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IDAHO POWER COMPANY

Cambridge - Council - McCall 138kV Transmission Line

Environmental Assessment

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

List of Acronyms

ACOE	Army Corps of Engineers
ACS	Aquatic Conservation Strategy
AN	Audible Noise
APE	Area of Potential Effect
AQI	Air Quality Index
ATV	All-terrain Vehicle
BA	Biological Assessment
BE	Biological Evaluation
BLM	Bureau of Land Management
BMP	Best Management Practice(s)
BO	Biological Opinion
C	Celsius
CDC	Conservation Data Center
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CWA	Clean Water Act
D	Point of Diversion
dB	Decibel
DD	Detrimental Disturbance
DOT	Department of Transportation
EA	Environmental Assessment
ECA	Equivalent Clearcut Area
ELF	Extremely Low Frequency
EFH	Essential Fish Habitat
EHS	Extra High Strength
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Field
EMF RAPID	EMF Research and Public Information Dissemination Program
EMI	Electromagnetic Interference
EPA	Environmental Protection Agency

ERG	Ecosystems Research Group
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWS	U.S. Fish and Wildlife Service
G	Gauss
GAHS	General Aquatic Habitat Surveys
GAWS	General Aquatic Wildlife Surveys
GIS	Geographic Information System
GPS	Global Positioning System
HRA	Historical Research Associates, Inc.
HU	Hydrologic Unit
HUC	Hydrologic Unit Code
IAC	Idaho Administrative Code
IDAPA	Idaho Administrative Procedures Act
IBCP	Idaho Bird Conservation Plan
IDC	Idaho Department of Commerce
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Lands
IDPR	Idaho Department of Parks and Recreation
IDWR	Idaho Department of Water Resources
IGS	Idaho Geological Survey
IPCo	Idaho Power Company
IPUC	Idaho Public Utilities Commission
ITD	Idaho Department of Transportation
kV	Kilovolt
LAU	Lynx Analysis Unit

LRMP	PNF Land and Resource Management Plan
LSP	Landslide Prone Areas
LSR	Little Salmon River
LWD	Large Woody Debris
MBTA	Migratory Bird Treaty Act
mG	milliGauss
MIS	Management Indicator Species
MPC	Management Prescription Category
MSL	Mean Sea Level
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NF	National Forest
NFMA	National Forest Management Act
NIEHS	National Institute of Environmental Health Sciences
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOx	Nitrogen Dioxide
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OAQPS	Office of Air Quality Planning and Standards
OPPA	Oil Pollution Prevention Act
OHV	Off-Highway Vehicle
OSHA	Occupational Safety and Health Administration
PEMC	Palustrine Emergent Seasonally Flooded
PI	Point of Intersection
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns
PNF	Payette National Forest
POD/COM	Plan of Development/Construction, Operation, and Maintenance Plan
POT	Point-on-Tangent
PVG	Potential Vegetation Group

RCA	Riparian Conservation Area
RCRA	Resource Conservation and Recovery Act
REIS	Regional Economic Information System
RI	Radio Interference
rm	River Mile
RMP	Resource Management Plan (BLM)
RN	Radio Noise
ROS	Recreation Opportunity Spectrum
ROW	Right of Way
SHPO	State Historic Preservation Office
SNR	Signal to Noise Ratio
SNSMP	State Non-point Source Management Plan
SSURGO	Soil Survey Geographic Information
STATSGO	State Soil Geographic Database
SWRA	Soil, Water, Riparian and Aquatic Resources
TCP	Traditional Cultural Properties
TEPC	Threatened, Endangered, Proposed, or Candidate Species
TSRC	Total Soil Resource Commitment
TVI	Television Interference
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
VQO	Visual Quality Objectives
VRM	Visual Resource Management Classes
WCI	Watershed Condition Indicators
WEPP	Water Erosion Prediction Project
WRCC	Western Region Climate Center

Chapter 1
The Proposed Action

1.1 The Proposed Action

The Idaho Power Company (IPCo) proposes to construct, operate, and maintain the Cambridge to Council to McCall 138kV transmission line project (Proposed Project). The Proposed Project would include construction and utilization of three new substations, including one northwest of Cambridge that would serve as the initiation point of the new line, one north of Council, and one west of McCall that would serve as the proposed transmission line's terminus. The Proposed Project would also include construction of access roads and decommissioning and reclamation of nominal sections of existing utility right of way (ROW). The Proposed Project extends over lands under the jurisdiction of the Payette National Forest (PNF), the Boise District of the Bureau of Land Management (BLM), the State of Idaho, and in private ownership. On National Forest System lands, the Proposed Project would be constructed entirely within an existing PNF-designated utility corridor; partially replacing an aging 69kV transmission line, utilizing portions of the existing Oxbow to McCall 138kV transmission line, and constructing transmission line in previously undeveloped portions of the designated corridor. The location of the Proposed Project is shown in **Figure 1-1**. More details regarding the specifications of the Proposed Project are provided in Chapter 2, Section 2.2.2.

1.1.1 Purpose and Need for the Proposed Action

The Proposed Project would increase reliability of service in the communities between Cambridge and McCall and strengthen the transmission system capacity to serve projected load demands in the future.

Several towns and communities obtain their electrical power and are linked together by the power system known as the McCall Loop. These communities include Midvale, Cambridge, Council, the Joyce/Tamarack area, New Meadows, McCall, Donnelly, Cascade, Warm Lake, Hidden Lake, Smith's Ferry, Ola, Sweet, and Horseshoe Bend. The McCall Loop also receives generated power from the Cascade generating station and the Tamarack cogeneration plant. The community of Riggins receives its power from the McCall Loop via a 69kV/35kV transformer located at New Meadows and a 35kV feed that runs from New Meadows to Riggins.

Two transmission lines provide the power supply to the communities and towns served by the McCall Loop. The first is a 69kV line that was constructed in the 1940s and serves all the communities of the McCall Loop. The loop originates in Weiser, Idaho and terminates in Emmett, Idaho. It is operated so that it feeds from substations at either Weiser or Emmett. In 1974, a second transmission line was constructed from the Oxbow generating station, located in Hells Canyon, to McCall. This Oxbow to McCall line is a 138kV transmission line with a total capacity of 140 Megawatts (MW).

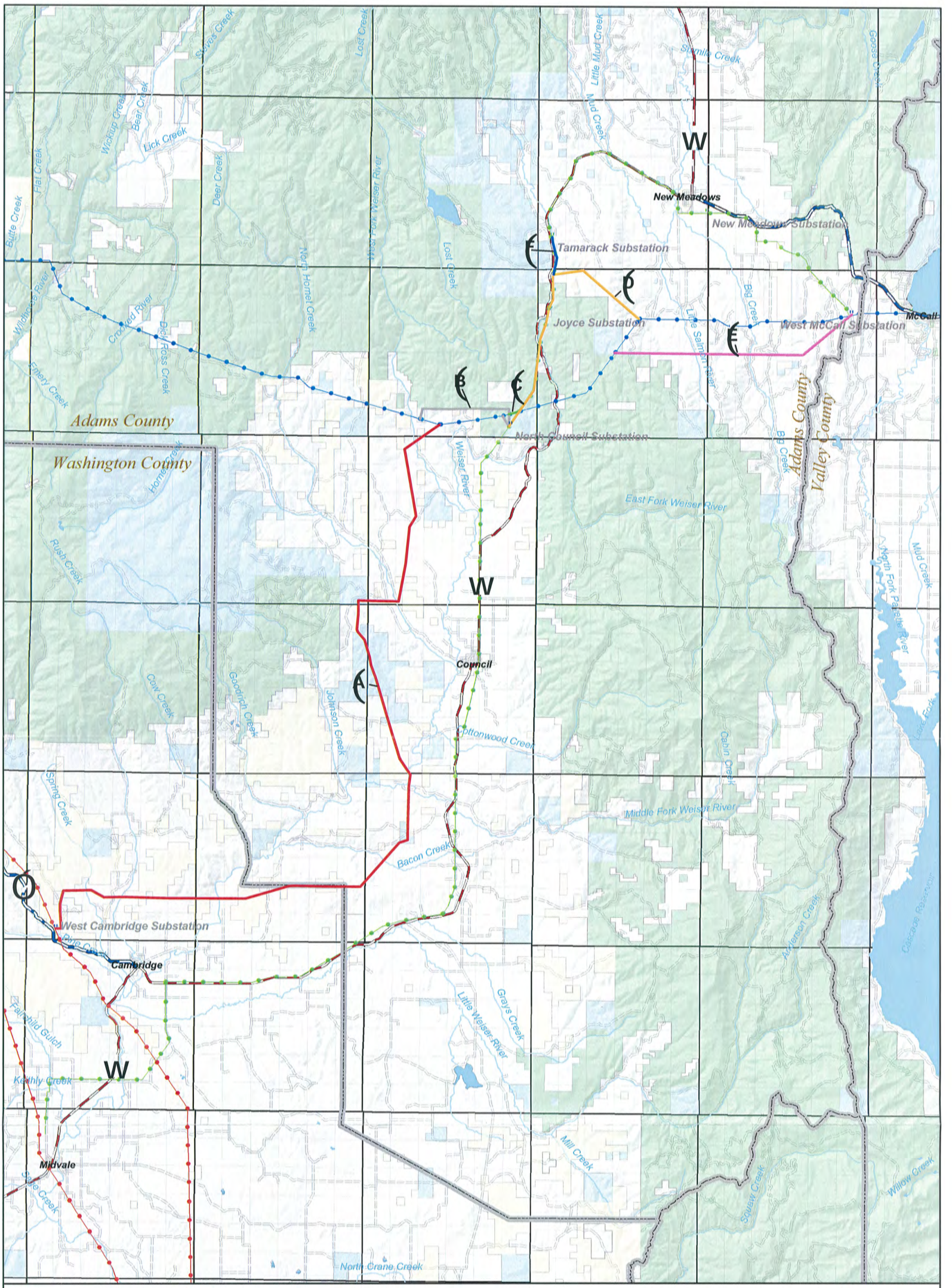

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Figure 1-1

Proposed Project Location

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

It is a radical line in that it emanates at its point of origin at Oxbow and terminates at the McCall Substation and does not form a loop.

IPCo is a regulated utility under the Idaho Public Utility Commission's (IPUC) jurisdiction. As a regulated utility, IPCo must provide service in its designated service territory that is reliable and adequate for its customer's needs. In order to meet this mandate, IPCo regularly conducts planning evaluations and analysis of its operating system. In conducting this analysis for the McCall Loop, IPCo identified two specific needs that must be addressed. The first is system reliability and the second is growth in electrical load and demand.

Reliability

When the Oxbow to McCall 138kV line is in service, a 138/69kV transformer also supplies power to the 69kV system from McCall. This 69kV system provides power to the McCall Loop from both ends and the middle (Weiser, Emmett and McCall). Several small communities along the line route obtain their power from this 69kV system. The 2002 load for the McCall Loop was approximately 90 MW. This 69kV line can deliver approximately 48 MW at peak load. Thus, conductor size, voltage limitations and load demands dictate that the 69kV system alone cannot feed the McCall Loop. Therefore, the Oxbow to McCall 138kV transmission line, which has a maximum rating of approximately 140 MW, is needed to meet current load in the McCall Loop. However, this line comes out of Hells Canyon, crosses very rough, high elevation terrain, and is inaccessible during much of the winter except by over-snow vehicles. For these reasons, this line is vulnerable during severe storms and heavy snowfall. Under adverse conditions such as these, the Oxbow to McCall 138kV line may experience long duration outages. As a result, the entire McCall Loop may experience unacceptable outage conditions with the loss of the 138kV feed and the inability of the 69kV line to provide sufficient capacity by itself. Since the 138kV line is radial and not a looped feed, a single contingency outage (known as the N-1 case) takes the line out of service. The construction of a second 138kV line in a looped configuration would allow the 138kV feed to the McCall Loop to remain in operation during a single contingency outage.

A second component affecting reliability of the existing system is maintenance. Due to the age of the 69kV and 138kV transmission lines, the rugged terrain they cross, the forested nature of much of the line routes, and the severe winter weather in the area, the lines require frequent maintenance, which includes replacing cross-arms, insulators, hardware, and the poles themselves. Thus, maintenance of the lines can lead to extended outages. It is not always possible to confine maintenance outages to times of low demand so that customers are not affected.

These factors have combined to create an unacceptable outage history on the 138kV line with power outages lasting for extensive durations. **Table 1-1** provides a summary of outage history for the Oxbow to McCall 138kV line for the period October 28, 1991 to June 29, 2004.

Table 1-1 Outage History

Date	Outage Cause	Duration (hrs:min)
Oct. 28, 1991	General Maintenance of Line	8:30
Sept. 12, 1992	General Maintenance of Line	52:51
Jan. 20, 1993	Adverse Weather	0:01
May 21, 1993	General Maintenance of Line	1:09
Aug. 15, 1993	Adverse Weather	6:22
Sept. 29, 1994	Unknown Cause	9:04
Nov. 2, 1994	General Maintenance of Line	2:54
Feb. 17, 1995	Adverse Weather	0:01
July 26, 1995	General Maintenance of the Line	28:22
Dec. 12, 1995	Adverse Weather	7:21
Dec. 12, 1995	Adverse Weather	17:05
June 14, 1996	Unknown Cause	0:01
June 24, 1996	Unknown Cause	2:46
Dec. 29, 1996	Adverse Weather	12:16
Dec. 16, 1997	Unknown Cause	0:01
Dec. 16, 1997	Adverse Weather	0:01
Dec. 16, 1997	Unknown Cause	0:01
Apr. 15, 1998	Adverse Weather	0:01
Apr. 15, 1998	Adverse Weather	0:01
Sept. 8, 1998	Adverse Weather	0:06
Nov. 2, 1998	Unknown	0:01
Dec. 30, 1998	General Maintenance of Line	2:53
Feb. 14, 2000	Equipment Failure	20:54
Feb. 23, 2000	Unknown Cause	0:01
Feb. 23, 2000	Unknown Cause	0:01
Nov. 1, 2001	Line Clearance	1:31
Dec. 1, 2001	Adverse Weather	0:01
Dec. 5, 2001	Adverse Weather	23:37
Dec. 14, 2001	Adverse Weather	0:01
Dec. 14, 2001	Adverse Weather	7:41
Aug. 21, 2002	Unknown Cause	0:01
Oct. 1, 2002	Replace Shot Conductor	5:10
Oct. 2, 2002	Maintenance Related To Above	11:16
Dec. 16, 2002	Unknown Cause	4:25
Dec. 31, 2002	Adverse Weather	0:01
Jan. 23, 2003	Static Wire in Line (line break)	18:20
Mar. 26, 2003	Insulator Failure	2:36
Aug. 12, 2003	Range Fire	2:34
Sept. 18, 2003	Replace Structure	6:36
Oct. 5, 2003	General Maintenance	9:46
Oct. 19, 2003	General Maintenance	7:35
Oct. 20, 2003	General Maintenance	9:31
Oct. 21, 2003	General Maintenance	6:38
Oct. 29, 2003	General Maintenance	9:04
Oct. 30, 2003	General Maintenance	10:11
Oct. 31, 2003	Line Clearance	1:50
Jan. 29, 2004	Adverse Weather	0:02
June 23, 2004	Unknown	0:38
June 29, 2004	Line Clearance	2:27
June 29, 2004	Line Clearance	1:23

*Line clearance outages result when a tree falls into the line or when the conductor breaks or is shorted out by another conductor, the static wire, or the ground.

Serving Growth in Load and Demand

The McCall Loop is experiencing growth in the number of customers requiring service and growth of the electrical load required to serve those customers. Projected loads for the area are given in **Table 1-2**.

Table 1-2 Load Growth for McCall Area (MW)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
83.36	85.44	90.00	92.32	105.84	110.19	114.53	118.98	123.54	128.20	132.77

Note: Load growth values for 2000 – 2003 are actual; values for 2004 – 2010 are projected.

As described above, since the 69kV system is not capable of serving the McCall Loop's entire load, the 138kV transmission system must be in place on a consistent basis. A single contingency such as a weather-related incident, a tree in the line or a line break can cause any of the communities served by the McCall Loop to experience blackouts. The 69kV system can meet part of the load since it is fed from both Emmett and Weiser. If the Oxbow to McCall line experiences an N-1 situation, the 138/69kV support at McCall is lost and IPCo is forced to conduct rolling blackouts on the McCall Loop (primarily in the Valley County/New Meadows areas). **Table 1-3** shows known and projected demand and the amount of load at risk in the event of an N-1 outage.

Table 1-3 Load at Risk

YEAR	2000	2001	2002	2003	2004
Load (MW)	83.36	85.44	90.00	92.33	105.84
Available Load N-1 (MW)	48.00	48.00	48.00	48.00	48.00
Load at Risk (MW)	35.36	37.44	42.08	44.32	57.84

As can be seen from **Table 1-3** the load at risk grows steadily. New transmission is required immediately to alleviate this situation.

Additional Benefits to the McCall Loop from the Proposed Project

The addition of a new 138kV looped transmission feed would also support the existing 69kV transmission portion of the McCall Loop. Rolling blackouts would nearly be eliminated with this upgrade. As part of the Proposed Project, a new 138kV/69kV substation would be constructed at the North Council location. This would provide new transmission feed capability from Council all the way south to Weiser thus strengthening the transmission system capability and reducing the exposure of this portion of the system to outages. The east half of the remaining 69kV system would also be strengthened with the addition of the proposed 138kV line.

1.1.2 Proposed Project Area (Analysis Area Overview)

The southern region of the Proposed Project area is located in Washington County about two miles northwest of Cambridge, Idaho, and extends north from the substation for about 1.5 miles before turning east toward the Adams County line. About 0.5 miles east of the Washington – Adams County line, the route generally follows a northbound path before turning east again near Starkey to connect to the proposed North Council substation site.

From there, the proposed route heads east-northeast into McCall. Most of the land in the southern portion of the study area is privately owned rural property, federal lands managed by the BLM, and state-owned parcels.

Much of the northern portion of the Proposed Project area between Council and McCall is located in very rugged, undeveloped mountainous land. USFS lands bisect the northern portion of the study area and therefore cannot be avoided under any alternative scenario. The remainder of the land in the north portion of the study area is comprised of state-owned parcels, private properties, and a relatively small amount of BLM-managed land.

For the purposes of this Environmental Assessment (EA), the area of analysis generally includes 100 feet on either side of the proposed centerline (for a 200-foot-wide corridor) unless otherwise noted. For instance, where the Proposed Project has the potential to impact resources beyond this distance, the analysis area has been expanded accordingly. Examples where this will occur include 1) places where the physical aspects of the Proposed Project (such as staging areas along the route, work areas near pulling and tensioning sites, new roads and roads that would be improved for this Proposed Project) extend beyond the 200-foot-wide corridor; or 2) where resources outside of the 200-foot corridor, (such as air and water quality, scenic views, socioeconomic conditions and other conditions of the natural and man-made environment), may be affected. The affected area for each resource is described in Chapter 3.

1.1.3 Management Direction

Existing published and unpublished environmental data, agency planning and implementation documents, maps, and reports pertaining to managing the resources in the region surrounding the proposed transmission line were evaluated to determine how utility ROWs shall be addressed. A synthesis of the planning direction gleaned from these sources and other relevant information is provided below.

PNF Land and Resource Management Plan

The PNF revised its Land and Resource Management Plan (Forest Plan) in 2003. The Forest Plan provides management direction in the form of standards, guidelines, goals, and objectives for specific resources and activities in defined management areas. As defined in the Forest Plan, a standard is a "binding limitation placed on management actions. It must be within the authority and ability of the USFS to enforce. A project or action that varies from a relevant standard may not be authorized unless the Forest Plan is amended to modify, remove, or waive application of the standard." A guideline, on the other hand, is a preferred or advisable course of action generally expected to be carried out. However, unlike a standard, a deviation from a guideline does not require a Forest Plan amendment, but does require that rationale for the deviation be provided in the project decision document. Goals describe desired conditions, while objectives are statements of specific actions to be undertaken to achieve the desired condition. Uses such as utility development are typically addressed by guidelines in order to minimize or mitigate the effects of projects that cannot be avoided or eliminated. Therefore, consistency with the Forest Plan is generally evaluated in terms of guidelines and standards wherever applicable.

A portion of the proposed transmission line would be located within an existing utility corridor in the PNF's Management Area 3. The primary activities in Management Area 3 have been timber management, livestock grazing, irrigation, and dispersed recreation. Within Management Area 3, Management Prescription Categories (MPCs) have been established that indicate the general management emphasis prescribed for a given area. Three MPCs are crossed by the Proposed Project. They include 5.1-Restoration and Maintenance Emphasis within Forested Landscapes, 5.2-Commodity Production Emphasis within Forested Landscapes, and 6.1-Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes.

Standards and guidelines specific to utility projects in this area include those that are forest-wide and those that have been developed solely for this management area. Forest-wide management direction pertinent to the Proposed Project is listed in Appendix A in **Table A-1**. Management direction specific to each MPC crossed by the proposed transmission line is provided in **Table A-2** in Appendix A.

BLM – Cascade Resource Management Plan

The Cascade Resource Management Plan (RMP) of August 1987 (approved in 1988) provides the BLM Boise District with a comprehensive framework for managing 487,466 acres of public lands. The RMP contains guidelines that direct the management of resources and land use considerations in the Cascade Resource Area. It should be noted that the Cascade Resource Area is now part of the Four Rivers Resource Area as a result of the BLM reorganization. According to the RMP, over 480,000 acres within the Cascade Resource Area are available for various types of ROWs and hence ROW applications are to be considered, subject to applicable environmental review procedures. However, specific areas may be designated by the BLM as having environmental values, hazards, or other management considerations that may limit or preclude development of various types of projects. Two such areas are located near the Proposed Project: The Goodrich Creek Research Natural Area and an unnamed BLM-designated sensitive area. Both areas have been avoided as directed. Other ROW avoidance areas identified within the plan include one cultural site, 15 developed recreation areas/facilities and 13 candidate, sensitive or uncommon plant species areas. Discussion of these avoidance areas in the context of affected resources is provided in Chapters 3 and 4 of this document.

Table A-3 (in Appendix A) summarizes the resource management guidelines described in the RMP that are applicable to planning and implementing the Proposed Project.

Adams County Comprehensive Plan

The Adams County Comprehensive Plan (2000) indicates that the planning process is "[c]urrently underway to improve power distribution to and through the County." Further, a stated goal in the plan is to provide improvements and/or upgrades that improve utilities services. To that end, the County's objective and corollary policy to fulfill that goal is to "continue to encourage utilities to improve and/or upgrade the services they offer."

Washington County Comprehensive Plan

One of the goals of the county is to ensure that adequate facilities and services that facilitate the use of the land are provided to the residents of the county at a reasonable cost and that such services are not adversely affected by planning and zoning decisions (Washington County Comprehensive Plan, 2000). One of the stated objectives in the Public Services, Facilities, and Utilities section of the county comprehensive plan is to develop a utility siting policy to address the siting of utility stations and cellular towers. At the time this EA was prepared, such a policy had not yet been developed. There are no county permitting requirements for the transmission line. However, a county-issued building permit would be required for the proposed North Cambridge substation (Wayne Laird, Washington County Planning and Zoning Administrator, personal conversation, July 16, 2004).

1.2 Decisions to be Made

The Payette National Forest Supervisor and the BLM Four Rivers Field Manager must consider the needs of all resources in the analysis area and the appropriate management actions that would best meet those needs. Based upon information presented in this EA, the Forest Supervisor and Rivers Field Manager may choose to approve or modify IPCo's Special Use application/Grant of ROW (respectively) or to defer action (i.e., opt for the "no action" alternative). Included in the Special Use Permit application filed by IPCo is the renewal of the existing ROW for the 69kV transmission line that runs across PNF lands. The Forest Supervisor must consider renewal of the Special Use Permit for this existing ROW. The existing 69kV ROW from the proposed North Council Substation to approximately 1.5 miles north of Joyce Substation would be used for the new 138kV line. The 69kV line in this area would be removed. The Forest Supervisor and the Field Manager will also determine if the Proposed Project is a "major federal action" requiring the development of an Environmental Impact Statement (EIS) by assessing the significance of the Proposed Project based on context and intensity (40 CFR 1508.27).

1.3 Issues

Scoping and consultation have occurred with federal, state, and county agencies and the public. These efforts began informally during the initial routing study process followed by formal public scoping conducted in accordance with the National Environmental Policy Act (NEPA) regulations. The informal public scoping was comprised of open houses conducted in Cambridge, Council, and New Meadows during the routing study. The formal scoping effort consisted of sending direct mailings to landowners in the vicinity of the proposed transmission line corridor and publishing public notices to solicit public comments in the following newspapers: The McCall-Cascade Times (February 5 and February 12, 2003); the Adams County Record (February 6, 2003); the Star News (February 6, 2003); the Upper County News-Reporter (February 6, 2003); and the Idaho Statesman (February 10, 2003).

1.3.1 Major Issues

The primary issues of concern include road access issues including increased traffic from all-terrain vehicles (ATVs), impacts to water quality and aquatic habitat, impacts to wildlife, potential introduction of noxious and invasive plants, visual quality impacts, and disturbance or degradation of significant prehistoric and historical sites. Each of these issues is discussed below, while detailed analyses of resource impacts are presented in Chapter 4.

Roads and Access

A primary concern expressed during public and agency scoping is the relationship between building new access roads and increased wear-and-tear on land by ATV use in previously undisturbed areas. Road construction is also associated with accelerated soil erosion (discussed in Section 1.3.2 below). Further details regarding the impacts of access road construction are provided in the resource analysis sections of this document (Chapters 3 and 4).

Water Quality

Adverse impacts to water quality from construction activities and roads built for the Proposed Project are a concern. Sediment caused by construction must be mitigated to prevent violations of water quality standards and impacts to beneficial uses as stipulated under Idaho Administrative Procedures Act (IDAPA) 58.01.02, Sections 051 and 080 (Idaho Water Quality Standards and Wastewater Treatment Requirements). Water quality issues are addressed in Sections 3.2 and 4.2.

Federally Listed Wildlife Species

Seven animal species listed as threatened or endangered under the federal Endangered Species Act (ESA) have the potential to occur in the vicinity of the Proposed Project: gray wolf (*Canis lupus*), bald eagle (*Haliaeetus leucocephalus*), Canada lynx (*Lynx canadensis*), northern Idaho ground squirrel (*Spermophilus brunneus brunneus*), bull trout (*Salvelinus confluentus*), Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead trout (*Oncorhynchus mykiss*). One Candidate species, the southern Idaho ground squirrel (*Spermophilus brunneus endemicus*), is also known to occur in the vicinity of the southern portion of the Proposed Project. Analyses of potential impacts to federally listed fish and wildlife species are presented in Section 4.2 and Section 4.4, respectively. Federally listed fish and wildlife species are also addressed in two separate Biological Assessments (BA) that have been prepared for the PNF and the U.S. Fish and Wildlife Service (FWS).

Noxious Weeds and Invasive Plants

The proliferation of noxious weeds and invasive plants has been identified as an issue of concern for the Proposed Project. Measures to prevent the introduction and invasion of noxious weeds and invasive plants are discussed in Section 4.3.

Visual Impacts

Comments regarding visual impacts of the proposed transmission line were received during the open houses and during the formal public and agency scoping process. The BLM recreation planner expressed particular concern for the visual impacts of the line if it is located within the view-shed of the Weiser River Trail. The Weiser River Trail is a rails-to-trails project crossed by the proposed transmission line route at several locations. The director of the Idaho Department of Parks and Recreation also expressed particular concern for the visual impacts within the Weiser River Canyon near Evergreen. This topic is addressed in detail in Sections 3.7 and 4.7.

Cultural Resources

Cultural resources surveys were conducted in accordance with federal regulations (36 CFR Part 800--otherwise known as the "Section 106 process"). A general description of the types, number, and quality of historically significant sites that may occur in or adjacent to the proposed transmission line corridor is presented in Section 3.11. Impacts to cultural resources are generally described in Section 4.11. Detailed site information is not included in this document but has been provided to the USFS, BLM and State Historic Preservation Office (SHPO) separately.

1.3.2 Other Issues

Soil Erosion and Landslides

Construction of new access roads, particularly in steep terrain, is associated with accelerated erosion. Road building may also influence factors controlling slope stability by undercutting hill slopes, increasing surface weight, altering surface and subsurface drainage patterns, and reducing the anchoring effects of tree and shrub root systems. Methods used to evaluate current soil and geologic conditions that may be affected by construction of the proposed transmission line and associated roads are discussed in Sections 3.5 and 3.6. Potential impacts of road building to soil resources and to slope stability are described in Sections 4.5 and 4.6.

Socioeconomics

Socioeconomic impacts related to the Proposed Project may include a temporary increase in demand of local services such as food and lodging during construction, short-term benefits of selling timber removed for the ROW, and an overall loss of harvestable timber in the ROW over the life of the Proposed Project. These issues are discussed in Sections 3.8 and 4.8.

Air Quality

Short-term impacts to local and regional air quality may occur during construction of the proposed transmission line due to particulate matter generated by heavy equipment exhaust and dust. Section 3.9 describes current conditions affecting air quality in the area of the Proposed Project and section 4.9 describes the potential impacts.

Health, Safety, and Noise

Electric and magnetic fields (EMF) generated by the proposed transmission line and noise resulting from construction and operation of the proposed transmission line are discussed in Section 3.10 and 4.10.

1.4 Permits, Licenses, and other Entitlements

Table 1-4 documents the federal, state, and local agencies' approvals, reviews, and permitting requirements for actions affecting lands within their respective jurisdiction. Not all actions will be necessary for the Proposed Project.

Table 1-4 Authorizations, Permits, Reviews, and Approvals

Action Requiring Permit, Approval or Review	Permit/Approval	Accepting Authority/ Approving Agency	Statutory Reference
FEDERAL			
Power Line Construction and Operation on National Forest System Land	Special Use Permit	U.S. Forest Service, Payette National Forest, McCall, Idaho	36 CFR 251.54, FLPMA 1976, 90 Stat. 2776 (43 USC 1761-1771)
Power Line Construction and Operation on public land	Right of Way (ROW) Grant	Bureau of Land Management, Lower Snake River District, Four Rivers Field Office, Boise, Idaho	FLPMA 1976 (PL94-579) USC 1761-1771 and 43 CFR 2800
National Environmental Policy Act (NEPA) Compliance to Acquire Grant of ROW and Special Use Permit	Environmental Assessment (EA)	U.S. Forest Service and Bureau of Land Management	NEPA, CEQ 40 CFR Part 1500-et. seq.
Endangered Species Act Compliance	USFS and FWS-approved Biological Assessment (BA)	U.S. Fish & Wildlife Service	Endangered Species Act Section 7 Consultation
National Historic Preservation Act Compliance	Section 106 Process for Evaluation of Proposed Project's Effects on Cultural Properties	U.S. Forest Service, Bureau of Land Management and State Historic Preservation Office	National Historic Preservation Act of 1966, 36 CFR part 800, 16 USC 47
Tower Location and Height Relative to Air Traffic Corridors	Notice of Proposed Construction or Alteration	Federal Aviation Administration (FAA)	49 USC 1501 13 CFR 77 Objects Affecting Navigable Airspace
Fill in Wetlands, Stream Crossings	404 Nationwide Permit	U.S. Army Corps of Engineers	Clean Water Act Section 404 (33 U.S.C. 1341)
Construction, Operation and Abandonment of Transmission Lines Across or within Highway ROWs	Permit to cross Federal Aid Highway	Federal Highway Administration (FHWA)	23 CFR 1.23 and 1.27; USC Section 116, 123, 315 (23 CFR Part 645 Subpart B), and 23 CFR 77
Aerial Crossing of Navigable Water	Section 10 Permit - Rivers and Harbors Act	U.S. Army Corps of Engineers	Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

Action Requiring Permit, Approval or Review	Permit/Approval	Accepting Authority/ Approving Agency	Statutory Reference
STATE OF IDAHO			
Encroachment into State Highway ROW	ROW Occupancy Permit	Idaho Transportation Department (ITD)	IC Title 58 Chapter 6
Crossing State Lands	Permit if Crossing Archaeological or Paleontological sites	Idaho Historic Society	IC Title 67 Chapter 41
Crossing on or through State Lands	ROW Encroachment	Idaho Department of State Lands	IC Title 58 Chapter 6
Crossing Rivers or Streams	Stream Channel Alteration Permit	Idaho Department of Water Resources	IC Title 42 Chapter 38
Obstructions to Air Flight	Notice of Proposed Construction	Aeronautics Division Administrator, Idaho Transportation Board	IC Title 21, Chapter 5
ADAMS COUNTY			
North Council and West McCall Substation construction	Building Permit	Adams County Building Department	N/A
Access road construction	Letter of Notification	Adams County Roads Department	N/A
WASHINGTON COUNTY			
West Cambridge Substation construction	Building Permit	Washington County Planning and Zoning	N/A

Chapter 2
The Alternatives

2.1 Alternative Development Process

IPCo has been evaluating alternatives to enhance power supply reliability in the McCall area since the early 1990s. Early alternatives included installing distributed generation sources (i.e., diesel or gas generators), upgrading existing facilities, and combinations of the two. In 2001, after eliminating generation from the scope of options, IPCo began the process of conducting detailed feasibility studies of installing a 138kV looped transmission feed to provide a supplementary source for the power supply to McCall and communities within the McCall Loop. This process began with screening studies designed to ascertain the physical limitations and opportunities within the region for construction of the new transmission feed and culminated in a detailed routing study that presented various combinations of routing alternatives that appeared feasible to build. These steps are described below.

Screening Studies

IPCo conducted two screening studies to identify major characteristics of the study area, including land uses, terrain and climate features, land jurisdiction, and the presence of natural and biological features. The first study, conducted in June 2001, considered an area connecting Council to Cambridge. After reviewing this study and considering growing needs for more reliable power supplies for the McCall area, IPCo expanded the project to include the McCall area. Consequently, a second screening study was conducted in late 2001 to expand on the first study. The purpose of the screening study was to identify potential issues, constraints, and actual corridors for use given the characteristics and features present in the study area. Various federal, state, and local agencies were contacted to determine the likely issues that would be encountered in constructing the proposed power line within the jurisdictional areas of these agencies. Specific agencies consulted throughout the course of the planning process are listed in Chapter 6 of this document.

Routing Study

After the results of the two screening studies established that building the proposed line would be feasible, a siting analysis was completed that included collection and review of existing data pertaining to land use, visual resources, biological resources, cultural resources, and engineering constraints posed by geophysical hazards. Data collection was followed by sensitivity analysis and mapping using criteria established by the planning team. Geographic information system (GIS) software was utilized to map available data and locate areas sensitive to siting a 138kV transmission line within the study area. Aerial photography was also utilized to further validate routing opportunities and constraints. Information pertinent to each resource area was then factored into a final composite sensitivity analysis to further refine selection of the most feasible routing alternatives for the proposed transmission line. Potential route corridors were then identified based on the

data and mapping results and presented in Cambridge to Council to McCall 138kV Transmission Line Routing Study Report (December 2002). Potential routes were discussed with the land management agencies affected and evaluated against the existing land use and management plan framework.

The results of the Cambridge to Council to McCall 138kV Transmission Line Routing Study Report (December 2002) were presented to the public during meetings held in February 2003 in Cambridge, Council, and New Meadows. In addition, IPCo met with residents of the Whitney Ranch Subdivision near McCall to address their concerns regarding the proposed line. IPCo conducted one-on-one meetings with several affected and potentially affected private landowners as a follow-up to the meetings. Based on feedback from residents in the study area (available in the Project Administrative Record), adjustments were made to the proposed corridor to minimize adverse landowner impacts. The final route corridor presented herein represents the culmination of an extensive effort to minimize adverse impacts to landowners and the environment.

2.1.1 Alternatives Eliminated from Detailed Study

System Alternatives

In the mid-1990s, when IPCo's system evaluation indicated that the capacity of the existing power supplies into McCall would be insufficient to meet load growth requirements in the future, four alternatives were considered, including 1) installing a second 138kV transmission line in the existing 138kV Oxbow to McCall ROW; 2) installing distributed generation near McCall; 3) upgrading the Emmett to McCall 69kV transmission line; or 4) upgrading the Weiser to McCall 69kV line. The first option was eliminated because using the same ROW as the existing line would not provide the necessary redundancy to supply power to McCall and thus would not enhance the reliability of the system. In other words, the same events that currently trip the existing 138kV transmission line out of service would also trip the second line. Upgrading the lines was cost-prohibitive in comparison to constructing a new line. Distributed generation was not feasible due to a lack of fuel sources in the Proposed Project area and would only add 10 MW even if diesel fuel was shipped, which by itself would only have been sufficient to meet projected loads until about 1999. Each of these options were eliminated in favor of building a new transmission line in a new location that would offer enhanced reliability and provide sufficient capacity to accommodate load demand into the future.

Routing Options

Once the Routing Study was completed, several potential route corridors were considered. Of the selected segments, two were eliminated from further consideration before the study was presented to the public. The first corridor eliminated was located in the south end of the Proposed Project and would have been located on the Weiser River escarpment and would have resulted in significant impacts to the river. This segment also would have been near several residential structures. The second routing option eliminated from further consideration was to run the line along the highway all the way up to New Meadows and Packer John State Park and then southeast into the proposed West McCall Substation. This route would have had numerous impacts on residential neighborhoods in this area.

2.2 Alternatives Considered in Detail

A number of potential corridor segments were evaluated during the course of the screening studies and final routing study. Corridor segments that were eliminated from consideration included those that 1) encountered engineering constraints; 2) created unacceptable adverse impacts to large numbers of landowners; 3) encountered habitats for sensitive wildlife or botanical species; 4) did not conform to land use planning policies or fall within allowable uses of specific land management agencies; 5) were cost prohibitive; or 6) were technically infeasible.

2.2.1 The Proposed Action

The Proposed Project consists of 56.6 miles of new, single-circuit 138kV transmission line (including re-build of approximately 7.1 miles of existing 69kV transmission line to 138kV line) extending between Cambridge and McCall, Idaho. The Proposed Project would require construction of three new substations and 59.1 miles of new or improved access roads needed for building the line, future maintenance, and access to the new substations. The proposed substations would be constructed in the following locations:

West Cambridge Substation: Approximately 2.5 miles northwest of Cambridge, at the tap point of the existing Boise Bench–Brownlee #4 230kV transmission line. This substation would be the initiation point for the new Cambridge-Council-McCall 138kV transmission line. This facility would be located on land owned by IPCo.

North Council Substation: Approximately 8.5 miles north of Council and about 2 miles east of Starkey, Idaho, and just south of the present point of intersection of the existing Oxbow-McCall 138kV and Weiser-Emmett 69kV lines. This facility would be located by perpetual easement on State of Idaho land.

West McCall Substation: Approximately 2 miles west of McCall, Idaho. This substation would serve as the termination point of the new Cambridge-Council-McCall 138kV line. This substation would be located on IPCo property.

The proposed transmission line would cross privately owned lands and public lands under the jurisdiction of the State of Idaho, the USFS, and the BLM. **Table 2-1** lists total feet and mileage of the project components on federal, state, and private land for the Proposed Project. A map showing the location of these components is shown in **Figure 1-1** (Proposed Project Location).

Table 2-1 Total Mileage Calculations for the Proposed Action

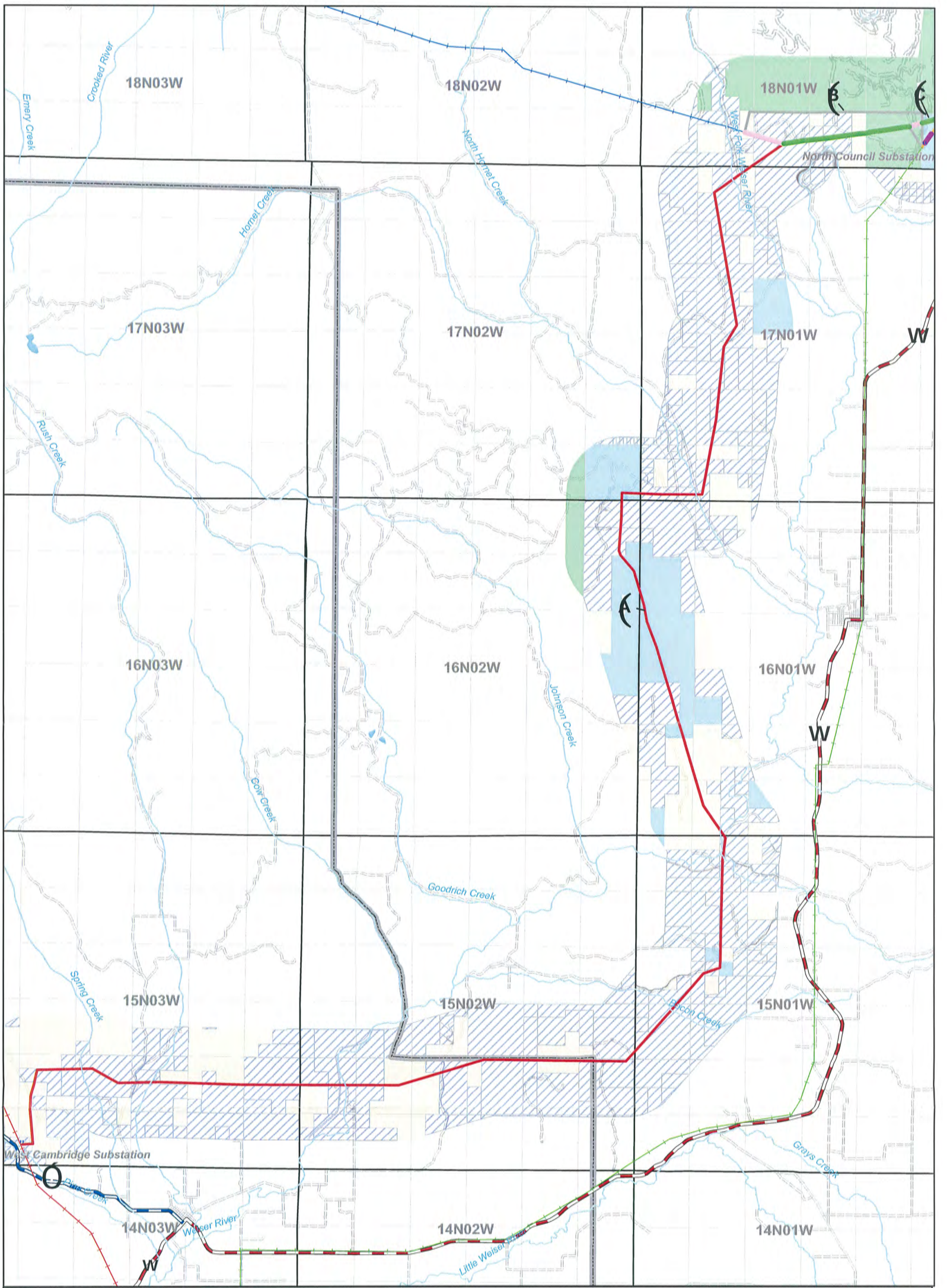
Jurisdiction	Feet of Proposed Transmission Line	Miles of Existing Corridor Utilized for Proposed Transmission Line	Total Miles for Proposed Transmission Line	Total Estimated Miles of Improved Existing Trails or Access Roads	Total Estimated Miles of New Access Road Construction	Total Estimated Road Improvement or New Construction
USFS	31,047	5.9	5.9	1.5	3.4	4.9
BLM	40,619	N/A	7.7	0.3	9.6	9.9
State of Idaho	28,038	1.1	5.3	0.1	5.1	5.2
Private	199,077	1.0	37.7	5.3	33.8	39.1
Total	**298,782**	**8.0**	**56.6**	**7.2**	**51.9**	**59.1**

Related Actions

In order to complete the upgrade of IPCo's transmission line system, work would also be done on portions of the existing Oxbow to McCall 138kV transmission line and the Cambridge to New Meadows 69kV transmission line. This work would be completed within existing designated USFS, State of Idaho, and private utility corridors, and consists of the following actions related to the proposed new transmission line:

- Approximately 2.6 miles of the existing Oxbow to McCall 138kV transmission line would be permanently removed from the ROW. This would occur in three separate segments, including two in the area west of the proposed North Council Substation and one approximately 3 miles east of Evergreen. Of the approximately 2.6 miles of transmission line that would be removed, 0.2 miles are located in PNF designated utility corridor and 0.2 miles are on BLM lands. (**Figures 2-1 and 2-2**). Transmission line removal includes the dismantling and taking down of poles, conductor and insulators within the original transmission line ROW. Roads within the ROW used to access structures would be reclaimed and the ROW reseeded in accordance with a seed mix approved by the land management agency or private landowner as the case may be.
- Two segments of the Oxbow to McCall 138kV line would be reconductored using the existing structures. This would occur on approximately 2.7 miles of the Oxbow to McCall 138kV line in the vicinity of the North Council Substation (**Figures 2-1 and 2-3**).
- The existing Joyce Substation located approximately 1 mile north of Evergreen would be removed.

Table 2-2 lists total mileages for these related actions.



IDAHO POWER

POWER ENGINEERS

®

Scale 1:100,000

Miles

0 1 2 3

Legend

- Existing Substations
- Proposed Substations
- State Highways
- U.S. Highways
- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

Existing Transmission

- To be removed
- To be rebuilt from 69kV to 138kV
- To be reconductored to 138kV
- Existing 230kV - no changes
- Existing 138kV - no changes
- Existing 69kV - no changes

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

- BLM
- Private
- State
- USFS

Figure 2-1

Segment 1 Construction

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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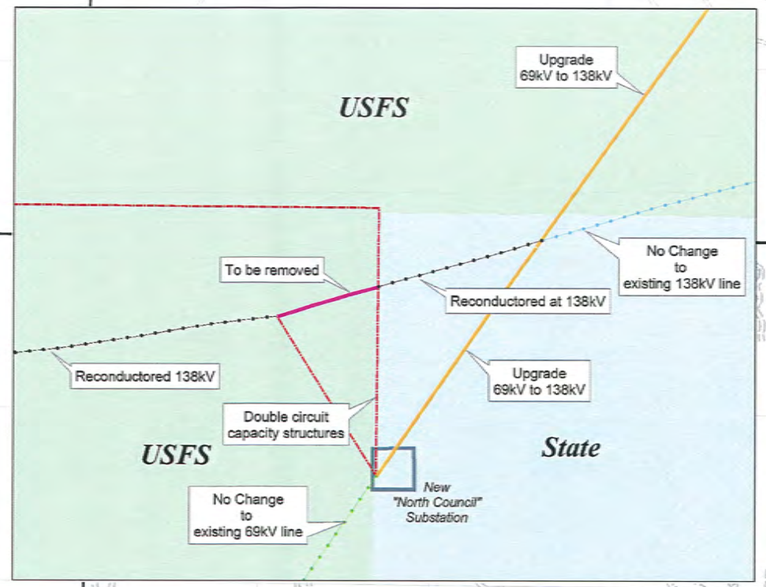

Area Detail

Tamarack Substation

Joyce Substation

Substation will be removed

North Council Substation

Legend

- BLM
- Private
- State
- USFS

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Miles

0 0.5 1 2

- New Transmission
- To be removed
- To be rebuilt from 69kV to 138kV
- To be reconductored to 138kV
- no changes to 138kV line
- no changes to 69kV line
- (A) Segment Reference to EA

Figure 2-2

Details of Proposed Action on Forest Service Lands

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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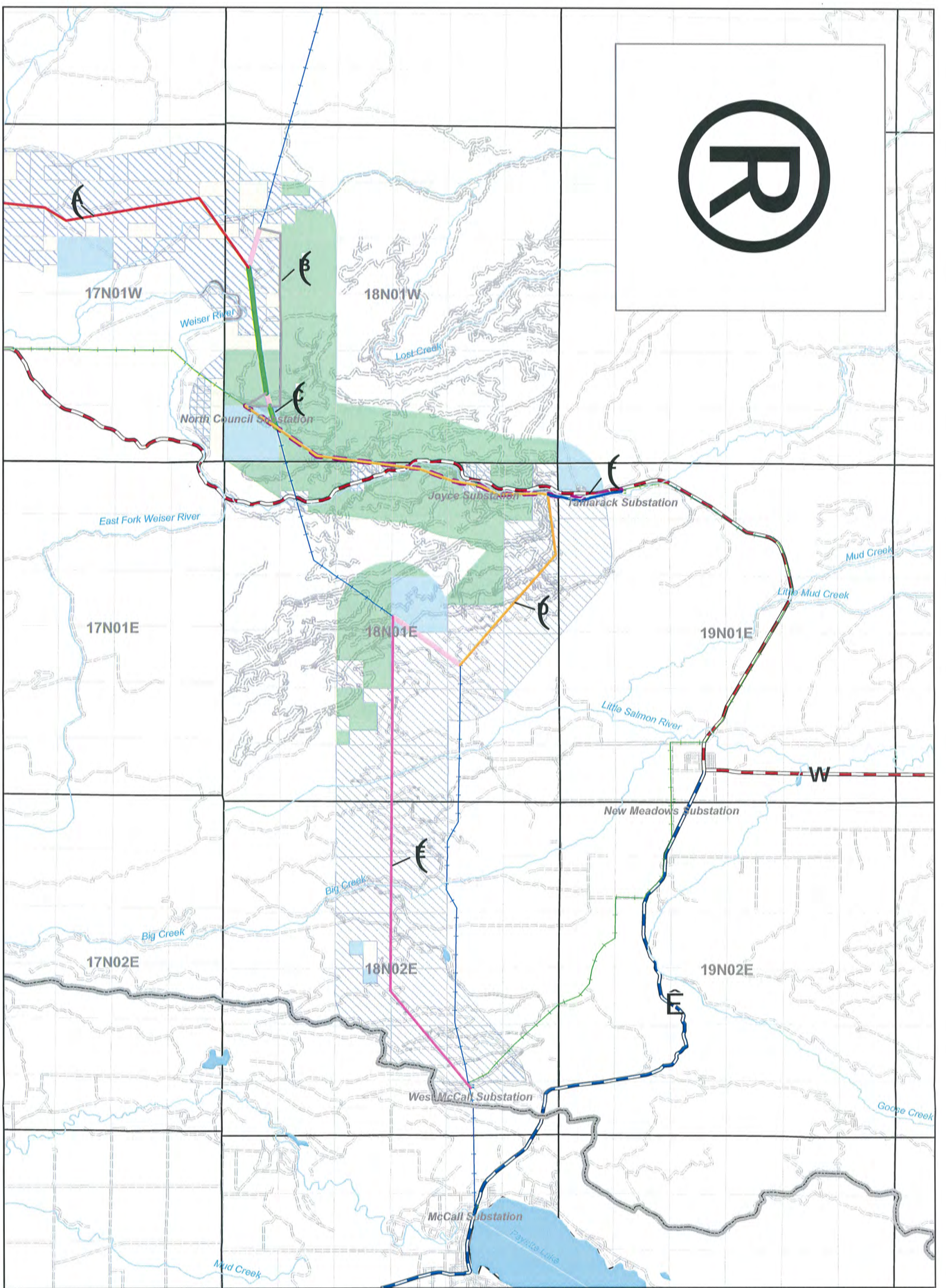

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Scale 1:100,000

Miles 0 1 2 3

Legend

- Existing Substations
- Proposed Substations
- State Highways
- U.S. Highways
- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

Existing Transmission

- To be removed
- To be rebuilt from 69kV to 138kV
- To be reconductored to 138kV
- Existing 138kV - no changes
- Existing 69kV - no changes

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

- BLM
- Private
- State
- USFS

Figure 2-3

Segment 2 Construction

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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101693 Segment 2 construction 11x17 1-25-05 ja

Table 2-2 Total Mileage for Related Actions

Jurisdiction	Reconductor in Existing ROW (Miles)	Remove Line in Existing ROW (Miles)
BLM	0.3	0.2
USFS	0.8	0.2
State of Idaho	0.4	0.5
Private	1.2	1.7
Totals	**2.7**	**2.6**

2.2.2 Configuration of Project Components Including Routes

Construction Events

The transmission line would be constructed in two phases. The first phase, or segment, would connect the new West Cambridge Substation to the new North Council Substation. The second phase would link the North Council Substation to the West McCall Substation. The construction sequence for each of the two segments would consist of the elements described below, although not necessarily in that exact sequence. These elements include aspects of the Proposed Action and Related Actions.

