displaying special areas, locator features, campgrounds, and major roads and streams.
- General location and description providing a brief characterization of the area.
- Resource specific desired conditions, describing a “place-based” picture of the forestwide desired condition for applicable resources.
- Management area composition table for each geographic area.

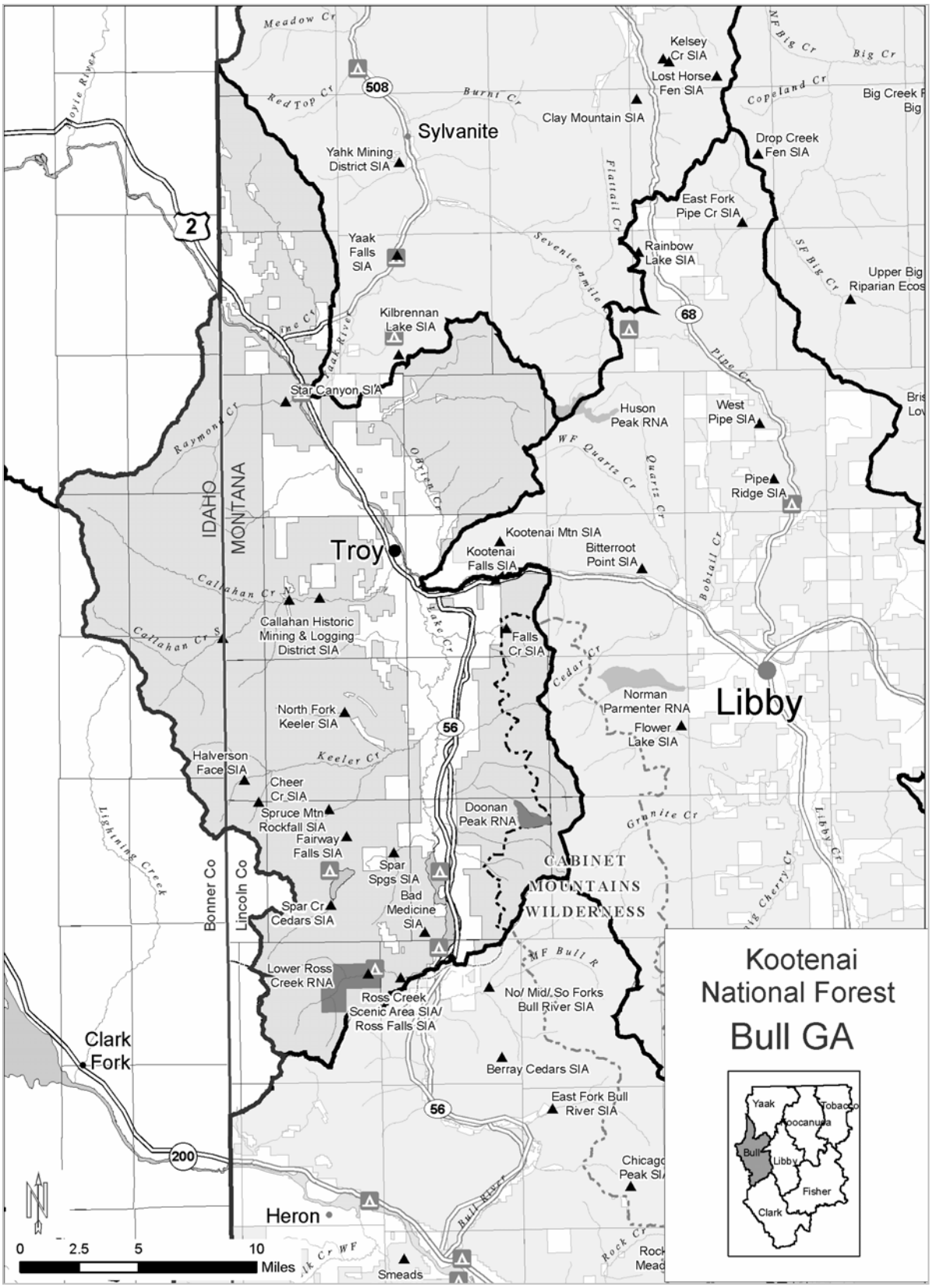

Figure 12. Bull GA

Bull Geographic Area

General Location and Description

The Bull Geographic Area (GA) lies predominantly in Lincoln County, Montana, with portions in Bonner and Boundary Counties in Idaho. National Forest System lands amount to 234,000 acres of the total 294,600 acres, or 79% of this GA. Communities include Troy and residential areas around several lakes. The Kootenai River flows northwesterly through the area and the lowest point in the state of Montana is where the river enters Idaho near Troy at just over 1,800 feet elevation. This GA is experiencing rapid development of lands that were formerly corporate timberlands, creating new subdivisions and increasing the size of the wildland urban interface. Mining and logging have been important industries in this area since the 1800s. The Troy mine is an active silver mine in this GA.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Improvements are made to maintain or increase recreational opportunities including the establishment of winter nonmotorized trails in lower elevations and warming huts, and improvement of the Spar Lake recreation area. Private funding and volunteer partnerships are pursued whenever feasible to accomplish these improvements.

Vegetation

Whitebark pine structure, composition, and function will trend toward the desired vegetation condition within high elevation areas of the Cabinet Mountains.

The south-facing slopes adjacent to the Kootenai River will provide habitat for concentrations of Geyer’s Biscuitroot that have adapted to low-intensity, frequent fire disturbance.

Fire

Threats of wildfire for the town of Troy, Highways 2 and 56, and outlying communities and structures are reduced.

Wildlife

The Forest, with minimal human-caused disturbance and development, provides for movement of wide ranging carnivores, including the grizzly bear between the Cabinet Wilderness and Selkirk Mountains (through an area south of Bull Lake, that passes through Scotchman Peaks and the McArthur Lake wildlife management area).

Snowmobile use in the West Cabinet Mountains occurs in areas that minimize or avoid impacts to mountain goats, wolverine dens, and grizzly bear sows with cubs as they emerge from den sites. Areas open to snowmobile use are delineated and easily identifiable (signed on the ground).

Human-caused disturbance (both motorized and nonmotorized) is minimized in areas of active peregrine falcon nests.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Native aquatic species, particularly bull and interior redband trout populations, will expand into additional areas and respond to restoration activities in the O'Brien, Callahan, and Keeler Creek watersheds.

