

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

BIOLOGICAL OPINION

on the
Revised Forest Plan for the
Kootenai National Forest

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August 28, 2013

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BIOLOGICAL OPINION ON THE KNF FOREST PLAN REVISION

A. INTRODUCTION

The Fish and Wildlife Service (Service) has prepared this biological opinion on the effects of the USDA Forest Service (USFS) revised Land and Resource Management Plan (Revised Plan) for the Kootenai National Forest (KNF) on the listed species ([Table I-1](#)), in accordance with the Endangered Species Act, as amended (ESA), (16 U.S.C. 1531 et seq.). For ease of discussion throughout this document, the Kootenai National Forest will be referred to as the KNF or the Forest when referencing the single administrative unit, the staff that administers the unit, or the National Forest System (NFS) lands within the unit.

The USFS submitted an aquatic and terrestrial Biological Assessment (BA) documenting that the Revised Plan is likely to adversely affect three listed species and have no effect on Kootenai River white sturgeon. The Final BAs and letter requesting formal consultation under section 7 of the Endangered Species Act (ESA) was received by the Service on January 11, 2013. As described in this biological opinion, and based on the BAs and other information, the Service has concluded that the Revised Plan, as proposed, is not likely to jeopardize the continued existence of these grizzly bears, Canada lynx, and bull trout, or adversely modify designated critical habitat of Canada lynx and bull trout.

Therefore this biological opinion does not provide an analysis for effects of specific actions. Rather, the effects analysis is a broad-scale examination of the types of projects and activities conducted under the Revised Plan that could potentially occur in listed species habitat and result in effects on listed species. This broad-scale analysis will then be used to determine the potential for the Revised Plan direction to jeopardize the affected populations of listed species.

The KNF retains its responsibility under the ESA to consult on future projects (conducted under the Revised Plan) that may affect listed species regardless of the project's consistency with the proposed action considered in this biological opinion. Future projects and their potential to adversely affect a listed species will be analyzed at the project level and a jeopardy determination made at that time.

Table I-1. Federally-listed species on the Kootenai National Forest.

Common Name	Scientific Name	ESA Status	Designated Critical Habitat?
Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened	No
Canada lynx	<i>Lynx canadensis</i>	Threatened	Yes, (74 FR 8616, Feb. 25, 2009)
Bull trout	<i>Salvelinus confluentus</i>	Threatened	Yes, (75 FR 63898, Oct. 18, 2010)
Kootenai River white sturgeon	<i>Acipenser transmontanus</i>	Endangered	Yes, (73 FR 39506, July 09, 2008)

This biological opinion is based on information provided in the KNF's BAs (Terrestrial BA and Aquatic BA) (USFS 2013a,b, respectively) for the proposed action, the draft Revised Plan (USFS 2011a) and related draft Environmental Impact Statement (EIS) (USFS 2011b), personal communications with researchers and experts, and scientific literature, unpublished reports, field investigations, and other sources of information cited herein. All documents cited were considered in their entirety and page numbers, where presented, are there for the readers' convenience.

B. CONSULTATION HISTORY

The history of ESA section 7 consultation on the proposed action is summarized chronologically in [Table I-2](#). A complete record of this consultation for the KNF is on file at the Service's Montana Ecological Services' Field Office in Helena, Montana. The KNF and Idaho Panhandle National Forests combined their efforts to revise their respective land and resource management plans (forest plans). In doing so, they referred to the effort as the Kootenai and Idaho Panhandle Zone. For the purposes of the Section 7 Consultation process, both forests met jointly with both consulting Service field offices (Montana and N. Idaho). Hence, the consultation summary below generally includes meetings between both Forests and Service Offices. KNF-specific communications between individual KNF staff and the Montana Service Field Office are also indicated in the table.

For the purposes of the consultation process, separate BAs were prepared for terrestrial and aquatic species and for each Forest, resulting in a total of four BAs. Two biological opinions were prepared, one for each Forest addressing all affected species.

Table I-2. Summary of the consultation between the Kootenai National Forest (KNF) and the USFWS Montana Field Office (Service) on its Revised Plan from February 2012 to August 2013.

Date	Event
Feb. 16, 2012	USFS provided a description of the proposed action and a summary of the effects to be addressed in this consultation process.
Feb. 21, 2012	The Service (Montana and Idaho) and IPNF and KNF Level 1 team meets (video teleconference) to discuss a consultation strategy (roles and responsibilities) for a timely Section 7 consultation for the revised Forest Plans as well as to identify what is being consulted on (sideboards) and timeline.
April 20, 2012	The Service provided a letter to KNF informing them that the Service no longer considers water howellia to be present on the KNF and that there is no need to address this species in this consultation effort.
May 4, 2012	The KNF provided a draft terrestrial BA to the Service.
May 7, 2012	The KNF provided a draft Aquatic BAs to the Service.
June 5, 2012	The IPNF and KNF send an email to the Level 1 and Level 2 teams asking the Service to provide comments on the draft BAs by July 20, 2012 and to schedule a meeting in early July for the Forests to answer questions about the draft BAs.
July 10, 2012	The Service (MT and ID) and IPNF and KNF met via conference call to discuss the Service's initial impressions of the BAs.
July 26, 2012	The Service provided written comments on the KNF draft Aquatic BA and written comments and tracked changes on the KNF draft Terrestrial BA.
Aug. 14, 2012	The Service (MT and ID) and the Forest (KNF and IPNF) aquatic teams met to review the Service's comments and clarify questions and concerns on the draft Aquatic BA.
Sept. 4, 2012	The Service and KNF met via conference call to discuss incorporation of language regarding the W. MT. Bull Trout Conservation Strategy in the Forest's BA.
Sept. 5, 2012	The Service (MT and ID) and the Forest (KNF and IPNF)terrestrial teams met to review the Service's comments and clarify questions and concerns on the draft Terrestrial BA.
Sept. 28, 2012	The Service received the 2 nd draft of the KNF Terrestrial BA.
Oct. 2,3, 2012	The Service and J. Anderson (KNF) corresponded regarding lynx critical habitat acres in the action area but outside LAUs.
Oct. 9, 2012	The Service requested and received clarification from the KNF on mining terms and allowable areas on the Forest for mining entry.
Nov. 5, 2012	The Service corresponded with the KNF regarding the handling of the collection of forest products in lynx habitat, specifically Christmas trees, under

Date	Event
	the NRLMD.
Nov. 7, 2012	The Service received the 2 nd draft of the KNF Aquatic BA.
Nov. 14, 2012	The Service and J.Anderson (KNF) corresponded regarding the KNF Food Storage Order.
Nov. 26, 2012	The Service provided comments on the 2 nd draft KNF Terrestrial BA.
Nov. 27, 2012	The Service and J.Anderson (KNF) corresponded regarding the need for the Forest BA to address effects of helicopter harvest in grizzly bear habitat.
Dec. 5, 2012	The Service (S. Downey) and KNF (J.Carlson) discussed how best to approach the critical habitat analysis for bull trout.
Dec. 5, 2012	The Service provided comments on the 2 nd draft Aquatic BA to the KNF.
Dec. 7, 2012	The Service (S. Downey) provided an example to the KNF (J. Carlson) on the desired format for the bull trout critical habitat analysis.
Dec. 7, 2012	The Service provided a draft Consultation History to J.Anderson (KNF) for review. J.Anderson provided corrections on Dec. 10.
Dec. 17, 2012	The KNF (J.Anderson) provided the revised draft Terrestrial BA for final approval.
Dec. 18, 2012	At the request of the Service, the KNF (J.Anderson) provided the acres exempted for fuels management and precommercial thinning under the NRLMD for the KNF.
Dec. 20, 2012	The Service reviewed and approved the KNF Terrestrial BA for finalization.
Jan. 7, 2013	The Service received and reviewed the final Draft KNF Aquatic BA.
Jan. 11, 2013	The USFS transmitted the Final KNF Terrestrial and Aquatic BAs and a letter requesting formal consultation on its Revised Plan.
Jan. 11, 2013	Statutory 135-day formal consultation timeline begins{50 CFR 402.14 (e-g)}
Jan 24, Feb. 1, & Feb. 6 2013	The Service and the KNF (J. Anderson) corresponded regarding acres of snowmobile use in denning habitat on the KNF.
Mar. 5, 2013	The Service corresponded with other National Forests on the NCDE regarding overlap of snowmobile use in denning habitat in the NCDE.
Mar. 11, 2013	The Service and Forests (KNF and IPNF) corresponded on the topic of opening sizes under the Revised Plan.
Mar. 25, 2013	The Service and Forests corresponded regarding conversion of vegetation types in lynx habitat.
Apr. 3, 2013	The Service and the KNF (J. Anderson) requested data on the acres of habitat treated in lynx critical habitat since 2009.
June 17, 2013	The Service and Forests (KNF and IPNF) held a conference call on the topic of opening sizes under the Revised Plan. A write-up was drafted by Service and reviewed and commented on by the Forests.

Date	Event
June 18, 2013	The Service team held a conference call with Service grizzly bear expert in the CYE, Wayne Kasworm, regarding the status of grizzly bears in the CYE.
July 15, 2013	As a follow-up to the June 17 meeting, the KNF provided additional information to the Service on the condition of cover Forest-wide.
August 7. 2013	In response to a request by the Service (08/06/2013), the KNF provided estimates of acres of lynx habitat burned by wildland fire and prescribed fire to the Service.

C. ORGANIZATION OF THIS BIOLOGICAL OPINION

This biological opinion includes four chapters. This is the introductory Chapter I. Chapter I of the biological opinion mostly provides a description of the proposed action. This section describes the project area, the species in the project area, and an overview of the proposed Revised Plan. The biological opinion for grizzly bears is contained in Chapter II, the biological opinion for Canada lynx is contained in Chapter III, and the biological opinion for bull trout is contained in Chapter IV. The species-specific chapters (i.e., Chapters II, III, IV, and V) provide additional description of the proposed action relative to measures contained in the Revised Plan to address the conservation needs of the species. Each species-specific chapter contains its own literature cited.

D. DESCRIPTION OF THE PROPOSED ACTION

This section describes the project area, provides background on Revised Plan development, describes implementation of the plan and summarizes the key elements of the Revised Plan providing forest-wide, management area, and geographic area direction on forest management.

1. Description of the Project Area

The KNF is located in the northwest corner of Montana (Figure 2, USFS 2013a) and includes about 2.2 million acres of public land. The Forest administers the entire proclaimed Kootenai and a portion of the Kaniksu National Forest. The KNF is divided into five ranger districts: Rexford, Fortine, Three Rivers, Libby, and Cabinet.

Two major rivers, the Kootenai and the Clark Fork, along with several smaller rivers and their tributaries, dominate the Forest. The Whitefish Range, Purcell Mountains, Bitterroot Range, Salish Mountains, and Cabinet Mountains are all part of the rugged terrain radiating from the river valleys. In the north-central part of the Forest, the land is more open with gently rolling forested hills lying in the shadows of the Whitefish Range. The KNF contains some of the most diverse and productive forests in the Northern Region of the Forest Service. It is the home of many rare plant and animal species, and it provides a diversity of aquatic and terrestrial habitat.

The principal population centers within the KNF are Libby, Troy, Eureka, and Trout Creek, Montana. Smaller communities that have social, economic, and historic ties to the KNF include Fortine, Trego, Stryker, the Yaak community, Rexford, and Noxon. The nearest large urban areas, Spokane, Washington, and the Flathead Valley in Montana, have a social and economic influence on the local communities. The majority of land administered by the KNF is located in Lincoln and Sanders counties in Montana. Smaller portions of land are also found in Flathead County in Montana, and Boundary and Bonner counties in Idaho.

Abundant recreation opportunities exist in the KNF. Visitors come from across the nation, as well as Spokane and local communities, to fish and boat the numerous rivers and lakes. Other

popular recreation activities include hiking, biking, sightseeing, hunting, Off-Highway Vehicle (OHV) use, recreational prospecting, snowmobiling, skiing, and gathering forest products. This visitation and recreation is important to the local economy and is a major reason people choose to live in this area.

The KNF has productive forest lands that contribute to the local and regional supply of forest products and are an important contributor to the local economy. Managing vegetation and fuels, as well as resources for mining and grazing contribute to people's livelihoods and remains one of the cornerstones of this Forest.

The landownership pattern in and near the KNF provides many opportunities for collaborative planning and partnership opportunities. The Forest is within and/or encompasses portions of the wildland urban interface, private, state, county, or other federal land, as well as rural communities and populations centers. This ownership pattern provides opportunities for people with different interests and values to come together to work toward managing the resources in ways that consider all values and uses of the Forest.

2. Species in the Project Area

As described in the Introduction, the project area supports habitat for 4 listed species: grizzly bear, Canada lynx, bull trout, and Kootenai River white sturgeon. Specifically, two grizzly bear recovery zones overlap the KNF: the Cabinet-Yaak Ecosystem recovery zone (CYE) and the North Continental Divide Ecosystem recovery zone (NCDE). The CYE is mainly situated in the KNF and IPNF with a small portion on the Lolo National Forest. A small portion (roughly three percent of the total acreage) of the NCDE is situated in the KNF.

The project area also lies within the Northern Rocky Mountain/Cascades Region of the United States distinct population segment of Canada lynx. There are approximately 1,492,611 acres in 47 lynx analysis units (LAUs) on the KNF. Designated critical habitat was delineated on all LAUs north of Highway 2 encompassing approximately 905,820 acres in 32 LAUs with an additional 5,583 critical habitat acres outside LAUs.

The KNF supports the Columbia River distinct population of bull trout. The KNF has lands within six core areas for bull trout (Lower Clark Fork River, Bull Lake, Kootenai River, Lake Koocanusa). A core area is the closest approximation of a biologically functioning unit for bull trout, meaning it has both the habitat that could supply all elements for the long-term security of bull trout and a group of one or more local bull trout populations. These same core areas support designated critical habitat for bull trout.

Kootenai River white sturgeon is found in 413 miles of the Kootenai River. The Forest contains watersheds which drain into the Kootenai River but does not support habitat for white sturgeon and this species is not further discussed in this biological opinion.

3. Description of the Proposed Action

This section describes the purpose and process for revising the 1987 Forest Plan; describes the major elements of the Revised Plan; and explains how the plan is implemented and monitored.

Purpose of the Revised Plan

The purpose of the Revised Plan is to provide direction for land management for the KNF by guiding programs, practices, uses and projects. The Revised Plan provides guidance for project and activity decision-making on the KNF for approximately the next 15 years by establishing:

- Forest-wide multiple-use goals and objectives, including a description of the desired condition of the KNF and an identification of the quantities of goods and services that are expected to be produced during the planning period, as required by 36 Code of Federal Regulations (CFR) 219.11(b);
- Forest-wide standards and guidelines as required by 36 CFR 219.13 through 219.27;
- Management Area (MA) direction (multiple-use prescriptions) with associated standards and guidelines, including possible actions, as required by 36 CFR 219.11(c);
- Monitoring and evaluation requirements that provide a basis for a periodic determination and evaluation of the effects of management practices, as required by 36 CFR 219.11(d);
- Recommendation of wilderness to Congress, as required by 36 CFR 219.17(a); and recommendation of rivers eligible for inclusion in the Wild and Scenic River System as described by 16 U.S.C. 1271-1287, 36 CFR 297, and 47 FR 39454; and
- Determination of suitability and potential capability of lands for resource production (timber and grazing), as required by 36 CFR 219.14 and 219.20.

Development of the Revised Plan

The proposed action is the result of the culmination of multiple scoping efforts, public informational and comment meetings, field trips, invited group presentations, and workgroup meetings, as well as meetings with tribal partners, agency partners, and elected officials at various communities in and around the Forest.

Decisions Retained in the Revised Plan

There are several key decisions that have been retained in the Revised Plan. These have already completed ESA Section 7 consultation and are included as part of the proposed action. They are:

- Inland Native Fish Strategy (INFISH) (Decision Notice and Finding of No Significant Impact (Decision Notice and Finding of No Significant Impact, USFS 1995);
- Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zone (Grizzly Bear Access Amendment - Record of Decision [ROD], USFS 2011); and

- Northern Rockies Lynx Management Direction (NRLMD - ROD, USFS 2007).

Revision Topics Addressed in the Revised Forest Plan

In support of the Forest Plan revision, the USFS completed an Analysis of Management Situation (AMS) and AMS Technical Report to describe the historic and current conditions for the KNF and establish the need for revising management direction. Revision topics were identified in the AMS and are addressed in the plan and include:

1. Access and Recreation
2. Vegetation
3. Timber
4. Fire
5. Wildlife
6. Watersheds and Aquatic Species
7. Recommended Wilderness

There are additional, secondary topics included in the revised Forest Plan. These include:

- Air Quality
- American Indian Rights and Interests
- Cooperation and Community Development
- Cultural Resources
- Grazing
- Lands and Special Uses
- Minerals
- Other Forest Products
- Social and Economics

These revision topics reflect the primary changes in the Revised Plan and the effects of these changes are the focus of this biological opinion. The retained decisions address various aspects of these revision topics. For example, the Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones (Grizzly Bear Access Amendment) addressed the wheeled-motorized access for grizzly bear recovery aspect of the Access and Recreation revision topic. For lynx, the Northern Rockies Lynx Management Direction (NRLMD) addressed the lynx habitat aspect of the Vegetation revision topic. Because they are retained decisions in the Forest Plan revision, individual projects would need to be consistent with the Grizzly Bear Access Amendment and the NRLMD, which are incorporated unchanged into the Revised Plan.

The variety of activities that would occur on the KNF under the Proposed Action is the same as what occurs now (ex: vegetation management, motorized/non-motorized recreation, fire management, grazing, mining, etc.). The main difference is where activities would be permissible on National Forest Service (NFS) lands as well as some small shifts in use of

management tools (fire). Appendix A of the draft Revised Plan (USFS 2011ac) provides a list of possible actions that may be implemented under the Revised Plan. Notably, the Revised Plan changes the management area designations where activities are allowed to occur from 24 under the 1987 Forest Plan to 11 (in seven themes) under the Revised Plan (see section below).