Segment 1 (Illustrated in **Figures 2-1 and 2-2**)

- Construct the new 230/138kV West Cambridge Substation, in the immediate vicinity of the proposed tap point of the existing Boise Bench to Brownlee #4 230kV line.
- Construct the new 138/69kV North Council Substation.
- Tap the existing Boise Bench to Brownlee #4 230kV transmission line located near Cambridge to the new West Cambridge substation.
- Construct or upgrade approximately 47.2 miles of new road. Approximately 9.92 miles are located with BLM managed lands while 3.45 miles of new roads are located on PNF lands.
- Remove and rehabilitate approximately 3.8 miles of the existing Oxbow to McCall 138kV conductor and 1.2 miles of pole structures, in the north-northwest vicinity of the new North Council Substation. Remove access roads to this section of line within the ROW by ripping, re-contouring, and seeding.
- Re-route the portion of the Oxbow to McCall 138kV line that was removed to a new ROW corridor north of its existing location, and then connect this line to the new North Council Substation.
- Construct a new 138kV transmission line, extending from the new West Cambridge Substation to the North Council Substation, utilizing *new* and *existing* ROW. Approximately 0.75 miles west of Starkey, the new transmission feed would utilize the old Oxbow to McCall ROW corridor for a distance of 2.3 miles before it connects into the North Council Substation.

- Connect the existing McCall Loop (Weiser to Emmett) 69kV and Oxbow to McCall 138kV transmission lines to the new North Council Substation.
- Stabilize and reseed (if specified by the land management agencies) the new access roads.

Segment 2 (Illustrated in **Figure 2-3**)

- Construct the West McCall 138kV Substation in the immediate vicinity of the existing Oxbow to McCall 138kV transmission line (approximately 1.5 miles south of Little Ski Hill).
- From the Joyce Substation, construct a radial 138kV line north toward Tamarack Substation. This segment would include a 12.5kV distribution underbuild on the single pole structures.
- Construct or upgrade approximately 11.9 miles of access roads. Approximately 1.43 miles would be constructed on PNF lands. No BLM lands would be crossed by roads on this segment.
- Rebuild the existing McCall Loop (Weiser to Emmett) 69kV line (conductor and structures) between the North Council Substation and Joyce Substation.
- Remove the Joyce Substation, located approximately 1 mile north of Evergreen. Remove related access roads by ripping, recontouring, and seeding.
- Construct a new 138kV transmission line from the new North Council Substation to the new West McCall Substation. The existing line crossing east of North Council Substation would be removed by changing the lines at the substation. The new transmission line would follow the existing Weiser to Emmett 69kV utility corridor north to a point approximately 2 miles north of Evergreen. The line would then turn east for about 1 mile on private land and then turn southeast to connect into the existing Oxbow to McCall 138kV transmission line corridor. From this point, the new transmission line would utilize the existing 138kV corridor, moving east to McCall. The North Council to McCall line would be constructed approximately 1 mile south of the existing corridor on privately owned lands. In this area, approximately 1.5 miles of the Oxbow to McCall 138kV line would be removed.
- Connect the new Cambridge-Council-McCall line to the new West McCall Substation.
- Stabilize and reseed the new access roads (if specified by the land management agencies).

Construction would begin in 2005. Segment 1 would need to be operational by November 1, 2005 and Segment 2 would need to be operational by November 1, 2006 in order to meet forecasted load requirements and construction schedules.

IPCo would complete the line survey, construction documents, environmental compliance and permitting issues, and revise and update the Plan of Development/Construction, Operation and Maintenance Plan (POD/COM) to reflect the engineering design and

environmental mitigation and protection plans. These activities would be completed prior to construction.

Right of Way Application and Acquisition

In general, new land rights would be required for the majority of the proposed transmission line facilities, such as the transmission line corridor and access roads (e.g., ROW grant, easements, and fee simple). Existing land rights would be utilized and/or modified within portions of the Oxbow to McCall 138kV corridor and the Weiser to Emmett 69kV corridor. A ROW application (No.IDI-34097) and a Special Use Permit application (No. CCL036) have been submitted to the BLM and the PNF, respectively, for construction of a new 138kV transmission line and associated facilities. An encroachment permit from the State will also be acquired prior to construction on state lands.

The proposed ROW width on BLM, USFS and private lands is generally 100 feet. Along the Highway 95 corridor (on USFS lands between Evergreen and Tamarack), the proposed ROW width is 80 feet. In specific design cases, such as angles or in narrow ROW sections, additional ROW space for guys and anchors would be needed.

Approximately 0.2 miles of existing PNF ROW, 0.2 miles of existing BLM ROW, 0.5 miles of existing State of Idaho ROW, and 1.7 miles of privately owned ROW would be relinquished where the existing 138kV line would be removed and re-routed (**Figure 2-2**).

ROW for transmission line facilities on non-federal lands would be obtained in perpetual easements. Every effort would be made to purchase all the land rights on private lands through reasonable negotiations with the present owners; however condemnation may occur where ROW required to construct the Proposed Project is not otherwise secured. Land rights would be obtained in the name of IPCo.

Transmission Line Specifications

Specific details on Proposed Project facility design and construction for the Proposed Project (and its related actions) can be found in the POD/COM, which is a companion document to this EA.

Electrical Characteristics

The Proposed Project consists of an electrical transmission line with a nominal voltage of 138kV. This voltage would be carried on 715.5 ACSR Stilt conductors. On H-frame structures, the line would be in a three-phase single-circuit, with one conductor per phase in a horizontal configuration. On single pole structures, the line would be in a three-phase single circuit, with one conductor per phase, in a TVS (Delta) configuration. For more detailed information on electrical characteristics of the line, see Chapter 3 of the POD/COM.

Structures

The proposed structures for the 138kV transmission line would include single-circuit wood H-frame and Corten® tubular steel poles. Two-pole H-frame structures would be used for the majority of the route. These structures range in height from 60 to 80 feet for the tangent (standard non-angle support structures), point of intersection (PI) where the line deviates, turns or changes direction), running angle, and deadend structures, and

would be placed approximately 600-700 feet apart, depending on terrain. In areas of limited ROW width, such as where the existing 69kV line would be rebuilt to 138kV line on USFS lands between the point just north of Evergreen to the Tamarack substation, single tubular steel poles would be used. The single poles are Corten® steel that develops a rust-colored patina over time. Typical poles heights for both tangent and deadend steel poles would range from 65 to 85 feet, and would be spaced at 300 to 400 feet. The exact height of and distance between each H-frame or single pole structure will be governed by topography and safety requirements for conductor clearances.

Where required for structural stability, guy wires will be installed at structure locations. These wires consist of 1/2-inch diameter extra high strength (EHS) steel cables and are secured with anchor plates. For PI, running angle, and long-span point-on-tangent (POT) structures, the anchor plates would be placed outside of the standard 100-foot ROW requested by IPCo. In these specific areas additional ROW would be requested from BLM and the USFS to accommodate the anchors and guy wires.

One 3/8-inch diameter EHS steel static wire and one optical fiber ground wire 0.646 inches in diameter would be installed above the conductors (to protect the conductors from damage caused by lightning strikes to the H-frame poles).

In order to facilitate Proposed Project communications needs for line operation, one fiber optic cable would be installed as one of the two static wires across the top of the structures as mentioned above. The cable would be placed along the transmission line from the West Cambridge Substation to the North Council Substation and from the North Council Substation to the West McCall Substation to provide safety and relay control between the switchyards. The cable would be approximately 0.646-inches in diameter and would consist of 24 aluminum-encased optical glass fibers. All fibers in the fiber optic cable would be used by IPCo to operate the substations and the transmission line. No leasing or use of the fiber optic line by others would occur. Any use of the cable by others must be authorized by a separate ROW with the USFS and BLM.

Chapter 3 of the POD/COM contains further details on the design of structures and associated components.

Work Areas

At each structure location, work areas of approximately 100 feet by 75 feet would be required for assembly of the structure and the necessary equipment maneuvers to erect the structures. The three-pole deadend structures and the three- to five-pole long span POT structures require larger work areas of 150 feet by 200 feet because these work areas would also include pulling and tensioning sites. Pulling and tensioning sites for stringing the conductor would be located at every PI location greater than 30 degrees and at deadend structures. Disturbance areas for these sites would be limited to the ROW width, and be approximately 100 feet by 300 feet or smaller. Such areas would be cleared of brush and vegetation only to the extent necessary to facilitate the safe operation of equipment. Remaining vegetation would be crushed underfoot. No leveling of structure sites is anticipated, but landings for pulling and tensioning sites would be leveled as necessary for equipment set-up. In areas where grading would be required, soils would be stockpiled and utilized for site rehabilitation. These areas would be reseeded with native species as necessary.

For a complete explanation of anticipated disturbance at work areas, see Chapter 3 of the POD/COM.

Access Roads

Wherever possible, existing roads would be used for access. These existing roads do not always pass by structure locations so some new roads would need to be built. These new roads would be constructed as spurs off existing access roads. In some cases, existing trails, such as old skid trails or two track trails would be upgraded. **Figures 2-4 through 2-17 in Appendix B** show the locations of new roads and upgraded trails and upgraded existing access roads on federal lands. Access roads would be used during construction to access work areas, and used for periodic maintenance of the completed transmission line. **Table 2-1** shows road mileages by construction type and jurisdiction.

Roads that are upgraded or newly constructed would be built to support the weight and width of the construction vehicles, with a 14-foot travel way plus eight feet of construction area on each side for a total road width of 30 feet. All vegetation within the roadway would be cleared. Roadbeds would be graded but not surfaced with gravel. Road construction would utilize all native material, and cuts would balance fills such that no excess spoils are generated.

New roads would be stabilized following construction by grading, installation of erosion control methods where needed and vegetation. The eight feet of construction area on each side of the road would be smoothed and seeded with a seed mix approved by the applicable agency of jurisdiction or private landowner. A small travel way (14 feet) would be seeded as specified by the agency of jurisdiction and left for access in emergency and maintenance situations. This would allow the roads to be left in a stable condition, minimizing erosion, while still providing a means to access structures and the line. Trees and tall brush would not be allowed to re-establish on the new roads as they could interfere with emergency or maintenance access to structure locations. Trees and tall brush would be removed by mechanical means and no chemicals or herbicides would be used to control vegetative growth other than mandated control of noxious weeds in accordance with the weed control plan for the Proposed Project. No other periodic maintenance of these roads is anticipated except to make sure erosion control and stabilization measures remain functional. A total of approximately 59.1 miles of new or upgraded roads would be constructed. **Table 2-1** lists the mileages of each type of road construction by jurisdiction. Roads that are newly constructed or upgraded and then stabilized are referred to as Class 2 roads for the purpose of this EA.

After completion of the construction phase, all upgraded and new access roads would be stabilized and reseeded with a seed mixture approved by the appropriate land managing agency or landowner. Only one road would be fully maintained with a gravel surface for permanent access. This is the road to the North Council Substation. This road is detailed in **Figure 2-17**. Nearly the entire length of this road is an existing road. The only new section of this would be approximately 478 feet to access the substation site from the existing road. The existing road would be regraded and slightly realigned at some curves. Approximately 425 feet of this new road segment are on the PNF. The fully maintained road is referred to as a Class 1 road for the purpose of this EA.

All of the newly constructed roads would be left in a stabilized condition to allow for limited access for emergency repairs and maintenance. Where newly constructed or upgraded roads cross public lands, access would be controlled as prescribed by the federal land management agency responsible for managing the lands crossed. Gates as required would be installed to prevent encroachment by unauthorized users. Where new or upgraded access roads cross private or state lands, access would be controlled in accordance with the private landowners' or Idaho State Department of Lands directives. All existing roads used to access the Proposed Project area would be left in a condition equal to or better than prior to their use by the Proposed Project. Widening of existing access roads would not occur. Grading the existing road bed may occur during and after construction to allow for safe travel and to repair ruts if they occur.

Upon abandonment of the line route (if ever) all roads would be closed and rehabilitated to current agency standards after line removal.

Existing roads that have a high priority for closure have been identified by the PNF. As part of the proposed action, IPCo would enter into a reimbursement agreement with the PNF to close, rehabilitate and obliterate equivalent roads so that the proposed action would be in compliance with the Payette National Forest Management Plan. Roads proposed for closure include roads specified for closure within the Gaylord North Watershed and analyzed under the Gaylord North Timber Sale FEIS (PNF, 6/2003) and in Watershed Restoration/Improvement Recommendations Gaylord North Project Area, (Gamble, 9/13/2002 updated 12/04) or other similar roads as specified by the authorized officer. For more details regarding construction of access roads, see Section 4.2 and Figure 4-1 of the POD/COM.

During final surveying, if existing roads are identified that could decrease the amount of new road construction, they would be incorporated into the Proposed Project. Additional Section 106 (Historic Preservation Act) and Section 7 (Endangered Species Act) review and consultation will be completed if needed.

Hazardous Materials

Hazardous materials that would be utilized during the construction of the 138kV transmission line and substations would include diesel fuel, gasoline, and oils and other construction-related chemicals such as adhesives, paints, and sealants. Bulk quantities would be stored in designated staging areas on privately owned land. Vehicle fueling and maintenance activities would also be restricted to staging areas or approved areas away from streams or other sensitive habitats. The contractor and IPCo would be required to comply with applicable regulations designed to limit the probability and extent of spills of hazardous materials, to provide for emergency response and reporting, and to appropriately dispose of wastes generated during construction. A list of potentially applicable federal laws is provided in **Table 2-3**. This table is not designed to be comprehensive but rather is intended to provide an indication of the regulations that IPCo and its contractors would potentially be subject to in order to eliminate or minimize potential impacts of the use, storage, transportation, or disposal of hazardous materials. In addition, contractors will comply with the requirements of the fuel containment plan that will be included in the POD/COM.

Wastes generated during construction of the transmission line may include non-hazardous solid waste such as construction debris. Such materials would be transferred to a licensed solid waste disposal facility in accordance with local ordinances. Generation of hazardous waste is not expected during construction or operation of the proposed substation or transmission line.

Table 2-3 Potentially Applicable Environmental Laws and Regulations

Federal Law	Applicability
Oil Pollution Prevention Act (OPPA) *40 CFR Part 112 (as amended September 20, 2002)*	Requires implementation of a Spill Prevention Control & Countermeasures (SPCC) Plan for fuel storage facilities (including temporary facilities) if the quantity stored is greater than 1,320 gallons and if a spill could reasonably be expected to enter navigable waters of the United States or affect natural resources under the management authority of the United States.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Contingency Plan Emergency Planning and Notification *40 CFR Part 300/355*	Provides notification and reporting requirements related to releases of hazardous substances in quantities above designated amounts.
Resource Conservation and Recovery Act (RCRA) *40 CFR Part 260 – 266*	Regulates the generation, storage, and disposal of hazardous waste.
Hazardous Materials Transportation Act *(49 CFR Part 100 – 185)*	Regulates the transportation of hazardous materials. Requires employee training and proper transportation methods for hazardous materials as defined in 40 CFR Part 172
Occupational Safety & Health Act (OSHA) *29 CFR Part 1910*	Requires training and communication for handlers of hazardous wastes and materials.

2.3 Mitigation Measures

The committed mitigation measures discussed in this section are measures that the applicant would include as a part of the Proposed Project. These measures, designed to avoid or reduce the impacts of the Proposed Project, are organized by resource topics and discussed in detail in Chapter 4 - Environmental Consequences.

Mitigation Measures Common to Several Resources

0.1 To limit new or improved accessibility into the area by off-highway vehicles (OHVs) and other motorized vehicles, road access will be controlled in accordance with management directives of the PNF and BLM, State of Idaho and private landowners. The roads specified in the Gaylord North Watershed Restoration Improvement Recommendations (Gamble, 9/13/2002 updated 12/04) or other roads specified by the authorized officer will be permanently closed and restored in order to comply with the PNF Forest Plan.

0.2 To reduce visual contrast and reduce siltation in construction areas (e.g., marshaling yards, tower sites, spur roads from existing access roads) where ground disturbance is substantial, surface preparation (including decompaction, redistribution of topsoil, etc.), redistribution of coarse woody debris, and reseeding will occur. The method of restoration would normally consist of loosening the soil surface, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches. IPCo will prepare a revegetation plan in consultation with the PNF and BLM. The plan will specify disturbance types and their appropriate revegetation techniques to be applied for all Proposed Project work areas, access roads, and all sidecast materials. Techniques may include reseeding native species or other acceptable vegetation. The plan will include management and maintenance procedures approved by the PNF and BLM for ongoing use of access roads and temporary work areas. The USFS/BLM-approved Revegetation Plan will be part of the POD/COM.

0.3 To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or cross-country route will follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resources.

0.4 To minimize the amount of sensitive features disturbed in designated areas, poles will be placed so as to avoid sensitive features such as, but not limited to, riparian areas, cultural resource sites of significance, and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. If the sensitive features cannot be completely avoided, poles will be placed so as to minimize the disturbance.

0.5 Erosion and sediment control measures approved by the BLM and PNF will be specified in the POD/COM plan and conform to applicable federal and state regulations.

0.6 In construction areas where recontouring is not required, disturbance will be limited to overland driving and no grading will occur to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access. Restoration could include reseeding (if required). Methods will be detailed in the Revegetation Plan that will be approved by the USFS and BLM and submitted as part of the POD/COM plan.

0.7 To reduce potential impacts on recreation values and safety, at highway, canyon, and trail crossings, poles are to be placed at the maximum feasible distance from the crossing within limits of standard tower design.

0.8 Identify other existing roads during final surveying that could decrease new road construction.

Land Use and Recreation

1.1 Existing improvements will be repaired or replaced if they are damaged or destroyed by construction activities to their condition prior to disturbance as agreed to by the parties involved.

1.2 Fences and gates will be installed, or repaired and replaced to their original condition prior to Proposed Project disturbance as required by the landowner or the land management agency if they are damaged or destroyed by construction activities. Temporary gates will be installed only with the permission of the landowner or the land management agency and will be restored to original condition following construction.

1.3 All existing roads utilized by the Proposed Project will be left in a condition equal to or better than their condition prior to the construction of the transmission line.

Visual Resources

2.1 No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of survey or construction activity. Paint may be used on temporary markers placed to indicate avoidance of sensitive species or plants considered to have ethnobotanic significance.

2.2 To reduce visual contrasts, Corten® steel single poles will be used for the 138kV transmission line in the existing USFS 69kV transmission line corridor (where single poles were used before on the existing transmission line) along Highway 95.

2.3 To reduce visual contrast in designated areas, poles will be placed so as to avoid impacts to sensitive viewpoints within limits of standard pole design. If the sensitive viewpoints cannot be completely avoided, poles will be placed so as to minimize the disturbance by spanning the sensitive area. Similarly, to reduce visual impacts, poles are to be placed at the maximum feasible distance from the crossing of roads or trails within limits of standard tower design.

2.4 Non-specular conductors will be used to reduce visual impacts.

Cultural/Archeological/Resources

3.1 Prior to construction, all supervisory construction personnel will be instructed on the protection of cultural and paleontological resources. To assist in this effort, the construction contract will address: (a) federal and state laws regarding antiquities and fossils, including collection and removal; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources.

3.2 To minimize the risk of cultural sites being disturbed in designated areas, IPCo will avoid them or design the line to allow conductor spanning of the sites.

3.3 In the event that potentially historic/cultural/paleontologic resources are discovered during construction, potentially destructive work within 300 feet of the find will be halted. IPCo's construction inspector will immediately implement the following measures:

a. Flagging will be erected to prohibit potentially destructive activities from occurring in a given area.

b. IPCo's archeologist will make a preliminary assessment of the newly discovered resource.

c. If the archeologist determines that the discovery represents a potential new site, or an undocumented feature of a documented site, PNF or BLM (as appropriate) and the SHPO will be notified and protocol identified by the respective agency will be followed.

d. Construction will not resume in the identified area until cleared by the archeologist (private land) or the PNF/BLM Authorized Officer as appropriate.

e. Pursuant to 43 CFR 10.4(g), the permit holder must notify the appropriate agency's Authorized Officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), activities must stop in the vicinity of the discovery for 30 days or until notified to proceed by the Authorized Officer.

3.4 The specific areas of ground disturbing activities (e.g., access road construction, structure sites, staging areas, etc.) will be identified prior to construction. If any of these areas have not been sufficiently inventoried for cultural resources, they will be surveyed prior to construction in that specific area.

3.5 The PNF or BLM may require that a cultural resource monitor be present during construction in areas the respective agency determines to be culturally sensitive.

Biological Resources

4.1 Prior to construction, all supervisory construction personnel will be instructed on the protection of ecological resources. To assist in this effort, the construction contract will address: (a) federal and state laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources.

4.2 Mitigation measures developed during the consultation period under Section 7 of the ESA (as amended) will be adhered to as specified by the PNF, BLM, FWS, and National Oceanic and Atmospheric Administration (NOAA) - Fisheries.

4.3 The boundaries of sensitive plant populations will be delineated with clearly visible flagging or fencing based on surveys conducted during the spring prior to construction. In the event any special-status plants will require relocation, permission would be obtained from the USFS or BLM. If avoidance or relocation were not practical, the topsoil surrounding the plants will be salvaged, stored separately from subsoil, and spread during the restoration process.

4.4 Prior to construction IPCo will develop a noxious weed and invasive plant control plan in consultation with the PNF and BLM to minimize the effects of noxious weeds and invasive plants due to Proposed Project activities. The plan will address any required cleaning of construction vehicles to minimize spread of noxious weeds and invasive plants.

4.5 Ground disturbance will be limited to that necessary to safely and efficiently install the proposed facilities and described in detail in the POD/COM.

4.6 With the exception of emergency repair situations, construction, restoration, maintenance, and termination activities in designated areas will be modified or curtailed during sensitive periods (e.g., nesting and breeding periods) for candidate, proposed, threatened, and endangered, or other sensitive animal species. The Authorized Officer, in advance of such activities, will approve sensitive areas and timeframes.

4.7 The project biologist will monitor the presence of elk and bald eagles on elk winter range. Construction activities will be modified or curtailed when elk and/or bald eagles are present on winter range.

4.8 The project biologist will mark all habitats and potential burrows for the northern and southern Idaho ground squirrel prior to construction activities. Habitat and burrows will be avoided to the maximum extent practicable.

4.9 All waste products and food garbage from construction sites will be deposited in a securely covered waste receptacle or removed daily. Garbage will be hauled to a suitable disposal facility.

4.10 No holes or pits will be left open overnight or when the site is not manned to prevent inadvertently trapping or injuring wildlife.

4.11 All construction equipment will be washed prior to entering BLM or PNF lands to prevent the spread of noxious weeds.

Water Resources

5.1 Roads will be built at right angles to the streams and washes to the extent practicable. Culverts will be installed where needed. All construction and maintenance activities will be conducted in a manner that minimizes disturbance to drainage channels, and stream banks.

5.2 All roads will be engineered on a case-by-case basis in cooperation with pertinent regulatory agencies.

5.3 Roads will be obliterated where they are no longer needed (as specified by the PNF) after construction and improvements will be made to existing, poorly engineered roads to help reduce sediment delivery to waterways over the long-term.

Geology/Soils

6.1 In areas where soils are particularly sensitive to disturbance (e.g., high erosion potential), existing access roads will be improved only to where they are passable.

6.2 Roads will be constructed in accordance with the POD/COM and generally be placed on ridge tops or low-relief topography wherever feasible.

6.3 In construction areas, work will be halted when wet conditions cause rutting of roads and/or work areas. Work will not resume until conditions improve.

6.4 In accordance with the guideline a pre-construction field verification of landslide prone areas will be made. Design changes to roads may need to be made based on the field verification.

Air

7.1 Road construction will include dust-control measures, as required and identified in the PNF and BLM-approved Dust Control Plan submitted as part of the POD/COM plan.

7.2 All requirements of those entities having jurisdiction over air quality matters will be adhered to and any permits needed for construction activities will be obtained. Open burning of construction trash will not be allowed.

Health, Safety, Noise

8.1 All construction vehicle movement outside the ROW will be restricted to designated access, contractor-acquired access, or public roads.

8.2 The Proposed Project will comply with Federal Aviation Administration (FAA) requirements regarding safety to the public.

8.3 IPCo will respond to complaints of radio or television interference generated by the transmission line by investigating the complaints and implementing appropriate mitigation measures. The transmission line will be patrolled on a regular basis so that damaged insulators or other transmission line equipment that could cause interference are repaired or replaced.

8.4 Mitigation will be applied as needed to eliminate induced currents and voltages onto conductive objects (should they occur) sharing a ROW to the mutual satisfaction of the parties involved.

8.5 Hazardous materials will not be drained onto the ground or into or in close proximity to streams or drainage areas.

8.6 Appropriate safety measures will be followed as required by state and federal regulations (29 CFR 1910.109) relating to blasting operations, should blasting be necessary.

8.7 Appropriate traffic control measures will be utilized to ensure public safety during construction. Prior notice will occur for any extended delays or road blockage.

2.4 Management Requirements

Management requirements include the standards that have been developed to protect forest resources (listed in Appendix A and in Chapter 4) and mitigation measures (discussed above and in Chapter 4) established to reduce or prevent undesirable effects from proposed activities. Adherence to the standards and selected mitigation measures is mandatory on USFS lands unless otherwise noted in the decision document.

2.5 No Action Alternative

The Council of Environmental Quality (CEQ) regulations implementing NEPA require consideration of a "no action" alternative. This study interprets "no action" as doing nothing to fulfill the purpose and need for the Proposed Project. No changes would be made to the transmission system. IPCo would utilize existing facilities to meet the critical

need for reliable, economical power. However, IPCo would need to employ additional measures to compensate for the anticipated shortfall in the supply of electrical power within its service territory.

Advantages of the No Action Alternative would include:

- No adverse environmental impacts from the construction and operation of the Cambridge-Council-McCall 138kV Transmission Line Project; and
- Eliminating financial costs associated with construction and operation of a 138kV transmission and distribution lines and associated substations.

The disadvantages of the No Action Alternative include:

- Inability to meet system reliability (described in Chapter 1).
- Potential adverse environmental, socioeconomic, and electric service impacts resulting from compensating actions taken to ensure an adequate, affordable, and reliable energy supply to IPCo's customers.
- Loss of potential tax revenues to local tax districts from Proposed Project construction and ROW.

Overall, the reliability of the IPCo's electrical system that would be gained through the action alternative would not be realized under the No Action Alternative.

Chapter 3
Affected Environment

3.1 Land Use

3.1.1 Introduction

This section describes existing, planned, and designated land uses in the vicinity of the Proposed Project. Land use data were collected from maps, aerial photography, planning documents, GIS data, and interviews with federal, state, and local agency personnel. Existing land uses in the vicinity of the Proposed Project are shown on **Figure 3-1.**

3.1.2 Affected Area

The proposed transmission line and associated staging areas and roads are located within Washington and Adams Counties. The affected area contains federal, state, and private lands. Since land use impacts from the Proposed Project and its ancillary features may extend beyond a set, prescribed, distance, this chapter describes facilities, activities, designated uses, and other features that occur in the vicinity of the proposed transmission line. The proposed transmission line does not pass through any incorporated cities or towns.

3.1.3 Current Resource Conditions

Existing Land Uses

Linear Features

Linear features that occur within the study area include roads and highways, telephone lines, electric distribution and transmission lines, and an abandoned railroad that has been established as a designated recreational trail. U.S. Highway 95 is the major roadway within the study area. Highway 95 is an important transportation corridor that extends from the Canadian border to Yuma, Arizona. The major transmission lines within the study area include the Boise Bench to Brownlee #3 and #4 230kV, Oxbow to McCall 138kV, and the McCall Loop (Cambridge to New Meadows) 69kV. The abandoned Pacific and Idaho Northern Railroad (now the Weiser River Trail) intersects the study area at five locations.

Rangeland and Grazing Allotments

Rangeland characterizes the majority of the land use in or around the study area. Agencies administering grazing allotments include the PNF and BLM. **Table 3-1** lists the grazing allotments within the study area.

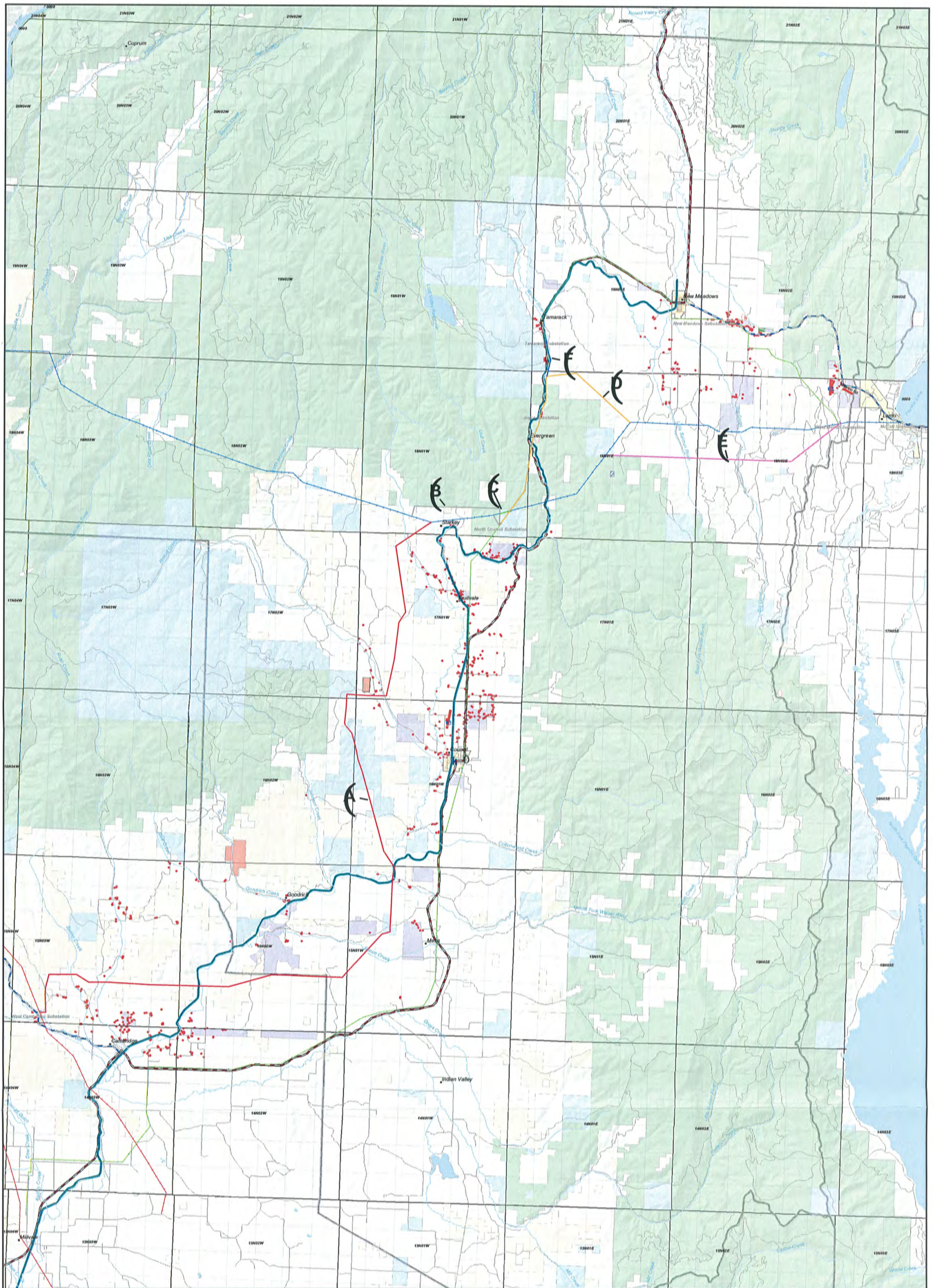

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Figure 3-1

Planned & Existing Landuse

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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101693 Planned & Existing Landuse 11x17 1-25-05.ps

Table 3-1 Grazing Allotments

Payette National Forest	
Warm Springs C&H #309	
Council Mountain #104	
USDI Bureau of Land Management	
North #154	Peterson Individual #219
Horse Flat #95	Jackson Creek #158
Dotson #96	ISOM #159
Langer #169	D. Moritz Individual #206
Hubbard Individual #157	Hornet Creek #291
Cambridge #82	Jacobs Individual #160
Schlehuber Individual #231	Fisk Individual #105
Braun & Bacon Valley #47	Home Ranch #132
Burton Individual #55	Fruitvale Glenn #79
Goodrich Individual #15	Ryals Individual #227
Gallant Individual #112	Fruitvale Glenn #79
Deardorff Individual #286	Lindsay Individual #276
Hays #199	Big Creek #306

Air Facilities

No airports or airstrips are located adjacent to the Proposed Project. However, several FAA-recognized public and private airports are located in the general vicinity of the Proposed Project. The public McCall Airport is located approximately 3 miles east of the proposed West McCall Substation. The public Council Airport is located approximately 2.5 miles east of the Proposed Project. A private airstrip is located on the Flying Y Ranch approximately 2.75 miles west of the Proposed Project (T17N, R2W, Section 24).

Mining Claims

There are three mining claims on USFS lands that are near or adjacent to the Proposed Project. These claims are located in the northeast quarter of Section 21 in T18N, R1E. Other claims in the vicinity are in the southeast quarter of Section 21 and in the southwest and northwest quarters of Section 22 in T18N, R1E (**Figure 3-1**).

Agriculture

The proposed transmission line will cross flood-irrigated pastureland. These private lands are managed primarily to provide feed for livestock.

Certain lands within the study area have been classified as prime farmland by the United States Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS). Prime farmland is defined by the Farmland Protection Policy Act (FPPA) as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. The purpose of the FPPA is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses (7 CFR 658.3).

Timber

Merchantable timber would be removed from both public and private lands from implementation of the Proposed Project. This timber would be purchased from the agencies and landowner by IPCo.

The PNF Forest Plan indicates that approximately 75 percent of the suited acres in Management Area 3 (crossed by the Proposed Project) are appropriate for timber production (USDA, 2003).

Planned Land Use

Federal Land Management Agency Policies

The PNF and BLM both abide by resource management plans that govern land use within their jurisdiction. The PNF Forest Plan and the Cascade RMP are discussed in Section 1.1.3.

County Comprehensive Plans

The Washington County Comprehensive Plan and the Adams County Comprehensive Plan set forth goals and objectives to guide each respective county's future growth and development objectives. The goals and objectives are intended to provide and protect the standard of living for residents and visitors alike and set tasks to be accomplished to achieve this quality. Planned land use goals and objectives related to utility corridors are discussed in Section 1.1.3, Management Direction.

Planned Subdivisions

There are two planned subdivisions located within and immediately adjacent to the study area approximately five miles northeast of Cambridge. The proposed transmission line would be located along the south boundary of the Council Mesa Subdivision in Section 22, T15N, R2W. The transmission line ROW runs along the section line between Sections 22 and 27. The transmission line also runs about 0.25 miles southeast of the southeast corner of the Hidden Canyon planned subdivision in Section 18 of T15N, R1W. Both of these subdivisions consist of home sites ranging from about 2 to 40 acres.

Wilderness

No wilderness or wilderness study areas are located in the vicinity of the Proposed Project.

BLM Special Management Areas

Two special management areas are identified within the RMP are located near the Proposed Project. The Goodrich Creek Research Natural Area is located approximately 2.5 miles northwest of Goodrich. The second special management area is located northwest of the City of Council, approximately 0.25 miles north of the Proposed Project. Both of these special management areas are considered avoidance areas and the Proposed Project does not go through them.

Weiser River Trail

The Weiser River Trail follows the abandoned Pacific and Idaho Northern Railroad grade for approximately 85 miles between Weiser and Rubicon. The railroad bed, which

generally follows the Weiser River, was converted to a recreation trail for public use. The trail is managed by Friends of the Weiser River Trail and may be used for horseback riding, mountain biking, and hiking. The Proposed Project would cross the trail five times.

Forest Service Recreation Site

The Evergreen Campground is located on the east side of Highway 95 and provides 12 camping units. The Evergreen day-use area is just to the south of the campground and provides basic amenities including picnic tables, restrooms, and drinking water. The Proposed Project would be located approximately 600 feet west of these facilities, on the west side of Highway 95.

Off-Highway Vehicle (OHV) Use

Dispersed OHV use is a common activity within the study area. The clearing along the existing transmission lines across USFS lands presents access for OHV recreation use. In addition to the existing transmission line corridor, other trails and roads on both USFS lands and private lands within the study corridor are used for this recreational activity. The Proposed Project occurs in both OHV areas C and D, as identified on the PNF map. Area C is open yearlong for all types of OHV use on existing trails. Area D is only closed during hunting season except for bicycle use. The PNF is completing an Environmental Impact Statement (EIS) to revise the Forest Travel Management Plan and there may be modifications to existing OHV use areas following approval of this revision, which is expected in 2005 (Brian McLaughlin, Agency Comments to Draft EA, May 2004).

Dispersed Recreation

Other recreation opportunities and activities are pursued within the study corridor. These dispersed recreational activities include camping, horseback riding, hunting, fishing, hiking, and wildlife viewing.

3.2 Aquatic Resources and Fisheries

3.2.1 Introduction

The Proposed Project area includes the Weiser River and Little Salmon River (LSR) drainages. Both of these drainages have fisheries habitat containing introduced and native species. The Proposed Project potentially affects fish resources protected under the ESA and the Magnuson-Stevens Fishery Conservation and Management Act, including bull trout *(Salvelinus confluentus)*, Chinook salmon *(Oncorhynchus tshawyscha),* and steelhead *(Oncorhynchus mykiss),* The Proposed Project area also contains sensitive species of concern listed with the USFS, Idaho State Department of Fish and Game (IDFG), and BLM, including the redband trout *(Oncorhynchus mykiss gairdneri)* and Westslope cutthroat trout *(Oncorhynchus clarki lewisi).*

The PNF Forest Plan (USDA, 2003) gives several directives for aquatic resources. These directives occur in several areas of the Plan including/but not limited to:

- Forest-wide direction for TEPC species (pg. III-4)

- Forest-wide Goals, Objectives Standards and Guidelines for Soil, Water, Riparian, and Aquatic Resources (pg. III-18)
- Management Area Prescriptions for Management Area 3 – Weiser River (pg. III-120)
- Management Prescriptions for Management Area 5, specifically Prescription Category 5.2-Commodity Production Emphasis within Forested Landscapes (pg. III-152)
- Bull trout, a Management Indicator Species (MIS) for the Payette National Forest, occurs within the study area.

3.2.2 Affected Area

The Weiser River and LSR watersheds are located in the Columbia River basin, and encompass approximately 700,000 and 370,000 acres, respectively (Quigley et al., 1997). The surface geology is dominated by Columbia River basalts, with some headwater areas composed of Idaho batholith granitics. Refer to Sections 3.3 and 3.5 for detailed descriptions of the vegetation and soils in these watersheds. The upper LSR contains designated Critical Habitat and designated Essential Fish Habitat (EFH) for spring/summer Chinook salmon (Lund and Burns, 2003).

Surface Water

The Proposed Project would cross a number of ephemeral, intermittent, and perennial streams and irrigation ditches (**Figure 3-2**). Major waterways in the affected area include:

- Camp Creek,
- Rush Creek,
- Main stem of the Weiser River,
- Bacon Creek,
- Middle Fork Weiser River,
- Hornet Creek,
- West Fork Weiser River,
- Warm Spring Creek,
- Filly Creek and Beaver Creek in the Weiser drainage; and
- Little Salmon River, Thrush Creek and Big Creek in the Little Salmon drainage.

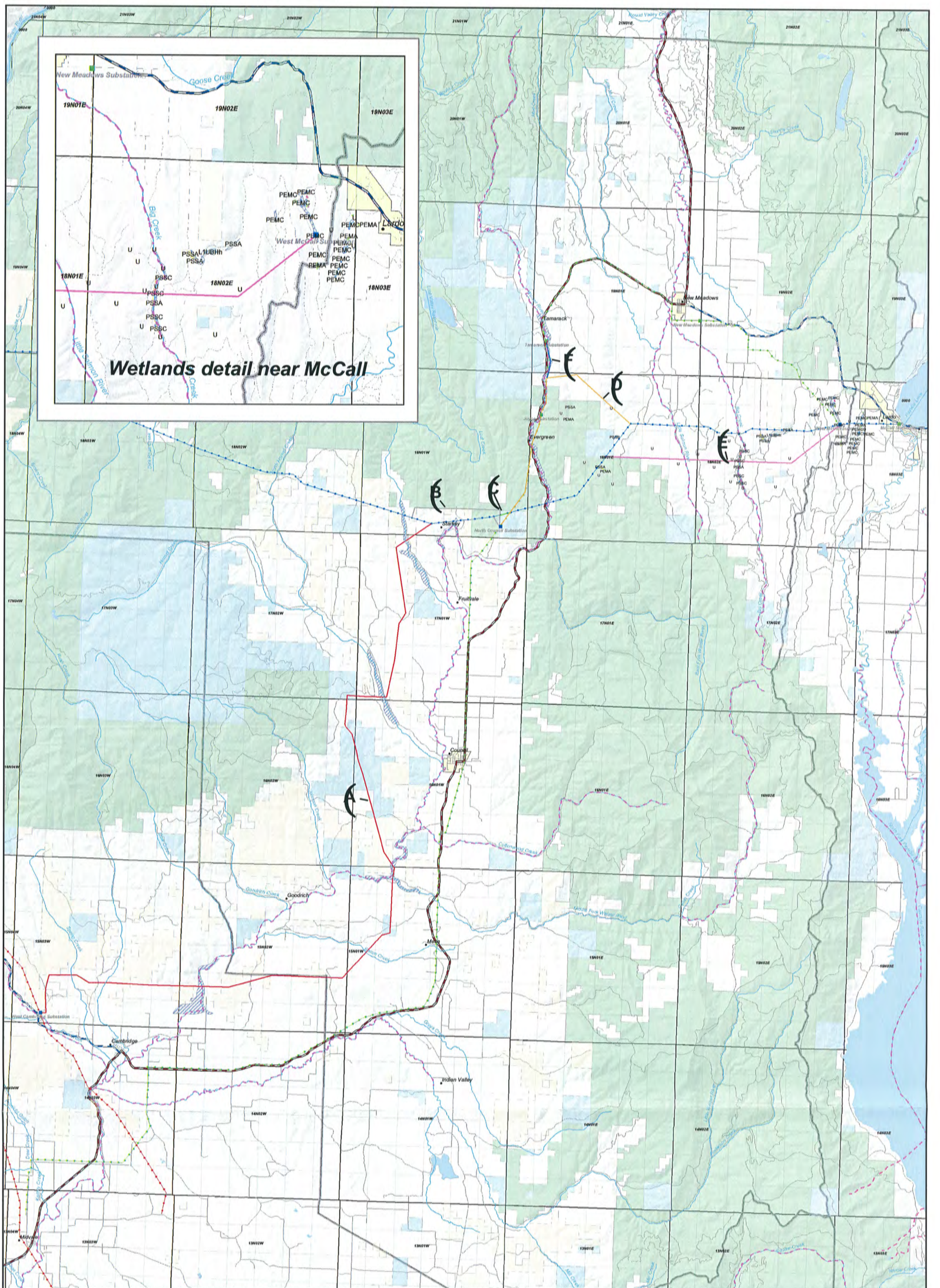
Wetlands detail near McCall
New Meadows Substation
Goose Creek
19N01E
19N02E
19N03E
18N01E
18N02E
18N03E
Big Creek
Little Salmon River
West McCall Substation
PEMC
PEMA
PSSA
PSSC
L1UBHh
U
Lardo
New Meadows
Tamarack
Tamarack Substation
Evergreen
Evergreen Substation
Starkey
North Oregon Substation
Fruitvale
Council
Goodrich
Meadows
Cambridge
Indian Valley
Weiser
Legend
Existing Substations
Proposed Substations
State Highways
U.S. Highways
Minor Roads
Streams & Rivers
County Boundary
National Wetlands Inventory
L1UBHh
PEMA
PEMB
PEMC
PSSA
PSSB
PSSC
PUBFh
Proposed Transmission Route Sections
A
B
C
D
E
F
Existing Transmission Line
138kV
230kV
69kV
BLM
Private
State
USFS
100 year flood
303 D Streams
Scale 1:200,000
Miles
0 1 2 3 4 5
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Figure 3-2
Water Resources
Cambridge to McCall 138kV Transmission Line
Washington and Adams Counties, Idaho
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101693 Water Resources 11x17 1-27-05 jja

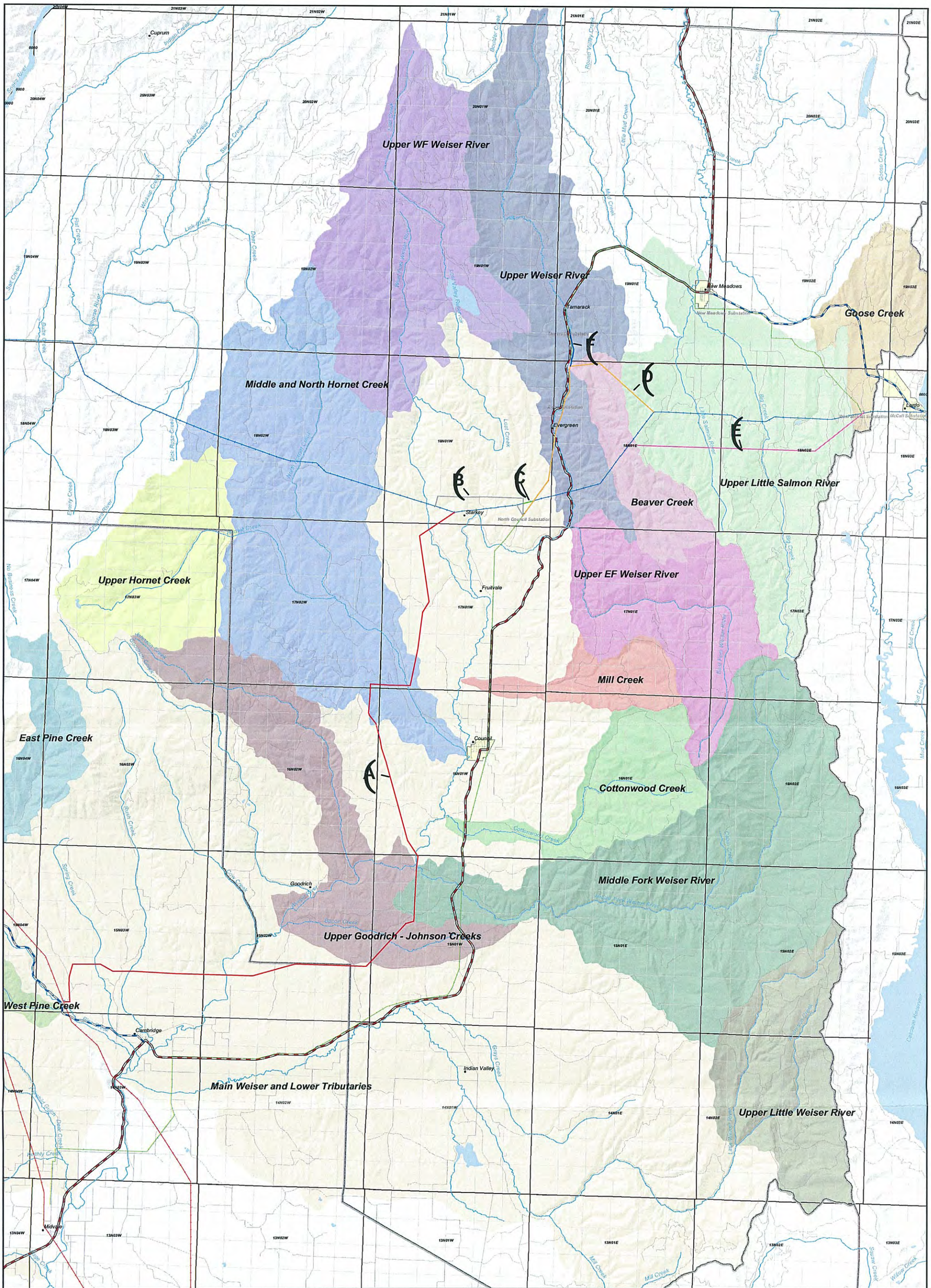
The hydrograph for the Weiser River near Cambridge, Idaho follows precipitation patterns, with the lowest discharge occurring in mid-July and peak discharge occurring in April and May (Western Region Climate Center, 2004). On the Little Salmon River at Riggins, the hydrograph also follows precipitation patterns with the lowest discharge occurring in August and peak discharge occurring in June (WRCC, 2004).

Table 3-2 shows those streams classified as 303(d) impaired water bodies that the proposed transmission line would cross. In several instances, streams have been listed as 303(d) because insufficient data exists to demonstrate that they are capable of supporting all beneficial uses. Specific causes of impairment for the streams listed in **Table 3-2** include elevated levels of nutrients, bacteria, and sediments, as well as high temperatures. These factors tend to adversely affect cold-water fish habitats. Bacterial and nutrient contamination typically results from septic systems (including municipal systems) and agricultural fertilizers. Elevated temperatures can result from natural geothermal springs, reduced flows due to water withdrawals, and loss of riparian vegetation. High sediment loads can result from natural causes (i.e., unstable banks), as well as human causes such as poorly designed and/or maintained roads, loss of wetland and riparian plant communities, and channelization.

Table 3-2 303(d) Stream Crossings

Name	Analysis Area	ID 1998 303(d)	EPA Additions	2003 Section 2[1]	2003 Section 3[2]	2003 Section 5[3]
Spring Cr	Main Weiser & Lower Tributaries				x	
Rush Cr	Main Weiser & Lower Tributaries				x	
Weiser River	Main Weiser & Lower Tributaries	nutrients sediment		x	x	bacteria nutrients sediment
Bacon Cr	Upper Johnson – Goodrich Creeks				x	
Hornet Cr	Middle & North Hornet Cr			x	x	
W. Fork Weiser River	Main Weiser & Lower Tributaries	Unknown				Unknown
Weiser River	Upper Weiser River	nutrients sediment		x	x	bacteria nutrients sediment
Mill Cr	Upper Little Salmon River				x	
Little Salmon River	Upper Little Salmon River	unknown	temperature	x	x	
Big Cr	Upper Little Salmon River	nutrients sediment	temperature	x	x	unknown
unnamed	Goose Creek				x	

[1] Section 2: "This category fully supports beneficial uses that were assessed" (IDEQ, 2003)
[2] Section 3: "Waters of the State with insufficient data ... to determine if any standards are attained." (IDEQ, 2003)
[3] Section 5: "TMDL needed" (impaired) (IDEQ, 2003)



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Legend

- Existing Substations
- Proposed Substations
- State Highways
- U.S. Highways
- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

- Beaver Creek
- Cottonwood Creek
- East Pine Creek
- Goose Creek
- Main Weiser and Lower Tributaries
- Middle Fork Weiser River
- Middle and North Hornet Creek
- Mill Creek
- Upper EF Weiser River
- Upper Goodrich - Johnson Creeks
- Upper Hornet Creek
- Upper Little Salmon River
- Upper Little Weiser River
- Upper WF Weiser River
- Upper Weiser River
- West Pine Creek

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

Existing Transmission Line

- 138kV
- 230kV
- 69kV

Figure 3-3

Watershed Analysis Areas

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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Upper Goodrich-Johnson Creeks

The Upper Goodrich-Johnson creeks analysis area is comprised of the 6th level HUCs 170501240801 and 170501240803. The analysis area encompasses 13,608 acres and contains two patches of contiguous bull trout habitat above 1,600 meters above mean sea level (MSL). Livestock monitoring indicates moderate use in this analysis area (McGee, 2001). Johnson and Jackson Creeks are described by the PNF as well armored with large boulders and coarse material. Tributaries of these streams are described as degraded and marginal spawning and rearing habitat. USFS photos indicate features are indicative of good habitat conditions for salmonids, including clear water, overhanging vegetation, large woody debris, and many pools. General Aquatic Wildlife Surveys (GAWS) and McGee and Burns (2001) described Johnson Creek as a "good brook trout fishery" in the upper section. Fish distribution surveys were conducted in Johnson and Goodrich Creek watersheds in 2003 (Greenway and McGee, 2003) and 2004 (Data on file at Supervisor's Office, PNF, McCall, Idaho) and only brook trout and rainbow trout were collected. Bull trout appear to be absent from the analysis area.