Management Area Composition

Table 4 displays the acres identified within each management area for the Bull GA.

Table 4. Bull GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres7%
1a	Congressionally Designated Wilderness	15,200	7%
1d	Wild Lands	14,000	6%
2b	Eligible Wild and Scenic Rivers	2,800	1%
3	Special Interest Area	4,300	2%
4a	Established or Proposed Research Natural Area	2,400	1%
5a	Backcountry - Nonmotorized summer and winter	52,400	22%
5b	Backcountry - Motorized summer and winter	500	<1%
5c	Backcountry - Nonmotorized summer, motorized winter	21,100	9%
6	General Forest	120,700	52%
	Total NFS Lands	**233,400**	

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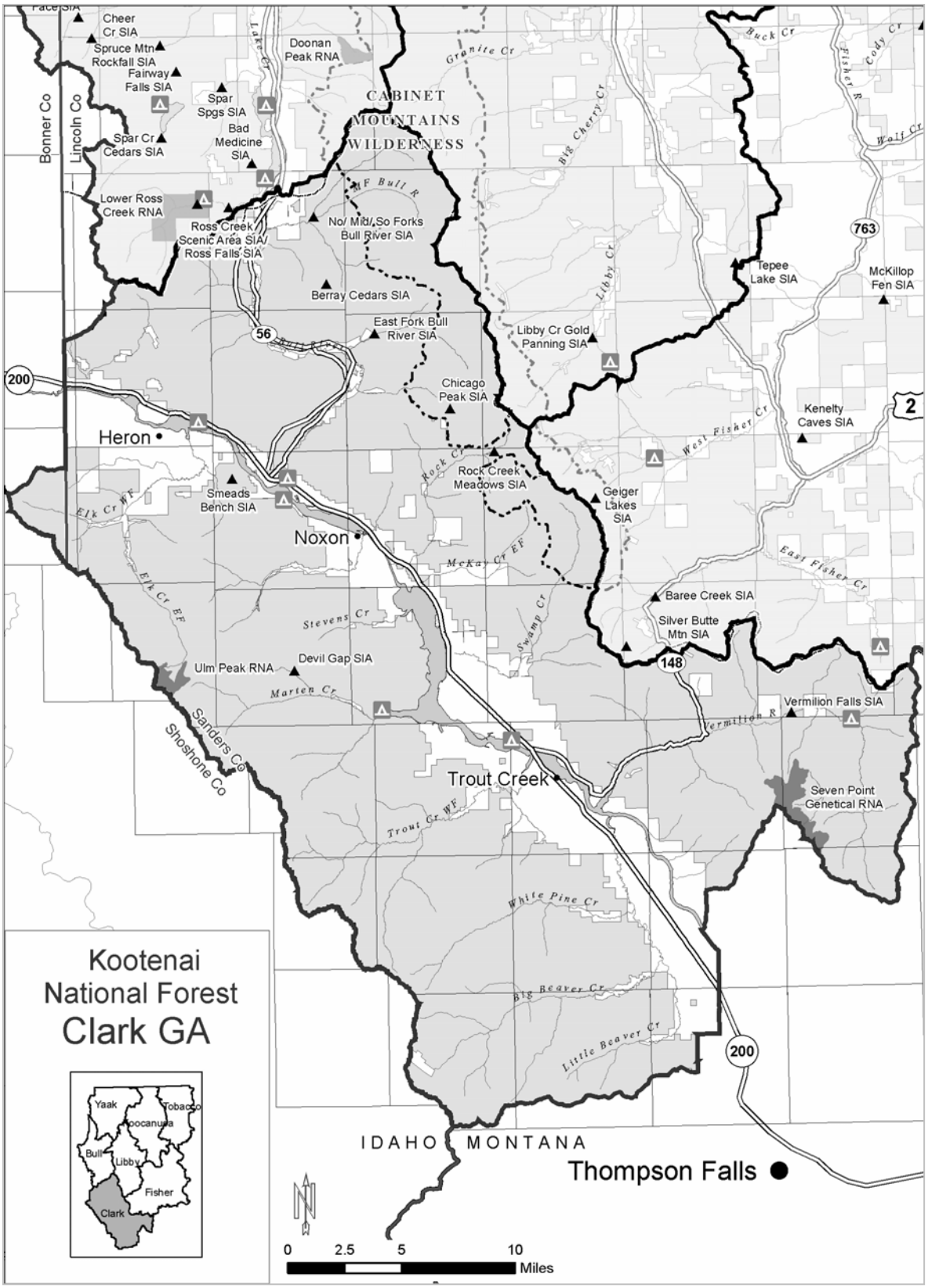

Figure 13. Clark GA

Clark Geographic Area

General Location and Description

The Clark Geographic Area (GA) lies primarily within Sanders County, with small portions in Bonner County, Idaho. National Forest System lands amount to about 432,000 of the total 528,000 acres, or 82% of this GA. Communities include Trout Creek, Noxon, and Heron. The Clark Fork River Valley has been used as a travel corridor since prehistoric times. Northern Pacific Railroad built the nation's second transcontinental railway through this area and the first road built into northwest Montana was constructed near present-day Highway 200. The Cabinet Gorge and Noxon Reservoir lie within this GA.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Additional lookout structures are restored and available in the rental program including consideration of Berray Mt., Star Peak, and Minton Peak. Partnerships or cooperative agreements are pursued with local schools, Avista Corporation, Montana Fish, Wildlife & Parks, and other potential partners, in development and maintenance of access and recreational sites including the Adopt-a-Trail program.

Trails to Snowshoe Lake, Little Ibex Lake, and Dad Peak will be evaluated for long-term maintenance needs.

Snowmobile use along the ridgeline corridor east of Taylor Saddle and south to Bloom Peak (and the Bloom Peak bowls) is maintained.

Vegetation

An increase in the amount of late-succession and old growth in areas of larges historic fires (1910, 1880s) provides greater diversity and habitat for numerous plant and animal species. Vegetation trends toward the desired vegetation condition, with an increase in western larch and a decrease in Douglas-fir, as well as an increase in whitebark pine in high elevation areas of the Cabinet Mountains.

Road construction associated with vegetation management in the west side of the East Fork of the Elk Creek (and Miller Creek) area is temporary and designed to retain roadless characteristics.

