Appendix 2—
Proposed Forest Plan Amendments

Sawtooth National Forest
Land and Resource Management Plan

Chapter III

Chapter III.
Management Direction

Table of Contents

Management Direction III-1
- Forest-Wide Management Direction III-1
  - Threatened, Endangered, Proposed, and Candidate Species III-1
  - Air Quality and Smoke Management III-4
  - Wildlife Resources III-5
  - Vegetation III-9
  - Non-native Plants III-13
  - Fire Management III-14
  - Timberland Resources III-16
  - Rangeland Resources III-17
  - Minerals and Geology Resources III-18
  - Lands and Special Uses III-19
  - Facilities and Roads III-20
  - Recreation Resources III-21
- Common Management Prescription Category (MPC) Management Direction III-22
- Management Area Direction III-25
- Forest Plan Appendix A Vegetation A-1
- Forest Plan Appendix E Terrestrial Wildlife Resources E-1

Figures

Management Area 02. Upper Salmon River Valley Location Map III-27
Management Area 03. East Fork Salmon River/White Clouds Location Map III-34
Management Area 04. Big Wood River Location Map III-40
Management Area 05. Little Wood River Location Map III-49
Management Area 06. Upper South Fork Boise River Location Map III-56
Management Area 07. Little Smoky Creek Location Map III-63
Management Area 08. Middle South Fork Boise River Location Map III-69
Management Area 09. Lime Creek Location Map III-76

Management Area 10. Soldier Creek/Willow Creek Location Map..... III-81
Management Area 11. Rock Creek Location Map III-87
Management Area 12. Cottonwood Creek Location Map III-92
Management Area 13. Trapper Creek/Goose Creek Location Map III-97
Management Area 14. Shoshone Creek Location Map III-102
Management Area 15. Albion Mountains Location Map III-106
Management Area 16. Howell Creek Location Map III-111
Management Area 17. Independence Lakes Location Map..... III-116
Management Area 18. Raft River Location Map..... III-121
Management Area 19. Black Pine Location Map III-127
Management Area 20. Sublett Location Map III-133

Management Direction

FOREST-WIDE MANAGEMENT DIRECTION

THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE SPECIES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Threatened, Endangered, Proposed, and Candidate Species, pp. III-8 through III-15, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New direction: None

Modified direction:

- Goals TEGO01, TEGO02, TEGO03, TEGO04, TEGO05 and TEGO06 would be modified for clarity and/or to describe the condition desired, rather than imply an action.
- Objectives TEOB03, TEOB14 and TEOB24 would be modified to correct reference or typographical errors.
- Standards TEST17, TEST18,TEST19, and TEST20 would be modified to reflect current terminology.

Deleted direction:

- Objectives TEOB15, TEOB16, and TEOB17 would be deleted because they refer to species that are no longer listed under ESA; Bald Eagle and Gray Wolf.
- Guideline TEGU09 would be deleted because Standard TEST22 already requires avoidance.

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, is not included below.

Management Direction for Threatened, Endangered, Proposed, and Candidate Species		
Type	**Number**	**Direction Description**
Goals	TEGO01	Habitat within the respective ranges of species listed under ESA contributes to their survival and recovery.
	TEGO02	Habitat within the respective ranges of Proposed or Candidate species contributes to keeping them from becoming listed under ESA.
	TEGO03	Restorative actions to address the long-term threats to listed and proposed species are balanced with the short-term need to protect listed and proposed species and their habitats.
	TEGO04	Environmental conditions and habitat components support reproductive needs important to sustainable populations of Threatened, Endangered, Proposed, and Candidate (TEPC) species.

Type	Number	Direction Description
	TEGO05	Well-distributed habitat capable of maintaining self-sustaining, complex interacting groups of TEPC species exists within their respective ranges across the planning unit.
	TEGO06	Habitat capable of maintaining stable or increasing trends in abundance of TEPC species in all recovery units within the planning unit exists.
	See also Goals for Soil, Water, Riparian and Aquatic (SWRA) Resources (09, 10, 11, 12, 13, 14, 15); Vegetation (04); Botanical Resources (04, 05, 06); and Recreation Resources (04).	
Objectives	**Wildlife Resources**	
	TEOB03	Identify and reduce road-related effects on TEPC species and their habitats using the Watershed and Aquatic Recovery Strategy (WARS), *the Vegetation and Wildlife Habitat Restoration Strategy and Source Environment Restoration Strategy*, and other appropriate methodologies.
	TEOB14	During mid- or project-scale analysis, identify and prioritize opportunities for restoration of habitat linkage zones for terrestrial TEPC species to promote genetic integrity and species distribution (refer to Wildlife Source Environment Restoration Strategy Map in Appendix E).
	TEOB15	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	TEOB16	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	TEOB17	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	Mineral Resources	
	TEOB24	Continue coordination with the State of Idaho in determining areas that should be considered available for suction dredge mining. Determinations concerning availability should consider: a) Avoid suction dredge mining in bull trout and chinook salmon habitat after August 15 and through the remainder of the calendar year where it will adversely affect spawning and rearing fish and associated redds. b) Seasonal closures should also be considered for other fish species as necessary to protect spawning adults, rearing juveniles and incubating redds, including steelhead trout, especially during drought years. c) Avoiding adverse effects from suction dredging to occupied TEPC plant habitat.
	See also Objectives for SWRA Resources (11, 12, 13, 14, 15, 16, 18); Wildlife Resources (08, 09); Botanical Resources (03, 04, 08, 11, 12, 13, 14); Non-native Plants (06, 08); Mineral and Geology Resources (08); Facilities and Roads (10, 11, 12); and Tribal Rights and Interests (03).	
Standards	**Fire Management**	
	TEST17	Once a Wildland Fire Decision Support System (WFDSS) decision is approved , heavy equipment shall not be used to construct fire lines within occupied TEPC plant habitat unless: a) The line officer or designee determines that imminent safety to human life or protection of structures is an issue; OR b) The incident resource advisor determines and documents an escaped fire would cause more degradation to occupied TEPC plant habitat than would result from the disturbance of heavy equipment. In no case will the decision to use heavy equipment in occupied TEPC plant habitat be delayed when the line officer or designee determines safety or loss of human life or protection of structures is at imminent risk.

Type	Number	Direction Description
	TEST18	Once a WFDSS decision is approved, incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities shall be located outside of occupied TEPC plant habitat unless the only suitable location for such activities is determined and documented by the line officer or designee to be within occupied TEPC plant habitat. In no case will the decision to place these activities inside occupied TEPC plant habitat be delayed when the line officer or designee determines safety or loss of human life or structures is at imminent risk.
	TEST19	Once a WFDSS decision is approved, hoses used to draft water from TEPC fish-bearing streams for suppression activities shall be screened with the most appropriate mesh size (generally 3/32), or as determined through coordination with NMFS and/or FWS, unless: a) The line officer or designee determines that imminent safety to human life or protection of structures is an issue; OR b) The incident resource advisor determines and documents an escaped fire would cause more degradation to TEPC fish and their habitat than risk to individuals within TEPC fish-bearing streams affected by the use of unscreened, or inappropriately screened, draft hoses. In no case will the decision to use draft hoses without screening in TEPC fish-bearing streams be delayed when the line officer or designee determines safety or loss of human life or protection of structures is at imminent risk
	TEST20	Once a WFDSS decision is approved, avoid delivery of chemical retardant, foam, or additives to all surface waters with direct drainage to TEPC fish bearing streams or occupied aquatic TEPC plant habitat unless: a) The line officer or designee determines that imminent safety to human life or protection of structures is an issue; OR b) The incident resource advisor determines and documents an escaped fire would cause more degradation to TEPC fish and their habitat, or occupied aquatic TEPC plant habitat, than would be caused by chemical, foam or additive delivery to waters containing these TEPC fish or plants. In no case will the decision to avoid delivery of chemical retardant, foam or additives to TEPC fish bearing waters or occupied TEPC aquatic plant habitat be delayed when the line officer or designee determines safety or loss of human life or protection of structures is at imminent risk
Guidelines	**Rangeland Resources deleted, as part of 2009 proposed Forest Plan amendment for WCS.**	
	TEGU09	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.

AIR QUALITY AND SMOKE MANAGEMENT

As shown below, the following proposed changes would be made to the Forest-wide management direction for Air Quality and Smoke Management, pp. III-16 through III-17, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New direction: None

Modified direction:

- Objectives ASOB03, ASOB04, and ASOB05 would be modified to reflect current terminology.
- Guideline ASGU03 would be modified to reflect current terminology.

Deleted direction:

- Objective ASOB02 would be deleted to reflect current national fire policy which does not include fire use.

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, is not included below.

Management Direction for Threatened, Endangered, Proposed, and Candidate Species

Type	Number	Direction Description
Objectives	ASOB02	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	ASOB03	Use a variety of management tools including prescribed fire and/or wildfire to help manage vegetation to reduce potential smoke impacts from uncharacteristic wildfire.
	ASOB04	Provide educational and interpretive exhibits, displays, and programs to increase public awareness and understanding of smoke emissions from wildland fire and the benefits of fuel reduction and smoke management techniques.
	ASOB05	When developing and implementing prescribed fire projects, inform the public about potential smoke impacts to health and safety.
Guidelines	ASGU03	Fire Management Plans should outline a process to consider smoke impacts resulting from fire management activities, particularly prescribed fire.

WILDLIFE RESOURCES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Wildlife Resources, pp. III-25 through III-28, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised).

New or Added Direction:

- Objective WIOB13 would be added to focus source habitat maintenance and restoration activities in wildlife priority watersheds. Objective WIOB14 would be added to coordinate research efforts associated with species of conservation concern.
- Objective WIOB15 would be added to address species and habitat needs as identified in the Idaho Comprehensive Wildlife Conservation Strategy.
- Objective WIOB16 would be added to address road-related effects to sensitive wildlife species.
- Standards WIST08 and WIST09 would be added to replace WIST01 and to emphasize the importance of conserving and restoring old-forest habitat.
- Guideline WIGU15 would be added to encourage the use of a common set of conservation principles to assist in plan planning and implementation.
- Guideline WIGU16 would be added to address monitoring of MIS species.
- Guideline WIGU17 would be added to address monitoring of wolverine denning habitat.
- Guideline WIGU18 would be added to address fuels reduction activities in wildlife habitat.

Modified Direction:

- The Desired Condition would be modified to improve clarity.
- Goals WIGO01, WIGO02, WIGO03 and WIGO04 would be modified for clarity and/or to describe the condition desired, rather than imply an action. Objectives WIOB01, WIOB02 and WIOB03 would be modified for clarity and/or to fix references.
- WIOB08 and WIOB09 would be modified for clarity and to remove references to MIS. MIS would be removed to reflect that species specific management is targeted at those species with an identified concern (e.g. Region 4 Sensitive Species). Goals for the maintenance and improvement of habitat for MIS species are addressed under the "General Direction" subheading (e.g. WIOB03). Where an MIS species is also a R4 Sensitive species, direction under the "R4 Sensitive Species" subheading would also apply. MIS reference in the section subheadings would be deleted.
- Standard WIST03 and Guidelines WIGU04 andWIGU05 would be modified to improve clarity.

Deleted Direction:

- Goals WIGO05 and WIGO06 would be deleted (see MIS discussion above for WIOB08 and 09). MIS reference in the section subheadings would be deleted.
- Objective WIOB07 and Standard WIST01 would be deleted because managing for 20 percent large tree by 5th HUC as a "threshold for viability" is no longer believed to be consistent with best available science.
- Objective WIOB10 would be deleted because it was incorporated into WIOB08.
- Guideline WIGU01 would be deleted and replaced with WIGU15 which refers to a common set of conservation principles as a more appropriate tool to assist in project planning and implementation.

Other direction in this section would remains as presented in the 2003 Forest Plan and consequently, it is not included below.

DESIRED CONDITION

The amount, distribution, and characteristics of source habitat are present at levels necessary to support persistence of native and desired non-native wildlife species within their respective ranges across the planning unit. For Region 4 Sensitive species, management actions retain desired source habitat conditions, or lead to restoration of those conditions. Habitat conditions contribute to the persistence of species and do not lead to listing under the ESA or as a Region 4 Sensitive Species. Human activities do not affect source environments in a manner that prevents wildlife populations from attaining desired distribution and abundance during critical life stages. Habitat conditions support sustainability of species of socio-economic and tribal interest.

Management Direction for Wildlife Resources

Type	Number	Direction Description
Goals	**General**	
	WIGO01	Source habitats are well distributed across the planning unit and support a diversity of native and desired non-native wildlife consistent with overall multiple-use objectives.
	WIGO02	Levels of human caused disturbance do not cause undesirable effects to wildlife populations during critical life stages.
	WIGO03	Source habitats within the planning unit support sustainable wildlife populations that contribute to socio-economic and tribal needs.
	Region 4 Sensitive Species	
	WIGO04	Region 4 sensitive species source habitats are well distributed and connected across the planning unit and contribute to the removal of species from the sensitive species list.
	WIGO05	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	WIGO06	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	See also Goals for TEPC Species (01, 02, 03, 04, 05, 06); Vegetation (01, 02, 05, 06, 07); Non-native Plants (04); Timberland Resources (05); Fire Management (03); Recreation Resources (04, 06); and Heritage Program (03).	
Objectives	**General**	
	WIOB01	During fine-scale analyses, identify and prioritize opportunities for restoration of source habitat linkage to promote genetic integrity and wildlife species distribution.
	WIOB02	During site/project-scale analyses, identify non-vegetated wintering and denning wildlife source habitats (caves, talus slopes, etc.) when it is determined that the proposed activity may measurably reduce the quality of those habitats.
	WIOB03	Prioritize wildlife source habitats to be restored at a mid- or Forest-scale, using information from sources such as species habitat models and fine-scale analyses. Update priorities at least every 10 years to reflect changes in resource conditions. Incorporate priorities into the plan level Wildlife Conservation Strategy (WCS) and display on the combined Vegetative and Wildlife Habitat Restoration Strategy Map.
	WIOB07	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	WIOB13	Focus source habitat maintenance and restoration activities in wildlife priority watersheds identified in the WCS and displayed on the combined Vegetative and Wildlife Habitat Restoration Strategy Map. Within these priority watersheds, emphasize the maintenance and restoration of old forest habitat in nonlethal and mixed-1 fire regimes (PVGs 1-4) and whitebark pine restoration in PVG 11. Refer to related objective, VEOB08.

Type	Number	Direction Description
	WIOB14	Coordinate research efforts associated with species of conservation concern to determine basic life history requirements with potential effects from management activities. Coordinate efforts and information with the Idaho Department of Fish and Game, universities, Forest Service Research Stations, and other federal land management agencies.
	WIOB15	Work with the Idaho Department of Fish and Game to address species and habitat needs as identified in the Idaho Comprehensive Wildlife Conservation Strategy.
	WIOB16	Reduce road-related effects on sensitive wildlife species and their habitats. Refer to the conservation principles in Appendix E and the *Vegetation and Wildlife Habitat Restoration Strategy* and *Source Environment Restoration Strategy Maps* to assist in fine and site/project scale restoration prioritization planning.
	Region 4 Sensitive Species	
	WIOB08	Continue to map locations of species occurrence and habitat for Region 4 sensitive species during fine- and site/project scale analyses. Update appropriate Agency database modules for sensitive species occurrence and habitat on a biennial basis. Use this information to support refinements of species-habitat relations models at least every 5 years.
	WIOB09	During fine-scale analyses, prioritize opportunities for restoration of sensitive species habitat consistent with the wildlife conservation strategy and vegetation restoration priorities.
	WIOB10	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	See also Objectives for TEPC Species (11, 12, 13, 14,); SWRA Resources (13); Vegetation (01); Rangeland Resources (03); Facilities and Roads (04, 12); Recreation Resources (19, 22, 24, 25); and Heritage Program (18).	
Standards	**General**	
	WIST01	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	WIST08	Retain forest stands[1] that meet the definition of old forest habitat for the applicable PVG (refer to Appendix E). Management actions are permitted in such stands as long as they will continue to meet the definition of old forest habitat.[2]
	WIST09	Management actions within large or medium-size class forested stands (Appendix A definition) that have the species composition required to achieve old forest habitat for the applicable PVG (Appendix E definition) shall contribute to or not preclude[3] restoration of old forest habitat.[2]
	Region 4 Sensitive Species	
	WIST03	Mitigate management actions within known nesting or denning sites of sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Mitigation measures shall be determined during project planning.

[1] Forest Stand—A contiguous group of trees sufficiently uniform in age class distribution, composition and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit, such as mixed, pure, even-aged, and uneven-aged stands. A stand is the functional unit of silviculture reporting and record-keeping. Stand may be analogous to Activity Area. In the Intermountain Region, contiguous groups of trees smaller than 5 acres are not recorded or tracked. (Definitions, FSM 2470, 08-13-2004.)

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with. This standard does not apply to PVG 10.

[3] Preclude—To put a barrier before; hence, to shut out; to hinder; to stop; to impede. (The Collaborative International Dictionary of English v. 0.44).

Type	Number	Direction Description
	See also Standards for TEPC Species (12, 13, 14, 15); SWRA Resources (01, 04, 06); Vegetation (01, 03), Timberland Resources (02, 03, 8); Rangeland Resources (01); Recreation Resources (05); and Mineral and Geology Resources (01).	
Guidelines	**General**	
	WIGU01	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	WIGU04	When Forest highway[4] construction or reconstruction is proposed in habitat linkage areas, identify potential highway crossings and incorporate into project design as needed to facilitate habitat linkage needs for species of concern. Refer to Source Environment Restoration Strategy Map for latest linkage information.
	WIGU15	The Conservation Principles (CPs) found in Appendix E should be used to assist in identifying treatment priorities within watersheds, designing treatments for wildlife habitat restoration, and understanding the effects of proposed activities on wildlife habitat.
	WIGU16	Management indicator species (MIS) and their habitat should be monitored annually. Relationships between habitat changes and population trends of MIS should be evaluated periodically. Where practicable, monitoring should be done in cooperation with State fish and game agencies.
	Region 4 Sensitive Species	
	WIGU05	Source habitat should be determined for Sensitive wildlife species within or near the project area during site/project scale analyses. Surveys to determine presence should be conducted for those species for which source habitat is identified.
	WIGU17	Relationships between winter recreation activities and wolverine use of the landscape should be evaluated periodically, especially in high-elevation areas characteristic of wolverine denning habitat. Where practicable, monitoring should be done in cooperation with State and Federal Wildlife Management agencies.
	WIGU18	Where possible, projects should be designed to meet both hazardous fuel reduction and wildlife habitat conservation/ restoration objectives. Standards WIST-08, WIST-09, VEST-03, VEST-04 and MPC specific standards concerning snag retention[5] may be waived for management activities within the wildland urban interface ("WUI") where the authorized officer determines that adherence to these standards would impair achievement of hazardous fuel reduction objectives. The authorized officer has discretion to make this determination.
	See also Guidelines for Vegetation (01, 03, 04, 05, 06, 07, 08, 09, 10, 11); Rangeland Resources (02, 05, 09); Lands and Special Uses (01, 09, 13, 14); Facilities and Roads (04, 09); and Recreation Resources (09, 10).	

[4] Forest Highway—A designated forest road under the jurisdiction of, and maintained by, a public authority that is subject to the Highway Safety Act. The planning process is a cooperative effort involving the State(s), Forest Service, and the Federal Highway Administration. The location and need for improvements for these highways depend on the relative transportation needs of the various element of the National Forest System (23 CFR 660.107). The determination of relative needs involves the analysis of access alternatives associated with Forest Service programs and general public use. The basis for access needs is established in the Forest Plan. (FSM 7740.5 and 7741.)

[5] MPCs 4.2, 5.1, 6.1 standard: "For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6."

MPCs 3.1, 3.2, 4.1c this standard: "Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6."

VEGETATION

As shown below, the following proposed changes would be made to the Forest-wide management direction for Vegetation, pp. III-29 through III-31, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction:

- Objectives VEOB08 would be added to guide treatment that would contribute to the overall vegetative maintenance, restoration and hazardous fuel reduction needs across the Forest.
- Standard VEST03 and VEST04 would be added to emphasize the importance of conserving existing large tree stands, until conditions move within the range of desired conditions.
- Guidelines VEGU07, VEGU08, VEGU09, and VEGU10 would be added to address the conservation of important vegetative diversity elements.
- VEGU11 would be added to address management of the personal use firewood program.

Modified Direction:

- The Desired Condition would be modified to improve clarity and to fix table references to Appendix A.
- Goals VEGO01, VEGO02, VEGO03, VEGO04, VEGO05, VEGO06 and VEGO07 would be modified for clarity and/or to describe the condition desired, rather than imply an action.
- Objectives VEOB01, VEOB07; and guideline VEGU03 would be modified to improve clarity and/or references.

Deleted Direction:

- Guidelines VEGU01 and VEGU02 would be deleted. Appendix A of the Forest Plan has been revised and provides the appropriate information concerning assessment scales and analysis approaches.

DESIRED CONDITION

Forested Vegetation

Forested vegetation reflects a combination of successional development, disturbance regimes, and management activities. Forested lands exhibit variable patterns of size classes, densities, structural stages, and species composition. Seral tree species such as ponderosa pine, Douglas-fir, aspen, and whitebark pine have increasing species composition in areas where fire and

mechanical vegetation treatments are the primary tools. In areas where vegetation development evolves primarily as a result of plant succession rather than disturbance, late-seral/climax species composition and moderate to high canopy densities will increase. Snags and coarse woody debris are present in sufficient quantities to provide for habitat diversity and long-term soil productivity.

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Table A-2 in Appendix A lists the Potential Vegetation Groups (PVGs) for the Ecogroup. Appendix A contains more detail on these groups.

Tables A-3 through A-13 in Appendix A present the Forest-wide ranges of desired conditions for vegetative attributes that should be used in the design of management activities. Sizes, numbers, and amounts may be adjusted based on new scientific information from the literature and/or studies on current and historical conditions.

Management Direction for Vegetation		
Type	**Number**	**Direction Description**
Goals	VEGO01	The diversity of plant community components, including species composition, size classes, canopy cover, structure, snags, and coarse woody debris fall within the desired range of conditions described in Appendix A and contribute to achievement of Forest Plan multiple-use objectives.
	VEGO02	Vegetative conditions reflect the range of desired ecological processes described in Appendix A, including disturbance regimes, soil-hydrological processes, nutrient cycles, and biotic interactions.
	VEGO03	Vegetation conditions reduce the frequency, extent, severity, and intensity of uncharacteristic or undesirable disturbances from wildfire, insects, and pathogens.
	VEGO04	The diversity, distribution and abundance of vegetative conditions across the planning unit support the long term sustainability of native and desired non-native wildlife species.
	VEGO05	Native plant communities are present across the Forest at levels consistent with the desired range of conditions described in Appendix A.
	VEGO06	Species identified as declining (e.g. whitebark pine, aspen) are restored to desired levels of representation across the planning unit consistent with that described in Appendix A.
	VEGO07	Elements of vegetative spatial pattern, such as amount, proportion, size, inter-patch distance, variation in patch size, and landscape connectivity are consistent with the applicable fire disturbance regime and contribute to achievement of Forest Plan multiple-use objectives
	See also Goals for TEPC Species (01, 02, 03, 04, 05, 06); SWRA Resources (14); Wildlife Resources (02, 03, 04); Botanical Resources (01, 02, 03, 04, 05, 06); Non-native Plants (04); Fire Management (02, 03, 04, 05); Timberland Resources (01, 02, 03, 04); Rangeland Resources (02, 04); Scenic Environment (01); and Heritage Program (03).	

Type	Number	Direction Description
Objectives	VEOB01	During fine-scale analysis, prioritize areas for restoration and maintenance consistent with the *Vegetation and Wildlife Habitat Restoration Strategy Map* and associated management area objectives. Within priority areas focus treatments in: a) Forests in the non-lethal and mixed-1 fire regimes (PVGs 1-4) b) Aspen in both climax stands and as a seral component of coniferous stands c) Native herbaceous understory in shrub communities d) Woody riparian species e) Ponderosa pine f) Whitebark pine.
	VEOB07	Update mid and fine-scale inventories of vegetation conditions developed during the forest plan revision process at least every 10 years to assist in identifying needs to change vegetation treatment priorities due to changed resource conditions and/or Agency management priorities.
	VEOB08	Schedule and complete treatments designed to maintain or restore desired vegetative and associated wildlife source habitat conditions. Focus treatments in vegetative and wildlife habitat priority watersheds displayed on the combined *Vegetative and Wildlife Habitat Restoration Strategy Map*. Within these watersheds, emphasize treatments in the non-lethal and mixed-1 fire regime able to attain the range of desired conditions for the large tree size class or old forest habitat within the short-term (≤15years). In PVG11 emphasize whitebark pine restoration treatments.
	See also Objectives for TEPC Species (13, 14, 15, 19, 20); SWRA Resources (02, 12, 13); Wildlife Resources (03); Botanical Resources (02, 03, 05, 06, 10, 13, 14); Fire Management (02, 04, 05); Timberland Resources (01); Rangeland Resources (02, 03); Facilities and Roads (12); Recreation Resources (02, 15, 22); Heritage Program (18); and Tribal Rights and Interests (02, 03).	
Standards	VEST03	On the north end of the Forest[6] retain forest stands within PVGs 1-4 that meet the definition of a large tree size class (Appendix A, page A-6) until north-end wide inventories demonstrate the desired quantity of large tree size class acres within the affected PVGs exist across all three units (Appendix A, Table A-4). Management actions are permitted in such stands as long as they will continue to meet the definition of a large tree size class. [7] [8]
	VEST04	On the south end of the Forest[9] retain forest stands within PVGs 1-4 that meet the definition of a large tree size class (Appendix A, page A-6) until individual division inventories demonstrate the desired quantity of large tree size class acres within the affected PVG exist across the individual division (Appendix A, Table A-4). Management actions are permitted in such stands as long as they will continue to meet the definition of a large tree size class.[7] [8]

[6] North end of the Forest includes the Ketchum and Fairfield Ranger Districts, and the Sawtooth National Recreation Area.

[7] This standards shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, reasonably address other human health and safety concerns, meet hazardous fuel reduction objectives within WUIs, or allow reserved or outstanding rights, tribal rights or statutes from being exercised or complied with. This standard does not apply to PVG 10.

[8] This standard does not apply to wildland. Wildland fire, based on federal fire policy direction, constitutes an emergency action. Wildland fire will be used to protect, maintain and enhance resources, and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved fire management plans and will follow specific prescriptions contained in operational plans.

[9] South end of the Sawtooth NF includes the five individual divisions that make up the Minidoka Ranger District. These are the Albion, Black Pine, Cassia, Raft River and Sublett divisions.

Type	Number	Direction Description
	See also Standards for TEPC Species (04, 05, 06, 13, 14, 15); SWRA Resources (01, 02, 03, 04, 07, 10, 12); Wildlife Resources (02, 03, 04, 05, 06, 08); Botanical Resources (01, 03, 04, 05); Non-native Plants (03, 04, 06, 10); Timberland Resources (01, 02, 04); Rangeland Resources (01); Mineral and Geology Resources (01, 03); Lands and Special Uses (03, 04); Facilities and Roads (04); Scenic Environment (01); Heritage Program (01); and Tribal Rights and Interests (01, 02, 04).	
Guidelines	VEGU01	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	VEGU02	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.
	VEGU03	When coarse woody debris (CWD) in the larger size classes (>15 inches diameter) is not available for retention in an activity area, smaller size classes may be utilized to meet desired tonnage conditions described in Appendix A. However, these smaller size classes should only be utilized where the resulting fire hazard risk will remain within defined fuels management objectives. Fire hazard risk as it relates to both the activity area and adjacent areas should be considered.
	VEGU07	Live and dead vegetative components should be managed in spatial patch sizes and patterns representative of the appropriate fire regime insofar as current conditions allow. Refer to Appendix A for assistance in addressing this guideline[10].
	VEGU08	Ponderosa pine and Douglas-fir trees that fit the definition of a legacy tree should be retained.
	VEGU09	Sufficient live trees of the appropriate size should be retained in managed stands to recruit future snags and coarse woody debris where existing snag levels are below desired ranges. Refer to Appendix A, Tables A-5 and A-6.
	VEGU10	Management activities proposed to maintain or restore vegetative desired conditions should emphasize: • Retention of snags away from roads or other areas open to public access to reduce the potential for removal. • Retention of large snags of seral species (e.g. ponderosa pine, Douglas-fir and whitebark pine), consistent with species composition desired conditions, to increase longevity of standing snags.
	VEGU11	The personal use firewood program should be managed to retain large-diameter (greater than 20") snags and down logs through signing, public education, permit size restrictions or area closures, or other appropriate methods.
	See also Guidelines for SWRA Resources (03, 04, 05, 07, 08, 09, 12); Wildlife Resources (05, 06, 09, 11, 12, 13, 14, 15); Botanical Resources (01, 02, 03, 04, 05); Non-native Plants (03,05); Fire Management (05); Rangeland Resources (05); Mineral and Geology Resources (06, 07); Lands and Special Uses (01, 13); Facilities and Roads (09); Recreation Resources (23, 26); and Scenic Environment (02).	

[10] This guideline shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

NON-NATIVE PLANTS

As shown below, the following proposed changes would be made to the Forest-wide management direction for Non-Native Plants, pp. III-35 through III-37, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New direction: None

Modified direction:

- Standard NPST03, NPST04 and NPST05 would be modified to reflect current terminology.

Deleted direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, is not included below.

Management Direction for Fire Management		
Type	**Number**	**Direction Description**
Standard	NPST03	To prevent invasion/expansion of noxious weeds, the following provisions will be included in all special use authorizations, timber sale contracts, service contracts, or operating plans where land-disturbing activities are associated with the authorized land use (additional direction may be found in timber sale and service contract provisions and in Forest Service handbooks): a) Revegetate areas, as designated by the Forest Service, where the soil has been exposed by ground-disturbing activity. Implement other measures, as designated by the Forest Service, to supplement the influence of re-vegetation in preventing the invasion or expansion of noxious weeds. Potential areas would include: construction and development sites, underground utility corridors, skid trails, landings, firebreaks, slides, slumps, temporary roads, cut and fill slopes, and travelways of specified roads. b) Earth-disturbing equipment used on National Forest System lands--such as cats, graders, and front-loaders--shall be cleaned to remove all visible plant parts, dirt, and material that may carry noxious weed seeds. Cleaning shall occur prior to entry onto the project area and again upon leaving the project area, if the project area has noxious weed infestations. This also applies to fire suppression earth-disturbing equipment contracted after a WFDSS has been completed.
	NPST04	Contractors, with the exception of fire suppression prior to completion of WFDSS, shall be required to clean earth-disturbing, construction, and road maintenance equipment, of all sizes, to remove all plant parts, dirt, and material that may carry noxious weed seeds, prior to entry onto the Forest, or movement from one Forest project area to another.
	NPST05	During WFDSS development, identify noxious weed control and mitigation measures. Ensure their implementation through direction in the Letter of Delegation and the Incident Overhead Team briefing.

FIRE MANAGEMENT

As shown below, the following proposed changes would be made to the Forest-wide management direction for Fire Management, pp. III-38 through III-40, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction:

- Objective FMOB08 would be added to provide direction for the amount of prescribed fire to be undertaken that would contribute to accomplishment of objectives VEOB08 and FMOB04.

Modified Direction:

- Objective FMOB04 would be modified to address use of hazardous fuels reduction and maintenance treatments within the wildland urban interface.
- Standards FMST01, FMST02 and FMST03 would be modified to reflect current terminology.
- Guideline FMGU04 would be modified to reflect current terminology.

Deleted Direction:

- Guideline FMGU05 would be deleted to reflect current national fire policy which does not include fire use

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Fire Management

Type	Number	Direction Description
Objectives	FMOB04	Schedule and complete hazardous fuel reduction and maintenance treatments within the wildland urban interface.
	FMOB08	Use prescribed fire treatments to maintain and restore desired vegetation conditions to contribute to accomplishment VEOB08 and FMOB04.
	See also Objectives for TEPC Species (23); Air and Smoke Management (01, 02, 03, 04, 05); SWRA Resources (12, 13, 17); Wildlife Resources (01, 09); Vegetation (01, 06); Botanical Resources (02, 08); Non-native Plants (07); Facilities and Roads (08); Recreation Resources (03, 07, 19); and Heritage Program (14).	

Type	Number	Direction Description
Standards	FMST01	Once a decision in the Wildland Fire Decision Support System (WFDSS) is approved, heavy equipment shall not be used to construct firelines within Riparian Conservation Areas (RCAs) unless: a) The line officer or designee determines that imminent safety to human life or protection of structures is an issue; OR b) The incident resource advisor determines and documents an escaped fire would cause more degradation to RCAs than would result from the disturbance of heavy equipment. In no case will the decision to use heavy equipment in RCAs be delayed when the line officer or designee determines safety or loss of human life or protection of structures is at imminent risk.
	FMST02	Once a WFDSS decision is approved, incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities shall be located outside RCAs unless the only suitable location for such activities is determined and documented by the line officer or designee to be within an RCA. In no case will the decision to place these activities inside an RCA be delayed when the line officer or designee determines safety or loss of human life or structures is at imminent risk.
	FMST03	Once a WFDSS decision is approved, avoid delivery of chemical retardant, foam, or additives to all surface waters within RCAs unless: a) The line officer or designee determines that imminent safety to human life or protection of structures is an issue; OR b) The incident resource advisor determines and documents an escaped fire would cause more degradation to an RCA, than would be caused by addition of chemical, foam or additive delivery to surface waters in RCAs. In no case will the decision to avoid delivery of chemical retardant, foam or additives to surface waters within RCAs be delayed when the line officer or designee determines safety or loss of human life or protection of structures is at imminent risk.
Guidelines	FMGU04	Consider a full range of appropriate management responses for all wildland fires.
	FMGU05	Deleted, as part of 2011 proposed Forest Plan amendment for WCS.

TIMBERLAND RESOURCES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Timberland Resources, pp. III-41 through III-43, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Objective TROB01 would be modified to specifically address how many acres are anticipated to be treated using mechanical commercial and non-commercial treatments on a decadal basis that contributes to the overall vegetative maintenance and restoration objective, VEOB08, and hazardous fuel reduction objective FMOB04.
- Objectives TROB02 and TROB03 would be modified to reflect the ASQ and TSPQ that would result from implementation of the plan amendment.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Timberland Resources

Type	Number	Direction Description
Objectives	TROB01	On a decadal basis: a) Harvest timber, other than by salvage, on at least 20,000 acres, b) Reforest at least 500 acres, and c) Complete timber stand improvement activities on at least 3,000 acres. This objective contributes to the accomplishment of VEOB08 and FMOB04.
	TROB02	On a decadal basis, make available an estimated 54 million board feet of timber which will contribute to Allowable Sale Quantity (ASQ).
	TROB03	Utilize wood products (e.g., fuelwood, posts, poles, house logs, etc.) generated from vegetation treatment activities, on both suited and not suited timberlands, to produce an estimated 25 million board feet of volume on a decadal basis. This volume, when combined with ASQ, is the Total Sale Program Quantity (TSPQ). On a decadal basis, the TSPQ is estimated to be 80 million board feet.

RANGELAND RESOURCES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Rangeland Resources, pp. III-44 through III-47, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Guideline RAGU05 would be modified to address wildlife species of concern.
- Standard RAST03 would be modified to address existing water developments.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Rangeland Resources		
Type	**Number**	**Direction Description**
Guidelines	RAGU05	Where rangeland facilities or practices have been identified as potentially contributing to the degradation of water quality, aquatic species, wildlife species of concern, or occupied sensitive or watch plant habitat, facilities and practices causing degradation should be considered for relocation, closure, or changes in management strategy, alteration, or discontinuance.
Standards	RAST03	New water developments, corrals, and other handling or loading facilities shall not be located within RCAs unless it can be demonstrated that these facilities maintain or allow for restoration of beneficial uses and native and desired non-native fish habitat. Replaced existing water developments or facilities will be moved out of RCA unless no other options exist or it can be demonstrated that these facilities maintain or allow for restoration of beneficial uses and native and desired non-native fish habitat.

MINERAL AND GEOLOGY RESOURCES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Mineral and Geology Resources, pp. III-48 through III-51, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Objective MIOB08 and Guideline MIGU11 would be modified to address wildlife species of concern.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Minerals and Geology Resources

Type	Number	Direction Description
Objectives	MIOB08	During fine-scale analyses in areas where mine facilities are identified as a potential concern or problem contributing to degradation of water quality, aquatic species, wildlife species of concern or occupied sensitive or Watch plant habitat, evaluate and document where the contributing mine facilities are and prioritize opportunities to mitigate effects.
Guidelines	MIGU11	Where mine facilities or practices have been identified as potentially contributing to degradation of water quality, aquatic species, wildlife species of concern, or occupied sensitive and watch plant habitat, facilities and practices causing degradation should be considered for relocation, closure, changes in management strategy, alteration, or discontinuance.

LANDS AND SPECIAL USES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Lands and Special Uses, pp. III-52 through III-57, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Objective LSOB12 would be modified to address wildlife species of concern.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Lands and Special Uses

Type	Number	Direction Description
Objectives	LSOB12	During fine-scale analyses in areas where special use authorization facilities are identified as a potential concern or problem contributing to degradation of water quality, aquatic species, wildlife species of concern, or occupied sensitive or Watch plant habitat, evaluate and document where the contributing facilities are and prioritize opportunities to mitigate effects.

FACILITIES AND ROADS

As shown below, the following proposed changes would be made to the Forest-wide management direction for Facilities and Roads, pp. III-58 through III-60, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Objective FROB12 would be modified to address wildlife species of concern.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Facilities and Roads		
Type	**Number**	**Direction Description**
Objectives	FROB12	During fine-scale analyses in areas where roads and facilities are identified as a potential concern or problem contributing to degradation of water quality, aquatic species, wildlife species of concern or occupied sensitive or Watch plant habitat, evaluate and document where the contributing facilities are and prioritize opportunities to mitigate effects.

RECREATION RESOURCES

As shown below, the following proposed changes would be made to the Forest-wide management direction for Recreation Resources, pp. III-61 through III-67, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New or Added Direction: None

Modified Direction:

- Objective REOB01 and Guideline REGU07 would be modified to address wildlife species of concern.

Deleted Direction: None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, it is not included below.

Management Direction for Recreation Resources		
Type	**Number**	**Direction Description**
Objectives	REOB01	During fine-scale analyses in areas where recreation facilities are identified as a potential concern or problem contributing to degradation of water quality, aquatic species, wildlife species of concern or occupied sensitive or Watch plant habitat, evaluate and document the location of the facilities causing degradation and prioritize opportunities to mitigate effects.
Guidelines	REGU07	Where recreation facilities or practices have been identified as potentially contributing to degradation of water quality or aquatic species, wildlife species of concern or occupied sensitive and watch plant habitat, facilities and practices causing degradation should be considered for relocation, closure, changes in management strategy, alteration, or discontinuance.

MANAGEMENT AREA DESCRIPTION AND DIRECTION

COMMON MANAGEMENT PRESCRIPTION CATEGORY (MPC) MANAGEMENT DIRECTION

As shown below, the following proposed changes would be made to the common management prescription category (MPC) management direction, pp. III-81 through III-90, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest.

New direction:

- To MPCs 3.1, 3.2 and 4.1c, a vegetation standard requiring the retention during vegetation management treatments of all large snags and snags greater than 10 inches dbh where large snags are unavailable would be added.
- To MPCs 4.2, 5.1 and 6.1 a vegetation standard specifying how snags must be retained in commercial salvage sales would be added.
- To MPCs 5.1 and 6.1 an additional guideline would be added describing how public motorized use would be managed when building new roads to implement vegetation restoration projects.

Modified direction: None

Deleted direction:

- None

Other direction in this section would remain as presented in the 2003 Forest Plan and consequently, is not included below.

3.1—Passive Restoration and Maintenance of Aquatic, Terrestrial and Hydrologic Resources

MPC 3.1 Standards and Guidelines	
New Standard	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[11]

[11] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

3.2—Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources

MPC 3.2 Standards and Guideline	
New Standard	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

4.1c—Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities

MPC 4.1c Standards and Guideline	
New Standard	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

4.2—Roaded Recreation Emphasis

MPC 4.2 Standard and Guideline	
New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

5.1—Restoration and Maintenance Emphasis within Forested Landscapes

MPC 5.1 Standards and Guidelines	
New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]
New Guideline	On new permanent or temporary roads built to implement vegetation management activities, public motorized use should be restricted during activity implementation to minimize disturbance to wildlife habitat and associated species of concern. Effective closures should be provided in project design. When activities are completed, temporary roads should be reclaimed or decommissioned and permanent roads should be put into Level 1 maintenance status unless needed to meet transportation management objectives.

[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

6.1—Restoration and Maintenance Emphasis within Non-Forested Landscapes

MPC 6.1 Standards and Guidelines	
New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[3]
New Guideline	On new permanent or temporary roads built to implement vegetation management activities, public motorized use should be restricted during activity implementation to minimize disturbance to wildlife habitat and associated species of concern. Effective closures should be provided in project design. When activities are completed, temporary roads should be reclaimed or decommissioned and permanent roads should be put into Level 1 maintenance status unless needed to meet transportation management objectives.

MANAGEMENT AREA DIRECTION

As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 2, Upper Salmon River Valley, pp. III-100 through III-123, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend).

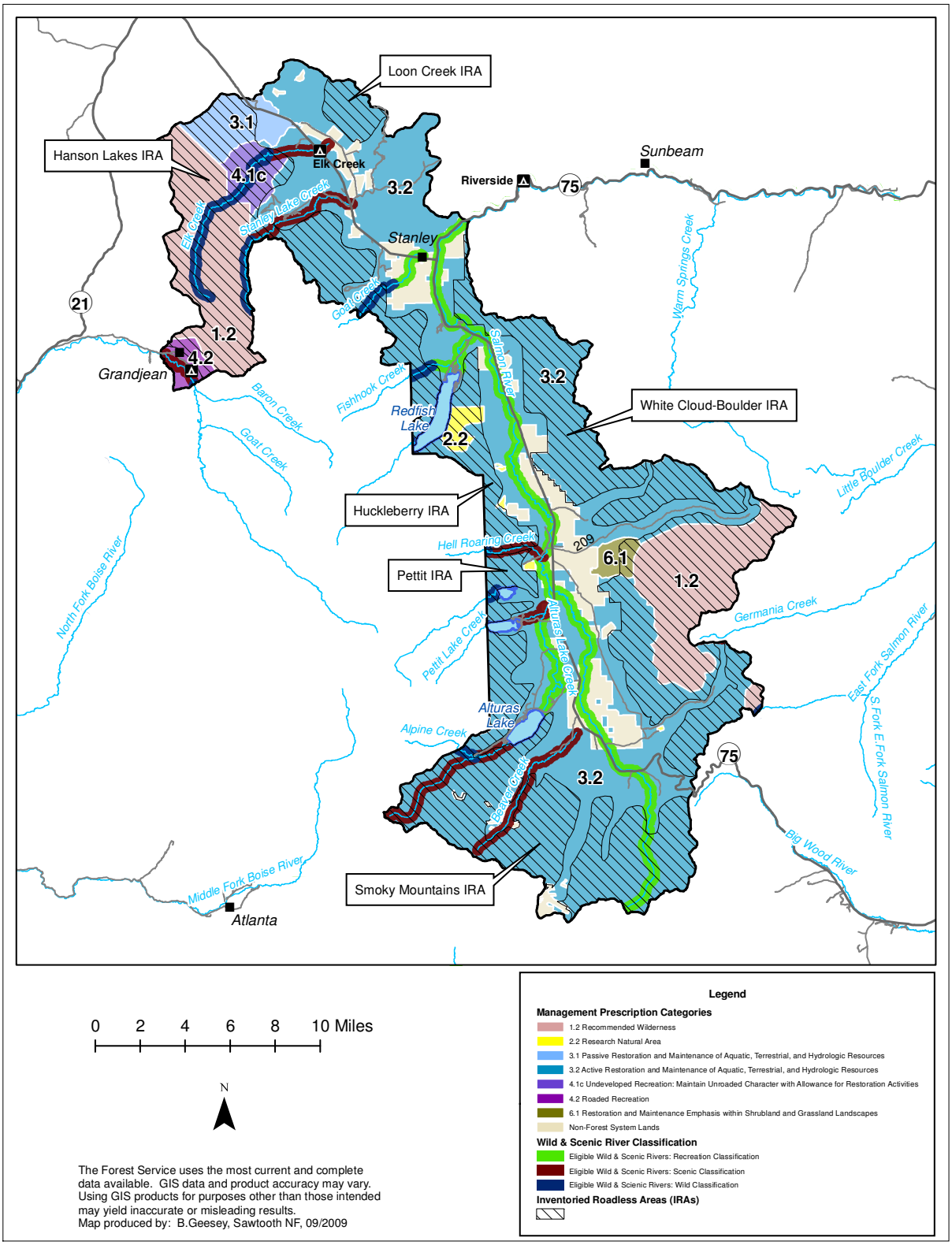
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction.
- To MPC 1.2, general standard 0204 and fire guideline 0216 would be modified to reflect current terminology.
- To Wild and Scenic Rivers, fire standard 0212 would be modified to reflect current terminology.
- To MPC 2.2, general standard 0220 would be modified to reflect current terminology.
- To MPC 3.1, a vegetation standard specifying snag retention would be added and fire standard 0225 would be modified to reflect current terminology.
- To MPC 3.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation standard 0229 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0232 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 0236 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. Vegetation guideline 0240 would be modified to reflect current terminology. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added.
- To reflect priorities identified by the WCS, objective 0260 would be modified and a new objective added in the Vegetation section.
- To reflect current terminology, Fire Management objective 2151 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 2 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 02. Upper Salmon River Valley Location Map

Management Area 2
Upper Salmon River Valley

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Antelope, elk, mule deer, and Brewers sparrow and habitat for pygmy rabbit and greater sage-grouse are found in low-elevation shrublands. Bald eagles winter and nest along the Salmon River and use the morainal lakes during spring and fall. Area forests provide habitat for the ESA listed Canada lynx, and a number of Region 4 Sensitive species including northern goshawk, flammulated owl, common loon, great gray owl, boreal owl, peregrine falcon, three-toed woodpecker, fisher, wolverine, Townsend's big-eared bat and Columbia spotted frog. Other species of management concern include pileated woodpecker, bighorn sheep and mountain goat. Much of the area provides nesting and foraging habitat for migratory landbirds, and general habitat for wide-ranging mammals such as elk, bear, mountain lion, and wolves. Riparian and adjacent forested areas provide habitat for moose. Gray wolves were re-introduced near here in 1995 and 1996, and the area is in the Central Idaho Wolf Recovery Area. Several packs have established within the area since reintroduction. Greater sage-grouse were once common in the Sawtooth Valley but the population declined in the 1970's and very few occurrences have been recorded in recent years. Re-introduction was attempted in the 1980's and a very small, remnant population of greater sage-grouse is still present within the Sawtooth Valley.