Middle Fork Weiser River

The Middle Fork Weiser River analysis area is the 5th level HUC 1705012413. The analysis area encompasses 57,800 acres and contains 108.9 miles of perennial stream, 76.5 miles of intermittent stream, and several large patches of contiguous habitat greater than 1,600 meters MSL (Veach, 1998). The Middle Fork Weiser River analysis area has been intensively managed for timber harvest, and livestock monitoring indicates light to moderate use (Hogen and Burns, 2003a). Seventy-two percent of the analysis area is USFS lands and 28 percent is private land.

The McCammon process (USDA, 1993) was used to determine the risk of cumulative watershed effects within the analysis area (Hogen and Burns, 2003a). This process uses several attributes to classify watershed elements into risk classes and develop a cumulative risk assessment. The McCammon process indicates moderate watershed risk, poor channel condition, and an overall condition rating of poor. High-risk projects have been identified as described in McCammon (USDA, 1993) (Hogen and Burns, 2003*a*). The amount of land within the analysis area affected by high-risk projects (USDA, 1993; Hogen and Burns, 2003a) is less than two percent. The cumulative watershed effect risk is high.

Habitat conditions in the upper Middle Fork Weiser River and 13 small tributaries were generally below "standard" conditions found by Overton et al. (1995) for undisturbed Idaho watersheds. The amount of sediment found in the upper Middle Fork Weiser River and most tributaries could be a potential limiting factor for fish populations. Extensive surveys to determine presence or absence of bull trout haven been completed and based on the results, bull trout are thought to be absent in the analysis area (Williams and Veach, 1994).

Middle and North Hornet Creek

The Middle and North Hornet Creek analysis area is comprised of the 5th level HUC 1705012409 and 6th level HUC 170501240903. The analysis area encompasses 18,845 acres and contains some small patches (< 1,000 acres) of contiguous habitat above 1,600 meters MSL. The analysis area has been intensively managed for timber harvest and

livestock. The McCammon process determined watershed risk to be moderate, channel condition to be poor, and the overall condition rating was poor. Less than two percent of the analysis area was affected by high-risk projects, and the risk of cumulative watershed effects is high (USDA, 1993). The only potential bull trout habitat within this analysis area is migration habitat. Much of the area is in poor condition as late summer flows are heavily diverted for irrigation and habitat has been greatly simplified. Brook trout are common in streams within the analysis area.

Upper Weiser River

The Upper Weiser River analysis area includes two 6th level HUCs: Gaylord-Woodland (170501241201) and Upper Weiser River (170501241202). The analysis area encompasses 33,100 acres and contains three patches of contiguous habitat above 1,600 meters MSL. All three are less than 1,500 acres in size. The analysis area contains 69 miles of perennial streams and 59 miles of intermittent streams, and has been intensively managed for timber harvest and livestock. The McCammon process determined watershed risk to be moderate, and channel condition and overall condition were rated poor. Less than two percent of the analysis area was affected by high-risk projects, and the risk of cumulative watershed effects is high (USDA, 1993). Bull trout are not known to occur within this analysis area, and bull trout are unlikely to occur given limited suitable habitat. Bull trout have been documented downstream of the analysis area (headwaters of the East Fork Weiser River), but it appears those bull trout are resident and do not migrate into the Upper Weiser River analysis area (Moore and Watry, 2002; Watry and Hogen, 2002).

Beaver Creek

The Beaver Creek analysis area is 6th level HUC 170501241203. The analysis area encompasses 8,735 acres, and contains 11 miles of perennial streams and 20 miles of intermittent streams. The analysis area contains three patches of contiguous habitat above 1,600 meters MSL, all of which are less than 1,500 acres. This analysis area has been intensively managed for timber harvest and livestock. The McCammon process determined watershed risk to be moderate, and channel condition and overall condition were rated poor. Less than two percent of the analysis area was affected by high-risk projects, and the risk of cumulative watershed effects is high (USDA, 1993). Brook trout and redband rainbow trout occur throughout the analysis area (Greenway and McGee, 2003). Stream temperatures in the lower portion of the analysis area appear to be high for bull trout. Habitat surveys conducted in 2002 indicated an absence pools and limited large woody debris (PNF records).

Main Weiser and Lower Tributaries

The analysis area contains the 4th level HUC 17050124 upstream of the mouth of the Little Weiser River. This analysis area encompasses 585 miles of intermittent streams and 327 miles of perennial streams. Within this analysis area, only Rush Creek contains a fish habitat above 1,600 meters MSL. Timber harvest activities constitute a major disturbance within the watershed (Hogen and Burns, 2003*a*), and eight cattle allotments occur in the analysis area. Cattle summer on USFS lands between May and October, and have heavily impacted some riparian areas (Hogen and Burns, 2003*b*). The McCammon process determined watershed risk to be moderate, and channel condition and overall condition

were rated poor. Less than two percent of the analysis area was affected by high-risk projects, and the risk of cumulative watershed effects is high (USDA, 1993).

Bull trout may have historically occurred throughout the Weiser River watershed. Early records from the Weiser River watershed suggest Chinook salmon and steelhead were common (Evermann, 1894). Bull trout are not currently known to occur in the Main Weiser River analysis area. Habitat condition is poor throughout much of the analysis area, and EPA water quality temperature standards (40 CFR 131) for Idaho bull trout are likely exceeded in most streams in the Weiser River watershed due to dams and water diversions. Brook trout are common throughout the analysis area.

Upper Little Salmon River

This analysis area includes Lower and Little Mud Creeks (HUC 170602100501), Upper Mud Creek and Big Creek (HUC 170602100502), and Upper Lower Salmon River (HUC 170602100503). Irrigation for livestock pastures and hay production occurs in the upper Meadows Valley. An impassible barrier at river mile 21 on the Little Salmon River is the main limiting factor for the Upper LSR analysis area. In addition, sediment levels, elevated water temperatures, and low flows are also potential limiting factors.

Goose Creek

This analysis area contains HUC's 170602401, 170602402, and 170602403. The Goose Creek analysis area encompasses about 32,000 acres, with elevations ranging from 1,164 to 2,164 meters MSL. Any potential habitat in the east and west branches of Goose Creek on private land is affected by water regulation and grazing, leading to high surface fines, low flows, and stream bank stability problems.

3.2.3 Current Resource Conditions

The National Marine Fisheries Service (NMFS) and FWS [SP #1-4-03-SP-664] have identified three species listed as threatened under the ESA that occur in the vicinity of the Proposed Project area (**Table 3-4**). The area also includes Critical Habitat and Essential Fish Habitat (EFH) for Chinook salmon (Beck-Haas, 2003). Several non-special status fish species occur in streams crossed by the Area of Potential Effect (APE; Brown, 2003).

Table 3-4 Special Status Fish Species

Common Name	Scientific Name	NOAA-Fisheries Status	USFS, BLM or State of Idaho Status
Bull trout	*Salvelinus confluentus*	Threatened	PNF Management Indicator Species Idaho Priority Species
Spring/summer Chinook salmon [Snake River ESU]	*Oncorhynchus tshawyscha*	Threatened	Idaho Threatened Species
Redband trout	*Oncorhynchus mykiss gairdneri*		Idaho Priority Species
Steelhead [Snake River ESU]	*Oncorhynchus mykiss*	Threatened	Idaho Priority Species
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*		PNF Sensitive Species BLM Sensitive Species Idaho Priority Species

Sources: Rains, 2003; Haus, 2003; USDA 2003*a*.

Special Status Species Descriptions

Bull trout (*Salvelinus confluentus*)

The Columbia River bull trout (bull trout) is listed as Threatened (63 FR31647). Bull trout spawn between August and November (Shepard et al., 1984; Brown, 1992); however, the timing varies across watersheds. In the PNF, bull trout occur in the headwaters of the Little Weiser River and the East Fork Weiser River. A bull trout population also exists on state-owned land in the Hornet Creek watershed. Bull trout in the Weiser River are generally resident (Watry and Hogen, 2002). While Bull trout occur in the Lower Snake River (Olson 2001; Brown, 2003), they have not been documented in the Upper LSR analysis area. There is no critical habitat for bull trout in the Proposed Project area.

Chinook salmon (Oncorhynchus tshawytscha)

The Snake River Evolutionary Significant Unit (ESU) of spring/summer Chinook salmon is listed as Threatened (57 FR14653). Chinook salmon spawn between late summer and late fall. They require clean, cool, well-oxygenated water, and clean gravel for successful spawning. Complex habitat with pools, runs, and riffles, interspersed with large woody debris are vital components of spawning and rearing streams. Snake River spring/summer Chinook salmon occur in the LSR, but they are not known occur in the upper LSR.

Critical habitat for spring/summer Chinook salmon includes all river reaches presently or historically accessible and adjacent riparian zones. The LSR, Lower LSR, Rapid River, Middle LSR, and Hazard Creek analysis areas contain habitat elements necessary to support Chinook salmon, and are at least partially accessible to the fish. Designation of critical habitat (58 FR33218) specifically defines geographic areas and essential habitat elements. The action area is within Critical Habitat for Chinook salmon (Rains, 2003).

Columbia River Redband trout (Oncorhynchus mykiss gairdneri)

Redband trout, a subspecies of rainbow trout, are an Idaho Species of Concern. Hybridization, isolation, and habitat degradation are the most prevalent threats to redband trout (USDA, 2003*b*).

Steelhead (Oncorhynchus mykiss)

The Snake River ESU of Steelhead is listed as Threatened (62 FR43937). Young steelhead spend a significant portion of their lives in rivers and streams, where they are susceptible to human-induced changes to habitat and water quality. Siltation can destroy spawning beds and smother the eggs. Additionally, steelhead migrating up the Columbia River face physical obstacles and high water temperatures resulting from dams, inadequate water flows due to irrigation diversions, and impoundments. Snake River steelhead occur in the LSR, but there are no documented occurrences in the Upper LSR analysis area.

The NMFS has designated critical habitat for Snake River steelhead (65FR7764), which includes all river reaches accessible to the species. Accessible reaches are those that can still be occupied by any life stage of steelhead. The LSR contains habitat elements necessary to support steelhead, and are at least partially accessible to the fish. The action area is not within the Critical Habitat of steelhead (Rains, 2003).

Westslope cutthroat trout (Oncorhynchus clarki lewisi)

The Regional Forester has designated westslope cutthroat trout as a sensitive species. The Westslope cutthroat trout was petitioned for listing (63 FR31691), and found to be not warranted in 2000 (65 FR20120.). Westslope cutthroat trout occur in the LSR, but the species occurrence has not been documented in the Upper LSR analysis area.

Species Distribution Summary

Ecosystems Research Group (ERG) collected fish presence data from IDFG (Brown, 2003), PNF (Hogen and Burns, 2003b), BLM (Moody, 2003) and the IDEQ (Ingham, 2003). Although a special status species may occur in a particular water body, they may not occur in the specific analysis area. For example, steelhead occur in the lower LSR but have not been documented in the Upper LSR analysis area. These species are included because activities in the analysis areas have the potential to affect occupied downstream habitats. The Weiser River drainage contains bull trout and redband trout. There is no indication that the Weiser River provided historical habitat for westslope cutthroat trout, and modern occurrences are believed to be the result of recent introductions (Quigley, et. al., 1997; McGee and Burns, 2001). The LSR provides habitat for chinook, steelhead, bull trout, and westslope cutthroat trout. Westslope cutthroat trout, Chinook salmon and steelhead are not present in steams in the upper LSR, however they do occur downstream (Olson, 2001).

3.3 Botanical Resources and Wetlands

3.3.1 Introduction

This section addresses the environmental baseline conditions for botanical resources in the study corridor. Resources addressed in this section include special status plant species and habitat, noxious weeds and invasive plants, and wetland resources. Impacts to botanical resources and wetlands are discussed in Chapter 4, Section 4.3.

"Sensitive" is a term used by the USFS and BLM to designate plant species known or highly suspected to occur on federal lands that are considered valid candidates for federal threatened or endangered classification under the ESA. The term "sensitive" is used to distinguish potential candidates for listing from plants officially listed as "rare," "threatened," or "endangered," terms that have legal meanings under federal and state laws. A number of plant species do not meet all the criteria to be included on the Sensitive List, but are of sufficient concern that they need to be considered in the planning process. These include species that are locally rare (as opposed to declining throughout their range), are of public concern, occur as disjunct populations, are newly described taxa, or lack sufficient information on population size, threats, trend, or distribution. Such species make an important contribution to biodiversity and are addressed as appropriate through the NEPA process. To better identify these species, agencies have been encouraged to develop "watch lists" of species.

In Idaho, a "noxious weed" is defined as any plant having the potential to cause injury to public health, crops, livestock, land or other property, and which is designated as noxious by the director (Idaho Code 22-2401 et seq.). An "invasive species" is defined as a species that is non-native to the ecosystem under consideration and whose introduction does or is likely to cause economic or environmental harm or harm to human health (USFR, 1999). Invasive plants include not only noxious weeds, but other plants that are not native to this country (USDI, 2004). Noxious weeds and invasive plants are often early-successional, pioneer species that are very successful at colonizing disturbed areas. They typically produce large quantities of easily dispersed seeds that establish quickly and grow to out-compete native plant species for water, nutrients and other resources. In addition, they may spread following disturbance or can become established without soil disturbance. Once introduced into an area, these species can invade intact vegetative cover and displace native plants. Noxious weed and invasive plant seeds can be transported into new areas by vehicles and other equipment, and can be dispersed by wind, animals, and contaminated seed.

Wetlands provide habitat for a vast variety of plant and animal species and can serve as a flood control mechanism. Rainwater, snowmelt and floodwater runoff are partially stored by wetlands and slowly released back into streams, lakes and ground water. Wetlands also serve as natural filters, removing sediments and toxic substances. The United States Army Corps of Engineers (ACOE) and EPA define wetlands as:

> "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for

life in saturated soil conditions (33 CFR 328.3[8][b] and 40 CFR 230.3 [t])."

Wetlands may or may not be considered jurisdictional under the Clean Water Act (CWA). Recent court rulings and decisions have complicated jurisdictional determinations regarding wetlands. Current direction indicates that if wetlands are "isolated" with no surface connection to other jurisdictional waters, or are not directly adjacent to a jurisdictional water, they are not considered jurisdictional and impacts to these wetlands are not subject to the ACOE 404 permitting process. A jurisdictional determination will be made through the consultation process with the ACOE.

Special status plant data presented in this report were derived from existing data from the IDFG Conservation Data Center (CDC), FWS, PNF, BLM and a focused field survey.

Vegetation cover type data and special status species habitat and occurrence data were obtained from the CDC, the Cascade RMP (BLM, 1988), and the PNF Forest Plan (USDA, 2003). Target species with potential to occur within the proposed corridor were identified during project scoping in cooperation with the PNF and BLM in 2002 and 2003.

Existing data including previous studies, publications, and maps were used to complete the water resources and wetlands inventory. Water features were identified using USGS 7.5 minute topographic quadrangle maps, digital GIS map data obtained from Idaho Department of Lands (IDL), and 1:24,000-scale National Wetlands Inventory (NWI) maps (FWS, 1981).

3.3.2 Affected Area

Botanical Resources

The study area contains a variety of landforms, soil types, and vegetation types. This variability creates habitat for numerous plant and wildlife species.

The southern half of the proposed route is characterized by gentle to moderately-sloped broken foothills dissected by small drainages and swales. The perennial native bluebunch wheatgrass (*Pseudoroegneria spicatum*), Idaho fescue (*Festuca idahoensis*), Sandburg's bluegrass (*Poa secunda*) and squirreltail (*Sitanion hystrix*) grassland/ sagebrush (*Artemisia tridentata* ssp. *vaseyana)* communities are in degraded condition and dominated by bulbous bluegrass (*Poa bulbosa),* cheatgrass *(Bromus tectorum),* Japanese brome *(Bromus japonica),* and other annual brome grasses. The state listed noxious weeds leafy spurge (*Euphorbia esula)* and rush skeleton weed *(Chondrilla juncea)* and chicory *(Chicorum intybus)* are also common in the area. However, native forbs remain an important part of these altered communities with sulfur buckwheat (*Eriogonum umbellatum),* parsnip-flowered eriogonum *(Eriogonum heracleoides),* lomatium *(Lomatium nudicaule, L.dissectum, L.macrocarpum),* small-head clover *(Trifolium macrocephalum),* autumn willow-herb *(Epilobium paniculatum),* and blepharipappus *(Blepharipappus scaber)* are common. Mountain brush communities characterized by serviceberry (*Amelanchier alnifolia),* black hawthorn *(Crataegus douglasii),* and chokecherry *(Prunus* spp.), typically occur in ephemeral drainages and snow accumulation areas. Many swales are ephemerally sub-irrigated and support more mesic vegetation such as mules ears (*Wyethia helianthoides),* Baltic rush (*Juncus balticus),* bluegrass *(Poa pratensis, P. cusickii),* and

sego lily *(Calochortus eurycarpus)*; however, bulbous bluegrass remains common in these communities. Stringers of woody riparian vegetation, dominated by willows *(Salix spp.)* and black cottonwood *(Populus trichocarpa)*, follow most lower elevation perennial streams (Elzinga, 2004).

Near Fruitvale, the proposed route crosses an ecotonal zone between lower elevation sagebrush/grassland communities and upper elevation coniferous forest. Mountain brush communities are more common in swales and small drainages, as well as on cool north and east-facing slopes. Ponderosa pine *(Pinus ponderosa)* woodlands are associated with benches along perennial streams and at the toe of cool slopes. Hot aspects and ridges are vegetated by poor condition sagebrush/grassland communities dominated by bulbous bluegrass and other non-native grasses (Elzinga, 2004).

Between Starkey and Tamarack, the Proposed Project enters the coniferous forest zone. North slopes are dominated by mixed Douglas-fir *(Pseudotsuga menziesii)*, grand fir *(Abies grandis)*, and Ponderosa pine forests with an understory of mixed shrubs such as honeysuckle *(Lonicera utahensis)*, ninebark *(Physocarpus malvaceus)*, serviceberry, snowberry *(Symphoricarpos albus)*, and huckleberry *(Vaccinium globulare)* and graminoids such as Geyer's sedge *(Carex geyeri)*, pinegrass *(Calamagrostis rubescens)*, and Idaho fescue. Patches of quaking aspen *(Populus tremuloides)* are common on lower drainage slopes and adjacent to the Weiser River. Drier slopes are vegetated by open Ponderosa pine woodlands. Extreme south aspects and ridges are sparsely vegetated; bulbous bluegrass, autumn willow-herb, arrowleaf balsamroot *(Balsamorhiza sagittata)*, penstemon *(Penstemon* spp.), wheatgrass *(Agropyron trachycaulum)*, cheatgrass, phacelia *(Phacelia hastata)*, sulfur buckwheat, parsnip-flowered eriogonum, scarlet gilia *(Gilia aggregata)*, and yarrow *(Achillea millefolium)* are common species. Riparian zones associated with the Weiser River are dominated by willow and black cottonwood with occasional Douglas-fir and spruce. Occasional wet to moist graminoid meadows are associated with Weiser River floodplain areas. Floodplain development is limited in most tributary streams, and narrow riparian bottoms are generally densely vegetated by shrubs such as willow, mountain alder *(Alnus incana)*, water birch *(Betula occidentalis)*, dogwood *(Cornus stolonifera)*, chokecherry, golden current *(Ribes aureum)*, and serviceberry. Ephemeral draws similarly are generally shrubby, with common species including ocean spray *(Holodiscus discolor)*, blue elderberry *(Sambucus cerulea)*, ninebark, Scouler's willow *(Salix scouleriana)*, and serviceberry (Elzinga, 2004).

Wetlands

Two wetlands are located within the Proposed Project ROW. These wetlands are generally associated with riparian areas of the perennial and intermittent streams throughout the study area. The first is a small wetland located adjacent to the existing transmission line east of the Weiser River just south of Beaver Creek (**Figure 3-4**). At this location, the existing line goes along the edge of the wetland, which is located between the existing access road and the base of the hill. The second identified wetland is an approximately two-acre palustrine emergent seasonally flooded (PEMC) wetland located adjacent to the proposed West McCall Substation site (**Figure 3-5**).

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Figure 3-4

Wetland South of Beaver Creek

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

Scale 1:1400

Feet

0 100 200 300

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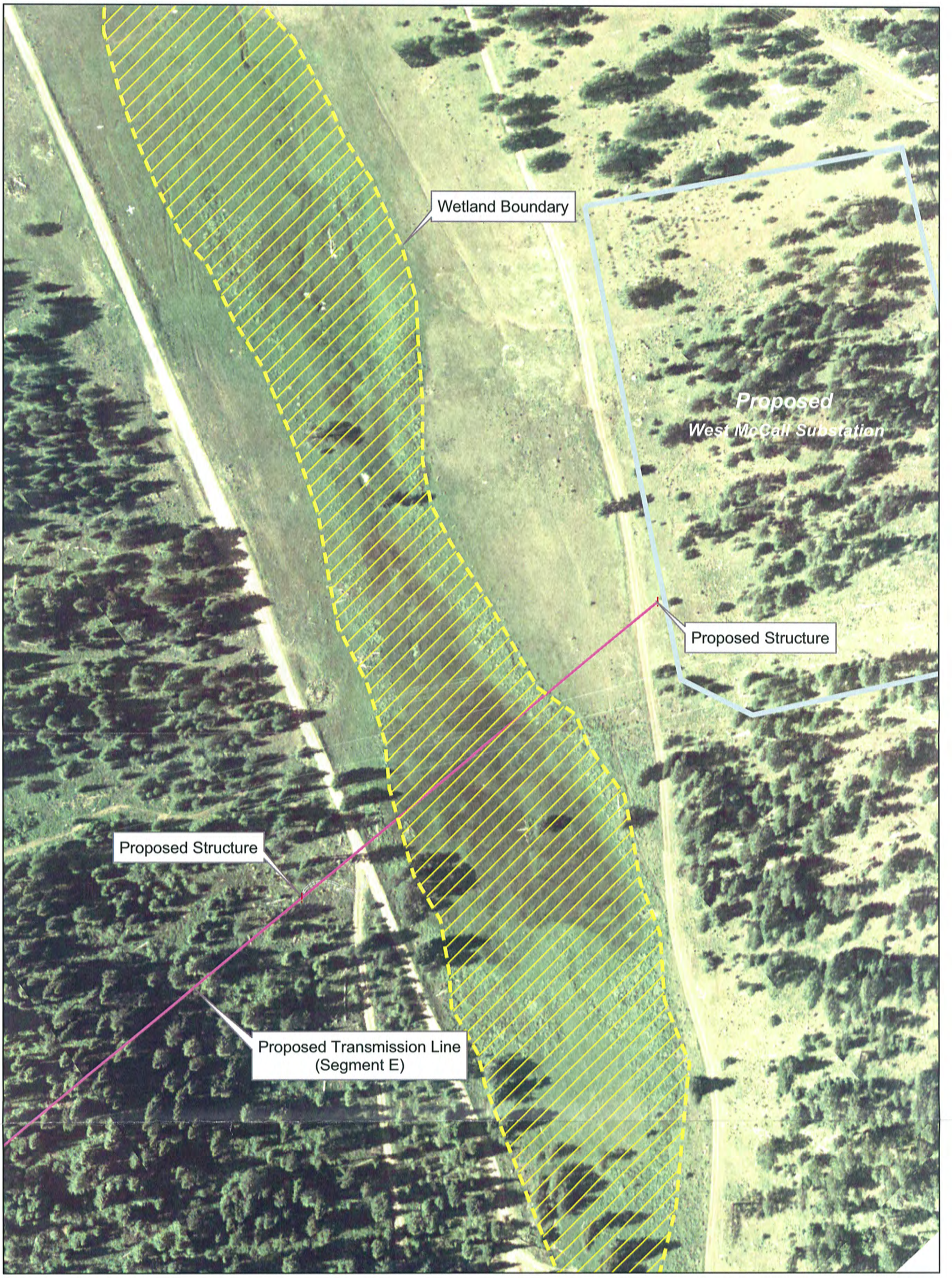
101693 West McCall Sub. Beaver Cr. Wetlands 11x17 1-27-05.jp



IDAHO POWER

POWER ENGINEERS

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Scale 1:1400

Feet

0 100 200 300

Figure 3-5

Wetland Near Proposed West McCall Substation

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

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101693 West McCall Sub. Wetlands 11x17 1-27-05.jpt

Most of the wetland and riparian areas encountered by the proposed route appear to be moderately to heavily grazed. Furthermore, existing noxious weed populations (leafy spurge) are encroaching within most of the riparian areas in the southern half of the corridor and may be impairing the function and value of the associated wetlands.

3.3.3 Current Resource Conditions

Special Status Species – Plants

Special status species include plant and animal species listed by the FWS or CDC as endangered, threatened, or candidate species; and plant and animal species listed by federal land management agencies (e.g., USFS and BLM) as sensitive or "watch" species. Species detailed on the federal list receive legal protection under the ESA.

No ESA-listed critical habitat or threatened, endangered, or candidate plant species are known to occur in the Project corridor although previous FWS consultation listed Ute ladies'-tresses as Threatened. Recent consultations with FWS, BLM, and PNF indicate that Ute ladies'-tresses do not occur in the Proposed Project area. Previous botanical surveys have failed to find any suitable habitat located within the Proposed Project area (Alma Hanson, PNF botanist, personal communication), therefore the Ute ladies'-tresses is not listed in **Table 3-5**.

All other special status plant species that are known to occur, or have a potential to occur in the Project corridor, are listed in **Table 3-5**. These data were obtained from the Idaho Conservation Data Center (CDC, 2004). Target species with potential to occur within the Proposed Project area were identified during project scoping in cooperation with the PNF and BLM. Additional species were added based on an evaluation of potential habitat during initial days of field surveys. Also listed is their official listing status, information on their habitat affinities, and notes as to their relative sensitivity in the region. Abbreviations used in the table are defined in the table legend. **Figure 4-1** indicates occurrences of special status plant species within the study area. A complete pedestrian rare plant species survey assessed habitat and potential population areas along the proposed corridor between June and July 2003 and on access roads in June 2004. The only sensitive species observed along the corridor was Douglas' clover, which occurs on BLM lands.

Table 3-5 Plant Species of Concern that May Occur Within the Study Area

Common Name	Scientific Name	USFS	BLM	Habitat
Swamp onion	*Allium madidum*	S		Coniferous forest openings in seasonally wet meadows and ephemeral waterways; 3,800-6,500'.
Tolmie's onion	*Allium tolmiei* var. persimile	S	Type 3	Seasonally wet soils that become very dry during the summer, in swales, seasonal watercourses, seeps and road cuts in open sagebrush, Ponderosa pine, Douglas -fir and grand fir communities; 3,000-5,500'.
Tall swamp onion	*Allium validum*			Swampy meadows; known from the Cuddy Mountains, but generally in the higher coniferous forest to subalpine zone in subalpine fir habitats.
Indian Valley sedge	*Carex aboriginum*		Type 2	Sunny ephemerally to perennially moist sites associated with subirrigated meadows, irrigation ditches and streams; 2,800-3,400'.
Prostrate ceanothus	*Ceanothus prostratus* ssp. prostratus		Type 3	Open dry forest floor in Ponderosa pine/shrub communities; 3,000-4,000'.
Dwarf grey rabbitbrush	*Chrysothamnus nauseosus* ssp. nanus		Type 5	Restricted to shallow, rocky basalt soils on exposed, dry rocky ridges, outcrops, rocky debris and upper slopes. In Idaho, at 4,100-5,675'. One occurrence known from the PNF near Cambridge.
Idaho hawksbeard	*Crepis bakeri* ssp. idahoensis		Type 2	Seasonally mesic open grassland slopes, benches and ridges, occasionally extending to the grassland/forest ecotone.
Bacigalupi's downingia	*Downingia bacigalupii*		Type 4	Drying mud of vernal pools, muddy margins of lakes, wet meadows, roadsides, irrigation ditches and streambanks, 2,700-5,800'
White eatonella	*Eatonella nivea*		Type 4	Dry desert areas in sandy or volcanic soils, often with sagebrush; 2,200-5,800'.
Snake River golden weed	*Haplopappus radiatus*	S	Type 3	Loam soils on steep rocky hillsides in big sagebrush, bluebunch wheatgrass, arrowleaf balsamroot and Idaho fescue communities; 1,900-4,600'.
Bank monkeyflower	*Mimulus clivicola*	S	Type 5	Moist microhabitats such as seeps, perched water tables and runoff channels. Sites have southerly aspects in grass/shrub communities. Soils ranch from moderate to deep basaltic; 4,200-6,700'.
Western germander	*Teucrium canadense* var. occidentale		Type 3	Streambanks to moist bottomlands; 2,400-3,600'.
Douglas' clover	*Trifolium douglasii*		Type 2	Swales, drainages, and snow accumulation areas in sagebrush/grassland; often with *Wyethia helianthoides*
Plumed clover	*Trifolium plumosum* var. amplifolium		Type 3	Dry hillsides and meadows.

Ranking Codes:

BLM:

Type 1. Threatened, Endangered, Proposed, and Candidate species
Type 2. Rangewide/Globally Imperiled species
Type 3. Rangewide/Globally Imperiled species
Type 4. Species of Concern
Type 5. Watch species

FOREST SERVICE:

S: Sensitive species

3.3.4 Noxious Weeds and Invasive Plants

General noxious weed and invasive plant distribution in the Project corridor was determined through botanical surveys conducted in July of 2003. Although the sensitive plant survey was focused, the preliminary survey for noxious weeds and invasive plants was general in nature, intended to help IPCo identify the larger populations. A more focused survey for noxious weeds and invasive plants in the Project corridor, work areas, and access roads would be conducted by IPCo prior to construction. Noxious weeds and invasive plants are present in scattered locations throughout the Project corridor (see discussion of occurrence in Section 3.3.2). Although a number of different species are present in small numbers and low density, the most common species found is leafy spurge. Robust populations of leafy spurge were noted during field surveys primarily in the southern half of the Project corridor associated with small drainages and riparian areas. Leafy spurge is a serious problem in the Project corridor and county weed control personnel are actively working to keep the existing populations in check.

Wetlands

An approximately two-acre palustrine emergent seasonally flooded (PEMC) wetland has been identified adjacent to the proposed West McCall Substation site. Most of the wetland and riparian areas encountered by the proposed appear to be moderately to heavily grazed. Furthermore, existing noxious weed populations (leafy spurge) are encroaching within most of the riparian areas in the southern half of the corridor and may be impairing the function and value of the associated wetlands.

3.4 Terrestrial Wildlife Resources

3.4.1 Introduction

The Proposed Project area contains several habitat types that support a variety of wildlife species. These include common species, such as deer and elk, as well as relatively uncommon species, such as the northern Idaho ground squirrel (CDC, 2003). Terrestrial wildlife resources within the Project corridor were identified through review of existing studies, field investigations, and data obtained from the USFS, BLM, FWS, IDFG, and Idaho Partners in Flight. This section discusses the terrestrial wildlife species, with a focus on species of special interest.

There are a number of agency statutes and regulations (described below) that pertain to terrestrial wildlife species and habitats of concern in the vicinity of the Proposed Project area.

Endangered Species Act (ESA)

The FWS lists wildlife species pursuant to the ESA (16 U.S.C. 460 et seq.). The ESA has four species classifications: Endangered; Threatened; Proposed; and Candidate. Section 7(a)(2) of the ESA, as amended, requires that "each federal agency shall ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat." As a supplement to this EA, a separate

Biological Assessment (BA) will be prepared in consultation with FWS to further evaluate the Proposed Project relative to those species listed pursuant to the ESA.

Species of Special Interest

There are a number of other terrestrial wildlife species that are of interest to federal and state agencies. The USFS, BLM, and IDFG each maintain individual lists of special interest species. The USFS-Regional Forester designates certain species within each National Forest as "sensitive." Species are classified as sensitive due to known population declines, limited available habitat, and/or uncertainty regarding population and habitat trends (USDA, 2003*a*). The BLM and IDFG both utilize a multiple classification hierarchy for species determined to be of special interest. Lists of special interest species that could potentially occupy the Proposed Project area were obtained from USFS, BLM, and IDFG.

The National Forest Management Act (NFMA) requires that forest plans provide for diversity of plant and animal communities based on the suitability and capability of the specific land area. The NFMA directs individual Forest Plans to identify Management Indicator Species (MIS). MIS are indicators of specific forest conditions, and changes in their populations are indicative of the effects of forest management activities. The 2003 PNF Forest Plan identifies the designated MIS for the PNF.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits "the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests" (16 U.S.C. 703-711). Given the diversity of habitat types within the Proposed Project area, it is likely that a variety of migratory bird species are seasonal occupants of the area. All migratory species that inhabit and/or nest in the Proposed Project area are protected pursuant to the MBTA.

Idaho Partners in Flight published the Idaho Bird Conservation Plan (IBCP) in 2000. This document promotes a habitat-based approach to the conservation of bird populations, with an emphasis on promoting healthy ecosystems. The IBCP identifies four high priority bird habitats in Idaho: riparian; non-riverine wetlands; sagebrush shrublands; and dry Ponderosa pine/Douglas-fir/grand fir forests. This plan also identifies high priority breeding bird species that potentially occupy each of these habitats (Idaho Partners in Flight, 2000). The objectives for the four high priority habitat types include:

1) Riparian: Maintain existing distribution and extent of riparian habitat and restore 10 percent of the historical extent of each system within each ecoregion subsection.

2) Non-riverine wetlands: Obtain net increase in acreage of wetlands in Idaho.

3) Sagebrush shrublands: Reverse declining trends of sagebrush bird species and manage sage-grouse in accordance with the Sage-Grouse Management Plan.

4) Dry Ponderosa pine/Douglas-fir/grand fir forests: Restore at least 10 percent of historical range of these forests meeting the habitat conditions required by the White-headed woodpecker.

Important Terrestrial Habitats

Important terrestrial wildlife habitats in the vicinity of the Proposed Project area were identified through literature searches, field investigations, and correspondence with USFS, BLM, and IDFG wildlife biologists.

3.4.2 Affected Area

For the purposes of analyzing potential effects upon terrestrial wildlife resources, the affected area includes: 1) The proposed 100-foot ROW; 2) construction of 59.1 miles of non-maintained, access roads; and 3) work areas adjacent to each transmission tower.

The Proposed Project area has been divided into six segments (A-F) to facilitate environmental analyses (**Figure 1-1**). The Proposed Project area contains 17 habitat types (Idaho GAP, 2000). Elevations in segment A range from 2,700 to 4,360 feet above mean sea level (MSL). Primary habitat types include grassland, sagebrush, and shrub steppe. Elevations in segment B range from 3,280 to 4,130 MSL. Primary habitat types include Ponderosa pine, mixed xeric forest, broadleaf riparian, and Douglas-fir forest. Elevations in segment C range from 3,960 to 4,120 MSL. Primary habitat types include Ponderosa pine, mixed xeric forest with Douglas-fir, and mesic shrublands/grasslands. Elevations in segment D range from 3,800 to 5,280 MSL. Primary habitat types include Ponderosa pine, mixed xeric forest with Douglas-fir, and riparian shrub. Elevations in segment E range from 4,310 to 5,840 MSL. Primary habitat types include Ponderosa pine, mixed xeric forest with Douglas-fir, and grasslands. Elevations in segment F range from 4,080 to 4,100 MSL. Primary habitat types include riparian shrub and small stands of Ponderosa pine.

3.4.3 Current Resource Conditions

Species Listed Under the ESA

Federally listed terrestrial wildlife species that could potentially occur in the vicinity of the Proposed Project were identified through field investigations, literature searches, and correspondence with PNF, BLM, and IDFG biologists, and review of agency species lists. Based upon these analyses, it was determined that six ESA-listed species could potentially occur within the Proposed Project area. These species and their likelihood of occurrence within the Proposed Project area are discussed below and summarized in **Table 3-6**.

Table 3-6 Federal Threatened and Candidate Species

Common Name	Scientific Name	Federal Status[1]	Probability of Occurrence
Bald eagle	*Haliaeetus leucocephalus*	T	Known to occur. No known nest or roost sites in Proposed Project area, but - forage on elk/deer winter range (late November through early March).
Northern Idaho Ground Squirrel	*Spermophilus brunneus brunneus*	T	Moderate likelihood of occurrence. Known habitat in vicinity of the Proposed Project area.
Canada Lynx	*Lynx canadensis*	T	Low likelihood of occurrence. Insufficient habitat and prey base within the Proposed Project area.
Gray Wolf	*Canis lupus*	XN	Moderate likelihood of occurrence. Proposed Project area is within the species range, recent sightings in vicinity, and prey seasonally available on elk winter range.
Yellow-billed Cuckoo	*Coccyzus americanus*	C	Low likelihood of occurrence. Species not known from area and no suitable habitat occurs within the Proposed Project area.
Southern Idaho Ground Squirrel	*Spermophilus brunneus endemicus*	C	Low likelihood of occurrence. Surveys indicate potential suitable habitat well outside of Project corridor.

[1] T = threatened; XN = non-essential/experimental population; C = candidate

Bald Eagle (*Haliaeetus leucocephalus*)

Status: Threatened

The bald eagle was listed as Threatened under the ESA in 1978. Bald eagle habitat consists of large trees for perching, roosting, and nesting in proximity to waterways containing abundant fish populations (Groves et *al.*, 1997; USFWS, 1986). Although fish represent the primary food source for bald eagles, studies in Idaho indicate that they also consume waterfowl, jackrabbits, and carrion (Groves et *al.*, 1997). In the western U.S., bald eagles often forage for carrion on big game winter ranges. Eagles nest in tall trees or on cliffs, typically within ½ mile of a permanent water body (USFWS, 1986). Bald eagles occur throughout Idaho, but are known to nest in only three regions of the State. The largest nesting population occurs along the North and South Forks of the Snake River, with smaller populations in northern Idaho (Pend Oreille River drainage and Kootenai valley) and in southwestern Idaho (North Fork of the Payette River drainage and Cascade Reservoir). The 2003 PNF Forest Plan directs the PNF to maintain and restore forest structural conditions for nesting and roosting areas near water bodies used by bald eagles (USDA*a*, 2003).

Although no bald eagle nests or roost sites are known to occur within the Proposed Project area, there are four known nests in the general vicinity (IDFG, 2002). Two of these nests are located in the McCall area (McCall Airport and Ponderosa nests), approximately 3 and 6 miles, respectively, from the project terminus in segment E. A third nest (Hait Ranch nest) is located approximately 5 miles south of segment E. The fourth nest (Tamarack

nest) is located approximately 6 miles west of segment F. During field investigations, a bald eagle was observed feeding on a mule deer carcass approximately 1 mile northeast of segment F. An observation report was submitted to the Idaho CDC (**Appendix C**). Given the observation of an eagle during field investigations, the bald eagle is known to occur in the vicinity of the Proposed Project area.

Northern Idaho Ground Squirrel ***(Spermophilus brunneus brunneus)***

Status: Threatened

The northern Idaho ground squirrel was listed as Threatened under the ESA on April 5, 2000. The species is endemic to Idaho, and its geographic range is restricted to a 1,200-square mile area in Adams and Valley Counties. The northern Idaho ground squirrel population has declined from an estimated 5,000 individuals in 1985 to 450-500 individuals in 2003 (Yensen, 2003). Northern Idaho ground squirrel habitat consists of open meadows with low tree densities and abundant bunchgrass and forb communities. The species eats grasses, seeds, roots, bulbs, and flower heads. Burrows are excavated under logs and rocks in well-drained soils (USFWS, 2003*a*). The decline of northern Idaho ground squirrel populations has been attributed to habitat loss due to fire suppression, forest encroachment, and grazing, as well as development, recreational shooting, and domestic cats (USFWS, 2003*a*). Recovery strategies identified in the Northern Idaho Ground Squirrel Recovery Plan include habitat restoration and reintroductions into suitable habitat (USFWS, 2003*a*). The PNF is signatory to the northern Idaho ground squirrel Conservation Agreement, and is currently implementing a Habitat Management Plan for this species. The Forest Plan directs the PNF to maintain and restore vegetative conditions that contribute to the recovery of the species (USDA, 2003*a*).

Dr. Eric Yensen conducted systematic surveys for northern Idaho ground squirrels along the entire length of the Proposed Project. Surveys were conducted between July 10 and July 21, 2003. No northern Idaho ground squirrels were observed within the ROW. Dr. Yensen did identify suitable northern Idaho ground squirrel habitat, as well as characteristic burrows and fecal pellets, in the vicinity. Field assistants also observed ground squirrel-sized animals during these surveys. Dr. Yensen was unable to verify whether any burrows, pellets, or sightings were associated with northern Idaho ground squirrels. Based upon habitat conditions and the locations of burrows, fecal pellets, and animal observations, Dr. Yensen delineated a total of 15.4 acres of potential suitable habitat at six locations in the vicinity of the Proposed Project (**Figure 3-6**). These locations include:

1) East of Rush Creek: A sighting and one burrow 0.3 miles east of Rush Creek. The sighting and burrow were located 216 feet and 454 feet from the centerline of the proposed transmission line, respectively. At the nearest point, delineated suitable habitat (1.1 acres) is 415 feet from the centerline (outside ROW). This site is located at the boundary of northern and southern Idaho ground squirrel ranges, and either species could be present.

2) North of Jackson Creek Road: One burrow just north of Jackson Creek Road. The burrow was located 209 feet from the centerline of the proposed

transmission line. At the nearest point, delineated suitable habitat (3.1 acres) is 65 feet from the centerline (outside ROW).

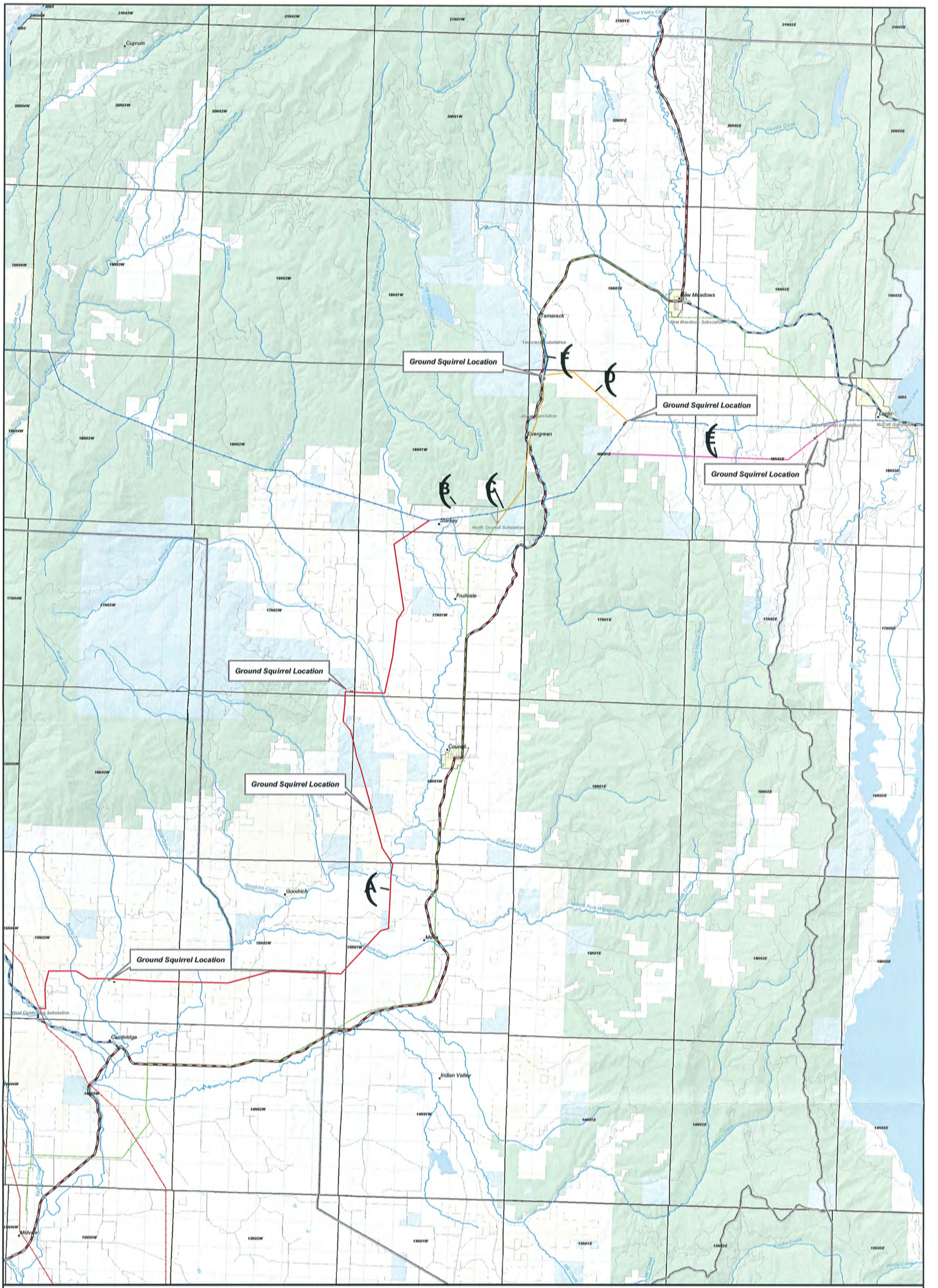
3) West of Hornet Creek: Two burrows west of Hornet Creek and south of Pole Road. These burrows were located 216 feet and 26 feet from the centerline of the proposed transmission line, respectively. At the nearest point, delineated suitable habitat (1.9 acres) is 14 feet from the centerline (within ROW).

4) South of Beaver Creek: One burrow and pellets south of Beaver Creek. The burrow and pellets were located 232 feet from the centerline of the proposed transmission line. At the nearest point, delineated suitable habitat (3.9 acres) is 78 feet from the centerline (outside ROW).

5) Between PI-33B and PI-36B: One possible burrow at the northern end of Segment D. The burrow was located along the centerline of the proposed transmission line. At the nearest point, delineated suitable habitat (3.5 acres) is 303 feet from the centerline (outside ROW).

6) West of Red Ridge: One burrow west of Ridge Road. This burrow is located 191 feet from the centerline of the proposed transmission line. Two patches of delineated suitable habitat (1.4 acres and 0.5 acres) both overlap the centerline (within ROW).

Although no northern Idaho ground squirrels were observed along the Project corridor, results of field surveys indicate a moderate probability that the northern Idaho ground squirrel occurs within the Proposed Project area.



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Scale 1:200,000

Miles

0 1 2 3 4 5

Legend

- Existing Substations
- Proposed Substations
- State Highways
- U.S. Highways
- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

Ground Squirrel Locations

BLM
Private
State
USFS

Existing Transmission Line

- 138kV
- 230kV
- 69kV

Figure 3-6

Potential Northern and Southern Idaho Ground Squirrel Habitat Locations

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:/Council_McCall/resource_files_2-6-04/FinalData 1-20-05/Ground Squirrel

101693 Ground Squirrel 11x17 1-27-05 ja

Canada Lynx *(Lynx canadensis)*

Status: Threatened

The Canada lynx was listed as Threatened in the contiguous U.S. on April 24, 2000. The primary threats to this species include inadequate regulatory protection and Forest Service activities that degrade lynx habitat (50 CFR Part 17). The Canada lynx inhabits high-elevation, mature, mixed-coniferous forests with adjacent or nearby early seral forest stands. In central Idaho, potentially suitable habitat has been identified in lodgepole pine, subalpine fir, Engelmann spruce, and moist Douglas-fir and grand fir communities. These habitats generally occur above 5,000 MSL in the PNF (Lon Schultz, PNF, personal communication). The primary prey is snowshoe hare, and lynx foraging habitat includes early successional forests that support high hare densities. Lynx can travel long distances, with documented movements of 600 miles during periods of prey scarcity (Ruediger et *al.*, 2000). Home range sizes vary in relation to prey availability, with home ranges averaging between 15 to 25 square miles (Ruediger et *al.*, 2000). Lynx require travel corridors for safe movement between dens and foraging areas, and avoid openings exceeding 100 meters in width (Koehler, 1990). Potential lynx habitat and movement corridors ("linkages") were identified for the entire state in the Northern Rockies Lynx Amendment Draft Environmental Impact Statement (USFS, 2004). The USFS and BLM are signatories to Lynx Conservation Agreements with the FWS. These agreements require the USFS and BLM to evaluate projects and management actions relative to lynx and lynx habitat, and to consider the recommendations presented in the Canada Lynx Conservation Assessment and Strategy (Ruediger et *al.*, 2000). In accordance with the Conservation Assessment and Strategy, the PNF has identified and mapped potential Lynx Analysis Units (LAUs). LAUs are areas that contain- potential suitable lynx habitat, and are based upon existing vegetative conditions. In the PNF, potential suitable lynx habitat includes spruce-lodgepole pine forests to the northeast and southwest of McCall, Idaho. The nearest verified occurrence of lynx is on the Boise National Forest approximately 40 miles southeast of the proposed McCall substation. (Joe Foust, Boise National Forest, personal communication).

The Proposed Project area is not within any lynx habitat or linkage areas as identified in the Northern Rockies Lynx Amendment Draft Environmental Impact Statement (USDA and USDI, 2004). The PNF has identified LAUs in both the Weiser River and Goose Creek/Hazard Creek Management Areas (USDA, 2003*a*). The Proposed Project would bisect the extreme southern end of the Goose Creek LAU, which is located in the Goose Creek/Hazard Creek Management Area approximately 3 miles west of McCall (**Figure 3-7**). This portion of the Goose Creek LAU is located outside the PNF, and encompasses private lands owned by Boise Cascade and IPCo. In the vicinity of the Proposed Project area, the Goose Creek LAU has been subjected to extensive timber harvesting by Boise-Cascade. An existing transmission line corridor also bisects the LAU in the vicinity of the Proposed Project. Mapping of potential vegetation groups (PVGs) prepared by the PNF indicate that the Proposed Project would bisect dry Ponderosa pine (PVG 1), warm Douglas-fir/moist Ponderosa pine (PVG 2), moist grand fir (PVG 6), and non-forest (PVG 99). Vegetation is relatively sparse, and has been reduced to small, isolated patches of forest. This portion of the LAU does not contain potential suitable lynx habitat.