Management Areas

The Proposed Action designates seven management area (MAs) themes across the Forest: Wilderness (Designated, Recommended, Wilderness Study Area, and Primitive); Designated and Eligible Wild and Scenic Rivers; Special Areas (botanical, geological, historical, recreational, scenic, or zoological); Research Natural Areas (RNAs) (established and recommended) and Experimental Forests; Backcountry; General Forest; and Primary Recreation Areas. These seven MA themes are broken down into 11 individual MAs ([Table I-3](#)).

Table I-3. Allocation of KNF lands by management area (MA) under the Revised Plan.

MA	Management Area Name	Acres	Percent
1a	Wilderness	93,700	4.2
1b	Recommended Wilderness	102,700	4.6
1c	Wilderness Study Areas	34,100	1.5
2	Eligible Wild and Scenic Rivers	38,300	1.7
3	Botanical, Geological, Historical, Recreational,	31,400	1.4
4	Established and Recommended Research Natural Areas	9,800	0.4
5a	Backcountry – Non-motorized summer and winter	231,100	10.4
5b	Backcountry – Motorized summer and winter	169,800	7.7
5c	Backcountry – Non-motorized summer, motorized	86,500	3.9
6	General Forest	1,408,800	63.5
7	Primary Recreation Areas	12,900	0.6
	Total NFS lands	2,219,100	

Allocation to a specific MA does not mandate or direct the Forest Service to propose or implement any action; rather, the MAs provide direction on desired conditions and allowable activities and uses, including timber harvest/timber production, commercial and personal use of special forest products and firewood, the use of prescribed and natural (unplanned) fire, livestock grazing, recreation (including wheeled and over-snow motorized vehicle use), road construction and reconstruction, and minerals development (leasable and materials). [Table I-4 \(see end of file\)](#) summarizes the allowable uses by MA under the Proposed Action. The MAs are characterized as follows:

Wilderness (MA1a): The KNF manages one congressionally designated wilderness area, the Cabinet Mountains Wilderness, which totals 93,700 acres and is part of the National Wilderness Preservation System. Allowable activities include fire (planned and natural) and special forest products removal (without motorized equipment).

Recommended Wilderness (MA1b): These areas are recommended as additions to the National Wilderness Preservation System. For each recommended wilderness, the wilderness character and potential for the area to be included in the National Wilderness Preservation System remain intact until Congressional action is taken. Hence, allowable activities are limited to those allowed in wilderness (MA1a) with the exceptions of hand-held motorized equipment for management activities, such as clearing trails, and mineral leasing (with appropriate stipulations).

Wilderness Study Areas (MA1c): The KNF manages one wilderness study area (WSA) – the Ten Lakes WSA. Ten Lakes (34,100 acres) was congressionally designated as a WSA in the Montana Wilderness Study Act of 1977 (Public Law 95-150). It is administered to maintain the wilderness character and the potential for inclusion in the National Wilderness Preservation System that existed in 1977 when the Act was passed. Some uses that existed prior to the 1977 Act continue to occur. Allowable activities are the same as those allowed in wilderness (MA1a) and some uses that existed at the time of designation in 1977.

Wild/Scenic Rivers (MA2): This MA applies to river segments that have been identified as eligible for inclusion as part of the Wild and Scenic Rivers System (W&SR) under the authority granted by the Wild and Scenic Rivers Act of 1968, as amended. These areas are managed to protect the free-flowing nature of these rivers, and outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values for the benefit and enjoyment of present and future generations. A total of 249 miles of river have been identified as eligible in the Revised Plan. Allowable activities for wild rivers include natural fires and limited use of prescribed burning, mineral leasing (with appropriate stipulations), and removal of special forest products and firewood for personal use. Allowable activities for scenic and recreational rivers include motor vehicle use (including over-snow vehicles), road construction/reconstruction, mining, grazing, fire (planned and natural), special forest product removal, and timber harvest.

Special Areas (MA3): This MA applies to 54 special areas located across the Forest. These special places (Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas) have unique, unusual, or important characteristics. They are administratively designated areas and managed for public use and enjoyment to protect and conserve the values for which they were identified. They are usually small (less than 1,000 acres) except for Scenic or Recreational areas that are usually several thousand acres in size. Individual areas of like classification are managed similarly. The role of fire is limited, based on risks and benefits to the value for which the special areas were designated. Mineral leasing is allowed. Botanical, historical, and zoological areas emphasize non-motorized recreation experiences and motor vehicle use should not occur; road construction is not allowed. Recreational, geological, and scenic areas provide motorized and non-motorized recreational experiences and access on designated routes and road construction may be allowed.

Research Natural Areas (RNAs) (MA4): The KNF has 11 RNAs. They are established to provide for the study and protection of a full range of habitat types identified in the “Research Natural Areas of the Northern Region: Status and Needs Assessment” (1996). These areas form a long-term network of ecological reserves established as baseline areas for non-manipulative research, education, and the maintenance of biodiversity. These RNAs contain undisturbed conditions that are valuable in monitoring the effects of climate change to ecosystems in a late-seral or climax condition. Allowable uses are described in the individual RNA management plan or Establishment Record. Mineral leasing is allowed (with appropriate stipulations).

Backcountry (MA5a,b,c): This MA is made up of relatively large areas (generally without roads) and provides a variety of motorized and non-motorized recreation opportunities. Trails are the primary improvements constructed and maintained for recreation users. In some areas, lookouts, cabins, or other structures are present as well as some evidence of management activities. Timber harvest is limited as is road construction and reconstruction. Planned and unplanned ignitions may be used to meet resource objectives and grazing, mineral leasing, personal and commercial collection of special forest products and firewood is allowed. The desired condition for motorized use in these MAs is as follows:

- MA 5a provides opportunities for year-round non-motorized use. .
- MA 5b provides opportunities for year-round non-motorized use and year-round motorized use; motor vehicle use, excluding over-snow vehicles, is only on designated routes/areas. .
- MA 5c provides opportunities for year-round non-motorized use and over-snow vehicle use.

General Forest (MA6): Most of this MA consists of relatively large areas with roads, trails, structures, and signs of Forest management activities. This area also provides management for wildlife habitat, restoration of vegetation and watershed, and a variety of recreation opportunities. This MA provides for both motorized and nonmotorized recreation, timber harvest, and contains lands suitable for timber production. Allowable activities include motorized access, over-snow motorized access, road construction/reconstruction, mining leases, grazing, fire (planned and natural), special forest product removal, and timber harvest.

Primary Recreation Areas (MA7): This MA applies to two recreation sites on the KNF: Turner Mt. Ski area and the area around Lake Koocanusa. Turner Mt. is a lift-served downhill ski area with approximately a four month operating season. Lake Koocanusa on the other hand offers year-round recreation opportunities with the 90-mile long lake as the main attraction. A variety of campgrounds and boat ramps provide an array of recreational opportunities and water related experiences in a forested environment. The lake is flanked on the east and west sides by the 67 mile long Lake Koocanusa Scenic Byway. Recreation use in these areas is high.

Elements of the Revised Plan

Revised Plan direction is organized by goals, desired conditions, objectives, guidelines, and standards. These are applied forest-wide as well as across the MAs. The elements of the Revised Plan are described in more detail below.

Goals: Concise statements that describe an overall desired condition the Forest will strive to achieve. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be accomplished. Goal statements form the principal basis from which objectives are developed (36 CFR 219.3).

Desired Conditions: Social, economic, and ecological attributes used to guide management of the land and resources of the Plan area. Desired conditions are not commitments or final decisions approving projects and activities and some may only be achievable over a long time period. The intent is to move towards the desired conditions. Projects must move towards desired conditions or be neutral, unless short-term reduction in some area(s) provides long-term attainment in other area(s).

Objectives: A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals (36 CFR 219.3). The ability to achieve objectives is based on several factors including annual budgets. Projects may contribute towards objectives.

Guidelines: Operational practice and procedure that is applied to project and activity decision making to achieve goals, desired conditions, and objectives. Guidelines can be developed for forest-wide application or for specific areas and may be applied to all management activities or selected activities. There is flexibility in meeting guidelines. Projects must demonstrate how they are meeting guidelines, and if they are not meeting then there must be a Plan amendment.

Standards: Limitation or requirement that is applied to project and activity decision making to help achieve goals and objectives. Standards can be developed for forest-wide application or for specific areas and may be applied to all management activities or selected activities. Projects must show they are meeting standards, or there must be a Plan amendment.

Direction of the Plan

The elements of the plan are applied through forest-wide direction, management area direction, and geographic area direction as described below.

Forest-Wide Direction

The forest-wide direction establishes the goals, desired conditions, objectives, guidelines, and standards for the forest as a whole. These elements of the plan would be applied across the forest as allowed based on allocation to the management areas. The proposed action provides timber for commercial harvest, forage for livestock grazing, exploration and development opportunities for mineral resources, and recreational opportunities. The proposed action is intended to be consistent with goals and objectives for watershed health, sustainable ecosystems, biodiversity and viability, and scenic/recreation opportunities and emphasizes moving the Forest towards desired conditions, while contributing to ecological, social, and economic sustainability.

[Table I-3 \(see end of file\)](#) summarizes the primary components of the Revised Plan that would affect forest-wide direction for threatened and endangered species.

Access and Recreation. In summary, under the Revised Plan, the forest would provide opportunities for outdoor recreation for a wide variety of users in a range of settings across all seasons. Overall, the Revised Plan would provide opportunities for motor vehicle use (excluding over-snow vehicles) on 74 percent of the Forest. Over-snow vehicle use would be consistent with desired conditions on 77 percent of the Forest and mechanized use (e.g., mountain bikes) on 91 percent of the Forest. Dispersed recreation opportunities would continue to be available with some improvements made to concentrated use areas.

Vegetation. In summary, the Revised Plan would trend vegetative conditions to those that would have existed historically under natural disturbance processes, (i.e., those representing the historic range of variability [HRV]) while also creating conditions that would be more resistant and resilient towards the likely stressors from climate change.

Movement towards desired future condition would be emphasized in MA6 (General Forest) encompassing 63 percent of the Forest and relies on a variety of management techniques (e.g., timber harvest, planting, thinning, natural unplanned fire, prescribed burns, and mechanical fuel treatment). MA1 (Wilderness) and MA5 (Backcountry) (approximately 33 percent of the Forest combined) emphasize using natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects and diseases) as the primary forces affecting the vegetation. Management practices to restore vegetation on these MAs include natural unplanned wildfire ignitions managed for resource objectives and prescribed burns. Some mechanical treatments (timber harvest) may occur in backcountry areas.

Ideally, under the Revised Plan, the forest composition is trending toward the desired range for each of the dominance groups and size classes. Forest-wide, this would result in a large reduction in Douglas-fir and slight decrease in the subalpine fir mix and large increases in western larch with slight increases in the white pine and ponderosa pine dominance groups. For size classes, there would be a decrease in the small and medium size classes and an increase in seedling/sapling and large size classes.

For the warm/dry biophysical setting, western larch and ponderosa pine would increase while Douglas-fir would decrease. The large and seedling/sapling size classes would increase, with decreases in the small and medium size class.

For the warm/moist biophysical setting, western larch and white pine would increase and Douglas-fir and grand fir/cedar/hemlock would decrease. The seedling/sapling and large size classes would increase, with decreases in the small and medium size classes.

For the subalpine biophysical setting, lodgepole pine and white pine would increase with additional slight increases in western larch. Subalpine fir would decrease. There would be increases in the large size class and a modest increase in the seedling/sapling size class with decreases in the small and medium size class.

Over the long term, the percentage of old growth and recruitment potential old growth increases. The pattern of patch sizes would reflect a diversity of successional stages, densities and compositions within and between patches. Generally, there is an increase in the size of forest patches that are dominated by trees in the seedling/sapling size class, as well as in the large size

class (including the old growth structures). There is a decrease in the size of the patches that are dominated by trees in the small as well as medium size classes. Insects and disease outbreaks are killing fewer trees and snags occur throughout the forest in an uneven pattern and provide a diversity of habitats for wildlife.

The objectives, standards, and guidelines require an increase of 120,000 to 150,000 acres of ponderosa pine, white pine, western larch, whitebark pine, and hardwood dominance groups and treatment of 250,000 acres to maintain or improve resilience, diversity, or productivity of stands. Road construction and timber harvest in old growth stands is to be avoided unless certain conditions are met.

Timber: The Revised Plan would provide a sustainable mix of timber products (including both sawtimber and non-sawtimber) offered under a variety of harvest methods. Salvage of dead and dying trees would capture as much of the economic value of the wood as possible while retaining the amount needed for wildlife habitat, soil productivity, and ecosystem functions. Lands identified as suitable for timber production would have a regularly scheduled timber harvest program. Where appropriate, precommercial thinning or other types of stand treatments would be used to increase tree growth and create additional growing space for the desirable tree species, while reducing mortality and fuel loading.

Under the Revised plan, there are 793,700 acres suited for timber production (or 36 percent of the Forest). The predicted volume sold for the first decade is 47.5 million board feet (MMBF)/year and the allowable sale quantity (ASQ) under an unconstrained budget would be 80.2 MMBF/year. Over the life of the Revised Plan, KNF expects to annually offer timber for sale at the estimated predicted volume sold of 47.5 MMBF. Regulated timber harvest activities may occur only on lands classified as suitable for timber production. Timber harvest on other than suitable lands may occur for purposes such as salvage, fuels management, insect and disease mitigation, protection or enhancement of biodiversity or wildlife habitat, or to perform research or administrative studies, or recreation and scenic-resource management consistent with other management direction.

Fire: The Revised Plan emphasizes the use of unplanned wildfire ignitions for multiple objectives and prescribed fire, particularly in the backcountry (MA5 - 487,400 acres). Fire (both prescribed fire and where appropriate, wildfire) plays an increased role in helping to trend the vegetation towards the desired conditions while serving other important ecosystem functions. However, undesirable wildfires continue to be suppressed where necessary to protect life, property and key resources. Revised plan objectives call for the treatment of fuels on approximately 5,000 to 15,000 acres annually on NFS lands, primarily through planned ignitions (prescribed fire), mechanical vegetation treatments, and unplanned ignitions (wildfire). Lands within the Wildland-Urban Interface (WUI) are the highest priority for fuel treatment activities.

Recommended Wilderness: The Revised Plan recommends 105,300 acres for wilderness. This includes recommending three new wilderness areas (Roderick at 23,500 acres, Scotchman Peaks at 35,900 acres, Whitefish Divide at 16,000 acres) and recommending 29,900 acres added to the existing Cabinet Mountain Wilderness.

Terrestrial Wildlife: Under the Revised Plan, the Forest contributes to the diversity of desired native and non-native plant and animal communities and contributes toward the recovery of threatened and endangered terrestrial wildlife species. Additionally, the KNF would manage activities to avoid disturbance to sensitive species that would result in a trend towards federal listing. Key provisions of the Revised Plan for wildlife include the allocation of 230,500 acres to MA1 - Wilderness and 487,400 acres to MA5 – Backcountry, which would maintain areas of large undisturbed land and habitat for forest interior species. These MAs also emphasize natural processes with minimal human intervention/disturbance, providing wildlife security habitat. The plan also has opportunities for active restoration of vegetative conditions (wildlife habitat) that are currently outside of desired conditions (MA6 – General Forest - 63 percent or 1,408,800 acres).

The guidelines, objectives, and standards for wildlife would apply all provisions of the Grizzly Bear Access Amendment and NRLMD. In the North Continental Divide Ecosystem, grizzly bear management unit (BMU) subunits would maintain or improve access and habitat parameters. Additionally, activities on NFS lands would avoid/minimize disturbance at known active nesting or denning sites for sensitive species. Over the life of the plan, maintenance or restoration of wildlife habitat on 1,000 to 5,000 acres of NFS lands, emphasizing restoration of habitats for threatened and endangered listed species and sensitive species, would occur annually. Wildlife linkage areas would be maintained and crossing features would be included in the design where necessary to contribute to connectivity of wildlife populations.

Goals, desired conditions, and objectives for wildlife are included in Appendix A. The Grizzly Bear Access Amendment Decision is included in Appendix B. The objectives, standards and guidelines from the retained NRLMD are included in Appendix C. Species-specific guidelines and standards are described in the species-specific chapters of this biological opinion.

Watersheds and Aquatic Species: The Revised Plan would maintain or improve watershed conditions in order to provide water quality, water quantity, and stream channel conditions that support ecological functions and beneficial uses. Watersheds and associated aquatic ecosystems would be managed to retain their inherent resilience to disturbance, by responding and adjusting to disturbance without long term, adverse changes to their physical or biological integrity.

Revised Plan objectives include restoration of soil productivity on 75 to 150 acres not meeting soil quality criteria and maintenance of long-term soil productivity in actively managed areas; 15% of watersheds rated moderate or high trending toward better condition and aquatic function improving on 50 to 250 acres with an emphasis on 303(d)-listed watersheds or watersheds with approved Total Maximum Daily Loads (TMDLs).

Under the Revised Plan, the KNF would maintain or improve the vegetation associated with hydrologic features, in order to support the ecological function of riparian habitats. Riparian Habitat Conservation Areas (RHCA's) would have healthy, functioning riparian systems and associated habitats that support well-distributed native and desired non-native plant, vertebrate, and invertebrate communities. When RHCA's are intact and functioning at their desired condition, management activities would maintain or improve that condition. Limited short-term effects from activities in the RHCA's may be acceptable. When RHCA's are not intact and not

functioning at their desired condition, management activities would include restoration components that compensate for project effects to promote a trend toward desired conditions. Riparian guidelines apply to all RHCAs and to projects and activities in areas outside RHCAs that may potentially degrade these areas. These guidelines protect the riparian habitat and water quality in associated streams.