Terrestrial habitat is functioning at risk in some areas due to human-caused disturbance, introduction of invasive species, grazing impacts, and long-term fire exclusion. Increasing recreation has increased disturbance to wildlife populations year-round and there are localized concerns with elk and mountain goat winter range and wolverine winter denning habitat. Introduced spotted knapweed and other non-native species are affecting sagebrush communities and other habitats. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function the same way they did historically. In recent years, two large fires, Valley Road (2005) and Trailhead (2006), have occurred in the area in the montane and subalpine community types, setting vegetation back to early seral conditions. A recent large-scale mountain pine beetle epidemic has resulted in high mortality rates in mature lodgepole and whitebark pine stands.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. Most of the Management Area falls within the Sawtooth designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models. The area is identified as core habitat for terrestrial wildlife species including wolverine, mountain goat, and sandhill crane. This area also contains limited elk winter range.

Aspen and the whitebark pine component of the High Elevation Subalpine fir vegetation type are restoration priorities for forested wildlife habitat. These vegetation types occur in moderate to high elevations and are identified as moderately to highly departed from their historic condition. Aspen communities support high species diversity. Whitebark pine communities provide an important food source for many animals and provide important microclimates in harsh, exposed alpine environments for trees to establish, providing important habitat for many wildlife species. The priority watershed for treatment is the Upper Salmon HUC5 watershed (1706020112). This watershed was selected due to its relative abundance of High Elevation Subalpine fir vegetation type and the potential to expand the whitebark pine component in this vegetation type.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 1.2 Recommended Wilderness	General Standard	0204 Modified	Management actions, including wildland fire and prescribed fire, must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.
	Fire Standard	0212 Modified	Wildland fire and prescribed fire must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.

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MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]
	Fire Guideline	0216 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as ORVs are maintained within the corridor.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 2.2 Research Natural Areas	General Standard	0220 Modified	Mechanical vegetation treatments, salvage harvest, prescribed fire, and wildland fire may only be used to maintain values for which the areas were established, or to achieve other objectives that are consistent with the RNA establishment records or management plans.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.1 Passive Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Fire Standard	0225 Modified	Wildland fire and prescribed fire may only be used where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species, or b) Maintain or restore habitat for native and desired non-native wildlife and plant species.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	0229 Modified	Vegetative restoration or maintenance treatments—including wildland fire mechanical, and prescribed fire—may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]

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[2] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0232 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Guideline	0236 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.
	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[3]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Guideline	0240 Modified	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [3]
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[3] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
Vegetation	Objective	0260 Modified	Maintain or restore the early seral aspen component in the Warm Dry Subalpine Fir and Lodgepole Pine groups.
	Objective	New	Maintain or restore the whitebark pine component in the High Elevation Subalpine Fir group, as described in Appendix A. Prioritize restoration in the Upper Salmon River (1706020113) watershed.
Fire Management	Objective	02151 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 3, East Fork Salmon River/White Clouds, pp. III-124 through III-143, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend).

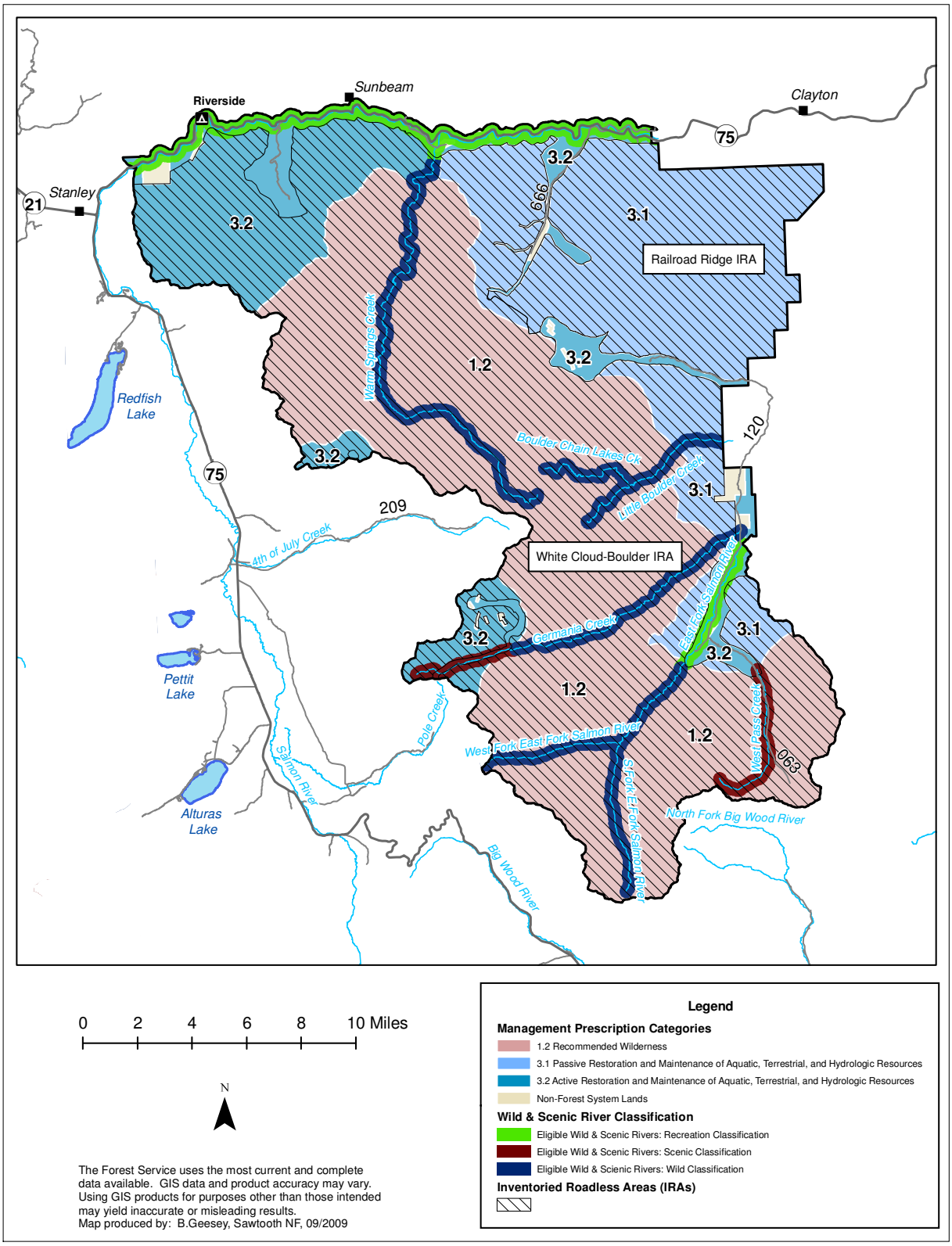
Management Area Description:

- The description of Vegetation would be modified to better reflect the current condition, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 1.2, general standard 0304 and fire standard 0311 would be modified to reflect current terminology.
- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction. Eligible Wild and Scenic Rivers, fire guideline 0315 would be modified to reflect current terminology.
- To MPC 3.1, a vegetation standard specifying snag retention would be added and fire standard 0319 would be modified to reflect current terminology.
- To MPC 3.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation standard 0323 would be modified to reflect current terminology
- To reflect priorities identified by the WCS, objective 0344 would be modified and a new objective added in the Vegetation section, and a new objective would be added to the Wildlife Resources section. Objective 0374 would be modified to be consistent with wording in Objective 0370.
- To reflect current terminology, vegetation objective 0351and fire management objective 03117 and guideline 03119 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 3 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 03. East Fork Salmon River/White Clouds Location Map

Management Area 3
East Fork Salmon River/White Clouds

MANAGEMENT AREA DESCRIPTION

Vegetation - An estimated 27 percent of the management area is non-forested, or covered by grassland, shrubland, meadows, rock, or water. Much of this percentage is comprised of the Mountain Big Sagebrush, Montane Shrub, and Alpine/Dry Meadows vegetation groups. The main forested vegetation groups are High Elevation Subalpine Fir (32 percent), Warm Dry Subalpine Fir (20 percent), Cool Dry Douglas-Fir (10 percent), and Persistent Lodgepole Pine (10 percent). Aspen is a minor but important component in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups. Whitebark pine is an important component of the High Elevation Subalpine Fir group.

The Montane Shrub group is near properly functioning condition, although older age classes dominate structure due to fire exclusion. The Mountain Big Sagebrush group is functioning at risk due to livestock grazing impacts and the introduction of non-native species, particularly spotted knapweed. Alpine and Dry Meadows are functioning at risk in some areas because of historic grazing impacts, introduced species, and conifer encroachment.

High Elevation Subalpine Fir is functioning at risk where fire exclusion has allowed the subalpine fir to out-compete the whitebark pine component. Whitebark pine is a high priority for restoration due to the amount of disturbance that has taken place in recent years from wildland fire and mountain pine beetle. The Warm Dry Subalpine Fir, Cool Dry Douglas-Fir, and Persistent Lodgepole Pine groups are functioning at risk where fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen. Aspen is present in pure stands and mixed with Douglas-fir. However, many stands are dying out or being replaced by encroaching conifers because of fire exclusion. Fire hazard is increasing in Douglas-fir and lodgepole stands due to increasing mortality from Douglas-fir beetle and mountain pine beetle outbreaks, and increasing fuel loads.

Riparian vegetation is functioning at risk in localized areas due to loss of vegetation and stream and floodplain alterations from roads, developed and dispersed recreation sites, and grazing. Dead and down wood levels are low in some areas due to fuelwood gathering. Sedge and willow species are being replaced by less appropriate grass species due to livestock grazing. Fire exclusion and irrigation diversions have had the cumulative effect of reducing wet meadows, willows, and the overall amount of riparian areas.
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Fire Management - During the last 20 years, 58 fire starts have occurred within the management area, with just over a third of the starts being caused by lightning. Approximately 20,000 acres have burned within the management area since 2005. Mixed2 to lethal fires are a common component of the fire regimes in this area, particularly following bark beetle outbreaks. Sunbeam and Clayton are National Fire Plan communities. Due to private residential

development adjacent to the Forest, there are many wildland-urban interface subwatersheds in this area including: Sullivan-Clayton, French-Spring, Beaver-Peach, Muley-Elk, Prospect-Robinson Bar, Slate Creek, Big Boulder Creek, Wickiup-Sheep, and Joes-Little Casino. One subwatershed, Joes-Little Casino, is considered to pose risks to life and property from potential post-fire floods and debris flows. Historical fire regimes for the area are estimated to be15 percent lethal and 85 percent mixed1 or 2. Only 1 percent of the area regimes have vegetation conditions that are highly departed from their historical range. However, 33 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 1.2 Recommended Wilderness	General Standard	0304 Modified	Management actions, including wildland fire and prescribed fire, must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.
	Fire Standard	0311 Modified	Wildland fire and prescribed fire must be managed in a manner that maintains wilderness values, as defined in the Wilderness Act.

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MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Fire Guideline	0315 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as ORVs are maintained within the corridor.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.1 **Passive Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources**	Fire Standard	0319 Modified	Wildland fire and prescribed fire may only be used where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species, or b) Maintain or restore habitat for native and desired non-native wildlife and plant species.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 **Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources**	Vegetation Standard	0323 Modified	Vegetative restoration or maintenance treatments—including wildland fire , mechanical, and prescribed fire—may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6[2].

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[2] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
Vegetation	Objective	0344 Modified	Maintain or restore whitebark pine to desired conditions in the High Elevation Subalpine Fir vegetation group as described in Appendix A. Prioritize restoration in the Squaw-Slate (1706020108) watershed.
	Guideline	0351	Consider the impacts to whitebark pine from suppression of high-elevation fires when developing Fire Management Plans and strategies.
	Objective	New	Initiate restoration of large tree stand desired conditions in the Cool, Dry Douglas-fir vegetation group, as described in Appendix A. Prioritize treatments in the Squaw-Slate (1706020108) watershed.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in the Squaw-Slate (1706020108) watershed. Prioritize treatments in the Cool, Dry Douglas-fir vegetation group, in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	0374 Modified	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverines in the Boulder and White Cloud Mountains by minimizing disturbance from winter recreation activities.
Fire Management	Objective	03117 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.
	Guideline	03119 Modified	Coordinate with adjacent land managers to develop compatible wild land fire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 4, Big Wood River, pp. III-145 through III-163, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend). The map would also be modified to add the Basin Gulch RNA to MPC 2.2.

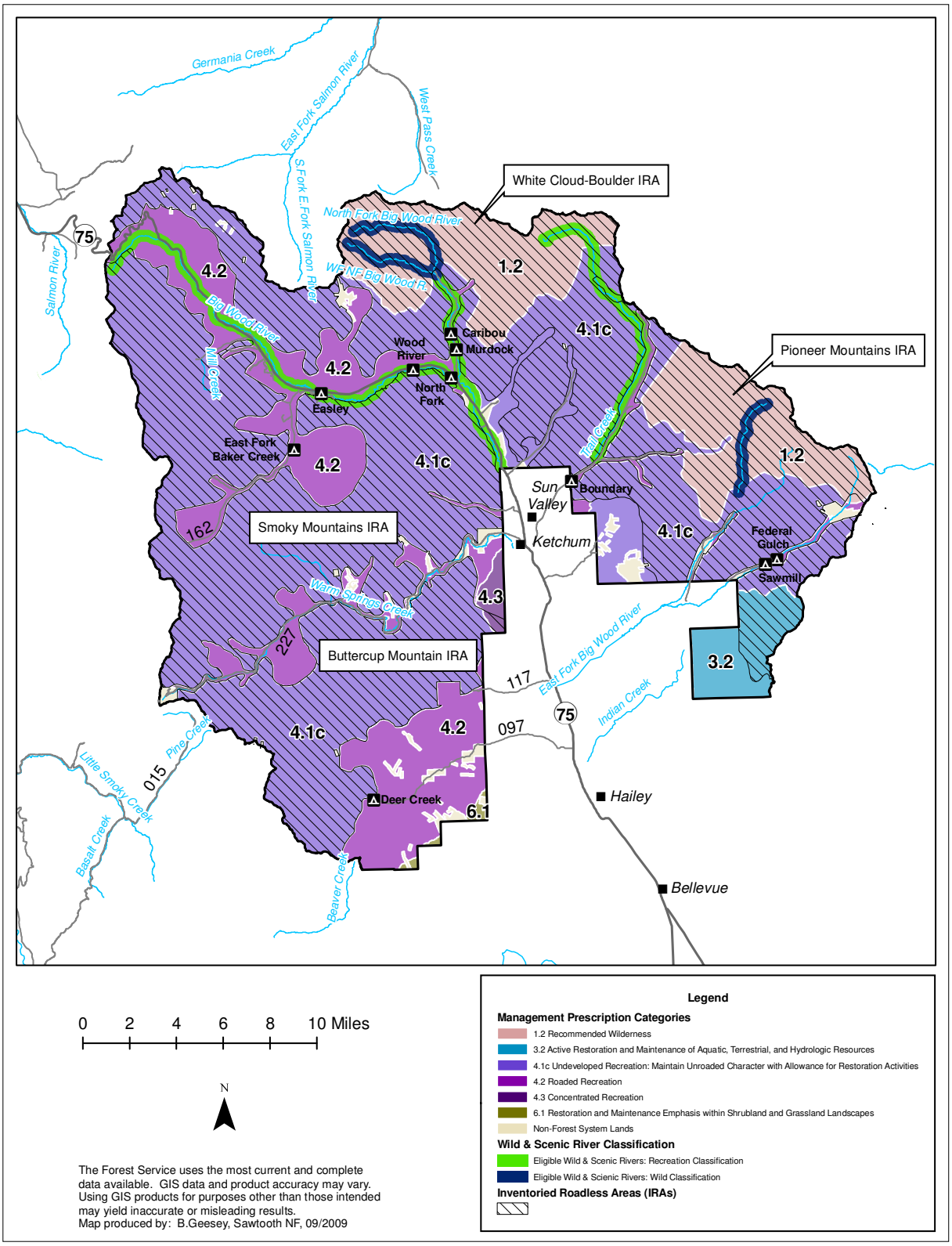
Management Area Description:

- The MPC table would be modified to reflect the addition of lands assigned to MPC 2.2.
- The description of Special Features would be modified to reflect errata 2 to the Forest Plan which addresses the Basin Gulch Research Natural Area. Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 1.2, general standard 0404 and fire standard 0410 would be modified to reflect current terminology.
- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction and fire guideline 0415 would be modified to reflect current terminology.
- To MPC 3.2, a vegetation standard specifying snag retention would be added and vegetation standard 0418 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0421 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 0426 would be modified to reflect current terminology.
- To MPC4.3, a new standard concerning wildfire suppression strategies will be added and the standard prohibiting wildfire use would be deleted.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0431 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, objective 0458 would be modified in the Recreation Resources section, and a new objective would be added in the Vegetation section and in the Wildlife Resources section.
- To reflect current terminology, fire management objective 04119 and fire management guideline 04121 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 4 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 04. Big Wood River Location Map

Management Area 4
Big Wood River

MANAGEMENT AREA DESCRIPTION

Management Prescriptions - Management Area 4 has the following management prescriptions (see map on preceding page for distribution of prescriptions).

Management Prescription Category (MPC)	Percent of Mgt. Area
1.2 – Recommended Wilderness	14
2.2 – Research Natural Areas*	Trace
3.2 – Active Restoration and Maintenance of Aquatic, Terrestrial & Hydrologic Resources	3
4.1c – Maintain Unroaded Character with Allowance for Restoration Activities	63
4.2 – Roaded Recreation Emphasis	19
4.3 – Concentrated Recreation	1
6.1 – Restoration and Maintenance Emphasis within Shrubland & Grassland Landscapes	Trace

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Special Features - Segments of the following five streams are eligible for Wild and Scenic River designation: Big Wood River, West Fork North Fork Big Wood River, North Fork Big Wood River, Trail Creek, and North Fork Hyndman Creek.

An estimated 75 percent of the management area is inventoried as roadless, including portions of the White Cloud-Boulder, Smoky Mountains, Buttercup, and Pioneer Mountains Roadless Areas. This area lies adjacent to the Sawtooth National Recreation Area. The Forest has recommended the White Cloud-Boulder and Pioneer Mountains areas for wilderness designation. The Sun Valley Ski Area offers world-renown winter recreation opportunities. Numerous hot springs occur in the area. Some, like Easley and Clarendon, are developed and privately run. Others are more natural in character. The State of Idaho has designated State Highway 21 as the Sawtooth Scenic Byway.

The Basin Gulch Research Natural Area (1,175 acres) was established in 1989 to preserve whitebark and limber pine stands, avalanche paths, alpine and subalpine vegetation, waterfalls, steep scree communities and scree meadows within a complete, small watershed.

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Vegetation - An estimated 39 percent of the management area is non-forested, covered by grassland, shrubland, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush, Montane Shrub, Alpine Meadows, and Dry Meadows vegetation groups. The main forested vegetation groups are Warm Dry Subalpine Fir (32 percent), Cool Dry Douglas-Fir (14 percent), and High Elevation Subalpine Fir (11 percent). Aspen is a minor but important component in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups. The Smoky Mountains portion of the area on the west side has more tree vegetation than the Boulder and Pioneer Mountains to the east.

The Montane Shrub group is functioning at risk due to localized displacement impacts. This group is receiving heavier browsing and use as adjacent winter range areas off-Forest are being lost to development. The Mountain Big Sagebrush group is functioning at risk due to livestock grazing impacts and the introduction of non-native species, particularly spotted knapweed. Alpine and Dry Meadows are functioning at risk in some areas because of historic grazing impacts, introduced species, and increasing conifer densities.

High Elevation Subalpine Fir is functioning at risk where fire exclusion has allowed the more shade-tolerant subalpine fir to dominate, to the detriment of the whitebark pine component. The Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups are functioning at risk where fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen. Aspen is present in pure stands and mixed with Douglas-fir. However, many stands are dying out or being replaced by conifers because of fire exclusion. Fire hazard is increasing in conifers stands due increasing fuel loads and increasing mortality from mistletoe and Douglas-fir tussock moth.

Riparian vegetation is functioning at risk in localized areas due to loss of vegetation and stream and floodplain alterations from roads, developed and dispersed recreation sites, and livestock grazing. Dead and down wood levels are low in some areas due to fuelwood gathering. Native sedge species are being replaced by grass species due to livestock grazing. Fire exclusion, lowered beaver populations, stream-side highway, road and facility development, and irrigation diversions have had the cumulative effect of reducing wet meadows, willows, and the overall amount of riparian areas. The Deer and Greenhorn Creek watersheds are high priority for active management to restore the large tree size class.
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Wildlife Resources – Greater sage-grouse, Brewer's sparrow, and habitat for pygmy rabbit can be found in area shrublands. Mid-elevation Douglas-fir forests provide habitat for a number of Region 4 Sensitive species, including northern goshawk, flammulated owl and Townsend's big-eared bat, and other species of management concern, including pileated woodpecker. High-elevation subalpine forests provide habitat for boreal owl, three-toed woodpecker, mountain goat, wolverine, and the ESA listed Canada lynx, as well as summer range for deer, elk, black bear, and mountain lion. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Riparian and adjacent forested areas provide habitat for moose. Much of the area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear and wolves. Gray wolves were re-introduced near here in 1995 and 1996, and the area is in the Central Idaho Wolf Recovery Area. Several packs have become established in this area since reintroduction. Habitat for yellow-billed cuckoo, an ESA Candidate species, may be present in the lower potions of the Big Wood River. Additionally, elk winter ranges occur in lower Trail Creek and in the headwater tributaries of Elkhorn Creek.

The Bullwhacker elk feeding station in the Warm Springs Creek drainage keeps elk in this area throughout the winter. Most deer and elk winter range was historically off the Forest. However, more and more of this area is being developed, and now many elk winter on the Forest.

Terrestrial habitat is functioning at risk in some areas due to human-caused disturbance, introduced invasive species, grazing impacts, and fire exclusion. Increasing recreation, particularly during winter, also increases the stress on wildlife populations, causing them to move more when movement is difficult, forage is scarce, and energy reserves are low. Localized concerns with elk and mountain goat winter range and wolverine winter denning habitat exist. Off-Forest development is altering patterns of winter range use. Introduced spotted knapweed is affecting sagebrush communities. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. One large fire, Castle Rock (2007), recently occurred within the area, creating mosaics in montane vegetation and setting upper montane and subalpine vegetation back to early seral conditions.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. A large portion of the Management Area falls within the Big Wood River and Boulder-White Clouds focal areas, or biologically important areas. This designation was given to these areas due to their exceptional diversity of SGCN based on species' richness models, and because these areas contain important migration corridors and winter range for large ungulate species and core habitat for terrestrial wildlife species including wolverine, mountain goat and bighorn sheep.

The Cool Dry and Cool Moist Douglas-Fir and aspen vegetation types are restoration priorities for forested wildlife habitat. These vegetation types occur in low to moderate elevations and are identified as moderately to highly departed from their historic condition. Aspen communities support high species diversity. Douglas-fir in the large tree size class is an important component of old forest habitat upon which numerous Forest Sensitive, MIS and Idaho SGCN depend. The Deer-Quiqley HUC5 watershed (1704021908) is priority watershed for treatment. This watershed was selected due to its relative abundance of aspen and Douglas-fir vegetation types and the relatively high percentages of large and medium size tree classes that exist within the Douglas-fir vegetation types. These attributes offer the best opportunity to develop old forest habitat within the time span of this Forest Plan.
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Fire Management - During the last 20 years, 163 fire starts have occurred within the management area, almost half of which were caused by lightning. Approximately 48,500 acres have burned within the management area since 1988, or 14 percent of the area. The 2007 Castle Rock Fire burned approximately 47,000 acres. Mixed2 fires are a common component of the fire regimes in this area, particularly following bark beetle outbreaks. Sun Valley, Ketchum, and Elkhorn are National Fire Plan communities. Due to private residential development adjacent to the Forest, there are many wildland-urban interface subwatersheds in this area including: Owl-Big Wood River, Prairie Creek, Easley-Headquarters, North Fork Big Wood-Murdock, Eagle Creek, Lake Creek, Baker-North Fork Big Wood, Fox-Leroux, Adams-Big Wood, Warfield-West Fork Warm Spring, Greenhorn Creek, Wolftone-North Fork Deer, Upper Warm Springs Creek, Sun Valley-Trail, Elkhorn Creek, Quigley Creek, Cover Creek, Federal Gulch-Paymaster, Hyndman Creek, Triumph-Milligan, Cold Spring-Clear, and Indian Creek. Except for Prairie

Creek and Owl-Big Wood River, all of the above subwatersheds were considered to pose risks to life and property from potential post-fire floods and debris flows. Upper Deer Creek, Antelope-Wilson, Upper Trail Creek, Corral Creek, Barr Gulch-Rooks, Castle Creek, and Thompson Creek were also considered to pose risks. Historical fire regimes for the area are estimated to be: two percent lethal and 96 percent mixed1 or 2, and two percent non-lethal. Only three percent of the area regimes have vegetation conditions that are highly departed from their historical range. However, 52 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 1.2 Recommended Wilderness	General Standard	0404 Modified	Management actions, including wildland fire and prescribed fire, must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.
	Fire Standard	0410 Modified	Wildland fire and prescribed fire must be managed in a manner that maintains wilderness values, as defined in the Wilderness Act.

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MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Fire Guideline	0415 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as the ORVs are maintained within the corridor.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	0418 Modified	Vegetative restoration or maintenance treatments—including wildland fire, mechanical, and prescribed fire—may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0421 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Guideline	0426 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.
	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.3 Concentrated Recreation	Standard	New	Fire suppression strategies will focus on minimizing impacts to recreation developments and investments.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Guideline	0431 Modified	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Vegetation	Objective	New	Initiate restoration of large tree stand desired conditions in the Cool, Dry Douglas-fir vegetation group, as described in Appendix A. Prioritize treatments in the Deer Creek drainage of the Deer-Quigley (1704021908) watershed.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in the Deer Creek drainage of the Deer-Quigley (1704021908) watershed. Prioritize treatments in the Cool, Dry Douglas-fir vegetation group, in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	0458 Modified	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the Smoky, Pioneer, Boulder and White Cloud Mountains by minimizing disturbance from winter recreation activities.
Fire Management	Objective	04119 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings except in Sun Valley-Trail, Elkhorn Creek, Lake Creek, Eagle Creek, Fox-Leroux, Adams-Big Wood, Triumph-Milligan, Easley-Headquarters outside SNRA boundary, east portion Barr Gulch-Rooks, Warfield-West Fork Warm Springs, Greenhorn Creek, Deer-Quigley, Wolftone-North Fork Deer Subwatersheds.
	Guideline	04121 Modified	Coordinate with adjacent land managers to develop compatible wildland fire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 5, Little Wood River, pp. III-164 through III-173, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend).

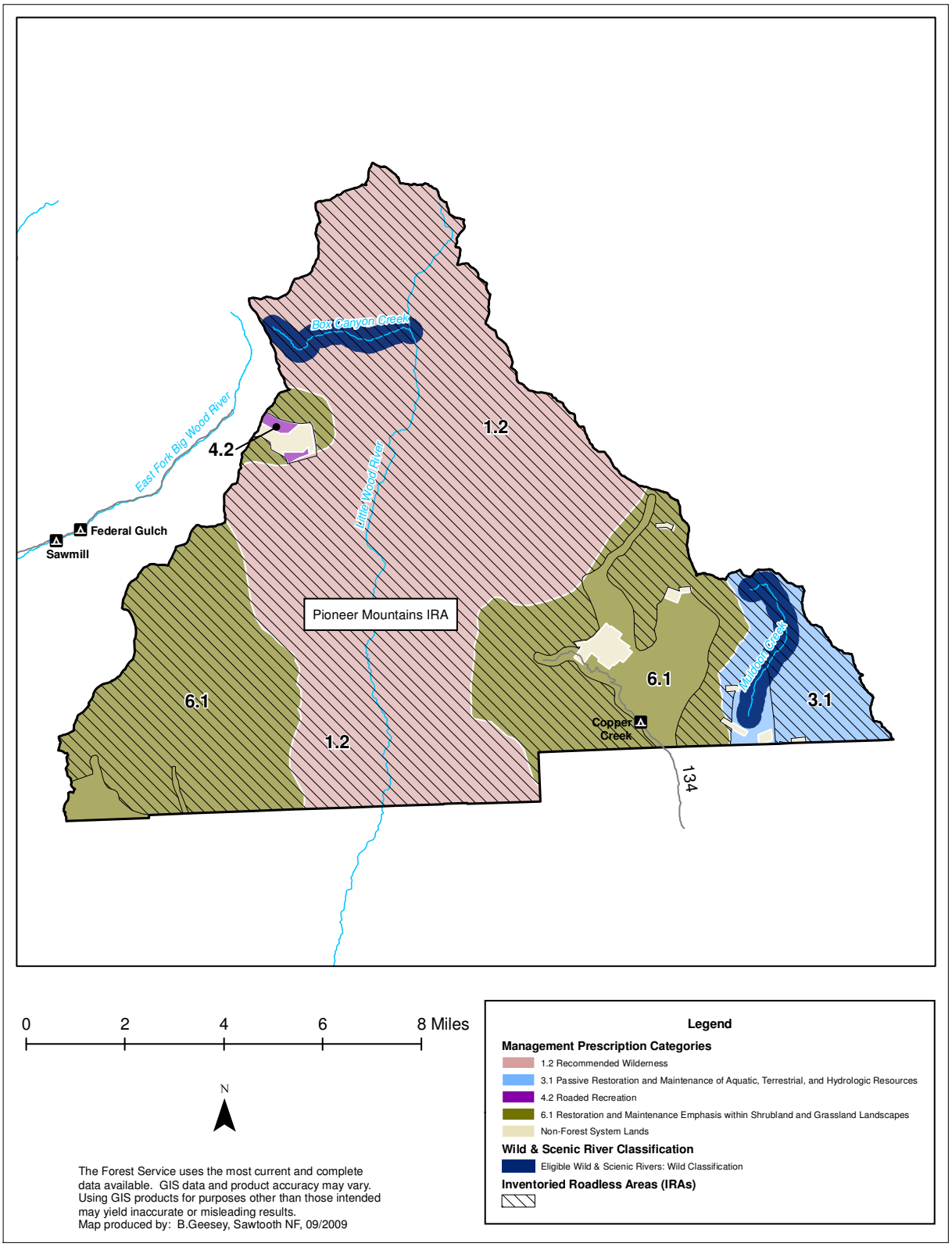
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 1.2, general standard 0501 and fire standard 0508 would be modified to reflect current terminology.
- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction and fire guideline 0511 would be modified to reflect current terminology.
- To MPC 3.1, a vegetation standard specifying snag retention would be added and fire standard 0515 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 0519 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0521 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, objectives 0529 and 0530 in the Vegetation section and objective 0542 in the Recreation Resources section would be modified. A new objective would be added in the Wildlife Resources section.
- To reflect current terminology, fire management objective 0556 and fire management guideline 0557 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 5 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 05. Little Wood River Location Map

Management Area 5
Little Wood River

MANAGEMENT AREA DESCRIPTION

Vegetation - An estimated 58 percent of the management area is non-forested, covered by grasslands, shrublands, meadows, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush, Montane Shrub, or Alpine and Dry Meadows vegetation groups. The main forested vegetation groups are High Elevation Subalpine Fir (6 percent), Cool Dry Douglas-Fir (20 percent), and Warm Dry Subalpine Fir (11 percent). Aspen is a minor but important component in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups.

The Montane Shrub group is functioning at risk due to fire exclusion and historic grazing and trailing impacts which have altered structure and species composition. The Mountain Big Sagebrush group is functioning at risk due to livestock grazing impacts and the introduction of non-native species, particularly spotted knapweed and cheatgrass. Alpine and Dry Meadows are functioning at risk because of historic and current grazing impacts, introduced species, and increasing conifer densities.

High Elevation Subalpine Fir is functioning at risk where fire exclusion that has allowed the more shade-tolerant subalpine fir to dominate, to the detriment of the whitebark pine component. The Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups are functioning at risk because fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen. Aspen is present in pure stands and mixed with Douglas-fir. However, many aspen stands are dying out or being replaced by encroaching conifers because of fire exclusion. Fire hazard is increasing in conifers stands due to increasing fuel loads and increasing mortality from mistletoe and Douglas-fir tussock moth.

Riparian vegetation is functioning at risk in localized areas due primarily to grazing impacts and fire exclusion. In some areas, grasses are replacing sedge species due to livestock grazing. Cottonwood and willow communities are becoming old and decadent and are not regenerating due to fire exclusion. Snag levels are likely at historic levels due to limited access for fuelwood gathering. The Little Wood River watershed is a high priority for active management to restore the large tree size class.
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Wildlife Habitat – Habitat for Greater sage-grouse and pygmy rabbit can be found in low-elevation shrublands. Moose have been introduced in the Copper Creek drainage. Aspen and cottonwood riparian corridors provide habitat for Lewis' woodpecker. Mid-elevation conifer forests provide habitat for a number of Region 4 Sensitive species, including northern goshawk, flammulated owl and Townsend's big-eared bat. High-elevation subalpine forests provide habitat for boreal owl, three-toed woodpecker, wolverine, and the ESA listed Canada lynx, as well as summer range for deer, elk, black bear, mountain goat, and mountain lion. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Much of the

area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear, and wolves. The area is in the Central Idaho Wolf Recovery Area and several packs have established in this area since reintroduction.

Terrestrial habitat is functioning at risk in some areas due to introduced invasive species, grazing impacts, and fire exclusion. Introduction of invasive species has the potential to affect sagebrush communities. In some areas, current livestock grazing is not allowing localized areas of historic grazing impacts to recover. The level of human disturbance is relatively low in the area, particularly in winter, and little habitat fragmentation has occurred from roads, timber harvest, or fire.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. A large portion of the Management Area falls within the Pioneer Mountains and the Big Wood River designated focal areas or biologically important areas. This designation was given to these areas due to their exceptional representation of natural habitats (riparian woodland and sagebrush-steppe) and because they contain migration corridors and winter range for large ungulate species and core habitat for Lewis' woodpecker and sage-grouse.

The Cool, Dry Douglas-Fir, xeric Douglas-fir and aspen vegetation types are restoration priorities for forested wildlife habitat. These vegetation types occur in low to moderate elevations and are identified as moderately to highly departed from their historic condition. Aspen communities in the Management Area support high species diversity. Douglas-fir in the large tree size class is an important component of old forest habitat upon which numerous Forest Sensitive, MIS and Idaho SGCN depend. The Upper Little Wood HUC5 watershed (1704022106) is a priority watershed for treatment. This watershed was selected due to its relative abundance of aspen and Douglas-fir vegetation types and its relatively high percentages of large and medium size tree classes that exist within the Douglas-fir vegetation types. These attributes offer the best opportunity to develop old forest habitat within the time span of this Forest Plan.
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Fire Management - No large wildfires have occurred in the management area in the last 20 years. Twelve fire starts have occurred within the management area, 67 percent caused by lightning. There are no National Fire Plan communities or wildland-urban interface subwatersheds in this area. Historical fire regimes for the area are estimated to be 90 percent mixed1 or 2, and 10 percent non-lethal. Only 5 percent of the area regimes have vegetation conditions that are highly departed from their historical range. However, 46 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 1.2 Recommended Wilderness	General Standard	0501 Modified	Management actions, including wildland fire and prescribed fire, must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.
	Fire Standard	0508 Modified	Wildland fire and prescribed fire must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.

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MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Fire Guideline	0511 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as ORVs are maintained within the corridor.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.1 Passive Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Fire Standard	0515 Modified	Wildland fire and prescribed fire may only be used where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species, or b) Maintain or restore habitat for native and desired non-native wildlife and plant species.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	0519 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	0521 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

Resource/Program	Direction	Number	Management Direction Description
Vegetation	Objective	0529	Initiate restoration of large tree stand desired conditions in the Cool Dry Douglas-fir vegetation group, as described in Appendix A. Prioritize treatments in the Upper Little Wood (1704022106) watershed.
	Objective	0530	Restore the early seral aspen component to desired conditions, as described in Appendix A, in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir vegetation groups to improve wildlife habitat. Maintain or restore whitebark pine in the High Elevation Subalpine Fir vegetation group to desired conditions, as described in Appendix A.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in the Upper Little Wood (1704022106) watershed. Prioritize treatments in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	0542 Modified	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the Pioneer Mountains by reducing disturbance from winter recreation activities.
Fire Management	Objective	0556 Modified	Identify areas appropriate for Wildland Fire emphasizing the Pioneer Mountains recommended wilderness area. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.
	Guideline	0557 Modified	Coordinate with adjacent land managers to develop compatible wildland fire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 6, Upper South Fork Boise River, pp. III-174 through III-185, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend).

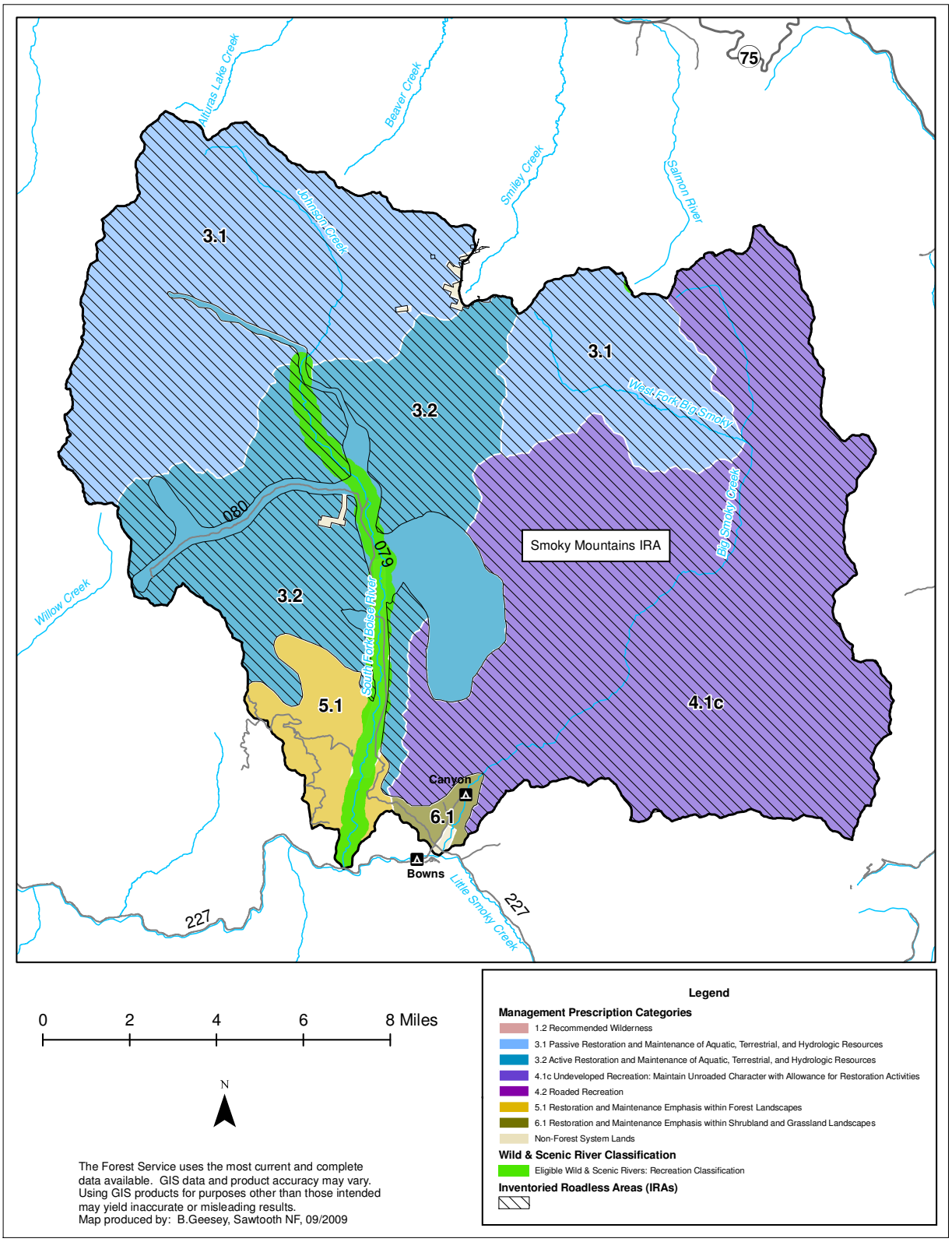
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction and fire guideline 0603 would be modified to reflect current terminology.
- To MPC 3.1 a vegetation standard specifying snag retention would be added and vegetation standard 0606 and fire standard 0607 would be modified to reflect current terminology.
- To MPC 3.2 a vegetation standard specifying snag retention would be added and vegetation standard 0611 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0614 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0617 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0620 would be modified to reflect current terminology.
- To reflect direction identified in the WCS, Objective 0640 would be modified and a new standard would be added to the Recreation Resources section.
- To reflect current terminology, fire management objective 0653 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 6 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 06. Upper South Fork Boise River Location Map

Management Area 6
Upper South Fork Boise River

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Because most of this management area lies above 5,500 feet, the terrestrial and avian wildlife to be found are generally high-elevation species. The cool shrublands and forests provide big game summer range but are generally too high for winter range. However, there is one elk winter feeding site along the South Fork Boise River that keeps elk in the area all winter long. Elk were eliminated in this area near the turn of the century and re-introduced in the 1930s. Douglas-fir forests at lower elevations provide habitat for Region 4 Sensitive species, including northern goshawk, flammulated owl and Townsend's big-eared bat, and other species of management concern including pileated woodpecker. Peregrine falcon and mountain goats use the rocky bluffs that extend up the steep canyonlands. High-elevation subalpine fir forests provide habitat for boreal owls, three-toed woodpeckers, fisher, wolverine, and ESA listed Canada lynx as well as summer range for deer, elk, black bear, and mountain lion. Mountain goat habitat is also found in the high-elevation subalpine forests however, populations appear to be declining in recent years. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Riparian and adjacent forested areas provide habitat for moose. Much of the area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear, and wolves. This area is within the Central Idaho Wolf Recovery Area and wolf packs have established in this area since reintroduction.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and long-term fire exclusion. Increasing recreation has increased disturbance to wildlife populations year-round and there are localized concerns with elk and mountain goat winter range and wolverine winter denning habitat. The level of human disturbance is moderate but could be affecting wildlife movement patterns. Introduced non-native species have potential to affect sagebrush communities and other habitats. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The northwest portion of the Management Area falls within the Sawtooth designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models and is identified as core habitat for terrestrial wildlife species including wolverine and mountain goat.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Fire Guideline	0603 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as the ORVs are maintained within the corridor.
	Vegetation Standard	new	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.1 Passive Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	0606 Modified	Mechanical vegetation treatments, excluding salvage harvest, may only occur where: a) The responsible official determines that wildland fire or prescribed fire would result in unreasonable risk to public safety and structures, investments, or undesirable resource affects; and b) They maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or c) They maintain or restore habitat for native and desired non-native wildlife and plant species.
	Vegetation Standard	New Standard	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]
	Fire Standard	0607 Modified	Wildland fire and prescribed fire may only be used where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species, or b) Maintain or restore habitat for native and desired non-native wildlife and plant species.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 **Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources**	Vegetation Standard	0611 Modified	Vegetation restoration or maintenance treatments, including wildland fire, mechanical, and prescribed fire, may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New Standard	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0614 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c roads standard, below.
	Vegetation Standard	new	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number snags per acre depicted in Table A-6.[2]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	0617 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New Guideline	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	0620 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New Guideline	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

Resource/Program	Direction	Number	Management Direction Description
Recreation Resources	Objective	0640 Modified	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the headwaters area of the South Fork Boise River by minimizing disturbance from winter recreation activities.
	Standard	New	Restrict or modify winter recreation activities where conflicts exist with mountain goats and/or wolverine.
Fire Management	Objective	0653 Modified	Identify areas appropriate for Wildland Fire, focusing on the Smoky Mountains IRA. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 7, Little Smoky Creek, pp. III-186 through III-195, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a labeling error for a portion of the Management Area which was incorrectly labeled as an MPC 4.3. The corrected map will show these areas labeled as an MPC 4.2.