Fire

Threats of wildfire for the towns of Noxon, Trout Creek, Heron, and outlying communities and structures are reduced.

Wildlife

Berray Mountain provides key winter range for bighorn sheep, elk, and mule deer that migrate out of the Cabinet Mountains. Trout Creek drainage, Government Mountain, Scotchman Peaks,

and other areas provide security and habitat effectiveness for the elk herds in this GA. Cataract Peak, Grouse Mountain, and all of the upper slopes along the west side of the River and Reservoir provide key summer range.

Snowmobile use in the West Cabinet Mountains occurs in areas that minimize or avoid impacts to mountain goats, wolverine dens, and grizzly bear sows with cubs as they emerge from den sites. Areas open to snowmobile use are delineated and easily identifiable (signed on the ground).

National Forest System lands in the East Fork of Elk Creek and Miller Creek continue to provide security for wildlife (especially during the hunting season) as road construction (temporary) and vegetation management activities are conducted.

The Forest, with minimal human-caused disturbance and development, provides for movement of wide ranging carnivores, including the grizzly bear, between the Cabinet Wilderness and Selkirk Mountains (through an area south of Bull Lake, that passes through Scotchman Peaks and the McArthur Lake wildlife management area). The Forest also provides for wildlife movement across the Clark Fork River and Highway 200.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Restore 303(d)-listed segments according to TMDL (Total Maximum Daily Load) specifications developed in the lower Clark Fork drainage. Support TMDL development in Bull River, Marten Creek, and others segments as reassessment continues. Sediment pollutants are reduced in the 303(d)-listed watersheds projects completed cooperatively with representatives from local watershed councils. Native aquatic species, particularly bull trout and westslope cutthroat trout, populations expand into additional areas. Continue working with other agencies and utilities in facilitating native salmonid passage over Noxon and Cabinet Gorge Dams, and improving habitat conditions in tributaries. Establish stronghold populations of bull trout in Noxon Rapids (Vermilion River) and Cabinet Gorge (Bull River) reaches of the lower Clark Fork River.

Management Area Composition

Table 5 displays the acres identified within each management area for the Clark GA.

Table 5. Clark GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Congressionally Designated Wilderness	39,400	9%
1d	Wild Lands	31,800	7%
2b	Eligible Wild and Scenic Rivers	9,300	2%
3	Special Interest Area	1,000	<1%
4a	Established or Proposed Research Natural Area	2,700	1%
5a	Backcountry - Nonmotorized summer and winter	74,400	17%
5b	Backcountry - Motorized summer and winter	69,600	16%
5c	Backcountry - Nonmotorized summer, motorized winter	1,000	<1%
6	General Forest	202,800	47%
	Total NFS Lands	**432,000**	

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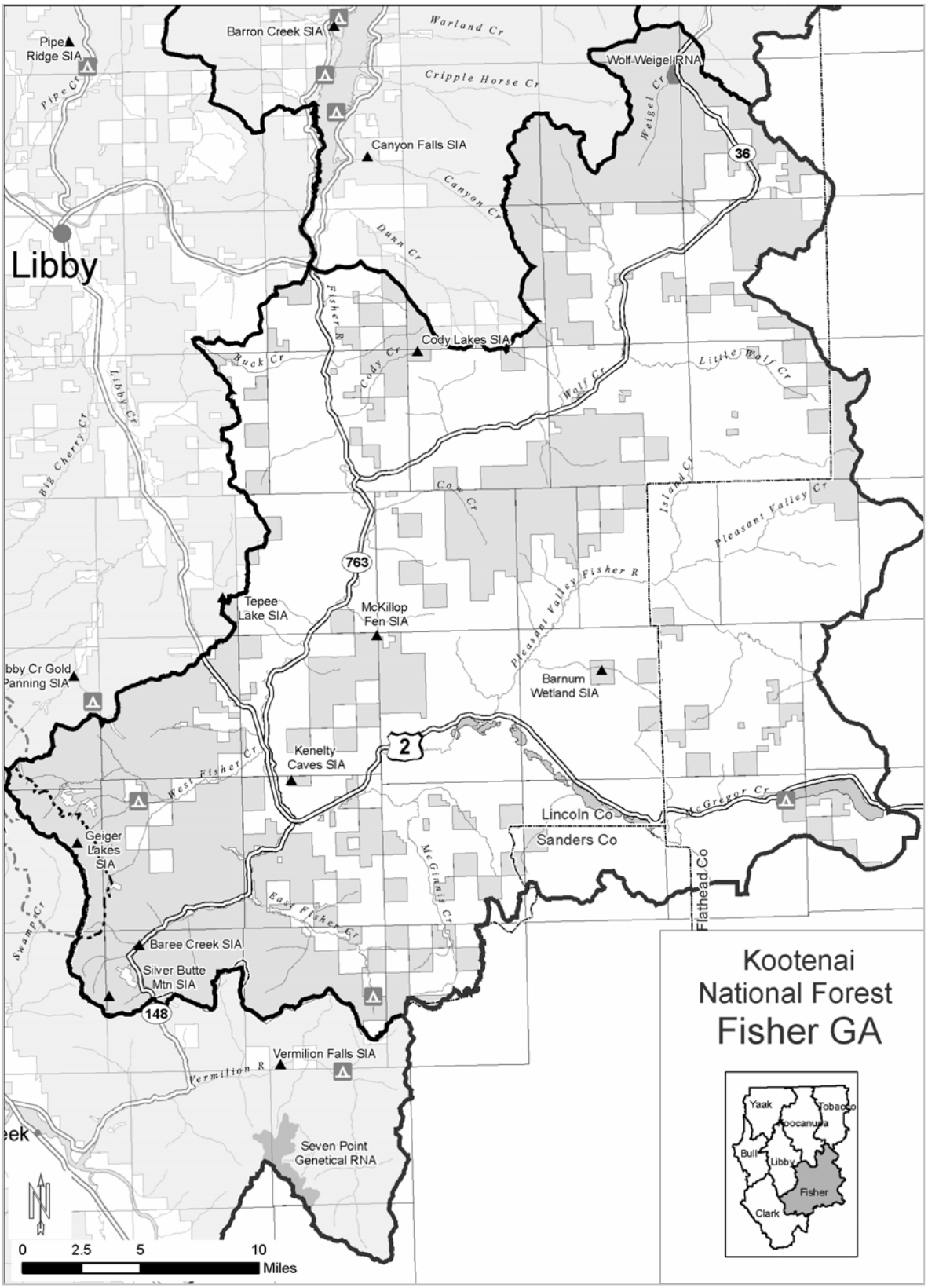

Figure 14. Fisher GA

Fisher Geographic Area

General Location and Description

The Fisher Geographic Area (GA) lies predominantly in Lincoln County, Montana, with portions in Flathead and Sanders Counties. National Forest System lands amount to about 206,000 acres of the total 579,000 acres, or 36% of this GA. Over half of the land in this GA is corporate timberlands, some of which are in a “checkerboard” pattern with NFS land. Small communities in this GA include Happy’s Inn, Pleasant Valley and Silver Butte.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Outfitter and guide agreements and partnership with Plum Creek are maintained.