The Revised Plan would restore aquatic habitats where past management activities have affected stream channel morphology or wetland function. Under the Revised Plan, the desired condition includes waterbodies, riparian vegetation, and adjacent uplands providing habitats that support self-sustaining native and desirable non-native aquatic communities. It also includes conservation watersheds that provide habitats that can support population strongholds of federally listed and sensitive species and restoration watersheds that would improve to support population strongholds. Forest Plan objectives include the enhancement or restoration of 15 to 50 miles of aquatic habitat annually and reconnecting 30 to 55 miles of fragmented habitat in streams over the life of the plan. A variety of standards and guidelines would apply at the project level in order to protect water quality, riparian conditions, and in-stream habitat.

Aquatic Species. The Forest Plan goal for aquatic species is to maintain or improve the distribution of native aquatic and riparian dependent species and contribute to the recovery of threatened and endangered aquatic species. The desired condition is habitat 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) over the long term. Recovery and delisting of bull trout and improved habitat conditions in occupied bull trout streams and connected historically occupied streams, resulting in an increase in the overall number of stronghold populations is also a desired condition under the Revised Plan. Over the life of the plan, aquatic species objectives would improve five percent of watersheds that contain populations of sensitive or threatened and endangered species.

The INFISH standards are included in Appendix D. Goals, desired conditions, and objectives for aquatic species are included in Appendix.

Grazing. Under the Revised Plan, the desired condition includes allowing grazing to occur at sustainable levels while protecting vulnerable resources. Vacant allotments would be evaluated and closed when there is either a lack of demand for forage, a shortage of forage for a viable allotment, or the likelihood of a significant resource conflict. The cumulative total for grazing permits would be 4,000 to 5,000 head months (5,100 to 6,300 animal unit months) annually.

Lands and Special Uses. Under the Revised Plan, when opportunities arise, land ownership would be adjusted (acquired or conveyed) to provide reasonable access or improve efficiency of NFS land management. Proposals for utility and communication facilities outside designated communication sites or utility corridors would be considered only after improvement of existing facilities to accommodate expanded use is analyzed and determined to be infeasible.

Minerals. Under the Revised Plan, the desired condition is for the KNF to continue to contribute to the economic strength and demands of the nation by supplying mineral and energy resources while assuring the land's capability to sustain ecosystems. Mineral materials would be made

available based upon public interest, material availability, in-service needs, and protection of other resource values. Geologic features would be conserved for their intrinsic values and characteristics. Reclamation of abandoned mine sites occurs where human health and environmental degradation risks should occur, with reclamation priority given to mine sites with human health risks. The objectives call for reclamation of one abandoned mine site, annually and standards require that locatable mineral development is not allowed in areas withdrawn from mineral entry.

Implementation of the Revised Plan elements for the remaining resource topics including Cultural Resources, Special Forest and Botanical Products, Social and Economic Systems, Cooperation and Community Involvement, American Indian Rights and Interests, and Air Quality were deemed : 1). to have no bearing on issues surrounding listed species addressed by this biological opinion (e.g., cooperation and community involvement), or 2). to have effects addressed in the other revision topics as demonstrated in [Table I-6](#).

Table I-6. Effects of secondary resource topics addressed in the Revised Plan and location of analysis of effects in this biological opinion.

Resource Topic	Potential Effects on Listed Species	Where The Effects Are Addressed in the Biological Opinion
Air Quality	Timing windows for prescribed fires may conflict with needs of listed fish and wildlife species.	Species-specific chapters in the discussion of fire management.
Cultural Resource	Visitor access to cultural resource sites causing disturbance of species. Potential for human-wildlife conflicts.	Terrestrial species-specific chapters in the discussion of recreation and access. Effects of roads and access on aquatic species.
Special Forest and Botanical Products	Access and acquisition of forest products. Disturbance of species and habitat. Potential for human-wildlife conflicts.	Terrestrial species-specific chapters in the discussion of recreation and access and collection of forest products. Effects of roads and access on aquatic species.
American Indian Rights and Interests	Tribal access and acquisition of forest products causing disturbance of species. Potential for human-wildlife conflicts.	Terrestrial species-specific chapters in the discussion of recreation and access. Effects of roads and access on aquatic species.
Cooperation and Community Involvement	Information and education programs on the presence of listed species.	Species-specific chapters in the discussion of recreation and access.
Social and Economic	Access and use of the Forest for	Species-specific chapters in the

Systems	multiple-uses.	discussion of timber harvest, recreation and access, mining, collection of forest products, and grazing.

Management Area Direction

Under the Revised Plan, management area prescriptions have been grouped into categories which have similar management characteristics.

Each MA has a description and a set of desired conditions, standards, and guidelines. The desired conditions for some MAs support the conservation needs for listed species. None of the standards and guidelines for MAs directly address wildlife or aquatic habitat needs. The remaining elements for each MA are not described in detail here since they largely provide direction on allowed activities as previously described. The desired conditions and allowed activities are described and addressed in the subsequent chapters of this biological opinion for the affected species.

Geographic Area Direction

The Forest-wide desired conditions describe management direction for the entire Forest; however, individual places across the KNF have their own distinct characteristics and conditions. These areas, which are referred to as “Geographic Areas” (GAs), have desired conditions that are specific to a locale, such as a river basin or valley. They define a landscape that people associate with and reflect community values and local conditions within that area. The GA desired conditions are not designed to substitute for or repeat Forest-wide desired conditions. Rather, they were developed to refine forest-wide management to better respond to local conditions and situations that may occur within a specific GA. The KNF is divided into the following seven GAs: Bull, Clark, Fisher, Koocanusa, Libby, Tobacco, Yaak (see Figure 10, USFS 2013c).

Desired conditions in GAs that have the capacity to affect listed species are described in the subsequent parts of this Opinion for the affected species.

4. Implementing the Proposed Action (Revised Plan)

The Revised Plan provides a framework and text that guides day-to-day resource management options. It is a strategic, programmatic document and does not make project-level decisions or irreversible or irretrievable commitments of resources. Those kinds of commitments are made after more detailed, site specific analysis and further public comment as part of the site-specific National Environmental Policy Act (NEPA) process. Appendix A of the draft Revised Plan (USFS 2011a) provides a comprehensive list of the range of actions that may occur during the 10 to 15-year term of the Plan.

The National Forest Management Act (NFMA) requires that permits, contracts, and other instruments for use and occupancy of NFS lands be consistent with the Forest Plan.

The KNF will also follow laws, regulations, and policies that relate to managing NFS land. The Plan is designed to supplement, not replace, direction from these sources. The draft Environmental Impact Statement (EIS) for the Revised Plan (USFS 2011b) lists this additional direction (laws, regulations, and policies) that apply to each resource area.

Ensuring Project or Activity Consistency with the Revised Plan

As required by NFMA and the planning rule, subject to valid existing rights, all projects and activities authorized by the Forest Service must be consistent with the Plan (16 U.S.C. 1604(i); 36 CFR 219.10(e)).

Where a proposed project or activity would not be consistent with Revised Plan direction, the responsible official has the following options:

- To modify the proposal so that the project or activity will be consistent;
- To reject the proposal; or
- To amend the Plan so that the project or activity is consistent with the Plan as amended. The amendment may be limited to apply only to the project or activity, and may be adopted at the same time as the approval of the project or activity (36 CFR 219.10(f)).

The following paragraphs describe how a project or activity is consistent with Revised Plan elements and the requirements for documenting consistency.

Project Consistency with Goals and Desired Conditions

Because of the many types of projects and activities that can occur over the life of a plan, it is not likely that a project or activity can maintain or contribute to the attainment of all goals and desired conditions, nor are all desired conditions relevant to every activity (e.g., recreation desired conditions may not be relevant to a fuels treatment project). Most projects and activities are developed specifically to maintain or move conditions toward one or more of the desired conditions of a plan. Each project or activity is not expected to contribute to all desired conditions in a plan, but usually to one or a subset.

To be consistent with the goals and desired conditions of the plan, a project or activity, must be designed to meet one or more of the following conditions:

1. Maintain or make progress toward one or more of the desired conditions of a plan without adversely affecting progress toward, or maintenance of other desired conditions; or
2. Be neutral with regard to progress toward plan desired conditions; or
3. Maintain or make progress toward one or more of the desired conditions over the long-term, even if the project or activity would adversely affect progress toward or maintenance of one or more desired conditions in the short-term; or
4. Maintain or make progress toward one or more of the desired conditions over the long-term, even if the project or activity would adversely affect progress toward other desired conditions in a minor way over the long-term.

The project documentation should identify which of these four criteria are being met and how they are being met.

Project Consistency with Objectives, Guidelines, and Standards

Objectives. A project or activity is consistent with the objectives of the Revised Plan if it contributes to or does not prevent the attainment of any other applicable objectives. The project documentation should identify any applicable objective(s) to which the project contributes. If there are no applicable objectives, project documentation should state that fact.

Guidelines. A project or activity must be consistent with all guidelines applicable to the type of project or activity and its location in the Plan area. A project or activity is consistent with a guideline in either of two ways:

1. The project or activity is designed in accord with the guideline, or;
2. A project or activity design varies from the guideline but is as effective in meeting the intent or achieving the purpose of that guideline.

The project documentation will describe how the project is consistent with the relevant guideline(s). When the project design varies from the exact wording of a guideline, project documentation must specifically explain how the project design is as effective in contributing to the maintenance or attainment of the guideline. Under this circumstance, a plan amendment is not required. However, if a project or activity is not designed to comply with the intent or purpose of a guideline, an amendment to the Revised Plan is required.

Standards. A project or activity is consistent with a standard if the project or activity is designed in exact accord with the standard. The project documentation must confirm that the project is consistent with applicable standards. Deviation from standards requires an amendment to the Forest Plan.

Substantive changes to the Revised Plan direction require a plan amendment.

5. Monitoring the Revised Plan

The monitoring program sets monitoring questions and measures, which help managers, evaluate and assess the degree to which on-the-ground management is maintaining or making progress toward the desired future conditions and objectives in the Plan. The monitoring program forms a basis for continual improvement and adaptive management. Chapter 5 of the Revised Plan (2011a) describes the monitoring program for the KNF. Among the monitoring requirement for wildlife and aquatic species, the USFS will monitor and report to the Service the following species-specific information:

- percentage of grizzly bear BMUs meeting the goals for road densities and core habitat
- number, nature, and outcome of grizzly bear-human conflicts on NFS lands
- percentage of lynx analysis units meeting the standards in the lynx amendment
- acres of lynx habitat treated (timber harvest, precommercial thinning or prescribed burn) under the NRLMD biological opinion take allowance
- PIBO grazing implementation
- Annual line officer certification of INFISH implementation

Table I-3. Components of the revised Forest Plan affecting the management of habitat for terrestrial threatened and endangered species.

Component	Direction in the Proposed Action	Outcome
New management areas	Creates 11 new MAs directing the uses that are allowed/not allowed (through standards and guidelines) on that portion of the Forest. Desired conditions are also defined for each MA.	<p>The percent of the KNF where roads/trails may be designated for motorized use, and areas that may be designated for over-snow use, would decrease by 2 percent and 11 percent (based on desired conditions), respectively under the proposed action as compared to current management.</p> <p>The amount of recommended wilderness increases under the proposed action (+2,800 acres).</p> <p>Some MAs have desired conditions that would provide for wildlife habitat security and connectivity.</p>
Increased emphasis on restoration of vegetation and watersheds.	Desired conditions based on historic range of variability (HRV) and anticipated climate change.	Would trend vegetative conditions to those that would have existed historically under natural disturbance processes, while also creating conditions that would be more resistant and resilient towards the likely stressors of natural disturbance and climate change impacts.
Increased emphasis on use of both prescribed fire and lightning caused wildfire to trend vegetation towards desired conditions.	More flexibility and emphasis on using fire as a tool to trend vegetation towards the desired conditions.	<p>To move towards the desired conditions for vegetation, fire would be an important tool.</p> <p>Treatment of fuels on 5,000 to 15,000 acres annually through prescribed fire, natural fire, and mechanical means.</p>
Geographic Areas delineated to further develop desired	Creates 7 new GAs for the KNF.	Some GAs have desired conditions that would maintain/improve habitat connectivity and security

conditions		habitat.
Increased emphasis on maintaining/improving connectivity/linkage	Includes desired conditions and guidelines related to maintaining connectivity/linkage	Includes direction for connectivity/linkage within and between NFS parcels including direction related to the management of NFS lands near highway crossing features that may be developed during future highway reconstruction projects.
Populations of threatened plant species trend towards recovery	Included as a desired condition in the Proposed Action	Desired Condition in the Proposed Action
Allowable Sale Quantity (ASQ)	80.2 MMBF	Decrease (-7.3MMBF) from existing condition, reduced potential for disturbance. Approximately 793,700 acres of the Forest would be suitable and available for timber production.
Predicted Volume Sold	47.5MMBF	Decrease (-3 MMBF) from existing condition, reduced potential for disturbance

Table I-5. Summary of Allowable Activities and Uses by Management Area (NOTE: this table contains summary information only; for more detail on uses that are allowed, see the management direction for each MA presented in Chapter 2 of the Revised Plan, USFS 2011a).

Management Areas	Timber Harvest	Timber Production (scheduled on rotation basis)	Commercial Use – Special Forest Products & Firewood	Personal Use – Special Forest Products & Firewood	Planned Fire ignitions	Natural Unplanned Fire Ignitions to meet Resource Objectives	Grazing	Motor Vehicle (excluding over-snow vehicle)	Over-snow Motor Vehicle	Mechanized (e.g., mountain bike)	Road Construction (permanent or temporary)	Road Reconstruction	Minerals - Leasable	Minerals - Mineral Materials
1a – Wilderness	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N
1b – Recommended Wilderness	N	N	N	Y	Y	Y	N	N	N	N	N	N	Y	N
1c – Wilderness Study Area (WSA)	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N
2 – Eligible Wild & Scenic Rivers (Wild)	N	N	N	Y	Y	Y	N	N	N	Y	N	Y	Y	N
2 – Eligible Wild & Scenic Rivers (Scenic & Recreational)	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
3 – Special Areas (Botanical & Zoological)	Y	N	N	N	Y	N	N	N	N	Y	N	Y	Y	N
3 – Special Areas (Historic)	Y	N	N	N	Y	N	N	N	N	Y	N	Y	Y	N
3 – Special Areas (Recreational & Geological)	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N
3 – Special Areas (Scenic)	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N
4 –Research Natural Areas (RNA)	Y	N	N	N	Y	Y	N	N	N	Y	N	Y	Y	N
5a – Backcountry (Non-motorized Year-round)	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y	N
5b – Backcountry (Motorized Year-round (Summer only on designated routes/areas))	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N
5c – Backcountry (Motorized Winter, Non-motorized Summer)	Y	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y	N
6 – General Forest	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

7 – Primary Recreation Areas	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
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E. LITERATURE CITED

- USFS. 1995. INFISH. Inland Native Fish Strategy: Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and Portions of Nevada. U. S. Department of Agriculture, Forest Service: Intermountain, Northern, and Pacific Northwest Regions. 36pp.
- USFS. 2007. Record of Decision for the Northern Rockies Lynx Management Direction. USDA Forest Service National Forests in Montana, and parts of Idaho, Wyoming, and Utah. March 2007.
- USFS. 2011a. Kootenai National Forest, Draft Land Management Plan. U.S. Department of Agriculture, Forest Service. Libby, MT.
- USFS. 2011b. Kootenai National Forest, Draft Environmental Impact Statement on the Land Management Plan. U.S. Department of Agriculture, Forest Service. Coeur d'Alene, ID.
- USFS. 2011c. Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones. Record of Decision. Kootenai, Lolo, and Idaho Panhandle National Forests Lincoln, Sanders, Bonner, Boundary, and Pend Oreille Counties Montana, Idaho, and Washington. November 2011.
- USFS. 2013a. Biological Assessment for Threatened, Endangered, and Proposed Species on the Revision of the Land and Resource Management Plan for the Kootenai National Forests: Terrestrial Wildlife. U.S. Department of Agriculture, Forest Service. Coeur d'Alene, ID.
- USFS. 2013b. Biological Assessment for Threatened, Endangered, and Proposed Species on the Revision of the Land and Resource Management Plan for the Kootenai National Forests: Aquatic Species. U.S. Department of Agriculture, Forest Service. Coeur d'Alene, ID.
- USFWS. 2007. Biological Opinion for the Northern Rockies Lynx Management Direction (NRLMD). U.S. Fish and Wildlife Service. Montana Field Office, Helena, MT.

F. APPENICIES

APPENDIX A: WILDLIFE – DESIRED CONDITIONS, STANDARDS, AND GUIDELINES FOR THE KNF REVISED PLAN

Forestwide Direction for Wildlife

Desired Condition

FW-DC-WL-01. Nests and den sites and other birthing and rearing areas for terrestrial threatened, endangered, proposed, or sensitive species are relatively free of human disturbance during the period they are active at these sites. Individual animals that establish nests and den sites near areas of pre-existing human use are assumed to be accepting of that existing level of human use at the time the animals establish occupancy.

FW-DC-WL-02. A forestwide system of large remote areas is available to accommodate species requiring large home ranges and low disturbances, such as some wide-ranging carnivores (e.g., grizzly bear).

FW-DC-WL-03. Recovery of the terrestrial threatened and endangered species is the long-term desired condition. Foraging, denning, rearing, and security habitat is available for occupation. Populations trend toward recovery through cooperation and coordination with USFWS, state agencies, other federal agencies, tribes, and interested groups.

FW-DC-WL-04. All grizzly bear management units (BMUs) have low levels of disturbance to facilitate denning activities, spring use, limit displacement, and reduce human/bear conflicts and potential bear mortality. Spring, summer, and fall forage is available for the grizzly bear.

FW-DC-WL-05. Recovery of the grizzly bear is promoted by motorized access management within the KNF portion of the Northern Continental Divide Ecosystem (NCDE) and Cabinet-Yaak recovery zones.