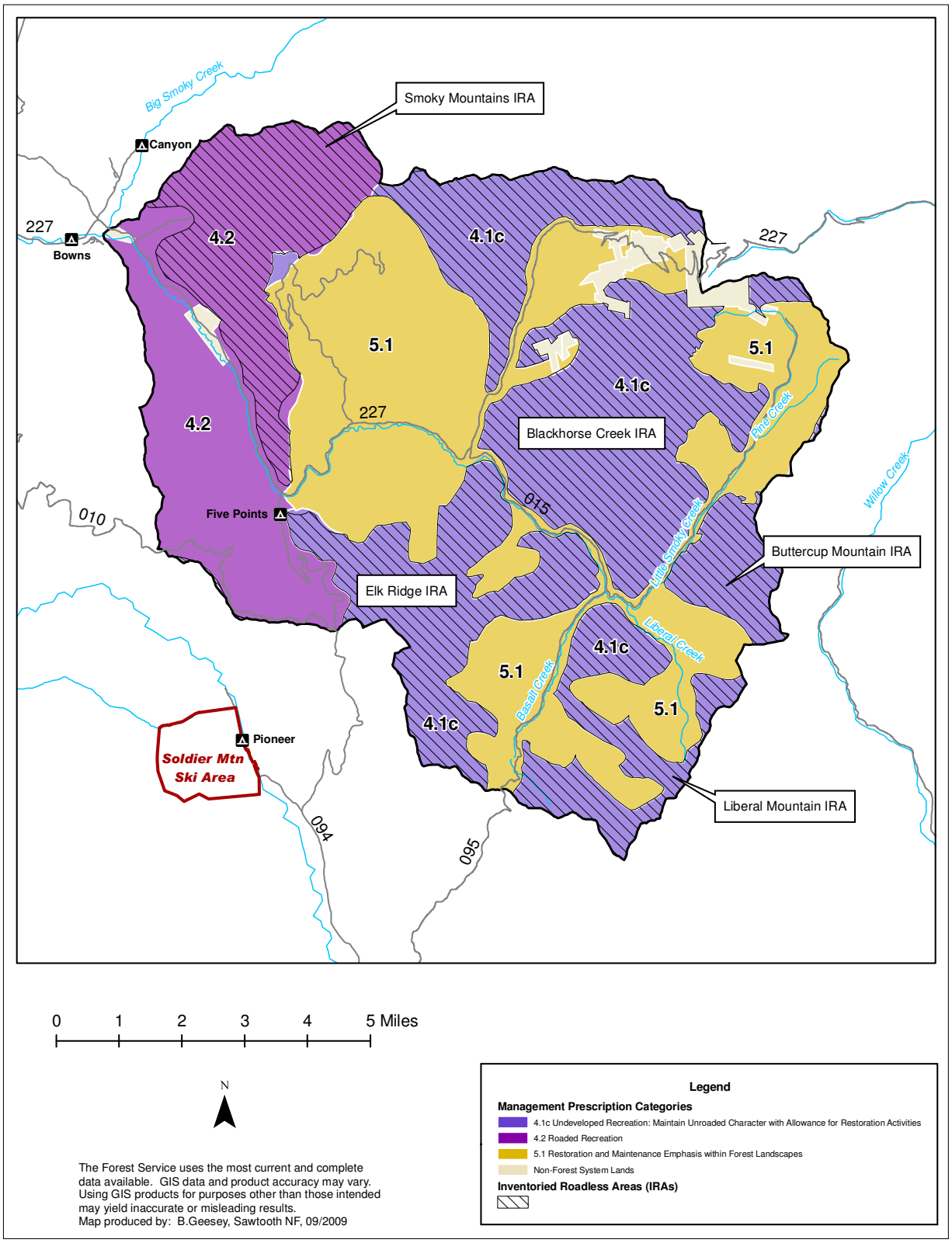
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0701 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 0705 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0707 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, objectives 0718 and 0719 in the Vegetation section would be modified and a new objective would be added to the Wildlife Resources section. Objective 0728 would be modified and a new objective added to the Recreation Resources section. Objective 0748 in the Fire Management section would be modified. To reflect current terminology, fire management objective 0746 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 7 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 07. Little Smoky Creek Location Map

Management Area 07
Little Smoky Creek

MANAGEMENT AREA DESCRIPTION

Vegetation - Vegetation is naturally patchy throughout much of the area, with islands of coniferous forest surrounded by open shrubland and sagebrush/grass communities. Lower and mid-elevations feature sagebrush/grasslands on south and west aspects. North and east aspects support Douglas-fir communities. Lodgepole pine occurs at these elevations in cold air drainages and frost-pockets. The subalpine fir zone occupies higher elevations. Sites within this zone are generally dry and support Douglas-fir, lodgepole pine, and subalpine fir. Engelmann spruce occurs infrequently and is restricted to small areas that stay moist throughout the year or along waterways. Whitebark pine is found at the highest elevations interspersed with alpine meadows, rock bluffs, and talus slopes.

An estimated 38 percent of the management area is non-forested, covered by grasslands, shrublands, meadows, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush and Montane Shrub vegetation groups. The main forested vegetation groups are Cool Dry Douglas-Fir (29 percent), Warm Dry Subalpine Fir (21 percent), and High Elevation Subalpine Fir (8 percent). Aspen and lodgepole pine are important components in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups.

The Montane Shrub and Mountain Big Sagebrush groups are functioning at risk in some areas due to fire exclusion and historic grazing and trailing impacts which have altered structure and species composition. Older, closed-canopy structure dominates.

The High Elevation Subalpine Fir group is functioning at risk due to fire exclusion that has allowed the more shade-tolerant subalpine fir to dominate, to the detriment of the whitebark pine component. The Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups are not functioning properly in many areas because fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen and lodgepole pine. Aspen is present in pure stands and mixed with Douglas-fir however, many stands are dying out or being replaced by conifers. Older aspen stands are infected with leaf blight and fungus, and are not regenerating satisfactorily. Fire hazard is increasing in conifers stands due to increasing mortality from mistletoe, Douglas-fir tussock moth, and bark beetles. Fuel loads are increasing beyond historic levels.

Riparian vegetation is functioning at risk in localized areas due primarily to localized grazing impacts and fire exclusion. In some areas, sedges are being replaced by less desirable grass species due to livestock grazing. Some cottonwood and willow communities are becoming old and decadent, and are not regenerating due to fire exclusion. Snag and in-stream large woody debris levels are likely below historic levels in some areas due to fuelwood gathering. The Basalt, Liberal and Little Smoky Creek watersheds are a high priority for active management to restore the large tree size class.
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Wildlife Resources - The sagebrush shrublands provide habitat for pygmy rabbit and greater sage-grouse. The low-elevation shrublands and forests provide big game summer range but are generally too high for winter range. However, there is an elk winter feeding site at Lick Creek that keeps elk in the area all winter long. Elk were eliminated from this area near the turn of the century but re-introduced in the 1930s. Douglas-fir forests at lower elevations provide habitat for Region 4 Sensitive species including, northern goshawk, flammulated owl, and Townsend's big-eared bat, and other species of management concern including pileated woodpecker. High-elevation subalpine fir forests provide habitat for boreal owls, three-toed woodpeckers, wolverine, and ESA listed Canada lynx as well as summer range for deer, elk, black bear, and mountain lion. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Riparian and adjacent forested areas provide habitat for moose. Much of the area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear, and wolves. This area is within the Central Idaho Wolf Recovery Area and wolf packs have established in this area since reintroduction.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, long-term fire exclusion and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round and there are localized concerns with elk winter range. The level of human disturbance is moderate but could be affecting wildlife movement patterns. Introduced non-native species have potential to affect sagebrush communities and other habitats. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. There are no focal or biologically important areas, identified within the Management Area.

The Cool Dry and Cool Moist Douglas-Fir and aspen vegetation types are restoration priorities for forested wildlife habitat. These vegetation types occur in low to moderate elevations and are identified as moderately to highly departed from their historic condition. Aspen communities support high species diversity and Douglas-fir in the large tree size class is an important component of old forest habitat upon which numerous Forest Sensitive, MIS and Idaho SGCN depend. The Little Smoky Creek HUC5 watershed (1705011309), which encompasses the entire Management Area, is the priority watershed for treatment. This watershed was selected due to its relative abundance of aspen and Douglas-fir vegetation types and the relatively high percentages of large and medium size tree classes that exist within the Douglas-fir vegetation types. These attributes offer the best opportunity to develop old forest habitat within the time span of this Forest Plan.
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Fire Management - Prescribed fire has been used to reduce activity-generated fuels. During the last 20 years, 19 fire starts have occurred within the management area, 63 percent caused by lightning. Approximately 330 acres have burned within the management area since 1988, or less

than 1 percent of the area. The only large wildfire was the Wells Summit Fire of 304 acres in 1992. There are no National Fire Plan communities in this area, but Lick-Five Points and Red Rock-Carrie are considered wildland-urban interface subwatersheds due to development adjacent to the Forest. Historical fire regimes for the area are estimated to be 100 percent mixed1 or 2. Only three percent of the area regimes have vegetation conditions that are highly departed from their historical range. However, 43 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity, but not to the same extent as in the highly departed areas in non-lethal fire regimes.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0701 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[1]
	Vegetation Guideline	0705 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	0707 Modified	Any vegetation treatment activity may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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Resource/Program	Direction	Number	Management Direction Description
Vegetation	Objective-Modified	0718	Initiate restoration of large tree stand desired conditions in the Cool Moist Douglas-fir and Cool Dry Douglas-fir groups as described in Appendix A. Prioritize treatments in the Little Smoky Creek (1705011309) watershed.
	Objective-Modified	0719	Restore the early seral aspen component to desired conditions, as described in Appendix A, to improve wildlife habitat. Maintain or restore the whitebark pine component of the High Elevation Subalpine Fir vegetation group to desired conditions, as described in Appendix A.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in the Little Smoky (1705011309) Creek watershed. Prioritize treatments in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	0728 Modified	Provide winter recreation opportunities outside of designated elk winter-feeding areas and lynx habitat.
	Objective	New	Provide reproductive denning habitat security for wolverines in the headwater tributary areas of Little Smoky Creek and Carrie Creek by reducing disturbance from winter recreation activities.
Fire Management	Objective	0746 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.
Roads & Facilities	Objective - Modified	748	Reduce impacts of duplicate roads through re-location, reconstruction and obliteration.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 8, Middle South Fork Boise River, pp. III-196 through III-207, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

Location Map

- The Management Area location map would be modified to correct a mapping error that identified eligible Wild and Scenic Rivers and their corridors as assigned to MPC 2.1. (MPC 2.1 was intended for assignment only to designated Wild and Scenic Rivers and their corridors). Instead, the river corridors are noted on the map as an Eligible Wild and Scenic River (see legend).

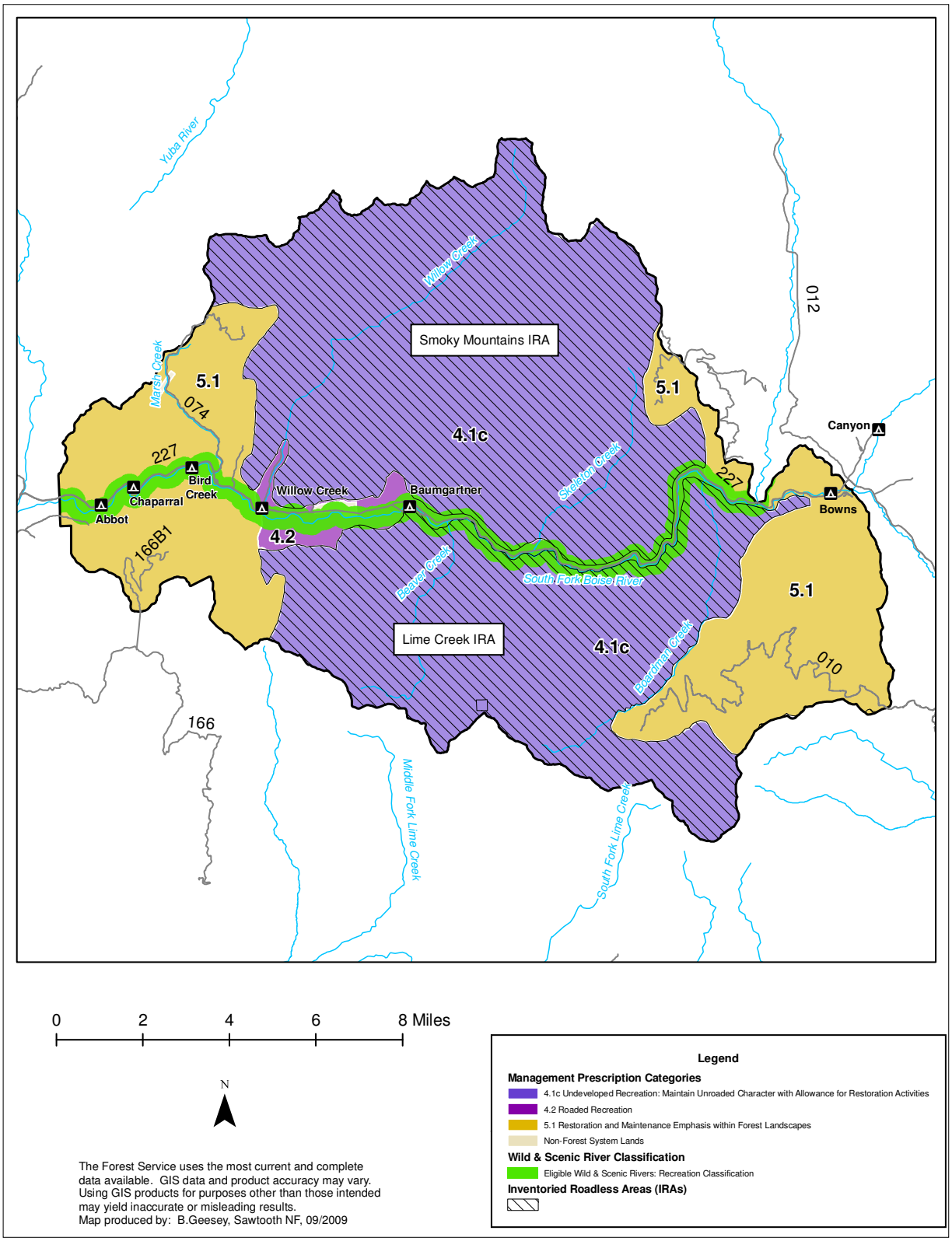
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource and fire guideline 0415 would be modified to reflect current terminology.

Management Direction:

- Direction for Eligible Wild and Scenic Rivers would remain, but the reference to MPC 2.1 would be deleted (see discussion under "Location Map" above). A vegetation standard specifying snag retention would be added to Eligible Wild and Scenic Rivers direction and fire guideline 0804 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0805 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 0808 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0810 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, objective 0822 would be modified and a new objective added in the Vegetation section. Objective 0834 would be modified and moved from the Wildlife Resources section to the Recreation Resources section and a new standard would be added to the Recreation Resources section. A new objective would be added to the Wildlife Resources section.
- To reflect current terminology, fire management objective 0855 and fire management guideline 0857 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 8 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 08. Middle South Fork Boise River Location Map

Management Area 8
Middle South Fork Boise River

MANAGEMENT AREA DESCRIPTION

Vegetation - Vegetation is naturally patchy throughout much of the area, with islands of coniferous forest surrounded by open shrubland and sagebrush/grass communities. Lower and mid-elevations feature sagebrush/grasslands on south and west aspects. North and east aspects support Douglas-fir communities. Lodgepole pine occurs at these elevations in cold air drainages and frost-pockets. The subalpine fir zone occupies higher elevations. Sites within this zone are generally dry and support Douglas-fir, lodgepole pine, and subalpine fir. Engelmann spruce occurs infrequently and is restricted to small areas that stay moist throughout the year or along waterways. Whitebark pine is found at the highest elevations interspersed with alpine meadows, rock bluffs, and talus slopes.

About 25 percent of the management area is non-forested, covered by grasslands, shrublands, meadows, rock, or water. Much of this 25 percent is comprised of the Mountain Big Sagebrush, Montane Shrub, and Alpine Meadows vegetation groups. The main forested vegetation groups are Dry Ponderosa Pine/Xeric Douglas-Fir (10 percent), Cool Dry Douglas-Fir (14 percent), Cool Moist Douglas-Fir (20 percent), Warm Dry Subalpine Fir (20 percent), and High Elevation Subalpine Fir (5 percent). Aspen and lodgepole pine are minor but important components in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups.

The Montane Shrub and Mountain Big Sagebrush groups are functioning at risk in some areas due to fire exclusion, infestations of leafy spurge, and historic grazing and trailing impacts which have altered structure and species composition. Older, closed-canopy structure dominates. Alpine Meadows are not functioning properly in some areas because of historic sheep grazing impacts that have removed or set back the sedge component.

The High Elevation Subalpine Fir group is functioning at risk due to fire exclusion that has allowed the more shade-tolerant subalpine fir to dominate, to the detriment of the whitebark pine component. The Dry Ponderosa Pine/Xeric Douglas-Fir group is functioning at risk due to fire exclusion that has allowed a higher than desired percentage of Douglas-fir. The Warm Dry Subalpine Fir group is functioning at risk, and Cool Dry and Cool Moist Douglas-Fir groups are not functioning properly in some areas because fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen and lodgepole pine. Aspen is present in pure stands and mixed with Douglas-fir however, many stands are dying out or being replaced by conifers. Older aspen stands are infected with leaf blight and fungus, and are not regenerating satisfactorily. Fire hazard is increasing in conifer stands due to increasing mortality from mistletoe, Douglas-fir tussock moth, and Douglas-fir beetle.

Riparian vegetation is functioning at risk in localized areas due primarily to grazing impacts, introduced plant species, and fire exclusion. In some areas, sedges are being replaced by less desirable grass species due to livestock grazing. Leafy spurge and other exotic species are also replacing native plants. Cottonwood and willow communities are becoming old and decadent, and are not regenerating due to recent flooding, fire exclusion, and livestock grazing. Snag levels are likely below desired levels in some areas due to fuelwood gathering. The Salt and Bowns Creek watersheds are high priority for active management to restore the large tree size class.
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Wildlife Resources - The cool shrublands and forests provide big game summer range but only a minor amount of winter range in the South Fork Boise River corridor. However, elk winter feeding sites in the corridor keep elk in the area throughout the winter. Lower-elevation forests provide habitat for Region 4 Sensitive species, including goshawk, white-headed woodpecker, Townsend's big-eared bat and flammulated owl, and other species of management concern including pileated woodpecker. High-elevation forests provide habitat for boreal owls, three-toed woodpeckers, fisher, wolverine and the ESA listed Canada lynx, as well as summer range for deer, elk, black bear, and mountain lion. Bald eagle nesting and winter habitat is found along the lower portions of the South Fork Boise River. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Riparian and adjacent forested areas provide habitat for moose. Much of the area provides nesting and foraging habitat for migratory landbirds, and general habitat for wide-ranging mammals such as elk, bear, and mountain lion. Mountain goats occur in the high-elevation cliffs in the northern edge of the area. This area is within the Central Idaho Wolf Recovery Area and wolf packs have established in this area since reintroduction. Habitat for yellow-billed cuckoo, a Candidate species, may be present in the lower portions of the South Fork Boise River.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and long-term fire exclusion. Increasing recreation has increased disturbance to wildlife populations year-round and there are localized concerns with elk winter range. Other localized concerns are due to impacts from roads and timber harvest. However, other than in the South Fork Boise River corridor and Shake and Marsh Creeks, the level of human disturbance and habitat fragmentation from roads and timber harvest is low. Introduced non-native species are affecting sagebrush communities and other habitats. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. One large fire, Barker-Marsh (2008), recently occurred within the area, creating small patches and mosaics in the lower elevation pine and montane vegetation and setting some upper montane and subalpine vegetation back to early seral conditions.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The extreme, western portion of the Management Area falls within the Anderson Ranch designated focal area, or biologically

important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models. It is identified as core habitat for terrestrial wildlife species including bald eagle and white-headed woodpecker, and provides important winter range for large ungulates.

The low elevation Ponderosa Pine, Cool-Dry and Cool-Moist Douglas-Fir, and aspen vegetation types are restoration priorities for forested wildlife habitat. These vegetation types occur in low to moderate elevations and are identified as moderately to highly departed from their historic condition. Aspen communities support high species diversity and Ponderosa Pine and Douglas-fir in the large tree size class is an important component of old forest habitat upon which numerous Forest Sensitive, MIS and Idaho SGCN depend. The Willow-Boardman HUC5 watershed (1705011306), which encompasses the entire Management Area, is the priority watershed for treatment. This watershed was selected due to its relative abundance of aspen, Ponderosa Pine and Douglas-fir vegetation types and due to the relatively high percentages of large and medium size tree classes that exist within the Ponderosa Pine and Douglas-fir vegetation types. These attributes offer the best opportunity to develop old forest habitat within the time span of this Forest Plan.
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Fire Management - Prescribed fire is used to improve habitat conditions and reduce activity-generated fuels. During the last 20 years, 61 fire starts have occurred within the management area, 48 percent caused by lightning. Approximately 40,000 acres have burned within the management area since 1988, or 36 percent of the area. The 1400-acre Willow Creek Fire occurred in 1992 and the 37,000- acre South Barker fire occurred in 2008. There are no National Fire Plan communities in this area, but Miller-Browns-Salt, Big Water-Virginia, and Abbot-Shake are considered wildland-urban interface subwatersheds due to private development adjacent to the Forest. Historical fire regimes for the area are estimated to be: 8 percent lethal, 71 percent mixed1 or 2, and 21 percent non-lethal. An estimated 9 percent of the area regimes have vegetation conditions that are highly departed from their historical range. About half of this change has occurred in the historically non-lethal fire regimes, resulting in conditions where wildfire would likely be much larger and more intense and severe than historically. In addition, 42 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity, but not to the same extent as in the highly departed areas in non-lethal fire regimes.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
Eligible Wild and Scenic Rivers	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]
	Fire Guideline	0803 Modified	Prescribed fire and wildland fire may be used in any river corridor as long as the ORVs are maintained within the corridor.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0805 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c roads standard, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	0808 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	0810 Modified	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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Resource/Program	Direction	Number	Management Direction Description
Vegetation	Objective	0822	Initiate restoration of large tree stand desired conditions in the Cool, Moist Douglas-fir and Cool, Dry Douglas-fir groups, as described in Appendix A. Prioritize treatments in Boardman, Salt, Bounds and Miller creeks in the Willow-Boardman (1705011306) watershed.
	Objective	New	Reduce impacts of roads through re-location, reconstruction and obliteration in low elevation pine habitats.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in Boardman, Salt, Bounds, and Miller creeks in the Willow-Boardman (1705011306) watershed. Prioritize treatments in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	0834 Modified moved	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the headwater tributary areas of South Fork Boise River by minimizing disturbance from winter recreation activities.
	Standard	New	Restrict or modify winter recreation activities where conflicts exist with mountain goats and/or wolverine.
Fire Management	Objective	0855 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.
	Guideline	0857 Modified	Coordinate with the Boise National Forest to develop compatible wildfire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 9, Lime Creek, pp. III-208 through III-217, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

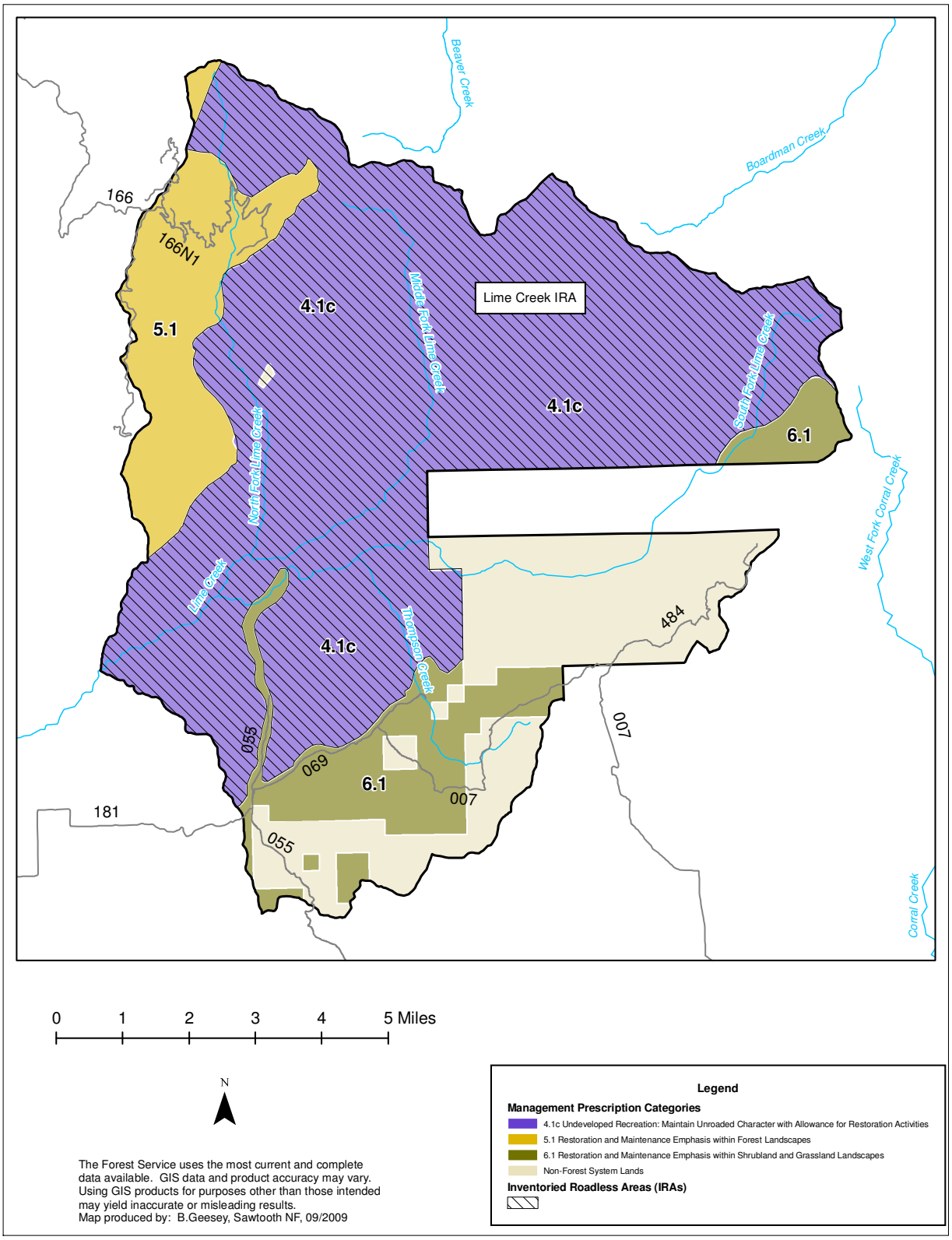
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect the current condition, including priorities for restoration, as appropriate.

Management Direction:

- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 0901 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0904 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 0907 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, in the Wildlife Resources section, Objective 0923 would be modified and moved to the Recreation Resources section.
- To reflect current terminology, fire management objective 0940 and fire management guideline 0942 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 9 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 09. Lime Creek Location Map

Management Area 9
Lime Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources – Within the Management Area, habitat for greater sage-grouse and pygmy rabbit can be found in low-elevation shrublands. The lower-elevation shrublands and forests provide big-game spring, summer, and fall range but are generally too high for winter range. Mid-elevation Douglas-fir forests provide habitat for Region 4 Sensitive species, including northern goshawk, flammulated owl and Townsend's big-eared bat and for other species of management concern including pileated woodpecker. High-elevation subalpine forests provide habitat for boreal owl, three-toed woodpecker, wolverine and the ESA listed Canada lynx as well as summer range for deer, elk, black bear, and mountain lion. Riparian and adjacent forested areas provide habitat for moose. Habitat for spotted frogs can be found in montane and subalpine lakes, ponds and wetlands. Much of the area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear, and mountain lion. The area is within the Central Idaho Wolf Recovery Area and wolves occur in the area.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and long-term fire exclusion. Increasing recreation has increased disturbance to wildlife populations year-round and there are localized concerns with elk winter range. Other localized concerns are due to impacts from roads and timber harvest, primarily in the North Fork of Lime Creek drainage. Introduced non-native species are affecting sagebrush communities and other habitats. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. A recent large-scale prescribed burn was completed in this area with the cooperation of the Boise NF. Aspen regeneration was a primary objective for this large-scale project.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. There are no focal or biologically important areas identified within the Management Area.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	0901 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c Roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	0904 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	0907 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Recreation Resources	Objective	0923	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the headwaters areas of Middle and South Fork Lime Creeks by reducing disturbance from winter recreation activities.
Fire Management	Objective	0940	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain desired vegetative conditions and to reduce fuel loadings.
	Guideline	0942	Coordinate with the Boise National Forest to develop compatible wildfire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 10, Soldier Creek/Willow Creek, pp. III-218 through III-227, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

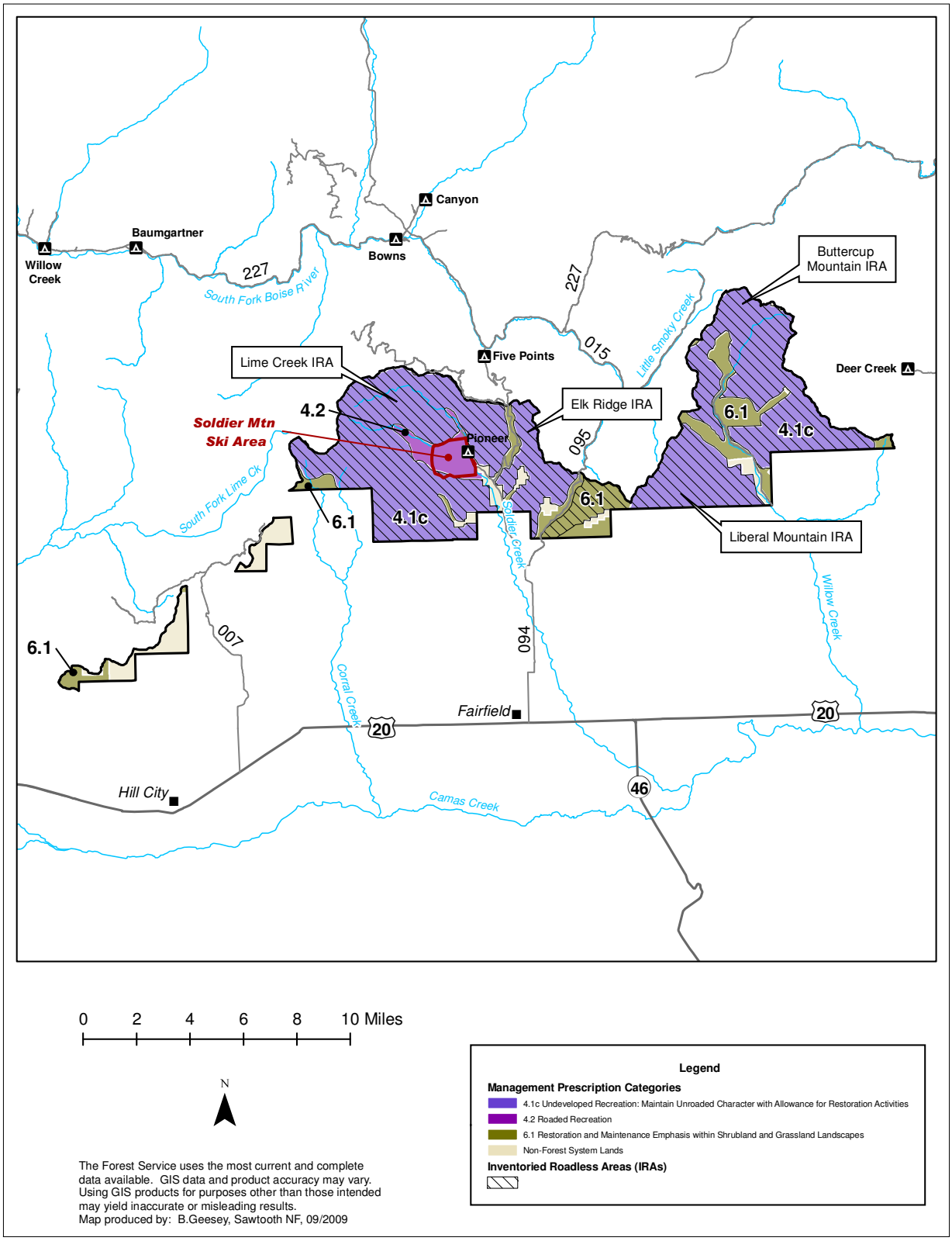
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 1001 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 1004 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1006 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS a new objective would be added in the Wildlife Resources section and Objective 1023 would be modified and moved to the Recreation Resources section.
- To reflect current terminology, fire management objective 1045 and fire management guideline 1048 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 10 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 10. Soldier Creek/Willow Creek Location Map

Management Area 10
Soldier Creek/Willow Creek

MANAGEMENT AREA DESCRIPTION

Vegetation - A high percentage of non-forest vegetation results from the predominant southern exposures in this area. Tree vegetation is comprised of small islands of coniferous forest surrounded by open shrubland and sagebrush/grass communities. Lower and mid-elevations feature sagebrush/grasslands on south and west aspects. North and east aspects support Douglas-fir communities. Lodgepole pine occurs at these elevations in cold air drainages and frost-pockets. The subalpine fir zone occupies higher elevations. Sites within this zone are generally dry and support Douglas-fir, lodgepole pine, and subalpine fir. Engelmann spruce occurs infrequently and is restricted to small areas that stay moist throughout the year or along waterways. Whitebark pine is found at the highest elevations interspersed with alpine meadows, rock bluffs, and talus slopes.

An estimated 53 percent of the management area is non-forested, covered by grasslands, shrublands, meadows, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush, Montane Shrub, and Alpine Meadows vegetation groups. The main forested vegetation groups are Cool Dry Douglas-Fir (27 percent), Warm Dry Subalpine Fir (15 percent), and High Elevation Subalpine Fir (3 percent). Aspen and lodgepole pine are minor but important components in the Warm Dry Subalpine Fir and Cool Dry Douglas-Fir groups.

The Montane Shrub and Mountain Big Sagebrush groups are functioning at risk in some areas due to fire exclusion, infestations of tent caterpillars, and historic grazing and trailing impacts which have altered structure and species composition. Older, closed-canopy structure dominates. The Alpine Meadows group is functioning at risk where portions of the sedge component have been replaced by grasses due to historic grazing impacts.

High Elevation Subalpine Fir is functioning at risk in areas where fire exclusion has allowed the more shade-tolerant subalpine fir to dominate, to the detriment of the whitebark pine component. The Warm Dry Subalpine Fir and the Cool Dry Douglas-Fir groups are functioning at risk where fire exclusion has resulted in older, more decadent stands with more climax species and less early seral species, particularly aspen and lodgepole pine. Aspen is present in pure stands and mixed with Douglas-fir however, many stands are dying out or being replaced by conifers. Older aspen stands are infected with leaf blight and fungus and are not regenerating satisfactorily. Fire hazard is increasing in conifers stands due to increasing mortality from mistletoe, Douglas-fir tussock moth, and Douglas-fir beetle.

Riparian vegetation is functioning at risk in localized areas due primarily to grazing impacts and fire exclusion. In some areas, sedges are being replaced by less desirable grass species due to livestock grazing. Cottonwood and willow communities are becoming old and decadent, and are not regenerating due to fire exclusion and livestock use. Snag levels are below historic levels in some areas due to fuelwood gathering.

The Willow Creek watershed is a high priority for active management to restore the large tree size class.
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Wildlife Resources - Habitat for greater sage-grouse and pygmy rabbit can be found in low-elevation shrublands, although greater sage-grouse populations have been declining in the area. The lower-elevation shrublands and forests provide big-game spring, summer, and fall range but are generally too high for winter range. Aspen and cottonwood riparian provide habitat for Lewis' woodpecker. Dry forests at lower elevations provide habitat for goshawk and flammulated owl. High-elevation cold forests provide habitat for boreal owls, three-toed woodpeckers, and wolverine, as well as summer range for deer and elk. Most of the area provides nesting and foraging habitat for migratory land birds, and general habitat for wide-ranging mammals such as elk, bear, and mountain lion. Moose were re-introduced during the 1980s and are still in the area. Terrestrial habitat is functioning at risk in localized areas of road and timber harvest impacts. However, much of the area is functioning properly. The level of human disturbance is low, and habitat fragmentation from roads, timber harvest, or fire is low.
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Fire Management - Prescribed fire has been used to improve habitat conditions and to reduce activity-generated fuels and Mountain Big sagebrush density. Recently, the Wardrop Creek Prescribed Burn treated an estimated 1,200 acres in mostly sagebrush and aspen types. During the last 20 years, 15 fire starts have occurred within the management area, 40 percent caused by lightning. Approximately 300 acres have burned within the management area since 1988, or less than 1 percent of the area. There are no National Fire Plan communities in this area, but Chimney Creek and Phillips-Wardrop are considered wildland-urban interface subwatersheds due to private development adjacent to the Forest. Two subwatersheds, Phillips-Wardrop and Upper Soldier Creek, are considered to pose risks to life and property from potential post-fire floods and debris. Historical fire regimes for the area are estimated to be 100 percent mixed1 or 2. Only 4 percent of the area regimes have vegetation conditions that are highly departed from their historical range. However, 35 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	Vegetation Standard	new	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	new	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Roads &Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

Resource/Program	Direction	Number	Management Direction Description
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in the Willow Creek (1704022008) watershed. Prioritize treatments in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Recreation Resources	Objective	1023 Modified	Provide winter habitat security for mountain goats and reproductive denning habitat security for wolverine in the headwaters area of Soldier Creek by reducing disturbance from winter recreation activities.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 11, Rock Creek, pp. III-228 through III-237, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

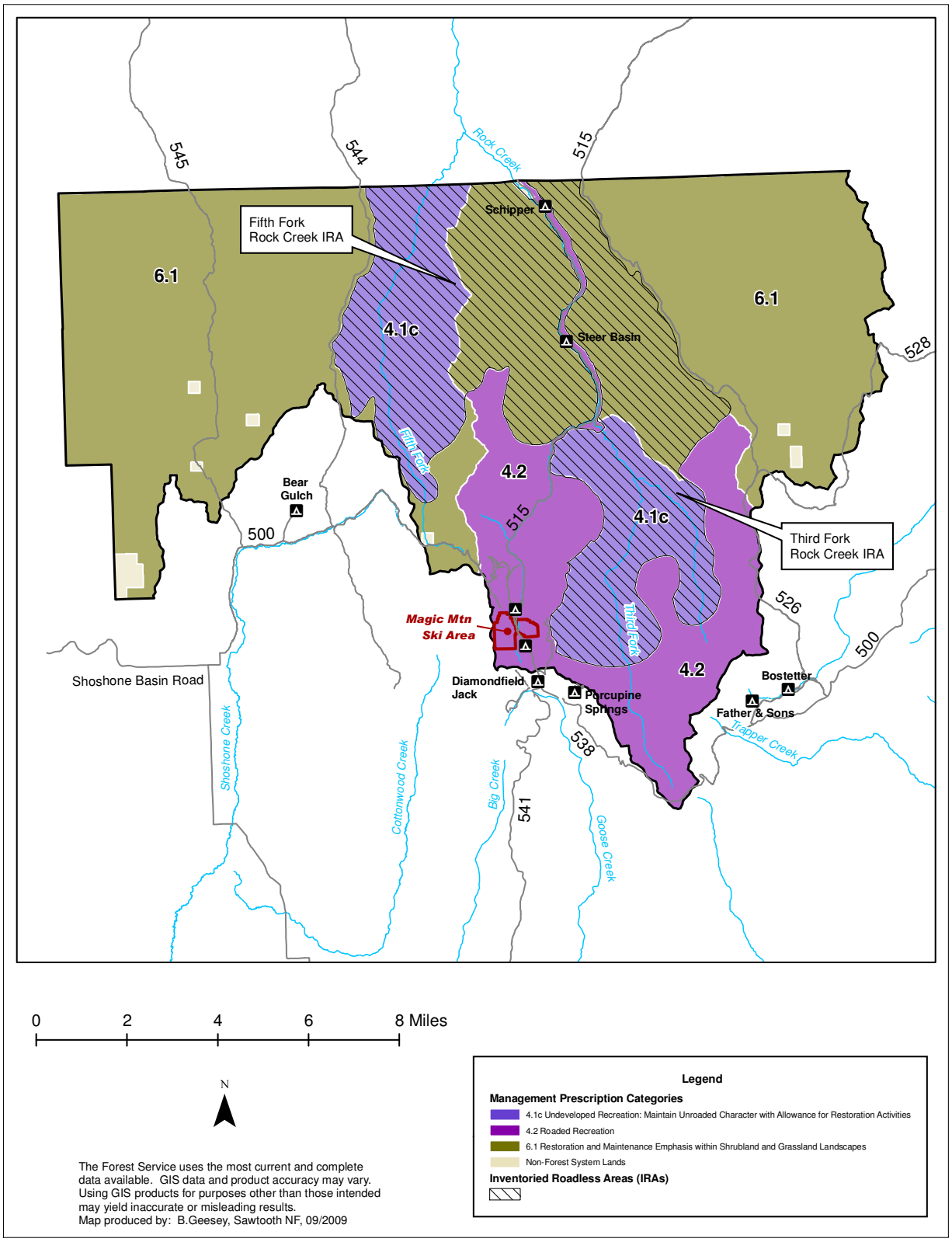
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition including priorities for restoration, as appropriate.

Management Direction:

- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 1101 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 1104 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1106 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, a new objective would be added, in the Wildlife Resources section.
- To reflect current terminology, fire management objectives 1145 and 1146 and fire management guideline 1146 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 11 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 11. Rock Creek Location Map

Management Area 11
Rock Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - The sagebrush and grassland communities provide habitat for greater sage-grouse, pygmy rabbit, Swainson's hawk, ferruginous hawk and Columbian sharp-tailed grouse. Most of the mule deer winter range occurs at lower elevations on BLM administered lands. The rim-rock canyons are home to California bighorn sheep and offer peregrine falcon nesting habitat. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl, Townsend's big-eared bat and spotted bat, are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for south hills crossbill. Aspen and cottonwood riparian provide Lewis' woodpecker habitat. Habitat for yellow-billed cuckoo is also found in cottonwood riparian with dense understory vegetation. Other species present throughout the area include migratory landbirds, mountain lion, beaver, chukar, ruffed grouse, dusky grouse, Hungarian partridge, golden eagle, long-eared owl, and a small population of elk. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, changes in the fire cycle, and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round. Frequent human-caused fires and the spread of cheat grass are reducing the amount and quality of sage-grouse and deer habitat, especially winter range. As a result, sage-grouse populations remain in decline. Fire exclusion is impacting other terrestrial habitats, including aspen. Bighorn sheep populations are believed to be declining due to disease transmission from domestic sheep and losses from predation. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads and development is high.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000). Therefore, LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving State designated 'Species of Greatest Conservation Need' (SGCN) and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the South Hills designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models and is identified as core habitat for terrestrial wildlife species including sage-grouse, south hills crossbill and California bighorn sheep.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	1101 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c road standard, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	1104 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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[1] [1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	1106 Modified	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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Resource/Program	Direction	Number	Management Direction Description
Wildlife Resources	Objective	New	Reduce impacts on wildlife habitat from roads through re-location, reduction of redundant routes, and removal and rehabilitation.
Fire Management	Objective	1145 Modified	Identify areas appropriate for wildland fire. Use wildland fire to restore or maintain vegetative desired conditions and to reduce fuel loadings.
	Objective	1146 Modified	Re-integrate prescribed and wildland fireas appropriate in areas burned since 1980, such as Rock Creek Canyon, as vegetation recovers from disturbance.
	Guideline	1147 Modified	Coordinate with adjacent land managers to develop compatible wildfire suppression strategies and coordinated plans for wildland fire management.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 12, Cottonwood Creek, pp. III-228 through III-237, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

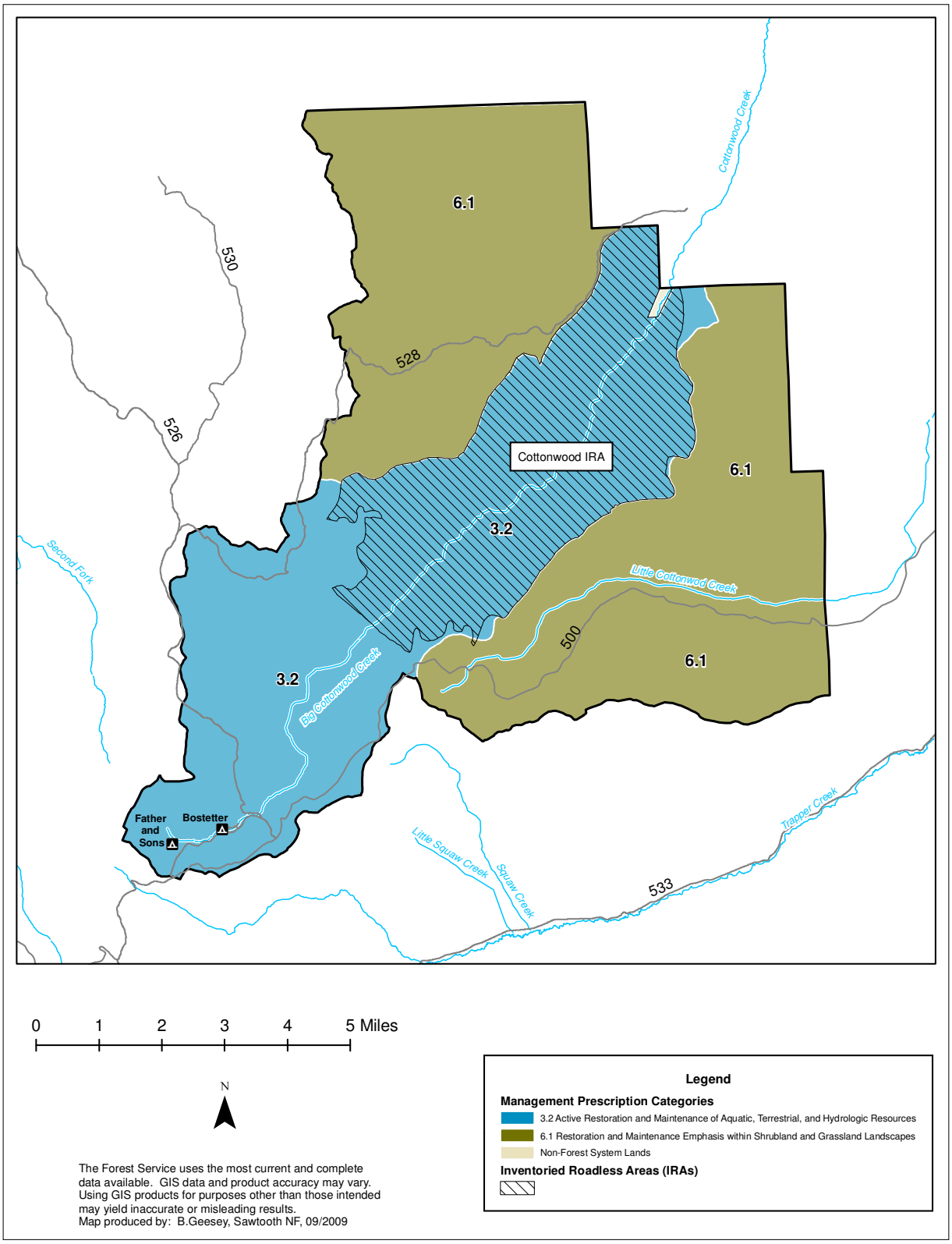
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect the current condition including priorities for restoration, as appropriate.