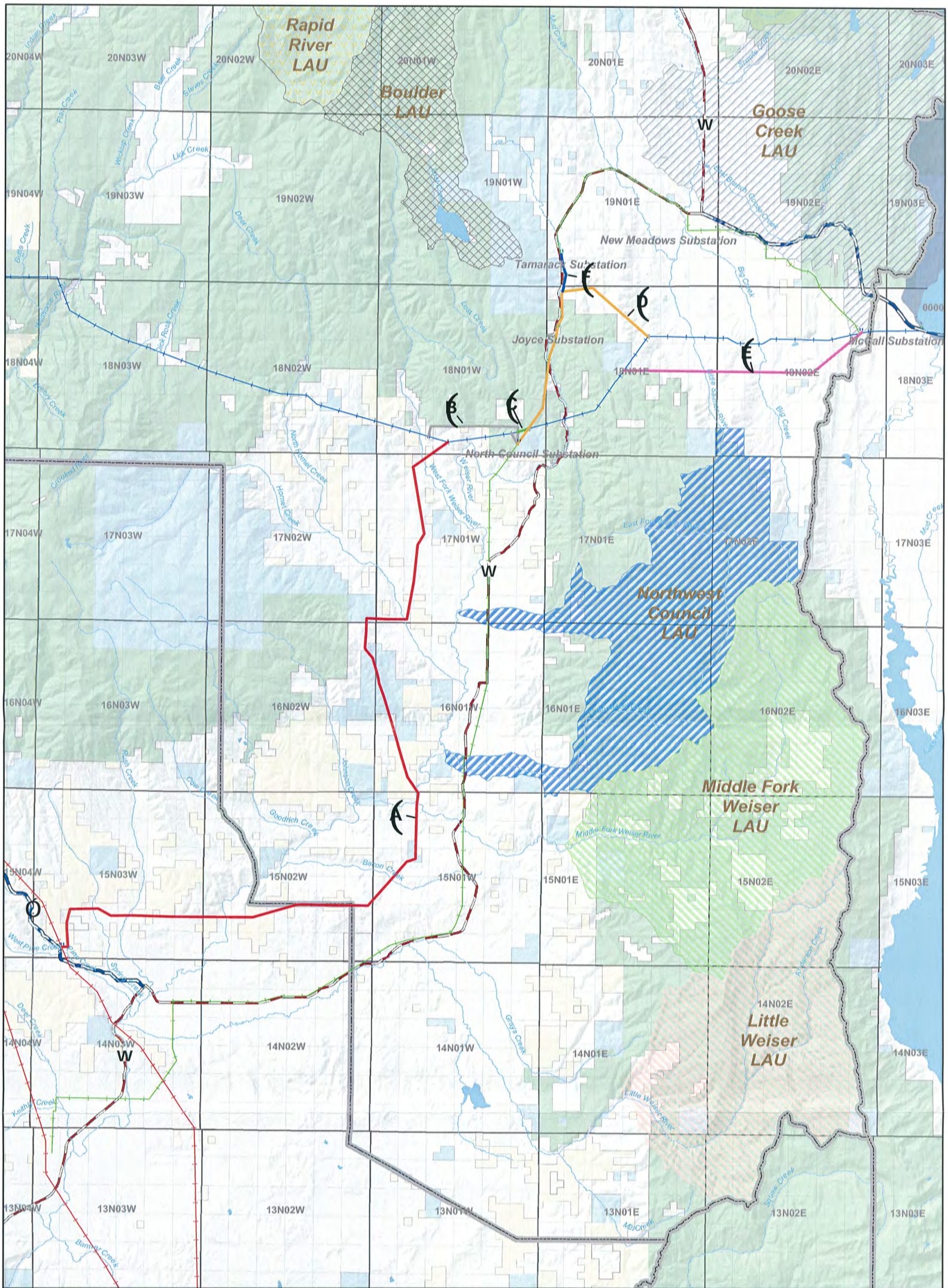

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Figure 3-7

Lynx Analysis Units

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:\Council_McCall\resource_files_2-6-04\Final\Data 1-20-05\Lynx Map

101693 Lynx Analysis Units 11x17 1-27-05 ja

Gray Wolf *(Canis lupus)*

Status: Non-essential/Experimental

The Western Distinct Population Segment of gray wolf (Idaho, Montana, and Wyoming) was designated as a nonessential, experimental population on November 22, 1994, (59 FR 60252-60266). This classification preceded the delineation of gray wolf restoration areas and the reintroduction of this species to Yellowstone National Park and central Idaho in 1995. The Idaho population has expanded in size and distribution, and was comprised of 379 individuals in 38 packs by the end 2003 (Mack and Holyan, 2004). Pack territories vary in size from 50-1,000 square miles, and territory boundaries are primarily determined by prey abundance and availability. Wolves are highly mobile, and can travel extremely long distances (>200 miles) while foraging. Primary prey in Idaho includes elk, moose, and deer. Quality gray wolf habitat includes relatively high ungulate densities, secluded denning and rendezvous sites, and limited human disturbance (Groves et *al.*, 1997).

No Gray wolves were observed during field investigations, and the Proposed Project area is located outside the Central Idaho Restoration Area (Mack and Holyan, 2004). Gray wolf populations in Idaho are closely monitored, and there are no known packs within the Proposed Project area. Currently, there are four wolf territories in the general region: the Gold Fork pack near Donnelly; the Orphan pack east of Cascade; the Thunder Mountain pack along the south fork of the Salmon River; and the Wolf Fang pack located north of the Thunder Mountain pack (Mack and Holyan, 2004). There have been several verified wolf sightings in the immediate vicinity of the Proposed Project. Given the presence of big game winter range in the vicinity of Cambridge, there is a moderate likelihood that wolves utilize the Proposed Project area as foraging habitat.

Yellow billed Cuckoo *(Coccyzus americanus)*

Status: Candidate

The yellow-billed cuckoo was listed as a Candidate species under the ESA on July 25, 2001 (66 FR 38611-38626). In southwestern Idaho, the cuckoo is considered a rare visitor to the Snake River valley. Although numerous sightings have been reported in this part of the State over the past 25 years, the available information is inadequate to judge population and distribution trends. The current breeding population in Idaho is likely limited to a few pairs (66 FR 38611-38626). The yellow-billed cuckoo inhabits large tracts of deciduous riparian woodlands with cottonwood and willow trees. Dense understory vegetation is important in nest site selection. The yellow-billed cuckoo is insectivorous and forages in cottonwood trees for caterpillars and other insects, as well as fruits, small lizards, and frogs (Groves et *al.*, 1997).

No yellow-billed cuckoos were observed during field investigations, and there are no recorded observations from either Adams or Valley County. Although the Proposed Project does traverse a few small patches of forested riparian habitats, these areas are unlikely to support the yellow-billed cuckoo. Given the limited potential suitable habitat in the area and the absence of any observations from the general area, the yellow-billed cuckoo has a low likelihood of occurrence within the Proposed Project area (CDC, 2003).

Southern Idaho Ground Squirrel *(Spermophilus brunneus endemicus)*

Status: Candidate

The southern Idaho ground squirrel was listed as a Candidate species under the ESA on October 30, 2001 (66 FR 54807). The primary threats to this species include invasive non-native plants, habitat loss, poisoning, and competition with the Columbian ground squirrel. The geographic range of the southern Idaho ground squirrel is limited to an 810-square mile area in Gem, Payette, and Washington counties of western Idaho. The species declined from an estimated 40,000 individuals in 1985 to fewer than 5,000 in 2003 (Yensen, 2003). Preferred habitat includes grasslands that contain abundant native grasses and forbs, as well as big sagebrush and bitterbrush communities. The species has a short active season, hibernating from early July through early February.

The southern end of the Proposed Project is located at the northern edge of southern Idaho ground squirrel range **(Figure 3-6)**. Dr. Eric Yensen conducted a systematic survey of the Project corridor for this species between July 10 and July 21, 2003. No southern Idaho ground squirrels were observed along the corridor during these surveys. However, since surveys were conducted at the end of the species active season, some individual southern Idaho ground squirrels may have already entered hibernation. Dr. Yensen did find burrows and fecal pellets in one area of potential suitable habitat located 0.3 miles east of Rush Creek. This area was previously described in the section on northern Idaho ground squirrels. The burrow was located 454 feet from the centerline of the proposed transmission line. Delineated suitable habitat (1.1 acres) is 415 feet from the centerline (outside ROW). Results of field surveys indicate that there is a low likelihood that the southern Idaho ground squirrel occurs within the Proposed Project area.

Species of Special Interest

Several species of special interest could potentially occur within the Proposed Project area (**Table 3-7**). The potential for these species to inhabit the study area was evaluated based upon review of species habitat requirements and life history, as well as information obtained from the USFS, BLM, and IDFG.

Table 3-7 Potential of Occurrence for Species of Special Interest

Common Name	Scientific Name	Status BLM	Status USFS[2]	Status IDFG[3]	Probability of Occurrence	Rationale
Mammals						
Wolverine	*Gulo gulo*	3	S	SC	Not likely to occur	Suitable habitat not present
Fisher	*Martes pennanti*	3	S	SC	Not likely to occur	Suitable habitat not present
Elk	*Cervus elaphus*	--	SEI	--	Known to occur	Known winter range
Spotted Bat	*Euderma maculatum*	3	S	SC	May occur occur	Potential foraging habitat present
Townsend's Big-eared Bat	*Corynorhinus townsendii*	3	S		May occur occurs	Potential foraging habitat present
Amphibians						
Columbia Spotted Frog	*Rana luteiventris*	--	S	SC	May occur	Limited suitable habitat present
Birds						
Pileated Woodpecker	*Dryocopus pileatus*	--	MIS	--	Known to occur	Observed in Proposed Project area
White-headed Woodpecker	*Picoides albolarvatus*	4	S, MIS	SC	Known to occur	Observed in Proposed Project area
American Three-toed Woodpecker	*Picoides tridactylus*	--	S	SC	Not likely to occur	Suitable habitat not present
Peregrine Falcon	*Falco peregrinus*	3	S	E	May occur	Potential foraging habitat present
Northern Goshawk	*Accipiter gentiles*	3	S	SC	Known to occur	Proposed Project within a known
Flammulated Owl	*Otus flammeolus*	3	S	SC	Likely to occur	Suitable habitat present
Great Gray Owl	*Strix nebulosa*	5	S	SC	Likely to occur	Suitable habitat present
Boreal Owl	*Aegolius funereus*	5	S	SC	Not likely to occur	Limited suitable habitat present
Harlequin Duck	*Histrionicus histrionicus*	4	S	GSC	Not likely to occur	Limited habitat; no observations
Mountain Quail	*Oreortyx pictus*	3	S	SC	Not likely to occur	Limited suitable habitat present
Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus columbianus*	3	S	GSC	Known to occur	Leks not found during IDFG surveys
Greater Sage-grouse	*Centrocercus urophasianus*	2	--	--	Not likely to occur	Leks not found during IDFG surveys

1 Bureau of Land Management species classification:

Type 1- Threatened, Endangered, Proposed, and Candidate species.

Type 2- Rangewide/Globally Imperiled Species.

Type 3- Regional/State Imperiled Species.

2 United States Forest Service species classification:

S- Sensitive species

MIS- Management Indicator Species

SEI- Species of Economic Importance

3 Idaho Department of Fish and Game species classification:

SC- Species of special concern.

E- Endangered.

GSC- Game species of special concern

Wolverine ***(Gulo gulo)***
Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

The wolverine inhabits large, remote alpine areas, and is sensitive to human disturbance. Research conducted in Idaho found that wolverines prefer talus/rock fields and Douglas-fir forests during summer and move to montane coniferous forests during winter. Wolverines have large home ranges (175 square miles for females and 719 square miles for males), and often travel long distances while foraging (Copeland, 1996). Their diet primarily consists of carrion, although they do eat small mammals, berries, and fruits.

No wolverines were observed during field investigations. There are historical records of wolverines occurring in the area between Evergreen and Goose Creek. Additionally, there was a recent report of a wolverine crossing the highway near the Joyce Substation (Lon Schultz, USFS biologist, personal communication). Although wolverines may occasionally travel through the Proposed Project area while foraging, the area does not contain habitat suitable for long-term occupancy. The area is low elevation, has been previously disturbed by timber harvesting, and is subjected to a variety of human disturbances. Existing habitats in the area are generally small and fragmented. The wolverine is not likely to occur within the Proposed Project area other than during sporadic movements.

Fisher (Martes pennanti)
Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

The fisher is a specialized forest carnivore that inhabits late-successional forests. The species was eliminated from Idaho by the early 20th century as a result of intensive trapping and habitat loss. The State initiated a series of reintroductions in the1960's, which resulted in their re-establishment in Idaho. The fisher inhabits mature or old growth coniferous forests, and rest and den sites are located in late-successional forests with large trees, snags, coarse woody debris, and multi-layered canopies. The fisher is an opportunistic predator with a diverse diet that includes snowshoe hares, squirrels and other small mammals, porcupines, birds, insects, carrion, and vegetation (Zielinski et *al.*, 1999). Home ranges are typically between 5 and 50 square miles, and they are capable of dispersing up to 100 miles.

No fishers were observed during field investigations, and there are no known observations of fisher in the Proposed Project area. There are no large tracts of late-successional coniferous forest within the Proposed Project area. Small, isolated patches of marginal habitat do exist in certain portions of the Proposed Project area. The fisher is not likely to occur within the Proposed Project area.

Rocky Mountain Elk ***(Cervus elaphus)***
Status: Sensitive (USFS)

The Rocky Mountain elk is a habitat generalist, and the species is capable of occupying a wide variety of habitats that provide adequate security cover and forage. Research in Idaho indicates that the species prefers mesic meadows, river flats, and aspen parklands. Elk have a broad diet that includes grasses, forbs, and browse, and they forage extensively in early successional habitats such as clear cuts and forest edges. Elk typically migrate between high elevation summer ranges and lower elevation winter ranges. It has been demonstrated

that elk avoid roads and human activity, and that high road densities reduce habitat security.

Although suitable elk habitat exists within the Proposed Project area, no elk were observed during field investigations. Fecal pellets were observed in all segments. The southern portion of the proposed transmission line crosses through elk winter range, which generally extends from Cambridge to the area north of Council. This winter range is discussed in Section 3.4.3.4, Important Terrestrial Habitats. The Rocky Mountain elk does occur within the Proposed Project area.

Spotted Bat *(Euderma maculatum)*
Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

The spotted bat has a limited abundance throughout the species range. Studies have found that spotted bats roost in cliffs, rim rock crevices, and rock piles (Verts and Carraway, 1998). The primary prey species of the spotted bat are large moths, and the species forages in areas where prey can be obtained.

No spotted bats were observed during field investigations. There are no known spotted bat roosts within the Proposed Project area nor have there been any observations of this species in the vicinity. There are no cliff and rim rock habitats within the Proposed Project area. While it is unlikely that the spotted bat roosts in the area, the species may forage in the general vicinity. The spotted bat may possibly occur within the Proposed Project area.

Townsend's Big-eared Bat (Corynorhinus townsendii)
Status: Regional/State Imperiled (BLM); Sensitive (USFS)

The Townsend's big-eared bat habitat in the western United States includes desert shrub and dry coniferous forests. While roosting sites are typically located in caves and abandoned mines, the species will occasionally roost in buildings. The Townsend's big-eared bat diet consists of small moths, flies, beetles, and various other insects.

No Townsend's big-eared bats were observed during field investigations. There are no known Townsend's big-eared roosts within the Proposed Project area nor have there been any observations of this species in the area. There are no caves or abandoned mines within the Proposed Project area. While it is unlikely that the Townsend's big-eared bat roosts in the area, the species may forage in the general vicinity. The Townsend's big-eared bat may possibly occur within the Proposed Project area.

Columbia Spotted Frog *(Rana luteiventris)*
Status: Sensitive (USFS); Special concern (IDFG)

The Columbia spotted frog is broadly distributed from southeastern Alaska to central Nevada. In Idaho, population south of the Snake River in Idaho is listed as a candidate species under the ESA while the population north of the Snake River is considered a species of special interest by the USFS and IDFG. The Columbia spotted frog is highly aquatic and is typically found in close proximity to water. Breeding habitats include shallow, emergent wetlands such as sedge fens, riverine over-bank pools, beaver ponds, and the edges of ponds and small lakes. Predominant vegetation in breeding pools includes

emergent grasses as well as sedges and rushes. After breeding, these frogs disperse into mesic forests and grasslands during the summer. They spend the winter months in hibernacula located in springs, cut banks, and willow roots (USFWS, 2003*b*). Recent studies in Idaho have shown that adults may migrate considerable distances over relatively dry, terrestrial habitats between breeding and over-wintering habitats. The Columbia spotted frog's diet includes a variety of insects, crustaceans, and arachnids.

No frogs were observed during field investigations, although they may have already initiated hibernation by the time these investigations were conducted. Although the Proposed Project area is within the distribution of the northern population of Columbia spotted frog, there is a limited amount of potential Columbia spotted frog habitat within the Project corridor. While there are historic observations of Columbia spotted frogs in the general region (Groves et al., 1997), there are no records of frogs in the vicinity of the Proposed Project area (USDA, 2002). The Columbia spotted frog may possibly occur within the Proposed Project area.

Pileated Woodpecker ***(Dryocopus pileatus)***

Status: Management Indicator Species (USFS)

The pileated woodpecker is a non-migratory species that inhabits mature, mixed-conifer forests with large-diameter trees for nesting and decaying wood for foraging (USDA, 2002). The pileated woodpecker excavates cavities that are used by many other cavity-dependent species incapable of excavating their own nesting or roosting sites, such as flammulated owls. The species diet consists of insects, particularly carpenter ants and wood-boring beetles. The pileated woodpecker is an MIS species (USDA, 2003*a*).

The Proposed Project does cross several small patches of potential pileated woodpecker habitat, particularly between Starkey and the Joyce substation. It is difficult to estimate the amount of potential habitat within the Project corridor as stand-specific characteristics are highly variable. A pileated woodpecker was observed foraging in a Ponderosa pine near segment D during field investigations. A report of this sighting was submitted to the Idaho CDC (**Appendix C**). The pileated woodpecker is known to occur within the Proposed Project area.

White-headed Woodpecker ***(Picoides albolarvatus)***

Status: Peripheral (BLM); Sensitive & Management Indicator Species (USFS); Special concern (IDFG)

The white-headed woodpecker inhabits open stands of mature Ponderosa pine and mixed coniferous forests. Nesting cavities are constructed in snags and hollow trees, and individuals may use the same nest in several consecutive years. In Idaho, white-headed woodpecker nests have been found in Ponderosa pine and Douglas-fir snags (Idaho Museum of Natural History, 2003*a*). The white-headed woodpecker occupies habitats between 3,950 and 9,200 feet MSL during nesting season and over winters at lower elevations (Groves et *al.*, 1997). The species feeds on pine seeds and insects extracted from the bark of trees. The white-headed woodpecker is an MIS species (USDA, 2003*a*).

The Proposed Project does cross several small patches of potential white-headed woodpecker habitat, particularly between Starkey and the Joyce substation. It is difficult to estimate the amount of potential habitat within the Project corridor as stand-specific characteristics are highly variable. A white-headed woodpecker was observed foraging in a Ponderosa pine near segment D during field investigations. A report of this sighting was submitted to the Idaho CDC (**Appendix C**). The white-headed woodpecker is known to occur within the Proposed Project area.

American Three-toed Woodpecker ***(Picoides tridactylus)***

Status: Sensitive (USFS); Special concern (IDFG)

The three-toed woodpecker inhabits montane coniferous forests, although they are occasionally found in riparian willows and aspen stands. The species prefers burned sites that contain standing dead trees and snags which provide abundant food. The three-toed woodpecker primarily forages under tree bark for wood-boring insects, but they also eat spiders, berries, and cambium. They excavate cavities in trees or standing snags for nest sites.

No potential three-toed woodpecker habitat occurs within the Proposed Project area. No three-toed woodpeckers were observed during field investigations. The three-toed woodpecker does not likely occur within the Proposed Project area.

Peregrine Falcon ***(Falco peregrinus)***

Status: Regional/State Imperiled (BLM); Endangered (IDFG)

The peregrine falcon, which was once on the brink of extinction, has been restored to Idaho through the release of 288 captive-reared birds since 1982. As of 1995, 13 pairs had established territories in Idaho and six of these successfully fledged young (Groves et *al.*, 1997). Peregrine falcons inhabit a wide variety of open habitats, including tundra, moorland, steppes, seacoasts, open forests, and cities. Nest sites in Idaho are located in both montane and desert regions, and are generally associated with bodies of water. Peregrine falcons feed on medium-size passerines and waterfowl, and they forage up to several kilometers from the nest site (Idaho Museum of Natural History, 2003*b*).

No peregrine falcons were observed during field investigations. No nest sites are known to occur within the Proposed Project area. The Project corridor does contain suitable foraging habitat. The peregrine falcon may occur within the Proposed Project area.

Northern Goshawk ***(Accipiter gentiles)***

Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

The northern goshawk occupies mature deciduous, coniferous, and mixed forests with high canopy closure. In Idaho, the species typically nests in large tracts of mature Ponderosa and lodgepole pine, mixed Douglas-fir, and spruce forests. The northern goshawk forages for small birds in mature forests with high canopy cover and a relatively open understory. The species also consumes snowshoe hares and ground squirrels. Breeding goshawks typically use a home range of about 6,000 acres, but goshawk home ranges in the Interior Columbia River Basin may be closer to 7,000 acres (Wisdom et *al.*, 2000).

In the vicinity of the Proposed Project area, the northern goshawk has been documented throughout the Filly Creek, Fourth Gulch, and Joker-Bench areas (CDC, 2003). Surveys conducted by the PNF in the Gaylord North Project Area identified three individual goshawk nest territories in 2002 (**Figure 3-8**). These territories are referred to as the Beaver Creek, Filly Creek, and Pin Creek territories, and are generally located east of Highway 95. Habitat analyses indicated that goshawks in the Upper Weiser watershed occupy marginally suitable habitats due to limited availability of mature forests with high canopy cover (USFS, 2002). The Filly Creek territory was active as recently as 2003 (Lon Shultz, PNF, personal communication).

While no northern goshawks were observed within the Proposed Project area during field investigations, specific surveys were not conducted. Mature, structurally complex forests have been fragmented by previous timber management activities along the Project corridor, and only a limited amount of suitable northern goshawk habitat exists. The Proposed Project does traverse the Filly Creek territory, and the northern goshawk is known to occur within the Proposed Project area.

Flammulated Owl ***(Otus flammeolus)***

Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

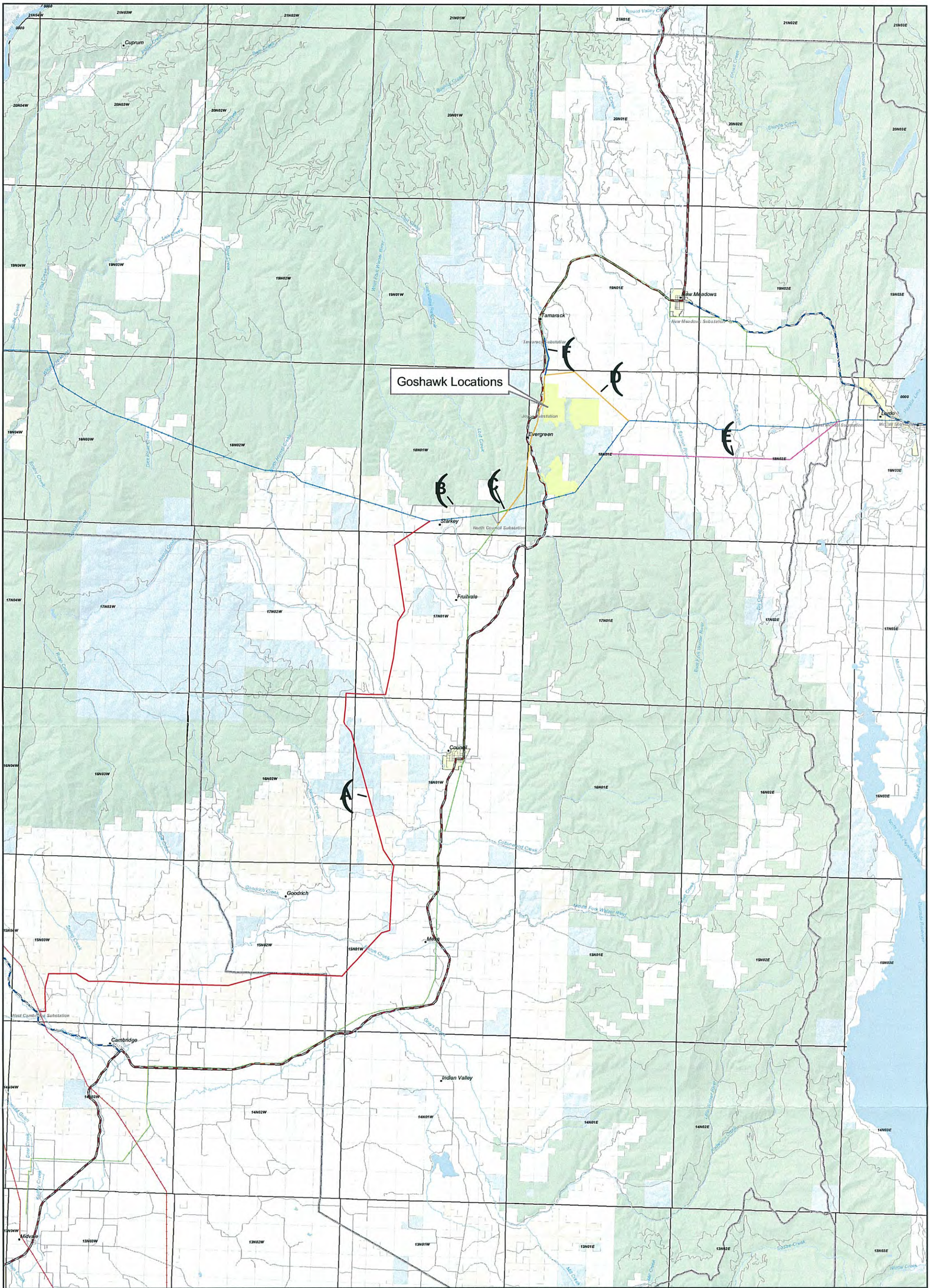
The flammulated owl is a neotropical migrant that occurs in Idaho from early May to mid-October and winters in Central America (Reynolds and Linkart, 1987). In Idaho, flammulated owls occupy mature Ponderosa pine, Douglas-fir, and mixed coniferous forests (Groves et *al.*, 1997). Flammulated owls are obligate cavity nesters that utilize suitable cavities created by other species. This nocturnal species feeds on a variety of insects including moths, beetles, grasshoppers, crickets, and caterpillars. Nesting sites are typically located in existing cavities in standing snags (Idaho Museum of Natural History, 2003*c*).

PNF personnel documented flammulated owls in the vicinity of the Proposed Project area in the early 1990's. Random surveys during 2002 did not detect any flammulated owls in the area, but the species is assumed to still occur (USFS, 2002). While no flammulated owls were observed within the Proposed Project area during field investigations, specific surveys were not conducted. Mature, Ponderosa pine forests are small and fragmented, and only a limited amount of suitable flammulated owl habitat exists along the Project corridor. The flammulated owl likely occurs within the Proposed Project area.

Great Gray Owl ***(Strix nebulosa)***

Status: Watch List (BLM); Sensitive (USFS); Special concern (IDFG)

The great gray owl inhabits mature, mixed-coniferous forests with natural openings or meadows. Forested cover types may include Ponderosa and lodgepole pine, Douglas-fir, grand fir, and aspen. In Idaho, the species utilizes montane conifer forests in spring and summer, and lower elevation habitats and agricultural areas during winter (Groves et *al.*, 1997). The great gray owl uses existing nest structures such as broken-topped trees, mistletoe brooms, or old raptor nests, and do not construct nests or add material to their nests. Nests are generally located in dense, mature forests with an open understory. The great gray owl forages in open areas with scattered trees for voles and pocket gophers (Idaho Museum of Natural History, 2003*d*).



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Legend

- Existing Substations
- Proposed Substations
- State Highways
- U.S. Highways
- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

Existing Transmission Line

- 138kV
- 230kV
- 69kV

- BLM
- Private
- State
- USFS
- Goshawk Locations
  Source: USFS

Figure 3-8

Goshawk Post-Fledgling Family Areas

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:/Council_McCall/resource_files_2-6-04/FinalData 1-20-05/Goshawk areas

101693 Goshawk11x17 1-27-05 ja

While no great gray owls were observed during field investigations, specific surveys were not conducted within the Proposed Project area. PNF personnel submitted unverified reports of great gray owls in the vicinity of the Proposed Project area in the early 1990's. No great gray owls were detected during random surveys for the Gaylord North Timber Sale (USFS, 2002). A limited amount of potential suitable habitat does occur within the Proposed Project area. The great gray owl likely occurs within the Proposed Project area.

Boreal Owl ***(Aegolius funereus)***

Status: Watch List (BLM); Sensitive (USFS); Special concern (IDFG)

The boreal owl inhabits coniferous and mixed deciduous boreal and subalpine forests. In Idaho, they utilize mature spruce/fir forests (>5,000 MSL) that have complex structure (Groves et *al.*, 1997). The boreal owl typically nests in abandoned woodpecker holes and natural cavities in standing snags. They primarily feed on small mammals, including red-backed voles, shrews, pocket gophers, and mice, but also eat birds and insects on occasion (Idaho Museum of Natural History, 2003*e*).

While no boreal owls were observed during field investigations, specific surveys were not conducted within the Proposed Project area. No potential suitable habitat occurs in the Proposed Project area. The boreal owl does not likely occur within the Proposed Project area.

Harlequin Duck ***(Histrionicus histrionicus)***

Status: Peripheral (BLM); Sensitive (USFS); Game species of special concern (IDFG)

In Idaho, the harlequin duck inhabits low gradient, forested mountain streams that have minimal human disturbance. Breeding pairs show strong fidelity to a specific stream. Nests may be built in cliff and tree cavities, as well as on the ground. Harlequin ducks are migratory, and individuals that summer in Idaho migrate to the Pacific Coast in winter. The known Idaho population includes < 100 individuals that occupy 30 streams in the northern portion of the State (Groves et *al.*, 1997). The species feeds on crustaceans, mollusks, insects, and small fish (Idaho Museum of Natural History, 2003*f*).

No harlequin ducks were observed during field investigations. No nest sites are known to occur within the Proposed Project area. The streams in the Proposed Project area represent marginal harlequin duck habitat. The harlequin duck is not likely to occur within the Proposed Project area.

Mountain Quail ***(Oreortyx pictus)***

Status: Regional/State Imperiled (BLM); Sensitive (USFS); Special concern (IDFG)

Mountain quail inhabit chaparral, mixed desert scrub, and successional communities that follow fire, logging, and other disturbances. The species also utilizes riparian corridors in the drier portions of its range. In Idaho, mountain quail prefer dense, mesic shrublands in proximity to water (Groves et *al.*, 1997). Mountain quail build nests in ground depressions that are concealed by shrubs, trees, or fallen logs. They forage on seeds, fruits, and insects (Idaho Museum of Natural History, 2003*g*).

No mountain quail were observed during field investigations. The Proposed Project is not within the currently known range of the mountain quail. Although small, scattered patches of riparian habitat occur within the Project corridor, the mountain quail does not likely occur within the Proposed Project area.

Columbian Sharp-tailed Grouse ***(Tympanuchus phasianellus colubianus)***

Status: Regional/State Imperiled (BLM); Sensitive (USFS); Game species of special concern (IDFG)

The Columbian sharp-tailed grouse occupies prairie grassland and sagebrush grassland habitats. The key components of grouse habitat are moderate vegetative cover, high plant diversity, and high structural diversity. In Idaho, the species prefers big sage habitats that have an abundance of perennial bunchgrass. Tall, broad-leaved mountain shrub and riparian cover types are critical components of winter habitat. Brood sites are usually in broad-leaved shrub or riparian shrub habitats. Male sharp-tailed grouse display on leks from March through June. Nests consist of a shallow ground depression lined with grass and leaves with an overhead canopy of grasses or shrubs. Nest and brood sites are typically located within one mile of the lek on which the hen was bred. Columbian sharp-tailed grouse feed on a variety of leaves, buds, flowers, seeds, and fruits. In Idaho, the species prefers hawthorn and snowberry fruits as well as chokecherry and serviceberry buds.

No Columbian sharp-tailed grouse were observed within the Proposed Project area during field investigations, although specific surveys were not conducted. BLM and IDFG have conducted intensive Columbian sharp-tailed grouse surveys between Cambridge and Council in recent years, but have not discovered any leks in this area (Common-Kemner, IDFG, personal communication). However, Columbian sharp-tailed grouse are known to occur in this area. There have been many observations since 2000, and one lek is known to occur very close to the Project corridor in Adams County (Lon Shultz, PNF, personal communication). Most of the area between Cambridge and Council supports annual grassland, and is not considered to be high quality habitat for Columbian sharp-tailed grouse (Common-Kemner, IDFG, personal communication). The Columbian sharp-tailed grouse is known to occur within the Proposed Project area.

Greater Sage-Grouse ***(Centrocercus urophasianus)***

Status: Rangewide/Globally Imperiled (BLM)

The greater sage-grouse is an obligate sagebrush species that inhabits sagebrush and sagebrush-steppe communities. The males display on leks, which are typically open ridges and knolls surrounded by sagebrush. Nest sites are located in sagebrush stands with relatively high canopy and grass cover. Greater sage-grouse nests consist of shallow ground depressions lined with grass and sage leaves, and are typically concealed beneath a large sagebrush plant. Nest sites are located in proximity to wet meadow foraging habitats. Sagebrush is the primary food of the greater sage-grouse, although they also consume forbs, grasses, and insects. Depending upon local climatic conditions, greater sage-grouse may migrate up to 50 miles between seasonal ranges. Winter ranges are selected based upon topography, snow depth, and availability of sagebrush above snow level.

No greater sage-grouse were observed within the Proposed Project area during field investigations, although specific surveys were not conducted. BLM and IDFG have conducted intensive greater sage-grouse surveys between Cambridge and Council in recent years, but have not discovered any leks in this area (Common-Kemner, IDFG, personal communication). The closest leks are located approximately 5 miles south of Cambridge. Most of the area between Cambridge and Council consists of annual grassland and is not considered high quality habitat for greater sage-grouse (Common-Kemner, IDFG, personal communication). The greater sage-grouse is not likely to occur within the Proposed Project area.

Migratory Birds

The Proposed Project area contains all four high priority habitats (riparian, non-riverine wetlands, sagebrush shrublands, and Ponderosa pine/Douglas-fir/Grand fir forest) identified in the IBCP. A list of the high priority breeding bird species that occupy each of these habitat types is presented in **Table 3-8** (Idaho Partners in Flight, 2000). Specific surveys for high priority bird species were not conducted within the Proposed Project area. Given the existence of all four high priority habitats within the study area, there is a high likelihood that several of these species are seasonal occupants of the area.

Table 3-8 High Priority Breeding Bird Species By Habitat Type

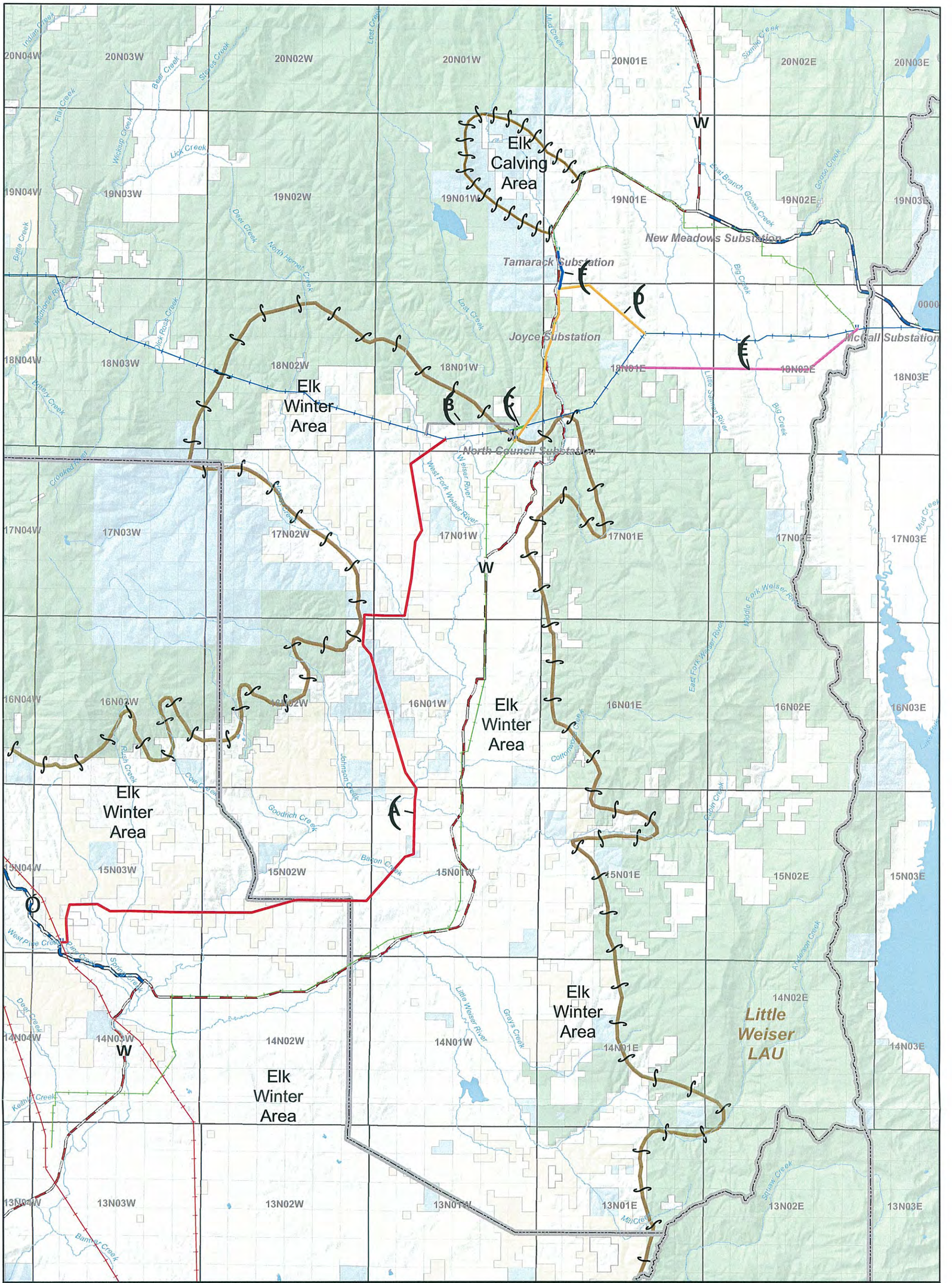
Common Name	Scientific Name
Riparian	
Barrow's Goldeneye	*Bucephala islandica*
Hooded Merganser	*Lophodytes cucullatus*
Blue Grouse	*Dendragapus obscurus*
Mountain Quail	*Oreortyx pictus*
Black-chinned Hummingbird	*Archilochus alexandri*
Calliope Hummingbird	*Stellula calliope*
Rufous Hummingbird	*Selasphorus rufus*
Willow Flycatcher	*Empidonax traillii*
Dusky Flycatcher	*Empidonax oberholseri*
Black-billed Magpie	*Pica pica*
American Dipper	*Cinclus mexicanus*
Yellow Warbler	*Dendroica petechia*
MacGillivray's Warbler	*Oporornis tolmiei*
Non-riverine wetland	
Western Grebe	*Aechmophorus occidentalis*
American White Pelican	*Pelecanus erythrorhynchos*
White-faced Ibis	*Plegadis chihi*
Trumpeter Swan	*Cygnus buccinator*
Cinnamon Teal	*Anas cyanoptera*
Redhead	*Aythya americana*
Sandhill Crane	*Grus canadensis*
Killdeer	*Charadrius vociferus*
Black-necked Stilt	*Himantopus mexicanus*
American Avocet	*Recurvirostra americana*
Franklin's Gull	*Larus pipixcan*
Sagebrush shrublands	
Swainson's Hawk	*Buteo swainsoni*
Greater Sage-Grouse	*Centrocercus urophasianus*
Short-eared Owl	*Asio flammeus*
Loggerhead Shrike	*Lanius ludovicianus*
Rock Wren	*Salpinctes obsoletus*
Sage Thrasher	*Oreoscoptes montanus*
Brewer's Sparrow	*Spizella breweri*
Lark Sparrow	*Chondestes grammacus*
Sage Sparrow	*Amphispiza belli*
Ponderosa pine/Douglas-fir/Grand fir	
Flammulated Owl	*Otus flammeolus*
White-headed Woodpecker	*Picoides albolarvatus*
Sharp-shinned Hawk	*Accipiter striatus*
Northern Goshawk	*Accipiter gentilis*
Lewis' Woodpecker	*Melanerpes lewis*
Williamson's Sapsucker	*Sphyrapicus thyroideus*
Black-backed Woodpecker	*Picoides arcticus*
Brown Creeper	*Certhia americana*
Varied Thrush	*Zoothera naevia*
Townsend's Warbler	*Dendroica townsendi*
Western Tanager	*Piranga ludoviciana*

Important Terrestrial Habitats

Important wildlife habitats in the vicinity of the Proposed Project area include elk winter range and Lynx Analysis Units.

Elk winter range

The southern portion of the Proposed Project is located within winter range for a herd of approximately 400 elk that summers in the Cuddy Mountain area (Jeff Rohlman, IDFG, personal communication). **Figure 3-9** identifies the approximate winter range boundaries in the vicinity of the Proposed Project. Elk are typically present on the winter range from December through March, with the exact timing determined by climatic conditions. This herd is located in Game Management Unit 22, and currently meets IDFG population objectives (Jeff Rohlman, IDFG, personal communication). There are no elk calving areas within the Proposed Project area. The primary calving grounds for the local elk herd are in Price Valley, which is located northwest of Tamarack (Jeff Rohlman, IDFG, personal communication). The southern portion of the Proposed Project would cross through elk winter range. The Proposed Project would not cross through the elk calving grounds.



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- Minor Roads
- Streams & Rivers
- County Boundary
- Lakes

Proposed Transmission Route Sections

- A
- B
- C
- D
- E
- F

Existing Transmission Line

- 138kV
- 230kV
- 69kV

Elk Calfing & Wintering areas (Source: IDFG)

Figure 3-9

Elk Winter Range

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:/Council_McCall/resource_files_2-6-04/Final/Data 1-20-05/Elk Map

101603 Elk Winter Range 11x17 1-27-05.jpg

Lynx Analysis Units

In accordance with the Canada Lynx Conservation Agreement and Strategy, the PNF has identified LAUs that contain potential suitable lynx habitat (Ruediger et *al.*, 2000). Generally, potential lynx habitat on the PNF consists of high elevation, spruce and lodgepole pine forests. The Proposed Project would bisect the extreme southern end of the Goose Creek LAU (**Figure 3-7**). This portion of the Goose Creek LAU is located outside the PNF, and encompasses private lands owned by Boise Cascade and the IPCo Company. In the vicinity of the Proposed Project area, the Goose Creek LAU has been subjected to extensive timber harvesting by Boise-Cascade. An existing transmission line corridor also bisects the LAU in the vicinity of the Proposed Project. Mapping of potential vegetation groups (PVGs) prepared by the PNF indicate that the Proposed Project would bisect dry Ponderosa pine (PVG 1), warm Douglas-fir/moist Ponderosa pine (PVG 2), moist grand fir (PVG 6), and non-forest (PVG 99). Vegetation is relatively sparse, and has been reduced to small, isolated patches of forest. This portion of the LAU does not contain potential suitable lynx habitat.

3.5 Soil Resources

3.5.1 Introduction

Soil resources constitute one of the major building blocks contributing to a particular area's biotic productive potential. A healthy, stable soil resource provides necessary substrate for plant communities that in turn provide cover and food for wildlife and also contributes to a properly functioning hydrologic cycle.

Soil resource information was acquired from two primary sources: 1) The USDA Natural Resources Conservation Service (NRCS); and 2) the USFS. The NRCS provided the *Soil Survey of Adams-Washington Area, Idaho, Parts of Adams and Washington Counties* and additional data were also acquired via the Internet from various NRCS web sites. Soils information and data were also acquired from the PNF.

USFS landtype descriptions and related information were utilized. Landtypes are visually identifiable units representing a segment of the landscape. They result from homogenous geomorphic, geologic, and climatic processes and have defined patterns of soil and vegetation potentials. NRCS data utilized included State Soil Geographic (STATSGO) and Soil Survey Geographic (SSURGO) information. STATSGO data were primarily designed for regional, multi-state, river basin, State, and multi-county resource planning, management, and monitoring. SSURGO data provide more detailed information designed primarily for farm and ranch, landowner/user, township, or county natural resource planning and management. NRCS Official Series Descriptions were also utilized as a source of information.

The NRCS STATSGO database indicates that eight map units (MUNAME) occur within the affected area. These are the Appledellia-Midvale-Odermott (ID335), Archabal-Gestrin-McCall (ID321), Bluebell-Ticanot-Demast (ID314), Brownlee-Deshler-Deterson (ID327), Gem-Reywat-Bakeoven (ID328), Gestrin-Blackwell-Swede (ID336), Riggins-Meland-Klicker (ID313), and the Shoepeg-Catherine-Dagor (ID334) are available in the project files.

3.5.2 Affected Area

The affected area for soil resources consists primarily of a 200-foot wide corridor with the transmission line alignment serving as the centerline. This applies to existing portions of transmission line to be removed as well as new transmission line construction line alignment. Other affected areas include improved or new access roads, construction marshalling yards, and pulling/tensioning sites outside of the 200-foot-wide corridor.

3.5.3 Current Resource Conditions

Bluebell-Ticanot-Demast Riggins soils dominant the northern portion of the Proposed Project from the vicinity of Starkey to the northern terminus of the Proposed Project alignment west of McCall. These cold soils are found on mountains and foothills formed in alluvium, colluvium, and residuum from basalt, welded tuff, and intermediate igneous rocks. These soils are generally loams and sandy loams and can have significant amounts of coarse materials present. Rangeland and forest vegetation occur on these soils.

Riggins-Meland-Klicker soils dominate the southern portion of the Proposed Project from the vicinity of Cambridge to the vicinity of Starkey. These soils are found on foothills and formed in Columbia River basalt residuum and colluvium. These soils are generally silt loam in texture with rangeland vegetation. Some areas are forested. Other soils with similar characteristics include the Brownlee-Deshler-Deterson.

Shoepeg-Catherine-Dagor soils occur in the southern portion of the Proposed Project along major drainages. These drainages include Pine, Rush, and Hornet Creeks, and the West Fork, Middle Fork, and main reach of the Weiser River. These soils occur on flood plains and terraces and formed in mixed alluvium. These soils are generally loams and silt loams. Other soils occurring along drainages include the Appledelia-Midvale-Odermott.

NRCS data indicate that gradients on upland soils discussed above can vary from 0 to 90 percent. NRCS data indicate that gradients on soils along major drainages can vary from zero to 20 percent. Topographic analysis indicates that slope in the affected area would typically range from 0 to 30 percent with very few isolated areas exceeding 30 percent.

NRCS designated prime farmland soils may occur within the gentler slope phases (zero to approximately eight percent) of the Appledellia, Odermott, Brownlee, Deshler, Meland, Shoepeg, Catherine, and Dagor soil series. The NRCS defines prime farmland soil as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses.

Soil types within the study corridor have varying potentials for wind and water erosion. NRCS data indicate that most soil types have low to moderate wind and water erosion potentials (NRCS, 2001). PNF landtype data indicate that soils on USFS lands have a moderate/low to moderate/high inherent erosion hazard with the majority of landtypes being moderate (PNF, 1973).

Soil types within the study corridor have varying limitations regarding trafficability and road construction material potential. PNF landtype data indicate that trafficability related to soils on USFS lands varies from good to very poor with the majority of landtypes being fair to poor. The trafficability interpretations relate to roads without surfacing such as work

Lynx Analysis Units

In accordance with the Canada Lynx Conservation Agreement and Strategy, the PNF has identified LAUs that contain potential suitable lynx habitat (Ruediger et *al.*, 2000). Generally, potential lynx habitat on the PNF consists of high elevation, spruce and lodgepole pine forests. The Proposed Project would bisect the extreme southern end of the Goose Creek LAU (**Figure 3-7**). This portion of the Goose Creek LAU is located outside the PNF, and encompasses private lands owned by Boise Cascade and the IPCo Company. In the vicinity of the Proposed Project area, the Goose Creek LAU has been subjected to extensive timber harvesting by Boise-Cascade. An existing transmission line corridor also bisects the LAU in the vicinity of the Proposed Project. Mapping of potential vegetation groups (PVGs) prepared by the PNF indicate that the Proposed Project would bisect dry Ponderosa pine (PVG 1), warm Douglas-fir/moist Ponderosa pine (PVG 2), moist grand fir (PVG 6), and non-forest (PVG 99). Vegetation is relatively sparse, and has been reduced to small, isolated patches of forest. This portion of the LAU does not contain potential suitable lynx habitat.

3.5 Soil Resources

3.5.1 Introduction

Soil resources constitute one of the major building blocks contributing to a particular area's biotic productive potential. A healthy, stable soil resource provides necessary substrate for plant communities that in turn provide cover and food for wildlife and also contributes to a properly functioning hydrologic cycle.

Soil resource information was acquired from two primary sources: 1) The USDA Natural Resources Conservation Service (NRCS); and 2) the USFS. The NRCS provided the *Soil Survey of Adams-Washington Area, Idaho, Parts of Adams and Washington Counties* and additional data were also acquired via the Internet from various NRCS web sites. Soils information and data were also acquired from the PNF.

USFS landtype descriptions and related information were utilized. Landtypes are visually identifiable units representing a segment of the landscape. They result from homogenous geomorphic, geologic, and climatic processes and have defined patterns of soil and vegetation potentials. NRCS data utilized included State Soil Geographic (STATSGO) and Soil Survey Geographic (SSURGO) information. STATSGO data were primarily designed for regional, multi-state, river basin, State, and multi-county resource planning, management, and monitoring. SSURGO data provide more detailed information designed primarily for farm and ranch, landowner/user, township, or county natural resource planning and management. NRCS Official Series Descriptions were also utilized as a source of information.

The NRCS STATSGO database indicates that eight map units (MUNAME) occur within the affected area. These are the Appledellia-Midvale-Odermott (ID335), Archabal-Gestrin-McCall (ID321), Bluebell-Ticanot-Demast (ID314), Brownlee-Deshler-Deterson (ID327), Gem-Reywat-Bakeoven (ID328), Gestrin-Blackwell-Swede (ID336), Riggins-Meland-Klicker (ID313), and the Shoepeg-Catherine-Dagor (ID334) are available in the project files.

roads and other low standard roads. NRCS data indicate that the majority of soil types have a poor potential for use as roadfill material due to factors including shallow soil, large stones, slope, and low strength. Roadfill would be material excavated in one place and used in road embankments in other places.

Soil types within the study corridor have varying potentials for reclamation and revegetation. PNF landtype data indicate that the revegetation potential of cut slopes on USFS lands would typically be low to moderate. The revegetation potential of fill slopes on USFS lands would generally be moderate to high. NRCS data indicate that the majority of soil types have a poor potential for use as topsoil due to factors including shallow soil, slope, and large stones. Topsoil would be material used to cover an area so that vegetation could be established and maintained.

3.6 Geologic Resources and Geohazards

3.6.1 Introduction

The purpose of the geology and geological hazards inventory analysis is to identify geological features or conditions that could be affected by or affect the construction, operation, and maintenance of the Proposed Project. The potential issues of concern regarding the placement of the proposed 138kV transmission line in the study corridor may include 1) conflicts with mineral development rights or existing mining activities during construction and operation; 2) construction impacts, particularly from blasting, that could lead to permanent alteration of geological landforms of scenic or cultural value or that exacerbate unstable slope conditions, and 3) exposure to uncontrolled hazardous geologic events.

3.6.2 Affected Area

The proposed transmission line corridor overlies rocks of the Columbia River Basalt Group. These basalts cover a relatively mature landscape comprised of metavolcanic and metasedimentary lithologies, schists and gneisses, and granodiorite to quartz diorite intrusive complexes (Fitzgerald, 1982). Subsequent folding and faulting resulted in the steep, rugged mountainous terrain found in the region. Valley fill in the study area is comprised of alluvial, landslide, and glacial sedimentary deposits.

Areas that would potentially receive impacts from the proposed transmission line would include rock outcrops and other landforms within the construction corridor and places where new or improved roads would require blasting or other alteration to accommodate vehicles and equipment. Placement of the transmission line corridor, access roads, and pulling, tensioning, and marshalling sites may, in certain instances, require significant alteration of the immediate landscape in order to provide stability or access.

3.6.3 Current Resource Conditions

Geohazards

Landslides and Avalanches

Conditions that could create instability along a slope and produce a slope failure include a combination of steep slopes, geology, structure, topographic relief, climate, and water runoff. Forest-wide GIS coverage of landslide prone areas (LSP) indicates that such areas exist in the PNF (Dixon, 2001). Areas of high potential for landslides in the vicinity of the Proposed Project (including roads) were determined through analysis of soil characteristics and slope. LSP areas occur in the following locations (**Figure 3-10**):

1) Near in Segment D around Milepost 3, on either side of Highway 95 and the existing 69kV transmission line;
2) approximately 0.5 miles north of Segment B in Sections 26, and 27 of T18N, R1W; and
3) approximately 0.5 miles west and northwest of the western end of Segment B in Section 29, T18N, R1W.

roads and other low standard roads. NRCS data indicate that the majority of soil types have a poor potential for use as roadfill material due to factors including shallow soil, large stones, slope, and low strength. Roadfill would be material excavated in one place and used in road embankments in other places.