FW-DC-WL-16. Habitat for native ungulates (elk, deer, moose, bighorn sheep, and mountain goat) is managed in coordination with state agencies. Cover and forage are managed according to FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-04, FW-DC-VEG-05 and FW-DC-VEG-11.

FW-DC-WL-17. Forest management contributes to wildlife movement within and between national forest parcels. Movement between those parcels separated by other ownerships is facilitated by management of the NFS portions of linkage areas identified through interagency coordination. Federal ownership is consolidated at these approach areas to highway and road crossings to facilitate wildlife movement.

FW-DC-AR-07. A transportation system is in place that provides safe and efficient public and administrative access to the Forest for recreation, special uses, forest resource management, and fire management activities. It is efficiently maintained, environmentally compatible, and responsive to public needs and desires. The transportation system and its use have minimal impacts on resources including threatened and endangered species, sensitive species, heritage and cultural sites, watersheds, and aquatic species. Newly constructed or reconstructed roads do not encroach into streams and riparian areas in ways that impact channel function, geometry or sediment delivery. Roads in intermittent stored service pose minimal risks to water quality and aquatic ecosystems. Drainage structures have a minimal risk of failure, and provide adequate drainage that prevents accelerated runoff, erosion, and sediment delivery to streams. In addition, stream crossings provide for passage of aquatic organisms. Unauthorized roads and trails are no longer created.

FW-DC-FIRE-03. The use of wildland fire (both planned and natural, unplanned ignitions), increases in many areas across the Forest. Fire plays an increased role in helping to trend the vegetation towards the desired conditions while serving other important ecosystem functions. However, when necessary to protect life, property, and key resources many wildfires are still suppressed.

FW-DC-GRZ-01. Grazing occurs at sustainable levels in suitable locations while protecting resources.

FW-DC-VEG-01. The composition of the Forest is trending toward the desired range for each of the dominance groups that are illustrated in figure 1. More of the Forest is dominated by western white pine, ponderosa pine, western larch, and whitebark pine. Conversely, less of the Forest is dominated by grand fir, western hemlock, western redcedar, Douglas-fir, and subalpine fir. Although they are not depicted in figure 1, more hardwood trees occur in the Forest such as quaking aspen, black cottonwood, and paper birch.

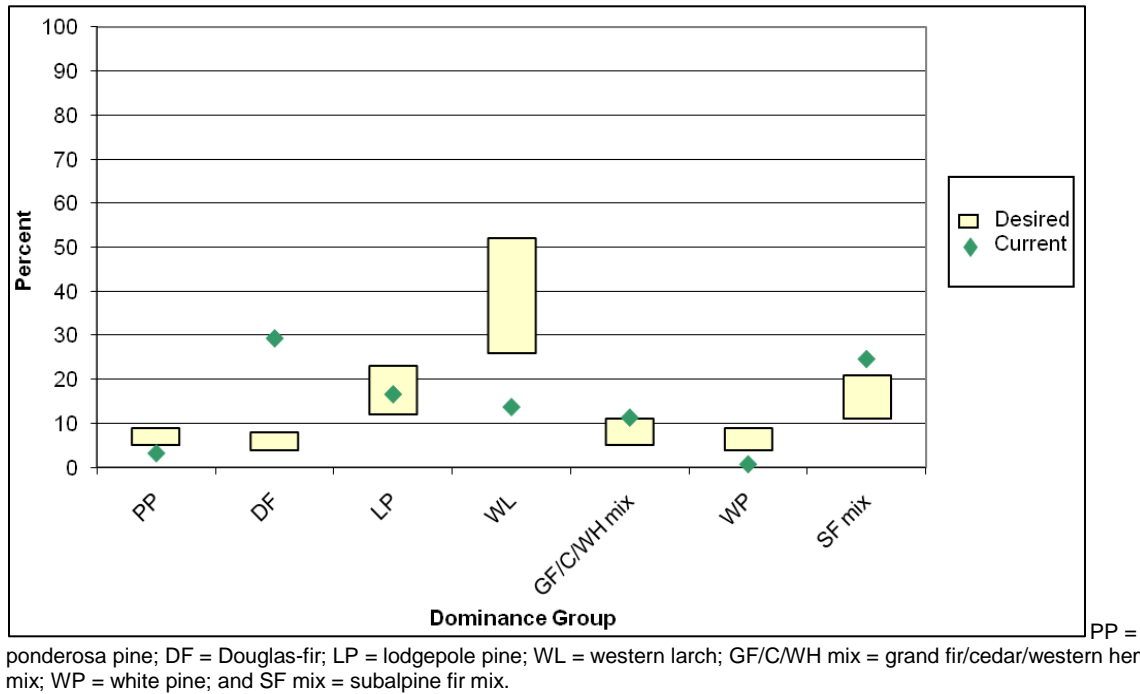
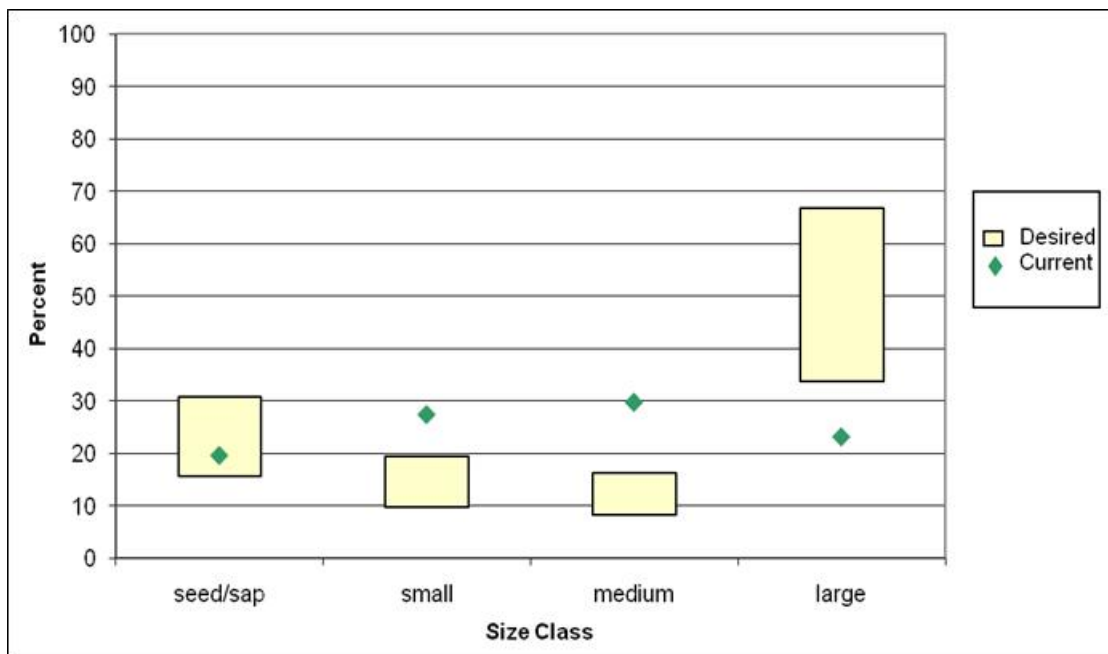


Figure 1. Desired and current forest composition by dominance group at the Forestwide scale.

FW-DC-VEG-02. The structure of the Forest is within the desired ranges that are illustrated in figure 2 for size classes. More of the Forest is dominated by stands occurring in the large size class. Less of the Forest is dominated by stands that occur in the small and medium size classes.



Seed/sap = 0-5" DBH trees, small = 5-10" DBH trees, medium = 10-15" DBH trees, and large = greater than 15" DBH trees

Figure 2. Desired and current forest structure by size classes at the forestwide scale

FW-DC-VEG-04. Tree densities and the number of canopy layers within stands are generally decreased.

FW-DC-VEG-05. The pattern of forest conditions across the landscapes consists of a range of patch sizes that have a diversity of successional stages, densities, and compositions. Extensive, homogenous patches of forests that are dominated by species and size classes that are very susceptible to disturbance agents have been diversified. Generally, there is an increase in the size of forest patches that are dominated by trees in the seedling/sapling size class, as well as in the large size class (including the old growth structures). There is a decrease in the size of the patches that are dominated by trees in the small and medium size classes.

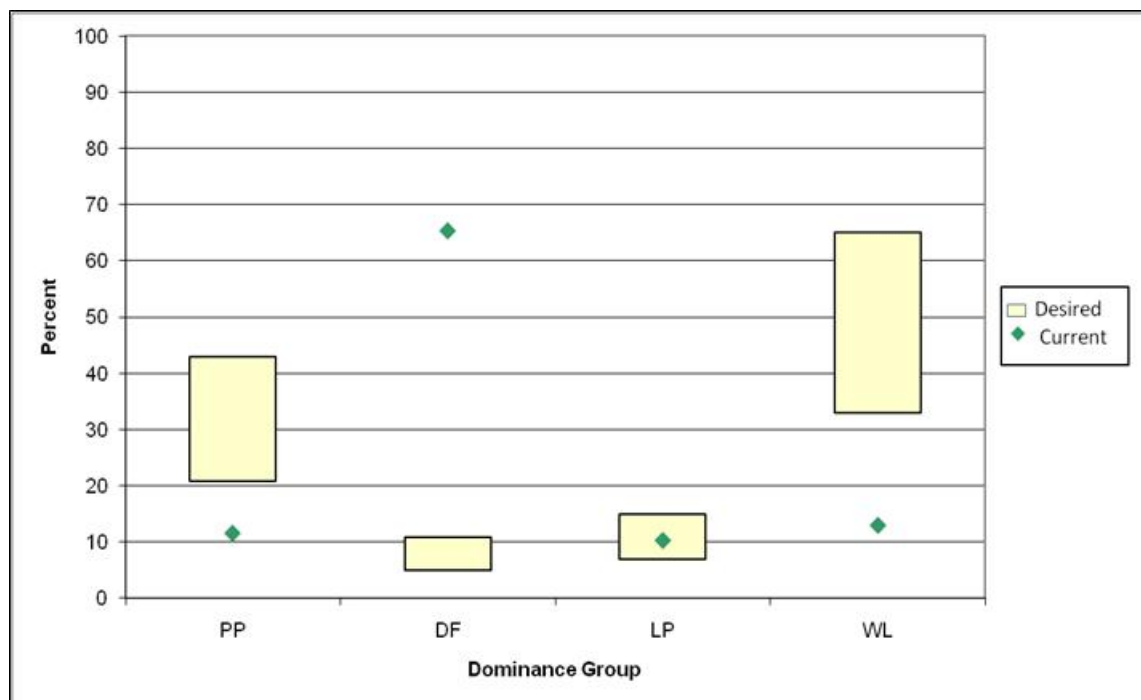
FW-DC-VEG-08. Down wood occurs throughout the forest in various amounts, sizes, species, and stages of decay. The larger down wood (i.e., coarse woody debris) provides habitat for wildlife species and other organisms, as well as serving important functions for soil productivity.

FW-DC-VEG-10. Newly invading, non-native invasive plant species are treated and populations are contained or eradicated. The weed program on the Forest uses integrated pest management approaches, including prevention and control measures that limit introduction, intensification, and spread due to management activities. Agreements with cooperative weed management areas assist in noxious weed and invasive plants control across jurisdictional boundaries.

FW-DC-VEG-11. The desired forest composition, structure, and pattern for each biophysical setting are described below:

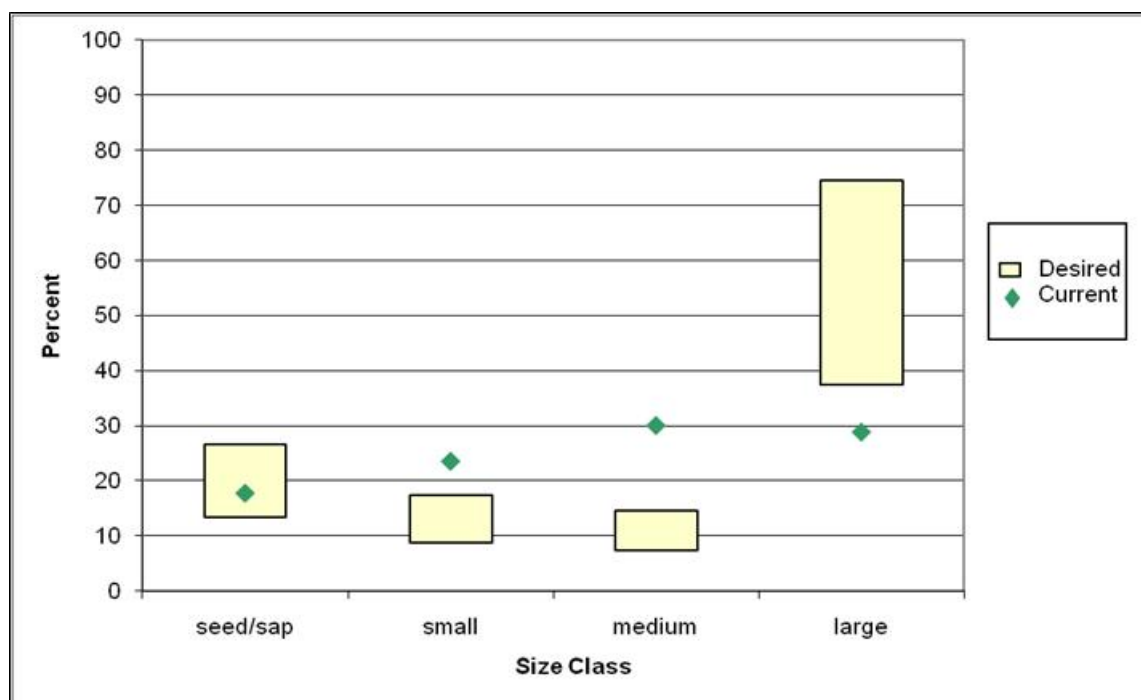
Warm/Dry – This biophysical setting includes the warmest and driest forest sites that support forest vegetation.

The desired and current condition for dominance groups and size classes are displayed in figure 3 and figure 4, respectively.



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

Figure 3. Desired and current forest composition by dominance group for the warm/dry biophysical setting

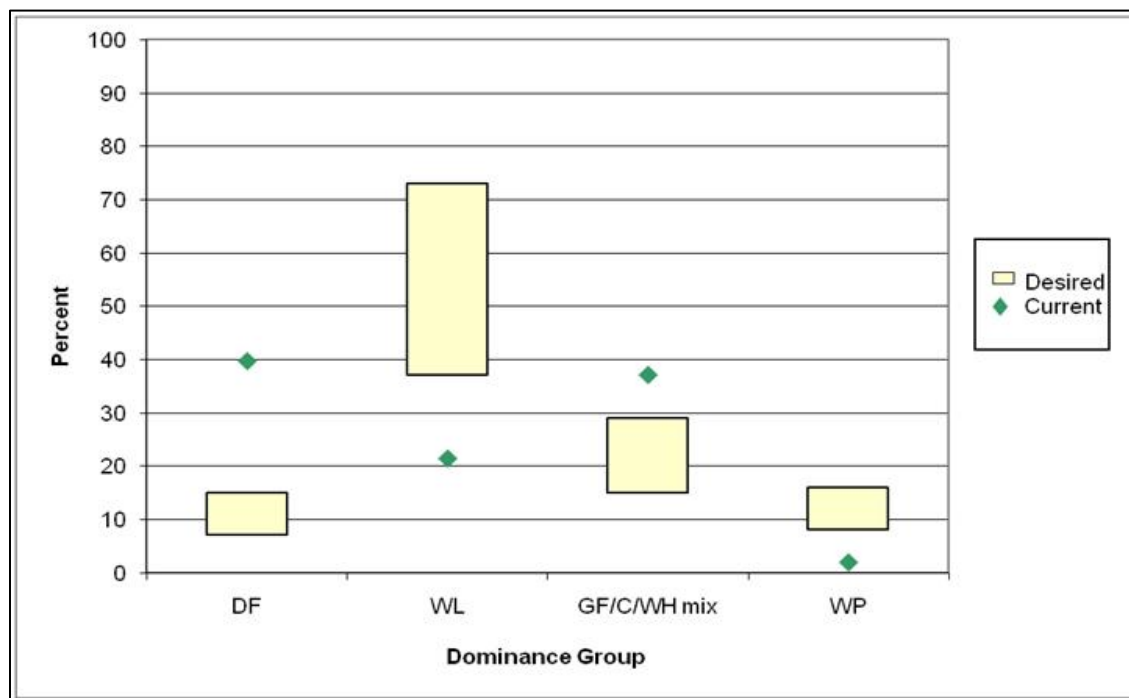


(seed/sap = 0-5" DBH trees, small = 5-10" DBH trees, medium = 10-15" DBH trees, and large = greater than 15" DBH trees.)