Management Direction:

- To MPC 3.2, a vegetation standard specifying snag retention would be added and vegetation standard 1202 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1205 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, a new objective would be added in the Wildlife Resources section.
- To reflect current terminology, fire management objective 1236 and fire management guideline 1237 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 12 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 12. Cottonwood Creek Location Map

Management Area 12
Cottonwood Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Low-elevation sagebrush and grassland communities provide habitat for greater sage-grouse, pygmy rabbit, Swainson's hawk, ferruginous hawk and Columbian sharp-tailed grouse and winter range for mule deer. Higher elevation sagebrush provides sage grouse brood rearing habitat and some mule deer winter range. The rim-rock canyons are home to California bighorn sheep and wild turkey, introduced in the late 1980s, and offer peregrine falcon nesting habitat. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl, spotted bat and Townsend's big-eared bat, are found in the mid-elevation forests. High-elevation forests provide mule deer summer range and habitat for south hills crossbill. Aspen and cottonwood riparian corridors provide Lewis' woodpecker habitat and habitat for yellow-billed cuckoo can also be found in cottonwood riparian areas with dense understory vegetation. Bald eagles occasionally roost during the winter along Cottonwood Creek. Other species present throughout the area include migratory landbirds, mountain lion, ruffed grouse, golden eagle, long-eared owl, and a small population of elk. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, changes in the fire cycle and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round. Frequent human-caused fires and the spread of cheat grass are reducing the amount and quality of sage grouse and deer habitat, especially winter range. As a result, sage grouse populations remain in decline. Fire exclusion is impacting other terrestrial habitats, including aspen. Bighorn sheep populations are believed to be declining due to disease transmission from domestic sheep and losses from predation. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads, development, and fire is moderate to high.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the South Hills designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models and

is identified as core habitat for terrestrial wildlife species including sage grouse, south hills crossbill and California bighorn sheep.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 **Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources**	Vegetation Standard	1202 Modified	Vegetative restoration or maintenance treatments, including wildland fire, mechanical, and prescribed fire, may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	1205 Modify	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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Resource/Program	Direction	Number	Management Direction Description
Wildlife Resources	Objective	New	Reduce impacts on wildlife habitat from roads through re-location, reduction of redundant routes, and removal and rehabilitation.
Fire Management	Objective	1236 Modified	Identify areas appropriate for wildland fire Use wildland fire to restore or maintain vegetative desired conditions and to reduce fuels.
	Guideline	1237 Modified	Coordinate with adjacent land managers to develop compatible wildfire suppression strategies and coordinated plans for wildland fire management

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 13, Trapper Creek/Goose Creek, pp. III-246 through III-255, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

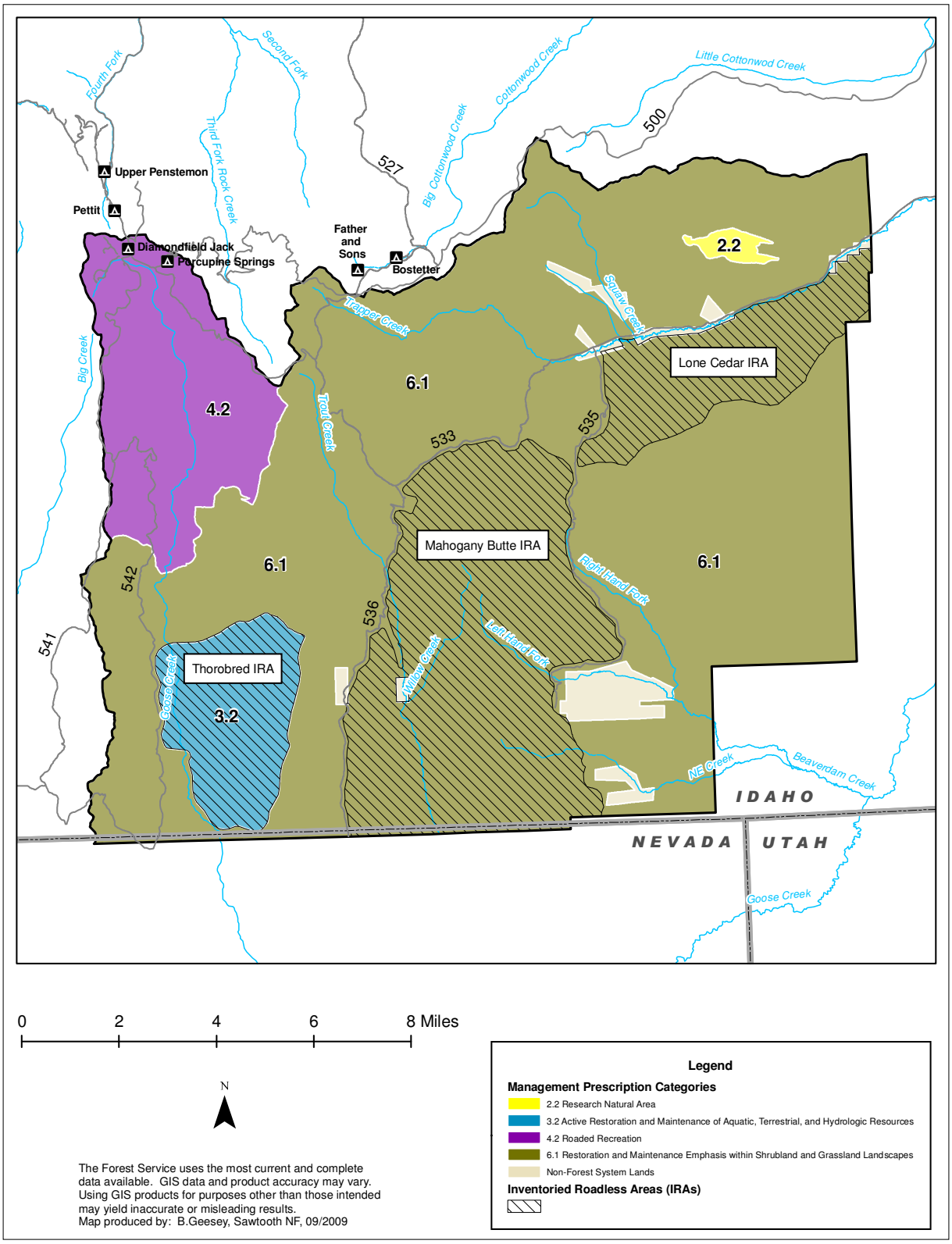
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition, including priorities for restoration, as appropriate.

Management Direction:

- In MPC 2.2, general standard 1301 would be modified to reflect current terminology.
- To MPC 3.2, a vegetation standard specifying snag retention would be added and vegetation standard 1305 would be modified to reflect current terminology.
- In MPC 4.2 vegetation guideline 1308 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1310 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, a new objective would be added in the Wildlife Resources section.
- To reflect current terminology, fire management objective 1346 and fire management guideline 1347 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 13 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 13. Trapper Creek/Goose Creek Location Map

Management Area 13
Trapper Creek/Goose Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources – Sagebrush shrublands and grasslands provide habitat for greater sage-grouse, pygmy rabbit, Swainson's hawk, ferruginous hawk and Columbian sharp-tailed grouse and winter range for mule deer. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat are found in the mid-elevation forests. High-elevation forests provide mule deer summer range and habitat for south hills crossbill. Montane and alpine lakes, ponds and wetlands provide habitat for Columbia spotted frog. Other species present throughout the area include migratory landbirds, mountain lion, beaver, ruffed grouse, dusky grouse, golden eagle, long-eared owl, and a small population of elk. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, changes in the fire cycle, and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round. More frequent human-caused fires and the spread of cheat grass are reducing the amount and quality of sage grouse and deer habitat, especially winter range. As a result, sage grouse populations remain in decline. Fire exclusion is impacting other terrestrial habitats, including aspen. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads, development, and fire is generally moderate to high.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the South Hills designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models and is identified as core habitat for terrestrial wildlife species including sage grouse and south hills crossbill.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[2]
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

Resource/Program	Direction	Number	Management Direction Description
Wildlife Resources	Objective	New	Reduce impacts on wildlife habitat from roads through re-location, reduction of redundant routes, and removal and rehabilitation.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 14, Shoshone Creek, pp. III-256 through III-263, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

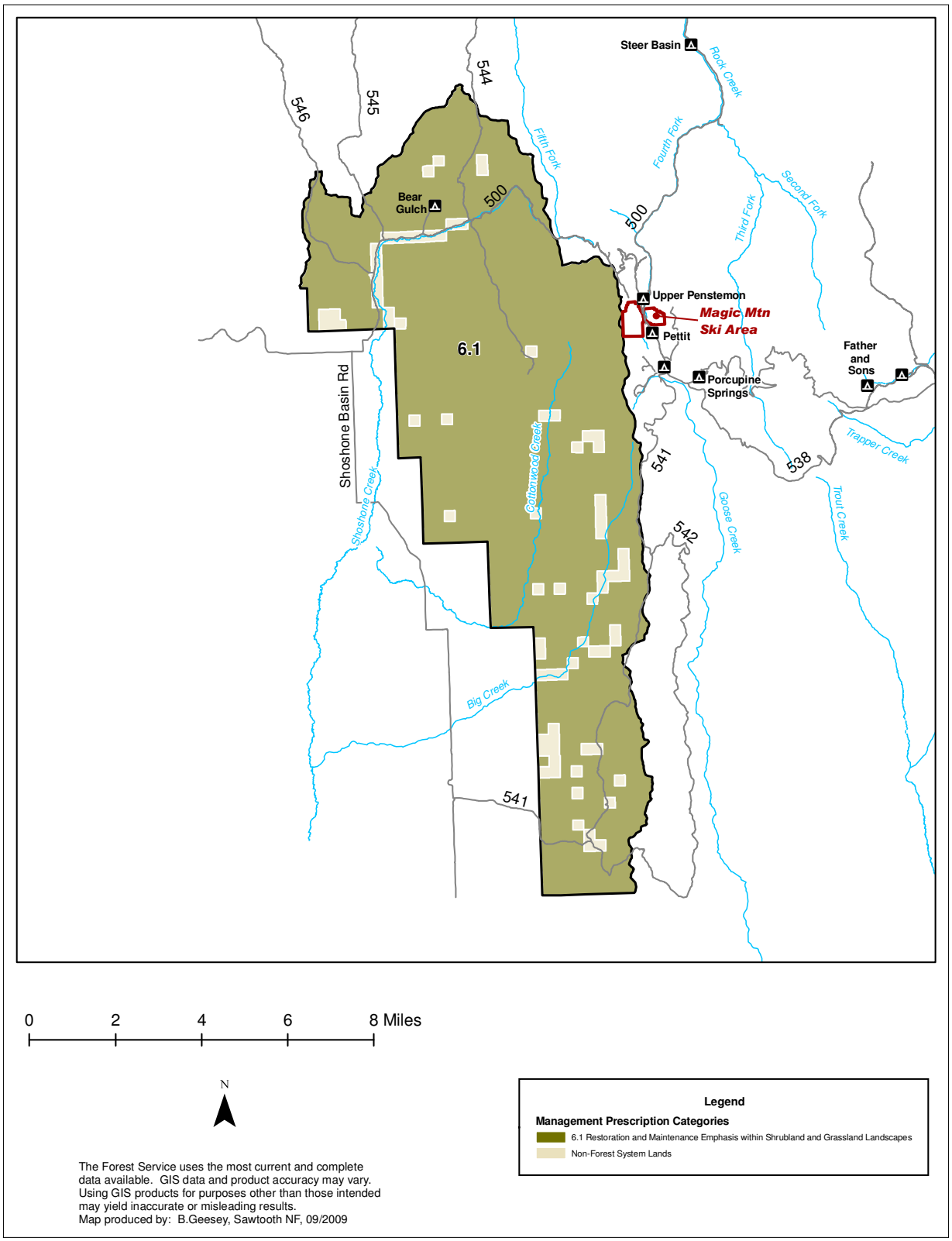
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition including priorities for restoration, as appropriate.

Management Direction:

- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1401 would be modified to reflect current terminology.
- To reflect priorities identified by the WCS, a new objective would be added in the Wildlife Resources section.
- To reflect current terminology, fire management objective 1420 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 14 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 14. Shoshone Creek Location Map

Management Area 14
Shoshone Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Low-elevation sagebrush/grassland communities provide habitat for greater sage-grouse, pygmy rabbit, antelope, Swainson's hawk, ferruginous hawk and Columbian sharp-tailed grouse and winter range for mule deer. Columbia sharp-tailed grouse may be wintering near the Forest boundary. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat are found in the mid-elevation forests. High-elevation forests provide mule deer summer range and habitat for south hills crossbill. Montane and alpine lakes, ponds and wetlands provide habitat for Columbian spotted frog. Other species present throughout the area include migratory landbirds, mountain lion, beaver, ruffed grouse, golden eagle, and a small population of elk. Ruffed grouse and Columbia sharp-tailed grouse have been recently introduced. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, changes in the fire cycle and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round. Frequent human-caused fires and the spread of cheat grass are reducing the amount and quality of sage grouse and deer habitat, especially winter range. As a result, sage grouse populations remain in decline. Fire exclusion is impacting other terrestrial habitats, including aspen. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads, development, and fire is moderate to high.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the South Hills designated focal area, or biologically important area. This designation was given to the area due to its exceptional diversity of SGCN based on species' richness models and is identified as core habitat for terrestrial wildlife species including sage grouse and south hills crossbill.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	1401 Modified	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire Salvage harvest may also occur.
	Roads & Facilities Guideline	New Guideline	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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Resource/Program	Direction	Number	Management Direction Description
Wildlife Resources	Objective	New	Reduce impacts on wildlife habitat from roads through re-location, reduction of redundant routes, and removal and rehabilitation.
Fire Management	Objective	1420 Modify	Identify areas appropriate for wildland fire to restore or maintain vegetative desired conditions and to reduce fuel loadings.

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[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 15, Albion Mountains, pp. III-264 through III-272, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

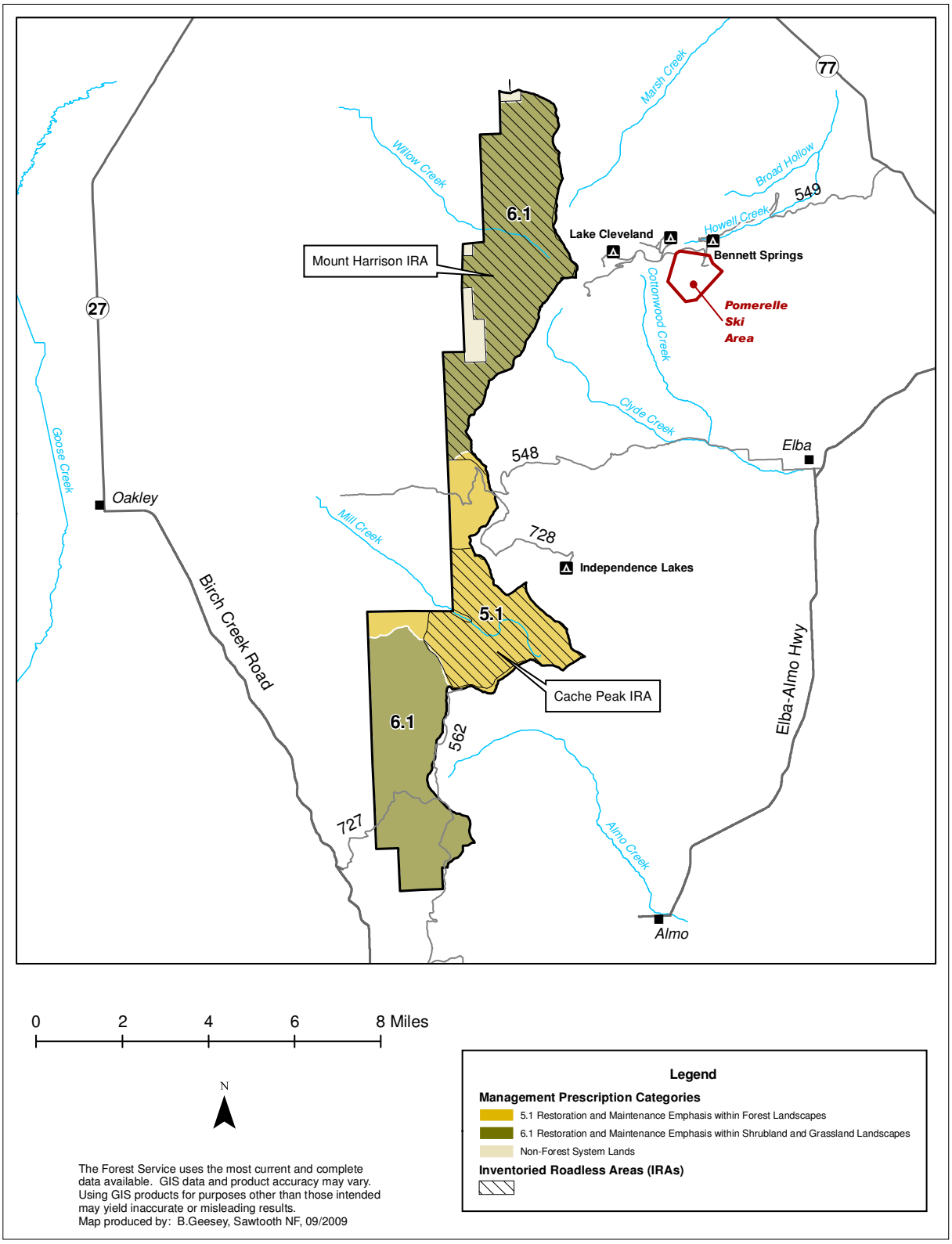
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- In MPC 2.2, general standard 1501 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1504 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1507 would be modified to reflect current terminology.
- To reflect current terminology, fire management objective 1531 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 15 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 15. Albion Mountains Location Map

Management Area 15
Albion Mountains

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Sagebrush shrublands and grasslands provide habitat for greater sage-grouse, pygmy rabbit, Swainson's hawk and ferruginous hawk and limited winter range for mule deer. Pinyon pine has limited distribution and is important habitat for pinyon jay and pinyon mouse. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat, are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for south hills crossbill and boreal owl. Other species present throughout the area include migratory landbirds and mountain lion. There is no elk-hunting season currently in this unit. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and changes in the fire cycle. Increasing recreation has increased disturbance to wildlife populations year-round. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads and development is generally moderate.

The area is not within any of the Canada five lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The eastern half of the Management Area falls within the Jim Sage designated focal area, or biologically important area. This area represents exceptional natural habitat for pinyon pine and aspen with tall forb communities and is identified as core habitat for terrestrial wildlife species including sage grouse, pinyon jay, pinyon mouse, California bighorn sheep, ferruginous hawk and south hills crossbill.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 2.2 Research Natural Areas	General Standard	1501 Modified	Mechanical vegetation treatments, salvage harvest, prescribed fire, and wildland fire may only be used to maintain values for which the area was established, or to achieve other objectives that are consistent with the RNA establishment record or management plan.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	1504 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New Guideline	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New Standard	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	1507 Modified	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New Guideline	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
Fire Management	Objective	1531	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain vegetative desired conditions and to reduce fuel loadings. However, emphasize prescribed fire or mechanical treatments over wildland fire use adjacent to off-Forest agricultural investments and on-Forest plantations, and in the Almo Park and City of Rocks.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 16, Howell Creek, pp. III-272 through III-281, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

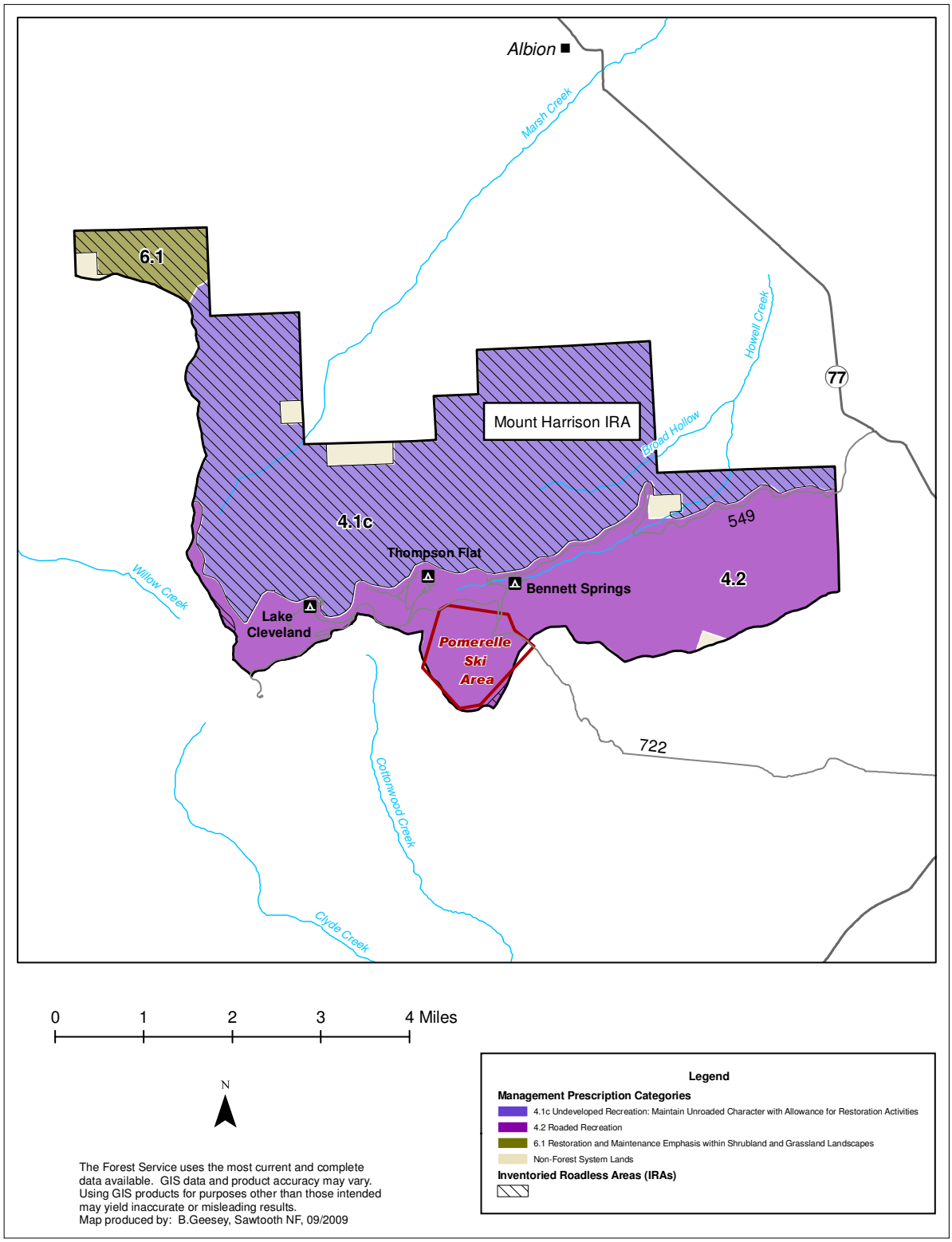
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- In MPC 2.2, general standard 1601 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 1604 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 1607 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1609 would be modified to reflect current terminology.
- To reflect current terminology, fire management objective 1648 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 16 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 16. Howell Creek Location Map

Management Area 16
Howell Creek

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Sagebrush shrublands and grasslands provide habitat for greater sage-grouse, pygmy rabbit, Swainson's hawk and ferruginous hawk and limited winter range for mule deer. Rocky bluffs offer peregrine falcon nesting habitat. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and spotted and Townsend's big-eared bats are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for south hills crossbill and boreal owl. Other species present within the area include migratory landbirds, mountain lion, dusky grouse, small populations of elk and occasionally moose. There is no elk-hunting season currently in this unit. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, changes in the fire cycle and high road densities. Increasing recreation has increased disturbance to wildlife populations year-round; recreation disturbance is especially high in the Howell Creek corridor. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads and development is generally moderate.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the Jim Sage designated focal area, or biologically important area. This area is identified as core habitat for terrestrial wildlife species including sage grouse and south hills crossbill.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 2.2 Research Natural Areas	General Standard	1601 Modified	Mechanical vegetation treatments, salvage harvest, prescribed fire, and wildland fire may only be used to maintain values for which the area was established, or to achieve other objectives that are consistent with the RNA establishment record or management plan.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	1604 Modify	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c Roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	1607 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	1609 Modify	Any vegetation treatment activity may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Fire Management	Objective	1648 Modified	Identify areas appropriate for wildland fire. Limit wildland fire in Howell Creek drainage. Use wildland fire in other identified areas to restore or maintain desired vegetative conditions and to reduce fuel loadings.

****

As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 17, Independence Lakes, pp. III-282 through III-289, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

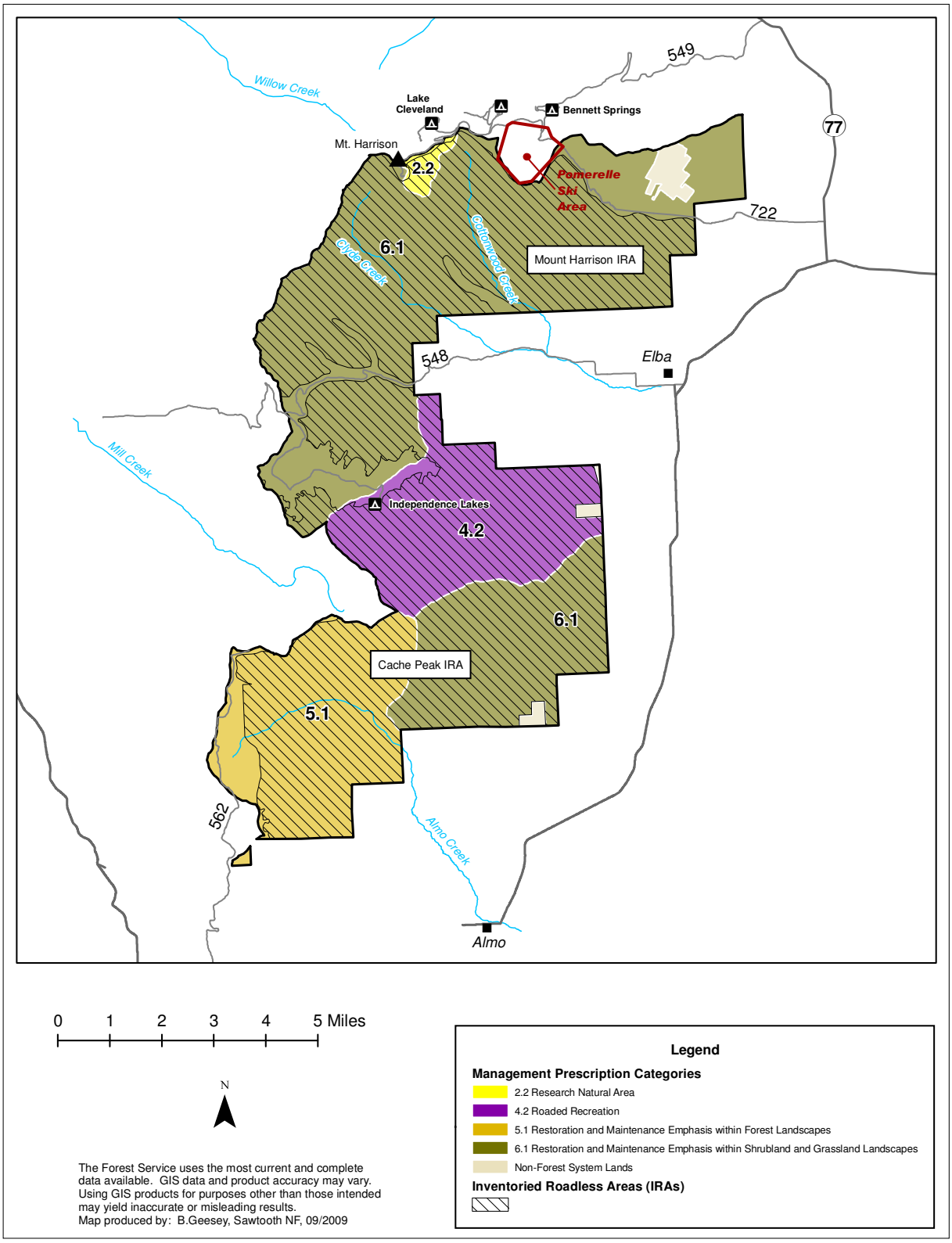
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- In MPC 2.2, general standard 1701 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 1704 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1706 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. Vegetation guideline 1706 would be modified to reflect current terminology.
- To reflect current terminology, fire management objective 1738 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 17 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 17. Independence Lakes Location Map

Management Area 17
Independence Lakes

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Most of this area lies above 5,500 feet, the terrestrial and avian wildlife are generally high-elevation species. Low-elevation sagebrush/grasslands and forests provide habitat for greater sage-grouse, pygmy rabbit, Columbian sharp-tailed grouse, Swainson's hawk and ferruginous hawk and limited mule deer winter range. Pinyon pine has limited distribution and is important habitat for pinyon jay and pinyon mouse. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsends big-eared bat, are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for south hills crossbill and boreal owl. Habitat for yellow-billed cuckoo is found in cottonwood riparian corridors with dense understory vegetation. The Idaho Department of Fish and Game recently re-introduced California bighorn sheep into the area and habitat can be found in the rocky canyons. Other species present within the area include migratory landbirds, mountain lion, a small population of elk, dusky grouse and isolated moose occurrences. There is no elk-hunting season currently in this unit. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and changes in the fire cycle. Increasing recreation has increased disturbance to wildlife populations year-round. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads, development and fire is generally moderate.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the Jim Sage designated focal area, or biologically important area. This area represents exceptional natural habitat for pinyon pine and aspen with tall forb communities and is identified as core habitat for terrestrial wildlife species including sage grouse, pinyon jay, pinyon mouse, California bighorn sheep, ferruginous hawk and south hills crossbill.
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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 2.2 Research Natural Areas	General Standard	1701 Modified	Mechanical vegetation treatments, salvage harvest, prescribed fire, and wildland fire may only be used to maintain values for which the area was established, or to achieve other objectives that are consistent with the RNA establishment record or management plan.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[1]
	Vegetation Guideline	1704 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum of total number snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	1706 Modify	Any vegetation treatment activity may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[1] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [1]
	Vegetation Guideline	1706 Modify	Any vegetation treatment activity may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Fire Management	Objective	1738 Modified	Identify areas appropriate for wildland fire. Limit wildland fire in Howell Creek drainage. Use wildland fire in other identified areas to restore or maintain desired vegetative conditions and to reduce fuel loadings.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 18 Raft River, pp. III-290 through III-299, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

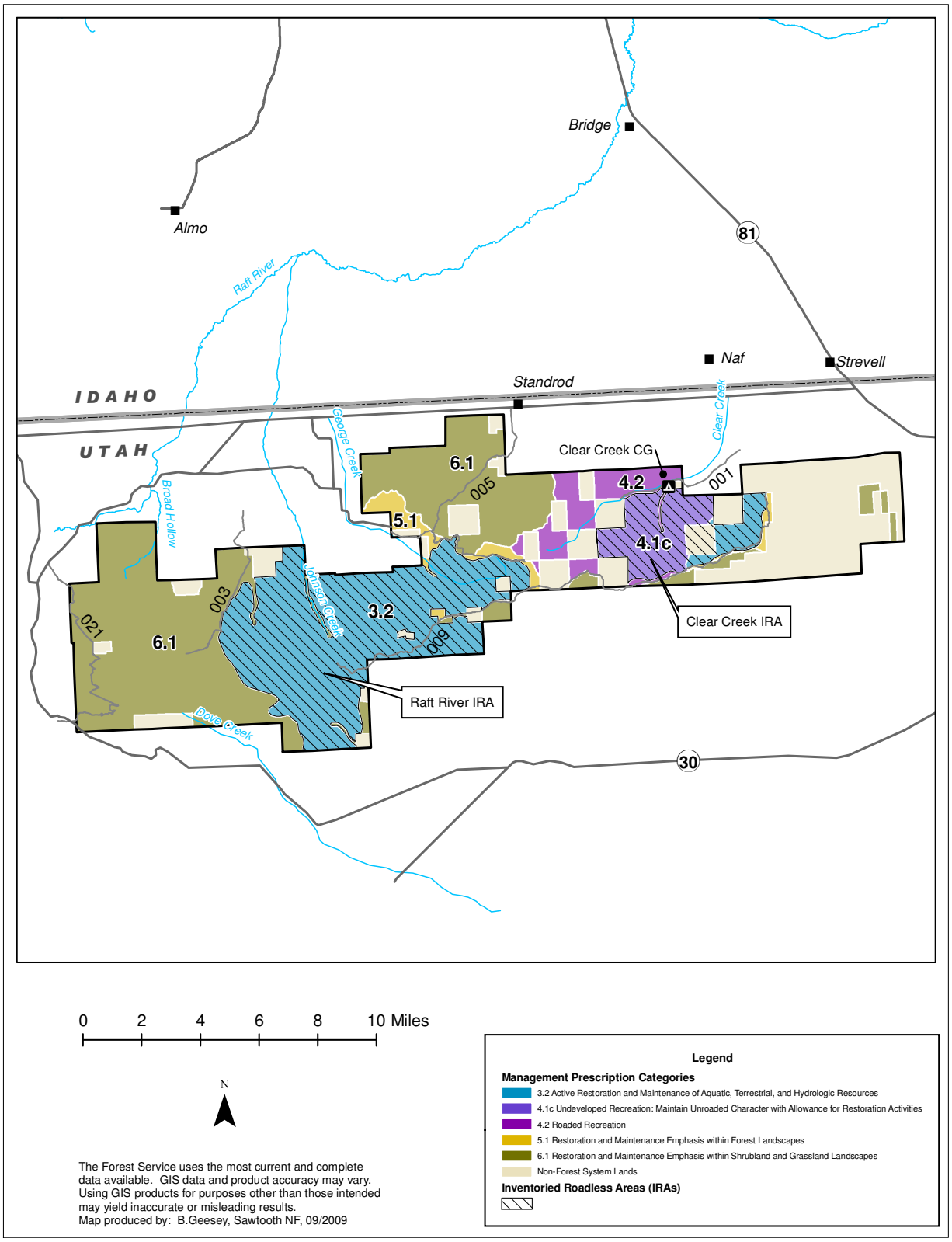
Management Area Description:

- The description of Wildlife Resources would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate.

Management Direction:

- To MPC 3.2 a vegetation standard specifying snag retention would be added and vegetation standard 1802 would be modified to reflect current terminology.
- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 1805 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 1808 would be modified to reflect current terminology.
- To MPC 5.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1810 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1810 would be modified to reflect current terminology.
- To reflect current terminology, fire management objective 1834 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 18 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 18. Raft River Location Map

Management Area 18
Raft River

MANAGEMENT AREA DESCRIPTION

Wildlife Resources - Most of this area lies above 5,500 feet, the terrestrial and avian wildlife are generally high-elevation species. Low-elevation sagebrush and grasslands communities provide habitat for greater sage-grouse, pygmy rabbit, Columbian sharp-tailed grouse, Swainson's hawk and ferruginous hawk and limited mule deer winter range. Pinyon pine has limited distribution and is important habitat for pinyon jay and pinyon mouse. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat, are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for boreal owl. Habitat for yellow-billed cuckoo is found in cottonwood riparian corridors with dense understory vegetation. Other species present within the area include migratory landbirds, black bear, mountain lion, small populations of elk, and dusky grouse. The area is not within the Central Idaho Recovery Area. The gray wolf is considered endangered here, and not part of the experimental/non-essential population in Idaho. Wolves are not currently in this Management Area.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and changes in the fire cycle. Increasing recreation has increased disturbance to wildlife populations year-round. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically, and deer and sage grouse populations appear to be declining. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Habitat fragmentation from roads, development and fire is generally low to moderate.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

The Management Area lies within the State of Utah. Utah's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving priority species of concern and the habitats upon which they depend. The State, along with coordinating partners and agencies, identified key habitat areas important for wildlife conservation and species of greatest conservation need. The Management Area contains many of these key habitat or focus areas, including the shrub-steppe, aspen forest, mountain shrub and mountain riparian. The area also provides habitat for many of the species of conservation need that are associated with these habitats.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	1802	Vegetative restoration or maintenance treatments, including wildland fire, mechanical, and prescribed fire, may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	1805	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c Roads standards, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	1808	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[3]
	Vegetation Guideline	1810	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[3] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [3]
	Vegetation Guideline	1810	The full range of treatment activities may be used to restore and maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Fire Management	Objective	1834 Modified	Identify areas appropriate for Wildland Fire. Use wildland fire to restore or maintain vegetative desired conditions and to reduce fuel loadings.

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As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 19, Black Pine, pp. III-300 through III-309, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

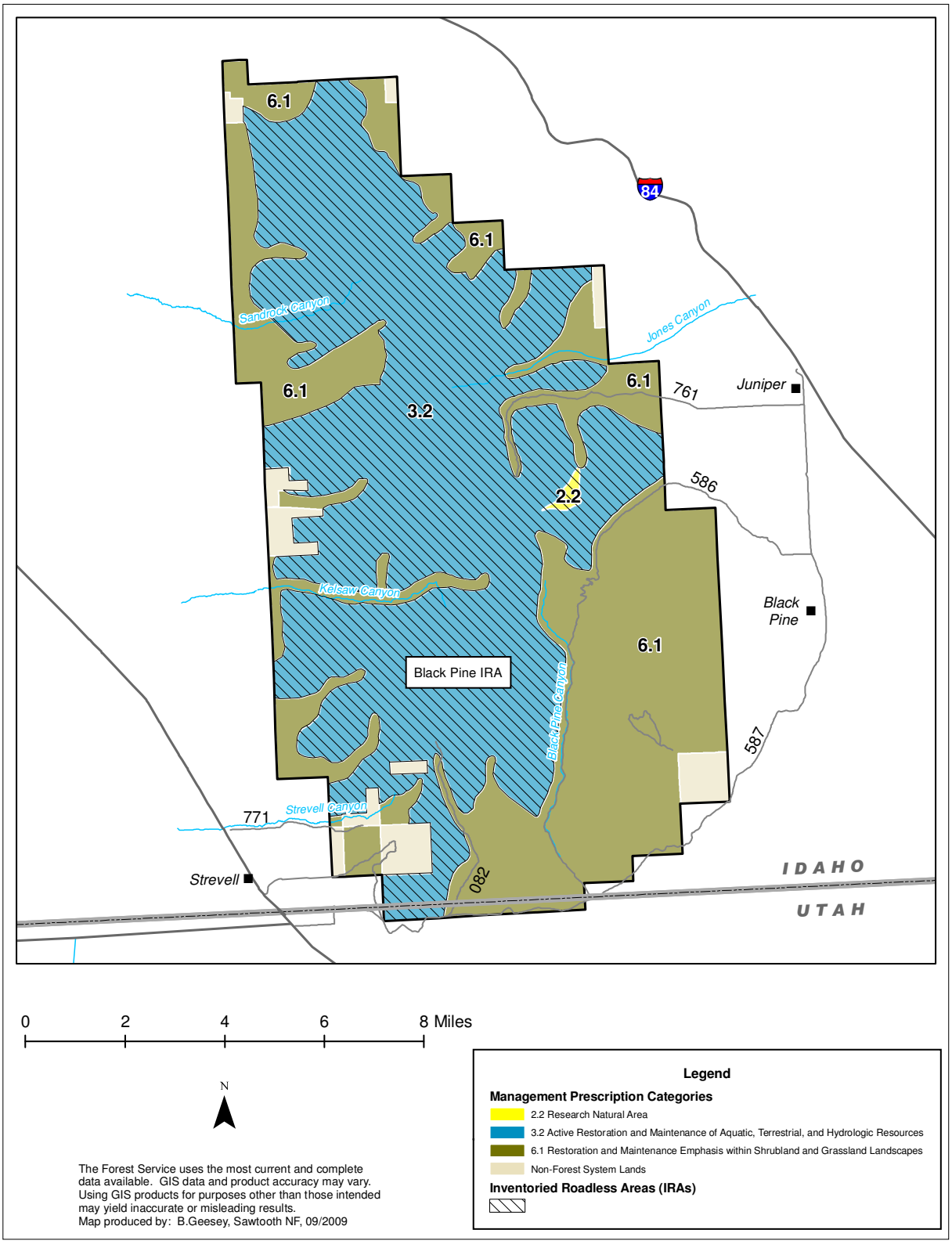
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- In MPC 2.2, general standard 1901 would be modified to reflect current terminology.
- To MPC 3.2, a vegetation standard specifying snag retention would be added and vegetation standard 1905 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added. Vegetation guideline 1908 would be modified to reflect current terminology.
- To reflect current terminology, fire management objective 1936 would be modified.

Other direction in Management Area Description and Management Area Direction for Management Area 19 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 19: Black Pine Location Map

Management Area 19
Black Pine

MANAGEMENT AREA DESCRIPTION

Vegetation - Vegetation within this area includes sagebrush/grasslands, and juniper, aspen, Douglas-fir, and subalpine fir trees. Douglas-fir and subalpine fir are generally confined to north and east exposures at the higher elevations. The sagebrush and juniper cover about half the entire area, with sagebrush occurring predominantly on south and west exposures that are lower in elevation. The sagebrush communities transition to juniper in the higher foothills. Mountain brush occurs on the northeast end of the area. The remaining area supports small patches of aspen and mountain mahogany.

An estimated 88 percent of the management area is non-forested, or covered by grasslands, shrublands, meadows, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush, Basin Big Sage, Montane Shrub, and Perennial Grass Slopes vegetation groups. The main forested vegetation groups are Pinyon-Juniper (2 percent), Aspen (1 percent), and Cool Dry Douglas-Fir (9 percent). Aspen is a minor component in the Cool Dry Douglas-Fir group.

The Montane Shrub group is functioning properly, although the herbaceous component could be increased to enhance diversity. The Mountain Big Sagebrush, Basin Big Sage, and Perennial Grass Slopes are functioning at risk in some areas due to fire exclusion and livestock grazing impacts, which have altered structure and species composition. Fire exclusion has allowed canopy cover to increase, which has reduced the understory herbaceous cover.

The Cool Dry Douglas-Fir group is not functioning properly in some areas where fire exclusion has resulted in older, more decadent stands with more climax subalpine fir and Douglas-fir and less seral species, particularly lodgepole pine and aspen. Fire hazard is increasing in conifer stands due to increasing mortality from insect and disease infestations. An estimated 40 percent of the Douglas-fir has been lost in the last 15 years. Aspen is functioning properly. The Pinyon-Juniper group is functioning at risk due to fire exclusion and grazing impacts that have allowed older stands to dominate, with fewer younger trees and herbaceous plants than desirable.