Soil types within the study corridor have varying potentials for reclamation and revegetation. PNF landtype data indicate that the revegetation potential of cut slopes on USFS lands would typically be low to moderate. The revegetation potential of fill slopes on USFS lands would generally be moderate to high. NRCS data indicate that the majority of soil types have a poor potential for use as topsoil due to factors including shallow soil, slope, and large stones. Topsoil would be material used to cover an area so that vegetation could be established and maintained.

3.6 Geologic Resources and Geohazards

3.6.1 Introduction

The purpose of the geology and geological hazards inventory analysis is to identify geological features or conditions that could be affected by or affect the construction, operation, and maintenance of the Proposed Project. The potential issues of concern regarding the placement of the proposed 138kV transmission line in the study corridor may include 1) conflicts with mineral development rights or existing mining activities during construction and operation; 2) construction impacts, particularly from blasting, that could lead to permanent alteration of geological landforms of scenic or cultural value or that exacerbate unstable slope conditions, and 3) exposure to uncontrolled hazardous geologic events.

3.6.2 Affected Area

The proposed transmission line corridor overlies rocks of the Columbia River Basalt Group. These basalts cover a relatively mature landscape comprised of metavolcanic and metasedimentary lithologies, schists and gneisses, and granodiorite to quartz diorite intrusive complexes (Fitzgerald, 1982). Subsequent folding and faulting resulted in the steep, rugged mountainous terrain found in the region. Valley fill in the study area is comprised of alluvial, landslide, and glacial sedimentary deposits.

Areas that would potentially receive impacts from the proposed transmission line would include rock outcrops and other landforms within the construction corridor and places where new or improved roads would require blasting or other alteration to accommodate vehicles and equipment. Placement of the transmission line corridor, access roads, and pulling, tensioning, and marshalling sites may, in certain instances, require significant alteration of the immediate landscape in order to provide stability or access.

3.6.3 Current Resource Conditions

Geohazards

Landslides and Avalanches

Conditions that could create instability along a slope and produce a slope failure include a combination of steep slopes, geology, structure, topographic relief, climate, and water runoff. Forest-wide GIS coverage of landslide prone areas (LSP) indicates that such areas exist in the PNF (Dixon, 2001). Areas of high potential for landslides in the vicinity of the Proposed Project (including roads) were determined through analysis of soil characteristics and slope. LSP areas occur in the following locations (**Figure 3-10**):

1) Near in Segment D around Milepost 3, on either side of Highway 95 and the existing 69kV transmission line;
2) approximately 0.5 miles north of Segment B in Sections 26, and 27 of T18N, R1W; and
3) approximately 0.5 miles west and northwest of the western end of Segment B in Section 29, T18N, R1W.

IDAHO POWER

POWER ENGINEERS

Figure 3-10

Landslide Prone Areas and Floodplains

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:\Council_McCall\resource_files_2-6-04\Final\Data 1-20-05\Landslide Floodplains

101693 Landslide Floodplains 11x17 1-27-05 ja

According to PNF (Michael Dixon, personal communication, July 23, 2003), debris slides occurred along the route of the existing and proposed transmission lines near Starkey as a result of the 1997 New Year's storm. Most of those slides occurred on slopes greater than 50 degrees and at the head of ephemeral draws where groundwater converges (Michael Dixon, comments to Draft EA, April 2004).

Other hazardous areas include run-out zones such as canyon bottoms and stream channels and slopes that may be excavated for building roads. Soils denuded of vegetation by forest fires are also at increased risk for landslides.

The minimum slope angle for avalanches is about 25 degrees. Avalanches are most likely to occur after periods of heavy snowfall; during rapid increases of temperature (usually in the spring); in windblown areas off of slopes (e.g., beneath cornices on ridge crests); and on steep, shady slopes. Areas susceptible to avalanches are located in the mountainous regions of the PNF where there are sufficient snow accumulations and steep slopes greater than 25 degrees.

Floodplains

Floods are described in terms of their statistical frequency, and a "100-year flood" describes an event or an area subject to a 1 percent probability of a flood occurring in any given year. Based on data collected from the Federal Emergency Management Agency (FEMA), six 100-year floodplains would be crossed by the Proposed Project (**Figure 3-10**). These floodplain locations are associated with the Weiser River, the West Fork Weiser, and Hornet Creek as follows:

- Weiser River crossing in T15N, R2W, Section 30 (Segment A);
- Weiser River crossing in T15N, R1W, Section 5 and T16N, R1W, Section 32 (Segment A);
- Hornet Creek crossing in T17N, R1W, Sections 31 and 32 (Segment A);
- West Fork Weiser River crossing in T17N, R1W, Section 5 (Segment A);
- Weiser River crossing in T18N, R1W, Section 13 and T18N, R1E, Section 18 (Segment D);
- Parallel to the Weiser River in T18N, R1E, Section 7 north to Section 6 along Highway 95 (Segment D).

Mineral Resources

There are three main categories of mineral resources: Locatable minerals, which include gold, silver, copper, and other "hard rock" minerals; leasable minerals, which fossil fuels such as oil, gas, coal, phosphate; and saleable minerals, which include building and construction materials such as sand, gravel, stone, and clay. The BLM administers mining records and mineral leases on BLM lands and on lands managed by other federal agencies. The BLM maintains a database (LR2000) that indicates where inactive and active mining claims and mineral leases are located. This database indicates that numerous claims are located in on PNF lands approximately 2 to 2.5 miles southeast of Evergreen in the vicinity

of where the proposed transmission line taps into the existing 138kV transmission line in T18N, R1E, in portions of sections 21, 22, and 27 (**Figure 3-1**).

No other mineral claims were identified in the immediate vicinity of the remainder of the proposed transmission line ROW.

3.7 Visual Resources

3.7.1 Introduction

The study area has a wide range of natural and man-made features that contribute to the aesthetics of the area. Developed features include single-family residences, clusters of residences, unincorporated areas of Adams and Washington Counties, 69kV and 138kV transmission lines, U.S. Highway 95, two substations, and agricultural buildings and development. Rivers, creeks and streams, seasonal drainages, riparian woodland, annual grasslands, field agriculture and large expanses of forested lands influence the natural setting for the Proposed Project study area.

3.7.2 Affected Area

A 200-foot wide plan area (100 feet each side of the transmission corridor centerline) was inventoried to document existing visual resources. The study process included analysis of recent topographic maps and aerial photography, contacts with agencies, field reconnaissance surveys and review of existing literature sources. The result is a consistently inventoried database used to assess visual impacts for the Proposed Project study area (see Visual Resources, Section 4.7). The inventory consists of the following two major components:

- BLM Visual Resource Management (VRM) classes
- USFS Visual Quality Objectives (VQOs)

The overall management directive of the Forest Service is to manage visual resources through their Scenery Management System. However, the PNF uses the former style contained within the Visual Management System in the Forest Plan (PNF, 2003). The BLM uses the Visual Resource Management system to manage visual resources on BLM administered lands within the study area (BLM, 1988).

The descriptions for the visual management classes found along the proposed route are as follows:

Forest Service Visual Quality Objectives

Partial Retention (PR): "Management activities remain visually subordinate to the characteristic landscape when managed according to the partial retention visual quality objective. Activities may repeat form, line, color, or texture common to the characteristic landscape but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate to the characteristic landscape. Activities may also introduce form, line, color, or texture that are found infrequently or not at all in the characteristic

landscape, but they should remain visually subordinate to the visual strength of the characteristic landscape.

Modification (M): Under the modification VQO, management activities may visually dominate the original characteristic landscape. However, activities of vegetative and land form alterations must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type.

Maximum Modification (MM): Management activities may visually dominate the original character of the landscape. When viewed as a background, the alteration should appear to have natural form, line, and color (USDA Forest Service, 1974).

BLM Visual Resource Management Class

VRM Class III: Contrasts to the basic elements (form, line, color, texture) caused by a management activity may be evident and begin to attract attention in the characteristic landscape. However, the changes should remain subordinate to the existing characteristic landscape.

3.7.3 Current Resource Conditions

The PNF considers US Highway 95 and the Evergreen campground areas as sensitivity level one or "high visual sensitivity" areas. Visually sensitive routes and use areas represent locations from which the scenic environment is considered especially important. Visual sensitivity in this area is emphasized along the main travel corridors. These routes or areas generally have a more restrictive VQO assigned to them than areas not seen from such locations, unless in an existing utility corridor (USDA Forest Service, 2003). Portions of the Weiser River Trail intersect the proposed transmission line ROW in this same portion of segment D. This particular section of trail within the Weiser River canyon area attracts recreationists for the purpose of scenery viewing (Idaho Department of Parks and Recreation, 2003).

Management categories as described above in 3.7.2 that are found on both USFS and BLM lands are contained in **Table 3-9**.

Table 3-9 Visual Management Classes Along Proposed Route

BLM VRM Class Mileposts				
From	To	Distance Mileage	Segment	VRM Class
0.2	1.1	0.9	A	Class 3
3.8	4.5	0.8	A	Class 3
4.8	5.3	0.5	A	Class 3
7.8	8.8	1.0	A	Class 3
9.3	9.6	0.3	A	Class 3
10.6	11.3	0.7	A	Class 3
14.6	14.9	0.3	A	Class 3
17.0	18.8	1.8	A	Class 3
25.5	25.7	0.3	A	Class 3
30.9	31.2	0.3	A	Class 3
0.0	0.5	0.5	B	Class 3
1.4	1.7	0.2	B	Class 3
USFS VQO Mileposts				
From	To	Distance Mileage	Segment	VQO Class
17.1	18.8	1.7	A	M
25.5	25.7	0.2	A	PR
30.9	31.2	0.3	A	PR
0.0	0.4	0.2	B	M
1.4	3.5	2.1	B	M
4.1	4.5	0.4	B	M
0.7	2.4	1.7	D	MM
2.9	4.2	1.3	D	MM
4.7	5.5	0.8	D	MM

3.8 Socioeconomic Resources

3.8.1 Introduction

Baseline socioeconomic conditions and patterns in the vicinity of the proposed transmission line are described in the following section. Data from the 2000 Census of Population (U.S. Department of Census, 2000) and the Regional Economic Information System (REIS, U.S. Department of Commerce, Bureau of Economic Analysis, 2002) comprise the core information base for this section. These data sources provide uniformly formatted time series information on county-level demographic characteristics, income, employment, and industrial activity. Statistical data from state, county, and city-level sources are also used, covering such topics as local income and welfare patterns, housing availability, tourism resources, and public finances.

3.8.2 Affected Area

The Proposed Project would occupy a sparsely populated rural area in western Idaho. The Proposed Project would cross Adams County and the northeast portion of Washington County. Although the Proposed Project would not be located in Valley County, the town of McCall and other nearby Valley County communities that may receive socioeconomic impacts are included in this analysis.

Washington and Adams Counties are comprised mainly of privately owned ranches and undeveloped public lands. The relatively isolated towns of Cambridge, Council, and New Meadows are the principle population centers in the vicinity of the route. In nearby Valley County, McCall is a center for tourism in the summer and winter months, with lake recreation and skiing serving as the primary draws. Cambridge, Council, and New Meadows are significantly smaller than McCall and are distinctly rural. Portions of the route cross State Highway 95, which is the primary transportation corridor in the region. The highway provides access to each of the communities within the study area and serves as a direct link from Cambridge and Council to Boise, Idaho.

3.8.3 Current Resource Conditions

Washington County

According to the Idaho Department of Commerce (IDC, 2002), the population of Washington County in 2002 was 9,956, resulting in a density of 6.8 people per square mile. About 54 percent of the county's population resides in Weiser, located approximately 40 miles south of the southern end of the proposed transmission line. In contrast, only about 3.6 percent of the county's population lives in Cambridge, which is the southern-most town in the vicinity of the proposed transmission line. About 55 percent of the land within the county is privately owned and almost all of the privately held land (87 percent) is comprised of farms and ranches. The BLM and PNF manage the bulk of the remaining lands, most of which is undeveloped rangeland.

Roughly 42 percent of the population of the county is in the workforce and the bulk of employment occurs in the agriculture and service industries followed by local government. Retail trade and manufacturing are other important sources of employment in the county (IDC, 2002).

Adams County

The majority of the proposed transmission line is located in Adams County. The population of Adams County is roughly one-third that of Washington County, resulting in a population density of approximately 2.5 people per square mile. The town of Council serves as the county seat and contains about a quarter of the county's population (772 people in 2002). Although a small percentage of the county's residents live in New Meadows (509 people in 2002, or about 15 percent), the majority (63 percent) live outside of the incorporated towns.

Almost 65 percent of the land in the county is federally managed land, most of which (90 percent) is under the management of the PNF. The BLM manages the remaining ten percent of the federally owned land. The State of Idaho owns about four percent of the land in the county, and except for less than one percent in county or other municipal ownership,

the remaining 31 percent is privately owned land. The major land uses are forested lands and rangeland, which together comprise about 93 percent of the total land area in the county.

The local economy relies heavily on forest products manufacturing and government for employment. Although farming is also one of the largest employment sectors, a little over half the people who farm also rely on some other source of employment. Most of the agricultural acreage is utilized for cattle grazing, although crops account for roughly 24 percent of the total acres in farms.

Valley County

Although the proposed transmission line is not located in Valley County, the town of McCall is located within 2 miles of the proposed west McCall Substation and is the principal population center in the region. Census data shows the population in 2000 at 7,651 people, which represents a 25.2 percent increase over the 1990 census data. Valley County is comprised of 3,678 square miles, which when compared to the 2002 population results in a ratio of 2.0 persons per square mile. However, most of the residents live on rural land or in the small communities near the western edge of the county. Only 9.4 percent of the county land is privately owned, while the USFS manages over two million acres or approximately 86 percent of the land in the county. The BLM and other federal land management entities own another two percent, while the State of Idaho owns about 74,784 acres or roughly three percent of the county. A very small portion of county property is owned by Valley County (2,180 acres) and only 8 acres are municipally owned (Idaho Department of Commerce, 2002).

Historically, the wood products industry formed the economic basis of Valley County. However, mill closures have reduced the prominence that this industry has held in the economy of the area. In fact, the wood products industry took a substantial hit in May 2001 when the Boise-Cascade mill in Cascade—formerly one of the top employers in the area – shut down. Even before the mill closure, information from the U.S. Economic Census (1997) indicates that the economic base of the region has shifted to service-related industries such as hotel accommodation, food and beverage establishments and retail. Most of these businesses are located in the resort town of McCall and are sustained by the growing tourist industry.

Significant employers in Valley County include the USFS, Valley County, McCall-Donnelly Schools, Brundage Ski Resort, McCall Memorial Hospital, and the City of McCall. Tamarack resort, located outside of Cascade, is expected to employ approximately 1,470 part- and full-time employees by the year 2016.

Area Housing

Housing availability is an important issue for this Proposed Project because of its remote location. The principal labor markets in the region are considerably more than a hour's driving time from the Proposed Project area, so it is likely that much of the Proposed Project workforce would be "weekend commuters" who stay in motels or rented apartments or houses in the vicinity during the workweek, but drive home for weekends. A search of Internet listings of travelers' accommodations in the Proposed Project area counties reveals a substantial inventory of facilities in the region that could be available to

workers. In Cambridge, there are five listed motels, bed and breakfasts, and RV parks with 37 rooms and nine RV units available as well as six designated campgrounds. Council has one motel with 12 units, two RV parks, and three campgrounds. New Meadows also has numerous lodging, RV and camping options. During construction of the second half of the transmission line from the North Council Substation to McCall, McCall may be the preferred location for lodging by workers on the Proposed Project because in addition to numerous lodging options, there are over 25 restaurants compared to only a couple of restaurants in either Council, New Meadows, or Cambridge. More establishments are located in Weiser and Midvale in Washington County.

These findings suggest that there would be ample opportunity for workers to find weekday accommodations within acceptable commuting distance of the Proposed Project provided they made suitable arrangements in advance.

3.9 Air Quality

3.9.1 Introduction

Construction of the transmission line Proposed Project would involve building and improving roads, moderate land clearing, transportation along unpaved roads, and drilling and blasting for structure foundations. Ground disturbing activities such as these have the potential to affect local air quality by introducing pollutants into the atmosphere. Although emissions produced during the use of heavy equipment, logging machinery and other types of vehicles are not specifically regulated by state or federal air quality laws, emissions from these types of equipment are sources of several federally designated "criteria" pollutants such as volatile organic compounds (VOCs), nitrogen dioxide (NOx), carbon monoxide, and particulates. VOCs and NOx combine in the atmosphere to form ozone (another criteria pollutant), which is the principal component of smog. Airborne dust emanating from ground disturbing activities also has the potential to effect air quality standards for particulate matter.

3.9.2 Affected Area

The Proposed Project area is rural and has no major industrial or commercial sources of pollution. In addition, the area is sparsely populated and therefore does not receive a tremendous degree of pollution from mobile sources (i.e., passenger vehicles). The nearest urban center is Boise, which is approximately 70 miles from the southern end of the study area.

Meteorologically, the Proposed Project area is influenced by Pacific air masses that travel east with the prevailing westerly winds. Particularly in winter, the maritime influence is noticeable by the greater average cloudiness and greater frequency of precipitation (mostly in the form of snow). Winters and springs are generally moist and mild with periodic cold and dry continental weather patterns. Summers months are hot and dry. Windstorms associated with cyclonic systems and their cold fronts often occur between October and July, while strong winds in the summer are associated with thunderstorms.

In the study area, these types of storms are often responsible for temporary power outages when downed trees or poles disrupt the existing transmission lines.

3.9.3 Current Resource Conditions

Ambient air quality is primarily a result of the type and amount of pollutants emitted into the atmosphere, the size and topography of the specific air basin, and the meteorological conditions in the region. National ambient air quality standards (NAAQS) have been developed by the EPA Office of Air Quality Planning and Standards (OAQPS) and adopted by the State of Idaho in order to establish levels of air quality that when exceeded may cause adverse human health effects. When a standard for a criteria pollutant is exceeded, the area is considered in "non-attainment" for that specific pollutant. Conversely, areas that do not exceed specific NAAQS are referred to as "Attainment" areas for that criteria pollutant.

Air quality can generally be described in terms of EPA's Air Quality Index (AQI), which is a uniform index that provides information to the pubic about air quality in a given location and the health effects associated with the AQI rating. The AQI may be calculated for each measured criteria pollutant. The index ranges from 0 (no air pollution detected) to 500 (extremely large amounts of pollution measured). For most pollutants, an AQI of 100 means that the federal standard, or limit, has been reached, while anything in the 0 – 50 range is considered "good" and no health impacts would be expected.

The closest air monitoring stations to the Proposed Project area are located in McCall (near the northeast terminus of the Proposed Project), Garden Valley (47 miles southeast of the Proposed Project area), and Middleton (60 miles south of the Proposed Project area). Of the criteria pollutants, these stations only measure the amount of particulate matter less than 2.5 microns in size (referred to as $PM_{2.5}$). Based on information from the IDEQ air quality website, the entire area is considered Attainment/Unclassified for all priority pollutants, including $PM_{2.5}$. Due to the geographic and demographic characteristics of the Proposed Project area and its distance from large urban or industrial centers, the ambient concentrations for all criteria pollutants are typically well below the NAAQS.

Regional Haze

In 1999, the EPA finalized regulations to improve visibility in 156 national parks and wilderness areas across the country. Known as the "Regional Haze Regulations," the rules require states to establish air quality goals that improve visibility and prevent degradation of air quality by addressing all types of manmade emissions contributing to impairment in designated Class I areas. Class I areas include all national parks that exceed 6,000 acres, along with wilderness areas and memorial parks that exceed 5,000 acres. There are two Class I areas within 100 miles on either side of the Proposed Project area: Hells Canyon and the Sawtooth Wilderness Area.

3.10 Health, Safety and Noise

3.10.1 Introduction

Audible Noise

Noise sources and levels are described and inventoried in this chapter for the study corridor. Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects).

The basic unit of measurement for sound is the decibel (dB). The decibel system of measuring sound provides a simplified relationship between the intensity of sound and its perceived loudness to the human ear. The decibel scale is logarithmic. Therefore, sound intensity increases or decreases exponentially with each decibel of change. For example, a 10 dB level is 10 times more intense than one dB, while a 20 dB level is one hundred times more intense, and a 30 dB level is one thousand times more intense. In terms of the sensitivity of human hearing, there are three noise-rating scales (denoted as "A," "B," and "C") that are classified in terms of sound level frequencies. The rating for power line noise is "A," referred to as "dBA." Levels that are considered acceptable or unacceptable are generally associated with various environments. Lower levels are expected in rural or suburban areas whereas higher levels would be expected in commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding average daytime levels. The day-to-night difference in rural areas away from roads and other human activity can be considerably less. Noise levels above 45 dBA at night can result in the onset of sleep interference effects (EPA, 1971). **Table 3-10** provides the ranges of common sounds that people could experience within the study corridor.

Table 3-10 Typical Ranges of Common Sounds

Sources of Noise	Noise Level Ranges (dBA)
Threshold of Pain	130 – 140
Pneumatic Chipper	120 – 130
Motorcycle	80 – 110
Emergency Diesel Power Generator	55-75
Power lawnmower	80 – 95
Pleasure Motorboat	75 – 115
Automobile (At 50 Feet)	60 – 90
Conversational Speech	60 – 70
Refrigerator	45 – 70
Living Room (Suburban Area)	40 – 50
Bedroom at Night	20 – 30
Threshold of Hearing	0 – 10

Source: EPA, 1974

No federal, state or county noise standards or guidelines exist that directly regulate noise from operation of electrical transmission lines and substation facilities. General guidelines exist for the introduction of commercial or industrial noise sources that require attention to avoid objectionable noise levels. The state limits noise levels to 55 dBA from 7 am to 10 pm and 50 dBA from 10 pm to 7 am.

The EPA has developed guidelines on recommended maximum noise levels to protect public health and welfare (EPA, 1974). **Table 3-11** provides a summary of noise levels identified to protect public health and welfare with an adequate margin of safety.

Table 3-11 Examples of Protective Noise Levels Recommended by EPA

Effect	Level	Area
Hearing Loss	L_{eq} (24) < 70 dB	All areas
Outdoor Activity Interference and Annoyance	Ldn < 55 dB	Outdoors in residential areas, farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	Leq (24) < 55 dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor Activity Interference and Annoyance	Ldn < 45 dB	Indoor residential areas
	Leq (24) < 45 dB	Other indoor areas with human activities such as schools, etc.

Source: EPA, 1974.
Note: Leq (24) represents the sound energy averaged over a 24-hour period. Ldn represents the Leq with a 10dB nighttime weighting.

The State of Idaho's (Idaho Administrative Bulletin, Docket No. 17-1020-9601) Occupational Noise Exposure limit is an 8-hour time weighted average of 85 decibels measured on the A-scale, slow response; or equivalently, a noise dose of 50 percent.

Radio Noise

Radio and television interference are denoted as RI and TVI, and collectively referred to as Radio Noise (RN). RN is a phenomenon produced by both corona and sparking and can vary greatly based on weather conditions. Corona occurs when the electrical field at a particular point reaches a sufficiently high value to cause ionization of the surrounding air. Corona is primarily a concern on transmission lines operating at 345kV and higher and in conjunction with foul weather because it is more likely to occur when water droplets are on or dripping off the transmission line conductors. Corona on transmission line causes power loss, radio, and television interference and audible noise near the transmission line. The effect of corona on RN is most evident in the AM broadcast band of 0.535 to 1.605 MHz. Generally, new transmission lines are designed to reduce corona effects and only broadcast signals in weak signal areas show interference due to coronal activity during foul weather. Cable and satellite systems are not susceptible to corona.

Sparking or gap discharge occurs between two elements of the transmission line conductor that are poorly connected. This phenomenon is more apparent during dry weather because

water droplets on the line tend to reduce the resistance in the connection allowing current to flow freely. Sparking interferes with broadcasts into the UHF range (above 300MHz), which makes sparking the primary cause of television interference. It is estimated, by experience, that 90-95 percent of all RN complaints are sparking related.

Television services are classified in two categories; Grades A and B. The quality of radio reception in the presence of man-made noise is primarily a function of the signal-to-noise ratio (SNR) at the receiver's antenna. Typically, the SNR is determined based on measurements of the radio or television signal and the noise from the transmission line at a particular location. Interference generated at television frequencies from power lines and stations may be due to corona or gap type discharges. Currently there are no standards established for the measurement of TVI from power transmission systems. Early studies on the subjective evaluation of picture quality have been made using a random noise environment. The results of these studies have not been sufficient either to standard power line TVI measurements or to establish criteria for acceptable signal to noise ratios.

In the U.S., there are no established standards for radio and television noise interference. For transmission lines with normal spacings and ROWs, a fair weather RI level of about 40 dBμV/m (100μV/m) at a lateral distance of 100 feet from the outermost phase has been established as a guideline for identifying a design criteria for a RN limit (IEEE Standard 430-1991).

Electric and Magnetic Fields (EMF)

Electric and magnetic fields (EMF) are present wherever electricity flows: around appliances and power lines, in offices, schools, and homes. Electric fields are invisible lines of force, created by voltage, and are shielded by most materials. Units of measure are volts per meter (V/m). Magnetic fields are invisible lines of force, created by electric current and are not shielded by most materials, such as lead, soil and concrete. The magnetic field strength unit of measure is Gauss (G) or milliGauss (mG), where 1,000 mG = 1G. EMF from power lines can cause effects that occur beyond the confines of the phase conductors. The fields produce small amounts of electric charge on nearby conductive objects, an action known as coupling or induction. Magnetic fields primarily impact long and generally parallel objects (e.g., fences and pipelines) that have an electrical ground at some point of the object. Electric field effects are more likely to occur on objects well insulated from ground at all points. Good examples are motor vehicles and metal sheds that can acquire electric charges in an electric field. The primary issue is how the induced or coupled voltages and currents on these objects can compromise safety to a person who comes in contact with the object. The National Electrical Safety Code (NESC) requires that power lines be designed to keep the induced current from nearby objects below 5.0 mA when short-circuited to ground. The short circuit current can be calculated for any object in or near the corridor to determine if the magnitude of the current is below the 5.0 mA rule for safety purposes.

A majority of people in the United States are exposed to magnetic fields that average less than 2 milliGauss (mG). **Table 3-12** depicts estimated average magnetic field exposure of the U.S. population for residential sources, according to a study commissioned by the U.S. government as part of the EMF Research and Public Information Dissemination (EMF RAPID) Program. This study measured magnetic field exposure of a sample of people of

all ages randomly selected among the U.S. population. Participants wore or carried with them a small personal exposure meter and kept a diary of their activities both at home and away from home. Magnetic field strength values were automatically recorded twice a second for 24 hours. The study reported that exposure to magnetic fields is similar in different regions of the country and similar for both men and women.

The worst-case scenario for determining electric and magnetic field strengths for the Proposed Project is based on 1) the location where the line is nearest to the ground (typically at lowest sag point between two towers), and 2) the highest projected future load of the transmission line system. There are two transmission structure designs in the transmission line; the single-circuit wood H-frame and Corten® tubular steel pole. The maximum load (based on a year 2010 projection) for the 138kV transmission line would be 556 amps. The electric and magnetic field values are calculated along a profile perpendicular to the transmission line (the highest EMF levels are based on the H-frame design). The magnetic field strength at the edge of the study corridor (100 feet from the transmission center line) is approximately 10 mG. The electric field strength at the edge of the study corridor (100 feet from the transmission center line) is approximately 0.14 kV/m.

Table 3-12 Residential Sources of Magnetic Fields

Source	Magnetic Field Strength (mG)
KITCHEN	
Blenders	20
Coffee Makers	1
Dishwashers	30
Electric Ranges	30
Refrigerators	20
BEDROOM	
Digital Clock	8
Analog Clock	30

Source	Magnetic Field Strength (mG)
LIVING/FAMILY ROOM	
Color Televisions	20
Window Air Conditioners	20
Ceiling Fans	50
LAUNDRY/UTILITY	
Electric Clothes Dryer	3
Washing Machines	30
Vacuum Cleaners	200
Portable Heaters	40
WORKSHOP	
Drills	40
Power Saws	300

Source: "EMF Questions & Answers," U.S. National Institute of Environmental Health Services, EMF RAPID Program, 2002.

3.10.2 Affected Area

Noise-sensitive receptors are facilities or areas (e.g., residential areas, hospitals, schools, offices) where excessive noise may cause annoyance or loss of business. The proposed route is adjacent to one planned subdivision that is located within the study corridor approximately 5 miles northeast of Cambridge. There are two other planned subdivisions west and east of the route between mileposts 14 and 15 but these subdivisions are approximately 0.5 miles from the route.

The Evergreen Campground comprised of 12 camping units is located on the east side of Highway 95 but is not within the study corridor for noise. There is also a day-use only site just south of the Evergreen Campground that has picnic areas.

The Weiser River Trail is adjacent to or crosses the transmission line route in several locations, including 1) Segment A at mile post 7; 2) between mileposts 16 and 17 in Segment A; and 3) between mileposts 3 and 6 in Segment D (**Figure 3-1** in Section 3.1).

3.10.3 Current Resource Conditions

The existing man-made noise sources in the Proposed Project area consist of IPCo transmission lines, an IPCo substation, and vehicular traffic. There are no airports or airstrips located within the study corridor.

IPCo Transmissions Lines and Substations

The existing transmission lines within the study corridor include the Boise Bench to Brownlee #3 and #4 230kV, Oxbow to McCall 138kV, and the Cambridge to New Meadows 69kV. IPCo's Joyce Substation is located north of Evergreen. The noise levels

for the substation are localized to that facility. The existing transmission lines cross remote country with few, if any, noise receptors, and is therefore also not characterized as part of this assessment.

Vehicular Traffic

U. S. Highway 95 is located in the study corridor for a distance of approximately 3 miles in the area of Evergreen.

Natural noise sources include the wind, which is much more common than calm conditions, and can be in the range of 45 to 55 dBA.

3.11 Heritage Resources

3.11.1 Introduction

Heritage resources are nonrenewable resources resulting from past human activities over the past several thousand years and extending into the middle of the 20th century. The purpose of conducting heritage resource inventories is to locate and evaluate sites in terms of National Register of Historic Places criteria during the planning stages of projects. For this Proposed Project, previous heritage resource inventories and site forms housed at the Archaeological Survey of Idaho and the Idaho Historic Sites Inventory, at the Idaho SHPO, were reviewed. The research area, including and surrounding Cambridge, Council, and McCall, contained 278 heritage resource sites, with 87 listed in the National Register or eligible for listing. Eleven of the previously recorded sites (one prehistoric and ten historic), are located along, or intersect with, the proposed transmission line or access road rights of way (**Table 3-13**).

Table 3-13 Previously Recorded Heritage Resource Sites in the Area of Potential Effect

Smithsonian or Idaho Site Number	Resource Name or Type	Land Status	Comments	National Register Status
87-17190	West Pine CCC Camp Quarry Site	Private	Agricultural land also used as dump through 1970s	Unevaluated
10WN62	Prehistoric Lithic Scatter	BLM	Lithic scatter	Unevaluated
87-17216	Horse Flat Road	BLM	Road still used and maintained	Eligible
87-17220	McKensie Road	BLM	Portions of road still used and maintained	Eligible
87-17235	Rush Creek Road	Private	Portions of road still used and maintained	Eligible
87-17228	Old Cuddy Road	Private	Portions of road still used	Eligible
87-17209 03-17873	Goodrich Road	Private	Portions of road still used and maintained	Eligible
10AM350	Mail Cabin Hill Historic Site	Forest Service	Intact features present	Eligible
10AM352	Council-Meadows Stage Road	Forest Service	Portions of road still used and maintained	Eligible
03-17917	P&IN RR Bridge [080.20(1)]	Private	Part of road system and maintained	Ineligible

The heritage resources assessment conducted for this Proposed Project is in compliance with the National Historic Preservation Act (NHPA) of 1966, as amended. The implementing regulation, 36CFR Part 800, provides procedures and guidelines (referred to as the "Section 106 Process" [updated in June 1999]) for federal agencies to consider the effects of a project's activities on cultural properties located on federal lands or on lands where federal funds are utilized. All heritage resources work is conducted under a BLM Cultural Resource Use Permit (ID-I-34197), issued by the BLM Idaho State Office, on August 15, 2002 and a USFS Special Use Permit (CCL027), issued by the PNF, on January 9, 2003. Since the heritage resources investigation was conducted to Section 106 standards, research and field methods for non-federal lands do not differ from those applied to federally managed lands.

Potential issues of concern regarding construction and operation of the proposed 138kV transmission line include: 1) impacts to heritage resources from any ground disturbing activities during construction, including development of marshalling yards, placement of towers, construction of substations, development of access roads, and placement of tensioning areas; 2) visual impacts to heritage sites or locations with cultural values from the presence of towers or transmission lines; and 3) improved access to heritage resources in currently remote areas.

3.11.2 Affected Area

Heritage resources were evaluated in terms of potential physical impacts from line construction, access roads, marshalling yards, tensioning areas, and visual impacts from towers or transmission lines. The most widespread resource effecting prehistoric use of the area containing the line is the naturally occurring basalt from which people manufactured stone tools that were used during their subsistence quest. Where basalt occurs on or near the surface in this region, there is often evidence of at least testing of the quality of the material for making tools. Prehistoric occupants of the area also sought and harvested plants or parts of plants, as well as resources located in or near water such as animals, fish, and waterfowl. Historically, occupants of the area spread out from rivers and travel corridors for mining, ranching, farming, establishing towns, and harvesting timber in the forests. Impacts to heritage resources have the potential to occur where locations of these activities or areas intersect with the location of the proposed transmission line.

3.11.3 Current Resource Conditions

Details regarding the prehistory, ethnography, and recent history of the region around the Proposed Project are provided in **Appendix E.**

The Area of Potential Effect (APE) for heritage resources is 100 feet (30 meters) either side of the centerline of the proposed transmission line and 50 feet (15 meters) either side of the centerline of proposed new access roads. Heritage resource specialists conducted an intensive, pedestrian inventory of the transmission line APE from the proposed West Cambridge Substation to the West McCall Substation, with personnel spaced no more than 30 meters apart. In addition, heritage resource specialists conducted an intensive, pedestrian inventory of the proposed new access roads APE from the proposed West

Cambridge Substation to the Tamarack substation. A pedestrian inventory of the proposed new access roads APE to the West McCall Substation was conducted in July 2004.

Following completion of background research, HRA field personnel conducted pedestrian survey of the APE. Crews located and recorded previously unrecorded sites and attempted to relocate previously recorded heritage resources within the APE. All 10 of the previously recorded sites were found, plus 8 new sites and 4 isolated finds were located and recorded (**Table 3-14**), all at least partially within the APE. Six of the heritage resource sites, including two recommended as eligible for the National Register, are located at least partially on BLM lands. Four of the heritage resource sites, including two recommended as eligible for the National Register, are located at least partially on USFS lands.

Table 3-14 Heritage Resource Sites Recorded in the APE in 2003

Smithsonian or Field Site Number	Resource Name or Type	Land Status	Comments	National Register Status
87-17190	West Pine CCC Camp Quarry Site	Private	Quarry used as dump through 1970s	Recommended Ineligible
10WN62 (FH-2)	Prehistoric Lithic Scatter	BLM	Very low density site	Recommended Ineligible
87-17216	Horse Flat Road	BLM	Road still used and maintained	Eligible*
87-17220	McKensie Road	BLM	Segment in APE still used and maintained	Eligible*
FH-1	Prehistoric Lithic Scatter with cairns	BLM	Extremely low density, surface site	Recommended Ineligible
FH-3	Prehistoric Lithic Scatter	Private	Extremely low density, surface site	Recommended Ineligible
87-17235	Rush Creek Road	Private	Segment in APE still used and maintained	Eligible*
87-17228	Old Cuddy Road	Private	Segment in APE still used	Eligible*
MW-1	Historic Building	Private	Abandoned building still standing	Recommended Ineligible
Iso MW-1	Single Flake	BLM	Isolated find	Recommended Ineligible
87-17209 03-17873	Goodrich Road	Private	Segment in APE still used and maintained	Eligible*
TD-1	Prehistoric Lithic Procurement	Private	Low density site	Recommended Ineligible
TD-2	Prehistoric Lithic Scatter	Private	Low density site	Recommended Ineligible within APE
TD-3	Prehistoric Lithic Procurement	BLM & State	Low to moderate density site	Recommended Ineligible within APE
03-17917	P&IN RR, Historic Railroad Grade and Bridges	Forest Service & Private	Abandoned early1990s-tracks & ties removed; segments in APE part of road system and maintained	Ineligible*
TD-4	Prehistoric Lithic Scatter	State	Low density site	Recommended Ineligible within APE
DB-1	Prehistoric Lithic Scatter	Private	Low density site	Recommended Ineligible
Iso DB-1	Single Flake	State	Isolated find	Recommended Ineligible
Iso MW-2	Projectile Point Fragment	State	Isolated find	Recommended Ineligible
Iso TD-2	Single Flake	Forest Service	Isolated find	Recommended Ineligible
10AM350	Mail Cabin Hill Historic Site	Forest Service	Root cellar, historic dump, dirt mound	Eligible*
10AM352	Council-Meadows Stage Road	Forest Service	Two-track road still in use	Eligible*
				*Previous Determination

A separate report will detail the results of background research for heritage resources, summarize previous cultural resource inventories in or near the Proposed Project area, and present the results of the heritage resource survey undertaken for the Proposed Project.

As part of the heritage resources permitting process, the BLM made contact with the Bannock and Shoshone Tribes and the PNF made contact with the Nez Perce and Shoshone Tribes regarding any concerns they might have for resources in the APE. None of the tribes have responded with any concerns. Research of reports and site forms housed at Idaho SHPO and contact with PNF and BLM heritage resource specialists resulted in no information regarding ethnographic sites on or near the APE.

3.12 Environmental Justice

3.12.1 Introduction

Executive Order 12898 (EO 12898), issued on February 11, 1994 by President Clinton, Federal Actions to Address Environmental Justice in Minority Population and Low Income Populations, was implemented to specifically address human health and environmental conditions in disadvantaged populations. The order recognizes and addresses, in an accompanying memorandum to department and agency heads issued with EO 12898, National Environmental Policy Act (NEPA) procedures for identifying and addressing Environmental Justice concerns, and makes it clear that the provisions contained within it apply fully to programs involving Native Americans (CEQ 1997). A fundamental provision within the order states that all federal agencies must address and identify, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations in the United States. With regards to enforcement of EO 12898, the Council on Environmental Quality (CEQ) has oversight of the Federal government's compliance with EO 12898 and NEPA.

The CEQ, in consultation with the EPA and other affected agencies, has developed procedures so that Environmental Justice concerns are adequately addressed when developing programs or activities. According to the CEQ (1997), there is not a standard formula for how Environmental Justice concerns should be addressed or identified. However, the use of demographic data available from the Bureau of Census (BOC 2000), and consideration of distinctive cultural practices such as possible subsistence on fish, vegetation, or wildlife is suggested. The CEQ provides Environmental Justice assessment guidelines in a three-part process:

- Description of the geographic distribution of low-income and minority populations in the affected area;
- Assessment of whether construction and operation impacts would produce high and adverse impacts; and
- Determination of whether the impacts would disproportionately impact low-income or minority populations if the impacts identified are high and adverse.

Existing socioeconomic data, including low income and minority population groups based on demographic data presented in Section 3.8 Socioeconomic Resources and the Bureau of

Census' Current Population Reports. The following definitions of individuals were used to define low income and minority populations. The definitions were taken from the CEQ (1997).

- **Minority**. Persons are included in the minority category if they classify themselves as belonging to any of the following racial groups: American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Black or African American not of Hispanic origin, or Hispanic.
- **Low-Income**. Were identified with the 2000 Bureau of Census Demographic Characteristics. For any given family below the poverty line, all family members are considered as being below the poverty line for the purposes of analysis.

The analysis area for Environmental Justice effects includes all of Washington County and Adams County. Demographic data from the United States Bureau of Census (BOC 2000) for the State of Idaho and Section 3.8 "Socioeconomic Resources" were used for comparison with each county's demographic data.

3.12.2 Affected Environment

Minority Population

Based on census data, the Adams County minority population (Black, Indian, Asian, and Hispanic) in the year 2000 was 111, or 3.2 percent of the population. The statewide minority population was 137,988 or 10.7 percent of the total population. Whites comprise 96.3 percent of the Adams County population compared to 91.0 percent for the state. Those classifying themselves as "Other" in Adams County comprise about 0.9 percent of the population and 4.2 percent for the state. Adams County has a substantially lower proportion of minorities than the State of Idaho as a percentage of total County population.

Based on census data, the Washington County minority population (Black, Indian, Asian, and Hispanic) in the year 2000 was 1,558, or 15.6 percent of the total Washington County population. The Statewide minority population was 137,988 or 10.7 percent of the total population. Whites comprised 87.6 percent of the Washington County population compared to 91.0 percent or 1,177,304 persons for the state. Those classifying themselves as "Other" in Washington County comprise about 8.2 percent of the population and 4.2 percent for the state. Washington County has a higher proportion of minorities than the State of Idaho as a percentage of total County population.

Low-Income Population

According to poverty statistics for 1999, the State of Idaho had a low-income population of 148,732, or 11.8 percent of the total (1999) population, while Adams County had a low-income population of 518 (15.1 percent) and Washington County had a low-income population of 1,302 (13.3 percent). Median and average incomes for Adams County are somewhat lower than the state as a whole. Economic data for 1999 indicate Adams County has a per capita income of $14,908 compared to State of Idaho per capita income of $17,841, or 16.4 percent below the state average. Likewise the median income levels were also somewhat lower than the state in the year 1999 with $32,335 for Adams County families, compared to $43,490 for the State of Idaho families.

Median and average incomes for Washington County are somewhat lower than the state as a whole. Economic data indicate Washington County has a per capita income of $15,464 compared to State of Idaho per capita income of $17,841 for the year 2000, or 13.3 percent below the state average. Likewise the median family income levels were also somewhat lower than the state in the year 1999 with $35,542 for Washington County, compared to $43,490 for the State of Idaho.

Chapter 4
Environmental Consequences

4.1 Land Use

Only one written comment pertaining to potential land use impacts was received during the formal scoping process in the fall of 2003. The concern related to the use and enjoyment of the Weiser River Trail near Evergreen and the Evergreen Campground. The Idaho State Department of Parks and Recreation expressed concern that special care is taken in this section of the Proposed Project so that visual disturbances that may impact users' ability to fully enjoy the recreational qualities of the area be minimized.

4.1.1 Direct and Indirect Effects of the Proposed Action

Permanent direct impacts to land use would occur wherever the proposed action adversely affects properties by precluding or restricting the potential for development to occur around or underneath the transmission line or alter or infringe on the use of the land according to existing or approved land management plans. Direct impacts may also occur where access roads provide increased encroachment onto public or private land that was otherwise inaccessible or restricted to motorized vehicles. Other direct impacts would be expected where the Proposed Project creates temporary disturbances during construction.

Direct impacts to existing or planned land uses from the Proposed Project are anticipated to occur on private and federal grazing allotments when construction activities would create temporary disturbance to pastureland. Impacts would include temporary removal of pastureland or compaction of vegetation where construction roads and overland travel locations are located, a potential for damage to rangeland improvements (such as fences) during construction, and potential short-term disturbance to grazing animals due to the presence of heavy equipment. Permanent direct impacts would include a minimal loss of grazing acreage at pole locations. These impacts are expected to be low because animals would be able to graze around the poles and under the line once construction is complete and mitigations agreed to by IPCo (including gating fences or restoring them, reclaiming vegetated areas disturbed by access roads or repairing roads, and reseeding) would resolve short-term impacts.

Where direct and indirect impacts arise from unauthorized OHV use, IPCo will provide locked gates and reclaim temporary construction roads as described in Section 2.3, (Mitigation Measures).

Removal of trees to widen the existing corridor and create the new corridor would result in a permanent loss of timbered acreage that could otherwise be replanted for future timber harvest. Besides presenting a direct impact to land use development potential, removal of timber results in socioeconomic considerations as discussed in Section 4.8.

The Joyce Substation will be removed as a result of this Proposed Project, as will 2.7 miles of existing transmission line ROW (in the Oxbow to McCall 138kV corridor as described in Section 2.2). Removal of the transmission line would provide an opportunity for growth

of trees that could eventually be harvested. Removal of the substation will allow a previously disturbed acreage to be restored.

Indirect impacts would occur where construction, operation, and maintenance of the proposed transmission line create other tangible variations on the landscape that result in modified land use patterns. As voiced by the Idaho Department of Parks and Recreation in their comments (described above), construction and operation of the transmission line may alter the visual quality of an area such that users do not feel the same affinity toward the area and therefore fail to utilize designated recreation areas to the same degree as before the Proposed Project. Places where this might be expected would be in locations where the proposed transmission line crosses or is in close proximity to the Weiser River Trail (near Segment A at mile post 7 and between mile posts 16 and 17, and along Segment C from MP 2 all the way up along Highway 95 to Tamarack – **Figure 3-1**) and at the PNF Evergreen Campground and the developed PNF recreation site south of Evergreen. IPCo has agreed to span areas with visual sensitivity (such as the campground and PNF recreation area along the corridor through USFS lands) to the maximum feasible distance and to use wood or Corten® steel in an effort to mitigate visual impacts (discussed in Section 4.7) and resulting indirect impacts to recreational utilization of the area. Conversely, land where the Joyce Substation is located would be restored; thus indirectly increasing the aesthetic quality of the area around Evergreen.

The transmission line would not preclude development of either of the planned subdivisions (Council Mesa and Hidden Canyon).

No impacts are expected to occur to the mining claims located in Sections 21 and 22 of T18N, R1E.

4.1.2 Cumulative Effects to Land Use

Cumulative effects on PNF and BLM system lands are often minimal due to resource management planning standards that help limit or mitigate activities. For instance, the PNF has reforestation projects wherein roads would be obliterated rather than built (such as the Hall Fire Restoration Project completed in early 2004 and the Upper West Fork Weiser Vegetation Management Project slated for late 2005). However, other federal projects, such as the Gaylord North Timber Sale will result in construction of 3.6 miles of new road and the obliteration of 27 miles of existing roads. Overall, construction of the proposed transmission line would add to the amount of primitive, single track roads in the region, thus increasing the amount of potential travel corridors through previously undisturbed forest or rangeland.

Various Idaho Department of Transportation (ITD) road construction projects in the area occurring at the same time as construction of the proposed transmission line may result in more private land being used as equipment lay down or storage areas in addition to those areas being utilized by the Proposed Project. Anticipated road projects occurring at the same time include pavement rehabilitation projects in West McCall and on U.S. 95 south of Cambridge.

4.1.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

Management direction provided in the PNF Forest Plan includes standards and guidelines for land use decisions and projects that affect existing land uses. The complete text for the relevant standards and guidelines is provided in Appendix A. A summary of them, and how the Proposed Project complies, is discussed provided below. In general, PNF management direction, through stated goals and objectives (also listed in Appendix A) supports utility corridors that meet the public need and that cannot be accommodated off USFS lands.

> ***Standard LSST06:*** *Proposals for Special Use Authorizations must meet proposal screening and application criteria as presented in 36 CFR 251.54.*
>
> The applicable criteria have been met and are part of the Proposed Project Record.
>
> ***Standard LSST07:*** *Proposed facilities shall be outside of Riparian Conservation Areas (RCAs) wherever possible. If this can't be met, mitigations must be used to avoid degrading effects.*
>
> Section 3.2 and 4.2 (pertaining to Aquatic Resources) addresses this topic and describes the mitigations that will be employed to reduce or eliminate degrading effects.
>
> ***Standard LSST09:*** *This standard suggests preference be given to analysis and approval of authorizations for new ROWs or other utility-related facilities requested within existing utility corridors. Proposals for utility ROWs outside designated corridors shall be considered after improvement of existing facilities to accommodate expanded use is analyzed.*
>
> The proposed transmission line extends from Cambridge to McCall. USFS lands exist in between each of these towns and cannot reasonably be avoided. The Proposed Project would be located in existing transmission line corridor through the PNF. The Proposed Land Designated Utility Corridor Project enhances the reliability of the existing power supply to McCall and surrounding communities by adding a second transmission feed from a separate power source. Upgrading the existing 138kV transmission line in the existing utility corridor would not eliminate weather-related outages and the potential for rolling blackouts.
>
> ***Guideline LSGU03:*** *This guideline states that rights for various projects, including utility improvements, should be conveyed when such conveyances are in the long-term interest of the National Forest or in the public interest.*
>
> The Proposed Project would provide a reliable supply of electricity to the communities served by the McCall Loop. Without this Proposed Project, reliability will continue to decrease as growth in the area increases. Therefore, the Proposed Project is in the public interest.

BLM Resource Management Plan Direction

The Cascade RMP indicates that ROWs, under Title V of the Federal Land Policy and Management Act (43 U.S.C. 1701 et seq. [FLPMA]), will be considered except in specific resource management areas. The Goodrich Creek Research Natural Area is a designated avoidance area for utility corridors and has been avoided as prescribed. The RMP also indicates that while the majority of the BLM lands crossed by the proposed transmission line is designated "open" for OHV use, one area in T17N, R1W near Hornet Creek is closed to OHV use and transmission line corridors because of designation as a Research Natural Area for a sensitive plant species. Neither the proposed transmission line nor associated access roads cross this area. New access roads located on all other BLM lands will be closed or left open as prescribed by the BLM in the open OHV use areas.

County Plans

Both Adams and Washington County's comprehensive plans (described in Section 1.1.3) support improvements and upgrades as needed to provide reliable energy services. This Proposed Project would utilize land within the county for that purpose.

4.1.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

On USFS lands, all of the proposed transmission line would be in existing utility corridors. Should the transmission line ever be decommissioned, the line location would be restored. Land use activities that are not compatible with transmission lines, such as building dwellings or airports or other similar land development projects in the ROW would be excluded for the duration of the Proposed Project. However, compatible land uses such as grazing and crop production would be allowable within the ROW.

4.1.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, no new impacts to land uses would be expected. However, continued power outages for McCall and the surrounding area due to lack of power capacity, and future development within the existing utility corridor, would be likely. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements causing associated impacts from vehicular access and maintenance activities. Land use impacts to grazing, pasture land, though the loss of timber resources, and alteration of overland travel locations would be similar or more severe and occur elsewhere under the No Action Alternative because IPCo would be forced to fulfill the Purpose and Need of the Proposed Project as identified in Chapter 1 in another way.

4.2 Aquatic Resources and Fisheries

The primary potential effects from the Proposed Project would result from construction of new access roads, maintenance and reconstruction of roads, and the clearing of vegetation. Other potential effects could result from contaminant spills or spread of noxious weeds and invasive plants into riparian areas. Consistent with consultation protocol for PNF projects, matrices and Watershed Condition Indicators (WCIs) from the Forest Plan is be included in the fisheries BA/BE for this Proposed Project.

Only one written comment specifically pertaining to aquatic resources was received during the formal scoping period. See **Table 6-2** in Chapter 6 for a summary of that comment.

4.2.1 Direct and Indirect Effects of the Proposed Action

Road Construction

Road construction can affect streams directly by accelerating erosion and sediment loading, altering channel morphology, and changing the runoff characteristics of watersheds. These processes synergistically cause secondary changes in channel morphology (Furniss et al., 1991). All of these changes can affect fish habitat. The bare, compacted soils on roads exposed to rainfall and runoff are a potential source of surface erosion. Roads and ditches form pathways for sediment transport to stream channels (Chamberlin et al., 1991).

Fine sediments increase on and within stream substrates when sediment production exceeds a stream's ability to transport it. Salmonid populations are typically negatively correlated with the amount of fine sediment in stream substrate (Chapman and McLeod, 1987). Spawning area quality is affected because egg deposition and survival are reduced when sediment fills the interstitial spaces between gravels, preventing the flow of oxygen and the flushing of metabolic wastes. Emerging fry and aquatic insects can also be trapped and smothered by sediment deposition in the gravels. Rearing areas are diminished as sediment fills pools and other areas. Overwintering becomes more difficult as sedimentation of deep pools and coarse substrate limits the space available for fish. Bell (1986) cited a study in which salmonids did not move in streams where the suspended sediment concentration exceeded 4,000 milligrams per liter (mg/L) because of a landslide. Newly emerged fry appear to be more susceptible to even moderate turbidity than older fish. Turbidity in the 25 to 50 NTU range (equivalent to 125 to 275 mg/L of bentonite clay) reduced growth and caused more young salmon and steelhead to emigrate from laboratory streams than did clear water (Sigler et al., 1984).