Vegetation

Noxious weed infestations are reduced and habitat conditions for native grasses, forbs and shrubs in areas of large scale natural disturbance such as Houghton Creek, Wolf Mountain, Little Wolf and Elk Mountain are improved.

Increase the amount of late succession/old growth and interior habitat providing greater diversity and quality habitat for plant species of concern and species of interest.

Fire

Threats of wildfire for dwellings, buildings, and structures within the Fisher River drainage and major tributaries are reduced.

Wildlife

The Forest, with minimal human-caused disturbance and development, provides for movement of wide ranging carnivores, including the grizzly bear between the Cabinet/Yaak and Northern Continental Divide grizzly bear recovery zones (including the Schreiber/Teepee area between the Cabinet Wilderness and Ten Lakes).

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Activities identified under the Fisher River TMDL process reduce the sediment concerns. Native aquatic species populations expand into additional areas and are secure from hybridization by non-natives. Habitat in the mainstem Fisher River is improved to support greater numbers of native fish.

Management Area Composition

Table 6 displays the acres identified within each management area for the Fisher GA.

Table 6. Fisher GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Congressionally Designated Wilderness	5,600	3%
3	Special Interest Area	600	<1%
4a	Established or Proposed Research Natural Area	200	<1%
5b	Backcountry - Motorized summer and winter	43,900	21%
6	General Forest	156,100	76%
	Total NFS Lands	**206,400**	

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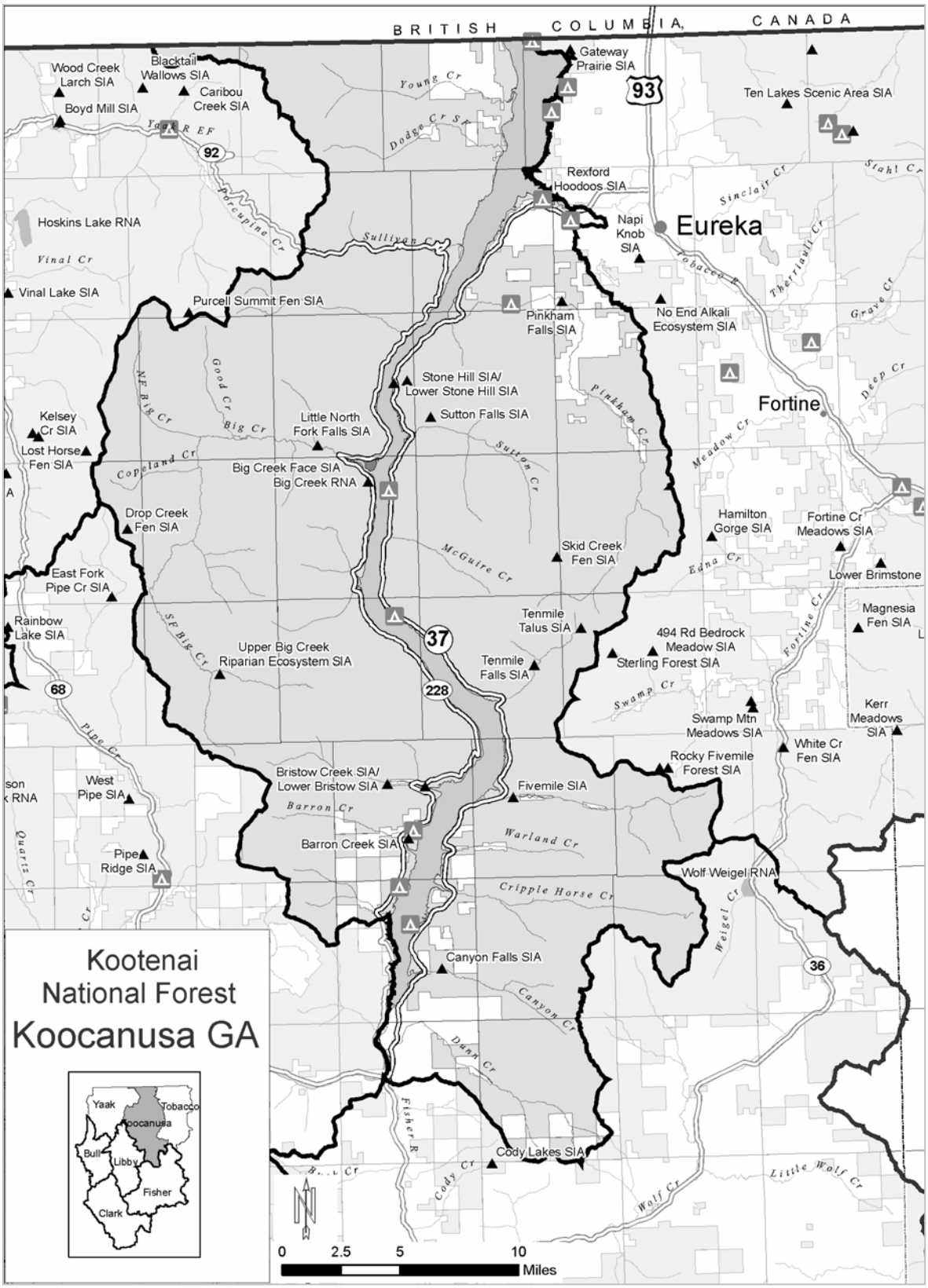

Figure 15. Koocanusa GA

Koocanusa Geographic Area

General Location and Description

The Koocanusa Geographic Area (GA) is located entirely within Lincoln County and is adjacent to British Columbia. National Forest System lands amount to about 411,000 acres of the total 475,000 acres, or 86% of this GA. Communities include Rexford and West Kootenai, on either side of Lake Koocanusa, in the northern portion of the GA. This GA is culturally significant as human use dates back 8,000 years and travel routes, including ferries and railroad lines, were developed in the 1800s along the Kootenai River.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Summer and winter motorized and nonmotorized opportunities are maintained and expanded where feasible. Recreation opportunities are maintained or improve in areas adjacent to Lake Koocanusa. A recreation plan for Lake Koocanusa is developed. Additional recreation opportunities for equestrians, mountain bikers, and OHV users are provided.