Figure 4. Desired and current forest structure by size classes for the warm/dry biophysical setting

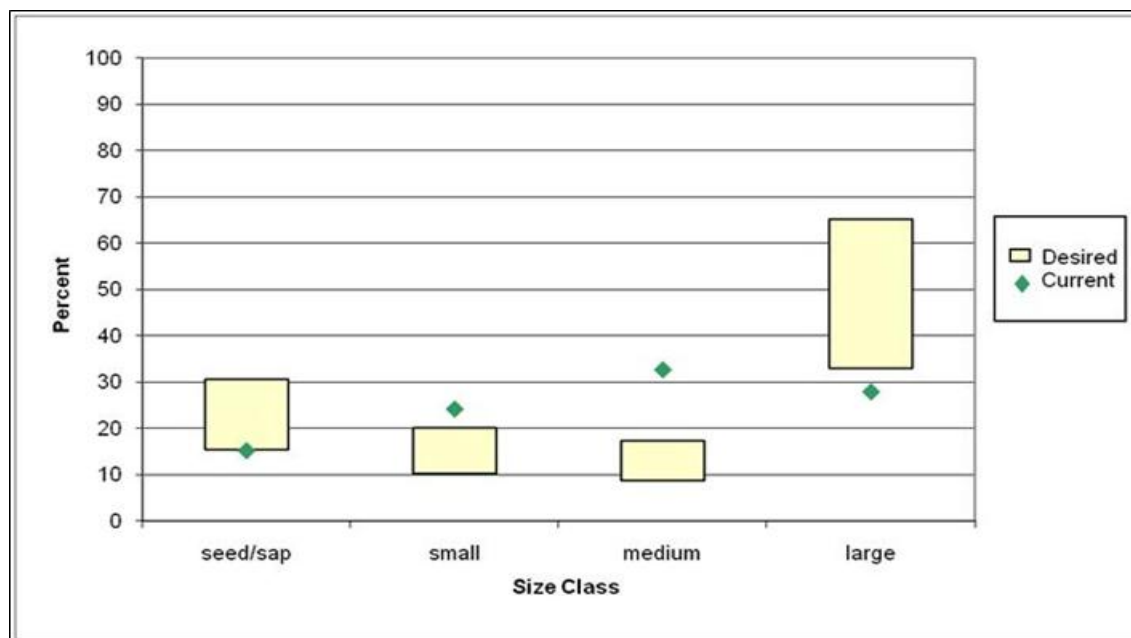
Warm/Moist – This biophysical setting includes moist forest sites that are relatively warm. This setting includes low-elevation upland sites with deeper soils on north and east aspects, extensive mid-elevation moist upland sites, and most low and mid-elevation wet stream bottoms and riparian benches and toe-slopes.

The desired and current condition for dominance groups and size class are displayed in figure 5 and figure 6, respectively.



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

Figure 5. Desired and current forest composition by dominance group for the warm/moist biophysical setting

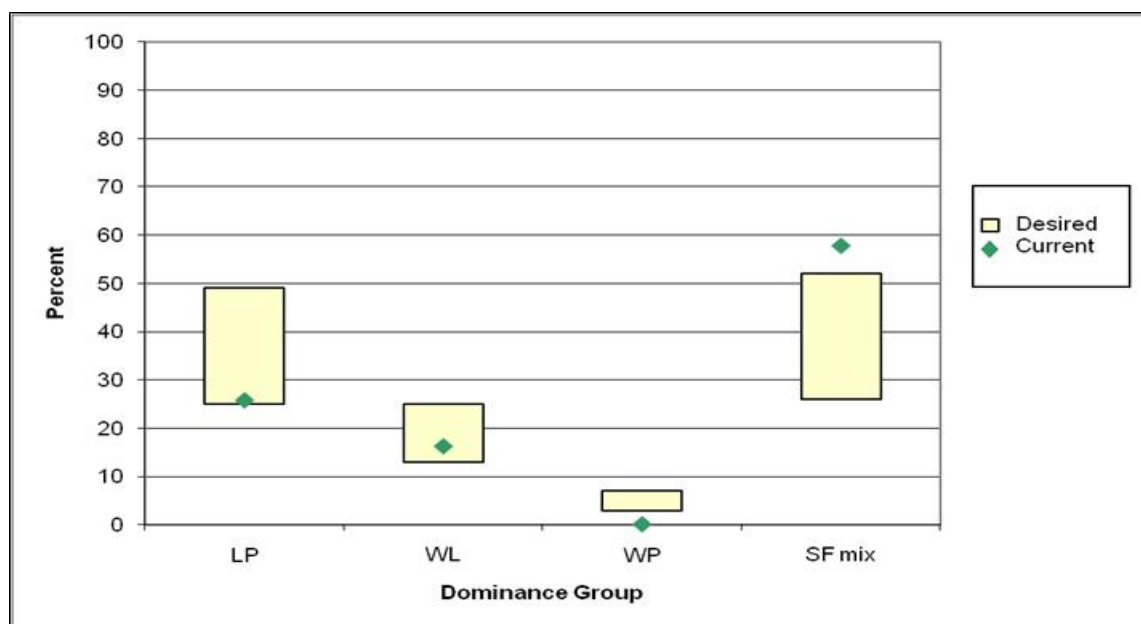


(seed/sap= 0-5" DBH trees, small=5-10" DBH trees, medium=10-15" DBH trees, and large= greater than15" DBH trees.)

Figure 6. Desired and current forest structure by size classes for the warm/moist biophysical setting.

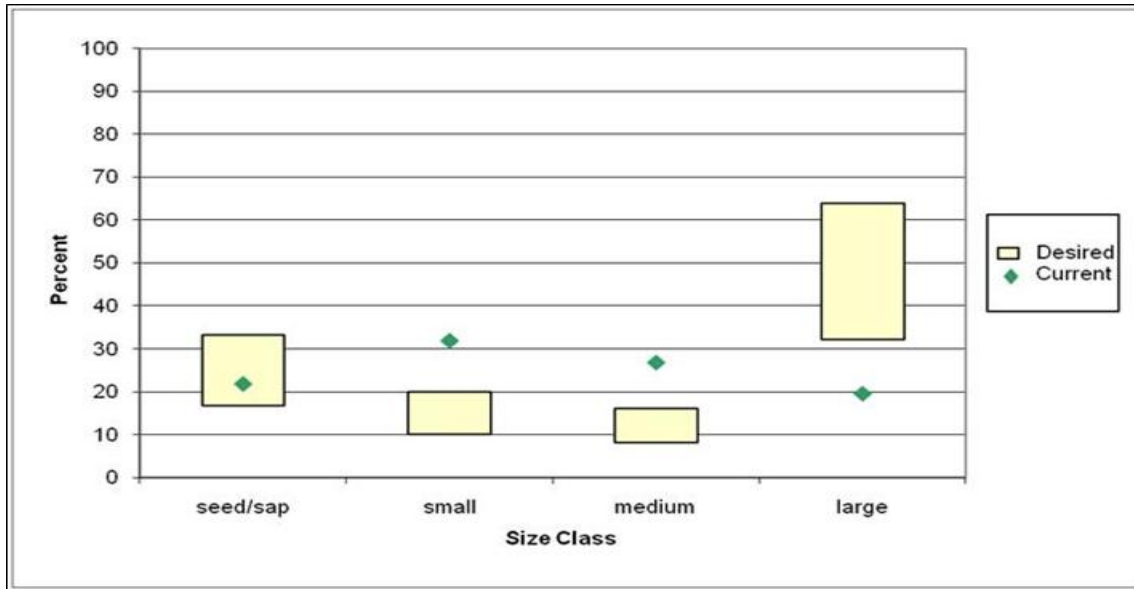
Subalpine –This biophysical setting occupies the higher elevations of the Forest. This setting ranges from the cool and moist lower subalpine sites, up to the cold and dry high elevation sites that have more open forests.

The desired and current conditions for dominance type and size classes are displayed in figure 7 and figure 8, respectively.



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

Figure 7. Desired and current forest composition by dominance group for the subalpine biophysical setting



(seed/sap = 0-5" DBH trees, small = 5-10" DBH trees, medium = 10-15" DBH trees, and large = greater than 15" DBH trees.)

Figure 8. Desired and current forest structure by size classes for the subalpine biophysical setting

Pattern – Pattern is complex and highly variable because it is dependent on vegetation composition and structure, topography, (aspect, slope) and the disturbance forces that interact with these biotic and abiotic components. The pattern of successional stages across the landscape is diverse and resilient to fire, insects, diseases, climate change, and increasing human uses.

Ranges of desired conditions for stand structure, trees per acre and patch size are displayed by biophysical setting in table 2.

Table 1. Desired stand structure, trees per acre, and patch size for each biophysical setting

Biophysical Setting	Stand Structure	Trees per acre at Maturity	Patch Size
Warm/Dry	Varies from multi-aged and low tree density to single or two age forest	5 - 100	20 to 200 acres Small openings are common within these larger patches
Warm/Moist	Two age forests dominate early, middle and late-successional stages Multi-storied stands are more common in the late-successional stage	80 - 120	100 to 300 acres Openings are often much larger on steep topography
Subalpine	Single and two-age forests dominate early, middle, and	30-120 With lower	50 to 2,500+ acres

Biophysical Setting	Stand Structure	Trees per acre at Maturity	Patch Size
	late-successional structural stages. Multi-storied forests become more common in late-successional stages and at the highest elevations	numbers occurring at the highest elevations	Larger patch sizes are common in the lodgepole pine type and are largely sustained by unplanned ignitions. Smaller patches are desirable in the high elevation whitebark pine habitat.

Guidelines

FW-GDL-WL-01. Grizzly Bear. Management activities should avoid or minimize disturbance in areas of predicted denning habitat during spring emergence (April 1 through May 1).

FW-GDL-WL-10. Big Game. Management activities in planning subunits should maintain existing levels of elk security (see glossary). Where possible, management activities in high and medium emphasis planning subunits (determined in cooperation with Montana Fish, Wildlife & Parks; see FW-DC-WL-16) should improve elk security.

FW-GDL-WL-12. Connectivity. During the construction or reconstruction of highways that cross national forest lands, or high use forest roads, wildlife crossing features should be included in the design where necessary to contribute to connectivity of wildlife populations.

FW-GDL-WL-13. Connectivity. Management activities within one-quarter mile of existing crossing features, and future crossing features developed through interagency coordination, should not prevent wildlife from using the crossing features. The vegetative and structural components of connectivity, including snags and downed wood, should be managed according to the desired conditions for vegetation.

FW-GDL-WL-14. Connectivity. In wildlife linkage areas identified through interagency coordination, federal ownership should be maintained.

FW-GDL-WL-15. Grizzly bear. Elements contained in the most recent “Interagency Grizzly Bear Guidelines,” or a conservation strategy once a grizzly bear population is delisted, would be applied to management activities.

FW-GDL-VEG-03. Vegetation management activities should retain the amounts of coarse woody debris (including logs) that are displayed in table 3. A variety of species, sizes, and decay stages should be retained. Exceptions may occur in areas where a site-specific analysis indicates that leaving the quantities listed in the table would create an unacceptable fire hazard to private property, people, or sensitive natural or historical resources. In addition, exceptions may occur where the minimum quantities listed in the table are not available for retention.

Table 2. Levels of Coarse Woody Debris to Retain after Vegetation Management Activities for each Biophysical Setting

Biophysical Setting	Total Coarse Woody Debris to Retain (tons/acre)	Number and Size of Logs to Retain	
		Number of Logs/Acre	Desired Size
Warm/Dry	Drier Sites: 5 – 12	6 – 14	Diameter: >10" with at least 2 pieces >20"
	Moister Sites: 10 – 20		Length: >12'
Warm/Moist	12 – 33	20 – 30	Diameter: >12" with at least 10 pieces >20" Length: >12'
Subalpine	Moister Sites: 12 – 25	Moister Sites: 20 – 30	Diameter: >10" (8" for lodgepole pine)
	Drier Sites: 7 – 15	Drier Sites: 15 – 20	Length: >12'

Standards

FW-STD-WL-01. The Northern Rockies Lynx Management Direction (2007) and ROD is included in Appendix B, and shall be applied.

FW-STD-WL-02. The Motorized Access Management within the Selkirk and Cabinet Yaak Grizzly Bear Recovery Zone Management Direction and ROD is included in Appendix B, and shall be applied.

FW-STD-WL-03. Within the Kootenai portion of the NCDE recovery zone, BMU subunits shall maintain or improve the access and habitat parameters as shown in table 4. Site-specific motorized access densities and security core habitat are developed at the project level in consultation with the USFWS and through appropriate public involvement and NEPA procedures.

Table 3. NCDE Recovery Zone Bear Management Units (BMU's)

Bear MGMT Subunit	Open Motorized Route Density (OMRD) ¹	Total Motorized Route Density (TMRD) ¹	Security Core Area ²
Krinklehorn BMU	≤18%	≤11%	≥75%
Therriault BMU	≤23%	≤10%	≥71%

¹ The standard for OMRD and TMRD is to be ≤ the percentage listed in the table above. This is calculated based on the percentage of the BMU with an OMRD ≥1 mi/mi² and TMRD ≥2 mi/mi². OMRD and TMRD are defined in the glossary.

² The standard for Core is to be ≥ the percentage listed in the table. This is calculated based on the definition of "grizzly bear core habitat" in the glossary

FW-STD-WL-04. Permits and operating plans (e.g., special use, grazing, and mining) shall specify sanitation measures and adhere to the forestwide food/attractant storage order in order to reduce human/wildlife conflicts and mortality by making wildlife attractants (e.g., garbage, food, livestock carcasses) inaccessible through proper storage or disposal.

FW-STD-WL-05. No grooming of snowmobile routes in grizzly bear core habitat in the spring after April 1 of each year.

Management Area Direction for Wildlife

MA1a – Wilderness

Desired Condition

MA1a-DC-WL-01. Large remote areas with little human disturbance, such as those found in this MA (in conjunction with MAs 1b, 1c, and 5a, 5b, 5c), are retained and contribute habitats for species with large home ranges such as wide-ranging carnivores (e.g., grizzly bear) and species found primarily in these habitats, such as mountain goat. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

MA1a-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

MA1a-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Guidelines

MA1a-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1a-GDL-FIRE-02. Planned ignitions may be used when necessary to contribute to the survival of a threatened and endangered species or, if necessary to allow fire to play its natural role in wilderness.

Standards

MA1a-STD-AR-01. Motor vehicle use is not allowed.

MA1a-STD-AR-04. Road construction and/or reconstruction are not allowed.

MA1a-STD-TBR-01. Timber harvest is not allowed.

MA1b – Recommended Wilderness

Desired Condition

MA1b-DC-WL-01. Large remote areas with little human disturbance such as those found in this MA (in conjunction with MAs 1a, 1c, and 5a, 5b, 5c) are retained and contribute habitats for species with large home ranges such as wide-ranging carnivores (e.g., grizzly bear) and species found primarily in these habitats such as mountain goat. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

MA1b-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

MA1b-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Guidelines

MA1b-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1b-GDL-FIRE-02. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes and is necessary for the recovery of threatened and endangered species or native ecological communities.

Standards

MA1b-STD-AR-01. Motor vehicle use is not allowed.

MA1b-STD-AR-03. Road construction is not allowed.

MA1b-STD-TBR-01. Timber harvest is not allowed.

MA1c – Wilderness Study Areas

Desired Condition

MA1c-DC-WL-01. Large remote areas with little human disturbance such as those found in this MA (in conjunction with MAs 1a, 1b, and 5a, 5b, 5c) are retained and contribute habitats for species with large home ranges. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

MA1c-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

MA1c-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Guidelines

MA1c-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1c-GDL-FIRE-02. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes caused by factors such as fire suppression and/or the introduction of non-native species.

Standards

MA1c-STD-AR-03. Road construction is not allowed.

MA1c-STD-AR-04. Reconstruction of existing roads is not allowed.

MA1c-STD-TBR-01. Timber harvest is not allowed.

MA2 – Eligible Wild and Scenic Rivers

Desired Condition

MA2-DC-FIRE-01. Wild/Scenic/Recreational. Fire plays an increased role as a natural disturbance agent.

MA2-DC-VEG-01. Wild/Scenic/Recreational. Natural ecological processes (e.g., plant succession) and disturbances (e.g., floods, fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Guidelines

MA2-GDL-FIRE-01. Wild. Natural, unplanned ignitions may be managed to meet resource objectives in eligible wild river segments.

MA2-GDL-FIRE-02. Wild. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes caused by factors such as fire suppression and/or the introduction of non-native species in eligible wild river segments.

MA2-GDL-FIRE-03. Scenic/Recreational. Natural, unplanned ignitions, as well as planned ignitions, may be managed to meet resource objectives in eligible scenic and recreational river segments.

MA2-GDL-TBR-02. Scenic/Recreational. Timber harvest is allowed to maintain or restore the values for which the eligible scenic or recreational river was identified. Timber harvest is not scheduled and does not contribute towards the allowable sale quantity.

MA2-GDL-AR-01. Wild. Additional routes and areas should not be designated for motor vehicle use in eligible wild river segments.

MA2-GDL-AR-03. Wild. Road construction should not occur in eligible wild river segments.

MA2-GDL-AR-04. Wild/Scenic/Recreational. Reconstruction of roads is allowed.

Standards

MA2-STD-TBR-01. Wild. Timber harvest is not allowed in eligible wild river segments.

MA3 – Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas

Desired Condition

MA3-DC-WL-01. The Northwest Peak and Ten Lakes areas, in combination with MAs 1 and 5, contain large remote areas that contribute to movement across the Forest. These areas additionally provide secure habitat, foraging, denning, and nesting for wildlife.

MA5a, 5b, and 5c – Backcountry

Desired Condition

MA5a,b,c-DC-WL-01. Large remote areas with little human disturbance such as those found in these MAs (in conjunction with MAs 1a, 1b, and 1c) are retained and contribute habitats for species with large home ranges. Habitat conditions within these management areas contribute to wildlife

movement within and across the Forest. These areas also provide foraging, security, denning, and nesting habitat for wildlife.

MA5a,b,c-DC-FIRE-01. The use of fire serves as the primary tool for trending the vegetation towards the desired conditions as well as serving other important ecosystem functions.

MA5a,b,c-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Guidelines

MA5a,b,c -GDL-FIRE-01. Natural, unplanned ignitions, as well as planned ignitions, may be used to meet resource objectives.

Standards

MA5a,b,c-STD-AR-01. If within an inventoried roadless area outside of Idaho, road construction and reconstruction shall follow direction found in the 2001 Roadless Rule (36 CFR 294.12).:

MA6 – General Forest

Guidelines

MA6-GDL-FIRE-01. Fuels are reduced, particularly within the wildland urban interface, to reduce the threat of wildland fire.

Geographic Area Direction for Wildlife

Desired Condition

Bull Geographic Area

GA-DC-WL-BUL-01. Wildlife move through the Scotchman Peaks area, particularly wide-ranging carnivores, linking the Cabinet Mountains Wilderness and Selkirk Mountains through the West Cabinets.