A GIS analysis was performed to identify the amount of road construction in three different slope classes in each analysis area (**Tables 4-1 through 4-9**). Greater risk for impacts occurs on steeper slopes. The Proposed Project would result in 4.9 miles of access roads on USFS lands and 54.2 miles of access roads on non-USFS lands. On USFS lands, 1.4 miles on 0 percent-15 percent slopes, 2.9 miles on 15 percent-30percent slopes, and 0.6 miles on slopes >30 percent.

Table 4-1 Miles of Total New Road Construction by Analysis Area and Slope Class

Analysis Area	Slope Class			Total
	0% to 15%	15% to 30%	Greater than 30%	
Upper Goodrich and Johnson Creeks	4.07	0.55	0.10	4.72
Middle Fork Weiser River	1.43	0.12	0	1.55
Middle and North Hornet Creek	3.12	2.01	0.65	5.78
Upper Weiser	0.79	0.53	0.20	1.52
Beaver Creek	0.12	1.37	0.88	2.37
Main Weiser and Lower Tributaries	21.26	13.42	1.36	36.04
Upper Little Salmon River	2.07	3.15	1.37	6.59
Goose Creek	0.27	0.19	0.03	0.49
Total	**33.13**	**21.34**	**4.59**	**59.06**

For the GIS analysis, several buffers were incorporated around the streams. Upon consultation with PNF personnel, a 200-foot buffer was used around all streams to examine sediment delivery potential (Gamble, 2004). Approximately 9.3 miles of roads would be constructed within the 200-foot stream buffer. The majority of these streams are ephemeral or intermittent. Using a 30-foot disturbance width for roads, the Proposed Project would result in approximately 33 acres of clearing within the 200-foot buffer. Given that the roads would be reseeded with grass and that the majority of roads are proposed near intermittent streams, impacts would likely be minimal with the proper use of Best Management Practices (BMPs). Seyedbagheri (1996) investigated the effectiveness of Idaho Forestry BMPs, and determined that seeding, harrowing and cross draining of roads reduced erosion to negligible levels within three to five years. All streams in the Proposed Project area were classified as perennial or ephemeral/intermittent based on USGS topographical maps and field surveys. In order to characterize impacts to streamside vegetation, the acreages of cleared areas were calculated. Approximately 6.8 miles of proposed roads are within 150 feet (horizontal distance) of ephemeral streams. Vegetation clearing would occur in areas where plants are higher than, or have the potential to become taller than 14 feet for operation of the transmission line. Many stream riparian zones in the southern portion of the Proposed Project area do not have any vegetation over 14 feet tall. Road construction

would require 24.7 acres of vegative removal within 150-feet of intermittent streams. There are 0.9 miles of proposed access roads within 300-feet of perennial streams, which would require 2.6 acres of vegative removal.

There are 27 crossings of streams and ditches by proposed roads, including six ditches, 19 intermittent streams, and two perennial streams. These crossings are the areas that are at the greatest risk for sediment introduction. Preferred crossing methods will be by constructed rock fords or culvert installation. All crossings would be engineered on a case-by-case basis in cooperation with the BLM and PNF.

Impacts from new roads would be minimized through the use of BMPs, conservation measures, and compensatory mitigation including planting and restoration of riparian areas. Construction improvements would be made to existing, poorly engineered roads to help reduce sediment delivery to waterways. Roads specified by the PNF (Gamble 9/13/04; updated 12/04) will be permanently closed, and rehabilitated as recommended by Gamble. Implementation of the Erosion Control and Hazardous Materials Containment plans (all found as appendices in the POD/COM) will further minimize impacts as a result of construction activities. The Proposed Project would construct 4.9 miles of new access road on the PNF. To mitigate the potential negative effects of the new roads, riparian restoration will occur in the Gaylord North area as indicated in Section 2.1.1. The roads selected for obliteration were previously identified as opportunities in other NEPA decisions (USDA 2001a, 2001b, 2003c).

The effects analyses herein consider compensatory actions as conservation measures. Compensatory actions are anticipated to more than negate potential impacts from activities on PNF lands. Through these actions and with use of BMPs and an Erosion Control Plan, Aquatic Conservation Strategy (ACS) goals will be met through the maintenance or improvement of Soil, Water, Riparian and Aquatic (SWRA) resources and WCIs. All Pathways and WCIs except for large woody debris (LWD) may incur short-term negative impacts. LWD would incur a short-term beneficial impact, with cleared LWD material being left onsite inside RCAs. All impacts would be short-term and negligible to PNF WCIs due to the narrow linear nature of project disturbance.

Impacts on other ownerships are anticipated to be short-term and minimalized through use of project-wide BMPs and conservation measures (Seyedbagheri, 1996). Though 9.3 miles of roads within 200 feet of streams and clearing for transmission line at stream crossings would occur, these impacts would be dispersed throughout several watersheds as shown in **Tables 4-2 through 4-9**. Localized long-term impacts are anticipated benign because of narrow linear nature of project disturbance.

Table 4-2 Feet of Proposed Road in Upper Goodrich-Johnson Creek Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	4.07	1.39	0.13	1.61	0.09
15% to 30%	0.55	0.05	0.02	0.10	0.00
Greater than 30%	0.10	0.00	0.04	0.00	0.00
Total	**4.72**	**1.44**	**0.19**	**1.71**	**0.09**

Table 4-3 Feet of Proposed Road in Middle Fork Weiser River Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	1.43	0.47	0.03	0.51	0.01
15% to 30%	0.12	0.01	0.00	0.02	0.00
Greater than 30%	0.00	0.00	0.00	0.00	0.00
Total	**1.55**	**0.48**	**0.03**	**0.53**	**0.01**

Table 4-4 Feet of Proposed Road in Middle and North Hornet Creek Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	3.12	0.23	0.00	0.24	0.00
15% to 30%	2.01	0.43	0.02	0.47	0.01
Greater than 30%	0.65	0.13	0.03	0.20	0.00
Total	**5.78**	**0.79**	**0.05**	**0.91**	**0.01**

Table 4-5 Feet of Proposed Road in Upper Weiser River Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	0.79	0.00	0.00	0.00	0.00
15% to 30%	0.53	0.00	0.15	0.02	0.02
Greater than 30%	0.20	0.00	0.01	0.00	0.00
Total	**1.52**	**0.00**	**0.16**	**0.02**	**0.02**

Table 4-6 Feet of Proposed Road in Beaver Creek Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	0.12	0.00	0.00	0.00	0.00
15% to 30%	1.37	0.00	0.13	0.00	0.05
Greater than 30%	0.88	0.00	0.08	0.00	0.00
Total	**2.37**	**0.00**	**0.21**	**0.00**	**0.05**

Table 4-7 Feet of Proposed Road in Main Weiser and Lower Tributaries Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	21.26	2.93	0.25	3.89	0.10
15% to 30%	13.42	0.73	0.05	1.25	0.02
Greater than 30%	1.36	0.00	0.00	0.05	0.00
Total	**36.04**	**3.66**	**0.30**	**5.19**	**0.12**

Table 4-8 Feet of Proposed Road in Upper Little Salmon River Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	2.07	0.11	0.00	0.19	0.00
15% to 30%	3.15	0.35	0.00	0.51	0.00
Greater than 30%	1.37	0.02	0.00	0.12	0.00
Total	**6.59**	**0.48**	**0.00**	**0.82**	**0.00**

Table 4-9 Feet of Proposed Road in Goose Creek Analysis Area

Slope Class	Total	Within 150 feet of intermittent streams	Within 300 feet of perennial streams	Within 200 feet of intermittent streams	Within 200 feet of perennial streams
0 to 15%	0.27	0.00	0.00	0.00	0.00
15% to 30%	0.19	0.00	0.00	0.00	0.00
Greater than 30%	0.03	0.00	0.00	0.00	0.00
Total	**0.49**	**0.00**	**0.00**	**0.00**	**0.00**

Sediment Effects on Salmonids

The Proposed Project has the potential to introduce sediment to streams and increase turbidity through road building, maintenance, vegetation clearing, and construction activities. Salmonid fishes will avoid areas with turbid water. In streams where turbidity is elevated over a long distance or for a long period of time, this can result in reaches of stream devoid of fish (Waters, 1995). In addition, high levels of suspended sediment can result in the loss of visual capability, leading to reduced feeding rates and depressed growth (Waters, 1995). High levels of sediment can deplete benthic invertebrate populations and species diversity, reducing the available food supply for fish (Waters, 1995). Spawning and incubation success are negatively related to increased sediment levels (Gusinski et. al, 2001). Sediment can also fill pools and blanket structural cover, reducing available summer and overwintering habitat for adult salmonids (Waters, 1995). Additionally, bedload can accelerate stream movement and in turn affect stream equilibrium and channel stability.

Direct mortality of fish from suspended sediment has been documented, but generally due to either very high levels of suspended sediment or a long duration of increased suspended sediment. It is likely that fish have developed behavioral or physiological adaptations to

high concentrations of suspended sediment that are temporary, allowing them to survive short-term conditions caused by natural floods (Waters, 1995). The exact levels of sediment at which sub-lethal effects occur are unknown. It is known that both the concentration of sediment and the duration of exposure affect the response of fish (Newcombe and MacDonald, 1991). Potential sedimentation effects would be short-term and mitigated through the implementation of BMPs, Erosion Control Plans, and revegetation.

Clearing Vegetation

Aquatic habitat may be damaged through the loss of streamside vegetation that otherwise provides shade, bank stabilization, and food sources. Clearing vegetation can lead to increases in summertime stream temperature, and in winter can cause increased icing effects due to lack of vegetation. Shading, cover, and future LWD recruitment can also be adversely affected by clearing vegetation. Canopy structure, or lack thereof, can affect inputs of vegetative nutrients and terrestrial insect inputs into the aquatic system. Reduction of LWD recruitment is a long-term adverse effect that can affect stream structure, pool quantity, and overhead cover important to fish. Vegetation clearing and ground disturbance can also contribute to a proliferation of noxious weeds and invasive plants, limiting future recruitment of native riparian plant communities.

Vegetation clearing on ROWs would occur along the length of the Proposed Project for all plants that could grow to 14 feet or higher. All clearing in RCAs would use chainsaws or handsaws to minimize ground disturbance. Riparian shrubs and stabilizing vegetation less than 14 feet tall would be left in place. As determined through consultation with PNF personnel, cut materials within the RCAs would be left on-site or felled in-stream to increase LWD.

Petroleum Products and Herbicides

Should fuel, other petroleum products, or herbicides enter live water, they would adversely affect water quality and invertebrates. Introduction of these products would be likely to directly and adversely affect fish. Fuels and other petroleum products are moderately to highly toxic to salmonids, depending on concentrations and exposure time, and can directly poison salmonids and their aquatic invertebrate food source (Gutsell, 1921; Allen and Dawson, 1961). Free oil and emulsions can adhere to gills and interfere with respiration, and heavy concentrations of oil can suffocate fish (McKee and Wolfe, 1974). Evaporation, sedimentation, microbial degradation, and hydrology act to determine the fate of fuels entering fresh water (Saha and Konar, 1986).

Fuel-related mitigation (refer to Section 2.3) keeps fuels as far as possible from water resources, and includes measures to reduce the likelihood of uncontained spills. These precautions reduce the risk of fuel-related effects to very low levels.

Some herbicides, such as Picloram and Clopyralid, are toxic to fish and aquatic invertebrates. Potential impact to aquatic resources can be avoided by proper application and storage of herbicides in the riparian zones. All weed spraying would be completed in accordance with the weed management plan contained in the POD/COM.

Operations and Maintenance

Continued vegetation modification under transmission lines reduces shade and quantity and quality of future LWD recruitment. New roads accessing streams can facilitate undesirable or illegal fishing in easily accessible stream reaches. Ongoing road maintenance and use related to transmission line operations can continue to contribute sediment to streams, albeit at a smaller level than the initial construction phase. In the unusual event of structure or transmission line breakage or collapse, some ground disturbing work may be necessary to restore electric service.

Mitigation Measures

In addition to the standard mitigations presented in Section 2.3, the following selected mitigation measures would be implemented to reduce the likelihood or severity of impacts to aquatic and water resources created by the Proposed Project.

1. Revegetate offsite areas to compensate for clearing of potential LWD recruitment inside RCAs.
2. Plant riparian shrubs (species smaller than 14 feet) in disturbed areas within the RCAs.
3. Implement the Weed Control Plan.
4. Implement erosion control measures (BMPs).
5. Implement the Hazardous Material Containment Plan.
6. No refueling or herbicide storage within RCAs.
7. Utilize BMPs for all road construction (Idaho Transportation Department [ITD], 2001).
8. Leave felled vegetation in RCA. Place material instream where possible and advised by PNF fish biologist/hydrologist.
9. Follow all applicable Goals, Objectives and other guidance in the Idaho Nonpoint Source Management Plan (IDEQ, 1999) for silviculture (roads), hydrologic and habitat modification, and transportation, including IDT BMPs).
10. As noted in Section 2.2.1, road obliteration and riparian restoration will occur on NFS lands to compensate for construction of new roads.

4.2.2 Cumulative Effects to Aquatic Resources and Fisheries

Road construction and maintenance could potentially contribute short-term impacts to water quality, but these stabilize over time as slope stabilization measures take effect. Because of associated obliteration of poorly engineered, eroding roads, adherence to BMPs, and with new construction, it is expected that cumulative impacts due to road construction activities would have a net beneficial effect on USFS lands. Cumulative impacts to PNF WCIs would be short-term in nature. It is expected that cumulative impacts would be consistent with PNF Aquatic Conservation Strategy by maintaining soil, water, riparian, and aquatic resources (SWRA). Seyedbagher (1996) found that Idaho Forestry BMPs effectively reduce erosion to negligible levels in three to five years. Adherence to BMPs on all other ownerships would ensure cumulative impacts due to construction are discountable. Due to onsite and offsite planting to mitigate vegetation clearing in RCAs, it is expected there will be no contribution to long-term vegetation and stream temperature cumulative impacts. Post-construction use of roads will be of low-impact in nature and short-term.

The McCammon Process (USDA, 1993) indicates that each of the aquatic analysis areas is at high risk. Specific activities that contribute to elevated risk levels within these areas include livestock grazing, road maintenance, firewood harvest, timber harvest, road construction, agricultural practices, water withdrawals/diversions, and recreation use.

4.2.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

The following PNF Forest Plan standards and guidelines are applicable to aquatic resources potentially affected by the Proposed Project. How the Proposed Project will comply with the standards and guidelines is discussed below.

> ***Standard TEST04:*** *Management actions that have adverse effects on Proposed or Candidate Species or their habitats, shall not be allowed if those actions would contribute to listing of the species as Threatened or Endangered under the ESA.*
>
> Management actions would not contribute to the listing of species under the ESA.
>
> ***Standard TEST05:*** *For management actions that include application of insecticides, herbicides, fungicides, or rodenticides, mitigation shall avoid or minimize adverse effects on TEPC species or their habitats.*
>
> Herbicides known to be harmful to fisheries shall not be applied in riparian areas. Insecticides, fungicides and rodenticides would not be included as part of this Proposed Project.
>
> ***Standard TEST06:*** *Management actions shall be designed to avoid or minimize adverse effects to listed species and their habitats. For listed fish species, use Appendix C for determining compliance with this standard.*
>
> All watershed condition indicators would be maintained in compliance with the Aquatic Conservation Strategy (ACS) of the 2003 PNF Forest Plan.
>
> ***Standard TEST32:*** *When taking water from TEPC fish-bearing streams for road and facility construction and maintenance activities, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch), or as determined through coordination with NMFS and/or FWS.*
>
> This standard will be required and identified as such in the construction contract.
>
> ***Guideline TEGU02:*** *For proposed action that may affect potential habitat of TEPC species, identify potential habitat and determine species presence within or near the project area. Document the rational[e] for not identifying potential habitat and determining species presence for TEPC species in the project record.*

TEPC species distribution has been documented and described in Section 3.2 of this document. Fish TEPC species are covered in detail in the BA.

TEGU03: *Management actions in occupied Proposed or Candidate species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.*

Management actions would not contribute to the listing of fish species under the ESA.

TEGU06: *Coordinate with Forest resource specialists to consider TEPC habitat needs when designing and implementing management activities that may affect TEPC species and their habitats.*

Preparation of this EA and the BA has involved frequent contact with USFS ID Team Fisheries Biologist, Dave Hogen, and review of extensive USFS data.

TEGU14: *For watersheds with listed aquatic species, essential fish habitat, or designated critical habitat, transportation system design criteria for fish passage should be coordinated with NMFS or USFWS, as appropriate.*

Fish passage would not be impaired by this Proposed Project. Road crossings would be in a manner consistent with maintaining fish passage.

Standard SWST01: *Management actions shall be designed in a manner that maintains or restores water quality to fully support beneficial uses and native and desired non-native fish species and their habitat, except as allowed under SWRA Standard #4 below. Use the Matrix located in Appendix C to assist in determining compliance with this standard.*

The matrices from Appendix C are included in the Biological Assessment for Fisheries. Implementation of the mitigations described in Section 4.2.1 would provide compliance with this standard.

SWST04: *Management actions will neither degrade nor retard attainment of properly functioning soil, water, riparian, and aquatic desired conditions, except: a) Where outweighed by demonstrated short- or long-term benefits to watershed resource conditions; or b) Where the Forest Service has limited authority (e.g. access roads, hydropower, etc.). In these cases, the Forest Service shall work with permittee(s) to minimize the degradation of watershed resource conditions. Use the Matrix located in Appendix C to assist in determining compliance with this standard.*

Proposed Project would neither degrade nor retard attainment of properly functioning SWRA desired conditions. It is expected there would be short-term increases of instream LWD. All other Pathways and WCIs are expected to be short-term and negligible towards attainment of long-term

ACS goals. Notable benefits would also occur as a result of the Gaylord North Rehabilitation mitigation. Matrices from Appendix C are included in the fisheries Biological Assessment.

Standard SWST07: *Within legal authorities, ensure that new proposed management activities within watersheds containing 303(d) listed water bodies improve or maintain overall progress toward beneficial use attainment for pollutants that led to the listing.*

Water quality in all 303(d) listed water bodies would be maintained. Though there is risk of short-term increases in sedimentation of 303(d) listed streams, long-term water quality would be maintained and possibly improved through use of BMPs, road obliteration and project mitigations on USFS lands.

Standard SWST08: *Fish passage shall be provided at all proposed and reconstructed stream crossings of existing and potential fish-bearing streams unless protection of pure-strain native fish enclaves from competition, genetic contamination, or predation by exotic fishes is determined to be an overriding management concern.*

Fish passage structures will be designed and subject to PNF review prior to construction at any stream crossing structures.

Standard SWST10: *Trees or snags that are felled within RCAs must be left unless determined not to be necessary for achieving soil, water, riparian, and aquatic desired conditions. Felled trees or snags left in RCAs shall be left intact unless resource protection (e.g., the risk of insect infestation is unacceptable) or public safety requires bucking them into smaller pieces.*

This standard will be required and identified as such in the construction contract.

Standard SWST11: *Do not authorize storage of fuels and other toxicants or refueling within RCAs unless there are no other alternatives. Storage of fuels and other toxicants or refueling sites within RCAs shall be approved by the responsible official and have an approved spill containment plan commensurate with the amount of fuel.*

This standard will be required and identified as such in the construction contract. Compliance with a spill prevention plan and accidental release plan (provided in the POD/COM) will be required by contractors and identified in the construction contract.

Guideline SWGU07: *Projects in watersheds with 303(d) listed water bodies should be supported by the appropriate scale and level of analysis sufficient to permit an understanding of the implications of the project within the larger watershed context.*

There are water quality limited stream segments within the Proposed Project area. The Weiser River downstream of the confluence with the West Fork

Weiser River is listed for sediment and nutrients. The sediment inputs from Proposed Project activities are expected to be negligible and not impact the listed segment of the Weiser River.

Guideline SWGU08: *Proposed actions analyzed under NEPA should adhere to the State Non-point Source Management Plan (SNSMP) to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act.*

The salient point of this standard is to require implementation of BMPs to prevent non-point source pollution form degrading waters of the state. Selected BMPs for the Proposed Project would include adherence to "Best Management Practices for Road Activities, Volumes I and II" and the "Catalog of Storm Water Construction and Maintenance" (ITD) and the "Rules and Minimum Standards for Stream Channel Alterations" (IDWR) as applicable. Additionally, the mitigation measures outlined in Section 4.2.1 will be implemented to reduce impacts of the Proposed Project to water quality.

Guideline SWGU09: *Project proposals that may affect water quality should answer the 11 questions outlined in the Idaho Non-point Source Management Plan (or as updated) to achieve federal consistency with the Clean Water Act as implemented by the State.*

Compliance with the Idaho Non-point Source Management Plan will be achieved by implementation of approved Best Management Practices during access road construction and construction of the proposed transmission line. Monitoring will occur to ensure adequacy of BMPs.

Guideline SWGU11: *Transport hazardous materials on the Forest in accordance with 49 CFR 171 in order to reduce the risk of spills of toxic materials and fuels during transport through RCAs.*

Transporting any hazardous materials required for the Proposed Project would occur in conformance with applicable DOT regulations. This requirement will be included as a construction contract provision.

Guideline SWGU12: *During site/project-scale analyses, habitat should be determined for sensitive aquatic species within or near the project area. Surveys to determine presence should be conducted for those species with suitable habitat. Document the rationale for not conducting surveys for other species in the project record.*

Sensitive species have been noted in Section 3 of this document.

LSST07: *New authorized facilities shall be located outside of RCAs wherever possible. When new facilities must be located in RCAs, they shall be developed such that degrading effects to RCAs are mitigated, through avoidance or minimization.*

Substantial effort has been placed in avoiding placement of facilities within RCAs. Please see Section 4.2.1 for details of mitigations.

FRST05: *Mitigate handling of road waste material (e.g., slough, rocks) to avoid or minimize delivery of waste material to streams that would result in degradation of soil, water, riparian, and aquatic resources.*

Refer to section 4.2.1.

FRGU01 *To protect soil, water, and riparian resources, and their occupied habitat, water supply points, service areas, and other needs for road and facility construction projects should be specified in project planning and used in project implementation.*

All water supply points, service areas will be approved with USFS administrators prior to use.

FRGU05: *Where practical alternatives exist, roads in RCAs that are degrading riparian-dependent resources should be evaluated for obliteration or relocation.*

Roads created or used by this Proposed Project that are degrading riparian dependent resources will be evaluated for obliteration or relocation.

FRGU06: *New roads and landings should be located out of RCAs wherever possible. When new roads or landings must be located in RCAs, they should be developed such that degrading effects to RCAs are mitigated.*

IPCo has gone to great lengths to avoid unnecessary construction in RCAs. Any new construction in RCAs would be mitigated with road obliteration or improvement of poorly engineered existing roadways. Roads specified for closure are those roads listed in Gamble, 9/13/03; updated 12/04, and are hereby incorporated by reference. Locations and closure recommendations are included in this publication.

In addition to forest-wide standards and guidelines, the following forest-wide goals and objectives also apply to this Proposed Project. Note that goals and objectives are not enforceable and would not require a Forest Plan amendment should compliance not be feasible.

Objective TEOBO3: *Identify and reduce road-related effects on TEPC species and their habitats using the Watershed and Aquatic Recovery Strategy and other appropriate methodologies.*

Road impacts would be reduced through implementation of mitigation measures and standard BMPs. Roads would be gated and closed as per recommendation by regulating agencies or landowners. All WCIs would be maintained or restored consistent with the Aquatic Conservation Strategy (ACS) of the newly adapted PNF LRMP.

The Proposed Project crosses the Weiser River Management Area 3, Prescription Categories 5.1 (Restoration and Maintenance Emphasis within Forested Landscapes), 5.2 (Commodity Production Emphasis within Forested Landscapes), and 6.1 (Restoration and Maintenance Emphasis within Shrubland and Grassland Landscapes). Management objectives that would apply to the Proposed Project in these areas are 0318, 0319, 0321, and 0322 (page III-131 of the PNF Forest Plan).

Objective 0318: *Improve water quality and assist in de-listing 303(d) water bodies by reducing road-related accelerated sediment through a combination of road decommissioning, relocation, reconstruction, and maintenance in the Mann Creek, Pine Creek, West Fork Weiser River, East Branch Weiser River, East Fork Weiser River, Middle Fork Weiser River, and Little Weiser River drainages.*

A portion of the Weiser River is 303(d) listed. BMPs will be implemented to minimize the potential for sedimentation. Additionally, roads will be gated as advised by relevant regulating agencies. The action would not further impair the Weiser River as potential sediment inputs from Proposed Project activities are expected to be negligible. Any substantial potential threats from the Proposed Project during construction phase will be negotiated and mitigated with off-site improvements.

Objective 0319: *Restore riparian vegetation and floodplain function throughout the management area by reducing road related impacts through relocation, reconstruction, or obliteration.*

Roads within the Proposed Project area are well designed (i.e., outsloped) and in locations (i.e., midslope) where they are less likely to degrade water bodies. Roads that would continue to provide access for maintenance of the line would be revegetated and maintained to ensure that road impacts remain at a minimum. BMPs will be maintained to minimize sediment.

Objective 0321: *Avoid genetic hybridization of isolated populations of bull trout while inproving connectivity between genetically similar fish subpopulations and necessary fish habitat components in Upper Hornet Creek, Upper East Fork Weiser River, Upper Little Weiser River and Anderson Creek sub-watersheds.*

No passage barriers exist within the Proposed Project area.

Objective 0322: *Reduce riparian road density and stream crossings in all drainages, with an emphasis on those with bull trout populations or suitable habitat.*

See 0319 above.

There are additional Standards and Guidelines set forth in the PNF Forest Plan that provide direction regarding noxious weed invasion, soil productivity or stability, and landslide occurrence. The overlap with aquatic resources exists where non-compliance with these standards and guidelines lends itself to increased sedimentation and lack of LWD

recruitment. However, the relevant standards and guidelines for these resources are discussed in the botany, soils, and geology sections of this EA.

BLM Resource Management Plan Direction

The Cascade Resource Management Plan (1988) provides generic guidance to the various resources under BLM jurisdiction. Those relevant to aquatic resources include the following:

> *Soils will be managed to maintain productivity and to minimize erosion. Project level planning will consider the sensitivity of soil, water, and air resources in the affected area on a site-specific basis (pg 44).*
>
> Soils would be managed to maintain productivity and to minimize erosion. Project level planning has included analysis of soil erosion potential and its effect on water and aquatic resources as described in Section 4.2.1.
>
> *Water quality will be maintained or improved in accordance with State and Federal Standards (pg 45).*
>
> *Management actions within floodplains and wetlands will include measure to preserve, protect, or restore their natural functions of water storage, groundwater recharge, fish and wildlife values, and water quality (pg 45).*
>
> *Provide a minimum 100-foot riparian buffer zone from the edge of any riparian habitat to protect riparian vegetation, fisheries, and water quality. Utilize this zone for the general exclusion of the following activities: New road construction that parallels streams – use BMPs when construction cannot be avoided; timber harvest activities; spraying of herbicides and pesticides; and gravel extraction. Utilize a 500-foot buffer zone from the edge of any riparian habitat, for the total exclusion of the following activities: Oil and gas development; introduction of chemical toxicants or sediments as a result of construction, agriculture, or mining (pg 52).*
>
> BMPs will be implemented where construction cannot be avoided within RCAs.
>
> *Avoid construction activities that remove or destroy riparian vegetation and instream fish cover (pg 52).*
>
> Some riparian vegetation would be destroyed but LWD would be improved as trees cut from riparian areas would be left in-stream.
>
> *In all activities including maintenance of roads and other facilities, follow the guidelines outlined in the best management practices manual for management and protection of western stream ecosystems (American Fisheries Society, 1982) (pg 53).*
>
> *In those areas where fishery/riparian values are identified as high priority habitats such as perennial/ intermittent streams with high potential, habitats with game species or "species of special concern," areas of high public visibility, unique or previous undisturbed habitats, and those habitats with*

high management potential, all other management practices will be designed to maintain the integrity of or improve those habitats (pg 53).

Implementation of mitigation measures described in Section 4.2.1 would maintain the integrity of aquatic habitat. Monitoring would occur to ensure the efficacy of mitigations.

4.2.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

Irreversible and irretrievable commitment of resources would be the same throughout all of the analysis areas and would include permanent clearing of vegetation above 14 feet within RCAs crossed by the ROW for the life of the Proposed Project. Access roads that would be required for the life of the line for continued operations and maintenance may be mitigated through obliteration of existing problem roads and/or culvert replacement.

4.2.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, the 138kV transmission line would not be constructed or operated. There would be no road construction or reconstruction activities in or adjacent to streams; therefore, there would be no increase in erosion and sediment loading, no alteration of runoff characteristics, and no vegetation clearing impacts to aquatic resources and fisheries. However, without the construction of the Proposed Project, McCall and surrounding areas will continue to be impacted due to current unreliable service, and increasing in energy demands and electrical loads. It should be noted that development of a different nature could occur. Depending on the location, type, and magnitude, impacts to aquatic resources and fisheries would be similar to or even greater than the Proposed Action. Effects from No Action Alternative will have no anticipated direct impact on fisheries or aquatics. Proposed restoration of the Gaylord mitigation would not be completed and this Proposed Project would likely be delayed indefinitely. LWD would not be felled in RCAs and left in place or placed in waterways. Potential benefits of these two mitigations would not come to fruition as a result of IPCo activities under the No Action Alternative.

4.3 Botanical Resources and Wetlands

This section describes the types of impacts that could occur to botanical resources and wetlands in the Proposed Project area.

4.3.1 Direct and Indirect Effects of the Proposed Action

Direct impacts to botanical resources would include vegetation clearing and ground disturbance along the transmission line ROW, access roads, and at pole sites. As a consequence, other direct impacts could include loss or displacement of individuals and habitat features of sensitive species of plants.

Indirect impacts to botanical resources could include increased risk for noxious weeds and invasive plants to invade the area. Impacts would be minimized or eliminated by applying

the mitigation measures committed to by IPCo as part of the Proposed Project description in Section 2.3.

Most access road construction would be short-term since IPCo has committed to establishing a program to reseed all disturbed areas and stabilizing soils where ground disturbance would be substantial. The only exception would an approximate 1.4 mile long access road to the North Council Substation. This would be a permanent access road with approximately 0.5 miles located on USFS land, 0.25 miles located on BLM lands, and the remaining land being private. An existing road would be utilized for the majority of the access road. The existing road would be improved with minor curve realignment grading and gravel, and would be gated to allow restricted access. For the remainder of the length, new road would be constructed (13,200 sq. ft.), graveled and gated to restrict access. No sensitive plant species or important habitats are known to occur in the location of this access road.

Impacts to wildlife and fish habitat as a result of vegetation removal are discussed in the Aquatic Resources and Terrestrial Wildlife sections of this EA (Section 4.2 and 4.4, respectively).

Special Status Species

A species list was developed in cooperation with the BLM and PNF during project scoping (**Table 4-10**). An additional species, American wood sage, was included by the surveying botanist based on the occurrence of habitat with the Proposed Project area. A complete pedestrian survey was done for the entire proposed transmission line and access routes where the proposed routes crossed BLM and USFS lands. The survey corridor for the power line was 200 feet wide, with areas evaluated outside the corridor where potentially suitable habitat occurred. Because of the open vegetation and mostly gentle to moderate slopes, sight distance along the surveyed corridor was generally greater than the 200-foot wide corridor. The entire corridor was staked at the time of survey. Survey corridor widths for access roads were 15-100 feet. Access roads were located by IPCo engineers using a Global Positioning Satellite (GPS) unit prior to the rare plant survey and mapped on high-resolution (1:2400) aerial photographs. Although road routes were not field-staked, exact location in the field was facilitated by the aerial and topographic maps. In areas where exact location was uncertain, corridors up to 100 feet wide were surveyed. Surveys were completed in 2003 on June 10-13, June 19-21, and July 7-10. Surveys were completed on access roads and line route changes in 2004 on June 23-26.

Table 4-10 Target Sensitive Species List and Summary of Survey Results for BLM and USFS Lands

Common Name	Scientific Name	Habitat	Survey Results
Swamp onion	*Allium madidum*	Coniferous forest openings in seasonally wet meadows and ephemeral water ways; 3,800-6,500 ft elevation	Habitat occurs on USFS. No populations were found.
Tolmie's onion	*Allium tolmiei* var. *persimile*	Seasonally wet soils that become very dry during the summer, in swales, seasonal watercourses, seeps and road cuts within rigid sagebrush and mountain big sagebrush communities at the lower elevations, openings within Ponderosa pine, Douglas-fir, and even grand fir habitat types at the upper limits of its distribution. 3,000-5,500 ft elevation	Habitat occurs throughout the Proposed Project area on both BLM and USSF lands. Swales that dry in midsummer are especially common on BLM. No populations were found.
Tall swamp onion	*Allium validum*	Swampy meadows; known from the Cuddy Mountains, but generally in the higher coniferous forest to subalpine zone in subalpine fir habitat types	No habitat on BLM; habitat on USFS is limited to wet areas near Tamarack.
Indian Valley sedge	*Carex aboriginum*	Sunny ephemerally to perennially moist sites associated with subirrigated meadows, irrigation ditches and streams; 2,800-3,400 ft elevation; known from within a mile of the proposed line route	No habitat observed within the Proposed Project area. While subirrigated meadows, ditches and streams are common, none were similar in hydrology or plant communities to the known habitat.
Prostrate ceonothus	*Ceanothus prostratus* ssp. *prostrates*	Open dry forest floor in Ponderosa pine/shrub communities; 3,000-4,000 ft elevation; known site a few miles from the proposed line route	Habitat is common throughout the general Proposed Project area, and occurs at the upper elevation parcels on BLM and on the USFS route south and west of the Weiser River crossing.
Dwarf rabbitbrush	*Chrysothamnus nauseosus* ssp. *nanus*	Restricted to shallow, rocky basalt soils on exposed, dry rocky ridges, outcrops, rocky debris and upper slopes. In Idaho, at 4,100-5,675 ft elevation. One occurrence known from the PNF near Cambridge, Idaho	No suitable habitat found within the Proposed Project area.
Idaho hawksbeard	*Crepis bakeri* ssp. *idahoensis*	Dry to seasonally mesic open grassland slopes, benches and ridges, occasionally extending to the grassland/forest ecotone. 1,300-5,000 ft elevation	Habitat occurs throughout the Proposed Project area; no populations found.

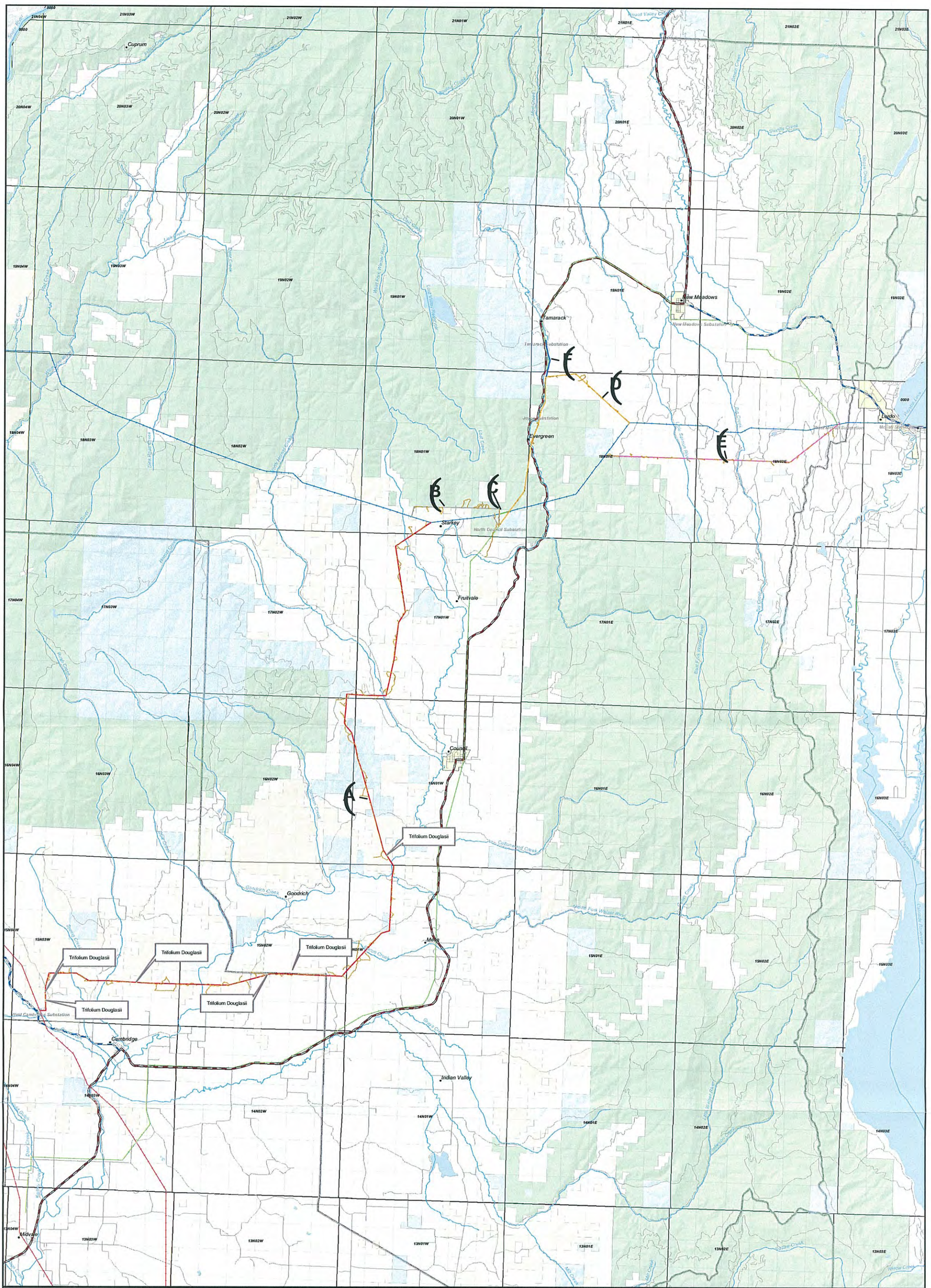
Common Name	Scientific Name	Habitat	Survey Results
Bacigalupi's downingia	*Downingia bacigalupii*	Drying mud of vernal pools, muddy margins of lakes, wet meadows, roadsides, irrigation ditches and stream banks; 2,700-5,800 ft elevation	Habitat occurs only on BLM lands along occasional irrigation ditches and perennial streams; no vernal pools observed along proposed line route or access roads. No populations found.
White eatonella	*Eatonella nivea*	Dry desert areas in sandy or cindery volcanic soils, often with sagebrush, 2,200-6,300 ft elevation	Habitat occurs throughout the Proposed Project area. No populations were found.
Snake River goldenweed	*Haplopappus radiatus*	Open, dry slopes above the Snake River canyons; loam soils on steep rocky hillsides in bluebunch wheatgrass, arrowleaf balsamroot and Idaho fescue communities and openings in Wyoming and big sagebrush communities; 1,900-4,600 ft elevation	Habitat occurs throughout the Proposed Project area. No populations were found.
Bank monkeyflower	*Mimulus clivicola*	Moist microhabitats such as seeps, perched water tables and runoff channels; commonly on southerly aspects in stiff sagebrush / Sandberg's bluegrass habitat type; also in dry Douglas-fir / mountain snowberry or ninebark habitat types with scattered Ponderosa pine overstory; soils range from moderate to deep basaltic; 4,200-6,700 ft elevation	Habitat occurs on USFS and upper elevation BLM lands. *Mimulus clivicola* would not have been very apparent at the time of survey, although spent plants might have been visible. No populations were found. See additional discussion below.
Western germander	*Teucrium canadense* var. *occidentale*	Streambanks to moist bottomlands 2,400-3,600 ft elevation	Habitat occurs on BLM, but no populations were found.
Douglas' clover	*Trifolium douglasii*	Swales, drainages, and snow accumulation areas in sagebrush/grassland; often with white or yellow mules ears.	Two populations were found on BLM, and one location of high potential habitat.
Plumed clover	*Trifolium plumosum* var. *amplifolium*	Dry hillsides and meadows	Habitat occurs throughout the Proposed Project area. No populations were found.

No threatened, endangered or candidate species are known or suspected from within the Proposed Project area, and none were found. Habitat is common in the Proposed Project area for *Allium madidum, Allium tolmiei* var. *persimile, Ceanothus prostratus* ssp. *prostratus* (upper elevation portions only), *Crepis bakeri* ssp. *idahoensis, Downingia bacigalupii, Eatonella nivea, Haplopappus radiatus, Mimulus clivicola, Teucrium*

canadense var. *occidentale,* and *Trifolium plumosum* var. *amplifolium.* All of these species would have been readily apparent at the time of survey except *Mimulus clivicola.* None of these species were found during a complete pedestrian survey, thus there are no potential direct or indirect impacts to these species within the Proposed Project area. There may be potential direct and indirect impacts to unoccupied habitat, but these are considered minimal because permanent ground disturbance is limited to tower sites, and because it is likely that the habitat considered suitable is not truly suitable. There may be potential for indirect effects to populations or habitat located outside the Proposed Project area. Of these, new noxious weed infestations resulting from disturbance associated with construction is the most important. This potential impact is minimized by mitigation measure 4.4- implementation of a Weed Control Plan (described in Section 2.3). A second potential indirect impact is increase in OHV traffic due to increased access. This is addressed by standard mitigation measure 0.1- access restrictions.

Mimulus clivicola may occur in moist microsites from the middle to upper elevations of the Proposed Project area, although all of these areas were examined very carefully in hopes of finding spent stems and heads. While none were found, it is still possible that undetected populations of this species may occur. *Mimulus clivicola* is unlikely to be impacted by construction activities because the tower locations are sited at high (dry) points along the line; however, it is possible that access roads may affect populations. These impacts are considered minimal, however, because 1) *Mimulus clavicola* is often found in areas of disturbance and may recover after roads are abandoned, 2) the roads generally follow existing old roads (requiring only regrading) and 3) most roads avoid the moist spots that may contain *Mimulus*. Indirect impacts from noxious weed and invasive plant infestations and OHV travel are addressed by mitigation measures 0.1 and 4.4 as described above.

Trifolium douglasii was found in two locations on BLM lands and two locations on private lands (**Figure 4-1**). In addition, high quality habitat was identified in one area, but no plants were found at this location. Populations occur in mesic, subirrigated areas associated with sidehill seeps, draws and basins. Soils were moist but not wet in early to midsummer at the time of surveys. In most of the observed populations, *T. douglasii* was fairly abundant, occurring in dense patches. The typical associate at all but one site is *Wyethia helianthoides*. Other common species included *Rumex crispus*, *Achillea millefolium*, *Poa cusickii*, *Tragopogon dubius*, *Calachortus eurycarpus*, *Bromus inermis*, *Epilobium paniculatum*, *Asclepias fasiculatus*, *Juncus bolanderi*, and *Lotus purshianus*. No sedges occurred in the populations observed, but *Eleocharis palustris* is common, and *Juncus balticus* is occasional.



IDAHO POWER

POWER ENGINEERS

Figure 4-1

Trifolium Douglasii Locations

Cambridge to McCall 138kV Transmission Line

Washington and Adams Counties, Idaho

R:\Council_McCall\resource_files_2-6-04\FinalData 1-20-05\Plant Locations

101693 Trifolium Douglasii Plant Locations 11x17 1-27-05 ja

All populations are readily avoidable during construction, eliminating direct impacts. All occur in low points along the power line, under spans. The current and proposed access roads provide adequate access to eliminate the need to pass through the populations with equipment. The two populations and the potential habitat area should be clearly flagged and fenced and their location described to IPCo contractors prior to construction as described in mitigation measures 4.2 and 4.3.

Indirect impacts include noxious weed and invasive plant infestation and OHV travel. These are minimized by the mitigation measures listed above and described fully in Section 2.3.

As an additional mitigation measure to protect sensitive plant species, a qualified botanist will assess the potential for impacts and identify necessary avoidance areas prior to weed control within 400 feet of a mapped population of *Trifolium douglasii.*

Noxious Weeds and Invasive Plants

The Proposed Project includes clearing land capable of supporting vegetation native to the area. The process of clearing these lands and the subsequent loss of native vegetation, although minimal, can make the area vulnerable to noxious weed invasions (Idaho State Department of Agriculture, 2002).

Noxious weeds and invasive plants can also spread through an area if care isn't taken to prevent weed infestations. Vehicles, for example, may transport seeds of noxious weeds and invasive plants to the Proposed Project area and can give these plants a competitive edge over native vegetation by depositing seeds where the seeds would not occur naturally. However, because the Proposed Project would implement a noxious weed and invasive plant control plan, it is not expected that noxious weeds and invasive plants would increase much compared to the existing condition.

Weed and invasive plant control measures will be developed prior to construction and are detailed in the Proposed Project's noxious weed and invasive plant control plan, which is included in the POD/COM. In addition, many of the mitigation measures common to several resources (Section 2.3) that reduce overall disturbance would be effective at preventing the establishment of noxious weeds and invasive plants.

Wetlands

Construction, operation and maintenance of transmission line facilities can create temporary and permanent impacts to wetlands. Potential impacts to wetlands could result from accelerated erosion and sedimentation from the construction and maintenance activities on or adjacent to wetlands. Other potential impacts include water quality degradation, and decreased wetland size, function, or value. In areas where potential impacts to wetlands are possible, mitigation measures committed to by IPCo would be expected to be effective in reducing or eliminating those potential impacts.

As discussed in Chapter 3, there are two wetlands that occur within the Proposed Project ROW. The first is a small wetland located adjacent to the existing transmission line east of the Weiser River just south of Beaver Creek (**Figure 3-4**). At this location, the existing line goes along the edge of the wetland, which is located between the existing access road and the base of the hill. An existing structure at this location would be replaced with a new

structure. Construction equipment can access the structure from the existing access road. Silt fencing would be placed between the work area and the wetland, thus reducing the potential for sediment to enter the wetland while keeping vehicles and equipment out of the wet area. If any construction activity is necessary within this wetland, a permit from the ACOE would be required. Any work within jurisdictional waters would be subject to ACOE approval and adherence to permit conditions and stipulations would reduce potential impacts to a level of insignificance.

The second identified wetland, as described in Section 3.3, is an approximately two-acre palustrine emergent seasonally flooded (PEMC) wetland adjacent to the proposed West McCall Substation site (**Figure 3-5**). Although the proposed transmission line would cross this wetland in its approach to the substation, the wetland can be easily spanned and no structures or roads would be constructed within the wetland boundary. As can be seen in **Figure 3-5,** the wetland can easily be spanned and thus avoided.

4.3.2 Cumulative Effects to Botanical Resources and Wetlands

Cumulative effects result from the incremental impacts of an action added to other past, present, and reasonably foreseeable future action, regardless of who is responsible for such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

The Proposed Project has been designed to utilize portions of existing utility corridors and minimize potential environmental impacts. The primary effects upon botanical resources are short-term and localized disturbances associated with construction activities and the conversion of a limited amount of forested areas to early successional communities. Construction, operation, and maintenance of transmission line facilities can create temporary and permanent impacts to wetlands. Potential impacts to wetlands could result from accelerated erosion and sedimentation from construction activities on or adjacent to wetlands. Other potential impacts include water quality degradation and decreased wetland size, function, or value. However, IPCo has sought to reduce impacts by implementing a long list of mitigation measures including avoiding sensitive features. As long as the mitigation measures outlined in this document are implemented, impacts to botanical resources and wetlands would be minimal and the Proposed Project's cumulative impacts to botanical resources and wetlands would be less than significant.

Other related actions include the permanent removal of approximately 2.7 miles of existing ROW on the Oxbow-McCall 138kV transmission line, including 0.4 miles on federal property. This ROW would be restored, likely resulting in a beneficial impact to botanical resources. The Joyce Substation, located on private property within USFS lands, would be removed. New conductor would be re-strung on existing structures along approximately 2.7 miles of the Oxbow to McCall 138kV transmission line. Several PNF, ITD, and state projects are scheduled to occur in the Proposed Project vicinity. These projects are not expected to add to cumulative impacts to sensitive plant species or wetlands as they would be subject to environmental review and potential impacts from those projects would be mitigated. Therefore, the cumulative impact to botanical resources and wetlands would be minimal.

4.3.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

The following standards and guidelines in Section III of the PNF Forest Plan (and listed in full in Appendix A) give guidance to this Proposed Project:

> ***Standard BTST01:*** *Management actions that occur within occupied sensitive plant species habitat must incorporate measures to ensure habitat is maintained where it is within desired conditions, or restored where degraded.*
>
> Please see mitigation measures listed above. IPCo intends to avoid occupied Sensitive plant species habitat.
>
> ***Standard BTST04:*** *For projects or activities that include application of insecticides, herbicides, fungicides, or rodenticides, degrading effects on sensitive plant species will be mitigated.*
>
> The PNF and BLM botanists will be consulted prior to the use of any herbicides to control noxious weeds and invasive plants.
>
> ***Standard BTST05:*** *In revegetation and seeding projects in occupied sensitive plant habitat, a Forest botanist shall be consulted to ensure appropriate species are used.*
>
> The PNF and BLM botanists will be consulted in determining an appropriate seed mix to be used in revegetation.
>
> ***Standard NPST02:*** *All seed used on USFS lands will be certified to be free of seeds from noxious weeds listed on the current All States Noxious Weeds List.*
>
> The project-specific noxious weed management plan to be developed through consultation with the BLM, USFS and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.
>
> ***Standard NPST03:*** *To prevent invasion/expansion of noxious weeds and invasive plants, 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) Re-vegetate 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 revegetation in preventing the invasion or expansion of*

noxious weeds and invasive plants. Potential areas would include: construction and development sites, underground utility corridors, skid trails, landings, firebreaks, slides, slumps, temporary roads, cut and fill slopes, and traveled ways 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 contacted after a WFSA/WFIP has been completed.*

The project-specific noxious weed management plan to be developed through consultation with the BLM, USFS, and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.

*Standard **NPST04**: Contractors, with the exception of fire suppression prior to completion of WFSA/WFIP, 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.*

The project-specific Noxious Weed Management Plan to be developed through consultation with the BLM, USFS, and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.

*Standard **NPST06**: Materials such as hay, straw, or mulch that are used for rehabilitation and reclamation activities shall be free of noxious weed seed, and shall comply with the 1995 weed-free forage special order against use of non-certified hay, straw, or mulch. Materials that are not covered under a weed-seed-free certification, and that have the potential to contain noxious weed seed, shall be inspected and determined to be fee of weed seed before purchase and use.*

The project-specific noxious weed management plan to be developed through consultation with the BLM, USFS, and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.

*Standard **NPST10**: Projects that may contribute to the spread or establishment of noxious weeds and invasive plants shall include measures to reduce the potential for spread and establishment of noxious weed and invasive plant infestations.*

The project-specific noxious weed management plan to be developed through consultation with the BLM, USFS, and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.

Standard NPST12: *Implement the Forest Noxious Weed Management Plan upon completion.*

The Proposed Project would utilize a noxious weed plan developed in consultation with the PNF botanist. As required, the project plan will be in conformance with the Forest Noxious Weed Management Plan.

Standard TEST31: *Adverse effects from new facilities to occupied TEPC plant habitat shall be avoided.*

Conformance with this standard will be achieved by spanning habitat and through implementation of mitigations such as flagging sensitive plant habitat for avoidance by the construction contractors.

Guideline TEGU13: *To protect TEPC plant species and their occupied habitat, water supply points, service areas, and other needs for road and facility construction projects should be specified in project planning and used in project implementation.*

Staging areas are on private land. Access roads, tower sites, and the ROW itself have been sited. Where sensitive populations exist, they would be flagged to indicate avoidance by the construction contractors.