Vegetation

Noxious weed infestations are reduced and habitat conditions for native grasses, forbs and shrubs in areas of large scale natural disturbance such as Dodge and Pinkham drainages are improved.

Restoration of vegetation structure, composition, and function trends toward the desired vegetation condition in the Pinkham, Dodge, Boulder, and McSutten drainages.

Fire

Threats of wildfire for the towns of Rexford, West Kootenai, the Pinkham area, and outlying communities and structures are reduced.

Wildlife

Lands adjacent to Lake Koocanusa are currently managed in conjunction with the BPA Wildlife Mitigation program and provide habitat for mule deer, bighorn sheep (Ural Tweed herd), and other big game that use the area.. Human caused disturbance and development on NFS lands along the ridgeline from Roderick Mountain north to the Canadian border is minimal and provides for movement of wide ranging carnivores, including the grizzly bear within the Yaak portion of the Cabinet/Yaak grizzly bear recovery zone. The Big Creek drainage (especially in the subalpine biophysical setting) provides large amounts of large down wood and habitat for snowshoe hare for the high density of Canada lynx that occur in the area.

Noxious weed infestations are reduced and forage quality and quantity on big game winter ranges, including areas impacted by the large fires of 1994 and 2000, are improved. Increase the amount of lands managed for old growth characteristics in Barron, Jackson, Dunn, Cripple Horse,

and other drainages adjacent to the reservoir. Continue providing security for big game in the McGuire Mountain, Ten Mile, Gold Hill and Webb Mountain areas.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Sediment pollutants are reduced in 303(d)-listed watersheds. Watershed condition is improved following specifications developed in the Yaak TMDL. Watersheds continue to support populations of migratory native and desirable nonnative fishes in great enough numbers to maintain popular existing recreational fisheries. Eliminating passage barriers restores connectivity for fish populations dependent on streams tributary to the reservoir.

Management Area Composition

Table 7 displays the acres identified within each management area for the Koocanusa GA.

Table 7. Koocanusa GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
2b	Eligible Wild and Scenic Rivers	9,600	2%
3	Special Interest Area	5,700	1%
4a	Established or Proposed Research Natural Area	200	<1%
5a	Backcountry - Nonmotorized summer and winter	6,100	1%
5c	Backcountry - Nonmotorized summer, motorized winter	14,000	3%
6	General Forest	365,500	89%
7	Primary Recreation Area	9,600	2%
	Total NFS Lands	**410,700**	

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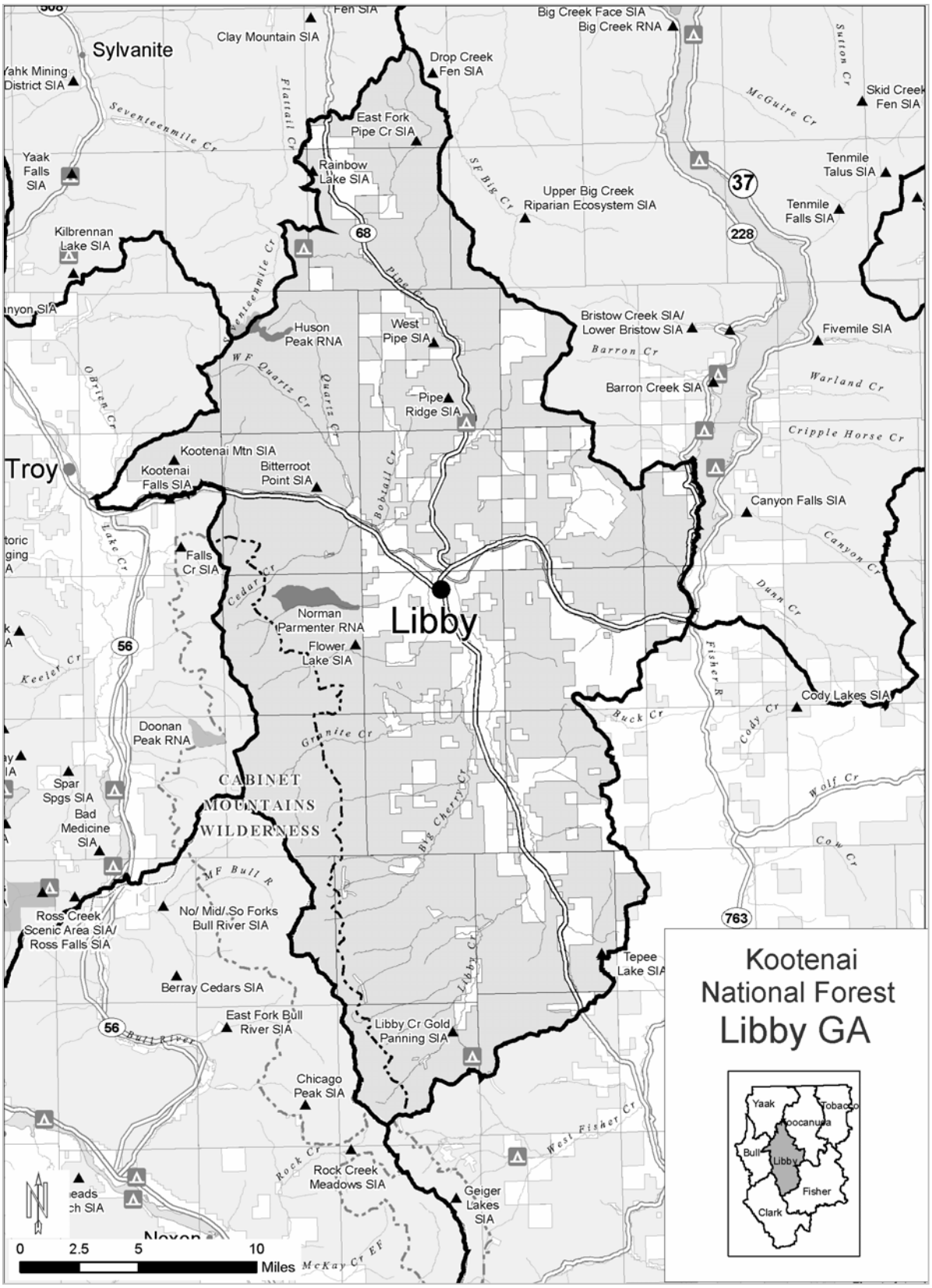