Riparian vegetation is functioning at risk in localized areas due to impacts from livestock grazing, roads, dispersed recreation, and fire exclusion. In some areas, introduced grasses and noxious weeds are replacing native plants. Aspen and willow communities are becoming old and decadent, and are not regenerating due to fire exclusion and livestock use. Snag levels are at historic levels in most areas due to limited access for fuelwood gathering and high tree mortality in the 1980s and 1990s. The Jones and Burnt Canyon watersheds are high priority for active management to restore the vegetation lost due to the Black Pine II Wildfire.
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Wildlife Resources - Low-elevation sagebrush and grasslands communities provide habitat for greater sage-grouse, pygmy rabbit, Columbian sharp-tailed grouse, Swainson's hawk,

ferruginous hawk and mule deer winter range. The area supports possibly the highest number of wintering mule deer on the Sawtooth National Forest. The northeastern section of this Management Area provides habitat for Columbia sharp-tailed grouse and several active leks exist within the area. Bald eagles often winter in the Sixmile and Eightmile drainages adjacent to the Forest boundary on BLM and private lands although no winter roosting sites are known to occur on National Forest land. Pinyon pine has limited distribution and is important habitat for pinyon jay and pinyon mouse. Nesting, foraging and roosting habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat, are found in the mid-elevation forests. Higher elevation forests provide mule deer summer range and habitat for boreal owl. Other species present within the area include migratory landbirds, mountain lion, bobcat, antelope, elk, dusky grouse, ferruginous hawk, Swainson's hawk, and golden eagle. Elk and mountain lion both appear to be increasing in the area. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and changes in the fire cycle. Increasing recreation has increased disturbance to wildlife populations year-round. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. One large fire, Black Pine 2 (2007), recently occurred within the area, creating mosaics in montane vegetation and setting very large patches of the sagebrush steppe back to early seral conditions, leaving it at risk of cheat grass invasion and continued of alteration fire cycles. Habitat fragmentation from roads, development and fire is generally moderate to high, and the off-Forest interstate highway has fragmented historic mule deer migration routes, which is a major source of disruption to the species.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area falls within the Black Pine Mountains designated focal area, or biologically important area. This designation was given to these areas due to their exceptional diversity of SGCN based on species' richness models and is identified as core habitat for terrestrial wildlife species including sage grouse and ferruginous hawk.
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Fire Management - Prescribed fire has been used to improve habitat and watershed conditions in selected areas. During the last 20 years, 27 fire starts have occurred within the management area, all but one caused by lightning. Approximately 47,000 acres have burned within the management area since 1999, or 61 percent of the area. There are no National Fire Plan communities or wildland-urban interface subwatersheds in the area. Historical fire regimes for

the area are estimated to be 3 percent lethal and 97 percent mixed1 or 2. None of the area regimes has vegetation conditions that are highly departed from their historical range. However, 19 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.

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MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 2.2 Research Natural Areas	General Standard	1901 Modified	Mechanical vegetation treatments, salvage harvest, prescribed fire, and wildland fire may only be used to maintain values for which the area was established, or to achieve other objectives that are consistent with the RNA establishment record or management plan.

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources	Vegetation Standard	1905	Vegetative restoration or maintenance treatments, including wildland fire, mechanical, and prescribed fire, may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	1908	The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

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MPC/Resource Area	Direction	Number	Management Direction Description
Fire Management	Objective	1936 Modified	Identify areas appropriate for wildland fire. Limit wildland fire in Howell Creek drainage. Use wildland fire in other identified areas to restore or maintain desired vegetative conditions and to reduce fuel loadings.

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[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

As shown below, the following proposed changes would be made to the Management Area Description and Management Area Direction for Management Area 20, Sublett, pp. III-310 through III-317, in Chapter III, Management Direction, of the 2003 Land and Resource Management Plan (revised) for the Sawtooth National Forest. Each modified section is separated by a line of asterisks.

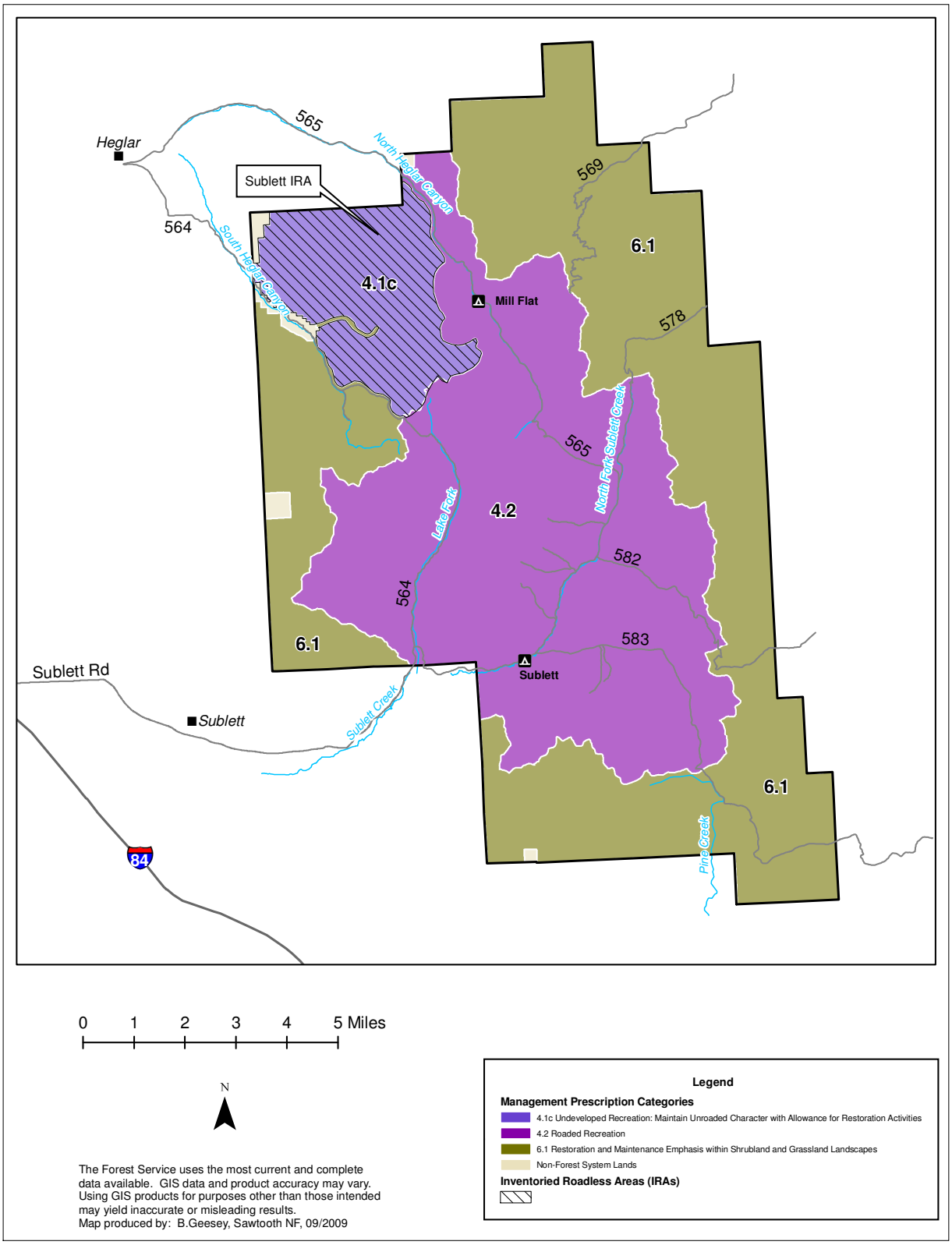
Management Area Description:

- The descriptions of Vegetation and Wildlife Resources, respectively, would be modified to better reflect the current condition of these resources, including priorities for restoration, as appropriate. The description of Fire Management would be modified to better reflect the current condition of this resource.

Management Direction:

- To MPC 4.1c, a vegetation standard specifying snag retention would be added and general standard 2001 would be modified to reflect current terminology.
- To MPC 4.2, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added and vegetation guideline 2004 would be modified to reflect current terminology.
- To MPC 6.1, a vegetation standard specifying how snags should be retained in commercial salvage sales would be added. Vegetation guideline 2006 would be modified to reflect current terminology. A road guideline describing how public motorized use would be managed when building new roads to implement vegetation restoration projects would also be added.
- To reflect priorities identified by the WCS, in the Vegetation section a new objective was added and objective 2011was modified. A new objective was added to the Wildlife Resources section.

Other direction in Management Area Description and Management Area Direction for Management Area 20 would remain as presented in the 2003 Forest Plan, and consequently, it is not included below.



Management Area 20. Sublett Location Map

Management Area 20
Sublett

MANAGEMENT AREA DESCRIPTION

Vegetation - An estimated 66 percent of the management area is non-forested, or covered by grasslands, shrublands, meadows, rock, or water. Much of this area is comprised of the Mountain Big Sagebrush, Basin Big Sage, and Montane Shrub vegetation groups. The main forested vegetation groups are Aspen (6 percent), and Cool Dry Douglas-Fir (22 percent).

The Mountain Big Sagebrush and Basin Big Sage groups are functioning at risk due to fire exclusion and livestock grazing impacts, which have slightly altered structure and species composition. Montane Shrub is functioning properly.

The Cool Dry Douglas-Fir group is not functioning properly where fire exclusion has resulted in older, more decadent stands with more shade-tolerant subalpine fir and less seral species, specifically aspen, Douglas-fir, and lodgepole pine. Fire hazard is increasing in conifer stands due to increasing mortality from insect and disease infestations. Aspen is present in pure stands and mixed with subalpine fir; however, stands are dying out or being replaced by conifers.

Riparian vegetation is functioning at risk due to localized grazing and dispersed recreation impacts, and fire exclusion. In some areas, introduced grasses and noxious weeds are replacing native plants. Aspen and willow communities are becoming old and decadent, and are not regenerating due to fire exclusion and livestock use. Snag levels are below historic levels in some areas due to fuelwood gathering. Houtz and North Heglar canyons, in the Rockland and Warm-Heglar HUC5 watersheds (1704020909 and 1704021001), are high priority for active management to restore the large tree size class**.**
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Wildlife Resources - Low-elevation sagebrush and grassland communities provide habitat for greater sage-grouse, pygmy rabbit, Columbian sharp-tailed grouse, Swainson's hawk and ferruginous hawk. Nesting and foraging habitats for other Region 4 Sensitive species, including goshawk, flammulated owl and Townsend's big-eared bat, are found in the mid-elevation forests. Higher elevation forests provide elk and mule deer summer range and habitat for boreal owl. Other species present within the area include migratory landbirds, mountain lion, dusky grouse, ruffed grouse, and occasional occurrence of moose. This area is within the Central Idaho Wolf Recovery Area, but wolves are not currently known to occur here.

Terrestrial habitat is functioning at risk in some areas due primarily to human-caused disturbance, introduction of invasive species, grazing impacts, and changes in the fire cycle. Increasing recreation has increased disturbance to wildlife populations year-round. Current livestock grazing in some areas is not allowing localized areas of historic grazing impacts to recover. Long-term exclusion of fire has altered some habitats so that they no longer function as they did historically. This, along with introduction of non-native plant species is affecting both

deer and sage grouse populations. Habitat fragmentation from roads and development is generally moderate.

The area is not within any of the five Canada lynx geographic areas, as identified in the Canada Lynx Conservation and Strategy (2000); and therefore LAUs and lynx habitat mapping were not developed for the area. Consultation for Canada lynx on the Sawtooth NF was completed in 2003 and the US Fish and Wildlife Service concurred with the Forest's findings for lynx. Forest-wide management direction relative to the lynx does not apply in this management area.

Idaho's Comprehensive Wildlife Conservation Strategy (CWCS) was completed in 2005 and provides a framework for conserving 'Species of Greatest Conservation Need' (SGCN), designated by the State, and the habitats upon which they depend. The Forest assisted the State in identifying focal areas, or areas known to be important for SGCN. The Management Area does not fall within a designated focal area.

The Cool, Dry Douglas-Fir and aspen vegetation types are restoration priorities for forested wildlife habitat. These vegetation types occur in low to moderate elevations and are identified as moderately to highly departed from their historic condition. Aspen communities support high species diversity and Douglas-fir in the large tree size class is an important component of old forest habitat upon which numerous Forest Sensitive, MIS and Idaho SGCN depend. Priority watersheds for treatment are the Rockland and Warm-Heglar HUC5 watersheds (1704020909 and 1704021001). These watersheds were selected due to their relative abundance of aspen and cool, dry Douglas-fir vegetation types and the relatively large percentages of large and medium size tree classes that exist within the Douglas-fir vegetation types. These attributes offer the best opportunity to develop old forest habitat within the time span of this Forest Plan.
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Fire Management - Prescribed fire has been used to improve vegetation conditions. During the last 20 years, 19 fire starts have occurred within the management area, 79 percent caused by lightning. Approximately 4900 acres have burned within the management area since 1988, or 6 percent of the area. No National Fire Plan communities or wildland-urban interface subwatersheds occur in the area. Historical fire regimes for the area are estimated to be 100 percent mixed1 or 2. None of the area regimes has vegetation conditions that are highly departed from their historical range. However, 52 percent of the area regimes have vegetation conditions that are moderately departed from their historical range. Wildfire in these areas may result in larger patch sizes of high intensity or severity.
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MANAGEMENT DIRECTION

In addition to the Forest-wide Goals and Objectives that provide direction for this management area, the following Objectives have been developed specifically for the area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities	General Standard	2001 Modified	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c road standard, below.
	Vegetation Standard	New	Mechanical vegetation management activities, including salvage harvest, shall retain all snags >20 inches dbh and at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6.[1]

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MPC/Resource Area	Direction	Number	Management Direction Description
MPC 4.2 Roaded Recreation Emphasis	Vegetation Standard	New	For commercial salvage sales, retain the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet the maximum total number of snags per acre depicted in Table A-6.[2]
	Vegetation Guideline	2004 Modified	Vegetation management actions—including wildland fire, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.

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[1] This standard shall not apply to management activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, to manage the personal use fuelwood program, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

[2] This standard shall not apply to activities that an authorized officer determines are needed for the protection of life and property during an emergency event, to reasonably address other human health and safety concerns, to meet hazardous fuel reduction objectives within WUIs, or to allow reserved or outstanding rights, tribal rights or statutes to be reasonably exercised or complied with.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 6.1 Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes	Vegetation Standard	New	For commercial salvage sales, retain at least the maximum number of snags depicted in Table A-6 within each size class where available. Where large snags (>20 inches dbh) are unavailable, retain additional snags ≥10 inches dbh where available to meet at least the maximum total number of snags per acre depicted in Table A-6. [2]
	Vegetation Guideline	2006 Modified	Any vegetation treatment activity may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire. Salvage harvest may also occur.
	Roads & Facilities Guideline	New	Public motorized use should be restricted on new roads built to implement vegetation management projects. Effective closures should be provided in road design. When the project is over, these roads should be reclaimed or decommissioned, if not needed to meet future management objectives.

****

Resource/Program	Direction	Number	Management Direction Description
Vegetation	Objective	2011 Modified	Restore and maintain early seral aspen desired condition components in the Cool Dry Douglas-Fir vegetation group, as described in Appendix A.
	Objective	New	Restore and maintain large tree size class in the Cool Moist Douglas-fir and Cool Dry Douglas-Fir vegetation groups, as described in Appendix A, with emphasis in the North Heglar and Houtz Canyon areas in the Warm-Heglar (1704021001) and Rockland (1704020909) watersheds.
Wildlife Resources	Objective	New	Initiate restoration of old forest habitat, as described in Appendix E, in North Heglar and Houtz Canyon Areas in the Warm-Heglar (1704021001) and Rockland (1704020909) watersheds. Prioritize treatments in medium and large size class stands that have a high likelihood of achieving the range of desired conditions for old forest habitat in the short term (<15 years).
Fire Management	Objective	2027 Modified	Identify areas appropriate for wildland fire. Use wildland fire to restore or maintain vegetative desired conditions and to reduce fuels.
	Guideline	2028	Coordinate with adjacent land managers to develop compatible fire suppression strategies and coordinated plans for wildland fire decision support system.

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Sawtooth National Forest
Land and Resource Management Plan
Appendix A

Appendix A.
Vegetation

Table of Contents

Introduction A-1
National Standards for Vegetation Classification A-2
Fire Regimes and Spatial Pattern A-2
DESIRED VEGETATION CONDITIONS A-5
Forested Vegetation A-5
Tree Size Class A-5
Canopy Cover A-6
Species Composition A-7
Shrub and Herb Communities within the Forested Potential Vegetation Groups A-8
Snags and Coarse Woody Debris A-9
Legacy Trees A-13
Vegetative Hazard and Wildfire within Forested Potential Vegetation Groups A-13
Wildlife and Vegetation Restoration Strategy A-14
Other Forested/Woodland Vegetation Types A-15
Shrublands A-16
Canopy Cover A-16
Herb Communities Within the Shrubland ESP Groups A-18
Riparian Vegetation A-18
Grasslands A-18
Other Vegetation A-19
VEGETATION MAPPING A-19
Forested Vegetation Mapping A-19
Non-Forested Vegetation Mapping A-19
VEGETATION CLASSIFICATION A-20
Forest Vegetation - Potential Vegetation Groups A-20
Potential Vegetation Group 1 - Dry Ponderosa Pine/Xeric Douglas-fir A-20
Potential Vegetation Group 2 - Warm, Dry Douglas-fir/Moist Ponderosa Pine A-20
Potential Vegetation Group 3 – Cool, Moist Douglas-fir A-20
Potential Vegetation Group 4 - Cool, Dry Douglas-fir A-21
Potential Vegetation Group 7 - Warm, Dry Subalpine Fir A-21
Potential Vegetation Group 10 - Persistent Lodgepole Pine A-21
PVG 11 - High Elevation Subalpine Fir (with Whitebark Pine) A-22
Stand Structure A-22
Other Forested/Woodland Vegetation Types A-22
Aspen Forest Type A-22

Pinyon-Juniper Forest Type A-22
Shrubland and Grassland Vegetation A-23
Shrubland ESP Groups A-23
Low Sagebrush A-23
Mountain and Wyoming Big Sagebrush A-24
Mountain Mahogany A-24
Montane Shrub A-24
Grassland ESP Groups A-25
Perennial Grass Slopes A-25
Perennial Grass Montane A-25
Riparian Cover Types A-26
Riverine Riparian A-26
Deciduous Tree A-26
Shrub Riparian A-26
Herbaceous Riparian A-26
Other Vegetation A-27
Wetlands A-27
Marshes A-27
Bogs, Fens, and Peatlands A-27
Wet Meadows and Seeps A-27
Alpine A-27
REFERENCES A-28

Tables

Table A-1. Fire Regimes A-3
Table A-2. Forested Potential Vegetation Groups by Fire Regimes A-5
Table A-3. Tree Size Class Definitions A-6
Table A-4. Forestwide Range of Desired Tree Size Classes for Stages Other Than Large Tree, Arranged by Fire Regime A-6
Table A-5. Forestwide Range of Desired Conditions for the Large Tree Size Class for Forested Vegetation within each PVG, Arranged by Fire Regime A-7
Table A-6. Desired Range of Snags per Acre in Green Stands for PVGs A-15
Table A-7. Desired Range of Coarse Woody Debris in Green Stands, in Tons per Acre Dry Weight, and Percent Desired Amounts in Large Classes for PVGs A-15
Table A-8. Desired Condition Ranges for Climax Aspen A-15
Table A-9. Desired Condition Ranges for Pinyon-Juniper A-16
Table A-10. Shrubland[1] ESP Groups by Fire Regime A-16
Table A-11. Desired Condition Ranges for Low Sagebrush ESP Groups A-17

Table A-12. Desired Condition Ranges for Mountain Big Sagebrush and/or Basin Big Sagebrush ESP Groups A-17

Table A-13. Desired Condition Ranges for Wyoming Big Sagebrush A-17

Table A-14. Desired Condition Ranges for Montane Shrub ESP Groups A-17

Figures

Figure A-1. Patch Dynamics of Fire Regimes (Agee 1998) A-4

Figure A-2. Temporal Cycling of Coarse Woody Debris by Fire Regime (Agee 2002) A-11

Figure A-3. Range of Snag Function Relative to Minimum Height Described in the Desired Condition (Example for PVGs with 30-foot Minimum Height) A-12

Figure A-4. Factors That Contribute To Wildland Fire Risk (Adopted from Bachman and Allgöwer 1999) A-14

INTRODUCTION

Appendix A contains the mapping criteria, classification descriptions, and desired condition tables for vegetation outside of designated wilderness areas. Separate tables and/or narratives relate to desired conditions for 3 vegetation types: 1) components of forested vegetation; 2) woodland and shrubland; and 3) riparian vegetation, including vegetation in Riparian Conservation Areas (RCAs). Desired conditions do not represent a static state; they are dynamic because the ecosystems are dynamic. The desired conditions will not be evident on every acre of the Sawtooth National Forest (Forest) at every point in time; spatial and temporal variability will always exist. However, Forest management's long-term goal is to achieve desired conditions distributed across the planning unit. Tree size class, canopy cover, and species composition will be evaluated north-end wide for the north end of the Forest (Fairfield Ranger District, Ketchum Ranger District, and Sawtooth National Recreation Area) and by division on the Minidoka Ranger District. Spatial pattern will be evaluated at the 5th field hydrologic unit (HU) and snags and coarse woody debris will be evaluated at the activity area scale. Desired conditions for tree size class, canopy cover class, and species composition will be evaluated through the *Sawtooth National Forest Land and Resource Management Plan* (Forest Plan) monitoring. This evaluation process may result in Forest Plan amendments that will guide future project development. Snags and coarse woody debris are evaluated during project planning. Watershed or activity-area scales of analysis may be used where a different reference is more appropriate to identify opportunities for specific treatments.

The Historical Range of Variability (HRV) was used as a basis for developing desired conditions. The HRV has been suggested as a framework for coarse-filter conservation strategies (Hunter 1990) and is described as an appropriate goal for ecological conditions (Landres et al. 1999). Presumably, if a variety of historically functioning ecosystems are produced or mimicked across the landscape, then much of the habitat for native flora and fauna should be present. The desired conditions described below fall within a portion of the HRV and are balanced with social and economic desired conditions.

In many areas, current conditions deviate strongly from desired conditions; this deviation may create opportunities for managing vegetation. However, even under careful management, these areas may take several decades to approach desired conditions. During that time, managers will have to choose between several approaches to maintain progress toward desired conditions. There may be many different paths to a common endpoint that meet different management objectives, and each path has its own trade-offs. Navigating these paths and trade-offs will be the challenge of ecosystem management in trying to achieve desired vegetative conditions. As we move forward with vegetation management and learn more from monitoring and scientific research, desired conditions may change, or we may alter the paths we chose to achieve them. For these reasons, describing a completely prescriptive approach to desired conditions is impossible. We can only offer guidance on how to achieve desired conditions.

Exceptions to the desired vegetative conditions may exist, possibly as a result of management direction in other resource areas or undesirable site-specific conditions. In some cases, Management Area Direction may have different goals and objectives that would override the Forest-wide desired conditions. Each Management Prescription Category (MPC) may also have a different theme regarding how to achieve desired conditions. All of these differences need to be considered when we design our projects.

The desired conditions are general conditions that can be modified at the local or project level based on site-specific biophysical conditions. Some examples of projects where desired conditions could deviate from those in this appendix include restoring rare plant habitat or considering the needs of a threatened or endangered species where the Forest-wide desired conditions would not provide the site-specific conditions appropriate to the plant community. The rationale for deviating from desired conditions in this appendix would be documented through project-level analysis to help develop alternate desired conditions.

This appendix provides the foundation for coarse-filter forestland, woodland, shrubland, and grassland ecosystems and associated functions and processes. It also provides desired conditions for fine-filter elements, such as snags and coarse woody debris, and sets a context for riparian areas, wetlands, and alpine communities. Desired conditions are defined as ranges rather than as an "average" or "target" to provide for a diversity and variety of conditions within and across landscapes. The desired conditions are framed by the HRV and fire regimes and—though presented in terms of tangible attributes of structure, patch, and pattern—embody intangible attributes of function and process. These intangible attributes, particularly disturbance processes that contribute to ecosystem structure and function, are generally captured as Forest-wide goals and in the desired conditions for spatial pattern.

National Standards for Vegetation Classification

Ecosystem assessment and land management planning at national and regional levels require consistent standards for classifying and mapping existing vegetation. A standardized vegetation classification system provides a consistent framework for cataloging, describing, and communicating information about existing plant communities. The net value of using standardized existing vegetation classifications and maps is improved efficiency; accuracy; and defensibility of resource planning, implementation, and activity monitoring. Appendix A represents a vegetation classification for existing vegetation that precedes U.S. Department of Agriculture (USDA) Forest Service policy and protocol for consistent standards for classification; the *Existing Vegetation Classification and Mapping Technical Guide* (Brohman and Bryant 2005) documents and establishes these standards. Our vegetation inventories and maps do not match these standards. However, as new inventories and maps are completed, these will be consistent with USDA Forest Service existing vegetation classification standards for dominant vegetation, size class, and canopy cover. At that time, this appendix will also be modified with desired conditions that are consistent with established classification standards.

Fire Regimes and Spatial Pattern

Recent advances in theory and empirical studies of vegetation and landscape ecology indicate that, to achieve long-term biological diversity across landscapes, management needs to consider the major disturbance processes, including variability and scale, which determine ecosystem components and their spatial pattern (Baker 1992; Baker and Cai 1992; Hessburg et al. 2007). Because fire was historically a major disturbance process in the West, historical fire regimes have been recommended to help set context for the individual components of the desired conditions (Wallin et al. 1996).

Fire regimes are summarized in Table A-1. Figure A-1 displays vegetative spatial patches and patterns that generally resulted from the historical fire regimes (i.e., fire disturbance that occurred on the landscape for approximately 500 years before European settlement [Hann et al. 2004]). Hann et al. (2004) states that appropriate landscapes for evaluating fire regimes are "relatively

large-scale, contiguous areas big enough to exhibit natural variation in fire regimes and associated vegetation." They recommend basing the landscape size on the dominant historical fire regime within an area; appropriate landscapes can range from 500 to 300,000 acres in highly dissected topography. Spatial patterns are evaluated at the watershed landscape unit (5th HU) because, in most cases, this scale is large enough to represent the desired fire regime patch dynamics that created the largest patch sizes on the Forest (i.e., the lethal fire regimes). Much larger patches than would be appropriate to represent using a watershed context could be created from very large, stand-replacing fires. However, such fires, even within the historical range of lethal fire regimes, are generally inconsistent with current management given the complexity of management goals within national forests (Wallin et al. 1996; Cissel et al. 1999). Therefore, depending on the mix of fire regimes, a watershed may be dominated by a few or many patches. For example, a watershed dominated by nonlethal fire regimes may be primarily large tree size class with fine-grained patches of smaller size classes. A watershed dominated by mixed fire regimes may have numerous small-to-large patches of different size classes, while a watershed dominated by lethal fire regimes may have primarily smaller tree size classes with fine-grained patches of larger-sized trees.

Table A-1. Fire regimes

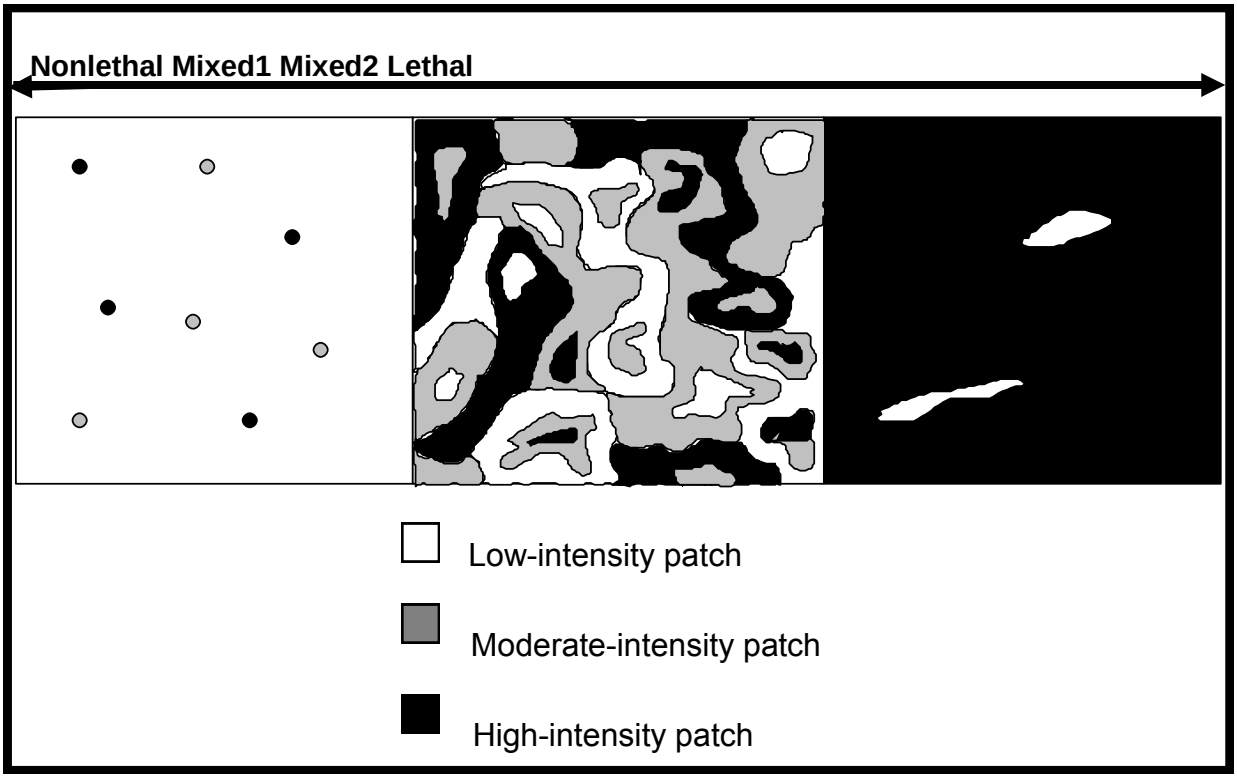
Fire Regime	Fire Interval	Fire Intensity	Vegetation Patterns (Agee 1998)
Nonlethal	5–25 years	≤10% mortality	Relatively homogenous with small patches generally less than 1.0 acre of different seral stages, densities, and compositions created from mortality.
Mixed1	5–70 years	>10–50% mortality	Relatively homogenous with patches created from mortality ranging in size from less than 1.0 to 600 acres of different seral stages, densities, and compositions.
Mixed2	70–300 years	>50–90% mortality	Relatively diverse with patches created by mixes of mortality and unburned or underburned areas ranging in size from less than 1.0 to 25,000 acres of different seral stages, densities, and compositions.
Lethal	100–400 years	>90% mortality	Relatively homogenous with patches sometimes greater than 25,000 acres of similar seral stages, densities, and compositions. Small inclusions of different seral stages, densities, and compositions often result from unburned or underburned areas.

Evaluating spatial pattern is a daunting task that requires both a conceptual framework to organize and simplify ecosystem complexity and knowledge of the details of particular systems (Spies and Turner 1999). Historically, patterns like those in Figure A-1 were the result of disturbance regimes and succession that created spatial elements within and between vegetation types, including amount, proportion, size, interpatch distance, patch size variation, and landscape connectivity.

Landscape spatial patterns affect ecological processes and can be illustrated through differences in plant species composition and structure and through habitat utilization by wildlife. Despite recent interest and progress in spatial patch and pattern research, determining the conditions under which spatial heterogeneity is and is not important for various processes or organisms remains challenging (Spies and Turner 1999). Ecosystems often include recognizable patchiness, usually corresponding to physical changes in topography, hydrology, and substrate or due to large disturbances (Whittaker 1956; Bormann and Likens 1979; Taylor and Skinner 2003). Patchiness in the landscape can create changes in microclimate at patch edges, resulting in demographic fluxes of many individual plant species, varied plant species distribution, and edge-oriented patterns

(Matlack and Litvaitis 1999). These effects can subsequently alter ecological processes and habitat utilization.

Figure A-1. Patch Dynamics of Fire Regimes (Agee 1998)



Within a watershed, several forested vegetation types may be interspersed with several shrubland and/or grassland vegetation types. Additionally, several MPC designations may be superimposed upon these vegetation types. During project design it is important to consider the composition of the landscape that contains a project area. At the project level, opportunities exist to consider spatial patterns, how a project can affect spatial patterns, and what those effects (positive or negative) will be to plant and animal species. Spatial pattern considerations depend on current conditions and overriding management concerns for the area. Generally, these conditions and concerns are site-specific, depending on the project scale. Repeating patterns of change emerge at landscape scales, and some order can be found through descriptions of successional pathways, patch mosaics, and seral stages that facilitate understanding and managing vegetation at landscape scales. The challenge and art of management is to simplify without losing important attributes or losing sight of the underlying complexity (Spies and Turner 1999). A useful way of understanding vegetation dynamics is to characterize the landscape as a shifting mosaic of patches of different ages and developmental stages (Bormann and Likens 1979). The proportion of different age classes or seral stages across a landscape and over time is one of the fundamental characteristics of the vegetation mosaic.

In some cases, the prevailing landscape pattern has been altered so strongly that historical information may be necessary to determine appropriate landscape patterns. For example, fire was historically an important disturbance that maintained the dynamics between native grass and big sagebrush dominance. Frequent small fires opened the shrub canopy and aided the establishment

of native perennial grasses at small scales, creating a mosaic of grassland and shrubland communities in different development stages at large scales (Knick 1999). The system dynamics changed when cheatgrass (*Bromus tectorum*) invaded the sagebrush ecosystem and provided continuous fuels, compared to more patchily distributed native bunchgrasses. This invasion facilitated fire spread and shrub loss, resulting in shrubland fragmentation into smaller, spread out patches. Ultimately, many patches did not persist (Knick and Rotenberry 1997). Patch and pattern have changed and may no longer provide for the processes and habitat associated with these systems (Rotenberry and Wiens 1980; Knick and Rotenberry 1995; Paige and Ritter 1999; Connelly et al. 2000; Knick and Rotenberry 2000). Spatial pattern considerations and subsequent management will be particularly difficult in these highly disrupted ecosystems and vegetation types.

DESIRED VEGETATION CONDITIONS

Forested Vegetation

The desired conditions for forested vegetation are described below. Forested vegetation refers to land that contains at least 10 percent canopy cover by forest trees of any size, or land that formerly had tree cover and is presently at an earlier seral stage. Forested vegetation is described by habitat types, which use potential climax vegetation as an indicator of environmental conditions. At the Forest Plan level, forested habitat types have been further grouped into Potential Vegetation Groups (PVGs) that share similar environmental characteristics, site productivity, and disturbance regimes. These groupings simplify the description of vegetative conditions for use at the broad scale. For additional details on the specific habitat types and groupings into PVGs, see Steele et al. (1981) and Mehl et al. (1998).

Table A-2 displays the forested PVGs grouped by fire regime. Additional information on PVGs is available in the Vegetation Classification and Mapping section at the end of this appendix.

Table A-2. Forested Potential Vegetation Groups (PVGs) by Fire Regimes

Fire Regimes	Potential Vegetation Group
Nonlethal	PVG 1—Dry Ponderosa Pine/Xeric Douglas-fir
	PVG 2—Warm Dry Douglas-fir/Moist Ponderosa Pine
Mixed1-Mixed2	PVG 3—Cool Moist Douglas-fir
	PVG 4—Cool Dry Douglas-fir
Mixed2	PVG 7—Warm Dry Subalpine Fir
	PVG 11—High Elevation Subalpine Fir
Mixed2-Lethal	PVG 10—Persistent Lodgepole Pine

Tree Size Class

Tree size class is based on the largest diameter at breast-height (d.b.h.) of trees according to the following definitions (Table A-3). If none of the definitions apply, the size class is considered grass/forb/shrub/seedling (GFSS). Though a smaller size class may represent a greater canopy cover area than a larger size class, the size class is determined by the largest trees that meet the class definition not the most abundant:

Table A-3. Tree Size Class Definitions

Diameter at Breast-Height (inches)	Total Nonoverlapping Canopy Cover Of Trees (Percent)	Tree Size Class
≥20.0	≥10	Large
≥12.0	≥10	Medium
≥5.0	≥10	Small
≥0.1	≥10	Sapling

A few individual trees (such as relic trees) representing a distinctly different tree size are not recognized as a size class if the total non-overlapping canopy cover is <10 percent. For example, two or three 18-inch d.b.h. trees in a plantation may be legacy trees; these legacies would not define the tree size class even though they are the largest trees in the stand since their canopy cover would not meet or exceed 10 percent. In this example, the size class is defined by the plantation trees and not the legacies.

Table A-4 displays the desired range of forested vegetation by PVG for all tree size classes other than large. The range for each size class reflects the dynamic development of trees, considering growth rates, type and extent of disturbances, and varying growth conditions. The individual components are described in more detail below.

Table A-4. Range of Desired Tree Size Classes for Stages Other than Large Tree, Arranged by Fire Regime

Tree Size	Nonlethal		Mixed1-Mixed2		Mixed2		Mixed2-Lethal
	PVG 1 (%)[a]	PVG 2 (%)	PVG 3 (%)	PVG 4 (%)	PVG 7 (%)	PVG 11 (%)	PVG 10[b] (%)
GFSS	1–12	4–5	9	14–15	7–16	9–15	16–23
Saplings	2–12	3–7	9	7–9	11–15	14–15	11–16
Small	2–18	5–21	18–27	19–22	21–22	19–22	46–48
Medium	3–29	7–35	23–36	24–36	32–36	22–38	11–20

[a] Percentage of forested vegetation within each PVG
[b] See the large tree size class discussion below for the desired conditions for medium size class in PVG 10

Canopy Cover

The tree size class is based on the largest d.b.h. trees that meet the definitions described in the Tree Size Class section. Canopy cover represents the total nonoverlapping cover of all trees in a stand, excluding the seedling size class. Trees in the seedling size class are used to estimate canopy cover only when they represent the only structural layer present.

Canopy cover classes are based on the following:

- Low = 10–39 percent canopy cover
- Moderate = 40–69 percent canopy cover
- High = 70 percent or more canopy cover

Canopy cover may be determined from visual estimates using aerial photos or from algorithms in programs such as Forest Vegetation Simulator. The canopy cover is used to calculate tree size class and canopy cover class. Tree size class is calculated using the largest trees that contain >10 percent canopy cover and only canopy cover of trees in that specific size class are used. Canopy cover as described in this section, uses trees of all sizes (except seedling) to calculate non-overlapping canopy cover used to assign canopy cover class.

Species Composition

Table A-5 displays the desired condition ranges for the large tree size class, including canopy cover and species composition. For species composition, finer scales are not expected to mirror these values because of the specific mix of habitat types present in individual analysis areas. For example, on the north end of the Forest for PVG 1, the desired range of 96–99 percent ponderosa pine (*Pinus ponderosa*) would be attained when evaluated north-end wide, while the remainder of PVG 1, up to 4 percent of the area, would be any other combination of tree cover. However, the

Table A-5. Range of desired conditions for the large tree size class for forested vegetation within each PVG, arranged by fire regime

Fire Regime	PVG	Large Tree Size Class (%)	Canopy Cover Class (%)	Species Composition[a] (%)
Nonlethal	1	47–91%	Low: 63–83%	Aspen: Trace Ponderosa pine: 96–99% Douglas-fir: 0–2%
			Moderate: 17–37%	
			High: 0%	
	2	59–80%	Low: 61–81%	Aspen: Trace Lodgepole pine: Trace Ponderosa pine: 81–87% Douglas-fir: 10–16%
			Moderate: 19–39%	
			High: 0%	
Mixed1-Mixed2b	3	23–41%	Low: 5–25%	Aspen: 1–11% Lodgepole pine: Trace Ponderosa pine: 26–41% Douglas-fir: 47–69%
			Moderate: 75–95%	
			High: 0%	
	4	20–34%	Low: 8–28%	Aspen: 4–13% Limberpine: Trace Lodgepole pine:10–20% Ponderosa pine: Trace Douglas-fir: 66–81%
			Moderate: 72–92%	
			High: 0%	
Mixed2	7	10–21%	Low: 0–14%	Aspen: 6–11% Lodgepole: 28–42% Ponderosa pine: Trace Douglas-fir: 24–34% Engelmann spruce: 3–5% Subalpine fir: 12–21%
			Moderate: 86–100%	
			High: 0%	
	11	14–27%	Low: 25–45%	Aspen: Trace Limberpine: Trace Lodgepole pine: 18–25% Whitebark pine: 32–47% Engelmann spruce: 8–13% Subalpine fir: 18–29%
			Moderate: 55–75%	
			High: 0%	
Mixed2-Lethal	10	Medium Tree Size Classb (See Table A-3)	Low: 0–21%	Aspen: Trace Limberpine: Trace Lodgepole pine: 82–94% Whitebark pine: Trace Douglas-fir: Trace Engelmann spruce: Trace Subalpine fir: Trace
			Moderate: 71–91%	
			High: 0–18%	

[a]Use this table as a reference. For project purposes describe the desired species composition based on species composition of the habitat types present within the analysis area. Refer to the appropriate habitat type guide for the analysis area when determining the correct species mix including those species that may occur as accidentals.
[b]Large tree size class was not modeled as part of the historical range of variability.

Douglas-fir / mountain snowberry (*Pseudotsuga menziesii* / *Symphoricarpos oreophilu*) habitat type, which occurs in PVG 1 only rarely, supports ponderosa pine. Therefore, managing for a species composition that reflects the desired condition would likely not be appropriate since managing for a predominance of Douglas-fir would be more ecologically suitable for this habitat type. Therefore, the proper species "mix" for a project area should be determined by habitat types and other concerns, such as wildlife or wildland-urban interface (WUI).

While Table A-5 displays the desired species composition for the large tree size class, this same species composition can be used to help guide projects conducted in intermediate size classes. Individual species described as "trace" were not explicitly modeled when developing the HRV because they occur in habitat types that represent a minor part of the PVGs within the southern part of the Idaho Batholith and/or because little is known about their historical occurrence within a PVG. Quaking aspen (*Populus tremuloides*), which occurs in minor amounts in many PVGs, is an example. Because quaking aspen is a minor component, it has not been extensively studied to fully understand its role. However, these "trace" species should be retained where they are found within the landscape, particularly species in decline, including quaking aspen and whitebark pine (*Pinus albicaulis*).

The appropriate species composition for a project area may vary from Table A-5 based on the mix of habitat types present, particularly for PVGs that include several habitat types representing a broad environmental range, such as PVG 7. Determining the mix of habitat types that comprise the PVGs within the project area is necessary for project application in most PVGs. Since most project areas will generally contain fewer habitat types than are represented by the PVGs, the desired species composition should reflect that more limited set. Therefore, the project area desired species composition may deviate from the desired composition but should, where appropriate, result in landscapes dominated by early-seral species. These species are better adapted to site conditions and usually more resilient to disturbances such as fire. For example, the desired species composition for sites dominated by warmer, drier habitat types in PVG 7, which supports Douglas-fir, would be different from sites dominated by cooler, more frost-prone habitat types that support lodgepole pine (*Pinus contorta*).

The ranges in Tables A-4 and A-5 were developed from the HRV estimates adopted from Morgan and Parsons (2001). The high end of the range for the large tree size class is equal to the mean HRV value; the low end of the range equals the low end of the HRV. Although current conditions may prevent us from obtaining desired conditions for quite some time, management actions over a longer period (perhaps more than 100 years) should result in forested vegetation approaching the desired conditions displayed in Tables A-4 and A-5. For the large tree size class, Table A-5 shows the set of components that together achieve the desired conditions.

Shrub and Herb Communities within the Forested Potential Vegetation Groups

Similar to the tree component, the shrub and herb communities historically occurred within some range of variability, depending on disturbance processes and succession (Steele and Geier-Hayes 1987). Shrub and herb communities that occur across the landscape reflect the environment as controlled by elevation; aspect; topography; soils; and other factors, including management activities that affect sites. The desired conditions for these communities are to have healthy, resilient, and resistant native shrub and herb species.

Snags and Coarse Woody Debris

Snags and coarse woody debris are created by disturbances and vary depending on vegetation type and stage of succession (Hutto 2006). In older forests, snags and coarse woody debris are generally products of disease, insects, lightning, low-intensity fire, and senescence (Spies et al. 1988). In postdisturbance forests, most snags and coarse woody debris are products of the disturbance that created the early-seral condition (Drapeau et al. 2002). Therefore, snags and coarse woody debris in older forests often exhibit more advanced stages of decay than postdisturbance forests, though some components of predisturbance snags and coarse woody debris may still be present (Nappi et al. 2003). In all forests, snags and course woody debris serve important ecological functions.

Much of the research regarding snags in older forests has focused on using them as nesting habitats, particularly for primary cavity nesters (Hutto 2006). Recent research has shown that while snags in postdisturbance forests provide nesting habitat, they are also an important resource for foraging (Nappi et al. 2003), particularly for species such as the black-backed woodpecker (*Picoides arcticue*) and the American three-toed woodpecker (*Picoides tridactylus*), which forage on insects that infest recently burned trees. Although these trees only provide suitable foraging habitat for a short time, they are an invaluable resource for these woodpecker species.

Tables A-6 and A-7 display the snag and coarse woody debris desired conditions for green stands by PVG. Snags and coarse woody debris are finer-scale elements than the coarse-scale vegetative components of species composition, tree size class, and canopy cover class. Snags and coarse woody debris occur as more discrete components within stands, whereas the species composition, tree size class, and canopy cover occur across stands. Therefore, snags and coarse woody debris are evaluated during project planning for an activity area, which better reflects the appropriate scale to consider these elements. The activity area for snags and coarse woody debris is the specific site affected, whether the effects are positive or negative. Actions where snags and coarse woody debris need to be assessed include timber harvest, reforestation, timber stand improvement, and prescribed fire activities.