GA-DC-WL-BUL-02. The timing of use and location of over-snow motorized recreation use in the Scotchman Peaks area provides secure habitat conditions for mountain goat use of winter habitats, and for wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear).

GA-DC-WL-BUL-04. Wildlife move along the Idaho/Montana border and from the West Cabinets into the Yaak, in the vicinity of the confluence of the Kootenai and Yaak Rivers. Wildlife also moves north-south through the Cabinet Mountains.

Clark Geographic Area

GA-DC-VEG-CLK-01. Provide for increased diversity in areas of large historic fires (1910, 1880s) 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 appropriate high elevation areas.

Fisher Geographic Area

GA-DC-WL-FSH-01. NFS lands, in particular those lands in the Miller Creek, Fritz Mountain, Calx Mountain, and Syrup Redemption areas, provide for wildlife movement between the larger blocks of forested lands in these areas and for movement between the Cabinet Yaak and Northern Continental Divide ecosystems. This includes movement for big game between the Cabinet Mountains and Fisher River. Wildlife also moves relatively freely between the Fisher River, Wolf Creek, and areas east of Koocanusa Reservoir, the Blue Mountain vicinity north of the Kootenai River, and north-south through the Cabinet Mountains.

Koocanusa Geographic Area

GA-DC-WL-KOO-02. Wildlife move to and from Roderick Mountain to the west of this GA. Wildlife also move to and from the Canadian border and along the Big Creek and Parsnip Mountain vicinities to and from Lake Koocanusa. To the east of Lake Koocanusa, wildlife move between the lake and vicinities of Lydia Mountain, Pinkham Mountain, Warland Peaks, and east to Wolf and Sunday creeks.

GA-DC-WL-KOO-03. McGuire Mountain, Ten Mile, Gold Hill, and Webb Mountain provide low levels of disturbance.

Libby Geographic Area

GA-DC-WL-LIB-01. Habitat conditions are retained for wildlife movement between the Cabinet Mountains and the Yaak, in particular, the area of Flagstaff Mountain. Habitat conditions for wildlife movement are also retained in the area between Turner Mountain and Alexander Creek (the Horse Range), including NFS lands in the Gold Hill and Blue Mountain areas. Wildlife move relatively freely between the Blue Mountain vicinity, the Fisher River, and Koocanusa Reservoir areas.

GA-DC-WL-LIB-02. Habitat conditions and low levels of disturbance are provided for big game on key winter ranges in the Swede McMillan, Sheldon Mountain, and Horse Range areas. Undisturbed habitat conditions are retained in these areas during the spring, in particular, in those areas used for calving or fawning.

GA-DC-WL-LIB-03. Undisturbed habitat conditions with low levels of disturbance are provided for big game on key summer ranges in the upper Bobtail, West Pipe, and East Fork Pipe Creek drainages and for bighorn sheep in the Kootenai Falls area.

GA-DC-WL-LIB-04. Wildlife move between the Cabinet Mountains and the Fisher River, as well as north-south through the Cabinet Mountains.

GA-DC-VEG-LIB-02. Whitebark pine structure, composition, and function trend toward the desired vegetation condition within high elevation areas of the Cabinet Mountains, Quartz Mountain, and the Huson Peak area.

Tobacco Geographic Area

GA-DC-WL-TOB-01. Low levels of human disturbance allows for denning activities of wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear), and for summer use by big game in the Ten Lakes, Thompson Seton, and Marston Face areas.

GA-DC-WL-TOB-02. Wildlife move between the large blocks of NFS lands across Highway 93 southeast of Murphy and Dickey Lakes. Wildlife also moves from the Lydia and Pinkham mountains vicinity and the Sunday Creek vicinity.

GA-DC-WL-TOB-03. In the Therriault and Krinklehorn BMUs the current levels of security core habitat, open motorized route densities, and total motorized route densities are also the desired condition.

GA-DC-WL-TOB-05. Wildlife move to and from the border with Canada.

GA-DC-VEG-TOB-01. Whitebark pine structure, composition, and function trend toward the desired vegetation condition within appropriate high-elevation areas.

Yaak Geographic Area

GA-DC-WL-YAK-01. Wildlife moves along the ridgeline between the states of Montana and Idaho from Northwest Peaks south and across the Yaak River to areas such as Grizzly Peak and Roderick Mountain. Wildlife also moves to and from the border with Canada and from Roderick Mountain across Road #68 (Pipe Creek Road).

GA-DC-WL-YAK-02. Low levels of human disturbance allows for denning activities of wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear) in the Northwest Peaks, Grizzly Peak, and Roderick Mountain areas.

GA-DC-WL-YAK-04. Wildlife move between the Yaak and West Cabinets, particularly in the area around Yaak Mountain, Teepee Mountain, and the confluence of the Yaak and Kootenai Rivers. Wildlife also moves across the Yaak River and Highway 508 in the vicinity of Yaak Falls.

APPENDIX B: GRIZZLY BEAR ACCESS AMENDMENT

1. Grizzly Bear Access Amendment

The design elements of the selected alternative for the Kootenai, Idaho Panhandle, and Lolo National Forests Land and Resource Management Plans Amendment for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones are included below.

Design Elements

I. The following access management standards would apply to individual BMUs within the Selkirk Recovery Zone on the IPNFs and Cabinet-Yaak Recovery Zone on the KNF, IPNFs and portion of the LNF:

A. The OMRD, TMRD, and percent core standards displayed in table 25 would be established for the BMUs in the Cabinet-Yaak and Selkirk grizzly bear ecosystems.

Table 4. Alternative E Updated – BMU Status and Selected Standards

BMU	BMU Priorities	OMRD $\geq 1 \text{ mi/mi}^2$ (percent)		TMRD $\geq 2 \text{ mi/mi}^2$ (percent)		Core Area (percent)		Percent NFS Land
		2009 Status	Selected Standard (max)	2009 Status	Selected Standard (max)	2009 Status	Selected Standard (min.)	
1-Cedar	2	14	15	10	15	83	80	99
2-Snowshoe	2	20	20	16	18	76	75	94
3-Spar	3	27	33	26	26	62	59	95
4-Bull	2	37	36	29	26	62	63	84
5-St. Paul	1	28	30	23	23	58	60	97
6-Wanless	1	29	34	34	32	53	55	85
7-SilverButte-	2	32	26	23	23	62	63	92
8-Vermillion	3	33	32	24	21	55	55	93
9-Callahan	2	27	33	26	26	59	55	90
10-Pulpit	2	44	44	29	34	51	52	95
11-Roderick	1	28	28	28	26	54	55	96
12-Newton	1	42	45	29	31	58	55	92
13-Keno	1	34	33	25	26	59	59	99
14-NW	1	28	31	26	26	56	55	99
15-Garver	1	29	33	25	26	55	55	94
16-East Fork Yaak	1	29	33	27	26	54	55	96
17-Big Creek	2	30	33	16	26	58	55	99
22-Mt.Headley	3	38	33	37	35	51	55	89

18-Boulder	3	31	33	35	29	50	55	92
19-Grouse ^{a,b}	3	60	59	59	55	32	37	54
20-North Lightning	1	36	35	20	20	62	61	94
21-	2	35	34	27	26	63	62	81
Blue-Grass	1	33	33	28	26	50	55	96
Long-Smith	1	21	25	14	15	73	67	92
Kalispell- Granite	1	31	33	28	26	49	55	96
Lakeshore	3	82	82	54	56	19	20	86
Salmo-Priest	2	30	33	24	26	66	64	99
Sullivan- Hughes	1	24	24	19	19	61	61	99
Myrtle	2	29	33	20	24	60	56	85
Ball-Trout	2	17	20	11	13	72	69	94

^a Less than or equal to 75 percent NFS lands

^b Due to the high level of non-federal lands within the Grouse BMU, existing conditions and standards are calculated assuming no contribution of secure habitat from private lands

B. Parameters for establishing and managing core habitat in all BMUs:

1. In accordance with IGBC (1998) and Selkirk/Cabinet-Yaak Ecosystem Subcommittee (1998) direction, core areas shall be established for the purpose of providing secure habitat for grizzly bears.

a) Core areas include high quality habitat within a BMU that contains no motorized travel routes or high use trails.

b) Core areas do not include any gated or restricted roads but may contain roads that are impassable due to re-growth of vegetation, effective barriers other than gates, or placement of logging or forest debris so as to no longer function as a motorized route.

c) When possible, core areas would be delineated by identifying and aggregating the full range of seasonal habitats that are available in the BMU.

d) The IGBC anticipated that minimum core area size might be determined for each recovery zone. For the Selkirk/Cabinet-Yaak Grizzly Bear Recovery Zones, no scientifically based minimum effective size polygon for core area has been determined (Wakkinen and Kasworm 1997), though minimum block sizes of 2-8 mi² were suggested. Therefore, discounting small or narrow blocks of core area is not prudent at this time. Individual project analyses would disclose the percent and size of core areas in each BMU.

e) Once route closures to create core areas are established and effective, these core areas should remain in place for at least 10 years. Therefore, except for emergencies or other unforeseen circumstances requiring independent section 7 consultation, newly created core area shall not be entered for at least 10 years after creation.

f) Roads that are closed, decommissioned, or barriered in the future to create core area would be put in a condition such that a need for motorized access for maintenance is not

anticipated for at least 10 years. Until such closed roads are placed in the above- described condition, they would not be considered as contributing to core area.

2. Entering core area blocks for road decommissioning or stabilization activities:

a) Without further section 7 consultation on grizzly bears, the Forest Service may affect underlying core area (i.e., any core habitat that is affected by the subject road and its buffer) within a BMU once per 10-year time frame, and not to exceed one bear year for the sole purpose of completing road decommissioning/stabilization activities on existing closed or barriered roads in core area habitat.

b) Subsequent needs to re-enter individual core areas within a BMU more frequently than once per decade for the purposes of road decommissioning shall be handled on a case- by- case basis through standard section 7 consultation procedures. The effects of additional entries would be analyzed pursuant to such project level consultation. Pending the outcome of each analysis, additional measures to minimize potential effects to grizzly bears may be required.

3. Routine forest management may be proposed in a core area block after 10-years of core area benefit. However, BMUs must remain at or above the core standard. Therefore, potential losses to existing core must be compensated with in-kind replacement concurrently or prior to incurring the losses. Such in-kind replacement of core would be established within the affected BMU in accordance with the direction in Part I.B.1., above. For exceptions, see specialized circumstances outlined in Part I.D. concerning BMUs that exceed standards. Following management, core areas must subsequently be managed undisturbed for 10 years.

C. Parameters for BMUs currently not meeting core area, OMRD, and/or TMRD standards:

1. These BMUs are anticipated to be brought up to standards in the following manner: 33 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within three years of the amendment decision date; 66 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within 5 years of the amendment decision date, and 100 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within eight years of the amendment decision date.

D. For those BMUs currently meeting or exceeding (being better than) the standards for core area:

1. Except as provided above for road stabilization projects, no reductions in core habitat without in-kind replacements would be proposed until all BMUs administered by the IPNF, KNF and LNF in the respective ecosystems are up to standard [table 2 (page 11); which does not include the LeClerc BMU or the Idaho State Lands BMU in the Selkirk recovery zone].

2. Once all BMUs meet all standards then subsequent projects that propose to permanently reduce core area by roads shall undergo independent section 7 formal consultations.

3. Reductions of core area within individual BMUs shall not reduce the percent core area below the minimum standards for the affected BMU without compensating with in-kind replacement concurrently or prior to incurring the losses (see Part I.B.3.).

E. Road use associated with completing administrative activities:

1. In the Selkirk ecosystem (aka Selkirk recovery zone):

a) Administrative use shall not exceed 57 vehicle round trips per active bear year per road, apportioned as follows: ≤ 19 round trips in spring (April 1 through June 15); ≤ 23 round trips in summer (June 16 through September 15); and ≤ 15 round trips in fall (September 16 through November 15).

b) If the number of trips exceeds 57 trips per active bear year in the Selkirk ecosystem, then that road would be considered "open" for analysis and reporting purposes. Likewise, if the number of trips exceeds the allowable ecosystem-specific seasonal (spring, summer, and fall) vehicle round trips per road, then that road would be considered "open" for analysis and reporting purposes.

2. In the Cabinet-Yaak ecosystem (aka Cabinet-Yaak recovery zone):

a) Administrative use shall not exceed 60 vehicle round trips per active bear year per road, apportioned as follows: ≤ 18 round trips in spring (April 1 through June 15); ≤ 23 round trips in summer (June 16 through September 15); and ≤ 19 round trips in fall (September 16 through November 30).

b) If the number of trips exceeds 60 trips per active bear year in the Cabinet-Yaak ecosystem, then that road would be considered "open" for analysis and reporting purposes. Likewise, if the number of trips exceeds the allowable ecosystem-specific seasonal (spring, summer, and fall) vehicle round trips per road, then that road would be considered "open" for analysis and reporting purposes.

II. The following access management applies to seven grizzly bear recurring use areas (i.e., BORZ areas) located outside of the Cabinet-Yaak Grizzly Bear Recovery Zone (KNF and IPNFs) and Selkirk Grizzly Bear Recovery Zone (IPNFs):

A. The Forests shall ensure no increases in permanent linear miles of open road on National Forest System lands in any individual BORZ, above the baseline conditions identified in table 4, except in cases where the Forest Service lacks discretion to prevent road building across National Forest System lands due to legal or other obligations (examples include, but are not limited to, ANILCA claims, identification of RS2477 thoroughfares). Potential increases in linear miles of open roads must be compensated for with in-kind reductions in linear miles of open road concurrently with, or prior to, project implementation within the same BORZ. Temporary increases in linear miles of open roads are acceptable under the following conditions:

1. Roads that are closed to public motorized use or roads created or reconstructed to facilitate land management activities that are otherwise closed to public use may be "opened" to the

public immediately following completion of all mechanized harvest and post-harvest slash activities requiring use of the road, to allow motorized public use during the bear summer season prior to the fall bear hunt (i.e., June 16 - August 31) for activities such as personal firewood collection. This public access would only be provided in cases where the mechanized harvest and/or post-harvest slash activities occurred during the same active bear year.

B. The Forest shall ensure no net permanent increases in linear miles of total roads in any individual BORZ area above the baseline conditions identified in table 16, except in cases where the Forest Service lacks discretion to prevent road building across National Forest System lands due to legal or other obligations (examples include, but are not limited to, ANILCA claims, identification of RS2477 thoroughfares, etc.). Otherwise, potential increases in linear miles of total roads must be compensated for with in-kind reductions in linear total road miles concurrently with, or prior to, new road construction or reconstruction of currently bermed or barriered roads. Temporary increases (not off-set) in linear miles of total roads are acceptable under the following conditions:

1. Temporary increases in linear miles of total roads are acceptable under the following conditions:

a) Newly constructed roads would be effectively gated and would be restricted with a CFR closure clarifying they are not open for public use.

b) These roads shall be closed immediately upon completion of activities requiring use of the road, except as described in Part II., A.1., above. Roads must be closed with a berm, guardrail or other measure that effectively prevents motorized access, and put in a condition such that a need for motorized access for maintenance is not anticipated for at least 10 years.

c) Upon completion of a land management project, linear miles of total roads would be returned to or below the baseline levels contained in table 2.

C. Timber harvest activities that would occur within multiple watersheds shall be scheduled such that disturbance of grizzly bears resulting from road use is minimized. The appropriate scale for scheduling harvest activities would be determined pursuant to project level consultation.

III. To ensure the effective implementation of the open road density parameter, at least 30 percent of closure devices (gates and barriers) would be monitored annually within the respective ecosystems. Monitoring techniques may include visual checks as well as road counters.

Table 5. Habitat Conditions for Bears Outside Recovery Zone (BORZ) Occupancy Areas as of Bear Year 2010¹

BORZ Name	Grizzly Bear Ecosystem	Total Size (Acres)	NFS ² Lands (Acres)	Total Linear Miles of Roads on NFS Lands	Total Linear Miles of Open Roads on NFS Lands
Priest	Selkirk	80,733	75,793	316.4	314.4
Pack River	Selkirk	33,869	28,097	41.9	37.9

Mission-Moyie	Cabinet-Yaak	71,545	58,472	200.3	167.3
Clark Fork	Cabinet-Yaak	101,899	100,421	256.1	176.9
Cabinet Face	Cabinet-Yaak	28,052	27,093	164.1	128.0
West Kootenai	Cabinet-Yaak	173,122	169,705	615.3	315.9
Tobacco	Cabinet-Yaak	287,240	266,947	1,123.9	867.0

¹ This data is reviewed annually. See the most recent Bear Year monitoring report for any updated baseline numbers

² National Forest System Lands

USFWS Biological Opinion Grizzly Bear Related Reporting Requirements

1. By April 15 each year, the Forests shall submit annual reports to the Service that detail the progress made toward achieving and maintaining the standards for Percent Core Area, OMRD, and TMRD within the Recovery Zones.

2. The Forests shall coordinate with state and federal agency biologists to collect credible grizzly bear observations that occur outside of the Recovery Zone boundaries and add this information to the 6th-order HUC database for inclusion into the annual report.

3. The annual report shall provide an ongoing list detailing the locations, dates, duration, and circumstances for invoking the allowance for entering core area for the purposes of road decommissioning or stabilizations.

USFWS Biological Opinion Terms and Conditions for Bull Trout

In order to be exempt from the prohibitions of section 9 of the Act, the Forests must comply with the following terms and conditions. These terms and conditions are non-discretionary.

1. The Forests should assure consistent implementation of measures and standards specified in the Aquatic Conservation strategies as indicated in the 1998 Biological Opinion for the Effects to Bull Trout from the Continued Implementation of Land and Resource Management Plans and Resource Management Plans as Amended by the Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and portions of Nevada (INFISH).