Figure 16. Libby GA

Libby Geographic Area

General Location and Description

The Libby Geographic Area (GA) lies entirely within Lincoln County. National Forest System lands amount to about 287,000 acres of the total 367,000 acres, or 78% of this GA. Approximately 10,000 people live in the city of Libby and the residential areas nearby, roughly half the population in the county. The county seat and the administrative center for the Kootenai National Forest are located in Libby. This area has been continuously inhabited for 5,500 years, and has provided major travel routes, including David Thompson's exploration in the early 1800s, Pierre deSmet in 1845, and gold miners in the 1860's. Mining and logging have historically provided the economic base. The area is known for its mineral deposits and there is currently interest in developing a mine south of Libby.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Opportunities to utilize partnerships and user groups to evaluate, plan, and improve trail systems and other recreational developments are pursued and maintained (e.g., Lincoln County Snowkats, Cabinet Backcountry Horsemen, Kootenai Ridgeriders ATV Club, etc.).

Opportunities for winter motorized access are maintained or considered in areas such as Pipe Creek, East Face of the Cabinets, and Bear Creek. Opportunities for changing snowmobile routes are considered as vegetation or other conditions change over time.

An opportunity is provided for the assessment of a multiple-use trail (motorized and nonmotorized) between Libby and Troy as well as a possible ski area on Treasure Mountain.

Vegetation

The south-facing slopes adjacent to the Kootenai River provide habitat for concentrations of Geyer's Biscuitroot that have adapted to low-intensity, frequent fire disturbance.

Whitebark pine structure, composition, and function trend toward the desired vegetation condition within high elevation areas of the Cabinet Mountains.

Noxious weed treatment in the Alexander Creek area, with emphasis on cheatgrass and knapweed, improves habitat conditions for native grasses, forbs, and shrubs.

Fire

Threats of wildfire for the city of Libby and outlying communities and structures are reduced.

Wildlife

Human-caused disturbance and development in the Flagstaff Mountain area is minimal and provides for movement of wide ranging carnivores, including the grizzly bear between the Cabinet and Yaak portions of the Cabinet/Yaak grizzly bear recovery zone. The Forest provides for movement of deer and elk between summer range in the Hemlock/Turner Mountain area and winter range in the Alexander Creek (Horse Range) area

Continue providing key big game winter range in the Swede McMillan area. Human caused disturbance from motorized use (including OHV use in the spring) is minimized or avoided in areas such as Swede McMillan.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Sediment pollutants are reduced in 303(d)-listed watersheds such as Quartz, Bobtail, Big Cherry and Snowshoe. Watershed condition is improved following specifications developed in the Bobtail TMDL. Bull trout populations increase and expand with strongholds in Quartz, Pipe, Big Cherry and upper Libby Creeks. Populations of bull trout in adjoining drainages stabilize and begin to contribute to the middle Kootenai recovery population. Populations of interior redband and westslope cutthroat are secure from hybridization by nonnative fishes and expand their distribution.

Management Area Composition

Table 8 displays the acres identified within each management area for the Libby GA.

Table 8. Libby GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Congressionally Designated Wilderness	33,300	12%
1d	Wild Lands	16,300	6%
2b	Eligible Wild and Scenic Rivers	7,500	3%
3	Special Interest Area	1,900	1%
4a	Established or Proposed Research Natural Area	1,700	1%
5a	Backcountry - Nonmotorized summer and winter	11,800	4%
5b	Backcountry - Motorized summer and winter	23,500	8%
5c	Backcountry - Nonmotorized summer, motorized winter	14,600	5%
6	General Forest	175,200	61%
7	Primary Recreation Area	1,300	<1%
	Total NFS Lands	**287,100**	

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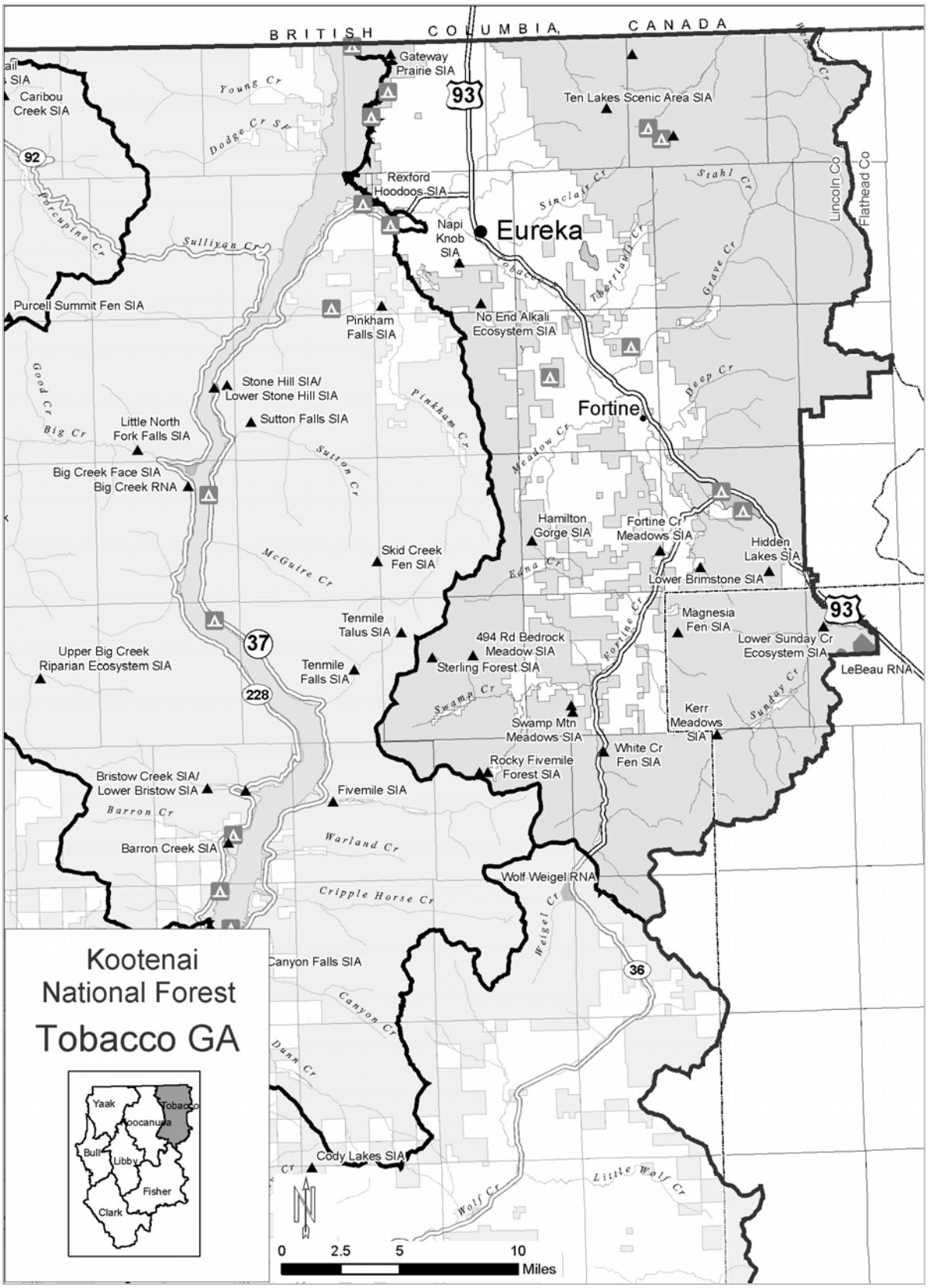