Table A-6. Desired Range of Snags per Acre in Green Stands for Potential Vegetation Groups (PVGs)

Diameter Group	Nonlethal		Mixed1–Mixed2		Mixed2		Mixed2–Lethal
	PVG 1[a]	PVG 2[b]	PVG 3[b]	PVG 4[b]	PVG 7[b]	PVG 11[a]	PVG 10[a]
10–20 inches	0.4–0.5	1.8–2.7	1.8–4.1	1.8–2.7	1.8–5.5	1.4–2.2	1.8–7.7
>20 inches	0.4–2.3	0.4–3.0	0.2–2.8	0.2–2.1	0.2–3.5	0.0–4.4	NA
Total	0.8–2.8	2.2–5.7	2.0–6.9	2.0–4.8	2.0–9.0	1.4–6.6	1.8–7.7

Note: This table is not meant to provide an even distribution of snags across every acre of the forested landscape, but to provide numbers that serve as a guide to approximate an average condition for an activity area.
[a] Minimum height = 15 feet. Snags at or greater than the minimum height contribute to the desired conditions. However, snags less than the minimum height contribute to ecological functions and should be retained.
[b] Minimum height = 30 feet.

Table A-7. Desired Range of Coarse Woody Debris in Green Stands, in Tons per Acre Dry Weight, and Percent Desired Amounts in Large Classes for Potential Vegetation Groups (PVG)

Indicator	Nonlethal		Mixed1-Mixed2		Mixed2		Mixed2–Lethal
	PVG 1	PVG 2	PVG 3	PVG 4	PVG 7	PVG 11	PVG 10
Dry Weight (tons/acre) in Decay Classes I and II	3–10	4–14	4–14	4–14	5–19	4–14	5–19
Distribution >15 inches	>75%	>75%	>65%	>65%	>50%	>25%	>25%

Note: The recommended distribution is to try to provide coarse woody debris in the largest size classes, preferably over 15 inches (12 inches for PVG 10), that provide the most benefit for wildlife and soil productivity. This table is not meant to provide an even distribution of coarse woody debris across every acre of the forested landscape, but to provide numbers that serve as a guide to approximate an average condition for an activity area.

Because the desired conditions in Tables A-6 and A-7 are for green stands, in many cases they may not be appropriate for postdisturbance forests. While a portion of the snags and coarse woody debris in stands may be a legacy of postdisturbance communities, the kind of material created immediately postdisturbance and the role it plays is different than dead wood dynamics in green stands. Drapeau et al. (2002) found that snags in postdisturbance stands were generally less decayed than those in green stands. Postdisturbance communities provide important habitat for primary cavity nesters, while green stands support a greater proportion of secondary cavity nesters.

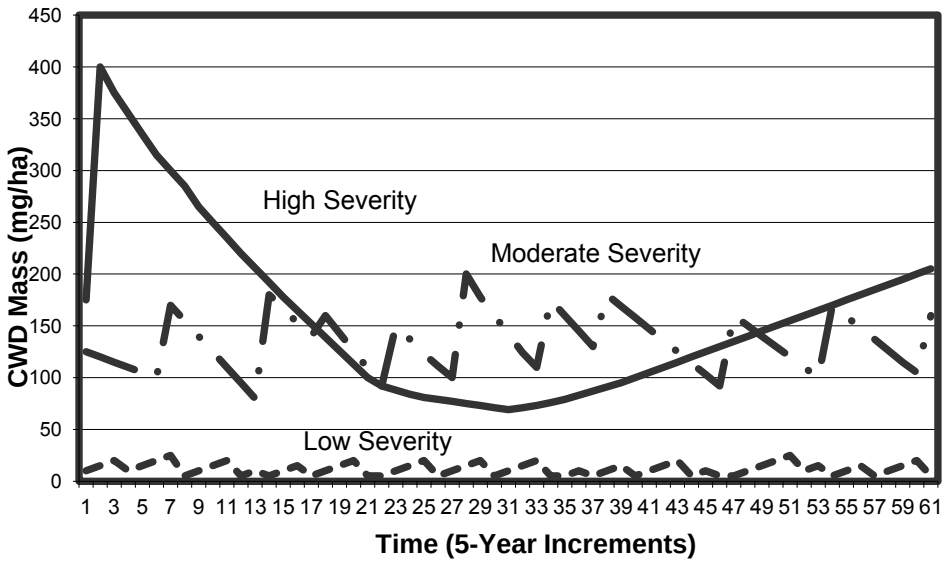
Using historical fire regimes, Agee (2002) presents several diagrams that depict the spatial and temporal variability found in snag and coarse woody debris numbers. According to Agee (2002), the landscape ecology of historical fire regimes is a function of place. Low-intensity fire regimes had small patches and little edge, while high-intensity regimes had the largest patch sizes and moderate amounts of edge (Figure A-1). Moderate- or mixed-intensity fire regimes had intermediate patch sizes and maximum amounts of edge.

Spatial distribution of snags and coarse woody debris is important. However, the desired conditions described in Tables A-6 and A-7 are not meant to provide an even distribution of snags or coarse woody debris across every acre of the forested landscape. The numbers serve as a guide to approximate an average condition for an activity area. Clumping all dead material in an activity area into one portion of the area would be undesirable and would leave little or no material in the remainder of the area. Though snags are generally found in clumps within patches, snag patches should be distributed across the activity area rather than clustered in a portion of the activity area; the activity area should have snag patches throughout, depending on what is appropriate for the PVG. Coarse woody debris is often more uniformly distributed across the landscape than snags because it is created from green trees as well as snags.

Agee (2002) also discusses how woody debris dynamics have historically varied by fire regime (Figure A-2). Frequent, low-intensity fires limit the amount of coarse woody debris. Figure A-2 displays fluctuations in course woody debris found in low-intensity fire regimes; the peaks may be as high as 13–16 tons/acre (30–35 megagrams per hectare [Mg/ha]), the lows could be <0.5 tons/acre (1 Mg/ha), and the average is around 5 tons/acre (11 Mg/ha) (Graham, personal communication 2001). Although fires were frequent, they rarely affected every acre. In moderate-intensity fire regimes, fires consumed and created coarse woody debris several times per century (Agee 2002). In high-intensity fire regimes, a "boom-and-bust" dynamic operated: substantial coarse woody debris was created postdisturbance, followed by a century or more

without further substantial input. Therefore, it is important to understand the dynamics of the project area's particular PVG to best determine desired levels.

Figure A-2. Temporal Cycling of Coarse Woody Debris by Fire Regime (Agee 2002)



Large-diameter snags and coarse woody debris may not be available in seedling, sapling, and small tree size stands depending on the amount of material present from postdisturbance early-seral stands. In this case, some of the tonnage and snag numbers can be in smaller size classes. The total amounts, particularly for coarse woody debris, are not expected to be made up in smaller size classes, but opportunities to progress toward the desired ranges should exist. In particular, the amount of material retained with diameters <6 inches should be balanced against the fire hazard it—and the finer material that often comes with it—may create. Several factors determine the potential fire hazard created by surface fuels, including the kind, depth, continuity, and extent of surface fuels; connectivity to standing trees; and proximity to adjacent fuels. The risk of creating a potentially hazardous condition should also be considered relative to the area's management objectives.

Our primary objective is to provide the majority of course woody debris in larger size classes as this material is retained on-site longer. Although some small and intermediate stage stands may not have the larger material available, the expectation is not to compensate with an abundance of material in the small and medium size classes. If only smaller material is available, some should be left to assist with long-term soil productivity. Coarse woody debris with diameters ≥15 inches (≥12 inches for PVG 10) and lengths ≥6 feet are referred to as logs. These large pieces provide important material for meeting wildlife needs.

Single management treatments may not produce all the dead material in the amounts and/or decay classes desired. As much as possible, treatments should be designed to provide structural, compositional, and functional elements that contribute to long-term sustainability of snags and coarse woody debris. In many cases, actions will consume coarse wood (e.g., prescribed fire). However, if an action results in mortality that produces snags or coarse woody debris, it will contribute to desired levels of large snags and coarse woody debris over time. Furthermore, a

range of dead wood sizes and age classes should be retained. Snag height minimums described in Table A-6 are just that—minimums—and do not preclude functions provided by smaller snags (Figure A-3). Large trees and snags provide nesting or denning sites longer than small snags do (Graham 1981; Morrison and Raphael 1993). However, smaller snags provide foraging sites, which are needed in greater abundance than nesting sites (Bunnell et al. 2002).

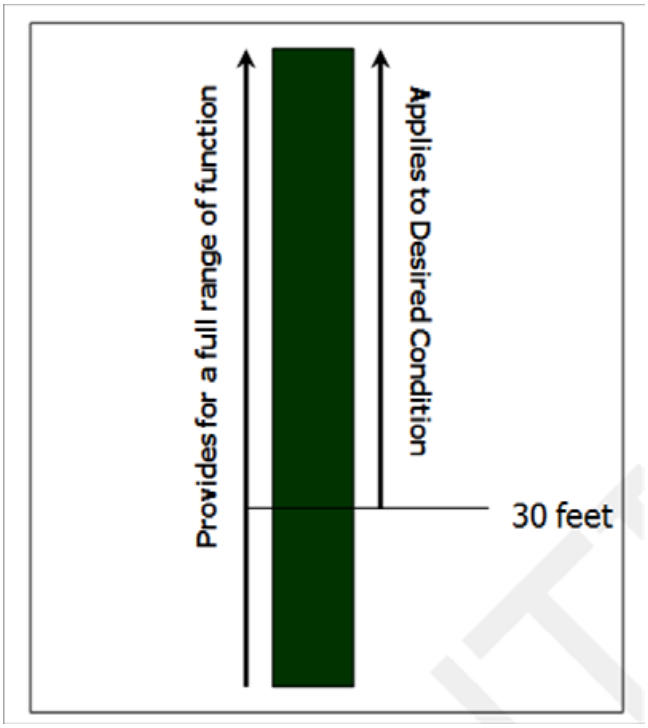


Figure A-3. Range of Snag Function Relative to Minimum Height Described in the Desired Condition (Example for PVGs with 30-foot Minimum Height)

Historical fire regimes, particularly the nonlethal and mixed1 regimes, continually recycle material. Larger material may take several fire cycles before it is fully consumed. This constant recycling also helps provide decay class variety, another important component of achieving desired conditions. Therefore, management actions should result in a variety of snag and coarse wood decay classes. Some wildlife species prefer hard snags, while others prefer those with more decay. For soil productivity, inputs from these different decay classes need to occur at various temporal increments to ensure productivity gaps do not result over time. To provide for continual recruitment into decay class III, only decay classes I and II count towards the desired amounts; the goal is to provide snags and coarse woody debris in decay class III. In addition to decay, characteristics that affect the type and extent of wildlife use of coarse woody debris include physical orientation (vertical or horizontal), size (diameter and length), wood species, and overall material abundance (Harmon et al. 1986; Bunnell et al. 2002).

The increasing number of studies on tree mortality and decomposition are providing a global view of how these processes vary by forest type and climate. These data also provide the basis for a dynamic rather than a static approach to the management of woody material (Harmon 2002). However, to be successful, this perspective must be coupled with a detailed understanding of how certain species and ecosystem processes vary with snag and coarse woody debris amount and quality. The application of a static-state approach, as illustrated by the desired conditions, is based on a set of general objectives designed to provide snags and coarse woody debris across the

Forest. However, applying a static-state approach does not account for the dynamic nature of ecosystem processes and the specific objective-oriented needs of species and their functions (Harmon 2002). Evidence suggests a variety of snags and coarse woody debris, with a variety of decay and size characteristics, provides for all functional wildlife groups and may be necessary for continuous soil productivity. Therefore, project analysis should consider that greater range of function and process that cannot be captured by the desired conditions.

Legacy Trees

Perry and Amaranthus (1997) defined forest legacies as "anything handed down from a pre-disturbance ecosystem." These legacies can occur at different scales ranging from the landscape to the stand to individual components within a stand (Huckaby et al. 2003; Van Pelt 2008). For example, within a lethal fire area, unburned or underburned patches and individual trees are legacies. Legacies are not an artifact of current land-use activities—they also occurred in the historical landscape (Huckaby et al. 2003). Old live and dead ponderosa pine and Douglas-fir trees are an important legacy of the historical condition in many areas (see the Snags and Coarse Woody Debris section for a discussion on dead trees). Legacies are generally resistant to nonlethal/mixed1 fire, provide food and habitat for wildlife, and genetic material reflective of the local site conditions (Huckaby et al. 2003), particularly when present in plantations. However, legacies may now be less common in number and/or distribution due to changes in disturbance regimes (Van Pelt 2008). Since legacies, in particular old tree legacies, are deficient within many landscapes, retaining old trees, as well as trees that are transitioning into old, provides the greatest opportunity for creating and/or replacing these important components.

Vegetative Hazard and Wildfire within Forested Potential Vegetation Groups

Vegetative desired conditions are directly related to fire hazard: both define conditions that can occur on the landscape. Fire hazard describes potential fire behavior based on characteristics such as the horizontal and vertical arrangement of fuels, fuel continuity, and flammability. High fire hazard implies conditions where fires have a high likelihood of being lethal or difficult to suppress even without contributing factors such as drought or wind. In nonlethal and mixed1 fire regimes, near historical conditions are expected to reduce the risk of lethal wildfires due to the emphasis on larger trees, more fire resistant seral species, and discontinuous ladder and surface fuels. Ignitions within these conditions are more likely to stay on the ground, increasing the chances of keeping a wildfire small (Wagle and Eakle 1979; Omi and Martinson 2002). By definition, lethal fires are consistent with the way historically mixed2 and lethal fire regimes operated. Mixed2 and lethal fire regimes have a greater component of more flammable later-seral species and more continuous ladder and surface fuels.

Wildfires, whether historically characteristic or uncharacteristic, are undesirable in some cases, particularly in WUI areas. Although wildfire risks can partially be addressed by using defensible space, in many situations watersheds are a more appropriate scale to deal with concerns about firefighter and public safety and the multitude of infrastructures, resources, and values often associated with interface areas. Therefore, the juxtaposition and arrangement of vegetative conditions relative to WUIs need to be considered at a scale greater than the project area. Considering the vegetative conditions adjacent to the WUI is important because the desired vegetative conditions for some areas may contribute to a risk of stand-replacing wildland fire. In particular, the desired conditions for forested vegetation in mixed2 and lethal fire regimes are generally more hazardous than those found in nonlethal and mixed1 fire regimes. Since desired conditions are intended to create vegetative communities that reflect historical conditions, the

resulting disturbances would also reflect historical disturbances. Therefore, by definition, desired conditions for PVGs in mixed2 and lethal fire regimes would produce more stand-replacing wildland fire.

Although desired conditions in certain PVGs increase the hazards associated with stand-replacing wildland fire, the risk of these events may be reduced using a variety of vegetation management techniques. These techniques can include strategically placing fuel breaks, surrounding vulnerable areas with vegetative conditions where fires can be more easily suppressed, or arranging treatments to break up continuous hazardous conditions (Deeming 1990; Graham et al. 1999; Finney 2001; Fulé et al. 2001; Omi and Martinson 2002). In some cases these strategic treatments can be effective without being extensive.

Although vegetative management techniques can reduce lethal wildland fire risk, they address only one of several factors (vegetative conditions). Vegetative manipulation alone cannot eliminate all the risks associated with wildland fire (Figure A-4). The efforts made by property owners on their own behalf are essential in protecting homes in the WUI.

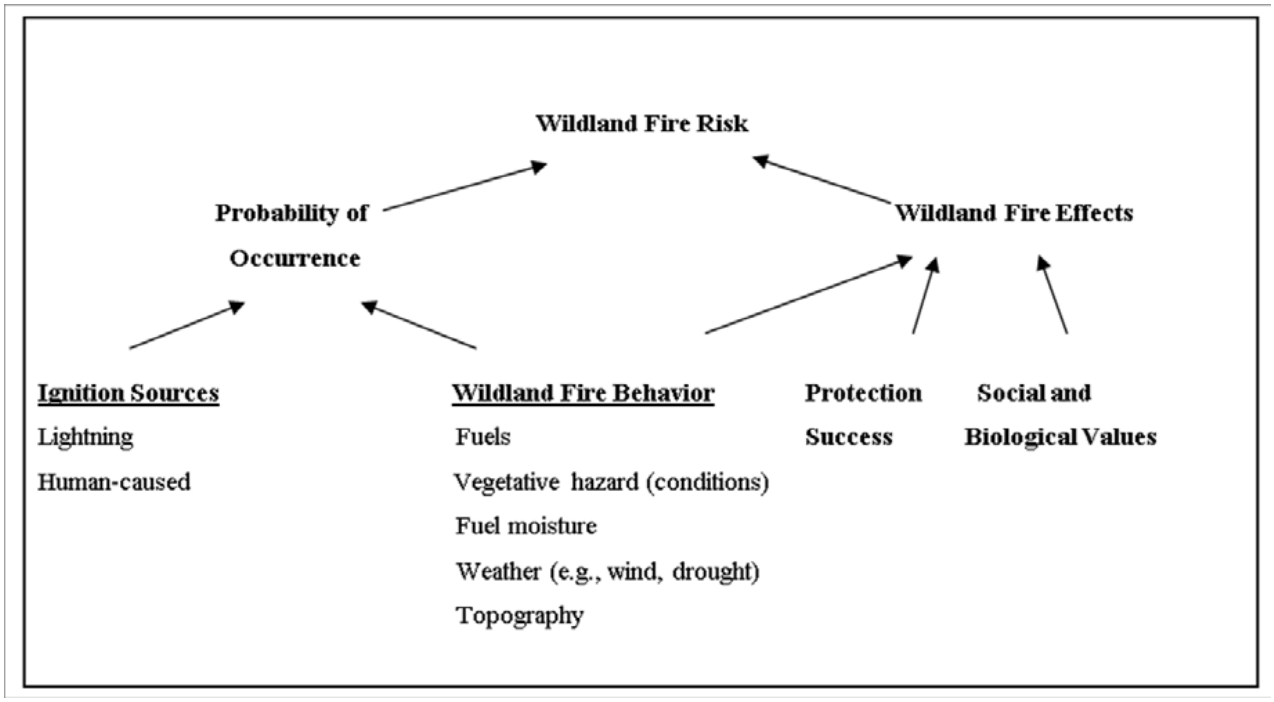


Figure A-4. Factors That Contribute To Wildland Fire Risk (Adopted from Bachman and Allgöwer 1999)

Wildlife and Vegetation Restoration Strategy

A *Wildlife and Vegetation Restoration Strategy* was developed for forested vegetation to identify Forest-wide priorities for restoring the large tree size class. Watersheds were assigned to active and passive restoration categories and prioritized as high, medium, or low. Active watersheds are those with the most historically nonlethal and mixed1 fire regimes, and high priority watersheds are those with the greatest number of acres in medium and large tree size class within these fire regimes. These watersheds were selected as high priority because they likely contain larger patches of conditions that can be restored faster toward desired conditions than areas that have fewer medium and large tree size class acres and likely smaller patches. Active restoration is

generally where management activities such as thinning, planting, control of nonnative plants, and prescribed fire may be needed to create conditions that are more resilient and resistant to disturbance. In many cases within historically nonlethal and mixed1 fire regime areas, conditions are such that current disturbances often create structures, functions, and processes that are out of sync with historical conditions and therefore can have undesirable ecosystem consequences.

Passive restoration watersheds are those where natural disturbances are likely to operate most similar to historical disturbances. In these areas, allowing disturbance processes to occur creates desirable ecosystem results. High-priority watersheds are those that have been undisturbed for a long time and would benefit from disturbances that begin to diversify spatial patch, pattern, and structure. Low-priority watersheds are those that have experienced recent large-scale disturbance, such as wildfire, and need time to allow early-seral conditions to progress into other size classes.

Other Forested/Woodland Vegetation Types

In addition to developing desired conditions for the 11 PVGs, 2 additional forest types, climax aspen and pinyon-juniper, are found on the southern portion of the Forest. As is the case for the 11 PVGs, forested vegetation for these two types refers to land that contains at least 10 percent canopy cover by trees of any size or land that formally had tree cover and is presently at an earlier seral stage. Climax aspen falls into the lethal fire regime and pinyon-juniper falls in the mixed2 fire regime category. Refer to the Vegetation Classification portion of this appendix for description of climax versus seral aspen, as the desired conditions do not apply to seral aspen.

Desired conditions for climax aspen and pinyon-juniper forest types are presented somewhat differently than ranges for other forest types. Rather than a range of desired conditions for specific components, the aspen and pinyon-juniper desired conditions are represented as ranges of acres found in the various size classes (TablesA-8 and A-9). Although current conditions may prevent us from obtaining desired condition for quite some time, over a longer period (perhaps more than 100 years), management actions should result in vegetation that is approaching Forest-wide desired conditions.

Table A-8. Desired Condition Ranges as Percent of Area by Size Class for Climax Aspen Forest Type

Aspen Size Classes	Percent of Area
Grass/Forb/Shrub/Seedling, <10% canopy cover or areas where tree height is <4.5 feet.	40–60% in this class
Saplings (0.1–4.9 inch d.b.h.), all canopy covers	20–35% in these two classes combined
Small (5.0–11.9 inch d.b.h.), all canopy covers	
Medium (≥12 inch d.b.h.), all canopy covers	20–25% in this class

Table A-9 displays the desired ranges for pinyon-juniper forest type, which refers to stands whose potential vegetation is pinyon-juniper (refer to the classification portion of this appendix for the description). This determination generally needs to be site-specific. In those areas with pinyon-juniper potential, the desired ranges are similar to climax aspen in that they represent ranges for the amounts of acres found in the various combinations of size and canopy cover for pinyon-juniper.

Table A-9. Desired Condition Ranges as Percent of Area by Size Class for Pinyon-Juniper Forest Type

Pinyon-Juniper Size Classes	Percent of Area
Grass/Forb/Shrub/Seedling <10% canopy cover or areas where tree height is less than 4.5 feet	15–20%
Saplings (0.1–4.9 inches d.b.h.), all canopy covers	15–20%
Small (5.0–11.9 inches d.b.h.), all canopy covers	15–25%
Medium (>12 inches d.b.h.), 10–39% canopy cover	15–25%
Medium (>12 inches d.b.h.), >40% canopy cover	30–35%

As was recognized for the other forested vegetation types, in some cases, developing conditions that meet the desired conditions for these woodland forests may take several years. If the larger size classes are lacking, several-to-many decades may be required to achieve desired conditions. Management actions that advance the rate of growth into larger trees would be an example of "trending toward" desired conditions. If an intermediate size class is lacking, actions that assist the growth of the smaller classes into intermediate classes or treatment of larger-to-smaller classes would be considered as trending toward desired conditions.

Shrublands

Shrublands occur on areas not classified as forestland and where shrub cover has the potential to be greater than 10 percent of canopy cover. Desired conditions have been developed for some of the shrubland communities that occur on the Forest. The shrubland groups reflect the LANDFIRE Environmental Site Potentials (ESPs) (refer to Vegetation Classification portion of this appendix for descriptions of shrubland types). Like the forested vegetation, these groupings reflect similar environmental characteristics, site productivity, and disturbance regimes. Table A-10 displays the fire regimes for the shrubland communities.

Table A-10. Shrubland Environmental Site Potential (ESP) Groups by Fire Regime

Fire Regime	Shrubland ESP Group
Mixed1	Low Sagebrush
Mixed1[a]–Mixed2	Mountain, Basin, and Wyoming[b] Big Sagebrush
	Montane Shrub

[a] The mixed1 portion of the fire regime range applies to areas within the Mountain and Wyoming Big Sagebrush ESP Group dominated by Wyoming Big Sagebrush. Mountain Big Sagebrush and Montane Shrub are mixed2.
[b] Though Wyoming Big Sagebrush ESPs were grouped with Mountain Big Sagebrush, there are separate desired conditions for Wyoming Big Sagebrush described below.

Similar to the forested vegetation, desired conditions for shrublands are expressed as ranges for the amounts of acres found in the various conditions. To reach the desired ranges, conditions would have to be within these Forest-wide ranges. Although current conditions may prevent us from obtaining desired condition for quite some time, management actions over a longer period (perhaps more than 50 years) should result in shrubland vegetation that is approaching the Forest-wide desired conditions.

Canopy Cover

Shrubland desired conditions are represented by canopy cover of shrubs based on the following groupings:

- Grass/Forb = <10% canopy cover

- Low = 10–25% canopy cover
- Moderate = 26–35% canopy cover
- High = ≥36% canopy cover

Canopy cover may be determined through ocular estimates from aerial photo interpretation or while conducting on-site assessments. As expressed here, canopy cover represents the total non-overlapping shrub cover.

Table A-11 presents the desired condition values for the Low Sagebrush ESP Groups and Table A-12 presents the desired condition ranges for the Mountain Big Sagebrush ESP Groups. Though LANDFIRE ESPs were grouped together for mountain (*Artemisia tridentata* Nutt. ssp. *vaseyana*) and Wyoming big sagebrush (*Artemisia tridentata* Nutt. ssp. *wyomingensis*) for coarse-scale analysis, the desired conditions for projects in areas with Wyoming big sagebrush are displayed in Table A-13. Table A-14 contains the desired conditions for the Montane Shrub ESP Groups.

Table A-11. Desired Condition Ranges for Low Sagebrush Environmental Site Potential Groups

Canopy Cover	Percent of Area
Grass/Forb	0–20
Low	80–100
Moderate	0
High	0

Table A-12. Desired Condition Ranges for Mountain Big Sagebrush and/or Basin Big Sagebrush ESP Groups

Canopy Cover	Percent of Area
Grass/Forb	13–33
Low	27–47
Moderate	12–32
High	8–28

Table A-13. Desired Condition Ranges for Wyoming Big Sagebrush

Canopy Cover	Percent of Area
Grass/Forb	25–30
Low	20–35
Moderate	13–33
High	12–32

Table A-14. Desired Condition Ranges for Montane Shrub Environmental Site Potential Groups

Canopy Cover	Percent of Area
Grass/Forb	0
Low	5–25
Moderate	5–25
High	60–80

Unlike the other vegetation groups, desired conditions for Wyoming big sagebrush are not within the HRV. Because these sites are extremely vulnerable to invasion by non-native species following disturbance, the intent is to limit disturbance in areas currently occupied by Wyoming big sagebrush. Lack of disturbance will increase the amount of area in higher canopy cover classes compared to what would have occurred historically but will reduce the risk of more area becoming occupied by non-native species.

Similar to the forested vegetation types, in some cases it may take many years to reach desired conditions. If an area has recently experienced a large wildfire, the necessary structural complexity can take many years to develop at a landscape level. Conversely, an area with little disturbance over many years may have dense canopy cover. Management actions that reduce canopy cover would be an example of "trending toward" desired conditions, even if only applied on a small scale. When at desired conditions, maintenance activities would keep the balance of canopy cover classes within the range of desired conditions; as some acres become denser through succession, other acres may be treated to limit overall canopy cover density. For example, if the Mountain Big Sagebrush ESP Groups are currently at desired conditions but with acres of high canopy cover approaching the high end of the range, it may be necessary to move some of these acres into another canopy cover class to prevent conditions from exceeding desired ranges and creating insufficient amounts of other canopy cover classes. Natural disturbances will also play a role in moving acres in and out of canopy cover classes.

Herb Communities within the Shrubland Environmental Site Potential Groups

Like with the tree and shrub component, some of the grass and forb communities that developed within shrubland ecosystems occurred within the HRV, depending on disturbance processes and succession. These herb communities also reflect environmental conditions such as elevation; aspect; topography; soils; and other factors, including management activities that affect sites. Due to the high variability of these communities across the Forest, desired conditions should be determined at the site-specific scale. The desired conditions should focus on producing healthy, resilient, and resistant grass and forb communities dominated by native species.

Riparian Vegetation

Refer to Tables A-4 and A-5 for the desired conditions for riparian vegetation comprised of coniferous PVGs. The desired conditions in Tables A-4 and A-5 include the upland portions of coniferous vegetation found in the RCAs. Additional information for RCAs is found in Appendix B, Table B-1.

Riparian vegetation is dominated by a variety of species, age classes, and structures—including deciduous trees, willows (*Salix* spp.), alders (*Alnus* spp.), sedges (*Cyperaceae* spp.), and hydric grasses—depending on stream substrate, gradient, elevation, soil hydrology, and disturbance processes. Riparian areas have their own disturbance processes that influence vegetative dynamics, causing an almost continual readjustment in successional stages in many areas. Riparian vegetation is also influenced by upland and upstream processes. Site conditions are highly variable due to these factors, which influence riparian vegetation desired conditions at site-specific locations. Therefore, site-specific desired condition determinations are needed.

Grasslands

Grasslands occur in areas where forest or shrubland canopy cover does not have the potential to exceed 10 percent. Grassland communities on the Forest are comprised of perennial grass species.

The grassland groups reflect the LANDFIRE ESPs (refer to Vegetation Classification section at the end of this appendix for descriptions of grassland types). Like the forested and shrubland vegetation, these groupings reflect similar environmental characteristics, site productivity, and disturbance regimes. Two grassland communities are described for the Forest: Perennial Grass Slopes and Perennial Grass Montane. The fire regimes for these communities are mixed1 to mixed2 for the Perennial Grass Slopes and nonlethal to mixed1 for the Perennial Grass Montane. Desired conditions in these grasslands support native species and aim to reduce threats from nonnative species, particularly invasive annual grasses.

Other Vegetation

Other vegetation types, such as wetlands, marshes, and alpine habits, not described above exist on the Forest. Desired conditions for these vegetation types need to be determined on a project basis, using available local information. Other Forest-wide and Management Area Direction may apply to these types, such as limiting potential establishment and spread of noxious weeds. Some of these communities may also be important habitats for rare plants.

VEGETATION MAPPING

Forested Vegetation Mapping

Forested vegetation is evaluated using habitat types, which use potential climax vegetation as an indicator of environmental conditions. Habitat type describes the mix of vegetative communities that may occur within landscapes based on site potential. For example, subalpine fir habitat types, which generally occur on cooler sites, would support a different mix of vegetative communities than ponderosa pine habitat types, which are found on warmer sites. Existing vegetation is described using cover types, which represent the vegetation on the landscape. Cover types are often an earlier seral stage relative to the climax plant community. Cover types, and associated attributes of size class and canopy cover, were mapped using a LANDSAT remote sensing classification developed at the University of Montana by Redmond et al. (1998). This information was updated in 2008 to reflect changes from wildland fires and other disturbances.

Forested PVGs were mapped using a modeling process. The Forest was divided into 5th field HU groupings that shared similar larger-scale environmental characteristics, such as climate and geology. Each of these groupings was modeled separately. Models were based primarily on slope, aspect, elevation, and land type associations but could also include forest inventory information, forest timber strata information, cover type information, existing habitat type mapping, and cold air drainage models. Where necessary, some field verification did occur. Modeling rules were developed and processed in ArcGrid. Draft maps were sent to ranger district personnel knowledgeable of the area for review, and refinements were made as necessary.

Non-Forested Vegetation Mapping

Shrubland and grassland areas were identified using LANDFIRE ESPs, which are based on NatureServe's Ecological Systems Classification (Comer et al. 2003). ESPs represent the natural plant communities that would become established at late or climax stages of successional development in the absence of disturbance. They reflect the current climate and physical environment, as well as the competitive potential of native plant species. The LANDFIRE ESP concept is similar to that used in classifications of potential vegetation, including habitat types (Daubenmire 1968, Pfister et al. 1977). Therefore, the ESP Groups described for the shrubland

and grassland communities are conceptually similar to the PVGs used to describe the forested vegetation. The LANDFIRE ESP layer was generated using a predictive modeling approach that relates spatially explicit layers representing biophysical gradients and topography to field training sites assigned to ESP map units. Existing vegetation was described in LANDFIRE using Existing Vegetation Types (EVTs).

VEGETATION CLASSIFICATION

Forest Vegetation - Potential Vegetation Groups

PVG 1—Dry Ponderosa Pine/Xeric Douglas-fir

This group represents the warm, dry extreme of the forested zone. Typically, this group occurs at lower timberline elevations from 3,000 feet to 6,500 feet on steep, dry, south-facing slopes. Ponderosa pine is a dominant cover type that historically persisted due to frequent nonlethal fire. Under such conditions, open park-like stands of large, old ponderosa pine dominated the area. Douglas-fir may occur occasionally in PVG 1, particularly at higher elevations. Understories are sparse and consist of low-to-moderately dense perennial grasses such as bluebunch wheatgrass (*Pseudoroegneria spicata*) and Idaho fescue (*Festuca idahoensis*). In some areas, shrubs such as mountain snowberry and bitterbrush dominate (*Purshia* spp.). This group is found only on the west side of the Forest. On the east side of the Forest, the Douglas-fir/mountain snowberry is found, which although part of PVG 1, does not contain ponderosa pine.

PVG 2—Warm, Dry Douglas-fir/Moist Ponderosa Pine

This group represents warm, mild environments at low-to-mid elevations, but may extend upward to 6,500 feet on dry, southerly slopes. Ponderosa pine, particularly at lower elevations, or large ponderosa pine mixed with smaller size classes of Douglas-fir, are the dominant cover types in this group. Historically, frequent nonlethal fire maintained stands of large, park-like ponderosa pine. Douglas-fir would occur on moister aspects, particularly at higher elevations. Understories are mostly graminoids such as pinegrass (*Calamagrostis rubescens*) and elk sedge (*Carex garberi*), with a cover of shrubs such as common snowberry (*Symphoricarpos albus*), white spirea (*Spiraea betulifolia*), and mallow ninebark (*Physocarpus malvaceus*). This group is found only on the west side of the Forest (Fairfield District), primarily in the lower elevation river canyons.

PVG 3—Cool, Moist Douglas-fir

This group represents the cooler extremes in the Douglas-fir zone. This group can extend from 4,800 feet up to 6,800 feet elevation, following cold air. Adjacent sites are often subalpine fir (*Abies lasiocarpa*). This group has a relatively minor representation on the Forest. Some areas support grand fir (*Abies grandis*). Ponderosa pine occurs as a major seral species only in the warmest extremes of the group. Lodgepole pine may dominate in cold air areas, particularly where cold air accumulates to form frost pockets. In some areas, Douglas-fir is the only species capable of occupying a site. The conifer cover types that historically dominated are a combination of several factors, including fire frequency and intensity, elevation, and topography. Understories in this group are primarily shrub species including mountain maple (*Acer glabrum*), mountain ash (*Sorbus* spp.), and blue huckleberry (*Gaylussacia frondosa*). Several other species—including Scouler's willow (*Salix scouleriana*), thimbleberry (*Rubus parviflorus*), and chokecherry (*Prunus virginiana*)—may occur from disturbance, depending on its intensity. Historical fire regimes were

mixed (generally mixed1 where ponderosa pine occurs and mixed2 where other species dominate), creating a diversity of vegetative combinations. Two habitat type phases occur within this PVG: (1) Douglas-fir/Rocky Mountain Maple occurs on the west side of the Forest and (2) Douglas-fir/Rocky Mountain Maple-Mountain Snowberry occurs on the east side of the Forest.

PVG 4—Cool, Dry Douglas-fir

Douglas-fir is the only species that occurs throughout the entire range of the group. Lodgepole pine may be found in areas with cold air. Quaking aspen is also a common early seral species. Understories are sparse due to the cool, dry environment, and often support pinegrass and elk sedge. Understories of low shrubs—such as white spirea, common snowberry, Oregon grape (*Mahonia aquifolium*), and mallow ninebark—occur in some areas that represent slightly different environments across the group. The historical fire regime ranged from mixed1 to mixed2, depending on the fuels present at the time of ignition. Organic matter accumulates slowly in this group, so fire effects depend on the interval between fires, stand density and mortality, and other factors. Fire regimes tend to be mixed1 in the drier habitat types with discontinuous fuels and mixed2 in the habitat types that support lodgepole pine as a major seral species. This group is most common on eastern portions of the Forest although it may be found in minor amounts at higher elevations in the Douglas-fir zone in other parts of the Forest. In these cases, it is usually found above 6,000 feet on sites that are too cool to support ponderosa pine. Where it is common, it occurs at lower elevations in areas that are beyond the extent of ponderosa pine.

PVG 7—Warm, Dry Subalpine Fir

This group is common. It represents warmer, drier environments in the subalpine fir zone. Elevations range from 4,800 to 7,500 feet. It is found on rolling topography. Adjacent sites at lower elevations are Douglas-fir, and these commonly intermix where topography controls cold air flow. Douglas-fir is the most common cover type throughout this group. Ponderosa pine may be found at the warmest extremes, particularly where this group grades into the Douglas-fir zone. Lodgepole pine can dominate as a persistent seral species, and graminoids comprise the majority of the understory. Historical fire regimes were generally mixed2, though mixed1 fires may have occurred where ponderosa pine was maintained.

PVG 10—Persistent Lodgepole Pine

This group is common throughout the subalpine fir zone. It represents cold, dry subalpine fir sites in frost-pockets that range in elevation from 5,200 to over 9,200 feet. Lodgepole pine is the dominant cover type although small amounts of other species may occasionally occur. Vegetation under the tree cover can be sparse. Generally, grasses and scattered forbs are the most common components. Shrubs are sparse and consist mainly of low-growing huckleberries, including dwarf huckleberry (*Gaylussacia dumosa*) and grouse whortleberry (*Vaccinium scoparium*). Historically, this group experienced lethal fire although nonlethal fires may have occurred during stand development. Lodgepole pine is more often non-serotinous in western portions of Idaho and appears to become more serotinous moving eastward across the state. Within the Forest, lodgepole pine may reproduce in areas that experience nonlethal fires. The result is more vertical stand diversity in some areas than is often found where lodgepole pine is mostly serotinous. Over time, the combinations of these low-intensity events, subsequent reproduction, and mountain pine beetle (*Dendroctonus ponderosae*) mortality would have created fuel conditions that allowed lethal fires to occur under the right weather conditions.

PVG 11 - High Elevation Subalpine Fir (with Whitebark Pine)

This group occurs at the highest elevations of the subalpine fir zone and generally represents the upper timberline conditions. It often grades into krummholz or alpine communities. Whitebark pine is a major seral species in this group. Engelmann spruce (*Picea engelmannii*) and subalpine fir are the climax co-dominates. In some areas, whitebark pine serves as a cover for Engelmann spruce–subalpine fir establishment. Understories are primarily forbs and grasses tolerant of freezing temperatures that can occur any time during the growing season. Shrubs are sparse due to the cold, harsh conditions. Historically, the fire regime in this group is characterized as mixed2 although the effects of fires were highly variable. Ignitions are common due to the high elevation; however, fuel conditions were historically sparse due to the cold growing conditions and shallow soils. Therefore, fire effects were patchy. Fire regimes are mixed2 with whitebark pine being a major early seral component.

Stand Structure

Stands can be classified as single- or multistoried. While historically, this structure reflected succession and disturbance, current stand structure can also be attributed to management activities. Stands generally become multistoried in the absence of disturbance, with seral, shade intolerant species forming upper layers with later seral/climax, shade-tolerant species underneath. Single-storied stands historically resulted from disturbance processes such as nonlethal fire that killed regeneration. In some cases, single-storied stands can be even-aged, such as a lodgepole pine stand that results from a lethal fire and is unaffected by disturbance until the next lethal fire. In other cases, single-storied stands can be multi-aged, such as a ponderosa pine stand where small groups or individuals regenerated following disturbances that occurred at different times and survived, eventually becoming large enough to be defined as the largest tree size class.

Other Forested/Woodland Vegetation Types

Aspen

Aspen forest type covers a broad environmental range across the Intermountain Region (Mueggler and Campbell 1982). It grows at elevations as low as 5,000 feet and as high as 11,000 feet. Quaking aspen occurs both as a seral and climax tree species within its range (Mueggler 1985) and both types of communities are found on the Forest. Throughout areas where quaking aspen is seral, individual stands are relatively small, early-seral stage stands that seldom exceed 5 acres (Mueggler 1985) and are maintained on the landscape by disturbance. Historically, fire was considered a primary disturbance agent (Jones and DeByle 1985). Fires result in single-aged stands that develop from root suckering, and fire frequencies and severities vary greatly from low to high. Although it does not burn readily, all but the lowest intensity fires kill aspen because of its thin, uninsulated bark. Declines in quaking aspen, particularly in the seral stage, have been attributed to a lack of disturbances that allowed this shade-intolerant species to persist across the landscape where conifers could eventually shade it out (Jones and DeByle 1985).

Pinyon-Juniper

Within the interior west, different species of pinyon and juniper occur with diverse shrubs and herbs forming distinct associations. The mapping of these associations is difficult because various associations exist with different assemblages of species, highly variable tree densities, and variable age classes (Monsen and Stevens 1999). The development of mature pinyon and especially juniper woodlands has often resulted in a decrease in the herbaceous and shrub understory components.

Junipers are much more widespread than pinyons. The term "pinyon-juniper" refers to the PVG. There are many different habitat types and cover types within this group. On the Forest, the majority of cover types in the pinyon-juniper are pure juniper stands.

Pinyon-juniper woodland vegetation occurs at the northern extent of its range in Idaho (Cronquist et al. 1972). The furthest north that self-sown pinyon occurs is in the extreme south of Idaho (West 1999). Pinyons are less tolerant of drought and cold than junipers, so many dominate at middle elevations, while junipers tend to dominate both the higher and lower elevations of the woodland belt of Intermountain ranges (West 1999). Fires are frequent on deep soils that produce an abundance of fine fuels and infrequent on shallow soils and rocky sites where fuels are sparse (Gruell 1999).

Rust (1990) describes 23 pinyon-juniper plant associations or habitat types that are endemic to Idaho. Overstory contains singleleaf pinyon (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), Rocky Mountain juniper (*Juniperus scopulorum*), or curl-leaf mountain-mahogany (*Cercocarpus ledifolius*), which vary in dominance on an apparent environmental gradient of moisture availability and temperature. Our desired future condition table (Table A-9) refers only to those pinyon-juniper sites determined to be potential pinyon-juniper, those sites that would be dominated by pinyon-juniper in the overstory at climax. This is a site-specific determination to distinguish potential pinyon-juniper from shrub-steppe or grasslands newly invaded by pinyon-juniper. Rust's (1990) description provides a baseline to assist with the identification and description of reference stand conditions in pinyon-juniper woodland vegetation. Determining the relationships of plant associations identified by Rust (1990) to similar vegetation within the region can be difficult due to the lack of availability and presentation of existing information.

New woodlands are those that have largely developed this century, without any indication they were previously present. The expansion and development of new woodlands is usually attributed to altered fire regimes, domestic livestock use, and optimal climate for establishment (Miller et al. 1999). Pinyon-juniper communities often occur as a mosaic with shrub-steppe and grassland communities. The desired future condition tables are not meant to apply to new woodlands; however, when a vegetation type is potential woodland or new woodland is not always clear because these types can respond to ecological thresholds. Once a threshold is crossed, the new community may have very different functional capabilities than the previous community. Management actions need to occur well before a threshold is crossed to be effective, and those actions need to reflect the scales of time and space in which the affected ecosystems and their threshold function (Tausch 1999). Recognizing both spatial and temporal heterogeneity is important when evaluating habitat suitability, predicting potential resource problems related to stand development, developing management plans, and setting priorities (Miller et al. 1999).

Shrubland and Grassland Vegetation

Shrubland Environmental Site Potential Groups

Low Sagebrush—The following LANDFIRE ESPs were assigned to this group:

- Columbia Plateau Low Sagebrush Steppe
- Great Basin Xeric Mixed Sagebrush Shrubland

This ESP group is dispersed in patches overlapping Wyoming and Mountain Big Sagebrush sites. Patchiness is related to sites of strongly developed soils (clay hardpan), and to soils generally

derived from basalt or rhyolitic parent material. Typically, this group occurs in the 8–16 inch precipitation zone and on slopes <40 percent. Canopies are open with few areas of closed or dense canopies. Fire intervals are seldom (40–60 years), with a mixed1 fire regime. Historical vegetation disturbances were related to frost heaving of fine soils, ungulate grazing of highly palatable sagebrush, and fast spring snowmelt conditions. Common understory species are bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg bluegrass (*Poa secunda*), wild onion (*Allium ascalonicum*), milk vetches (*Astragalus* spp.), eriogonums, and fleabanes (*Erigeron* spp.). Green rabbitbrush (*Ericameria teretifolia*) may occur. Low sagebrush species on the Forest is primarily low sagebrush (*Artemesia arbuscula)*, however black sagebrush (*Artemesia nova)* and little sagebrush *Artemesia longiloba* also occur and were included in the low sagebrush cover type.

***Mountain and Wyoming Big Sagebrush*—**The following LANDFIRE ESPs were assigned to this group:

- *Artemisia tridentata* ssp. vaseyana Shrubland Alliance
- Inter-mountain Basins Montane Sagebrush Steppe
- Inter-mountain Basins Big Sagebrush Steppe
- Inter-mountain Basins Big Sagebrush Shrubland
- Inter-mountain Basins Mixed Salt Desert Scrub

This ESP group connects with the greatest number of other forest, non-forest, and riparian cover types. This type consists of large blocks with a wide range of distribution. This group occurs in the 14–18 inches or greater precipitation zone on well-drained sites and on soils with a high content of rock or gravel. Structural stage ranges are typically balanced with high ground cover and few cryptogams. Fire intervals can be frequent, ranging from 20–60 years, with a mixed1 to mixed2 fire regime. Historical vegetation disturbances were related to ungulate grazing of southern exposures due to less snow and early green-up. Understory forb and grass species can be variable and diverse. Bitterbrush (*Purshia* spp.), grey horsebrush, and green rabbitbrush are frequently present. Snowberry is present on moister sites.