2. The Forests should ensure that the watershed baselines are updated according to the INFISH Biological Opinion's Reasonable and Prudent Measure #2 (U.S. Fish and Wildlife Service 1998b). These baselines should be updated after every project requiring consultation which may affect them until the LRMP for each Forest is revised, or another analysis method is developed in conjunction with the Service.

3. The Forests should assume bull trout are present in a given watershed if it is connected to an area known to be occupied, unless site-specific information indicates otherwise. The Forests should informally consult with the Service to determine the effects of proposed actions upon bull trout prior to initiating formal consultation and to ensure that the necessary site-

specific information and technical data is provided in the baseline and effects analysis for biological assessments for the individual projects.

4. The Forests should integrate the value and risk to both bull trout and grizzly bears when deciding where to implement projects stemming from this proposed action. This action may entail increasing the priority for implementation of some BMUs.

5. In the course of planning projects to achieve the grizzly bear access standards, the Forests should conduct site-specific assessments of roads and road-crossings at the 6th code subwatershed scale to identify: road segments that are primary contributors of sediment or at risk of failure; stream crossings at risk of failure or that will not pass a 100-year flood event; culverts or other road crossings that act as fish barriers.

Assessments and corrective actions within any given BMU should follow the prioritization provided in this biological opinion, if practicable, unless new site-specific information changes the priority.

6. The Forests should ensure that all road features, particularly stream crossings on roads or any road that is closed by a barrier (i.e., not a gate) and is intended to be kept closed for at least 5 years is hydrologically neutral (as defined in subsequent project level consultations with the Service) and capable of passing at least a 100-year flood event with minimal erosion. Should the Forests decide to leave a culvert on a road blocked by a barrier, then that crossing should be capable of passing a 100-year event. Crossings that are barriers to fish passage should be removed, unless site-specific analysis contradicts such action. Roads that are intended to be kept closed for less than 5 years should be adequately stabilized so that maintenance is not expected to be required for the duration of the closure.

7. The Forests should minimize sediment input to the maximum extent practicable from culvert removals and subsequent streambed and streambank restoration activities by following all appropriate best management practices.

8. The Forests should, where practical, time culvert removals to coincide with low flow on perennial streams or no flow on intermittent streams to minimize sediment impacts to bull trout spawning activities and bull trout spawning and rearing habitat.

9. The placement of new roads and reopening of previously closed roads should be done in a manner to reduce or eliminate impacts to bull trout streams and critical habitat. The design of new or replaced culverts should be done in accordance with the Forest Service's Aquatic Organism Passage program, or other design criteria that ensure fish passage at the appropriate life stages.

10. Prior to closing a road by gate or barricade, the Forests should complete an inventory and risk assessment of individual stream crossing structures and features behind the proposed barrier and develop a monitoring plan based on the risk assessment. After closing, periodically monitor and inspect culvert stream crossings, bridges, fords, and other drainage features behind gated or barriered roads in bull trout watersheds which are subject to high erosion risk due to

floods or peak storm events and/or are in close proximity to bull trout occupied streams or critical habitat.

APPENDIX C. OBJECTIVES, STANDARDS, AND GUIDELINES FROM THE NORTHERN ROCKIES LYNX MANAGEMENT DIRECTION (APPENDIX N FROM THE NRLMD)

ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL). The following objectives, standards, and guidelines apply to all management projects in lynx habitat in lynx analysis units (LAUs) and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use.

Objective ALL O1

Maintain or restore lynx habitat connectivity in and between LAUs, and in linkage areas.

Standard ALL S1

New or expanded permanent development and vegetation management projects³⁶ must maintain²⁶ habitat connectivity in an LAU and/or linkage area.

Guideline ALL G1

Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways or forest highways across federal land. Methods could include fencing, underpasses, or overpasses.

Standard LAU S1

Changes in LAU boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.

VEGETATION MANAGEMENT ACTIVITIES AND PRACTICES (VEG). The following objectives, standards, and guidelines apply to vegetation management projects in lynx habitat within lynx analysis units (LAUs). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards, and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments such as mineral operations, ski runs, roads, and the like. None of the objectives, standards, or guidelines apply to linkage areas.

Objective VEG O1

Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

Objective VEG O2

Provide a mosaic of habitat conditions through time that support dense horizontal cover, and high densities of snowshoe hare. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.

Objective VEG O3

Conduct fire use activities to restore ecological processes and maintain or improve lynx habitat.

Objective VEG O4

Focus vegetation management in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover.

Standard VEG S1

Where and to what this applies: Standard VEG S1 applies to all vegetation management projects that regenerate forests, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation:

Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).

For fuel treatment projects within the WUI see guideline VEG G10.

The standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each LAU as follows:

If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.

Standard VEG S2

Where and to what this applies: Standard VEG S2 applies to all timber management projects that regenerate forests, except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation:

Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).

For fuel treatment projects within the WUI see guideline VEG G10.

The standard: Timber management projects shall not regenerate more than 15 percent of lynx habitat on NFS lands within an LAU in a ten-year period.

Standard VEG S5

Where and to what this applies: Standard VEG S5 applies to all precommercial thinning projects, except for fuel treatment projects that use precommercial thinning as a tool within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation:

Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).

For fuel treatment projects within the WUI see guideline VEG G10.

The Standard: Precommercial thinning projects that reduce snowshoe hare habitat may occur from the stand initiation structural stage until the stands no longer provide winter snowshoe hare habitat only:

1. Within 200 feet of administrative sites, dwellings, or outbuildings; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. Based on new information that is peer reviewed and accepted by the regional level of the Forest Service, and state level of FWS, where a written determination states:
 - a. that a project is not likely to adversely affect lynx; or
 - b. that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or
4. For conifer removal in aspen, or daylight thinning around individual aspen trees, where aspen is in decline; or
5. For daylight thinning of planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat is retained; or
6. To restore whitebark pine.

Standard VEG S6

Where and to what this applies: Standard VEG S6 applies to all vegetation management projects except for fuel treatment projects within the wildland urban interface (WUI) as defined by HFRA, subject to the following limitation:

Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest).

For fuel treatment projects within the WUI see guideline VEG G10.

The Standard: Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only:

1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or
2. For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
3. For incidental removal during salvage harvest (e.g. removal due to location of skid trails).

(NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow]).

Guideline VEG G1

Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem-exclusion, closed-canopy structural stage⁴⁶ stands to enhance habitat conditions for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat.

Guideline VEG G4

Prescribed fire activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.

Guideline VEG G5

Habitat for alternate prey species, primarily red squirrel, should be provided in each LAU.

Guideline VEG G10

Fuel treatment projects within the WUI as defined by HFRA should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Guideline VEG G11

Denning habitat should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris⁴, piles, or residual trees to provide denning habitat in the future.

LIVESTOCK MANAGEMENT (GRAZ): The following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAUs). They do not apply to linkage areas.

Objective GRAZ O1

Manage livestock grazing to be compatible with improving or maintaining lynx habitat.

Guideline GRAZ G1

In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.

Guideline GRAZ G2

In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.

Guideline GRAZ G3

In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Guideline GRAZ G4

In shrub-steppe habitats, livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

HUMAN USE PROJETS (HU): The following objectives and guidelines apply to human use projects, such as special uses (other than grazing), recreation management, roads, highways, and mineral and energy development, in lynx habitat in lynx analysis units (LAUs), subject to valid existing rights. They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.

Objective HU O1

Maintain the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat.

Objective HU O2

Manage recreational activities to maintain lynx habitat and connectivity.

Objective HU O3

Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.

Objective HU O4

Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation sites or ski areas.

Objective HU O5

Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.

Objective HU O6

Reduce adverse highway effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity, and to reduce the potential of lynx mortality.

Guideline HU G1

When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat is maintained.

Guideline HU G2

When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

Guideline HU G3

Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat.

Guideline HU G4

For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.

Guideline HU G5

For mineral and energy development sites and facilities that are closed, a reclamation plan that restores lynx habitat should be developed.

Guideline HU G6

Methods to avoid or reduce effects on lynx should be used in lynx habitat when upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.

Guideline HU G7

New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from forested stringers.

Guideline HU G8

Cutting brush along low-speed, low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.

Guideline HU G9

On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.

Guideline HU G10: When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat, if it has been identified as a need.

Guideline HU G11: Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction¹, unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.

Guideline HU G12: Winter access for non-recreation special uses and mineral and energy exploration and development, should be limited to designated routes or designated over-the-snow routes.

LINKAGE AREAS (LINK): The following objective, standard, and guidelines apply to all projects within linkage areas, subject to valid existing rights.

Objective LINK O1

In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.

Standard LINK S1

When highway⁸ or forest highway construction or reconstruction is proposed in linkage areas, identify potential highway crossings.

Guideline LINK G1

NFS lands should be retained in public ownership.

Guideline LINK G2

Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

REQUIRED MONITORING

Map the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000. The mapping is to be completed within one year of this decision, and changes in activities and routes are to be monitored every five years after the decision.

Annually report the number of acres where any of the exemptions 1 through 6 listed in Standard VEG S5 were applied. Report the type of activity, the number of acres, and the location (by unit, and LAU).

Report the acres of fuel treatment in lynx habitat within the wildland urban interface as defined by HFRA when the project decision is approved. Report whether or not the fuel treatment met

the vegetation standards. If standard(s) are not met, report which standard(s) are not met, why they were not met, and how many acres were affected.

APPENDIX D. INFISH STANDARDS AND GUIDELINES

INFISH Standards and Guidelines apply to all Riparian Habitat Conservation Areas (RHCAs), as defined in the Glossary, and to projects and activities in areas outside of RHCAs that would degrade conditions in RHCAs. The Standards and Guidelines address ten management issues in RHCAs and associated areas: timber management, roads management, grazing management, recreation management, minerals management, fire and fuels management, lands, general riparian area management, watershed and habitat restoration, and fisheries and wildlife restoration.

Timber Management

TM-1. Prohibit timber harvest, including fuelwood cutting, in RHCAs, except as described below. Do not include RHCAs in the land base used to determine the Allowable Sale Quantity, but any volume harvested can contribute to the timber sale program.

- a. Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in RHCAs only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives (RMOs) as described in INFISH (USFS 1995), and where adverse effects on inland native fish can be avoided. For watersheds with listed salmon or designated critical habitat, complete Watershed Analysis prior to salvage cutting in RHCAs.
- b. Apply silvicultural practices for RHCAs to acquire desired vegetation characteristics where needed to attain RMOs. Apply silvicultural practices in a manner that does not retard attainment of RMOs and that avoids adverse effects on inland native fish.

Roads Management

RF-1. Cooperate with Federal, Tribal, State, and county agencies, and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to attain RMOs.

RF-2. For each existing or planned road, meet the RMOs and avoid adverse effects on inland native fish by:

- a. Completing Watershed Analyses prior to construction of new roads or landings in RHCAs.
- b. Minimizing road and landing locations in RHCAs.
- c. Initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:
 1. Road design criteria, elements, and standards that govern construction and reconstruction.
 2. Road management objectives for each road.
 3. Criteria that govern road operation, maintenance, and management.
 4. Requirements for pre-, during-, and post-storm inspections and maintenance.
 5. Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives.

6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control.
7. Mitigation plans for road failures.
- d. Avoiding sediment delivery to streams from the road surface.
 1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe.
 2. Route road drainage away from potentially unstable stream channels, fills, and hillslopes.
- e. Avoiding disruption of natural hydrologic flow paths.
- f. Avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in watersheds containing designated critical habitat for inland native fish.

RF-3. Determine the influence of each road on the RMOs. Meet RMOs and avoid adverse effects on inland native fish by:

- a. Reconstructing road and drainage features that do not meet design criteria or operation and maintenance standards, or that have been shown to be less effective than designed for controlling sediment delivery, or that retard attainment of RMOs, or do not protect designated critical habitat for inland native fish from increased sedimentation.
- b. Prioritizing reconstruction based on the current and potential damage to inland native fish and their designated critical habitat, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of RHCAs.
- c. Closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to listed inland native fish and their designated critical habitat, and the ecological value of the riparian resources affected.

RF-4. Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of RMOs, or that do not protect designated critical habitat from increased sedimentation. Base priority for upgrading on risks to inland native fish and their designated critical habitat and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

RF-5. Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Grazing Management

GM-1. Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of

RMOs or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting RMOs and avoiding adverse effects on inland native fish.

GM-2. Locate new livestock handling and/or management facilities outside of RHCAs. For existing livestock handling facilities inside the RHCAs, assure that facilities do not prevent attainment of RMOs or adversely affect inland native fish. Relocate or close facilities where these objectives cannot be met.

GM-3. Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that will not retard or prevent attainment of RMOs or adversely affect inland native fish.

GM-4. Adjust wild horse and burro management to avoid impacts that prevent attainment of RMOs or adversely affect inland native fish.

Recreation Management

RM-1. Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the RMOs and avoids adverse effects on inland native fish. Complete Watershed Analysis prior to construction of new recreation facilities in RHCAs. For existing recreation facilities inside RHCAs, assure that the facilities or use of the facilities will not prevent attainment of RMOs or adversely affect inland native fish. Relocate or close recreation facilities where RMOs cannot be met or adverse effects on inland native fish avoided.

RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of RMOs or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting RMOs and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.

RM-3. Address attainment of RMOs and potential effect on inland native fish and designated critical habitat in Wild and Scenic Rivers, Wilderness, and other Recreation Management plans.

Minerals Management

MM-1. Avoid adverse effects to listed species and designated critical habitat from mineral operations. If the Notice of Intent indicates a mineral operation would be located in a RHCAs, or could affect attainment of RMOs, or adversely affect inland native fish, require a reclamation plan, approved Plan of Operations (or other such governing document), and reclamation bond. For effects that cannot be avoided, such plans and bonds must address the costs of removing facilities, equipment, and materials; recontouring disturbed land to near pre-mining topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvage and replacement of topsoil; and seed bed preparation and revegetation to attain RMOs and avoid adverse effects on inland native fish. Ensure Reclamation Plans contain measurable attainment and bond release criteria for each reclamation activity.

MM-2. Locate structures, support facilities, and roads outside RHCAs. Where no alternative to siting facilities in RHCAs exists, locate and construct the facilities in ways that avoid impacts to RHCAs and streams adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.

MM-3. Prohibit solid and sanitary waste facilities in RHCAs. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RHCAs exists, and releases can be prevented and stability can be ensured, then:

- a. Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.
- b. Locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in RHCA.
- c. Monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain RMOs.
- d. Reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish and to attain the RMOs.
- e. Require reclamation bonds adequate to ensure long-term chemical or physical stability and successful revegetation of mine waste facilities.

MM-4. For leasable minerals, prohibit surface occupancy within RHCAs for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and RMOs can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of RMOs and (2) avoid adverse effects to inland native fish.

MM-5. Permit sand and gravel mining and extraction within RHCAs only if no alternatives exist, if the action(s) will not retard or prevent attainment of RMOs, and adverse effects to inland native fish can be avoided.

MM-6. Develop inspection, monitoring, and reporting requirements for mineral activities.

Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of RMOs and avoid adverse effects on inland native fish.

Fire/Fuels Management

FM-1. Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of RMOs, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those

instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function, inland native fish, or designated critical habitat.

FM-2. Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of RHCAs. If the only suitable location for such activities is within the RHCAs, an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during pre-suppression planning, with avoidance of potential adverse effects to inland native fish a primary goal.

FM-3. Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor, and a fishery biologist, when the action agency determines an escape fire would cause more long-term damage to inland native fish habitats than chemical delivery to surface waters.

FM-4. Design prescribed burn projects and prescriptions to contribute to the attainment of RMOs.

FM-5. Immediately establish an emergency team to develop a rehabilitation treatment plan to attain RMOs and avoid adverse effects on inland native fish whenever RHCAs are significantly damaged by a wildfire or a prescribed fire burning out of prescription.

Lands

LH-1. Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate State agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate State agencies.

LH-2. Locate new hydroelectric ancillary facilities outside RHCAs. For existing ancillary facilities inside the RHCAs that are essential to proper management, provide recommendations to FERC to assure that the facilities will not prevent attainment of the RMOs and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in RHCAs to avoid effects that would retard or prevent attainment of the RMOs and avoid adverse effects on inland native fish.

LH-3. Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the RMOs and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the RMOs or adversely affect inland

native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the RMOs or adversely affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements will be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.

LH-4. Use land acquisition, exchange, and conservation easements to meet RMOs and facilitate restoration of fish stocks and other species at risk of extinction.

General Riparian Area Management

RA-1. Identify and cooperate with Federal, Tribal, State and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.

RA-2. Trees may be felled in RHCAs when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives.

RA-3. Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of RMOs and avoids adverse effects on inland native fish.

RA-4. Prohibit storage of fuels and other toxicants within RHCAs. Prohibit refueling within RHCAs unless there are no other alternatives. Refueling sites within a RHCAs must be approved by the USFS or BLM and have an approved spill containment plan.

RA-5. Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of RMOs.

Watershed and Habitat Restoration

WR-1. Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of RMOs.

WR-2. Cooperate with Federal, State, local, and Tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans (CRMPS) or other cooperative agreements to meet RMOs.

Fisheries and Wildlife Restoration

FW-1. Design and implement fish and wildlife habitat restoration and enhance actions in a manner that contributes to attainment of the RMOs.

FW-2. Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the RMOs or adversely affect inland native fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside RHCAs assure that RMOs are met and adverse effects on inland native fish are avoided. Where RMOs cannot be met or adverse effects on inland native fish avoided, relocate or close such facilities.

FW-3. Cooperate with Federal, Tribal, and State wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of RMOs or adversely affect inland native fish.

FW-4. Cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate adverse effects on inland native fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

APPENDIX E. KNF REVISED PLAN ELEMENTS RELATED TO BULL TROUT AND AQUATIC HABITATS.