Figure 17. Tobacco GA

Tobacco Geographic Area

General Location and Description

The Tobacco Geographic Area (GA) lies predominantly in Lincoln County, Montana, with a portion in Flathead County and is adjacent to British Columbia. National Forest System lands amount to about 264,000 acres of the total 370,000 acres, or 71% of this GA. Communities include Eureka, Fortine, Trego, and Stryker. This area contains the largest amount of grazing and ranching lands in the Forest. This area is culturally significant, with human use dating back at least 8,000 years.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Summer and winter motorized and nonmotorized opportunities are maintained and expanded where feasible. Recreation opportunities are maintained or improved in the Ten Lakes area. An updated study for the Ten Lakes WSA is completed including the identification of specific areas and routes to provide a variety of winter and summer motorized and nonmotorized recreation opportunities. Monitoring of use is an integral part of the recreation program for the Ten Lakes area.

High-use recreation routes, such as Grave Creek Road, are maintained through dust abatement and grading.

Vegetation

Whitebark pine structure, composition, and function trend toward the desired vegetation condition within high-elevation areas of Ten Lakes and Thompson Seton.

Noxious weed treatment occurs with cooperation from the State and County to improve habitat conditions for native grasses, forbs, and shrubs.

Management of vegetation towards the desired vegetation condition improves or possibly increases habitat for Spalding’s catchfly. Calcareous soils and wetlands provide habitat for species of concern and species of interest, including lady’s slippers and cottongrass.

Fire

Threats of wildfire for the towns of Eureka, Fortine, Trego and Stryker and outlying communities and structures are reduced.

Wildlife

Activities avoid or minimize disturbance to wildlife in the Ten Lakes, Thompson Seton, and Marston Face areas; providing habitat for grizzly bear and wolverine denning and rearing during the winter and spring seasons; and secure areas for elk and other big game. The Gateway area

provides big game winter range habitat, including snow intercept cover, and minimal disturbance from motorized use during the winter period (including OHV use in the spring).

The Dickey Lake/Murphy Lake area provides for wildlife movement (with minimal human-caused disturbance and development) between the Northern Continental Divide and Cabinet/Yaak grizzly bear recovery zone (in the area between Marston Face and NFS lands to the south).

Snag habitat is increased in the Trego, Swamp, Meadow, Murphy, Fortine, and Ksanka drainages. Activities avoid or minimize disturbance to loon nesting areas during the nesting season. Activities (such as snowmobile use that may compact vegetation) avoid or minimize disturbance to northern bog lemming habitat in fens and bogs such as Sunday Creek.

Interior habitat conditions in the Meadow, Murphy, Trego, Pinkham, Swamp, and Fortine subunits are increased and fragmentation of habitats is reduced. National Forest System lands, with minimal disturbance and development, provide for wildlife movement between the Wigwam, Grave, and Cripple Horse drainages.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Improve 303(d)-listed segments according to specifications developed in the Tobacco River TMDL. Native aquatic species, particularly bull trout, populations expand into additional areas and respond to restoration activities in the Grave Creek watershed. Westslope cutthroat are secure from hybridization by nonnative fish.

Management Area Composition

Table 9 displays the acres identified within each management area for the Tobacco GA.

Table 9. Tobacco GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1c	Congressionally Designated Wilderness Study Area	34,100	13%
1d	Wild Lands	38,900	15%
2b	Eligible Wild and Scenic Rivers	1,300	<1%
3	Special Interest Area	30,400	12%
4a	Established or Proposed Research Natural Area	400	<1%
5b	Backcountry - Motorized summer and winter	1,700	1%
6	General Forest	155,300	59%
7	Primary Recreation Area	1,400	1%
	Total NFS Lands	**263,500**	