Mountain Mahogany—The following LANDFIRE ESP was assigned to this group:

- Inter-mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland

This ESP group typically occurs from 1,970 to over 8,690 feet in elevation on rocky outcrops or escarpments and forms small-to-large-patch stands in forested areas. Most stands occur as shrublands on ridges and steep rim-rock slopes, but they may be composed of small trees in steppe areas. Scattered junipers or pines may also occur. This system includes both woodlands and shrublands dominated by mountain mahogany, mountain big sagebrush, and bitterbrush. Species of currant or snowberry are often present. Undergrowth is often very sparse and dominated by bunch grasses, usually bluebunch wheatgrass and Idaho fescue (*Festuca idahoensis*). Mountain mahogany (*Cercocarpus* sp.) is a slow-growing, drought-tolerant species that generally does not resprout after burning and needs protection from fire that rocky sites provide. Fire intervals are long and fire regimes are lethal.

Montane Shrub—The following LANDFIRE ESPs were assigned to this group:

- Northern Rocky Mountain Montane-Foothill Deciduous Shrubland
- Rocky Mountain Lower Montane-Foothill Shrubland
- Rocky Mountain Bigtooth Maple Ravine Woodland

This ESP group is usually interspersed as stringers and patches within the mountain and Wyoming big sagebrush, quaking aspen, and conifer cover types. The patchiness found in this cover type is strongly related to mesic soils with high water-holding capacity and/or northerly exposures. Typically, this group has multiple vegetation layers that are dominated by sprouting species. Species include chokecherry, snowberry, serviceberry (*Amelanchier* sp.), and wild rose. Several other browse species may occur. This group usually has a rich and diverse herbaceous component. These conditions provide extremely diverse wildlife habitats. Fire intervals are typically 20–40 years, with a mixed2 fire regime. Ungulate and grazing disturbance are not uncommon components. Insect and disease may be common with occasional outbreaks.

Grassland Environmental Site Potential Groups

Perennial Grass Slopes—The following LANDFIRE ESPs were assigned to this group:

- Inter-mountain Basins Semi-desert Shrub Steppe

This ESP group connects with the dry forested cover types and mountain and Wyoming big sagebrush communities and is more prevalent in the north and northwestern foothills and canyonlands of the Forest. It usually occurs between the 10–18 inch precipitation zone, on southern and western aspects. Perennial grasses are dominant on the sites, composing 80–90 percent of production. The group is predominantly bluebunch wheatgrass. Sandberg bluegrass is a lesser but constant associate. The forb component contains a large number of species, few of which are common throughout. The most common forbs are Indian wheat (*Plantago ovate*), shiny chickweed (*Stellaria nitens*), salsify (*Tragopogon porrifolius*), yarrow (*Achillea* spp.), lupine (*Lupinus* spp.), balsamroot (*Balsamorhiza* spp.), biscuit root (*Lomatium* spp.), hawksbeard (*Crepis* spp.), fleabane, milkvetch, and phlox (*Phlox* spp.). This vegetation group can be susceptible to damage under very hot and dry conditions and stand recovery is very difficult and slow in the Idaho Batholith. Historical fire intervals are frequent (20 years), with typically a mixed1 to mixed2 fire regime, depending upon the amount of Idaho fescue present. This group is highly susceptible to several invaders including annual bromes (*Bromus* spp.), rush skeletonweed (*Chondrilla juncea*), yellow star thistle (*Centaurea solstitialis*), several knapweeds (*Centaurea* spp.), Dyer's woad (*Isatis tinctoria*), and Dalmatian toadflax (*Linaria dalmatica*).

Perennial Grass Montane—The following LANDFIRE ESPs were assigned to this group:

- Columbia Plateau Steppe and Grassland
- Northern Rocky Mountain Lower Montane Foothill–Valley Grassland
- Rocky Mountain Alpine / Montane Sparsely Vegetated Systems

This ESP group connects with numerous forested, mountain and Wyoming big sagebrush, and bluebunch communities. Its ecotone diversity is very highly rated. It usually occurs between the 18–30 inch precipitation zone on southern aspects, and 14–30 inches on northern aspects and represents slightly moister and cooler conditions than the Perennial Grass Slopes. Idaho fescue is the predominant grass in this group. Other grass species that occur are slender wheatgrass (*Elymus trachycaulus*), sedges, intermediate oatgrass (*Danthonia intermedia)*, western needlegrass (*Achnatherum occidentale*), and Richardson's needlegrass (*Achnatherum richardsonii*). Forbs comprise 40–65 percent of overall production. Common forbs are yarrow, bessaya, geum, Indian paintbrush (*Castilleja* spp.), lupines, phlox, and balsamroot. Historical fire intervals are frequent (20 years) in typically nonlethal to mixed1 regimes. Certain species within the community are susceptible to fire damage under very hot and dry conditions, but recovery occurs in a few years. Trampling damage is minimal-to-nonexistent and primarily occurs at the higher elevations.

Bluegrass (*Poa* spp.) is a common invader. This group is highly susceptible to several invaders, including annual bromes, rush skeletonweed, yellow star thistle, several knapweeds, dyer's woad, and Dalmatian toadflax.

Riparian Cover Types

No comprehensive riparian classifications or vegetative community descriptions exist for the Forest. However, a riparian classification is being developed and is forthcoming. Riparian community type classifications have been developed by Youngblood et al. (1985) for eastern Idaho and western Wyoming; by Padgett et al. (1989) for Utah and southeastern Idaho; and by Hall and Hansen (1997) for Bureau of Land Management districts in southern and eastern Idaho, which includes portions of the South Hills on the Forest. Due to the lack of comprehensive classification information for this area, the Forest Plan Revision Team chose to use the Utah LANDSAT cover types to display these communities.

Riverine Riparian

This cover type consists of vegetative communities dominated by conifer species and shrubs. The primary conifers are subalpine fir, Engelmann spruce, limber pine (*Pinus flexilis*), and Douglas-fir, with some quaking aspen. Other trees and shrubs include Rocky Mountain maple (*Acer glabrum*), serviceberry, chokecherry, thinleaf alder (*Alnus incana*), currants (*Ribes* spp.), and willows. These communities generally occur on steep slopes and occupy edges of riparian zones with A and B stream channel types. Padgett et al. (1989) and Youngblood et al. (1985) stated that these community types in their areas likely represent successional stages within described forested communities. For this reason, Padgett et al. (1989) recommended consulting available forest habitat type classifications for additional information.

Deciduous Tree

This cover type consists of a dominant overstory of black cottonwood (*Populus balsamifera*) or narrowleaf cottonwood (*Populus angustifolia*). Associated tree species include thinleaf alder, Rocky Mountain maple, water birch (*Betula occidentalis*), and aspen. Primary shrub species include chokecherry and willows. This cover type is generally located below 5,500 feet along stream channels in lower canyons. This cover type usually requires a moist and coarse substrate.

Shrub Riparian

This cover type is dominated by willow species. Primary associated tree and shrub species include cottonwoods (*Populus* spp.), swamp birch (*Betula pumila*), thinleaf alder, Rocky Mountain maple, shrubby cinquefoil (*Dasiphora fruticosa*), and chokecherry. Grasses and forbs include sedges, tufted hairgrass (*Deschampsia cespitosa*), geranium (*Geranium* spp.), louseworts (*Pedicularis* spp.), and American bistort (*Polygonum bistortoides*). This cover type is found in mid-toupper elevations in broad, wet meadows and alluvial terraces on relatively low gradients (1–3 percent).

Herbaceous Riparian

This cover type is typically found in mountain meadows where soil moisture is abundant throughout the growing season. Principle species include sedges, woodrush (*Luzula* spp.), reedgrass (*Calamagrostis* spp.), pinegrass, timothy (*Phleum* L.), bluegrass, tufted hairgrass, saxifrage (*Saxifraga* spp.), and fireweed (*Chamerion angustifolium*). The herbaceous riparian cover type occurs widely and is typically found in broad, flat meadows.

Other Vegetation

Wetlands

Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, wet meadows, seeps, and similar areas. These lands are transitional areas between terrestrial and aquatic systems. Vegetative species found in wetlands are heavily influenced by local site conditions.

Marshes—This cover type is permanently or semi-permanently flooded and dominated by hydric species located adjacent to small streams, beaver ponds, lakes, and meadows. Sedges are the most common species. This cover type usually occurs around the 7,000-foot elevation level. Sites are dominated or co-dominated by bulrushes, cattails (*Typha* spp.), woodrushes, or sedges.

Bogs, Fens, and Peatlands—These cover types are wetlands that typically have sub-irrigated cold waters sources. Peatlands are generally defined as wetlands with waterlogged substrates and at least 30 centimeters of peat accumulation (Moseley et al. 1994). The vegetation is often dense and dominated with low-growing perennial herbs (Skinner and Pavlick 1994).

Wet Meadows and Seeps—These cover types are wet openings that contain grasses, sedges, rushes and herbaceous forbs that thrive under saturated moist conditions. These habitats can occur on a variety of substrates and may be surrounded by grasslands, forests, woodlands, or shrublands (Skinner and Pavlick 1994).

Alpine

Alpine habitats are defined as the area above the treeline in high mountains. Rocky or gravelly terrain is generally prevalent. Grasses and sedges often form thick, sod-like mats in meadows. Most alpine plant species have unique adaptations to survive the harsh conditions of this habitat (Billings 1974). Many plants grow in mats or cushions. Perennials predominate in the alpine floras, as the growing season is often too short for annuals to complete their life cycles (Strickler 1990).

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Sawtooth National Forest
Land and Resource Management Plan

Appendix E

Appendix E.
Terrestrial Wildlife Resources

Table of Contents

Wildlife Conservation Strategy Overview E-1

Assessment Supporting Wildlife Conservation Strategy Development E-2

The Wildlife Conservation Strategy and its Relationship to the Interior Columbia Basin Ecosystem Management Project Science Findings E-3

Habitat Suites, Families, and Associated Species of Mid-scale Focus Used in this Wildlife Conservation Strategy E-3

Wildlife Conservation Strategy Long-term Goal E-6

Assessing Current Baselines, Threats, and Risks Needed to Develop the Wildlife Conservation Strategy E-7

Conservation Principles for Suites 1, 2, and 3 ..... E-7

Suite 4 Conservation Principles E-12

Using the Conservation Principles to Conduct Analysis E-12

Wildlife Conservation Strategy Mid-scale Spatial Priorities and Type of Restoration E-14

Implementing Wildlife Conservation Strategy Priorities and Strategies at the Fine Scale, Taking Action, and Measuring Success E-15

Relationship of the Wildlife Conservation Strategy to Forest Plan Appendices A and B and the Aquatic Conservation Strategy E-16

Understanding Context is Key to Successful Strategy Implementation E-20

Fine-Scale Assessments (Short-Range Tactical or Plan-to-Project Planning) E-21

Site-Scale Assessments (Project or Site-specific Planning) E-22

Measuring Success, Monitoring and Evaluation, and Adaptive Management E-28

Tables

Table E-1. Wildlife Conservation Strategy habitat suites and families and number of associated species of conservation concern (SCC), including how many are Endangered Species Act listed, Region 4 Sensitive, and/or State of Idaho species of conservation concern (IDFG 2005). Overlap exists between each of these various SCC categories. E-5

Table E-2. Desired conditions for old-forest habitat within potential vegetation groups (PVGs) (arranged by fire regime). Components are measured at the stand level. E-23

Table E-3. Historical Estimates of Old Forest Habitat by PVG for the Sawtooth National Forest E-24

Table E-4. Snag retention requirements by management prescription category (MPC) E-28

Figures

Figure E-1. Biological organization and spatial scale E-2

Figure E-2. Conceptual diagram of the five habitat outcome classes developed by Lehmkuhl et al. (1997) to assess effects of planning alternatives on selected plants and animals within the Interior Columbia Basin. E-8

Figure E-3. Risk of species loss relative to departure from historic range of variability (HRV) (McComb and Duncan 2007) E-15

Figure E-4. Illustration of forest structural stages (Hann et al. 1997; Wisdom et al. 2000) E-18

Figure E-5. Graphic of ponderosa pine old-forest habitat, single-story condition (Van Pelt 2008) E-25

Figure E-6. Graphic of Douglas-fir in an Old-Forest Habitat, Multistory Condition (Van Pelt 2007) E-25

Appendix E provides an overview of the Wildlife Conservation Strategy (WCS), including discussions pertaining to the following elements:

- The assessment supporting WCS development
- The WCS long-term goals and planning period objectives
- The assessment of current baselines, threats, and risks needed to inform WCS development
- The WCS midscale spatial priorities and type of restoration
- The implementation of WCS priorities and strategies at the fine scale, actions to be taken, and measurements of success

Wildlife Conservation Strategy Overview

Ecological sustainability is one of three interdependent components of sustainability that the Forest Plan strives to achieve (along with social and economic sustainability). In 1997, the Secretary of Agriculture convened an interdisciplinary committee of scientists to review and evaluate the Forest Service's planning process for land management planning and identify changes needed to, in part, address sustainability (Committee of Scientists 1999). Consistent with recommendations found in the Committee of Scientists report, this Forest Plan provides a management framework that integrates biological and ecological system management with their social and economic contexts, acknowledging that management should not compromise the basic functioning of these systems.

The primary purpose of the Sawtooth National Forest's (Forest's) WCS is to provide a framework for Forest management that contributes to sustaining native ecological systems that will support diverse terrestrial wildlife species. To achieve this purpose, Appendix E must integrate and work in concert with the Wildlife and Vegetation Strategy (vegetation strategy) described in Appendix A and Aquatic Conservation Strategy (ACS) described in Appendix B.[1] Appendix E and the WCS complement these appendices by describing what, when, and where specific habitat conditions and key habitat elements associated with terrestrial wildlife species of concern should be addressed within the context of the vegetation strategy and ACS.

A complementary and necessary secondary focus of the WCS is to provide a fine-filter conservation approach for those terrestrial wildlife species, or groups of species, whose persistence needs cannot be fully addressed through the broader vegetation strategy alone or through the ACS, which specifically targets fish and other aquatic organisms. This fine-filter approach involves a small subset of the 345 terrestrial vertebrate wildlife species believed to occupy National Forest System lands within the Forest's administrative boundary. Typically, this subset consists of species determined to be of conservation concern, such as Endangered Species Act (ESA) threatened and endangered species, Region 4 sensitive species, local endemics, and species requiring specialized components not adequately addressed through the more general vegetation strategy or the ACS.

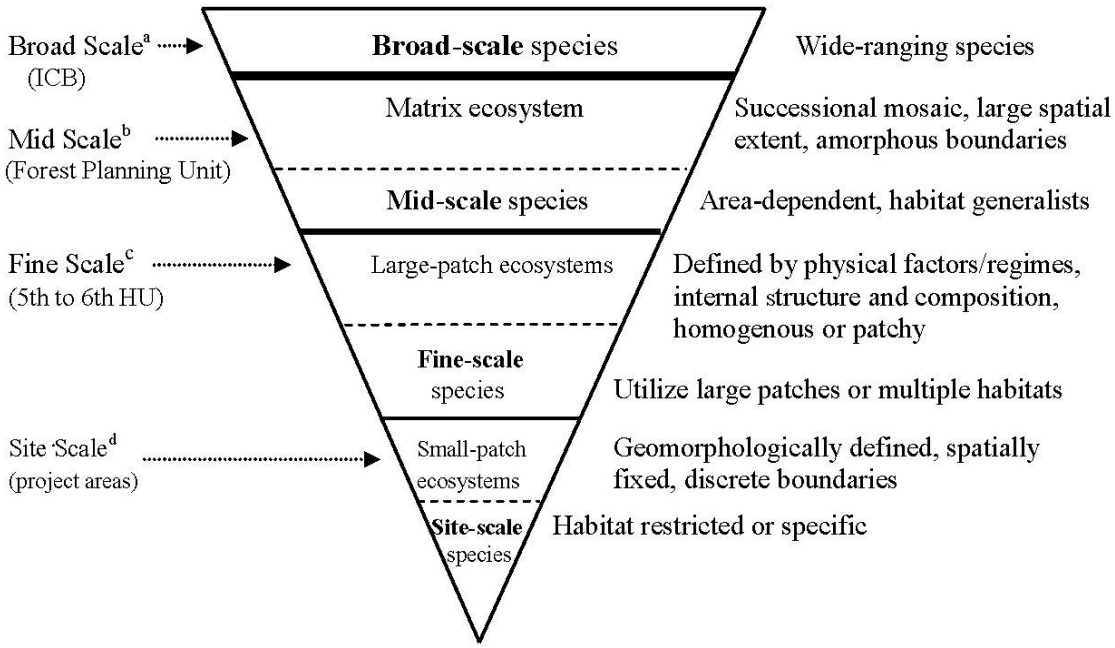
While the long-term goal of the WCS is to maintain or restore environmental conditions needed to support persistence and sustainability of the diversity of terrestrial wildlife species found across the Forest, the short-term (i.e., this planning period) emphasis is on habitats and species believed to be of

[1] Appendices A and B of this Forest Plan provide the foundational information that informs decisions concerning project design and implementation concerning desired *representative*, *redundant*, and *resilient* vegetative and aquatic resource conditions important to ecological sustainability.

conservation concern. This emphasis results in more specific threat reduction measures and spatial and temporal restoration priorities for these habitats or species, compared to species of lesser concern.

ASSESSMENT SUPPORTING WILDLIFE CONSERVATION STRATEGY DEVELOPMENT

Both the level of biological organization (species, communities, and ecosystems) and spatial scale at which biological diversity occurs (site, fine, mid, and broad scale) are important aspects of wildlife conservation planning (Figure E-1) (Poiani et al. 2000; Groves 2003). Some species occur only at site and fine scales (e.g., pygmy rabbit), while others have much larger spatial requirements (e.g., wolverines and wolves) and are best addressed at mid to broad scales. Similarly, some vegetation communities and ecosystems, such as those occurring in caves or along cliffs, are localized in their distributions, while others, such as mid-elevation Douglas-fir forests of the Intermountain West, occur over vast areas.



[a] Broad scale: A regional land area that may include all or parts of several states; typically millions of acres or greater. An example of a broad-scale assessment is the Interior Columbia Basin (ICB) Ecosystem Management Project.
[b] Mid scale: An area varying in size from a U.S. Geological Survey 4th-field hydrologic unit (HU) to groups of 4th-field HUs, approximately 500,000 to 5,000,000 acres. Subbasin review, EcoGroup, and forest planning unit analyses occur at this scale.
[c] Fine scale: This scale is used to define a landscape area varying in size from a 6th-field HU to a combination of 5th-field HUs, approximately 10,000 to 100,000 acres.
[d] Site scale: Any scale less than a broad, mid, or fine scale.

Figure E-1. Biological organization and spatial scale

Past efforts in conservation planning suggest that the biological diversity needed to support species persistence and sustainability occurs at varying spatial levels (Groves 2003). Changing a condition at one scale, without accounting for its effect at other scales, may inadvertently affect the desired outcomes

at various scales. Thus, an effective conservation strategy must account for this hierarchical ordering of nature and the variety of spatial scales at which species and ecosystems occur.

The Wildlife Conservation Strategy and its Relationship to the Interior Columbia Basin Ecosystem Management Project Science Findings

The Forest primarily falls within the Interior Columbia Basin (ICB). The Forest WCS was developed in the context of the Interior Columbia Basin Ecosystem Management Project's (ICBEMP's) broader-scale science findings. These findings are summarized in the *Highlighted Scientific Findings of the Interior Columbia Basin Ecosystem Management Project* (Quigley and Cole 1997). One of these findings identified three common themes that successful land management strategies, including this WCS, must address (Quigley and Cole 1997; Quigley et al. 2001):

1. Multiple risks to ecological integrity and economic well-being must be recognized and managed.
2. Risks and opportunities differ significantly across a project area and management plans must recognize this variation.
3. Individual sites are linked to ecological processes and human activities; these links must be understood and considered.

Habitat Suites, Families, and Associated Species of Mid-scale Focus Used in this Wildlife Conservation Strategy

The ICBEMP science assessment found that source habitats[2], as described by Wisdom et al. (2000) and Raphael et al. (2001), for some wildlife species within the ICB have declined substantially in geographic extent from historical conditions.

In 2003, an inter-Agency memorandum of understanding (MOU)[3], implementing *The Interior Columbia Basin Strategy* was signed and stated the following:

> Management plans shall address ways to maintain and secure terrestrial habitats that are comparable to those classified by the science findings as "source" habitats that have declined substantially in geographic extent from the historical to the current period and habitats that have old-forest characteristics. Direction should address opportunities to re-pattern these habitats when and where necessary, maintain and guide expansion of the geographic extent and connectivity of source habitats that have declined where they can be sustained. Direction needs to address restoration of the important vegetation characteristics of these habitats (such as species composition, vegetation structure, snags or coarse woody debris), which various terrestrial species need to survive and reproduce. (USDA Forest Service et al. 2003a,b)

[2] Source habitats are those characteristics of macrovegetation (cover types and structural stages) that contribute to stationary or positive population growth for a species within its distributional range (Wisdom et al. 2000; Raphael et al. 2001). Further, source habitats contribute to source environments, which represent the composite of all environmental conditions that result in stationary or positive population growth in a specified area and within a specified time range (Wisdom et al. 2000; Raphael et al. 2001).

[3] The purpose of the 2003 inter-Agency MOU was to cooperatively implement *The Interior Columbia Basin Strategy* (USDA Forest Service et al. 2003a, b) to guide the amendment and revision of Forest Service forest plans and Bureau of Land Management (BLM) resource management plans and project implementation on public lands administered by the Forest Service and BLM throughout the ICB.

Consistent with this MOU, one of the foundational elements of the WCS was the concept of source habitat as defined by Wisdom et al. (2000). The Forest Planning Team adopted the hierarchical system described in Wisdom et al. (2000) of grouping source habitats into suites and families (refer to Table E-1). Three of the habitat suites and 12 of the families are consistent with those used in the broad-scale assessment, *Source Habitats for Terrestrial Vertebrates of Focus in the Interior Columbia Basin: Broad-scale Trends and Management Implications*, completed by Wisdom et al. (2000). The remaining suite, Suite 4, was developed by the Forest Planning Team and includes riverine and nonriverine riparian and wetland habitat. The importance of Suite 4 habitats was recognized by Wisdom et al. (2000) however, due to the broad-scale nature of the study, their analysis could not "reliably estimate their [Suite 4] habitat abundance." [4] Wisdom et al. (2000) concluded that that these habitats and related species needed to be addressed through mid- to fine-scale assessments, such as those completed as part of forest planning and subsequent plan to project fine-scale planning.

Of the 345 species of birds, mammals, or reptiles believed to occur within the Forest, 207 species are species of conservation concern and/or interest. These species include ESA threatened or endangered species, Region 4 sensitive species, and/or species of conservation concern identified in the *Idaho Comprehensive Wildlife Conservation Strategy* (IDFG 2005).

After reviewing available literature and local information, the Forest Planning Team assigned the selected species of conservation concern to one of the 14 habitat families based on habitat attributes. The number of species of conservation concern tied to each particular habitat family is identified in Table E-1 and described in detail in the *Wildlife Technical Report for the 2011 Sawtooth National Forest Plan Amendment to Implement a Forest Wildlife Conservation Strategy* (Filbert et al. 2011). While Wisdom et al. (2000) used a selected set of species to derive habitat families, the WCS assessment began by using those defined families to derive species of focus for each habitat family assessed. This approach is consistent with direction stated in the 2003 Interagency MOU implementing the *The Interior Columbia Basin Strategy* (USDA Forest Service et al. 2003a, b).

Within each habitat family, a subset of species was selected as "focal species" and used in mid-scale analyses to help identify habitat needs for species associated with each family. These species were selected by evaluating the key ecological functions (KEFs)[5] and key environmental correlates (KECs)[6] associated with species in the family. The Forest Service selected the fewest number of species necessary to represent the full array of KECs and KEFs associated with a family and likely to be affected by management actions implementing the Forest Plan. In addition, all ESA listed species, Region 4 sensitive species, and management indicator species (MIS) were included in the subset

[4] "Additional species (>80), most of which were deemed to be dependent on riparian or water habitats, also met the seven criteria [for selection of species of broad scale focus] (table 1); source habitats for these species, however, were identified by experts as needing mapping units smaller than 100 ha (247 acres) to reliably estimate their habitat abundance." (Wisdom et al. 2000, Volume 1, p. 9)

[5] Key Ecological Functions are the set of ecological roles performed by a species in its ecosystem (Marcot and Vander Heyden 2004). These ecological roles are the main ways organisms use, influence, and alter their biotic and abiotic environments. For example, beavers are primary consumers (herbivores), are prey for secondary and tertiary consumers (predators), create structures that can be used by other organisms (dams), and impound water by creating dams or diversions. This last function is unique to the beaver. The loss of beaver in a system where it is normally present, influences many other species. In Idaho, 33 wildlife species are directly and positively associated with beaver activity (e.g., dams, lodges, ponds).

[6] Key Environmental Correlates are biotic or abiotic habitat elements that species use on the landscape to survive and reproduce. For example, flammulated owls utilize natural or woodpecker-created cavities in standing dead trees in forested habitats. If those habitat elements are not present, this species cannot persist. The function (KEF) that northern flickers and pileated woodpeckers perform (cavity excavation) creates a habitat element (KEC) needed by the flammulated owl.

Table E-1. Wildlife Conservation Strategy habitat suites and families and number of associated species of conservation concern (SCC), including how many are Endangered Species Act listed, Region 4 Sensitive, and/or State of Idaho species of conservation concern (IDFG 2005). Overlap exists between each of these various SCC categories.

Suites: Source habitats restricted to:	Source habitats dominated by:	Family number	Family name	Total Number of SCC	Number of ESA listed	Number of Region 4 Sensitive	Number of Idaho SCC
Suite 1: Forests only	Old-forest stages, low elevation	1	Low-elevation old forest	2	0	1	2
	Old-forest stages, broad elevation	2	Broad-elevation old forest	6	0	6	4
	Broad range of structural stages	3	Forest mosaic	2	1	1	2
	Forest stand-initiation stage (early seral)	4	Early seral montane and lower montane	0	0	0	0
			Suite 1 totals =	**10**	**1**	**8**	**8**
Suite 2: Combination of forests and rangelands	Broad range of forest and rangeland cover types	5	Forest and range mosaic	6	0	2	6
	Forests, woodlands, and montane shrubs	6	Forests, woodlands, and montane shrubs	1	0	1	0
	Forests, woodlands, and sagebrush	7	Forests, woodlands, and sagebrush	6	0	2	6
	Unique combinations of rangeland cover types and early and late seral forests	8	Rangeland and early and late seral forests	0	0	0	0
	Woodlands	9	Woodlands	4	0	0	4
			Suite 2 totals =	**17**	**0**	**5**	**16**
Suite 3: Rangelands only	Broad range of grassland, shrublands, and other cover types	10	Range mosaic	5	0	1	5
	Sagebrush	11	Sagebrush	7	1	1	7
	Grassland and open-canopy sagebrush	12	Grassland and open-canopy sagebrush	3	0	1	3
			Suite 3 totals =	**15**	**1**	**3**	**15**
Suite 4: Riverine and nonriverine wetland/riparian	Riverine riparian and wetland streams	13	Riverine riparian and wetland	5	1	2	5
	Open water, ponds, lakes, nonriverine riparian, and wetland	14	Nonriverine riparian and wetland	13	0	1	12
			Suite 4 totals =	**18**	**1**	**3**	**17**
			Total ALL Suites =	**60**	**3**	**19**	**56**

selected. ESA listed and Region 4 sensitive species were included in part because the Forest Service must assess these species in project planning where project activities may affect habitat associated with them. MIS were included due to their role in Forest Plan monitoring. Mid-scale assessments provide the context needed to inform more refined priorities established during plan-to-project fine-scale planning and site-specific conclusions about the magnitude of effects to habitat associated with species of concern.

Detailed documentation of habitat family descriptions, source habitat definitions for species associated with each family, KECs and KEFs associated with mid-scale focal species, and assessments completed for habitat families and each focal species are in the planning record.

WILDLIFE CONSERVATION STRATEGY LONG-TERM GOAL

The long-term goal of the WCS is to maintain or effectively restore representative, resilient, and redundant networks of habitats across the planning unit:

- **Representative—**Landscapes within the planning unit should contain the full array of potential "states" (i.e., diverse conditions) of an ecosystem characteristic on the landscape (Harris 1984; Hunter 1990). The assumption of a representative approach is that providing a wide range of habitat conditions will sustain the greatest percentage of terrestrial wildlife species that utilize those characteristics. For example, the intent of the WCS is to provide a range of forest structural stages and canopy closures characteristic of the historical landscapes. How and where this is done is informed by the knowledge that source habitats for some species are tied to specific size classes, canopy covers, and tree species (e.g., species associated with Family 1), while species in other families use a broader variation of conditions (e.g., species associated with Families 2 and 3).
- **Redundant—**To avoid extinction or endangerment caused by naturally occurring stochastic events (e.g., disease, predation, floods, and fires) and human-related disturbance, representative source habitat conditions should occur multiple places within the planning unit (Forman 1995). The WCS addresses redundancy by conserving or restoring representative source habitat conditions across the planning unit where the habitat historically occurred.
- **Resilient—**Landscapes within the planning unit identified as priority areas for a particular habitat family should be resilient to natural and human-caused disturbances. This criterion means that the representation and redundancy of source habitats and their associated species populations should be of sufficient quality to persist over long periods of time. For communities, ecosystems, and other surrogate measures, this criterion implies that natural ecological processes and disturbance regimes, such as fires and floods, are operating within their historical range of variability (Hunter 1990; Landres et al.1999) and the sizes of the areas are sufficient to allow source habitat features and related species populations to recover from natural disturbances. In terms of human disturbance, resilience implies that anthropogenic disturbance levels are within limits that will retain habitat features necessary to support species populations and source habitats.

The WCS addresses resilience by emphasizing the importance of restoring ecological processes and disturbance regimes, such as fires and floods, and by addressing potential effects of human disturbance on the quality of source habitats using an assessment based on conservation principles

found in this appendix. The WCS used information such as published literature, regional and local expert input, and local field data regarding species habitat requirements to determine the representation and redundancy of ecosystem characteristics or specific habitat features needed to sustain a species. This range of specific habitat features becomes the context in which the current and projected status of an ecosystem characteristic can be evaluated. This is similar to the representative and redundant approach identified in Appendix A of the Forest Plan for vegetation conditions across the planning unit. However, the WCS goes a step further: the proportional amount of the vegetative characteristic to be maintained or restored has been further refined, and where it was identified as a priority to address during this planning period, specific planning period management direction has been defined to address the issue associated with the priority (e.g., restoration of dry forest communities, retention of old-forest habitat).

ASSESSING CURRENT BASELINES, THREATS, AND RISKS NEEDED TO DEVELOP THE WILDLIFE CONSERVATION STRATEGY

Nine conservation principles form the basis for assessing current baselines, threats, and risks and assigning appropriate WCS mid-scale strategies (i.e., active, passive, or conservation) and priorities (i.e., low, moderate, or high) for restoration. These principles are described below. The first six principles (1–6) relate to Suites 1, 2, and 3; the remaining three (7–9) apply to Suite 4. By using these principles to assist in project design and implementation, the desired representative, resilient, and redundant network of habitats should be realized in the long term.

Conservation Principles for Suites 1, 2, and 3

1. *Species well distributed across their range (redundant) are less susceptible to extinction (resilient) than species confined to small portions of their range.*

   This principle builds upon the belief that a widely distributed population will likely persist through major disturbance perturbations or other impacts that occur throughout its entire range at once. Local population extirpation and habitat recolonization following disturbance events are natural phenomena. Well-distributed populations allow the recolonization of extirpated habitats following these events. For instance, a severe drought may dry up the breeding ponds used by a species of salamander for several years in a row across two or three habitat patches. If that salamander does not occur elsewhere, it would be extirpated. However, if that salamander is widely distributed, at least some breeding ponds within its range would not completely dry out and would still contain salamanders. From these refugia, the species can recolonize areas where it had been extirpated. As an extreme example, a plant species that has become confined to the riparian zone of a single stream could become extirpated by a single extreme flood event. Keeping species well distributed is therefore a logical conservation goal and corresponds to the well-accepted "multiplicity" principle, which states it is preferable to have many patches rather than few (Soule and Simberloff 1986; Noss 1994). The provision of the ESA that allows for listing of local populations, even when the species as a whole is not threatened, is consistent with this principle.

   Maintaining occupied source habitats for multiple populations of species ensures a natural range of genetic variability and reduces the likelihood that environmental variability will result in species extirpation. As such, habitat management must consider redundancy. Focal species associated with a particular habitat must be represented in many places across the landscape so that extirpation at one location does not eliminate the species entirely from the planning area.

2. *Habitat in contiguous blocks is better than fragmented habitat (i.e., representative, resilient).* (Refer to Figure E-2.)

   Fragmentation reduces patch size of habitat remaining in the planning area, increases edge effects, and isolates patches by removing connecting habitat corridors (Forman 1995; Botequilha Leitao and Ahern 2002). Although species differ in their sensitivity to these changes (Crooks 2002), the theory of island biogeography suggests that fragmentation will decrease species richness due to reduced immigration and emigration potential (in the case of isolation) and increased extinction rates (in the case of small populations size) (MacArthur and Wilson 1967). Although fragmentation can result from natural disturbance, in many landscapes, fragmentation can also result from anthropogenic activities. Small and isolated habitat patches are expected to have smaller populations and less opportunity for demographic or genetic "rescue" from surrounding populations (Brown and Kodric-Brown 1977). In metapopulation theory, an unoccupied patch of suitable habitat isolated by fragmentation is less likely to be colonized or recolonized by a species (Gilpin and Hanski 1991). If enough connections between suitable habitat patches are severed and the habitat becomes fragmented, the metapopulation is destabilized and less likely to persist.

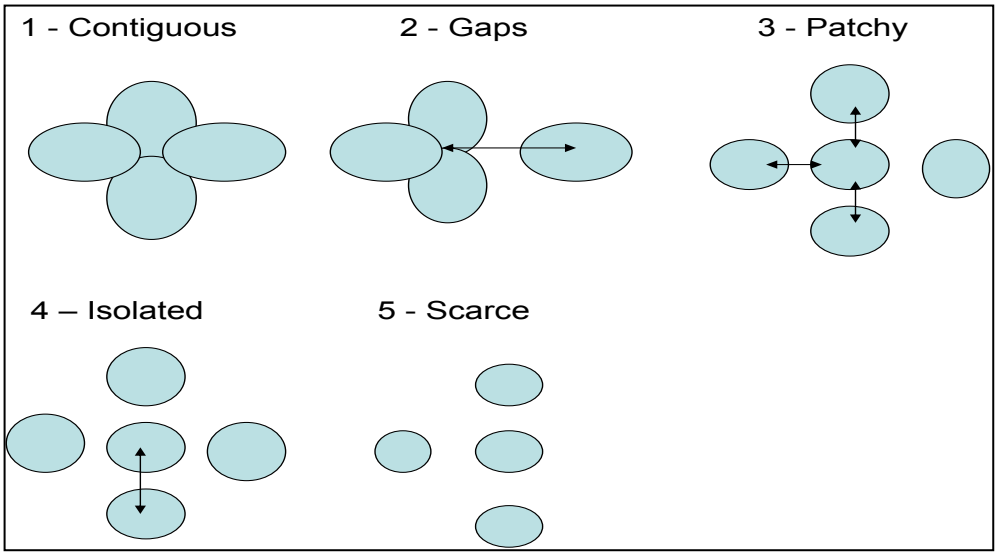


Figure E-2. Conceptual diagram of the five habitat outcome classes developed by Lehmkuhl et al. (1997) to assess effects of planning alternatives on selected plants and animals within the Interior Columbia Basin. Classes were defined as follows: outcome 1 indicated habitat was broadly distributed with the opportunity for nearly continuous distribution of the species; outcome 2 indicated habitat was broadly distributed but with gaps but patches were large and close enough to permit dispersal (indicated by arrows between patches); outcome 3 indicated habitat occurred primarily in patches, some of which are small or isolated, causing limitations in species dispersal; outcome 4 indicated habitat occurred in isolated patches with strong limitations on dispersal among patches and some likelihood of local extirpation; and outcome 5 indicated habitat was scarce with little or no opportunity for dispersal among patches and strong likelihood of extirpation.

When large habitat blocks are broken into smaller ones, not all species will be detected in the remaining patches because of sampling effects (Arrhenius 1921, 1922; Wilcox 1980). This effect

is especially true for rare species and nonmobile organisms—such as small mammals, amphibians, and many invertebrates—that may already be sparsely or patchily distributed within the planning area. Additionally, connecting populations of these nonmobile populations may require multiple generations, and the persistence of these species is further dependent on suitable corridor habitat (Beier et al. 2008).

Large animals and top carnivores require large areas of habitat. These species are especially vulnerable to reduced habitat area caused by landscape fragmentation, and they may disappear entirely from forest patches because food or other resources are inadequate to support them (Newmark 1987; Carroll et al. 2001). Even smaller species are affected by the size of habitat patches; decreases in landscape connectivity via fragmentation and habitat loss can affect amphibian assemblages (Lehtinen et al. 1999). The disappearance of some species from forest fragments can profoundly affect the forest itself. For example, depletion of mammal or bird communities due to habitat fragmentation reduces seed survival or seedling establishment for certain plants (Santos and Tellería 1994; Asquith et al. 1997, 1999; Cordeiro and Howe 2001, 2003). Other species may persist, but in smaller populations with lower genetic diversity, which will increase the vulnerability of those species to other ecological changes such as disease. Rare species and those that normally occur at low population densities are especially vulnerable to these effects (Golden and Crist 1999). Smaller forest patches may also include less environmental variability and therefore fewer microhabitats than more extensive forest areas. The presence of fewer microhabitats can result in the loss of individual species and may reduce total species richness per area of forest (Collinge 1995, Laurance and Bierregaard 1996).

Fragmentation involves more than population effects for a single species. Effects at the community, ecosystem (Saunders et al. 1991), and landscape levels are also well documented (Noss and Csuti 1994). Problems at these higher levels include abiotic and biotic edge effects that reduce the area of secure interior habitat to smaller habitat patches and the proliferation of invasive species; increase disturbance of rare habitats and species; and disrupt natural disturbance regimes, hydrologic functions, and other natural processes. The end result of fragmentation is often a landscape that has lost native species and is dominated by exotics and other invasive species. Although species richness at the local or landscape scale is often higher after fragmentation than in more natural conditions, this richness is misleading because it is accompanied by a homogenization of flora and fauna at a broader scale and net loss of rare species.

3. *Large blocks of habitat containing large populations of species (representative and resilient) are superior to small blocks of habitat containing few individuals.* (Refer to Figure E-2.)

The principle of "largeness" is another universally accepted generalization of conservation biology (Soule and Simberloff 1986). A larger block of suitable habitat will usually contain a larger population of a species; large populations are less vulnerable to extirpation than small populations. Large blocks of habitat are also less likely to experience a disturbance that affects the entire area. Furthermore, refugia and recolonization sources are more likely to be present in large blocks of habitat than in small blocks, thus enhancing population persistence. Also, some species are present only in large blocks of habitat. This correlation is recognized as a species-area relationship: species richness increases as habitat area increases.

Larger patches of habitat generally contain more species, more individuals of a given species, more species with large home ranges, more species sensitive to human activity, and more intact ecosystem processes than do small areas (Robbins et al. 1989; Turner et al. 1993; Newmark 1995;

Schafer 1995). Larger patches will also usually contribute to greater resilience of populations and may also increase the utility of patches that act as "stepping stones" or connectors across a landscape (Buechner 1989; Lamberson et al. 1992). However, smaller reserve patches may also supplement larger reserves by protecting rare species that occur only in certain areas. Hence, greater variability in patch sizes may increase niche diversity and, consequently, regional biodiversity (Franklin and Forman 1987; Hansen et al. 1991).

4. *Blocks of habitat close together are better than blocks far apart (i.e., representative, redundant).* (Refer to Figure E-2.)

Across a landscape, habitat patches range from being evenly distributed to "clumped." Aggregation of habitat patches helps explain how species may be found in patches that are close together but not in more isolated patches (Ritters et al. 1996; He et al. 2000). This concept generally follows the island biogeography (MacArthur and Wilson 1967) and metapopulation theories (Levins 1969, 1970) and helps explain the function of patches within a landscape.

Many species are capable of crossing narrow patches of unsuitable habitat, such as a recreation trail or a narrow secondary road; far fewer are able to successfully move across a multilane highway or large clear-cut. Without intervening barriers, close habitat patches will experience more interchange of individuals than patches that are far apart. If enough interchange occurs between habitat patches, they are functionally united into a larger population that is less vulnerable to extirpation (Soule and Simberloff 1986).

Habitat patches that are close together may function as one larger, contiguous habitat patch for those species that are able to move among areas. However, what constitutes "close together" depends on the species of concern. Habitats close together for birds might be inaccessible for animals incapable of crossing barriers. For example, many small mammals, salamanders, and flightless invertebrates seldom or never cross roads (Mader 1984; Merriam et al. 1989; Fahrig et al. 1995; Forman and Alexander 1998).

5. *Interconnected blocks of fragmented habitat are better than isolated blocks, and dispersing individuals travel more readily through habitat resembling that preferred by the species in question (representative, redundant, and resilient).* (Refer to Figure E-2.)

Connectivity— which is the opposite of fragmentation but not synonymous with contiguousness— has become one of the most widely accepted conservation planning principles (Margules and Pressey 2000). Despite continuing arguments over benefits versus costs of particular corridor designs (Simberloff et al. 1992), conservation biologists generally agree that habitats functionally connected by natural movements of species are less subject to extirpation than habitats artificially isolated as a result of human activities. It is also probable that corridors or linkages will likely function better when habitat within them resembles that preferred by the species (Haddad 1999a,b; Ricketts 2001). For example, although we may not know exactly what habitats species associated with old-forest habitat will travel through, older forests are likely to provide better linkages than early seral forests.

Connectivity allows organisms to move between patches that contain suitable habitats. A collection of small areas individually may be too small to maintain populations of some species, if connected, these small areas may provide sufficient habitat for a species to maintain sustainable populations. In essence, connectivity refers to the pattern of interconnectedness or "networking" in a landscape. It helps determine how individuals of a species and natural processes, such as fire, move or function within a landscape (Wiens et al. 1985; Noss and Cooperrider 1994; Bascompte

and Solé 1996; With 1999). A well-connected area can sustain important elements of ecosystem integrity—namely the ability of species to move and natural processes to function—and is more likely to maintain its overall integrity than a highly fragmented area.

The isolation of patches, or distance between patches, plays an important role in many ecological processes. Several studies have shown that patch isolation is the reason that fragmented habitat patches often contain fewer bird and mammal species than contiguous habitat patches (Murphy and Noon 1992; Reed et al. 1996; Beauvais 2000; Hansen and Rotella 2000). As habitat is lost or fragmented, residual habitat patches become smaller and more isolated from each other (Shinneman and Baker 2000); species movement is disrupted; and individual species and local populations become isolated and at greater risk of extinction from synchronous disturbance events. Connectivity is especially critical to the persistence of low-vagility species. Suitable habitats for these species that are connected for long periods allow multiple generations of these species to move (Beier et al. 2008). Isolated habitats can put species at higher risk for extirpation.

6. *Blocks of habitat that are in areas where direct and indirect effects of human disturbance are low are more likely to provide all elements of a species' source environment than areas where it is not (representative, resilient and redundant).*

Species disturbance caused by human activities may elicit behavioral responses and/or physiological responses that are detrimental to the species (Gabrielsen and Smith 1995; Gill et al. 2001). Behavioral responses are influenced by characteristics of the disturbance (e.g., type of activity, distance away, direction of movement, speed, predictability, frequency, and magnitude) and its location (e.g., above versus below, in open areas versus areas screened by topography or vegetation) (Knight and Cole 1995). Disturbances at critical life-history periods, such as during the winter, are those that are unanticipated (MacArthur et al. 1982; Parker et al. 1984). In circumstances where motorized use is predictable and localized (confined to routes), wildlife responses to unanticipated disturbances by people afoot, skiing, or using off-road vehicles may be even more pronounced than responses to vehicles on roads, to which species have adapted.

A continual threat to many species is increased access to habitats, primarily through roads. Increasing road density is the common thread in habitat-altering activities such as timber harvest, resource extraction, and conversion of wildlands for residential and commercial purposes. A wealth of scientific literature describes the effects that roads have on habitat and various wildlife species (Trombulak and Frissell 2000). Included among these effects are direct wildlife disturbance, increased erosion, increased air and water pollution, the spread of invasive species, and wildlife mortality.

Livestock grazing is also grouped under this principle as a human disturbance. Livestock grazing can affect the composition, function, and structure of ecosystems (Wagner 1978; Crumpacker 1984; Fleischner 1994) in the following ways: (1) altering species composition of communities, including decreasing density and biomass of individual species, reducing species richness, and changing community organization; (2) disrupting ecosystem functioning, including interfering in nutrient cycling and ecological succession; and (3) altering ecosystem structure, including changing vegetation stratification, contributing to soil erosion, and decreasing water availability to biotic communities; and (4) spreading infectious diseases between domestic and wild species.

Suite 4 Conservation Principles

To effectively address the long-term goal for habitat families in Suite 4 (riparian and wetland habitats), the Forest Planning team developed three specific principles unique to this suite. These principles were developed using the overall concepts behind the six principles above for Suites 1–3 and the ACS (Appendix B). Conservation principles for Suite 4 include the following:

1. *Representative species well-distributed across their range (redundant) are less susceptible to extinction (resilient) than species confined to small portions of their range.*

Similar to species in Suites 1, 2 and 3, Suite 4 species that are distributed in multiple populations across the variety of environmental regimes and habitats they naturally occupy will be less susceptible to the stochastic processes that can lead to extinction. In any given year, some populations may be subject to natural disturbances such as floods or fire, abnormally high levels of predation, or human-related threats such as habitat loss or degradation. However, if a sufficient number of populations exist appropriately distributed across their range, the species will be less susceptible to extinction.