Guideline BTGU01: *For site/project-scale analysis, suitable habitat should be determined for Sensitive species within or near the project area. Conduct surveys for those species with suitable habitat to determine presences. Document the rationale for not conducting surveys for other species in the project record.*

The entire Project corridor including access roads was surveyed for Sensitive species with the potential to occur. Detailed methodology and results are available in the BA/BE and Rare Plant Survey.

Guideline BTGU02: *During site/project-scale analysis and review, a Forest botanist should review insecticide or herbicide spray plans and prescribed burning plans to determine whether degrading effects to Sensitive and Forest Watch plants and their pollinators should be mitigated.*

The PNF and BLM botanists will be consulted prior to the use of any herbicides to control noxious weeds and invasive plants.

Guideline BTGU03: *When available and not cost-prohibitive, seeds and plants used for seedings and plantings in revegetation projects should originate from genetically local sources of native species. When project objectives justify the use of non-native plant materials, documentation*

explaining why non-natives are preferred should be part of the project planning process.

The PNF and BLM botanists will be consulted in determining an appropriate seed mix to be used in revegetation.

***Guideline BTGU05**: Coordinate with Forest botanists to consider sensitive species habitat needs when designing and implementing management activities that may affect these species or habitats.*

Coordination with PNF and BLM botanists occurred prior to sensitive plant survey.

***Guideline NPGU03:** Identify areas with extensive noxious weed infestation where precautionary actions are necessary when planning and implementing management activities. In areas of extensive weed infestations, designated wash sites should be established as part of project planning. Wash sites should be located: (1) where they are easily accessible and useable, (2) on gravelly or well-drained soils, (3) where wash water runoff will not carry seeds away from site, (4) where wash water runoff will not directly enter streams, and (5) where they may be used repeatedly for several projects or activities within the area.*

The above guidelines will be incorporated in the Proposed Project's noxious weed management plan that will be included in the POD/COM.

***Guideline NPGU04:** Where feasible and practical, weed-free locations should be selected for incident camps, staging, cargo loading, drop points, helibases, and parking areas.*

The Proposed Project will follow a noxious weed management plan that will include criteria for site management in accordance with this guideline.

***Guideline FRGU02:** In areas of existing extensive infestation, mitigation for noxious weed prevention should be incorporated into road layout, design, and project alternative evaluation.*

The project-specific Noxious Weed and Invasive Plant Management Plan to be developed through consultation with the BLM, USFS and counties will include provisions to reduce the potential for spread and establishment of noxious weeds and invasive plants. This plan will be included as a construction contract provision.

BLM Resource Management Plan Direction

The BLM RMP offers the following guidance for management actions with the potential to impact botanical resources:

"Projects proposed in areas with known sensitive plants will include mitigating measures to protect the plants."

The mitigation measures described above in Section 4.3.1 and presented in detail in Section 2.3, will be employed.

"Management actions within floodplains and wetlands will include measures to preserve, protect, or restore their natural functions of water storage, groundwater recharge, fish and wildlife values, and water quality."

See mitigation measures listed below and in the Fisheries and Aquatics section of this EA.

4.3.4 Irreversible or Irretrievable Commitment of Resources

With implementation of the mitigations described above, including flagging sensitive populations and spanning habitat to avoid structure placement in critical areas, there are not expected to be any irreversible or irretrievable commitment of botanical resources.

4.3.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, the 138kV transmission line would not be constructed or operated. There would be no road construction or reconstruction activities in or adjacent to wetlands; therefore, there would be no increase in erosion and sediment loading, no degradation of water quality, and wetland size, function, or value would not be decreased. There would not be any loss or displacement of individuals and habitats of sensitive plants, and no increased risk for noxious weed invasion; therefore, no impacts to botanical resources would occur as a result of the Proposed Project. However, without the construction of the Proposed Project, McCall and surrounding areas will continue to be impacted due to current unreliable service, and increasing in energy demands and electrical loads. It should be noted that development of a different nature could occur. Depending on the location, type, and magnitude, impacts to botanical resources and wetlands would be similar to or even greater than the Proposed Action.

4.4 Terrestrial Wildlife Resources

Construction and operation of the proposed transmission line is likely to result in direct, indirect, and cumulative effects upon terrestrial wildlife species within the Proposed Project area. This effects assessment evaluates direct, indirect, and cumulative effects associated with clearing of vegetation and ground disturbance associated with the transmission line and access roads, short-term increases in noise and human activity during construction, and the long-term presence of transmission lines and towers.

There were three comments received from local landowners during the formal public scoping period. The comments expressed concern regarding hazards to wildlife caused by poles, lines, and maintenance on roads; general damage to wildlife resources in the upper portion of Trail Creek, Bayford Creek, and Filly Creek; and damage to resources relied upon by wildlife such as springs. These issues are addressed in the following discussions.

4.4.1 Direct and Indirect Effects of the Proposed Action

Potential direct effects upon terrestrial wildlife resources within the Project corridor include mortality, habitat loss, and permanent or temporary displacement of individual animals. These direct effects are associated with clearing of vegetation, ground disturbance at tower sites and along access roads, increased noise and human activity during construction, and the long-term presence of transmission lines and towers.

While clearing and grading activities may result in limited mortality of smaller, non-mobility species, no mortality of birds, large mammals, and other mobile species is anticipated. Removal of vegetation and construction of access roads would result in some loss of habitat within the Proposed Project area. This loss of habitat associated with ground disturbance may result in the long-term displacement of individual animals from the Proposed Project area. Generally, trees or shrubs taller than 14 feet would be cleared within the 100-foot-wide transmission line ROW along the entire Project corridor. However, vegetation taller than 14 feet that won't interfere with the lines and conductors would not be cut. The Proposed Project would include construction of 59 miles of access roads. These roads would be 30 feet wide (maximum width of disturbance), including a 14-foot roadbed and 8-foot shoulders. Approximately 39 miles of roads would be located outside the 100-foot transmission line corridor. Work areas would be established adjacent to each tower location. These work areas would be 100 feet x 75 feet, and would require mowing/cutting of trees and shrubs prior to use.

During construction, there would be a temporary increase in human activities and noise levels in the Proposed Project area. This may result in the temporary disturbance and displacement of individual animals inhabiting the area. Construction-related accessory activities (pulling and tensioning sites, wire-splicing sites, and staging yards) also represent temporary impacts that would likely result in the short-term displacement of individual animals. Upon completion of construction, activity and noise conditions are expected to return to current levels.

Transmission lines and towers represent potential collision hazards for birds. Towers may also be used as perch sites by raptors and other bird species, which may increase predation upon birds and small mammals.

The Proposed Project may also have indirect effects upon terrestrial wildlife. Primary indirect effects are associated with the creation of new access roads and the potential for increased accessibility into the area. Access roads could increase human activity in the area (i.e., hunting, OHV, etc.) with concomitant increases in noise. Over the long-term, the increased activity could potentially reduce the value of the area for wildlife security and displace wildlife.

The potential for increased public access into the Proposed Project area is expected to be minimal. Upon completion of construction, all access roads would be stabilized and reseeded. These roads would not be maintained, and public access on specific road segments would be determined by the appropriate agency (BLM or PNF).

Effects Assessment Methodology

Significance criteria are utilized in this section to provide consistency in the assessment of anticipated potential effects upon terrestrial wildlife (**Table 4-11**). "Large" impacts include the mortality of individuals, a reduction in population size and/or viability, and the long-term loss of sensitive habitat. "Moderate" impacts include the permanent displacement of individuals and a large, long-term loss of non-sensitive habitat. "Small" impacts include the temporary displacement and a small or temporary loss of non-sensitive habitat. "No" impact indicates that the Proposed Project is not likely to have any negative effects. A summary of effects to Sensitive Species on the PNF is presented in Appendix D.

Table 4-11 Impact Levels to Species of Special Interest

Common Name	Scientific Name	Potential Impact Level
Bald eagle	*Haliaeetus leucocephalus*	Small impact
Northern Idaho Ground Squirrel	*Spermophilus brunneus*	Small impact
Canada Lynx	*Lynx canadensis*	No impact
Southern Idaho Ground Squirrel	*Spermophilus brunneus*	No impact
Elk	*Cervus elaphus*	Small impact
Spotted Bat	*Euderma maculatum*	No impact
Townsend's Big-eared Bat	*Plecotus townsendii*	No impact
Columbia Spotted Frog	*Rana luteiventris*	Small impact
Pileated Woodpecker	*Dryocopus pileatus*	Small impact
White-headed Woodpecker	*Picoides albolarvatus*	Small impact
Peregrine Falcon	*Falco peregrinus*	No impact
Northern Goshawk	*Accipiter gentiles*	Small impact
Flammulated Owl	*Otus flammeolus*	Small impact
Great Gray Owl	*Strix nebulosa*	Small impact
Columbia Sharp-tailed grouse	*Tympanuchus phasianellus colubianus*	Small impact

Impact Results

Species Listed Under the ESA

Bald Eagle (*Haliaeetus leucocephalus*)

There are no known bald eagle nests in the Project corridor, although the bald eagle may forage on big game winter range in the vicinity of the Proposed Project. The proposed transmission line would utilize a raptor-safe configuration, and raptor electrocutions on high voltage transmission lines are not considered a significant cause of mortality (APLIC, 1996). During construction, the Proposed Project would result in a temporary increase in human activity and noise in the vicinity of the Proposed Project area. The project biologist would monitor the presence of bald eagles on big game winter range, and construction activities would be modified or curtailed when elk are present on winter range. This would minimize potential negative effects to bald eagles foraging for carrion on winter range. The

Proposed Project may affect, but is not likely to adversely affect the bald eagle if mitigation measures are implemented

Northern Idaho Ground Squirrel (*Spermophilus brunneus brunneus*)

No northern Idaho ground squirrels were observed during field surveys; however several patches of potential suitable habitat were identified along the proposed transmission line route (**Figure 3-6** in Section 3.4). The Proposed Project would likely have both beneficial and negative effects for the northern Idaho ground squirrel (Yensen, 2003). Construction of transmission structures and access roads could destroy burrows and suitable habitat that occur within the ROW. Transmission structures could also be utilized as perching sites by raptors. These factors could potentially result in a short-term reduction of habitat and an increase in northern Idaho ground squirrel mortality. Potential northern Idaho ground squirrel habitat and burrows would be marked by the project biologist to minimize potential disturbance. Where determined necessary by the PNF and BLM, perch prevention devices (i.e., Nixalite) would be installed on specified transmission towers to minimize increases in predation. Clearing vegetation in forested portions of the Project corridor could potentially create new northern Idaho ground squirrel habitat, and thereby have a beneficial effect on the northern Idaho ground squirrel (Yensen, 2003). The Proposed Project may affect, but is not likely to adversely affect the species if mitigation measures are implemented.

Canada Lynx (*Lynx canadensis*)

A small section (approximately 2,650 feet) of the proposed transmission line would cross the extreme southern end of the Goose Creek LAU (**Figure 3-7** in Section 3.4). This narrow peninsula of the Goose Creek LAU is less than 1 mile wide and extends southward from the PNF into private lands owned by Boise Cascade and the IPCo. In the vicinity of the Proposed Project area, this LAU does not contain potential lynx habitat or movement corridors. An existing transmission line, which connects the New Meadow and the McCall substations, currently crosses the LAU in the vicinity of the Proposed Project. Previous timber harvesting activities have greatly changed the vegetative characteristics in this portion of the LAU, and have fragmented the forest communities. The construction of roads associated with timber harvesting has also contributed to habitat fragmentation and increased accessibility and human disturbance. As a result of these existing conditions, the Goose Creek LAU in the vicinity of the proposed transmission line does not represent lynx habitat and the lynx is not likely to inhabit the Proposed Project area. The Proposed Project will have no effect upon the Canada lynx.

Southern Idaho Ground Squirrel (*Spermophilus brunneus endemicus)*

No southern Idaho ground squirrels were observed during field surveys; however one patch of potential suitable habitat was identified along the proposed transmission line route (**Figure 3-6** in Section 3.4). The Proposed Project would likely have both beneficial and negative effects for the southern Idaho ground squirrel (Yensen, 2003). Construction of transmission structures and access roads could destroy burrows and suitable habitat that occur within the ROW. Transmission structures could also be utilized as perching sites by raptors. These factors could potentially result in a short-term reduction of habitat and an increase in southern Idaho ground squirrel mortality. Clearing vegetation in forested

portions of the Project corridor would actually create new southern Idaho ground squirrel habitat, and thereby have a small beneficial effect on the species (Yensen, 2003). The Proposed Project will have no effect upon the southern Idaho ground squirrel.

Species of Special Interest

Rocky Mountain Elk (*Cervus elaphus*)

Elk are known to occupy the Proposed Project area throughout the year, and the southern portion of the Proposed Project area includes elk winter range (**Figure 3-9** in Section 3.4). While removal of vegetation within the Proposed Project ROW could potentially eliminate up to 120 acres of elk security cover, these areas would support early successional vegetation that provides new foraging habitat. A small amount (27 acres) of shrub-steppe habitat would be removed through road construction. The project biologist will monitor the presence of elk on winter range. Construction activities would be modified or curtailed when elk are present on winter range. Construction activities during summer months would temporarily increase human activity and noise within the Proposed Project area, and may result in the temporary displacement of elk inhabiting the area during the summer. New access roads constructed in elk winter range would be stabilized and reseeded but not maintained. No long-term increase in public access is anticipated as a result of the Proposed Project. No calving areas occur within the Proposed Project area, and the Proposed Project will not affect reproduction and calving. The Proposed Project may result in small direct or indirect negative impacts upon elk. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Spotted Bat (*Euderma maculatum*)

There is no spotted bat roosting habitat within the Proposed Project area, although the species may forage in suitable habitats within this area. The spotted bat is unlikely to be disturbed or displaced during construction, and there is minimal potential for collisions with transmission lines or towers. Clearing of vegetation along the transmission line corridor may create additional foraging habitat. The Proposed Project may have a small beneficial impact for the spotted bat. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

There is no Townsend's big-eared bat roosting habitat within the Proposed Project area, although the species may forage in suitable habitats within this area. The Townsend's big-eared bat is unlikely to be disturbed or displaced during construction, and there is minimal potential for collisions with transmission lines or towers. Clearing of vegetation along the transmission line corridor may create additional foraging habitat. It is anticipated that the Proposed Project may have a small beneficial impact for the Townsend's big-eared bat. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Columbia Spotted Frog (*Rana luteiventris)*

The Columbia spotted frog is not known to occur within the Proposed Project area, although there is a limited amount of potential suitable habitat within this area. The Proposed Project will disturb a small amount of potential habitat. Construction of access

roads is expected to disturb 3.4 acres of wetland and suitable riparian habitat. Construction of the transmission line will require clearing or trimming 7 acres of riparian vegetation. The Proposed Project may result in small direct or indirect negative impacts to the Columbia spotted frog. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Pileated Woodpecker *(Dryocopus pileatus)*

Potential suitable foraging and nesting habitat for the pileated woodpecker occurs throughout the Proposed Project area. The Proposed Project would require clearing of a small amount of Ponderosa pine, some of which may represent suitable woodpecker habitat. Construction activities and associated noise may temporarily displace individuals in the vicinity of the Proposed Project area. The Proposed Project may result in small direct or indirect negative impacts to the pileated woodpecker. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

White-headed Woodpecker (*Picoides albolarvatus*)

Potential suitable foraging and nesting habitat for the white-headed woodpecker occurs throughout the Proposed Project area. The Proposed Project would require clearing of a small amount of Ponderosa pine, some of which may represent suitable woodpecker habitat. Construction activities and associated noise may temporarily displace individuals in the vicinity of the Proposed Project area. The Proposed Project may result in small direct or indirect negative impacts to the white-headed woodpecker. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Peregrine Falcon (*Falco peregrinus*)

The peregrine falcon is not known to occur within the Proposed Project area, and there is no nesting habitat in the area. However, there is suitable foraging habitat in the vicinity and peregrine falcons may utilize the Proposed Project area for foraging and/or during seasonal migrations. Vegetative clearing may increase the amount of foraging habitat in the Proposed Project area, and construction of transmission structures could create new perches. There is a small potential for collisions with transmission lines and structures, which is primarily mitigated by the species' agility. The potential effect of the Proposed Project on the peregrine falcon is limited to a temporary disturbance of potential foraging habitat due to construction-related activity and noise. It is anticipated that the Proposed Project will have no direct or indirect negative impacts to the peregrine falcon.

Northern Goshawk (*Accipiter gentiles*)

There is one known northern goshawk territory in the vicinity of the Proposed Project area, and potential foraging habitat exists in the Proposed Project area. The Proposed Project crosses through the Filly Creek goshawk territory, but not through a nest stand (**Figure 3-8**). In this area, the proposed transmission line would be located along a major highway and within a PNF-designated utility corridor. This corridor contains an existing transmission line and has been previously cleared of all trees. The Proposed Project includes selective removal of individual trees along the existing cleared ROW. Selective clearing would not alter existing stand characteristics within the Filly Creek territory. The existing highway represents a permanent source of noise and disturbance, and temporary construction-related

disturbance would not represent a significant or long-term increase in noise over existing background levels. However, the current Forest Plan requires seasonal restrictions on construction within occupied goshawk territories. If deemed necessary by the Authorizing Officer, construction could be restricted within the Filly Creek goshawk territory between March 1 and September 30. Given the existing conditions of this portion of the Project corridor (within a designated, cleared transmission line corridor), the Proposed Project would not likely result in any direct negative impacts to the northern goshawk and would not likely trend the species toward federal listing.

Flammulated Owl (*Otus flammeolus*)

Potential suitable nesting and foraging habitat exists for the flammulated owl within the Proposed Project area. Clearing and construction activities may eliminate a small amount of potential habitat (160 acres), and construction-related disturbance may temporarily displace individual flammulated owls. The Proposed Project may result in small direct negative impacts to the flammulated owl. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Great Gray Owl (*Strix nebulosa*)

Potential suitable nesting and foraging habitat exists for the great gray owl within the Proposed Project area. Clearing and construction activities may eliminate a small amount of potential habitat, and construction-related disturbance may temporarily displace individual great gray owls. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Columbian Sharp-tailed Grouse *(Tympanuchus phasianellus colubianus)*

The Columbian sharp-tailed grouse is known to occur within the Proposed Project area between Cambridge and Council, this area is not considered to be high quality habitat for Columbian sharp-tailed grouse (Common-Kemner, IDFG, personal communication). One lek is known to occur in the vicinity of the Project corridor in Adams County. Clearing and construction activities may eliminate a small amount of potential habitat, and construction-related disturbance may temporarily displace individual sharp-tailed grouse in the vicinity. Transmission towers could be used as perches by raptors, and potentially increase grouse predation. However, given the general habitat quality in this area and absence of known leks, potential impacts are expected to be small. Perch prevention devices (i.e., Nixalite) would be installed on specified structures to reduce predation potential where determined necessary by the authorizing officer. While the Proposed Project may impact habitat or individuals, it is not likely to trend the species toward federal listing.

Migratory Bird Species

The Proposed Project will disturb varying amounts of the four priority habitat types identified in the Idaho Bird Conservation Plan (IBCP; **Table 4-12**). This disturbance is associated with the construction of access roads and the clearing of vegetation within the transmission line ROW and work areas. These two activities have different effects upon vegetation. Construction of access roads involves grading a 30-foot wide bladed path (for the 14-foot wide roadbed and the additional 8 feet either side temporarily needed for

construction) in which all vegetation is removed. Revegetation will be allowed to occur following construction. Selective clearing for the transmission line will be completed to provide adequate electrical clearance and maintain line reliability. Vegetation within the ROW that exceeds 14 feet in height, or that has the potential to exceed 14 feet in height, will be cleared. Additionally, trees that have the potential to fall into lines will be removed. Trees and shrubs within 100-foot x 75-foot work areas adjacent to structures will be cleared. These areas will not be bladed or otherwise disturbed, and will be allowed to return to natural conditions after the temporary disturbance.

The proposed transmission line could have several small direct and indirect negative impacts to migratory bird species. As indicated in **Table 4-12**, the Proposed Project will affect all four high priority habitats and a small amount of potential breeding habitat for migratory bird species will be lost. The majority of these habitats will be temporarily disturbed as a result of selective clearing along the transmission line and within designated work areas. Depending upon the work schedule, the Proposed Project may displace individuals and preclude nesting within these areas for a single nesting season. Construction of access roads will eliminate approximately 61 acres of vegetation, nearly 90 percent of which is sagebrush and coniferous forest habitat types. Construction of the Proposed Project will temporarily increase human activity and noise levels in the Proposed Project area, which could potentially displace individual birds that occupy the Proposed Project area. Transmission line structures could be used as perching sites for raptors, and thereby potentially increase predation rates upon migratory birds within the Proposed Project area.

Given the abundance of these habitat types in the vicinity of the Proposed Project area, the loss of a small amount of high priority habitat and displacement of individual migratory birds represents a small potential negative impact. Many of the activities associated with the Proposed Project are temporary and, while they may displace birds for a single breeding season, they do represent a long-term negative effect. The Proposed Project does not preclude the objectives of the IBCP, and is consist with the PNF direction relative to migratory birds and the MBTA.

Table 4-12 Estimated Disturbance of IBCP High Priority Habitats

Habitat Type	Access Roads	Transmission Lines	Work Areas
Non-riverine wetland	0.1 acres	0.3 acres	0.0 acres
Riparian	3.3 acres	35.1 acres	0.0 acres
Sagebrush	36.9 acres	132.9 acres	4.8 acres
Ponderosa pine/Douglas-fir/Grand fir	20.3 acres	161.2 acres	1.8 acres
Total	**60.6 acres**	**329.5 acres**	**6.6 acres**

Important Terrestrial Habitats

Elk winter range

The Proposed Project would result in the elimination of 28 acres of forested habitats due to road construction and selective clearing in 120 acres of these habitats along the

transmission line. The Proposed Project could potentially result in a small loss of elk security cover as a result of these activities. The loss of security cover represents a small potential negative impact. These habitats are relatively abundant in the vicinity of the Proposed Project area. Access roads will be re-vegetated and selectively cleared portions of the Proposed Project area will support early successional communities. As a result, the Proposed Project will create new foraging habitats for elk.

Short-term increases in human activity and noise levels within the Proposed Project area are anticipated as a result of project construction, and may temporarily displace elk. Displacement effects will be small for a number of reasons. Suitable elk habitat is relatively abundant in the vicinity if the Proposed Project area. As a selected mitigation, no construction will occur between December and March in that portion of the study area that lies within elk winter range. Only a small number of elk inhabit the Proposed Project area during summer months when construction will occur, and there are no calving areas in the vicinity of the Proposed Project area.

High road densities and increased vehicle traffic levels have been shown to reduce habitat effectiveness for elk (USFS, 2003). The construction of access roads associated with the Proposed Project may have a small impact on habitat effectiveness within the Proposed Project area. Upon completion of construction activities, all access roads will be re-vegetated. New access roads constructed in elk winter range will be stabilized and reseeded but not maintained. There will be no net increase in roads on USFS lands, as all new access roads will be offset by the closure of existing roads. As a result, there will be no increase in public use of or accessibility to the Proposed Project area. The Proposed Project would not negatively affect the long-term effectiveness of elk habitat. The Proposed Project is consistent with elk security and vulnerability management objectives identified in the PNF Forest Plan. If deemed necessary by the authorizing officer, access could be seasonally restricted on roads in elk winter range.

Lynx Analysis Units

The proposed transmission line would bisect the extreme southern end of the Goose Creek LAU. This narrow peninsula is less than one mile in width and extends southward from the PNF into private lands owned by Boise Cascade and IPCo. There is an existing transmission line corridor that currently bisects the LAU in the vicinity of the Proposed Project. Previous timber harvesting activities have greatly changed the vegetative characteristics of this portion of the LAU, and have fragmented the forest communities. The construction of roads associated with timber harvesting has also contributed to habitat fragmentation and increased human accessibility to the area. Based upon mapping prepared by the PNF, it is estimated that the Proposed Project will disturb 0.2 acres of Potential Vegetation Group (PVG) 1, 0.3 acres of PVG 2, 0.3 acres of PVG 6, and 5.1 acres of PVG 99. In the vicinity of the Proposed Project area, vegetative conditions do not represent suitable habitat or movement corridors for the Canada lynx. The Proposed Project would be consistent with the USFS lynx management objectives identified in the PNF Land and Resource Management Plan (LRMP), and would have no effect on potential suitable lynx habitat in the Goose Creek LAU.

4.4.2 Cumulative Effects to Terrestrial Wildlife

Cumulative effects upon terrestrial wildlife resources are typically additive and directly proportional to the total area of habitat disturbance. The nature of these effects is also dependent upon the timing and duration of disturbances, and whether projects result in the temporary or permanent displacement of wildlife. The Proposed Project is located within a general area that contains existing highway and transmission line corridors and that has been subjected to extensive timber harvesting. Habitats in the Proposed Project area have been fragmented by these previous activities.

The Proposed Project is located within an existing designated utility corridor and partially within an existing highway corridor for much of its length across USFS lands, and will not significantly increase fragmentation above existing levels. Additionally, the proposed transmission line has been designed to avoid/minimize disturbance of sensitive habitats. The primary negative effects upon terrestrial wildlife resources are short-term disturbance associated with construction activities and the conversion of a limited amount of forested areas to early successional habitats. The Proposed Project will not result in mortality or negatively affect reproduction for more than a single breeding season. Seasonal restrictions on construction would limit potential impacts to goshawk reproduction. The Proposed Project would not contribute to the cumulative reduction of habitat within the Filly Creek goshawk territory.

There are a number of planned projects that may occur in the vicinity of the proposed transmission line over the next decade. These include a variety of projects sponsored by ITD (highway realignments and road construction), State lands (timber harvesting), USFS (timber sales, forest thinning, and reforestation), and Boise-Cascade (timber harvesting). Such activities could potentially result in cumulative effects upon terrestrial wildlife resources on a regional level. However, the USFS is planning a number of restoration and rehabilitation projects that will improve existing conditions and benefit wildlife resources. Thorough evaluation and careful planning of new projects will minimize potential negative impacts, and measures may be implemented to mitigate such impacts. The proposed transmission line project is of limited spatial range and much of the proposed route is within a designated utility corridor. While the Proposed Project may result in small negative effects to wildlife, it would not contribute significantly to cumulative effects upon terrestrial wildlife resources.

4.4.3 Consistency of the Proposed Action with Forest Land, Other Plans, and Laws

PNF Forest-Wide Direction

The 2003 PNF Forest Plan presents forest management standards and guidelines that are to be followed when planning and evaluating projects. Management standards and guidelines are identified at the forest level (Forest-Wide Direction) as well as the management area level. The Proposed Project would be consistent with specific forest wide and Management Area 3 directions relative to terrestrial wildlife resources (Appendix A). The Proposed Project would also be consistent with the 1988 Cascade Resource Management Plan. This plan also identifies three areas of critical environmental concern: the Boise Front Area; the

Columbia Sharp-tail Grouse Habitat Area; and the Black Canyon Long-billed Curlew Management Area. The Proposed Project is not located within or adjacent to any of these critical areas.

Standard TEST03: *Design and implement projects to meet the terms of Forest Service approved portions of recovery plans. If a recovery plan does not yet exist, use the best information available (e.g., BAs, BOs, letters of concurrence, Forest Service-approved portions of Conservation Strategies) until a recovery plan is written and approved.*

The Proposed Project complies with all USFS approved portions of recovery plans.

Standard TEST04: *Management actions that have adverse effects on Proposed or Candidate Species or their habitats, shall not be allowed if the effects of those actions would contribute to listing of the species as Threatened or Endangered under the ESA.*

There is one Candidate terrestrial species (Southern Idaho ground squirrel) and no Proposed terrestrial species that potentially occur within the project area. Field surveys identified one small area of potential Southern Idaho ground squirrel habitat in the vicinity of the transmission line corridor (Yensen, 2003). Given the absence of any verified Southern Idaho ground squirrel burrows in the Proposed Project area, the Proposed Project would not contribute to listing of the species as Threatened or Endangered under the ESA.

Standard TEST05: *For management actions that include application of insecticides, herbicides, fungicides, or rodenticides, mitigation shall avoid or minimize adverse effects on TEPC species or their habitats.*

No insecticides, fungicides, or rodenticides will be used. Vegetation within the ROW will be cleared by manual or mechanical methods. However, spot herbicide applications may be utilized in certain settings to reduce re-growth and extend maintenance cycles. All spot herbicide use will be approved in advance by the PNF and BLM, and will comply with all current regulations and a project-specific vegetation management plan. Review of the site-specific application of herbicide will permit the PNF and BLM to closely monitor the use of these substances and avoid any adverse effects on TEPC species or their habitats.

Standard TEST06: *Management actions shall be designed to avoid or minimize adverse effects to listed species and their habitats.*

The Proposed Project will be designed to avoid or minimize adverse effects to listed species and their habitats. The transmission line routing has been designed to avoid sensitive habitats to the maximum extent practicable. Construction activities will be scheduled to minimize the potential for disturbance during critical periods. Access roads will be gated to minimize the potential for disturbance over the long-term.

Standard TEST12: *Mitigate, through avoidance or minimization, management actions within known nest or denning sites of TEPC species if those actions would disrupt reproductive success during the nesting or denning period. During project planning, determine sites, periods, and appropriate mitigation measures to avoid or minimize effects.*

No known nest or denning sites of TEPC species occur within the Proposed Project area. Field surveys identified potential habitat for the northern Idaho ground squirrel and southern Idaho ground squirrel in the vicinity of the transmission corridor (Yensen, 2003). If verified burrows are located in areas that will be disturbed by construction of access roads or transmission structures, efforts will be made to either avoid the burrows and disturbance of individual ground squirrels.

Standard TEST13: *Mitigate, through avoidance or minimization, management actions within known winter roosting sites of TEPC species if those actions would adversely affect the survival of wintering or roosting populations. During project planning, determine sites, periods, and appropriate mitigation measures to avoid or minimize effects.*

There are no known winter roosting sites of TEPC species within the Proposed Project area. The project biologist will monitor the presence of bald eagles on elk winter range. Construction activities would be modified or curtailed when bald eagles are present on winter range. While it is unlikely that any bald eagles roost in the vicinity of the elk winter range, eagles foraging for carrion will not be disturbed.

Guideline TEGU02: *For proposed actions that may affect potential habitat of TEPC species, identify potential habitat and determine species presence within or near the project area. Document the rationale for not identifying potential habitat and determining species presence for TEPC species in the project record.*

The evaluations of potential habitat and presence of TEPC species within and in the vicinity of the Proposed Project area are summarized in Section 3.5.

Guideline TEGU03: *Management actions in occupied Proposed or Candidate species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.*

No habitat for any Proposed or Candidate species was identified along the Project corridor (Yensen, 2003).

Guideline TEGU06: *Coordinate with Forest resource specialists to consider TEPC habitat needs when designing and implementing management activities that may affect TEPC species and their habitats.*

The Proposed Project has involved coordination with PNF resource specialists. TEPC habitat needs have been considered during Proposed Project design.

Guideline TEGU07: *During site/project-scale analysis and review, a Forest botanist should review insecticide or herbicide spray plans and prescribed burning plans to determine whether effects to TEPC plant species and their pollinators should be mitigated, through avoidance or minimization.*

Prior to initiation of construction, a weed control plan will be submitted to the PNF botanist for review.

Standard WIST01: *Maintain at least 20 percent of the acres within each forested PVG [Potential Vegetation Group] found in a watershed (5th field HU) in large tree size class (medium tree size class for PVG 10, persistent lodgepole pine). Where analysis of available datasets indicates that the larger tree size class (medium tree size class in PVG 10) for a potential vegetation group in a watershed (5th field HU) is less than 20 percent of the total PVG acres, management actions shall not decrease the current area occupied by the large tree size class, except when:*

a) *Fine or site/project scale analysis indicates the quality or quantity of large tree size class for a PVG within the 5th field HU would not contribute to habitat distribution or connective corridors for TEPC and MIS species in short or long-term.*

and

b) *Management actions that cause a reduction in the area occupied by the large tree size class would not degrade or retard attainment of desired vegetation conditions in the short or long-term as described in Appendix A, including snags and coarse woody debris.*

With one exception, the Proposed Project would comply with the requirements of Standard WIST01. PVG 6 of 5th level HU 1705012412 currently contains only 18.8 percent of trees in the large tree size class. This is primarily due to natural vegetative conditions as well as previous timber management and associated road construction in this HU. In this area, the proposed transmission line will be located within an existing transmission line corridor. New access roads would be routed to avoid large trees. Widening of the existing transmission line ROW is necessary and would require the removal of some individual trees in the large size class. The removal of individual trees along the existing ROW would not increase the amount of fragmentation within PVG 6. The Proposed Project would not change the character of any stands of timber in PVG 6 from forested to non-forested. Accordingly, the Proposed Project does not deviate from Standard WIST01 and would not require an amendment to the Forest Plan (C. Spalding, PNF, personal communication).

Standard WIST02: *Design and implement projects within occupied habitats of Sensitive species to help prevent them from becoming listed. Use Forest Service-approved portions of the Conservation Strategies and Agreements, as appropriate, in the management of Sensitive species habitat to keep*

management actions from contributing to a trend toward listing for these species.

The Proposed Project has been designed to minimize adverse effects to habitats of Sensitive species. Specific measures to help attain this Standard include locating access roads and transmission line towers out of Sensitive species habitats, monitoring construction activities to avoid disturbance during critical seasons (i.e., elk winter range), avoiding construction in riparian areas, minimizing removal of large trees and snags, minimizing the areal extent of long-term ground disturbance, minimizing the potential for establishment of noxious weeds and invasive plants, and restoring native vegetation on access roads.

Standard WIST03: *Mitigate management actions within known nesting or denning sites of MIS or Sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Sites, periods, and mitigation measures shall be determined during project planning.*

The Proposed Project would comply with the requirements of Standard WIST03. While there are no known nesting or denning sites of MIS or Sensitive species within the Project corridor, the northern goshawk, pileated woodpecker, and white-headed woodpecker may nest in the vicinity of the Proposed Project. The Proposed Project does not affect a goshawk nest stand. If deemed necessary by the Authorizing Officer, construction could be restricted within the Filly Creek goshawk territory between March 1 and September 30. The Proposed Project may disturb pileated woodpecker and white-headed woodpecker nesting activity during construction. However, no effects upon reproductive success are expected given the small area of disturbance and the short duration of construction. Additionally, the Proposed Project will mitigate potential impacts to these species by designing access road construction and ROW clearing to avoid large trees and snags to the maximum extent practicable.

Standard WIST04: *Mitigate management actions within known winter roosting sites or hibernacula (bats) of Sensitive species if those actions would measurably reduce the survival of wintering or roosting populations. Sites, periods, and mitigation measures will be determined during project planning.*

The Proposed Project would comply with the requirements of Standard WIST04. There are no known winter roosting sites or hibernacula of Sensitive species within or in the vicinity of the Proposed Project area.

Standard WIST05: *In goshawk territories with known active nest stands, identify alternate and replacement nest stands during project-level planning when it is determined that the proposed activity is likely to degrade nest stand habitat.*

The proposed transmission line would cross through the Filly Creek goshawk territory. However, this section of the transmission line would be located within an existing ROW that has been previously cleared of tall vegetation. While the Proposed Project would require selective removal of individual trees along the edge of the existing cleared ROW, it would neither change existing stand characteristics within the Filly Creek territory. Given the location of this portion of the transmission line adjacent to a highway and within an existing transmission line ROW, temporary construction-related disturbance is not likely to affect nest sites or reproduction. If deemed necessary by the Authorizing Officer, construction could be restricted within the Filly Creek goshawk territory between March 1 and September 30. The Proposed Project would not degrade nest stand habitat for the northern goshawk.

Standard WIST06: *Mitigate human-caused disturbances within winter/spring ranges if disturbances cause displacement of wildlife while they are occupying those ranges.*

The Proposed Project has been designed to avoid disturbance of wildlife on winter/spring ranges. The project biologist will monitor the presence of elk on winter range. Construction activities would be modified or curtailed when elk are present on winter range. This will preclude disturbance to wintering elk as well as other species (i.e., bald eagle) that may utilize this area. New access roads constructed in elk winter range will be stabilized and reseeded but not maintained. No long-term increase in public access is anticipated as a result of the Proposed Project.

Guideline WIGU05: *During site/project-scale analysis, habitat should be determined for MIS or Sensitive wildlife species within or near the project area. Surveys to determine presence should be conducted for those species with suitable habitat. Document the rationale for not conducting surveys for MIS or Sensitive species in the project record.*

Field investigations were conducted to determine general habitat types and conditions within the Proposed Project area, and the potential for MIS or Sensitive wildlife species to occupy the area. Surveys were conducted to determine presence for some, but not all, MIS or Sensitive species with potential suitable habitat. Presence/absence for the majority of MIS or Sensitive species was determined through analyses of data collected during field investigations and current habitat characteristics. The Proposed Project would result in extremely limited temporal and spatial disturbance. The Proposed Project would not alter the existing character of forest stands. As a result, no significant adverse affects are anticipated for MIS or Sensitive species that are known to occur or likely to occur in the Proposed Project area.

Guideline WIGU06: *Management actions in occupied Sensitive species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.*

The Proposed Project would not contribute to listing of any Sensitive species as Threatened or Endangered under the ESA. The Proposed Project has been designed to minimize adverse effects to habitats of Sensitive species. Specific measures to help attain this standard include locating access roads and transmission line towers out of Sensitive species habitats, monitoring construction activities to avoid disturbance during critical seasons (i.e., elk winter range), avoiding construction in riparian areas, minimizing removal of large trees and snags, minimizing the areal extent of long-term ground disturbance, minimizing the potential for establishment of noxious weeds and invasive plants, and restoring native vegetation on access roads. That portion of the proposed transmission line that traverses northern goshawk territory would be located within an existing ROW that was previously cleared of trees. The Proposed Project would not alter the existing habitat character within the territory. That portion of the proposed transmission line that traverses potential Columbia sharp-tailed grouse habitat would create potential raptor perches, which could result in increased grouse mortality. Anti-perching devices (i.e., Nixalite) could be installed on individual towers where deemed necessary by the authorizing officer to minimize the potential for increased predation.

Guideline WIGU11: *Management actions should neither degrade or retard attainment of winter range desired conditions except where outweighed by demonstrable short- or long-term benefits to winter range or where the Forest Service has limited authority.*

The Proposed Project will not degrade elk winter range. The project biologist will monitor the presence of elk on winter range. Construction activities would be modified or curtailed when elk are present on winter range. This will preclude disturbance to wintering elk as well as other species (i.e., bald eagle) that may utilize this area. New access roads constructed in elk winter range will be stabilized and reseeded but not maintained. No long-term increase in public access is anticipated as a result of the Proposed Project. Vegetative and ground disturbance will be limited to construction of access roads and transmission towers, as well as clearing along the transmission line ROW where necessary.

Guideline WIGU12: *Calving and fawning areas should be protected from project-related disturbance during big game calving or fawning. Calving/fawning areas and periods should be determined during site/project-level planning.*

There are no calving/fawning areas within the Proposed Project area. The primary calving area in the vicinity of the Proposed Project is located in Price Valley, which is situated to the northwest of Tamarack, Idaho (Jeff Rohlman, IDFG, personal communication). Although there will be some minor rehabilitation of an existing transmission line along Highway 95 in Tamarack, no activities will be conducted within or in the vicinity of this elk calving area. The Proposed Project will not disturb elk calving.

Guideline WIGU13: *To address big game vulnerability to mortality, components of habitat security should be identified and managed during project planning and implementation. Management requirements or mitigation measures needed to maintain these components should be determined during site/project-level planning. Consider components such as big game wallows and licks, public access, wildlife travel routes, created openings, meadows, forested stringers, and winter/spring ranges.*

The Proposed Project will not increase the vulnerability of big game. Road densities and accessibility have been demonstrated to significantly affect habitat security and vulnerability of elk. Several measures will be taken to preserve habitat security within the Proposed Project area. The Proposed Project has been designed to minimize disturbance of habitat types that provide security for big game. New access roads constructed in elk winter range will be stabilized and reseeded but not maintained. There will be no net increase in roads on the PNF. No long-term increase in public access is anticipated as a result of the Proposed Project.

Guideline WGUI14: *To address big game stress and exposure during critical wintering periods, thermal cover components on winter/spring ranges should be identified and managed during project planning and implementation. Management requirements or mitigation measures needed to maintain these components should be determined during site/project-level planning. As a general guideline, at least 15 percent thermal cover should be retained on big game winter ranges where this cover presently exists. Cover should be maintained in at least 30-acre patch sizes where available. Thermal and hiding cover may or may not occur on the same acres.*

The Proposed Project has been designed to minimize disturbance of forested areas that may be utilized as thermal cover for elk. The Proposed Project will clear approximately 288 acres of forested cover types; however it is difficult to determine whether these areas provide thermal cover for elk. Most of this disturbance will occur within the northern half of the project corridor, which is not within elk winter range and therefore would not affect winter thermal cover. Within the PNF, much of the transmission line would be located within an existing utility ROW, and the Proposed Project would not increase habitat fragmentation above what has resulted from previous timber management and road construction activities in the area.

PNF Management Area 3 Direction

Wildlife Resources Standard 0339: *The northern Idaho ground squirrel will receive priority consideration for all management activities that occur within their known occupied habitat. The intent of this standard is not to exclude all other activities within this habitat, but rather to reduce or minimize potential impacts to this species while emphasizing habitat improvement within and adjacent to known sites.*

The Proposed Project will not adversely affect the northern Idaho ground squirrel. Surveys indicate that potential suitable habitat exists in the vicinity of the transmission line corridor, although no animals were observed and a limited number of potential burrows were discovered. The Proposed Project does not bisect any towns or metapopulations. According to Dr. Eric Yensen (2003), vegetative clearing for the transmission line could improve existing habitat for the northern Idaho ground squirrel along the project corridor.

Wildlife Resources Guideline 0341: *An increase in the white-headed woodpecker or flammulated owl habitat may be achieved by the following methods:*

a) Reducing tree densities and ladder fuel under and around existing large Ponderosa trees and snags to reduce the risk of tree-replacing fire and to restore more open canopy conditions.

b) Managing the firewood program to retain large-diameter Ponderosa pine and large snags of other species through signing, public education, size restriction, area closures, or other appropriate methods.

The Proposed Project is not likely to result in an increase in white-headed woodpecker or flammulated owl habitat. While clearing and road construction will maximize retention of large-diameter Ponderosa pine trees, the Proposed Project will not generally affect tree densities and ladder fuel under and around existing large Ponderosa trees or the firewood program.

BLM Management Direction

In crucial wildlife habitats (winter ranges, raptor nest sites, strutting grounds, fawning habitat, etc.), major construction and maintenance work will be scheduled to avoid or minimize disturbance to wildlife.

The only crucial wildlife habitat in the vicinity of the Proposed Project area is elk winter range. The Proposed Project has been designed to avoid disturbance of elk on winter range. The project biologist will monitor elk winter range during construction. Construction activities would be modified or curtailed when elk are present on winter range. This will preclude disturbance to wintering elk as well as other species (i.e., bald eagle) that may utilize this area. New access roads constructed in elk winter range will be stabilized and reseeded but not maintained. No long-term increase in public access is anticipated as a result of the Proposed Project. This will prevent potential disturbance of wintering elk, and maintain habitat security.

The construction of new roads into crucial wildlife habitat will be avoided. Permanent or seasonal road closures may be instituted where problems exist or are expected.

The Proposed Project will require that access roads be constructed within elk winter range. Upon completion of construction, access roads will be reseeded and allowed to revert to natural conditions. New access roads

constructed in elk winter range will be stabilized and reseeded but not maintained. No long-term increase in public access is anticipated as a result of the Proposed Project. This will prevent disturbance of wintering elk, and maintain habitat security.

Areas disturbed during construction activities will be rehabilitated. Seedlings will incorporate a mixture of plants adaptable to the site and beneficial to wildlife.

A Restoration and Revegetation Plan will be submitted to the PNF and BLM for approval to ensure that disturbed areas are rehabilitated with the appropriate vegetation. The Restoration and Revegetation Plan will outline locations for reseeding activities (i.e., access roads and work areas), plant and seed mixtures to be used, and a general revegetation schedule.

Where applicable, "Guidelines for Habitat Protection in Sage-grouse Range" and "Sage-grouse Management Practices" (Technical Bulletin No. 1) – Western States Sage-grouse Committee, June 1974, and 1982 respectively, will be followed. Also, "Habitat Requirements and Management Recommendations for Sage-grouse" Technical Note (USDS, BLM 1974) will be followed where applicable.

Note: The Idaho Sage-grouse Mangement Plan (1997) and the Greater Sage-grouse and sagebrush-steppe ecosystesms: management guidelines (2000) supersede the above-referenced documents in the 1988 BLM Cascade RMP.

There are no known Sage-grouse leks within or in the vicinity of the Proposed Project area, which contains marginal Sage-grouse habitat (Commons-Kemner, IDFG, personal communication). It is highly unlikely that Sage-grouse nest in this area given the absence of any leks. The Proposed Project is not likely to adversely affect Sage-grouse and their habitat. Routes of proposed access roads, tower sites, and work areas will be searched for Sage-grouse and/or nests immediately prior to construction. No construction activities will occur during winter months, thereby eliminating potential for disturbance of Sage-grouse that over winter in the vicinity of the Proposed Project area.

4.4.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

The Proposed Project would result in the irreversible or irretrievable commitment of resources. The general Proposed Project area (transmission line and access roads) would be unavailable for future uses. There would be a long-term change in plant communities and potential wildlife habitats along access roads and within the transmission line corridor. Grading of access roads will disturb approximately 139 acres of existing vegetation. Upon completion of construction, these roads will be re-vegetated with appropriate native plant species in accordance with the Restoration and Revegetation Plan. Thus, road construction will cause a change from native vegetation to plant communities resulting from reseeding. Mechanical clearing of vegetative within the transmission line corridor will disturb

approximately 685 acres of vegetation. Plants exceeding 14 feet in height will be cleared, but native, low-growing species will be allowed to grow. The net result of vegetative clearing within the transmission line corridor will be a conversion from mature vegetation (where present) to early successional native plant communities. Cumulatively, these changes may reduce potential habitat for some terrestrial wildlife species but will create new habitat for other species.

4.4.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, no impacts to wildlife would occur including habitat loss, temporary disturbance, and potential increased predation levels. However, reliability problems with the existing line would continue, and increased demands associated with future development. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements causing associated impacts from vehicular access and maintenance activities. If the Proposed Project were not to occur, IPCo would have to build a transmission line elsewhere or otherwise increase power capacity in the near future to deal with reliability and capacity issues. Since much of the Proposed Project is located within a designated utility corridor, wildlife impacts associated with a different route outside of the designated corridor would likely result in greater wildlife impacts.

4.5 Soil Resources

The primary concern regarding soil resources is to avoid or minimize potential impacts from erosion, compaction, and relocation related to construction activities. Impacts were evaluated along the proposed alignment. Also discussed are mitigation measures intended to reduce impacts to soil resources. Study corridor soil resources are described in detail in Section 3.5.

Initial impacts were assessed considering probable ground disturbance based on information in Chapter 2, The Alternatives, including committed mitigation measures. Additional (selectively recommended) mitigation measures were evaluated to determine whether impacts could be further reduced. No selective mitigation measures that could further reduce impacts to soil resources were identified. Thus, initial impacts and residual impacts are the same.

One private citizen identified impacts to soil resources as an issue of concern during the scoping process. The comment was non-specific simply referring to damaging soils and other resources.

4.5.1 Direct and Indirect Effects of the Proposed Action

All soil types crossed by the proposed centerline would be subject to some type and level of disturbance. Soil surface disturbance, compaction, and relocation would occur to varying degrees. Impacts to soil resources would primarily be related to transmission line construction activities. These activities would include ROW clearing, road building or improvement, transmission structure installation, and conductor installation. Overhead transmission line construction requires excavation, grading, and possibly topsoil

stockpiling. These disturbances would likely result in some increase to wind and water erosion rates and compaction levels, and result in the relocation of some soil resources.

Accelerated Soil Erosion

Construction activities that remove vegetation and cause soil surface disturbance would likely result in increased soil erosion rates. Erosion rates would depend on site-specific characteristics including soil type, slope length and steepness, applied mitigation measures, and climatic conditions. Water erosion would generally be associated with localized precipitation events. Rapid snowmelt would have the potential to contribute to water erosion. The potential for wind erosion would be relatively similar across seasons except for when there is snow cover. Erosion could result in some loss of soil productive potential. Many soil erosion impacts would be short-term in duration. Possible exceptions resulting in long-term impacts would be severe localized erosion from a notable precipitation event and low level persistent erosion from road installation.

Soil types within the study corridor have varying potentials for wind and water erosion. NRCS data indicate that the majority of soil types have low to moderate wind and water erosion potentials. PNF land type data indicate that soils on USFS lands have a moderate/low to moderate/high inherent erosion hazard with the majority of land types being moderate.

Water Erosion Prediction Project (Disturbed WEPP) software was used to model potential soil erosion resulting from the Proposed Project. Actual erosion will depend in large part on weather events that occur at a particular site and the measures taken to reduce potential erosion. Effective implementation of mitigation measures and related management practices detailed in Chapter 2 would substantially reduce the potential magnitude of erosion and subsequent sediment delivery (ITD, 2001). Erosion modeling was based on a number of factors including the character of the study area, applicable soils and related information, and field observations. Slope gradient values were chosen as the mid points of slope groups encountered. Slope groups were broken into areas with 0 to 15, 15 to 30, and greater than 30 percent slopes. Refer to **Table 4-13** for more detailed information.

Table 4-13 Selected WEPP Modeling Results

		COVER (%)					
		100	80	60	40	20	0
FOREST SERVICE LANDS	Erosion Rate (t ac-1)						
	7% Slope Gradient	0.000	0.000	0.013	0.049	0.076	0.102
	23% Slope Gradient	0.000	0.004	0.089	0.263	0.409	0.521
	45% Slope Gradient	0.004	0.022	0.174	0.521	0.797	0.992
	Erosion Probability (%)						
	7% Slope Gradient	0	7	27	43	50	60
	23% Slope Gradient	3	13	30	57	60	67
	45% Slope Gradient	7	23	30	57	60	70
OTHER LANDS	Erosion Rate (t ac-1)						
	7% Slope Gradient	0.000	0.004	0.071	0.218	0.325	0.432
	23% Slope Gradient	0.004	0.027	0.267	0.863	1.255	1.678
	45% Slope Gradient	0.009	0.053	0.476	1.549	2.234	2.955
	Erosion Probability (%)						
	7% Slope Gradient	7	17	43	77	77	80
	23% Slope Gradient	13	23	50	77	87	90
	45% Slope Gradient	17	27	50	77	87	90

User inputs for USFS lands include a sandy loam soil texture, short grass vegetation, and slope gradients of 7, 23, and 45 percent. User inputs for other lands include a silt loam soil texture, short grass vegetation, and slope gradients of 7 and 23 percent. Modeling was approached conservatively. Results indicate that the potential for erosion is closely tied to slope gradients. Increasing slope steepness generally means increasing erosive potential. Only a small portion of projected disturbance would occur on lands with slopes in excess of 30 percent including approximately two acres (less than one percent) on USFS lands and approximately 14 acres (less than five percent) on other lands. Results also indicate that the vast majority of potential erosion and subsequent sediment delivery, if it occurred, would occur if vegetative cover were less than approximately 40 percent. This likely corresponds to the first two years after construction. The key to minimizing erosion potential is the successful re-establishment of vegetation and the effective employment of erosion reducing measures while vegetation is re-establishing. This is consistent with the effective implementation of mitigation measures.

Soil Compaction

Soil compaction will occur as a result of construction activities associated with the Proposed Project. Heavy construction equipment use will result in soil compaction. Rubber-tired vehicles generally compact soils more than tracked vehicles. The extent of compaction would depend in large part on soil moisture content and the physical characteristics of a particular affected soil type. Compaction tends to be the most severe when soils are moist to wet. Very dry and very wet soils generally would not compact as severely. Duration of the impact would depend to a large degree on compaction severity.