The revised Forest Plan adds an active restoration component through desired conditions, objectives, guidelines and standards that would supplement the retained passive components of INFISH. The revised Forest Plan will also help move projects and activities towards the desired conditions and improve aquatic habitats and the following elements provide additional protective measures for bull trout and their habitats. This direction will be applied across the entire landscape, although there are no goals, objectives, standards or guidelines, specific to bull trout, for individual Management Areas.

GOALS

GOAL-WTR-01. Maintain or improve watershed conditions in order to provide water quality, water quantity, and stream channel conditions that support ecological functions and beneficial uses.

GOAL-SOIL-01. Maintain soil productivity and ecological processes where functioning properly, and restore where currently degraded. Maintain the physical, chemical, and biological properties of soils to support desired vegetation conditions and soil-hydrologic functions and processes within watersheds.

GOAL-RIP-01. Maintain or improve riparian areas in order to support the ecological functions.

GOAL-AQH-01. Restore aquatic habitats where past management activities have affected stream channel morphology or wetland function.

GOAL-AQS-01. Maintain or improve the distribution of native aquatic and riparian dependent species and contribute to the recovery of threatened and endangered aquatic species.

DESIRED CONDITIONS

Implementation of the revised Plan is driven in large part by the Desired Conditions which were developed to move the affected forest resources toward environmental stability and diversity. For bull trout there are specific desired conditions which are;

“FW-DC-AQS-04. Bull trout – Recovery and delisting of bull trout is the long-term desired condition. Bull trout population trends toward recovery through cooperation and coordination with USFWS, tribes, state agencies, other federal agencies, and interested groups. Recovery is supported through accomplishment of Bull Trout Recovery Plan tasks under Forest Service jurisdiction. On NFS lands spawning, rearing, and migratory habitat is widely available and inhabited. Bull trout have access to historic habitat and appropriate life history strategies (e.g., resident, fluvial, and adfluvial) are supported.

FW-DC-AQS-05. Bull trout - Habitat conditions improve in occupied bull trout streams and in connected streams that were historically occupied, resulting in an increase in the

overall number of stronghold populations. Bull trout habitat and populations continue to be protected through the application of INFISH standards and guidelines.”

The intent of these desired conditions is to create a proactive commitment to the recovery of bull trout within the waters managed by the Kootenai National Forest. These desired conditions make the commitment to implement the Bull Trout Recovery Plan once it becomes finalized. The forest determined making bull trout recovery a focus was the most effective way to benefit bull trout and minimize adverse effects due to ongoing management.

Until such time as a recovery plan is put in place by the USFWS, the forest recognizes the need for a strategy to conserve and recover bull trout. For that reason the forest has been an active participant in the development of the *draft* Western Montana Bull Trout Conservation Strategy (2012) which will be used to inform baseline data needs and management direction as it relates to bull trout and designated critical habitat on the Kootenai National Forest. The conservation strategy was developed by the Western Montana Level 1 Team to provide interim direction for affected forests to implement bull trout recovery actions. The strategy will be a component of the final recovery plan and as such fits with the revised plan’s stated desired condition for bull trout and designated critical habitat.

Additional desired conditions determined to benefit bull trout and designated critical habitat are listed below.

Access & Recreation

FW-DC-AR-07. A transportation system is in place that provides safe and efficient public and administrative access to the Forest for recreation, special uses, forest resource management, and fire management activities. It is efficiently maintained, environmentally compatible, and responsive to public needs and desires. The transportation system and its use have minimal impacts on resources including threatened and endangered species, sensitive species, heritage and cultural sites, watersheds, and aquatic species. Newly constructed or reconstructed roads do not encroach into streams and riparian areas in ways that impact channel function, geometry or sediment delivery. Roads in intermittent stored service pose minimal risks to water quality and aquatic ecosystems. Drainage structures have a minimal risk of failure, and provide adequate drainage that prevents accelerated runoff, erosion, and sediment delivery to streams. In addition, stream crossings provide for passage of aquatic organisms. Unauthorized roads and trails are no longer created.

Watersheds and Water Quality

FW-DC-WTR-01. Watersheds and associated aquatic ecosystems retain their inherent resilience to respond and adjust to disturbance without long-term, adverse changes to their physical or biological integrity.

FW-DC-WTR-02. Water quality meets applicable State water quality standards and fully supports beneficial uses. Flow conditions in watersheds, streams, lakes, springs, wetlands, and groundwater aquifers fully support beneficial uses, and meet the ecological needs of native and desirable non-native aquatic species and maintain the physical integrity of their habitats.

FW-DC-WTR-03. Stream flows provide for channel and floodplain dimensions that mimic reference conditions. Stream flows allow for water and sediment conveyance and overall channel maintenance. Sediment deposits from over-bank floods allow floodplain development and the propagation of flood-dependent riparian plant species. Surface and groundwater flows recharge riparian aquifers, provide late-season stream flows, cold water temperatures, and sustain the function of surface and subsurface aquatic ecosystems.

FW-DC-WTR-04. Municipal watersheds and public water systems (source water protection areas) meet water quality standards.

FW-DC-WTR-05. Water rights for consumptive and non-consumptive water uses obtained in the name of the Forest Service, support instream flows that provide for channel maintenance, water quality, aquatic habitats, and riparian vegetation. Water quality and beneficial uses are fully protected under special use permits related to water uses.

FW-DC-WTR-06. Cooperate with other landowners, agencies, and partners to monitor, maintain, and improve watershed and stream channel conditions.

FW-DC-WTR-07. Educational and informational programs are provided to enhance understanding of stream ecosystems and watersheds.

FW-DC-WTR-08. Watershed maintenance and improvement activities contribute to social and economic opportunities for local communities.

Riparian Habitat

FW-DC-RIP-01. Riparian Habitat Conservation Areas (RHCAs) have healthy, functioning riparian systems and associated habitats that support well-distributed native and desired non-native plant, vertebrate, and invertebrate communities.

FW-DC-RIP-02. Riparian and aquatic ecosystems, including stream channel integrity, channel processes, and sediment regimes function characteristically for a given landscape and climatic setting.

FW-DC-RIP-03. Water quality provides stable and productive riparian and aquatic ecosystems. Streams and lakes are free of chemical contaminants and do not contain excess nutrients. Sediment levels are within reference conditions, supporting salmonid spawning and rearing, and cold water biota requirements.

FW-DC-RIP-04. Composition, structure, and function of riparian vegetation are appropriate for a given landscape and climatic setting. Riparian vegetation adjacent to larger streams with lower gradients and wide valley bottoms is dominated by conifer stands in late-seral stages. These stands have multiple canopy layers with shrub, forb, and ferns underneath stands dominated by large trees. Native hardwoods such as black cottonwood, paper birch, and/or quaking aspen are found in areas along these larger streams. The narrower riparian zones along smaller, higher gradient streams have vegetation with a wide diversity of seral stages present, from relatively young stands of trees to fairly old stands, with a greater composition of early-seral, shade-

intolerant trees species present than found in larger, lower gradient rivers. Natural disturbance regimes occur at intervals that maintain these conditions.

FW-DC-RIP-05. Vegetation in RHCAs is characteristic of reference aquatic and riparian ecosystems and provides: amounts and distribution of large woody debris; vertical structure and habitat for riparian-associated bird, mammal, amphibian, fish, and invertebrate species; summer and winter thermal regulation; ground cover and bank stability to maintain natural rates of surface erosion, bank erosion, and channel migration characteristic of those under which aquatic and riparian ecosystems developed; the capture and storage of sediment; and for recovery of RHCAs after watershed disturbances.

Aquatic Habitat

FW-DC-AQH-01. Waterbodies, riparian vegetation, and adjacent uplands provide habitats that support self-sustaining native and desirable non-native aquatic communities, which include fish, amphibians, invertebrates, plants, and other aquatic-associated species. Aquatic habitats are diverse, with channel, lacustrine, and wetland characteristics and water quality reflective of the climate, geology, and natural vegetation of the area. Water quality supports native amphibians and diverse invertebrate communities. 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.

FW-DC-AQH-02. Connectivity between waterbodies provides for life history functions (e.g., fish migration to spawning areas, amphibian migration between seasonal breeding, foraging, and overwintering habitats) and for processes such as recolonization of historic habitats. Stream channels supply the required structure for desired stream habitat features.

FW-DC-AQH-03. Conservation watersheds provide habitats that can support population strongholds of federally listed and sensitive species. Conditions in restoration watersheds improve to support population strongholds.

FW-DC-AQH-04. Rare and unique aquatic habitats, such as waterfalls and rock outcrops, are healthy and provide for associated native plant and animal communities.

FW-DC-AQH-05. Stream channels supply the required structure for desired stream habitat features such as pools, pool tails, banks, large woody material, backwaters, and riffles that provide aquatic species the necessary niches for holding, overwintering, spawning, cover, rearing, and feeding.

Aquatic Species

FW-DC-AQS-01. Over the long-term, habitat 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, macroinvertebrates, and amphibian populations.

FW-DC-AQS-02. Non-native fish species are not expanding into waterbodies that support native fish on NFS lands. Impacts of non-native fish species on native salmonids, such as hybridization or displacement, are minimal. Aquatic ecosystems are free of invasive species such as zebra mussels, New Zealand mud snails, quagga mussels, bullfrogs, and Eurasian milfoil.

FW-DC-AQS-03. Cooperation and coordination with state agencies, federal agencies, tribes, and other groups leads to an upward trend of native species and desired non-native aquatic species.

FW-DC-AQS-04. Bull trout – Recovery and delisting of bull trout is the long-term desired condition. Bull trout population trends toward recovery through cooperation and coordination with USFWS, tribes, state agencies, other federal agencies, and interested groups. Recovery is supported through accomplishment of Bull Trout Recovery Plan tasks under Forest Service jurisdiction. On NFS lands spawning, rearing, and migratory habitat is widely available and inhabited. Bull trout have access to historic habitat and appropriate life history strategies (e.g., resident, fluvial, and adfluvial) are supported.

FW-DC-AQS-05. Bull trout - Habitat conditions improve in occupied bull trout streams and in connected streams that were historically occupied, resulting in an increase in the overall number of stronghold populations. Bull trout habitat and populations continue to be protected through the application of INFISH standards and guidelines.

FW-DC-AQS-06. Kootenai River white sturgeon - The recovery of Kootenai River white sturgeon is the long-term desired condition and coordination with stakeholders, such as tribes, state and other federal agencies, and adjacent landowners, is emphasized.

FW-DC-AQS-07. Macroinvertebrates - Macroinvertebrate communities have densities, species richness, and evenness comparable to communities found in reference conditions.

The intent of these Desired Conditions is to direct management that maintains and improves conditions for aquatic species which include bull trout and designated critical habitat. Most of the items covered by the revised plan Desired Conditions are also addressed in INFISH; however, the direction of the revised plan is intended to be proactive in managing for bull trout recovery.

OBJECTIVES

Access & Recreation

FW-OBJ-AR-03. National Forest System Road Maintenance – The outcome is:

Annually, meet maintenance level requirements on 20 to 30 percent of Operational Maintenance Level 3, 4, and 5 roads (roads that are drivable by passenger vehicles and provide primary access to many recreation opportunities).

Annually, meet maintenance level requirements on 10 to 20 percent of Operational Maintenance Level 2 roads (roads that are drivable by high clearance vehicles and provide additional access to recreation opportunities).

Over the life of the Plan, decommission or place into intermittent stored service 150 to 350 miles of road.

Watersheds and Water Quality

FW-OBJ-WTR-01. Over the life of the Plan, trend at least 15 percent of watersheds toward an improved watershed condition. Improvements in these watersheds may include passive or active restoration efforts, depending on opportunities and/or funding.

FW-OBJ-WTR-02. Annually implement 50 to 250 acres of watershed improvement activities with an emphasis on 303(d)-listed watersheds, or watersheds with approved Total Maximum Daily Loads (TMDLs).

Soils

FW-OBJ-SOIL-01. Over the life of the plan, initiate restoration of 75 to 150 acres not meeting soil quality criteria.

Riparian

FW-OBJ-RIP-01. Annually maintain or improve 10 to 50 acres of riparian habitat.

Aquatic Habitat

FW-OBJ-AQH-01. Annually enhance or restore 15 to 50 miles of habitat to maintain or restore structure, composition, and function of habitat for fisheries and other aquatic species.

FW- OBJ-AQH-02. Over the life of the Plan, the assemblage of macroinvertebrates present across the planning area as measured by the KNF River Invertebrate Prediction and Classification System (RIVPACS) analysis Observed/Effect (O/E) Model maintains a score of between 0.80 and 1.20 at all sites monitored on individual water bodies within the planning area.

FW-OBJ-AQH-03. Over the life of the Plan, reconnect 30 to 55 miles of fragmented habitat in streams where aquatic and riparian-associated species' migratory needs are limiting distribution of those species.

Aquatic Species

FW-OBJ-AQS-01. Over the life of the Plan, improve 5 percent of watersheds that contain populations of sensitive or threatened and endangered species. Improvements in condition ratings may also be accounted for in the trend described in FW-OBJ-WTR-01.

Standards

Watersheds and Water Quality

FW-STD-WTR-01. Management activities shall maintain or improve water quality in municipal watersheds and other public water supply source areas, and be consistent with applicable state source water protection requirements. Limited short-term effects from activities in source water areas may be acceptable when they support long-term benefits to aquatic resources.

Riparian

FW-STD-RIP-01. When RHCAs are intact and functioning at desired condition, then management activities shall maintain or improve that condition. Short-term effects¹ from activities in the RHCAs may be acceptable when those activities support long-term benefits² to the RHCAs and aquatic resources.

FW-STD-RIP-02. When RHCAs are not intact and not functioning at desired condition, management activities shall include restoration components that compensate for project effects to promote a trend toward desired conditions. Large-scale restoration plans or projects that address other cumulative effects within the same watershed may be considered as compensatory components and shall be described during site-specific project analyses.

FW-STD-RIP-03. The INFISH direction in the Decision Notice (USDA Forest Service, 1995) and terms and conditions in the Biological Opinion (US Fish & Wildlife Service, 1998) shall be applied, with the following clarifications (see appendix B of the revised Forest Plan):

- INFISH Priority Watersheds have been added to and adapted into Conservation and Restoration Watersheds;
- The description of Standard Widths Defining Interim RHCAs is consistent for all Category 4 streams or water bodies: The area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest;
- Site-specific widths can be changed (increased where necessary to achieve management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects) and requires documentation of rationale supporting the change, but does not require watershed analysis or an amendment.
- These INFISH “standards and guidelines” are defined as standards: TM-1, MM-3, MM-4, MM-5, and RA-4. All others are defined as guidelines.

GUIDELINES

Watersheds and Water Quality

FW-GDL-WTR-01. Management activities in impaired watersheds (listed by the State under Section 5 of the Integrated 303(d)/305(b) Report) with approved TMDLs are designed to comply with the TMDL. Management activities in watersheds with streams on the 303(d) list are designed to maintain or improve conditions relative to the cause for impairment and will not cause a decline in water quality or further impair beneficial uses. A short-term or incidental departure from State water quality standards may occur where there is no long-term threat or impairment to the beneficial uses.

FW-GDL-WTR-02. In order to avoid future risks to watershed condition, ensure hydrologic stability when decommissioning or storing roads or trails.

¹ Effects that occur during, or immediately following, implementation of activity

² Benefits that occur following completion of the activity

FW-GDL-WTR-03. Project-specific Best Management Practices (BMPs) will be incorporated in all land use and project plans as a principle mechanism for controlling non-point pollution sources, meet soil and water goals, and protect beneficial uses. To the extent practicable, ditch and road surface runoff should be disconnected from streams and other water bodies.

Soils

FW-GDL-SOIL-01. Ground-based equipment should only operate on slopes less than 40 percent, in order to avoid detrimental soil disturbance. Where slopes within an activity area contain short pitches greater than 40 percent, but less than 150 feet in length, ground-based equipment may be allowed, as designated by the Timber Sale Administrator.

FW-GDL-SOIL-02. Coarse woody debris is retained following vegetation management activities per (FW-GDL-VEG-03).

FW-GDL-SOIL-03. On nutrient- limited landtypes, harvesting organics should remain on site for at least 6 months or over a winter season to allow foliage nutrients to leach into the soil, except where site-specific analysis indicates the fuels would present an unacceptable hazard.

FW-GDL-SOIL-04. Ground-disturbing management activities on landslide prone areas should be avoided. If activities cannot be avoided, they should be designed to maintain soil and slope stability.

FW-GDL-SOIL-05. Project specific best management practices (BMPs) should be incorporated into all land management activities as a principle mechanism for protecting soil resources.

Riparian Habitat

FW-GDL-RIP-01. Soil and snow should not be side-cast into surface water during road maintenance operations.

FW-GDL-RIP-02. Grazing management should prevent livestock from trampling of native fish redds (nests).

FW-GDL-RIP-03. When conducting wildland fire operations, Minimum Impact Suppression Tactics should be used within RHCAs.

FW-GDL-RIP-04. When drafting water from streams, pumps should be screened and located away from spawning areas to prevent entrainment of fish and aquatic organisms. During the spawning season for native fish, pumping sites should be located away from spawning gravels. Drafting equipment should be cleaned and inspected for aquatic invasive species prior to use in a water body.

FW-GDL-RIP-05. If necessary for the attainment of RHCA desired conditions, ground-based logging equipment should only enter an RHCA at designated locations.

Aquatic Species

FW-GDL-AQS-01. Management activities that may disturb native salmonids, or have the potential to directly deliver sediment to their habitats, should be limited to times outside of spawning and incubation seasons for those species, as identified in table 3.

Table 3. Spawning and incubation seasons for spring and fall spawners

Species	Activity	Inoperable Activity Period*
Spring spawners	Known occupied streams	Prior to July 15
Fall spawners	Known occupied streams	September 1 through March 15

*Dates can be modified when site-specific information on staging and spawning of native fishes supports changes.

FW-GDL-AQS-02. When conducting management activities and fire suppression, all equipment used in water should be treated to prevent the introduction of aquatic invasive species and aquatic borne diseases.