2. *Continuous, nonfragmented riparian and wetland systems are better than fragmented habitat (i.e., representative, redundant and resilient).*

Many aquatic resources in need of restoration have problems that originated with harmful alteration of channel form or other physical characteristics, which in turn may have led to problems such as habitat degradation, changes in flow regimes, and siltation. Stream channelization, ditching in wetlands, disconnection from adjacent ecosystems, and shoreline modifications are examples of structural alterations that may need to be addressed in a restoration project. In such projects, restoring the original site morphology and other physical attributes is essential to the success of other aspects of the project, such as improving water quality and restoring native biota.

Perhaps the greatest impact of roads concerns alterations and fragmentation of stream and riparian habitats. Studies show that road networks constructed in forests appear to have increased the magnitude and frequency of peak flows and debris slides, thus altering the natural dynamics of stream and riparian areas (Jones et al. 2000).

3. *Riparian and wetland systems* ***representative*** *of the full array of historical natural functions are more resilient and more likely to provide the source environments needed to support species persistence in the short and long term.*

Structure and function are closely linked in river corridors, lakes, wetlands, estuaries, and other aquatic habitat. Reestablishing the appropriate natural structure can restore beneficial eco functions. For example, restoring the bottom elevation in a wetland can be critical for reestablishing the hydrological regime, natural disturbance cycles, and nutrient fluxes. To maximize the societal and ecological benefits of the restoration project, it is essential to identify what functions should be present and make missing or impaired functions priorities in the restoration.

Using the Conservation Principles to Conduct Analysis

Wildlife guideline WIGU15 states that these conservation principles should be used to assist in identification of treatment priorities within watersheds, in design treatments for wildlife habitat restoration, and to help understand the effects of proposed activities on wildlife habitat. Evaluating

these principles provides a consistent and logical line of reasoning to document progression toward Forest Plan restoration goals and objectives, as well as recognize when, where and why effects may occur to source habitats and the species associated with them. Since the principles are interdependent, when Forest managers evaluate the principles, they should consider the entire set of principles likely to be affected by proposed management actions, rather than just one principle absent the context of others.

For example, natural resource use and development in the western United States over the past 200 years has resulted in extensively fragmented systems in some areas, leaving only small, isolated remnants of native vegetation (conservation principles 2–5). Forestry practices and domestic livestock grazing have affected both the remaining patch fragments and the surrounding matrix, and nonnative plant and animal species have affected the native biota (Hobbs 2001). Invasive plant species have the potential to significantly alter ecosystem composition and functioning. *These different influences often interact.* For instance, smaller fragments are often more prone to plant invasion and more likely to have been grazed in the past. Invasions by plant species is often linked with livestock grazing or road development. Classical fragmentation studies that concentrate on parameters such as habitat area and isolation but ignore changes in habitat condition brought about by livestock grazing, road development, and invasive species are unlikely to yield meaningful results. Similarly, management of fragmented ecosystems must account for not only the spatial characteristics of the remaining habitat but also the importance of other influences, particularly those that impinge on fragments from the surrounding matrix.

Mid-scale conservation principle indicators (CPI) were developed for each conservation principle to assist in developing the WCS. For each CPI, three relative risk ratings (high, moderate, and low) were developed to help inform mid-scale conclusions concerning how well a principle is currently met and what, if any, action may be needed to restore conditions related to a conservation principle. The *Wildlife Technical Report for the 2011 Sawtooth National Forest Plan Amendment to Implement a Forest Wildlife Conservation Strategy* (Filbert et al. 2011) provides the detailed documentation of these assessments and associated findings.

The evaluation of mid-scale CPIs provided a consistent and logical line of reasoning to inform development of the Forest Plan WCS and subsequent Forest Plan management direction. Likewise, evaluations of principles and appropriate CPIs for fine- to site-scale planning will provide a consistent and logical line of reasoning for documenting progress toward WCS restoration goals and objectives reflected in the Forest Plan; inform conclusions as to when, where, and why project effects may occur to conditions addressed by the indicator; and provide a framework for developing project-specific mitigation responding to effects. In some cases, the CPIs developed for mid-scale assessments will be appropriate in these finer scale assessments; however, in some cases more specific CPIs may be developed to take advantage of better data sources. When new CPIs are developed through fine- to project-scale planning, documentation to demonstrate the value and use of an indicator should be completed as at the mid-scale (*2009 Science Findings Contract* [Suring 2009a]).

A final caveat to consider is that in some cases, negative effects (i.e., increases in relative risk) to one principle in the temporary (≤3 years) or short (≤15 years) term may be acceptable to improve (i.e., reduce relative risk) another principle in the long term (>15 years). A decision whether to allow a negative impact within temporary or short-term time frames to provide for long-term risk reductions and/or promote restoration goals will depend on the duration of the impact, site-specific conditions, the status of species of concern in that location, and other resources of concern.

WILDLIFE CONSERVATION STRATEGY MID-SCALE SPATIAL PRIORITIES AND TYPE OF RESTORATION

Restorative actions taken almost anywhere would provide some benefit to vegetation and wildlife habitat. However, due to limited resources and funds, not all needs can be addressed in the foreseeable future. Spatially prioritizing restoration areas will help ensure source environments are expanded and functional source habitat areas are reconnected in a manner and time frame that provides the greatest benefit to species of conservation concern.

Forest managers and scientists believe the likelihood of restoration success increases as a landscape prioritization strategy is developed and implemented. A landscape prioritization strategy helps managers better understand how restoration in a given area contributes to the greatest conservation benefits for species of conservation concern and the spatial integration of restoration efforts relative to multiple habitat areas; how benefits can be maximized for a given cost; and how, through integration with other resources within and among agencies, managers can capitalize on common objectives and minimize unintended effects to accomplish various restoration objectives (USDA Forest Service and USDI BLM 2000; Rieman et al. 2000; Mehl and Haufler 2001; Brown 2002; Crist et al. 2009).

Two types of landscape prioritization strategies were developed to address source habitat and the more inclusive source environment needs for habitat families and species of conservation concern. The first strategy addresses conservation and restoration needs for habitat families where vegetation conditions are most departed from those believed to have occurred historically (e.g., Habitat Family 1 and associated species, and some Family 2 associated species). The second strategy addresses potential human conflicts associated with source environments linked to species of concern such as wolverine (e.g., Habitat Family 3).

The spatial priorities for these strategies are displayed on the Wildlife and Vegetation Habitat Restoration Strategy Map (2011) and the Source Environment Restoration Strategy Map (2011), respectively (Appendix 3). Both Forest-wide and Management Area direction are directly linked to these spatial strategies. While the long-term goal of these spatial priorities and associated plan direction is to maintain or restore environmental conditions needed to support persistence of terrestrial wildlife species found across the Forest, a short-term emphasis (i.e., this planning period) is provided for habitats or species of greatest conservation concern. This approach to short-term restoration will not equally address all habitats needing restoration. However, with the long-term component of the strategy in place, opportunities for restoring departed habitats of lesser concern will still be available. A brief synopsis of the long- versus short-term priorities follows.

Long-term (>15 years) Priorities: In order to provide habitat well distributed across the planning unit to support sustainability of native species, Forest vegetation communities should contain the array of desired habitat conditions described in Appendices A (i.e., macrovegetation features) and E (e.g., fine-scale elements such as old-forest habitat, snags and logs). The vegetative desired conditions described in Appendix A fall within the historic range of variability (HRV). Similarly, the desired conditions for wildlife habitat in the Forest Plan are to remain within, or move towards, conditions that fall within the HRV. The underlying assumption of the WCS is that the risk of losing species, processes, or genetic diversity within populations is thought to increase as departure from the HRV increases (Figure E-3) (McComb and Duncan 2007). While the level of risk likely becomes increasingly uncertain as the distance from HRV increases, the shape of the

relationship and the confidence intervals depicted are not well understood (McComb and Duncan 2007) and likely vary among specific taxa.

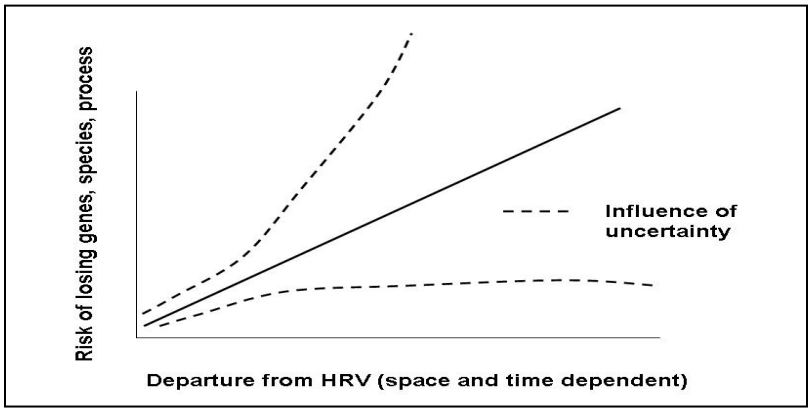


Figure E-3. Risk of species loss relative to departure from historic range of variability (HRV) (McComb and Duncan 2007)

While every acre across the Forest does not need to contribute to a desired network of source habitat and related environmental conditions, Forest managers should recognize that the greater the departure of source environments from HRV—largely depicted by the aforementioned conservation principles—the greater the risk to species sustainability.

Short-term (≤15 years) Habitat Maintenance and Restoration Priorities: Not all habitat families have experienced habitat change equally from historic to current conditions. While changes in habitat have occurred in each family, Families 1, 2 and 3 in the forests only habitat suite have a greater need for short-term conservation and restorative action compared to Family 4 in this suite (Table E-1). Since the Forest has limited funding to support restoration, short-term restoration priorities are designed to focus efforts and funding during the next 10–15-year planning window on those habitats and species with the greatest departure from historical conditions in habitat quantity, quality, and/or distribution. Restoring short-term priority areas will provide the building blocks for locating and designing restorative management actions over the long term.

IMPLEMENTING WILDLIFE CONSERVATION STRATEGY PRIORITIES AND STRATEGIES AT THE FINE SCALE, TAKING ACTION, AND MEASURING SUCCESS

Mid-scale decisions about priority 5th Code HUs (i.e., watersheds) are supplemented at the fine and site scales with information about specific threats at these smaller scales and site-specific actions needed to reduce or eliminate these threats. Generally, the more detailed datasets typically available at fine-to-site scales should be used to assess those habitat elements (e.g., snag conditions and distribution, verification of old-forest habitat) that could not be assessed fully in mid-scale analyses due to the limitations of common, planning unit–wide datasets. Understanding threat distribution and severity within fine-scale landscapes is vital to identifying and designing specific actions to effectively eliminate or mitigate the threats.

Relationship of the Wildlife Conservation Strategy to Forest Plan Appendices A and B and the Aquatic Conservation Strategy

Forest Plan vegetative management direction and Appendix A provide the operational framework for achieving desired vegetative conditions envisioned in the Forest Plan. Appendix A contains the mapping criteria, classification descriptions, and desired condition tables for vegetation. Separate tables and/or narratives within Appendix A disclose (1) desired conditions for separate components of forested vegetation, including snags and coarse woody debris; (2) desired conditions for woodland, shrubland, and grassland; and (3) desired conditions for riparian vegetation, including vegetation in riparian conservation areas (RCAs). Appendix A also describes how to plan for and undertake management actions that result in vegetative patches and patterns typical of those believed to have existed historically.

Forest Plan soil, water, riparian, and aquatic (SWRA) resource management direction; Appendix B; and the ACS provide the operational framework for achieving the desired SWRA resource conditions envisioned in the Forest Plan. Appendix B contains (1) the Southwest Idaho Ecogroup Aquatics Matrix, which describes properly functioning conditions for SWRA resources by pathways and watershed condition indicators; (2) Guidance for Delineation and Management of RCA; (3) the Implementation Guide for Identifying and Managing Landslide and Landslide Prone Areas; and (4) an Overview of the Southwest Idaho Ecogroup ACS, including determinations of the appropriate type of subwatershed restoration and the priority for short- and long-term progression toward achieving SWRA resource desired conditions.

Wildlife resource assessments supporting the Forest Plan indicated that these vegetative and SWRA resource strategies would maintain or contribute to the long-term maintenance and restoration of landscapes to a condition similar in *representation*, *resiliency*, and *redundancy* as that believed to have occurred historically (i.e., HRV). As such, management actions that strive toward achieving the appropriately functioning or desired conditions described in Appendices A and B will result in achieving long-term landscape source habitat conditions needed to support terrestrial wildlife species.

However, while Appendices A and B provide consistent definitions of the desired macrovegetative and SWRA resource conditions that encompass source habitat definitions, in many cases these definitions need to be refined during fine- and site-scale assessments to more accurately depict the range of conditions that represent source habitat needed to support ESA listed species, Region 4 sensitive species, and other species of conservation concern in the short versus long term.

For mid-scale assessments, species source habitat was assessed using Appendix A macrovegetation elements that best aligned with definitions from Wisdom et al. (2000), as well as other locally relevant literature. This more generalized approach was sufficient to assess factors needed to develop a mid-scale WCS that (1) conserves or restores habitat representation, resiliency, and redundancy across the planning unit; (2) identifies potential threats to current habitats and options to address them; and (3) identifies principles that should be used to help assess the relative risk these threats present to maintaining or restoring desired source environments. However, in future fine- and site-scale assessments, it will be important to recognize that the vegetative communities associated with Appendix A macrovegetation elements and their successional stages have unique environmental conditions that are ecologically important as niches for wildlife species (Thomas et al. 1979). Combinations of these successional stages may be necessary for some species for foraging, reproduction, or both, while other species are associated with one stage for all their needs.

To address this variation, the WCS developed habitat definitions and modeling parameters for habitat families, ESA listed species, and Region 4 sensitive species that linked to Appendix A macrovegetation elements but also described the other habitat features that could not be captured by the macrovegetation elements alone. Description of habitat definitions and modeling parameters was also done for other species of mid-scale analysis focus (i.e., focal species), including MIS. Documents providing this information have been combined into the *Wildlife Technical Report for the 2011 Sawtooth National Forest Plan Amendment to Implement a Forest Wildlife Conservation Strategy* (Filbert et al. 2011). Biologists should refer to this report to find more specific definitions and habitat parameters for habitat families and their associated species.

As fine- to site-scale assessments are completed in support of plan implementation, it will be important to understand that as vegetation moves from one successional stage to the next, both the vertical and horizontal structure of the vegetation changes (i.e., size and arrangement). Understanding how Appendix A macrovegetation elements relate to a successional stage is important to assessing the quality of habitat on a landscape.

The structural stages displayed in Figure E-4 were used by Wisdom et al. (2000) and Hann et al. (1997) in their analyses for the Interior Columbia Basin project and provide an illustration of the important structural stages. These structural stages do not necessarily move sequentially from one stage to the next but instead follow paths influenced by climatic factors, site and landscape characteristics, disturbance type, disturbance severity, disturbance periodicity, and anthropogenic influences. Structural stages can be altered by management practices that either advance or impede movement into another stage; these stages could fall within various Appendix A structural size classes (i.e., large, medium, small, sapling, or grass/forb/shrub/seedling [GFSS]). Understanding the pathways between stages can help identify opportunities for restoring, as well as maintaining, desired structural stages over time. By associating the tree size class and canopy cover variables described in Appendix A with these structural stages, wildlife biologists can more finely characterize source habitat needs for individual species or habitat families. A description of each structural stage follows Figure E-4.

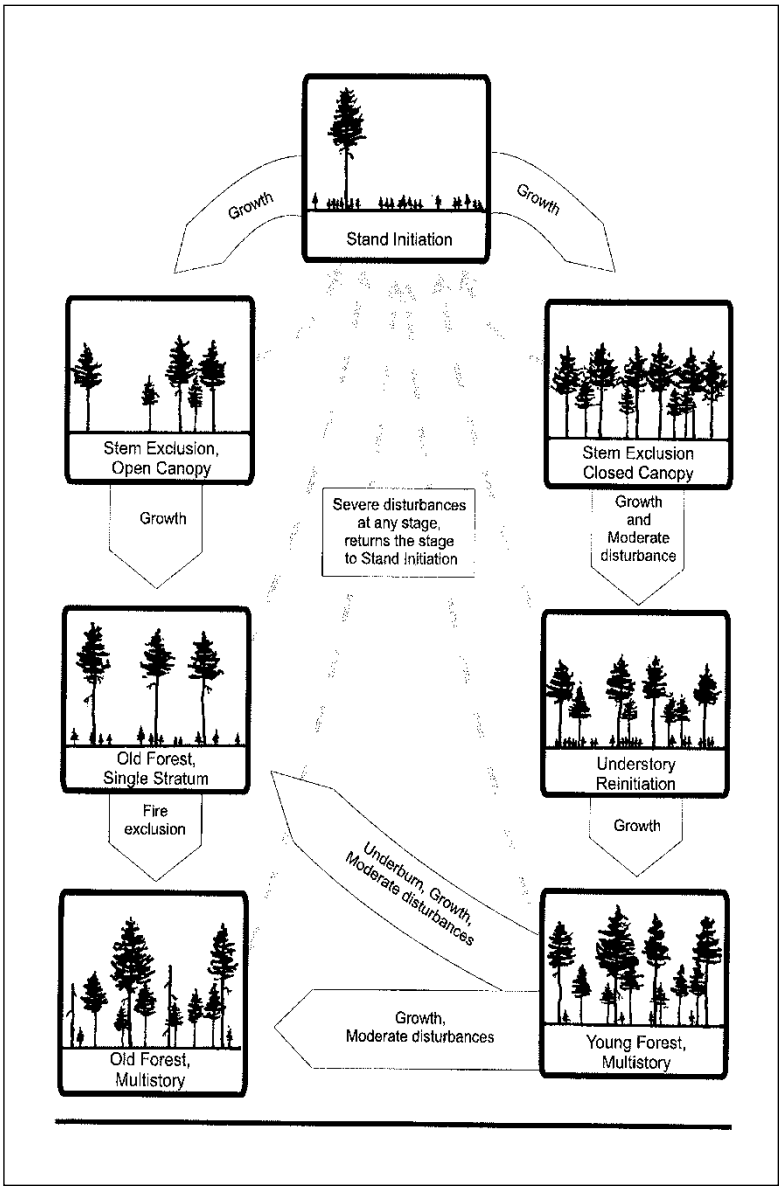


Figure E-4. Illustration of forest structural stages (Hann et al. 1997; Wisdom et al. 2000)

Stand Initiation - This stage refers to land that is reoccupied following a stand-replacing disturbance (Hann et al. 1997). Sites are occupied by GFSS in a broken or continuous layer (O'Hara et al. 1996). Legacy trees could be present but would make up <10 percent of the canopy cover. Typically this stand condition would be classified as either a GFSS or sapling tree size class per Appendix A definitions.

Stem Exclusion, Open Canopy - This stage refers to forested areas where the occurrence of new tree stems is limited by moisture (Hann et al. 1997). Sites are occupied by one broken-canopy cohort, usually of small- or medium-sized trees (O'Hara et al. 1996). Some large live legacy trees, up to 29 percent of the canopy cover, may also be present. When large trees account for 10–29 percent of the canopy cover, this stand condition would be classified as a large tree size class per Appendix A definitions. When large trees make up <10 percent of the canopy cover, this stand condition would typically be classified as a small or medium size tree stand per Appendix A definitions.

Stem Exclusion, Closed Canopy - This stage refers to forested areas where the occurrence of new tree stems is predominately limited by light (Hann et al. 1997). Sites are generally occupied by one cohort of small- or medium-sized trees in a continuous closed canopy (O'Hara et al. 1996). Some large live legacy trees, up to 29 percent of the canopy cover, may also be present. When large trees account for 10–29 percent of the canopy cover, this stand condition would be classified as a large tree size class per Appendix A definitions. When large trees make up <10 percent of the canopy cover, this stand condition would typically be classified as a medium size tree stand per Appendix A definitions.

Understory Reinitiation - This stage occurs when a second generation of trees is established under an older, typically mid-seral, overstory (Hann et al. 1997). Sites are occupied by at least two, sometimes more, cohorts of younger trees under older small- or medium-sized trees (O'Hara et al. 1996). Some large live legacy trees, up to 29 percent of the canopy cover, may also be present. When large trees account for 10–29 percent of the canopy cover, this stand condition would be classified as a large tree size class per Appendix A definitions. When large trees make up <10 percent of the canopy cover, this condition could be classified as a small or medium size tree stand per Appendix A definitions.

Young Forest Multistory - This stand development stage results from frequent harvest or lethal disturbance to the overstory (Hann et al. 1997). Sites are occupied by multiple cohorts, ranging from seedlings to medium sized trees (O'Hara et al. 1996). Managed young, multistory stands have undergone some form of silvicultural treatment, salvage, or roading and contain relatively few large snags or trees (Wisdom et al. 2000). Unmanaged young, multistory stands have not undergone disturbances described for managed stands and contain higher densities of large snags and large trees. When large trees account for 10–29 percent of the canopy cover in a young multistory stand, this stand would be classified as a large tree size class per Appendix A definitions. When large trees make up <10 percent of the canopy cover, this stand condition would be classified as a medium size tree stand per Appendix A definitions.

Old Forest, Single Stratum - This stage refers to forested areas resulting from frequent nonlethal fire or other management activities (Hann et al. 1997). Sites are occupied by broken-to-continuous cover of large, single or multi-aged cohorts in the same stratum (O'Hara et al. 1996). The understory is absent or consists of some inclusions of seedlings or saplings. Wisdom et al. (2000) defined old forest, single story as stands with >30 percent canopy cover in the large tree size class and <20 percent canopy cover in smaller size classes. Old-forest habitat is defined for potential vegetation groups (PVGs) in Table E-2. Forested stands within the planning unit that meet these conditions are identified as old-forest habitat. Per Appendix A definitions, these stand conditions would always be classified as a large tree size class.

Old Forest, Multistory - This stage refers to forested areas resulting from a lack of understory disturbance (Hann et al. 1997). Sites are occupied by multi-aged trees in an assortment of size classes and stratums (O'Hara et al. 1996). Wisdom et al. (2000) defined old forest multistory as stands with >30 percent canopy cover in the large tree size class and at least 20 percent canopy cover in smaller size classes. Old-forest habitat is defined for PVGs in Table E-2. Forested stands within the planning unit that meet these conditions are identified as old-forest habitat. Per Appendix A definitions, these stand conditions would always be classified as a large tree size class.

Understanding Context is Key to Successful Strategy Implementation

As stated in Appendix A, and supported by findings in Appendix B, *"In many areas, current conditions deviate strongly from desired conditions…even under careful management it may take several decades for these areas to approach desired conditions. During that time, managers will have to choose among several approaches to maintain progress toward desired conditions. There may be many different paths to a common endpoint that meet different management objectives, but each path has its own trade-offs. Navigating these paths and trade-offs will be the challenge of ecosystem management in trying to achieve desired vegetative conditions"* (Appendix A, page A-1). For managers to effectively understand trade-offs between resources, priority activities identified for vegetative and SWRA resources need to be evaluated alongside those priorities identified for wildlife source habitat or species of conservation concern (Table E-1). Although in many cases these priorities are consistent, situations exist where they are not. In these situations, trade-offs will need to be balanced consistent with the multiple-use objectives associated with the applicable Forest Plan management prescription category (MPC) allocation.

In most cases, Forest managers must use broad- and mid-scale assessment findings to establish a broader context for identifying fine-scale issues/priorities. The absence of context is like having a word with no sentence; there is nothing to help explain the meaning of the word or what message is being conveyed. Information or attributes visible at one scale may disappear at another scale. Influences at broader scales generally operate over a longer time frame than at finer scales; setting limits on ecosystems, analogous to machinery operating at finer scales. Fine-scale machinery is the gears, rods, and pistons, more or less invisible at broader scales, that make the ecosystem tick. The machinery at one scale is the context or constraint at the next scale down.

As discussed in Chapter III of the Forest Plan (p. III-1), three analysis scales should be considered during plan implementation to fully understand the context of and effects (negative or beneficial) to ecosystem and species diversity likely to result from implemented actions. At each scale, consistent with WIGU15, the conservation principles discussed above should be used to assist in evaluations.

From larger to smaller, the following three scales should be addressed and/or assessed:

1. Mid scale: This scale of analysis was completed by the Forest interdisciplinary team (IDT) within the context of broader-scale findings, such as those identified in the ICBEMP and *Idaho Comprehensive Wildlife Conservation Strategy* (IDFG 2005). This analysis is maintained in the planning record and will be updated periodically as part of Forest Plan monitoring and evaluation consistent with timelines established in Chapter IV of the Forest Plan. This analysis provides conservation and restoration priorities *among* 5th HU watersheds.
2. Fine scale: This scale of assessment results in a better understanding of spatial and temporal relationships of threats, risks, and priority actions *within* a 5th HUC watershed. Typically, outcomes from this scale of assessment support what is referred to as "tactical planning" and would be reflected by the Forest Leadership Team in updates to the Forest's 5-year integrated plan for forest plan implementation (i.e., projects to be implemented to address Forest multiple-use priorities over the next 5 years). This 5-year plan integrates the various resource priorities for action along with other social and economic priorities, such as hazardous fuel reduction activities within the wildland-urban interface (WUI).
3. Site scale: Analysis at this scale supports site-specific planning and design of projects that implement priority actions identified in the Forest's 5-year integrated plan.

Evaluations across these scales lead to the following:

- An understanding of the importance of each watershed within a planning unit in providing source environments, including source habitat, for species associated with habitat families in the short and long term.
- An understanding of what threats represent the greatest risk to species and their source environments and where action is needed in the short and long term.
- The ability to trace the logic of management priorities to address the threats that represent the greatest risks in the short term (i.e. this planning period); and ultimately the long term.
- The ability to provide the context needed to support the probable effect of a specific project activity and its likelihood of changing an identified threat to habitat, and what that change means in terms of decreasing or increasing short-term risks to habitats and associated species of conservation concern across their respective ranges within the planning unit.

This hierarchical and iterative approach to evaluating ecosystem and species diversity will likely be more rigorous where risks to ecosystems and species are high or where potential management is complex. To improve planning efficiencies, the rigor of analysis should be commensurate with the degree of risk a project represents to habitats and their associated species of concern. Additional information concerning fine- and site-scale assessments is provided below.

Fine-Scale Assessments (Short-Range Tactical or Plan-to-Project Planning)

Similar to how plan-level mid-scale analyses provide context to fine-scale analyses, fine-scale analyses provide context to conclusions reached in site-specific analyses. Fine-scale assessments provide the more finite information needed to support scheduling of actions that will help achieve Forest Plan goals and objectives, as well as Forest program goals and emphasis items. These assessments rely on existing datasets unless the Responsible Official determines that additional data collection is warranted in light of the potential risk and threats to be addressed. In most cases, existing data can be used directly or as surrogate indicators of a potential threat needed to assess risk to habitat or associated species.

Results from fine-scale assessments are not only used to identify and prioritize opportunities for restoration within watersheds, but also to inform the Responsible Official of the likely magnitude (spatially and temporally) of potential project effects. Fine-scale information—in combination with the forest planning mid-scale assessment—can help inform priorities for project planning and design, resolve potential issues about the magnitude of effects to wildlife species in one area over another, and assist in understanding the effects of an action within the broader planning-unit framework. In other words, what may appear to be a concern or not a concern when looking at the project area alone may take on a different light when viewed from a higher scale. Fine-scale assessments should help answer questions such as the following:

- For proposed projects with a purpose to maintain or restore habitat related to one or more habitat families:
  - Why is a particular threat to habitat, or its associated species, the right one to address?
  - Why is it a priority to address this threat or need for restoration in this location at this time?

- For proposed projects whose purpose is to achieve other multiple-use goals and objectives in the Forest Plan (e.g., recreation facility development, mining, domestic livestock grazing, and forest products for socio-economic support):
  - Will implementing this action measurably increase the magnitude of a threat that has been identified as potentially contributing to declines in habitats associated with species of conservation concern within this watershed and/or planning unit?
  - If implementing this action is likely to measurably increase the magnitude of a threat, what project design or mitigation is needed to avoid or minimize the magnitude of the threat to the level where it will no longer result in unacceptable consequences to an ESA listed species, Region 4 sensitive species, or other species of concern?
  - If no project design or mitigation measures are available to avoid or minimize the magnitude of the effect in that location, can the effect be compensated for elsewhere within the watershed and/or planning unit in a manner that does not increase the overall risk or uncertainty concerning persistence of species within the planning unit?
  - Do opportunities for wildlife source environment restoration exist in this location, regardless of the WCS priority, that can be capitalized on through this action?

Setting priorities and scheduling work are key considerations in fine-scale assessments. Actions designed to address opportunities generated through fine-scale, plan-to-project planning will typically be included in the Forest's 5-year integrated plan when the Forest Service is reasonably confident the funding is or will be available to implement the project.

Site-Scale Assessments (Project or Site-specific Planning)

While fine-scale analyses provide context as to the importance of the beneficial or negative effects of a proposed project, they do not include the necessary detail concerning baseline conditions within a project area needed to assess and disclose site-specific direct, indirect, and cumulative effects of an action. Project design, planning, and related assessments provide this necessary detail.

In addition, the WCS identifies three important fine- to site-scale habitat elements that need greater emphasis for conservation and restoration during project design and planning this planning period: old-forest habitat, legacy trees, and large snags. These elements are discussed in detail below.

Old-Forest Habitat

Old-forest habitat is an important source habitat condition that provides essential denning, nesting, foraging, and cover habitat for many wildlife species. Old-forest habitats are distinguished by old trees and related structural attributes, which include tree size, signs of decadence, large snags and logs, canopy gaps, and understory patchiness (USDA Forest Service 2003a; Van Pelt 2007, 2008). Old-forest habitat develops when structural elements (e.g., large snags, logs, understory structure) are found in proximity to old, large trees, typically those defined as legacy trees (see Appendix A). Due to differences in forest/habitat types, site quality, climate, and disturbance patterns, old forests may vary extensively in tree sizes, age classes, and presence and abundance of structural elements (Helms 1998). Desired conditions for old-forest habitat are identified in Table E-2.

The ICBEMP assessment provides an estimate of historical ranges for old forest structural stages using a process similar to that which generated the HRV for Appendix A (Hann et al. 1997).

Table E-2. Desired conditions for old-forest habitat within potential vegetation groups (PVGs) (arranged by fire regime). Components are measured at the stand level.

Fire Regime	PVG	Tree Size Class	Canopy Cover of Live Trees ≥20 inches d.b.h.[a] (Large Tree Canopy Cover)	Canopy Cover of Live Trees ≥0.1 inches d.b.h. (Stand Canopy Cover)	Species Composition of Live Trees ≥20 inches d.b.h.[e]	Number of Snags of a Particular Size in Each Acre[b]		Course Woody Debris Tons/Acre[c]	
						>10 to ≤20 inch	>20 inch	≥3 inch	>15 inch
Nonlethal	1	Large	≥30%	≥30% and ≤70%	PP ≥60%	≥1	≥1	>6	>75%
	2	Large	≥30%	≥30% and ≤70%	PP ≥60%	≥2	≥2	>9	>75%
Mixed 1	3	Large	≥30%	≥50% and <70%	PP and/or DF ≥60%	≥2	≥1	>9	>65%
	4	Large	≥30%	≥50% and <70%	DF ≥60%	≥2	≥1	>9	>65%
Mixed 2	7	Large	≥30%	≥50% and <70%	DF ≥60%	≥3	≥2	>12	>50%
	11	Large	≥30%	≥50% and <70%	WB and/or ES ≥60%	≥2	≥1	>9	>25%

[a] d.b.h. = diameter at breast height
[b] Regardless of d.b.h., the height of all snags should be ≥30 feet in all PVGs except PVGs 1 and 11 where the minimum height is ≥15 feet. Note, while snags shorter than these heights do not contribute to determining whether a forest stand meets the old forest habitat definition, they do contribute to ecological functions and should be retained.
[c] Regardless of diameter, the length of all course woody debris should be ≥6 feet.
[d] PVG 10 is not included because persistent lodgepole pine does not develop old-forest conditions that are considered source habitat for WCS focal species or species of concern.
[e] PP = ponderosa pine; DF =Douglas-fir; WL = western larch; ES = Engelmann spruce; WB = whitebark pine

Estimates were generated for Ecological Reporting Units (ERU) including the Central Idaho ERU, which covers most of the Sawtooth National Forest *(although none of the Minidoka Ranger District on the south end of the Forest lies within this ERU)*. This information was used to develop the ranges displayed in Table E-3.

Table E-3. Historical Estimates of Old Forest Habitat by PVG for the Sawtooth National Forest

Old Forest Habitat	Percentage Within Each PVG (%)					
	Nonlethal		Mixed1		Mixed2	
	PVG 1	PVG2	PVG 3	PVG 4	PVG 7	PVG 11
Historical Range	17-49		20-35	23-34		

Mid-scale assessments supporting the WCS concluded that far fewer acres of large tree size class forests exist compared to what was believed to exist historically. While mid-scale data are not detailed enough to fully assess all elements of old-forest habitat (Table E-2 and E-3), it was assumed that the greater the departure of large tree size class stands from historical conditions, the greater the departure in old-forest habitat conditions. Thus, compared to historical conditions, source habitats—including old-forest habitats—in the low- and mid-elevation dry conifer forests, *and especially in ponderosa pine forest*, have experienced the most change and have become smaller in patch size, more simplified in structure, homogenized within patches, and more fragmented. These changes, or declines, in source habitat are the result of several factors, including historic forest management, disruptions in historical fire processes (i.e., long-term fire exclusion), and uncharacteristic fire events.

In response to these findings and assumptions, the Forest Plan strategy includes standards that require retention of existing old-forest habitat (WIST08) and restoration of old-forest habitat conditions (WIST09). Management actions are permitted within forested stands defined as old-forest habitat as long as the stands will continue to meet the definition of old-forest habitat when the action is completed. To design projects that comply with these standards, the definitions in Table E-2, Figures E-5 and E-6 and the discussion on legacy trees should be used as guides.

Old forest is described using two distinct structural stages: old forest single-story and old forest habitat multistory (refer to Description of Forest Structural Stages above). Structural conditions for old-forest habitat vary depending on forested vegetation type (PVG) and the associated fire regime. The historical fire regime heavily influenced the patch size, spatial distribution, and vertical/horizontal diversity of structural elements of old-forest habitat for the associated PVG. Forested stands that experience frequent low- or mixed-severity fire disturbances (e.g., dry and moist ponderosa pine [PVGs 1 and 2] and warm, dry Douglas-fir [PVG 4]) develop old-forest single-story structure, which has been described as uneven-aged stands composed of relatively small, even-aged groups or patches interspersed with herbaceous openings and canopy gaps (Figure E-5; Kaufman et al. 2007). These stands primarily occur in the lower to mid-elevations; are typically less dense, consisting of fairly open clumps of large trees; and have small to moderate accumulations of understory conifers and large coarse woody debris/logs.

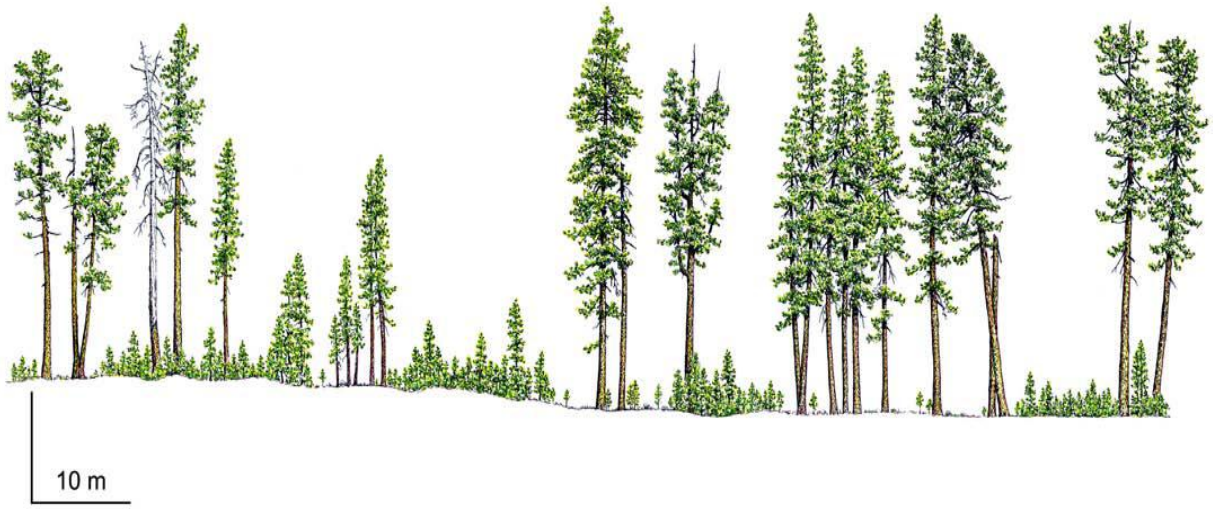


Figure E-5. Graphic of ponderosa pine old-forest habitat, single-story condition (Van Pelt 2008)

Forested stands that developed from less frequent high- or mixed-severity fire disturbances (e.g., warm, dry subalpine fir [PVG 7]) tend to develop multistory old-forest structure, which includes a variety of sizes and conditions of live trees, snags, and logs and some large, old trees (Figure E-6). In these stands, spatial heterogeneity is present vertically, in the form of a vertically continuous but variably dense total stand canopy, and horizontally, apparent in patchiness in stand density (WSDNR 2005). Structural attributes of multistory old forest typically include a developed understory, multi-aged trees, and large volumes of large coarse woody debris/logs. These stands are more typical of the upper montane and subalpine forests.

Figure E-6. Graphic of Douglas-fir in an Old-Forest Habitat, Multistory Condition (Van Pelt 2007)

The minimum criteria for defining old-forest habitat are described using a subset of the large tree structural class and associated canopy cover, species composition, snags, and coarse woody debris described in Appendix A; refer to Table E-2 for definitions by PVG. Criteria found in Table E-2 should be used to determine compliance with Forest Plan standards concerning old-forest habitat—WIST08 and WIST09. To comply with these old-forest habitat standards, management actions are permitted within these stands as long as (1) the stands continue to meet the definition of old-forest habitat (WIST08) after the action is completed or (2) if the stand is currently not in an old-forest habitat condition but has the species composition needed to restore this condition, management actions do not preclude development of old-forest habitat (WIST09).

The portion of large tree size class described in Appendix A where the large tree, non-overlapping canopy cover ranges from 10 to 29 percent canopy is not defined as old-forest habitat (refer to Figure E-4). However, the large trees in these stands do provide important habitat for a variety of species and, where the tree species composition is consistent with that desired in old-forest habitat, can provide a starting point for restoring old-forest habitat conditions. This is particularly true for single-story or multistory large tree stands that have experienced little to no forest management in the past; these stands would likely include large snags and logs, making them desirable for focused old forest restoration efforts.

Legacy Trees

Legacy trees are important attributes of old-forest habitat because they are often the largest and oldest specimen present. As discussed in Appendix A, legacy trees can be defined as anything handed down from a predisturbance ecosystem (Perry and Amaranthus 1997). These old, large trees can also be a remnant of a prior old-forest condition that exists in stands of other forest structural stages due to a previous disturbance event. In forests characterized by low- or mixed-severity fire regimes, aging stands become more diverse and complex due to low-severity disturbances that result in the establishment of multiple cohorts (Van Pelt 2008). In these forests, it is often the presence of clumps or individual legacy trees that determine opportunities for restoration of old-forest habitat and ultimately become the foundation for a restoration plan (Van Pelt 2008).

Characteristics of legacy trees include deep bark fissures, wide bark plates, altered bark color, flattened crowns, different branch characteristics, dead tops, and diversity in crown form (Kaufman et al. 2007; Van Pelt 2008). These old, large trees are often selected as nesting sites due to their larger branches that are capable of supporting large stick nests, and these trees often have dead tops or internal decay that provide nesting or denning habitat for cavity-dependent species. Older, larger trees have deep, full canopies that provide more foraging area for bark and foliage gleaners and typically produce greater quantities of seed important to a number of species. When these legacy trees die they continue to provide important habitat as a large snags or eventually as a large logs within old-forest habitat. Legacy trees also provide genetic material important for future stand establishment because it reflects local site conditions.

Ponderosa pine and Douglas-fir legacy trees are important to wildlife species on the Forest, and the Forest Plan includes specific direction (VEGU08) emphasizing the need to retain these important trees. These trees are long-lived seral species that contribute to old-forest habitat conditions important for wildlife species persistence and are typically subject to management activity due to their presence in lower and mid-elevations where forest management is most likely to occur. Refer to the Appendix A discussion and description of legacy trees.

Snag Retention

Snags, live trees with decay, hollow trees, logs, and other woody debris provide an important ecological component in ecosystems. Two thirds of all wildlife species use deadwood structures or woody debris for some portion of their life cycles (Brown 2002). They are used by wildlife for foraging, nesting, denning, roosting, and resting (Bull et al. 1997). Historically, the presence of snags, hollow and dead portions of live trees, and woody debris depended on a variety of factors including vegetative patterns and distribution, site potential, and disturbance regimes.

Due to the territorial nature of numerous wildlife species (e.g. woodpeckers), snags and snag patches must be well distributed across the landscape (Bull et al. 1997). Marcot et al. (2002) suggest that managers not average snags and coarse woody debris across too broad an area, which could potentially leave large areas within a watershed with elements that are too scarce or small to be used by wildlife. Therefore it is most desirable to provide snags and coarse woody debris, within the ranges identifies in tables A-5 and A-6, at the stand or project level scale.

Forest Plan direction results in different levels of snag retention within the various MPCs across the planning unit, consistent with the multiple-use objectives associated with individual MPCs. This direction includes retention requirements during general vegetation management treatments and in some cases, specific retention requirements during any salvage operation. Table E-4 provides a summary of snag retention requirements by MPC.

When planning salvage logging, Forest managers should recognize that considerable scientific debate still exists regarding what, if any, level of salvage logging is compatible with maintaining biodiversity within severely burned forests, particularly in the mixed- and high-severity fire regimes (Hutto 2006; Lindenmayer et al. 2008). Studies conducted in burned forests have shown that several species respond positively to postfire conditions (Hutto 1995; Saab and Dudley 1998; Smith and Hoffman 2000). Kotliar et al. (2002) identified at least nine species of birds that are consistently more abundant in burned forests, indicating that these are important wildlife habitat areas. In addition, different postfire burn severities offer unique conditions or combinations of resources for species and, in order to meet habitat needs of all species, a range of fire severities need to be provided for across the landscape (Smucker et al. 2005). Some species (e.g., black-backed woodpecker, American three-toed woodpecker) are considered burn specialists and heavily rely on high-severity, postfire forests. These species nest in snags and rely on snags for feeding sources. Wood-boring beetle larvae are known to dramatically increase following severe fires and their short life cycle (2–3 years) results in a very narrow window of opportunity for bird species to utilize this food source. Postfire salvaging decreases the suitability of postfire forests for most cavity-nesting species (McIver and Starr 2001, Kotliar et al 2002) and typically result in negative effects to these species that are most reliant on burned forests (Saab and Dudley 1998, Haggard and Gaines 2001, Kotliar et al. 2002).

Early postfire conditions in communities represented by mixed and high severity fire regimes offer unique habitat components that are highly valuable to wildlife species. It is important to note that the ranges described in Tables A-5 and A-6 are representative of green stands, not post disturbance (e.g. high severity fire) stands. To provide habitat important for species diversity, snag and coarse woody debris retained after moderate and high severity fires need to be evaluated at the project level. Recommendations include leaving large patches of burned forest or generously increasing the number of snags per acre retained on the landscape.

Table E-4. Snag retention requirements by management prescription category (MPC)

MPC	MPC Acres in Planning Unit	Vegetation Treatments, Including Salvage Logging	Snag Retention Requirement per MPC Standards
1.1 and 1.2	482,000	Prohibited	All snags retained
2.2	3,000	Allowed	As allowed in the RNA or Experimental Forest Management Plan
3.1, 3.2, and 4.1c	969,000	Allowed	Retain all snags >20 inches d.b.h. during all vegetation management operations. In addition, retain the upper end of Appendix A desired range for total snags and snags <20 inches d.b.h.
4.3	1,800	Allowed	No specific direction. Refer to specific ski area Vegetation Management Plan.
4.2, 5.1, and 6.1	657,000	Allowed	Retain the upper end of Appendix A desired range of snags >20 inches d.b.h. during salvage operations. All other vegetation management treatments manage consistent with Appendix A

Measuring Success, Monitoring and Evaluation, and Adaptive Management

Adaptive management incorporates new information and findings into conservation actions. Specifically, it is integrating the scientific method into the design, management, and monitoring of decisions. Adaptive management is used to systematically test assumptions and measure success in order to *adapt* and *learn* from decisions.

In light of the uncertainties associated with some of the assumptions used in developing the WCS, testing and documenting the outcome of actions during Forest Plan implementation is key to adjusting the "path" that ensures the realization of the WCS. Chapter 4 of this Forest Plan provides the monitoring questions, indicators, and measuring frequencies for mid-scale elements. Results from monitoring will be comprehensively evaluated every 5 years. Results from these 5-year evaluations will be used to adapt our current mid- to fine-scale assumptions, Forest Plan management direction, and WCS priorities.

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