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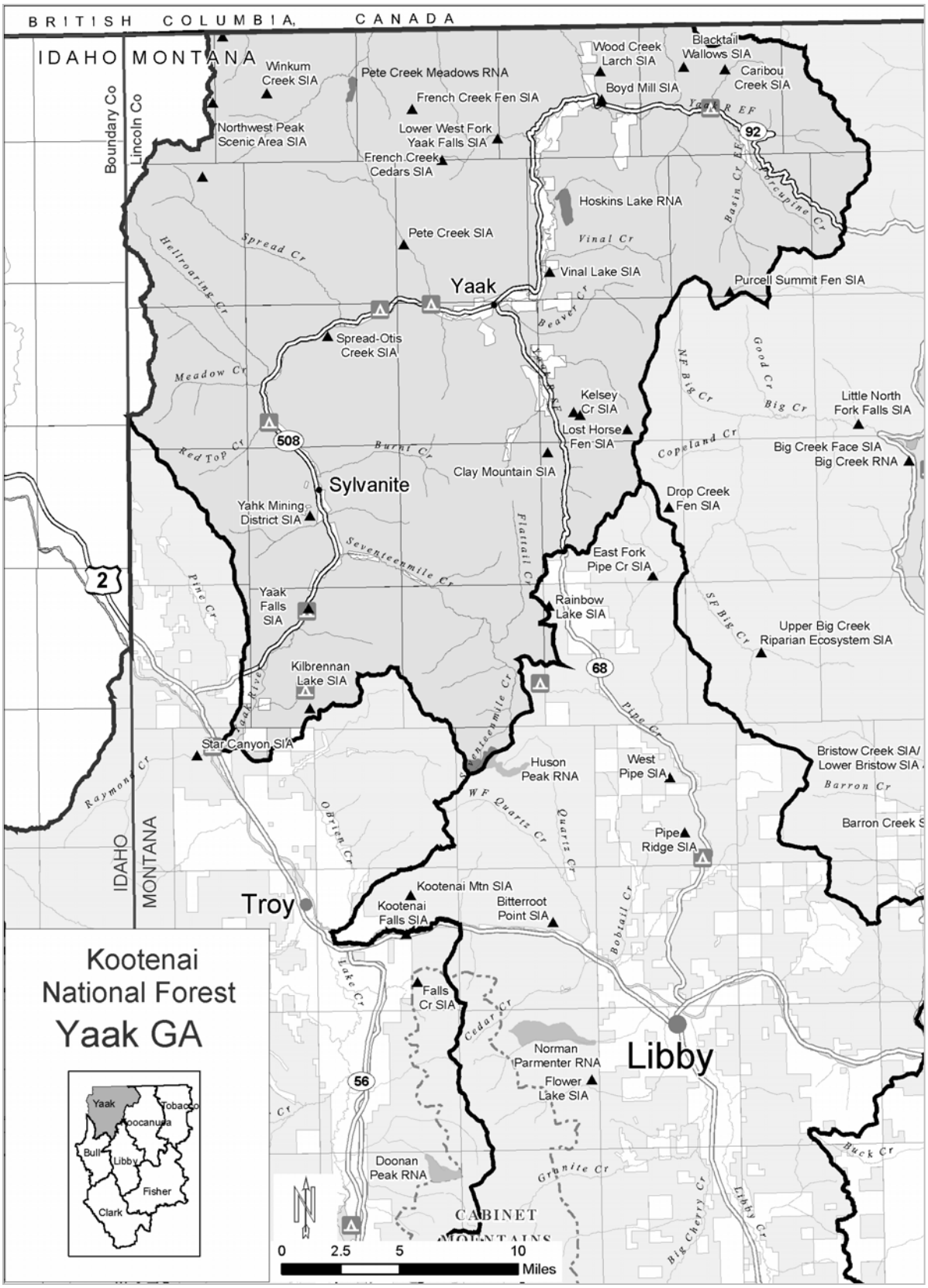

Figure 18. Yaak GA

Yaak Geographic Area

General Location and Description

The Yaak Geographic Area (GA) lies predominantly in Lincoln County, Montana, with a portion in Boundary County, Idaho, and borders British Columbia. National Forest System lands amount to about 385,000 acres of the total 398,000 acres, or 97% of this GA. Communities include Yaak and Sylvanite, although residents are generally secluded and dispersed throughout the area. The area has been used for thousands of years and contains some of the oldest prehistoric sites on the KNF. A mining boom centered near Sylvanite ended when the area was burned out in the fire of 1910. Logging has been important here since the early 1900s.

Geographic Area Desired Condition

The following desired condition discussion is specific to this GA. The desired condition for this GA does not substitute for or repeat Forestwide desired conditions found earlier in this chapter that are applicable to all geographic and management areas.

Access and Recreation

Improvements are made to maintain or increase recreational opportunities, such as the Spread Creek snowmobile trailhead. Historic structures are considered for restoration and addition into the rental program, where feasible. Where feasible, private funding and volunteer partnerships are pursued to accomplish these improvements.

An opportunity is provided for the assessment of a snowmobile loop trail from 17 Mile to the community of Yaak and a 20-mile long OHV route near the community of Yaak.

Vegetation

Management of vegetation toward the desired vegetation condition provides habitat for moonworts and northern beechfern and increases in late succession and/or old growth vegetation.

Fire

Threats of wildfire for the communities of Yaak, Sylvanite and outlying communities and structures are reduced.

Wildlife

Activities avoid or minimize disturbance to wolverine denning and grizzly bear sows with cubs during spring bear emergence (after April 1). Lands with minimal human caused disturbance and development provide for wildlife (including grizzly bear and wide ranging carnivores) movement between the Yaak and Cabinet portions of the recovery area and also provide for movement throughout each of the recovery zones. The forest also provides for wildlife movement between Northwest Peaks and the Cabinets, along the ridges of Buckhorn Ridge, Grizzly Peak, Roderick Mountain and Flagstaff Mountain. The Northwest Peaks area provides Canada lynx habitat, including large amounts of large down wood and habitat for snowshoe hare.

Watersheds (Water, Soil, and Riparian) and Aquatic Species

Watersheds trend toward Class I watershed condition while trending the native aquatic species toward self-sustaining populations. Sediment pollutants are reduced in 303(d)-listed watersheds such as North, East, South and West Forks of the Yaak River; Seventeenmile, Lap, Spread and Pete Creeks, according to specifications developed in the Yaak TMDL. Populations of native interior redband and westslope cutthroat trout are secure from hybridization by nonnative species and expanding in distribution.

Management Area Composition

Table 10 displays the acres identified within each management area for the Yaak GA.

Table 10. Yaak GA management area acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1d	Wild Lands	23,400	6%
2b	Eligible Wild and Scenic Rivers	13,400	3%
3	Special Interest Area	15,400	4%
4a	Established or Proposed Research Natural Area	900	<1%
5a	Backcountry - Nonmotorized summer and winter	59,700	16%
5b	Backcountry - Motorized summer and winter	1,800	<1%
5c	Backcountry - Nonmotorized summer, motorized winter	22,700	6%
6	General Forest	247,200	64%
	Total NFS Lands	**384,500**	