Compaction impacts would generally be short-term in duration, but would have the potential to affect soil resources in the long-term if compaction is deeper than six inches.

Rutting

Soil rutting may occur. Rutting is typically a concern when vehicle or construction equipment travel occurs during wet conditions. Rutting can restrict the movement of water through and across soil thus altering soil / water dynamics. Tracked or rubber tired vehicles can cause rutting. Standard rubber tired vehicles typically have more potential for rutting than tracked or flotation tire equipped vehicles. Duration of the impact would depend in large part on the severity of the rutting and the effectiveness of restoration activities following construction. Restoration activities may include ripping or discing to reduce or eliminate ruts and site-specific stabilization measures such as reseeding.

Soil Displacement

Soil displacement is typically caused by project related construction activities. Soil resources may be directly displaced by construction equipment. Road improvement, new road construction, and transmission tower foundation placement would result in moving soil resources by construction equipment. These impacts would be localized and limited in terms of the effects to study corridor soil resources. Though limited in extent, impacts associated with soil displacement would be long-term in duration.

Mitigation Measures

Committed mitigation measures are included as part of the Proposed Project to avoid or reduce impacts to soil resources (Section 2.3). Committed mitigation measures 0.1, 0.2, 0.5, 0.6, 4.5, 5.1, 6.1, and 6.3 would be applied to appropriate areas to reduce impacts to soil resources. Effective implementation of these mitigation measures would:

- Minimize project-related impacts to soils and their protective vegetative cover by avoiding unnecessary disturbance.
- Stabilize disturbed areas, thus minimizing erosion and sedimentation effects.
- Reduce compaction effects by controlling equipment traffic and ripping or disking affected areas.
- Reducing rutting effects by temporarily halting work during excessively wet conditions (when ruts exceed 3 to 4 inches in depth).

4.5.2 Cumulative Effects to Soil Resources

The Proposed Action would contribute only site-specific and localized individual ground surface changes. Related Actions include the permanent removal of approximately 2.6 miles of existing ROW on the Oxbow to McCall 138kV transmission line, including 0.4 miles on federal property. The Joyce Substation, located on private property within USFS lands, would be removed. New conductor would be re-strung on existing structures along approximately 2.7 miles of the Oxbow to McCall 138kV transmission line. Several PNF, ITD and state projects are scheduled to occur in the Proposed Project vicinity. These actions would not substantially alter prevailing topography and/or surface relief. Therefore, the cumulative impact to surface contour features and soils would be minimal.

Additional impacts to soil resources may occur as a result of other factors such as increased motorized vehicle use and cattle grazing. The amount of impact would be related to the intensity and extent of these activities. The potential for impact would likely be greatest on newly reclaimed areas in the first two years.

4.5.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

The PNF Forest Plan provides Goals, Objectives, and Standards related to the desired condition for soils resources. The Forest Plan states the desired condition as follows:

"Soil protective cover, soil organic matter, and coarse woody material are at levels that maintain or restore soil productivity and soil-hydrologic functions where conditions are at risk or degraded. Soils also have adequate physical, biological, and chemical properties to support desired vegetation growth." Relevant Standards to maintain or reach the desired condition are:

> *Standard SWST02 – Management activities that may affect soil detrimental disturbance (DD) shall meet the following requirements: a) In an activity area where existing conditions are below 15 percent of the area, management activities shall leave the area in a condition of 15 percent or less detrimental disturbance following completion of activities. b) In an activity area where existing conditions of DD exceed 15 percent of the area, management activities shall include mitigation and restoration so that DD levels are moved back toward 15 percent or less following completion of activities. To estimate soil DD, it is essential that the glossary definitions for activity area, detrimental soil disturbance and total soil resource commitment (TSRC) are clearly understood.*
>
> *Standard SWST03 – Management activities that may affect TSRC shall meet the following requirements: a) In an activity area where existing conditions of TSRC are below 5 percent of the area, management activities shall leave the area in a condition of 5 percent or less TSRC following completion of activities. b) In an area where existing conditions of TSRC exceed 5 percent of the area, management activities shall include mitigation and restoration so that TSRC levels are moved back toward 5 percent or less following completion of activities. To estimate TSRC, it is essential that the glossary definitions for activity area, detrimental soil disturbance and total soil resource commitment are clearly understood.*
>
> *Guideline SWGU05 After completion of ground-disturbing activities in a watershed, the minimum ground cover should be sufficient to prevent erosion from exceeding the range of soil erosion from exceeding the range of soil erosion rates that are characteristic of the local soil type, landform, climate, and vegetation of the area, or the soil-loss tolerance.*

Soil types within the study corridor have varying potentials for reclamation and revegetation. PNF land type data indicate that the revegetation potential of cut slopes on USFS lands would typically be low to moderate. The revegetation potential of fill slopes on USFS lands would generally be moderate to high. NRCS data indicate that the majority of soil types have a poor potential for use as topsoil due to factors including shallow soil, slope, and large stones. Topsoil would be material used to cover an area so that vegetation could be established and maintained. Effective implementation of committed mitigation measures specified in Section 4.5.1 will help to ensure that applicable guidelines are met.

The Proposed Project would occur within an existing utility corridor. The DD and TSRC standards would not apply to those portions of the Proposed Action occurring within the existing utility corridor. Definitions for both DD and TSRC state, "These standards do not apply to areas with dedicated uses..."(USDA, 2003). A utility corridor is considered a dedicated use. The utility corridor exception to DD and TSRC would also apply to the new transmission line construction portion of the proposed action. Construction would occur after issuance of the Special Use Permit and the BLM Grant of Right of Way. These instruments would essentially establish the utility corridor along the new ROW.

BLM Resource Management Plan Direction

The BLM RMP provides resource management guidelines for soil resources. The plan states: *"Soils will be managed to maintain productivity and to minimize erosion. Project level planning will consider the sensitivity of soil, water and air resources in the effected area on a site-specific basis. Stipulations will ensure project compatibility with soil, water, and air resource management. All construction of management facilities and land treatments will be designed to minimize adverse effects to the soil, water, and air resources. Areas disturbed during project construction will be reseeded with a mixture of grasses, forbs, and shrubs when necessary."*

The Proposed Project has been designed to be compatible with the above resource management guidelines through the effective implementation of committed mitigation measures discussed in Section 4.5.1 above.

4.5.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

Irretrievable commitment of soil resources would primarily be associated with soil loss due to erosion and subsequent sedimentation. The potential for soil loss would depend on site-specific characteristics including soil type, slope length and steepness, applied mitigation measures, and climatic conditions. Erosion could also result in some loss of soil productive potential. Refer to Section 4.5.1 for more details regarding potential soil loss due to erosion.

Irreversible commitment of soil resources would primarily be associated with soil displacement from project-related construction activities including road building,

substation construction and transmission line construction. It is estimated that approximately 31 acres of USFS lands would be affected by irreversible commitment of soil resources

4.5.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, soil impacts would still be present in the study corridor. Continued power outages for McCall and the surrounding area due to lack of power capacity would force IPCo to fulfill the Purpose and Need of the Proposed Project as identified in Chapter 1 in another way that could result in greater impacts, and future development within the existing utility corridor would still be likely. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements and causing similar or more severe associated soil impacts as the Proposed Action from vehicular access, soil exposure and erosion potential, soil stockpiling, fugitive dust production, sloughing, and other factors.

4.6 Geologic Resources and Geohazards

4.6.1 Direct and Indirect Effects of the Proposed Action

Impacts to geology were not identified during scoping as an issue of concern. However, direct and indirect impacts to geology from construction of transmission lines would primarily be related to ROW clearing, road building or road improvements, and installation of structures. The predominant direct impacts from such activities would include localized increases in erosion (discussed in Section 4.5) and disfigurement of the natural landscape as a result of road building or improvement activities. Indirect impacts may include subsequent slough material accumulations in previously undisturbed areas. In limited locations, blasting may be required to clear a path for access roads or pad locations, leaving permanent alterations to geologic outcrops. Such measures, if required, would possibly occur in areas of particularly rugged terrain where slope profiles are controlled by proximity to bedrock.

Geohazards

Other indirect impacts could include secondary mass wasting (landslides) events initiated where construction undercuts unstable slopes or where land-clearing activities result in a decrease of the root strength of vegetation and/or excessive infiltration of water. Constructing roads or installing tower foundations on steep slopes (>30 percent) could exacerbate existing geologically hazardous areas by causing additional instability. According to Megahan et al. (1978), 11 percent of management-related landslides were related solely to roads, while forest vegetation removal accounted for 9 percent of landslides. Gucinski et al. (2001) identified several studies where landslide erosion from roads was one to several orders of magnitude higher than from forest vegetation management.

PNF GIS coverage of landslide-prone areas in the vicinity of the Proposed Project was reviewed (Dixon, 2001). As described in Section 3.6, areas with a potential for landslides are located Segment D around Milepost 3, on either side of Highway 95 and the existing

69kV transmission line corridor that will be utilized for the Proposed Project; approximately 0.5 miles north of Segment B in Sections 26, and 27 of T18N, R1W; and approximately 0.5 miles west and northwest of the western end of Segment B in Section 29, T18N, R1W. These areas correspond with the area of occurrence of 247 landslides following a storm event on New Years of 1997 (Dixon and Wasniewski, 1998). This portion of the route utilizes the existing 69kV corridor. While the Proposed Project would utilize existing access roads in this area, new roads associated with the Proposed Project that will be built have been concentrated along ridge tops and in areas with slopes less than 15 percent. For instance, of the approximately 59.1 miles of temporary and permanent roads anticipated for this project (including mileage on private, state, and federally-owned land), approximately 34.2 miles (57 percent) would occur on low-angle slopes between 0 – 15 percent. Approximately 20.5 miles of new road (or 36 percent of all the road miles) would occur on higher angle slopes between 15 – 30 percent. GIS data indicates that 4.4 miles of roads are planned on hillsides steeper than 30 percent slope. However, GIS data is on a 30-meter DEM grid, (Digital Elevation Model) and is only an approximate digital representation of the terrain. The 4.4-mile total may simply represent an accumulation of very short distances of road segments occurring near steep anomalies in otherwise gentle to moderate terrain.

Existing roads will require minimal work in order to provide access to construction vehicles and equipment for the Proposed Project. In this area, landslides are a possibility with or without the proposed action and their likelihood of occurrence would not be significantly increased or reduced as a result of the Proposed Project. In order to minimize the potential for construction-related landslides, field verification of landslide-prone areas in the vicinity of access roads will be completed prior to construction. Access road design will include water bars and outsloping as necessary to minimize potential for erosion and landslides. In another segment of the Proposed Project where road construction could increase the potential for mass wasting events (structure locations 213 – 217 near Starkey), poles and conductor will be installed by helicopter to eliminate the need for road access. All future maintenance activities in that area will also be limited to helicopter or pedestrian access.

Mineral Resources

The indirect impacts to mining claims found in the vicinity of the Proposed Project would potentially be beneficial to the claimant in terms of increased access. No negative impacts would be expected to these claims.

4.6.2 Cumulative Effects to Geologic Resources

The cumulative effects to geological resources would be primarily attributable to road construction associated with the Proposed Project and future projects requiring access into public lands. For geologic resources, cumulative effects would include additive impacts of accelerated erosion potential when other projects in the area require additional road building. Each subsequent road development project, depending on location, would add to potential wind and water soil erosion or mass wasting potential, stream bank degradation, and sedimentation loading, dependent on the mitigation implemented for each project. Projects that are similar in magnitude or that occur in the same area as the Proposed Project

and that typically involve road building may include logging, mineral extraction, development of new recreation facilities, or additions to existing utility corridors. According to data collected from the PNF, BLM, the State of Idaho, and Adams and Washington Counties, the only foreseeable projects on public lands in the proximity of the Proposed Project would use existing roads. In addition, several of the PNF projects include restoration activities that include removal of old roads and reclamation. Therefore, there are no expected measurable cumulative effects expected to geologic resources. However, although access roads, both existing and new, will be closed to motorized vehicle use, some illegal use could occur. Indirect and off-ROW impacts could result from increased OHV access into remote areas. OHV travel on and off access roads could result in greater ground disturbance and erosion over time depending upon control of public access (e.g., gates, road closures, etc.) by the utilities and the land managing agencies.

4.6.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

The Forest Plan provides the following standards related to management actions that could impact slope stability.

> ***Standard SWST12:*** *Site-specific analysis or field verification of broad-scale landslide prone models shall be conducted in representative areas that are identified as landslide prone during site/project-scale analysis involving proposed management actions that may alter soil-hydrologic processes. Based on the analysis findings, design management actions to avoid the potential for triggering landslides.*
>
> To conform to this standard, the USGS GIS coverage of landslide potential in the PNF and landslide inventory coverage was reviewed (Dixon, 2001) and compared to the location of the proposed route and access roads. The coarse filter of the GIS coverage indicated that areas of high landslide potential are located in the existing 69kV corridor. The Proposed Project will utilize existing roads in this area and new roads will be built to minimize undercutting of steep slopes and along ridges wherever possible.
>
> Road construction or improvement activities that occur during the course of the Proposed Project's construction will utilize standard mitigation techniques to meet road standards identified in the Forest Plan.
>
> ***Guideline SWGU03:*** *Where proposed management actions may alter soil-hydrologic processes, representative sample of landslides and landslide-prone areas should be field-verified to identify and interpret controlling and contributing factors of slope stability. Integrate the resulting information with supporting data to provide a final stability assessment and identification of appropriate land management actions in landslide and landslide prone areas. Refer to the Implementation Guide for Management on Landslide and Landslide Prone Areas, located in Appendix C.*

Guideline SWGU04: *General Field Verification Procedures for Landslides and Landslide-Prone Areas: Six major groups of known characteristics should be investigated to supply information adequate to characterize unstable conditions. These are:*

a) Landform;

b) Overburden;

c) Geological processes on the hill slope;

d) Bedrock lithology and structure;

e) Hydrology;

f) Vegetation.

Refer to the Implementation Guide for Management on Landslide and Landslide Prone Areas, located in Appendix C.

To conform to the above guidelines, PNF personnel (Dixon, 2004) provided GIS coverage and a report on landslide occurrence in the PNF in the vicinity of the Proposed Project. According to the report, the majority (85 percent) of landslides occurred in grassy or brush-covered slopes of 40 percent or greater. The report indicates that only 15 percent of the landslides evaluated following the New Year's 1997 storm event appeared to be influenced by management activities such as roading and timber harvest. Appropriate land management actions for the Proposed Project would include implementation of mitigation measures 0.2, 0.3, 1.3, and 6.1 (see Section 2.3).

In accordance with the guideline a pre-construction field verification of landslide prone areas will be made. Design changes to roads may need to be made based on the field verification.

BLM Resource Management Plan Direction

The BLM's Cascade Resource Management Plan indicates that BLM lands crossed by the proposed transmission line are generally available for mineral exploration and development.

Another guideline directs the BLM to review EAs to determine if actions impact paleontological resources (Page 55 of the RMP). There have been no such resources of significance identified in the Proposed Project area.

4.6.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

Geologic outcrops that are destroyed in the event blasting is used to develop access to the Proposed Project ROW would be permanently altered. At this time, blasting is expected to be limited to pole installation locations. There are no locatable minerals known to occur in the Proposed Project ROW, therefore, the presence of the line would not be expected to have any impact on extractable resources.

4.6.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, no new impacts to geologic resources would be expected, and geohazards would still be present in the study corridor. Continued power outages for McCall and the surrounding area due to lack of power capacity would force IPCo to fulfill the Purpose and Need of the Proposed Project as identified in Chapter 1 in another way that could result in greater impacts, and future development within the existing utility corridor would still be likely. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements and causing similar or more severe associated geologic impacts as the Proposed Action from vehicular access, soil exposure and erosion potential, sloughing, and other factors. Blasting may still be required depending on the nature of the maintenance requirements and activities.

4.7 Visual Resources

Numerous comments were received during public scoping on the effects of the proposed transmission line to visual quality on private and public lands. On the PNF, the Proposed Project would be located within a designated utility corridor. Therefore, the Proposed Project would not conflict with the PNF Forest Plan.

4.7.1 Direct and Indirect Effects of the Proposed Action

Visual impacts resulting from the Proposed Project would be either short-term (temporary) or long-term (life of the Proposed Project or beyond). Short-term visual impacts would result from the construction activities to install the transmission line, the presence of materials and material staging areas along U.S. Highway 95, and construction workers and equipment.

Long-term impacts would result from the visual contrasts (i.e., additional cleared area and taller structures) remaining for the life of the Proposed Project that would be seen by sensitive viewers upon USFS lands found on segments C, D, and F. Additional long-term impacts would result from visual contrasts (i.e., newly cleared and roaded areas and transmission structures where none currently exist) remaining for the life of the Proposed Project that would alter scenery upon lands found on segments A and B.

Following construction, vegetation not exceeding 14 feet in height would be allowed to return in the ROW and graded areas would be planted with an approved seed mix. The permanent ROW would be maintained free of large trees to allow for access to and maintenance of the Proposed Project. This long-term impact would not be significant where clearing would occur within existing utility corridors found on segments C, D, and F.

Temporary impacts would result from views of construction activities and equipment along the proposed ROW, as well as views of any construction staging areas along U.S. Highway 95 within the forest service boundary that would receive and store materials.

Visual Contrast

Changes to the landscape resulting from a Proposed Action are referred to as contrast. Contrasts are described as vegetation, landform, or structure contrast. Contrasts occur from

changes in line, form, color, and texture to the existing landscape described in Chapter 3 of this EA.

The primary long-term contrast would result from ROW clearing and structure placement along segments A and B on BLM lands. The secondary long-term contrast would result from the additional ROW that would be cleared to install the Proposed Project within the existing transmission line ROW on segments C, D, and F in USFS lands.

While this contrast to the overstory vegetation would not be stronger than the existing condition found on segments C, D, and F, the edge of the ROW would be moved to create a wider cleared area through the forest. The new ROW would be cleared, but over time would revegetate very similarly to the existing ROW. Therefore, the vegetation contrast, or change, would not be stronger, but would be slightly different than the existing condition described in Chapter 3 for segments C, D, and F. Vegetation change that would occur upon segment A is expected to be minimal because of the lack of overstory vegetation present. Vegetation that occurs on segment B would be visibly altered where overstory vegetation would be removed.

Short-term landform contrasts of grading and foundation excavation would also occur. These short-term contrasts would be mitigated (i.e., recontoured and rehabilitated) to near existing conditions immediately following construction. No long-term landform contrasts would be expected upon any segment of the Proposed Project.

Long-term structure contrasts would occur from views of the proposed transmission line structures, insulators, hardware, and conductors from viewpoints upon USFS lands and BLM lands. The views of these new structures would result in a minor change in scenery due to the larger structures that would replace the existing structures found on segments C, D, and F. The views would also change where Corten® steel pole structures are proposed along portions of segment D of the Proposed Project. The other segments of the Proposed Project that occur on USFS lands would have H-frame wood structures of similar appearance to the existing structures currently in place. Structure contrasts that would occur on public land found along segments A and B would be strong where no other tall, linear projects exist within the immediate visible distance.

Impacts to Sensitive Viewers

People using the Weiser River Trail and traveling U.S. Highway 95 would have brief and intermittent views of the Proposed Project. The proposed transmission line can also be viewed by people utilizing the Evergreen Campground in Segment D. However, viewers who would see the transmission line from the Evergreen Campground, U.S. 95, and the Weiser River Trail would see little change as a result of the Proposed Project. The primary change visible would be the change from H-frame wood poles to single, Corten® steel poles, which will occur near the present location of the Joyce Substation. The new steel poles would be slightly taller than the existing but would result in less overall introduced mass and scale created by the Proposed Project in this forested landscape. Within the PNF-designated corridor, the coniferous and mixed forest overstory vegetation would screen most views of the proposed transmission line.

Impacts to Scenery

Because visual contrasts would generally be weak, the Proposed Project within the designated utility corridor along segments C, D, and F would cause negligible impacts to the visual quality of the landscape. No measurable changes to visual quality would result. However, visual contrasts would be strong on segments A and B where the Proposed Project would cross private and public lands. The strong contrast would result in impacts to the visual quality of the landscape upon segments A and B.

Mitigation Measures

If standard mitigation measures 0.3, 0.6, 2.1, 2.2, 2.3, and 2.4 (see Section 2.3) were implemented, all potential direct and indirect impacts to visual resources would be minimized or eliminated. Additionally, at the locations of the Weiser River Trail that cross the existing ROW in Segment D, clearing of existing vegetation would be done on a selective basis to maximize screening of the Proposed Project views from the trail. Selection would occur in coordination with the PNF Authorized Officer.

4.7.2 Cumulative Effects to Visual Resources

Areas along the existing ROW that would be cleared and are visible to sensitive viewers would add to the overall cumulative visual impact upon segments C, D, and F. Additionally, areas along the new ROW found along segments A and B that would be cleared and new transmission structures constructed would also add cumulatively to the visual impact in the local region.

4.7.3 Consistency of the Proposed Action with Forest Land, Other Plans, and Laws

PNF Forest Plan Direction

Adopted Visual Quality Objectives

The Proposed Project would be within the established and designated utility corridor within the PNF. While the cleared transmission line ROW would be somewhat larger than the existing cleared ROW, following rehabilitation it would not be noticeable to the casual forest user. The Proposed Project and ROW would be consistent with the designated utility corridor designation and would be similar visually to the existing transmission line corridor, and the U.S. Highway 95 corridor.

The PNF has re-classified its VQOs where the existing transmission line occurs in designated utility corridors in segments C, D, and F. The errata sheet on file with the most recent update to the PNF Forest Plan states that these areas are now considered as a Maximum Modification VQO. The objectives for this management class vary significantly from earlier designated VQOs. Maximum Modification is defined as:

> "Management activities of vegetative and landform alterations may dominate the characteristic landscape. However, when viewed as background, the visual characteristics must be those of natural occurrences within the surrounding area or character type. When viewed as foreground

> or middle ground, they may not appear to completely borrow from naturally established form, line, color, or texture. Alterations may also be out of scale or contain detail that is incongruent with natural occurrences as seen in foreground or middle ground (USDA, 1974)."

The existing viewpoints from U.S. Highway 95 and most portions of the Weiser River Trail have views parallel to and offset from the Proposed Project and would not be noticeable to the casual forest user. While the existing ROW clearing width would be larger, it would not be of a size or intensity that would visually dominate the characteristic landscape. Therefore, the Proposed Project would be consistent with the designated transportation and utility corridor and the existing VQO because the contrasts and visual impacts would result in negligible long-term effects.

BLM Resource Management Plan Direction

Visual Resource Management Classes

BLM VRM classes that would be crossed by the Proposed Project include VRM Class III along segments A and B of the project. Both of these segments are entirely new corridors where none existed previously. Any noticeable changes to visual resources would occur along segment B where overstory vegetation would be removed to accommodate a new transmission line corridor. These changes would likely be visible at some distance from the Proposed Project to include viewpoints located on private land some distance away. Both segments A and B have few to any sensitive viewers located in close proximity to the ROW where it occurs on public lands. Changes visible would consist of overstory vegetation clearing, grading of topography to accommodate project access roads, and the placement of transmission line structures where none exist.

The changes to the seen environment caused by the Proposed Project along segments A and B would be evident and would begin to attract attention in the characteristic landscape. However, the changes would remain subordinate to the existing characteristic landscape because other linear facilities (U.S. Highway 95 and an existing 69kV transmission line) and access roads are all visible nearby. Additionally, few sensitive viewpoints occur on public lands that would be traversed by the Proposed Project along segments A and B.

4.7.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

No irreversible or irretrievable commitment of resources would occur to the Proposed Project area's visual resource if the Proposed Project were built. If the transmission line were decommissioned (transmission structures removed and roads reclaimed), the Proposed Project area would a return to a natural visual condition. Thus, the visual resource could return to its state prior to the Proposed Project's construction. There would be no additional land-disturbing activities that could be viewed from USFS or other public lands in the Proposed Project area; therefore, no impact to visual resources would remain.

4.7.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, no new impacts to visual resources would be expected. However, continued power outages for McCall and the surrounding area due to lack of power capacity, and future development within the existing utility corridor, would be likely. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements causing associated impacts from vehicular access and maintenance activities. Visual impacts caused by the loss of timber resources, soil exposure, and structure contrast would be similar or more severe and occur elsewhere under the No Action Alternative because IPCo would be forced to fulfill the Purpose and Need of the Proposed Project as identified in Chapter 1 in another way.

4.8 Socioeconomic Resources

Socioeconomic impacts were not identified as an issue of concern during the scoping process.

Socioeconomic impacts arise mostly from the logistical requirements of the Proposed Project in terms of mobilizing and deploying labor, monetary capital, and material resources. Depending on the size of a project, application of these factors of production to a defined geographical area and setting imposes changes in the levels and patterns of peoples' activities in the area, including employment, housing, commercial activities, and public services and infrastructure (e.g. schools, roads, public safety, and public health). Whether these changes are beneficial or injurious largely depends on the magnitude and duration of changes to the pre-project levels of utilization and the capacity of the area's resources to accommodate changes in demand.

The impact assessment starts with a description of the Proposed Project's economic resource demands. These are compared with the Proposed Project area's socioeconomic resources. The typical measures of socioeconomic impacts include changes in population, employment, and income, wherein the Proposed Project's inputs and outputs for these parameters are related to the Proposed Project area's socioeconomic baseline (which was evaluated in Section 3.8) with respect to costs (or burdens) and benefits (monetary and non-monetary) accruing to the local population and its institutions. Judgments are then made as to the intensity, duration, and reversibility of any impacts and the need for measures to avoid or reduce impacts.

4.8.1 Direct and Indirect Effects of the Proposed Action

Construction of the proposed transmission line is a relatively small project in terms of socioeconomic resource requirements and impacts. The Proposed Project would take two construction seasons (about 14 total months) and employ up to 44 workers. Such an undertaking would entail construction labor and expenses of approximately $3.3 million and perhaps an additional $7.5 million for procurements of construction equipment, materials, and services. The bulk of the Proposed Project cost would "leak" out of the Proposed Project area via payments to non-local and out-of-state sources of cable, structural steel, transformers, etc., and specialty contractors, their personnel, and equipment suppliers. Placed in the socioeconomic context of the three-county Proposed Project impact

area (including adjoining Valley County) - a rural and sparsely populated region of approximately 21,100 persons (U.S. Census Bureau, 2000) - the infusion of workers' local spending on local construction procurements would place little burden on the assimilative capacity of the local economy.

Workers' local consumer goods purchases and contractors' procurements of construction supplies would be the principal economic benefits of the construction phase accruing to the local economy. Providers of transient accommodations, eating and drinking establishments, automotive services, construction materials vendors (e.g., sand and gravel, concrete, lumber, etc.), and equipment leasing establishments in communities near the Proposed Project site would be the main beneficiaries. The benefits would be effective only during construction and would therefore be short-term. Any multiplier effects on local employment and income would be minimal. The impact may be considered as beneficial but minimal.

Direct socioeconomic impacts could primarily take the form of increases in demand for transient accommodations from non-local workers recruited to work on the Proposed Project. Depending on the amount of workers on a project, this may be regarded as a cost in the sense that an influx of workers might overload available space or displace customary users of motels and campgrounds. However, there are an estimated 100 lodging rooms distributed between Cambridge, Council, and New Meadows, and an estimated 500 lodging rooms available in McCall (IDC, 2003), which would suggest that there would be adequate space for non-local workers within reasonable commuting distance of the job sites. Therefore, the number of people related to the Proposed Project would be a minimal impact on the level of demand for accommodations. The additional business for local motels, RV parks, etc., would represent a short-term economic benefit for the region.

After completion of construction, transmission line operations and maintenance activities would have essentially no direct or indirect socioeconomic effects on the Proposed Project area. Personnel requirements would be negligible, and would place no extra burden on housing or other infrastructure and services.

In addition to worker-related impacts, the proposed transmission line project would present minor impacts related to loss of resources. A very small percentage of surface area would no longer be available for grazing due to the footprint of each pole on grazing lands. This lost grazing area is negligible because it is a minute percentage of total grazing land available. Grazing area would not be lost in most of the ROW because livestock can easily graze underneath the transmission line.

Another direct socioeconomic impact is associated with the timber that would be removed from the ROW. Timber that is sold to local sawmills represents a short-term economic benefit to both the USFS (who will sell the timber) and local sawmill operators (who will mill the timber and sell it at a profit). In the long-term, trees would not be allowed to re-grow in the ROW. This would represent an overall loss of revenue. Overall impacts related to timber sales would be minimal.

The principal indirect effect would be fiscal, arising from property taxes on the Proposed Project's real and personal property in the counties. IPCo has not determined the assessed value of the proposed facilities, so it is not possible to project the amount of tax revenue

that would accrue to the county. Such tax revenue would most likely amount to a few tens of thousands of dollars per year, which would be a small but welcomed addition to the county's revenues.

4.8.2 Cumulative Effects to Socioeconomic Resources

Continued growth in the region coupled with requirements for upgrading aging structures will eventually lead to additional system improvement projects in the future. Therefore, one cumulative effect of the Proposed Project may be an indirect socioeconomic benefit due to 1) the increased reliability of IPCo's power supply in the region, 2) increased revenue to local businesses from Proposed Project procurements (in the short-term), and 3) local tax revenues.

ITD plans to complete several improvement projects in the general Proposed Project area. One ITD project that is scheduled for construction in the summer of 2005 may increase demand for local short-term housing. The Cambridge to Weiser River Bridge pavement rehab project may require that its labor force stay in local hotels or campgrounds. When combined with the demand for these resources from the proposed IPCo Project, the overall effect is increased but still not significant or long-term.

Several other ITD projects are planned in the Proposed Project area, but they are planned to take place in the McCall area in 2005. IPCo plans to complete Segment 1 of the Proposed Project in 2005, which does not include the route close to McCall.

Both IPCo's planned system upgrades and ITD's improvement projects represent an overall increase in infrastructure in the area. An increase in infrastructure could impact the rural character of the Cambridge, Council, McCall, and surrounding areas. Some local residents could consider an increase in infrastructure a direct influence on overall growth in the area, and therefore could consider these upgrades and improvements to infrastructure as a negative impact to socioeconomic resources.

The Tamarack Development Project is another consideration for cumulative impacts to socioeconomic resources. IPCo expects that increasing energy requirements related to the growth of the resort may eventually dictate further upgrades to their systems in the area. However, the Proposed Project would occur even if the Tamarack Resort did not exist.

4.8.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

PNF Forest Plan Direction

There are no PNF-developed standards or guidelines pertinent to socioeconomic resources in the Proposed Project vicinity. However, the PNF Forest Plan presents goals and objectives that 1) promote sustainable land uses and management strategies; and 2) that promote collaboration among federal, state, county, and tribal governments in land management planning, implementation, and monitoring efforts

The Proposed Project would provide some forest goods during the construction phase due to timber salvage in the ROW. After the construction phase, through to the end of the life

of the Proposed Project, the ROW will not provide forest goods because tree growth in the ROW will be suppressed. However, this affect to the timber supply, as discussed above, is relatively minimal and is not expected to impact the overall sustainability of the ecosystem.

BLM Resource Management Plan Direction

The BLM RMP states: "BLM will ensure that any management action undertaken in connection with this plan...[t]akes into account local social and economic factors." By including an analysis of socioeconomic impacts posed by the Proposed Project and considering those impacts against the anticipated benefits of the Proposed Project, BLM's management guideline would be met.

4.8.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

The Proposed Project would permanently remove approximately 161 acres of Ponderosa pine forest for the transmission line ROW. Trees would not be allowed to re-grow within the 100-foot ROW during the life of the Proposed Project, representing the potential loss of saleable timber. This could result in a loss of revenue to the USFS and local timber mills. The fuels used for construction would be permanently lost through consumption.

4.8.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, the 138kV transmission line would not be constructed or operated. As a result, there would be no increase in demand for transient accommodations, no loss of grazing lands or timber profits, and no drain on material resources, public services and infrastructure (e.g., schools, roads, public safety, and public health). However, without the construction of the Proposed Project, McCall and surrounding communities will not receive the socioeconomic benefits associated with 1) increased reliability of power supply, 2) increased revenue from consumer goods purchases, procurements of construction supplies, and lodging and food requirements, and 3) local tax revenues. It should be noted that development of a different nature could occur. Depending on the location, type, and magnitude, impacts to socioeconomic resources would be similar to or even greater than the Proposed Action.

4.9 Air Quality

4.9.1 Direct and Indirect Effects of the Proposed Action

The construction phase of the Proposed Project would include installation of structures, lines, roads, and three substation facilities. These activities would produce two types of air contaminants: exhaust emissions and fugitive dust. The emissions produced during construction would be of short-term duration and would cease upon completion of the construction phase of the Proposed Project.

Operation of the Proposed Project would involve periodic maintenance on the transmission line and occasional emergency repair work. The emissions produced during operation of

the Proposed Project would be limited to exhaust produced from vehicles used to access portions of the line during maintenance and repair work.

Transmission Line Construction

Exhaust emissions from construction equipment would be produced onsite as the construction equipment is used and would include the following criteria pollutants: Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), particulate matter (PM_{10}), sulfur oxides (SO_2), total suspended particulates (TSP), and hydrocarbons (HC). Exhaust emissions would only be generated during the daytime hours of operation for the duration of the construction period.

Factors that influence the quantity of fugitive dust generated during construction activities include the type of work being conducted, the intensity of activities occurring at any given time, the area of land being worked, the silt content of the soil (particles smaller than 75 microns in diameter), and soil moisture. Road construction would create the highest fugitive dust emission potential, although fugitive dust emissions would also be associated with land clearing, ground excavation, grading operations, installation of the structures, and vehicle and heavy equipment travel over unpaved roads to tower sites. Dust emissions may vary substantially from day to day, depending on the level of activity, the specific operations taking place at any given time, and weather conditions. As with exhaust emissions, fugitive dust would only be generated during hours of operation.

Uncontrolled fugitive dust emissions would create localized clouds of dust that could impair air quality in the area surrounding the construction site, potentially affecting workers in the immediate breathing zone or reducing visibility. Therefore, several mitigation measures would be necessary to control impacts from particulate emissions. Control technologies for dust suppression (e.g., watering and/or chemical stabilization) would be utilized (i.e., mitigation measure 7-1, Section 2.3). Watering is the most common, the least expensive, and is environmentally preferred. An effective watering program can reduce dust emissions up to 80 percent. Using chemicals for long-term dust suppression can be used, but their cost and environmental effects to plant and animals can be detrimental factors. Thus, an effective watering program would be sufficient for dust control. Limiting traffic on dirt roads during construction would also help limit dust. Vehicle speed on the unpaved or roadless areas would also be limited to minimize entrainment of dust.

Transmission Line Operation

Following the construction and any subsequent reclamation activities, emissions of fugitive dust are expected to be negligible and sources of emissions would be limited to infrequent vehicle traffic necessary to conduct equipment inspections and necessary maintenance activities. Vehicle exhaust would be the primary emission from operation of the Proposed Project. Principal air resource impacts associated with the operational phase of the transmission system would occur only when the line is accessed for periodic maintenance checks or emergency repair. Vehicle emissions during operation would not be discernible from the emissions generated by normal vehicle usage in the area of the transmission line and would not contribute to regional air quality degradation. Furthermore, the Proposed

Project is far enough away from populated areas that no adverse affects to human health would be expected.

4.9.2 Cumulative Effects to Air Quality

There are no expected cumulative effects to Air Quality once construction is complete.

4.9.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

The project would conform to all rules and regulations as contained in IDAPA 58.01.01 as pertains to dust and pollutants.

4.9.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

There would not be any irreversible or irretrievable commitment of air resources. There will be roads initially bladed and then seeded over upon construction completion. These roads would be temporary and would be revegetated.

4.9.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, no new impacts to air resources would be expected. Continued power outages for McCall and the surrounding area due to lack of power capacity would force IPCo to fulfill the Purpose and Need of the Proposed Project as identified in Chapter 1 in another way that could result in greater short-term impacts, and future development within the existing utility corridor would still be likely. The existing transmission line would continue to be accessed for maintenance requiring occasional improvements and causing similar associated air impacts as the Proposed Action from exhaust emissions and fugitive dust. Short-term air impacts would also be likely to occur elsewhere under the No Action Alternative.

4.10 Health, Safety, and Noise

4.10.1 Direct and Indirect Effects of the Proposed Action

The direct effects associated with noise produced while operating a transmission line are limited to audible and radio noise. There are no identified indirect impacts from the 138kV transmission line and substation that can be attributed to noise. A discussion of both audible and radio noise from the 138kV transmission line is presented below.

Audible Noise

Concern about audible noise (AN) is related to negative impacts on humans and animals. Human response to noise is most commonly expressed as an annoyance and the level of annoyance may be affected by the intensity of the noise, its frequency (pitch), its duration of exposure and/or its recurrence.

The principal sources of ambient noise in rural and isolated settings are from wind, water, insects, birds, and other wildlife, highway traffic, occasional recreational users, and airplanes. In fair weather, these types of ambient noise, classified as "sounds of nature" or "man-made" (farm machinery, traffic, etc.), can create a masking effect. During rain conditions, the same rain condition that produces higher transmission line AN levels (than from a fair weather condition) also is responsible for higher ambient noise that can mask the AN from the power line.

Transmission lines generate a small amount of sound energy. The AN noise produced by corona from AC transmission lines is generally highest in fog or rain and decreases during fair weather. The AN from line sources is composed of two components: 1) A broadband (random) component characterized as having high frequency content (different from more common environmental noises), and 2) pure tone (hum) components, most noticeably second and fourth harmonics of the power frequency are superimposed on the broadband noise.

AN decreases with distance from a transmission line. Each transmission line phase conductor may be considered as a separate line source. Beyond a distance of approximately 50 feet from the outer phase conductor, this conductor would dominate and completely obscure the contributions of the other phase conductors. Overall, the attenuation of noise from the transmission line is somewhat greater than 3 dB per doubling of the distance from the transmission line.

The ROW distance for the 138kV transmission line is 100 feet or 50 feet from the center of the line to the edge of the ROW. The AN levels for this line are reported in terms of the L_{50} level (a sound level that is exceeded 50 percent of the time) under foul weather conditions. AN levels from the 138kV transmission line for fair weather conditions are an order of magnitude less than the foul weather AN levels and could not be detected by the human ear.

For line sections utilizing the H-frame design, the maximum audible noise level within the 138kV transmission line ROW is estimated to be an L_{50} AN level of 27.7 dBA. At the edge of the ROW (50 feet from center line), the L_{50} AN level is 24.8 dBA. For line sections utilizing the single pole design, the maximum audible noise level within the 138kV line ROW is estimated to be an L_{50} AN level of 33.4 dBA. At the edge of the ROW (50 feet from center line), the L_{50} AN level is 22.7 dBA.

Radio Noise

It has been estimated that over 90 percent of the radio interference (RI) complaints received by utilities where their power system is the cause is due to gap discharges. This is because the electromagnetic interference (EMI) magnitude of a single spark can be quite large, and it extends over a very wide frequency range. Gap discharges can be located and corrected when they cause nuisance EMI. Also, the EMI from gap discharges usually disappears during foul weather since moisture tends to short out the gap.

The RI level of the line at any particular location and measurement frequency varies based on many factors. The primary factors are weather conditions and time. In terms of the variation with time, RI is described in statistical terms and is typically denoted as the

percentage of the total time that the RI level is less than a certain level. For example, a RI level often referred to is the "50 percent fair weather level," meaning that the RI from the line can be expected to be less than this level for 50 percent of the total fair weather period. This is typically referred to as the RI L_{50} level.

The calculated RI levels are referenced to a measurement frequency of 1 MegaHertz (MHz). For line sections utilizing the wood H-frame design, the maximum L_{50} fair weather RI level in the ROW is 33.4 dBμv/m. The L_{50} fair weather RI level at the edge of the ROW is 22.7 dBμv/m. The maximum L_{50} fair weather RI level at 100 feet from the transmission centerline is 12.7 dBμv/m.

For line sections utilizing the Corten® steel single pole design, the maximum L_{50} fair weather RI level in the ROW is 38.0 dBμv/m. The L_{50} fair weather RI level at the edge of the ROW is 28.8 dBμv/m. The maximum L_{50} fair weather RI level at 100 feet from the transmission centerline is 18.7 dBμv/m.

The fair weather RI levels are well below the IEEE RN guideline of 40 dBμv/m at 100 feet from a transmission centerline as discussed in Section 3.10.1.

EMF

The presence of electric fields surrounding the transmission line presents the potential for induced current or spark discharge shocks between conductive objects within line's electric field. The potential for adverse effects to humans or livestock would be low due to several factors. Established ground-to-wire clearances limit electric field strength to levels which do not pose a significant hazard or nuisance. Due to electric field induction, IPCo will ground fences and metal buildings in the ROW, (fences that are parallel to the line outside of the ROW are dealt with on a case-by-case basis) as described in the POD/COM to eliminate these objects as sources of induced current and voltage shock. While mobile objects such as vehicles and other machinery cannot be grounded permanently, the NESC requires that sufficient conductor clearance be maintained to limit the induced short-circuit current in the largest anticipated vehicle under the line to 5 milliamperes (mA) or less. This would be accomplished by limiting access or by increasing conductor clearances in areas where large vehicles could be present. Power lines at electric generating plants can produce low frequency EMF that is strong enough to interfere with some models of pacemakers and defibrillators. Exposure guidelines developed by the American Conference of Governmental Industrial Hygienists (ACGIH) indicate that workers with cardiac pacemakers should not be exposed to a 60-Hz magnetic field greater than 1 gauss (1,000 mG) or a 60-Hz electric field greater than 1 kilovolt per meter (1,000 V/m). The electric and magnetic fields from the proposed transmission line would be well below these levels, and would not pose a health risk to individuals with pacemakers.

Magnetic fields associated with the transmission lines can also induce voltage and current in long conducting objects that are parallel to the transmission line. When grounded, objects such as irrigation pipes, pipelines, electric distribution lines, railroads or telephone lines, can form a conducting loop. The situation can become dangerous if only one end of such an object is grounded when an induced voltage appears across the open end of the loop. Electrical shock could occur if a person were to close the circuit by contacting both the ground and the conductor. Magnetic induction effects from the Proposed Project would

be effectively reduced or eliminated through mitigation measures such as appropriate grounding practices and maintenance of ground-to-wire clearances.

In 1992, the U.S. Congress authorized the Electric and Magnetic Fields Research and Public Information Dissemination Program (EMF-RAPID Program) in the Energy Policy Act (PL 102-486, Section 2118). The Congress instructed the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health and the Department of Energy to direct and manage a program of research and analysis aimed at providing scientific evidence to clarify the potential for health risks from exposure to extremely low frequency (ELF) EMF.

The 1999 NIEHS report states the following in its conclusion section:

> "The scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak. The strongest evidence for health effects comes from associations observed in human populations with two forms of cancer: childhood leukemia and chronic lymphocytic leukemia in occupationally exposed adults. While the support from individual studies is weak, the epidemiological studies demonstrate, for some methods of measuring exposure, a fairly consistent pattern of a small, increased risk with increasing exposure that is somewhat weaker for chronic lymphocytic leukemia than for childhood leukemia. In contrast, the mechanistic studies and the animal toxicology literature fail to demonstrate any consistent pattern across studies although sporadic findings of biological effects (including increased cancers in animals) have been reported. No indication of increased leukemias in experimental animals has been observed.
>
> The lack of connection between the human data and the experimental data (animal and mechanistic) severely complicates the interpretation of these results. The human data are in the "right" species, are tied to "real-life" exposures and show some consistency that is difficult to ignore. This assessment is tempered by the observation that given the weak magnitude of these increased risks, some other factor or common source of error could explain these findings. However, no consistent explanation other than exposure to ELF-EMF has been identified.
>
> Epidemiological studies have serious limitations in their ability to demonstrate a cause and effect relationship whereas laboratory studies, by design, can clearly show that cause and effect are possible. Virtually all of the laboratory evidence in animals and humans and most of the mechanistic work done in cells fail to support a causal relationship between exposure to ELF-EMF at environmental levels and changes in biological function or disease status. The lack of consistent, positive findings in animal or mechanistic studies weakens the belief that this association is actually due to ELF-EMF, but it cannot completely discount the epidemiological findings."

The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard.

4.10.2 Cumulative Effects from Noise

Noise resulting from the operation of transmission lines is not inherently cumulative over time. Modification to the 138kV transmission line such as the addition of future transmission lines, or upgrading to higher voltages and larger capacities may increase the noise levels produced by this line. However, the effects of these changes will have to be considered if/when modifications to the line are proposed.

4.10.3 Consistency of the Proposed Action with Forest Plan, Other Plans, and Laws

The proposed 138kV transmission line is within the boundaries of Management Area 3 – Weiser River. There are no specific guidelines for transmission line noise found in the PNF Forest Plan.

4.10.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

Both audible and radio noise generated by the operation of a transmission line are not irreversible or irretrievable. De-energization or removing the line from service will eliminate the noise that would be generated during the operation of the 138kV transmission line.

4.10.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, the 138kV transmission line would not be constructed or operated. As a result, there would be no increase in audible noise, radio noise, and impacts from EMFs. However, without the construction of the Proposed Project, McCall and surrounding areas will continue to be impacted due to current unreliable service, and increasing in energy demands and electrical loads. It should be noted that development of a different nature could occur. Depending on the location, type, and magnitude, impacts to health, safety and noise would be similar to or even greater than the Proposed Action.

4.11 Heritage Resources

The preferred option for addressing known heritage resource sites is to avoid disturbing or impacting sites evaluated as containing materials of importance. Sites in this category would include those listed on, eligible for listing on, or recommended for listing on the National Register of Historic Places (National Register). If avoidance of such sites is not possible, then measures to mitigate impacts would be developed.

4.11.1 Direct and Indirect Effects of the Proposed Action

Seven heritage resource sites and four isolated heritage resources within the 200-foot study corridor were previously determined to be eligible for inclusion in the National Register (**Table 3-14**). Six of the eligible sites are historic roads, all of which are still in use and four of which are maintained on a regular basis. The seventh site consists of the remains of an historic cabin located along an existing transmission line corridor. This site will be marked prior to construction, and as long as activities remain within the proposed disturbance area,

the site will not be affected. None of the new sites recorded during the 2004 inventory effort are recommended for inclusion in the National Register. Potential increased access to the area would not represent a significant impact to heritage resources.

4.11.2 Cumulative Effects to Heritage Resources

Impacts from natural decay, landscape changes, and various kinds of development activities potentially result in the loss of non-renewable heritage resources. Development activities of all kinds pose threats to heritage resources because such activities tend to be located in the same places that heritage resources are found, such as river terraces, ridge tops, saddles, or level areas in the landscape.

It is impossible to know how many heritage resources may have been originally located within the Proposed Project APE. Site impacts have likely resulted from construction of roads, highways, railroads, transmission lines, and various developments resulting from increased access to the area. Intensive heritage resource investigations and project mitigation measures have been implemented only since the 1970s in or near the Proposed Project.

4.11.3 Consistency of the Proposed Action with Forest Land, Other Plans, and Laws

PNF Forest Plan Direction

The following standards and guidelines provide direction regarding management actions and heritage resources:

> *Standard HPST01: Review undertakings that may affect cultural resources to identify impacts. Compliance with Sections 106 and 110 of the [National Historic Preservation Act] NHPA shall be completed before the responsible agency official signs the project decision document.*
>
> *Standard HPST02: Conduct cultural resources inventories in consultation with the appropriate Tribal and State Historic Preservation Offices and other individuals and organizations likely to have knowledge of historic properties in the area.*
>
> *Standard HPST03: Treat unevaluated cultural resource sites as significant until evaluated for National Register of Historic Places eligibility.*
>
> *Standard TRST01: Affected tribes shall be consulted prior to or during initial scoping of site-specific project proposals in order to identify tribal interests.*
>
> *Standard TRST05: Decisions for environmental documents shall demonstrate how tribal interests raised during consultation or scoping were considered.*
>
> *Standard TRST06: Management decisions affecting cultural resources important to tribes shall consider Indian values and perspectives, as mandated by Sections 106 and 110 of the NHPA.*

The initial step in complying with Heritage Program Standards was application for and receipt of a PNF Special Use Permit and a BLM Cultural Resource Use Permit. As part of the permitting process each agency undertook consultation with appropriate tribes, which also addresses the Tribal rights and Interests Standards. As mentioned previously, background research included review of earlier heritage resource inventories and site forms at the Idaho SHPO as part of the Section 106 process. A separate report will address the results of the background research, summarize previous inventories in or near the Proposed Project Area, and present the results of the heritage resource survey undertaken for the current project. To date, no tribal concerns have been raised regarding any of their interests in the Proposed Project Area.

BLM Resource Management Plan Direction

The BLM RMP contains the following guideline for cultural resources:

> *Cultural resource values discovered in a proposed work area will be protected by 1) redesigning or relocating the project;*
>
> *2) salvaging, through scientific methods, the cultural resource values pursuant to a SHPO agreement.*

This guideline would be adhered to as a mitigation measure in the event the Proposed Project and related actions cannot avoid heritage resources.

4.11.4 Irreversible or Irretrievable Commitment of Resources of the Proposed Action

IPCo will be advised how best to avoid impacting National Register heritage resource sites along the Proposed Project by a qualified archaeologist. In addition, unanticipated discoveries plans for discovery of heritage resources and discovery of human remains have been prepared and are included in the POD/COM. Irreversible or irretrievable commitment of cultural resources are not expected to occur.

4.11.5 Direct and Indirect Effects of the No Action Alternative

Under the No Action Alternative, the 138kV transmission line would not be constructed or operated. There would be no road construction or reconstruction activities; therefore, there would be no increased development activities and access near known heritage resource sites. However, without the construction of the Proposed Project, McCall and surrounding areas will continue to be impacted due to current unreliable service, and increasing in energy demands and electrical loads. It should be noted that development of a different nature could occur. Depending on the location, type, and magnitude, impacts to heritage resources would be similar to or even greater than the Proposed Action.

4.12 Evironmental Justice

Assessment Methodology

For this analysis, the criteria used for the identification of minority and low-income populations were as follows:

- A minority population exists where the percentage of minority persons for the given geographic unit is more than 20 percentage points higher than the percentage of minority persons for the referenced geographic unit, or where a minority population exists in any geographic unit where the number of minority persons exceeds 50 percent of the total population.
- A low-income population exists where the percentage of low-income persons for any given geographic unit is more than 20 percentage points higher than the percentage of low-income persons for the reference geographic unit, or where the number of low-income persons in the geographic unit exceeds 50 percent of the total population.

4.12.1 Direct and Indirect Impacts

Adams County has similar low-income and minority populations compared to the state as a whole. The county has a minority population approximately 7.5 percentage points lower than the state. Also Adams County's minority population is 3.2 percent of the total county population, which is well below the 50 percent threshold. Adams County had a low-income population approximately 3.3 percentage points higher than the state, but this too is well below the 20-point difference needed to identify Adams County as a low-income population. Also Adams County's low-income population as a percentage of total county population is 15.1 percent, well below the 50 percent threshold.

Washington County has similar low-income and minority populations compared to the state as a whole. The county has a minority population approximately 4.9 percentage points higher than the state. This is well below the 20-percentage point difference needed to identify Washington County as a minority population. Also Washington County's minority population is 15.6 percent of the total county population which is below the 50 percent threshold. Washington County had a low-income population approximately 1.5 percentage points higher than the state, but this too is well below the 20-point difference needed to identify Washington County as a low-income population. Also Washington County's low-income population as a percentage of total county population is 13.3 percent, well below the 50 percent threshold.

Most of study and surrounding area is sparsely inhabited. Proposed Project environmental effects would affect the area's population equally, without regards to ethnicity or income. Based on CEQ guidelines county population data previously presented, there are no high and adverse impacts that would result from construction and operation of the Proposed Project and no minority or low-income populations would be disproportionately affected from construction and operation of the Proposed Project. Therefore no further environmental justice analysis is required.

In consideration of impacts that may affect a cultural, historical, or protected resource of value to an Indian Tribe or minority population, even when the population is not concentrated in the vicinity, Section 3.11 Heritage Resources states that there are 11 previously recorded heritage sites that are located along, or intersect with, the Proposed Project, but none are Executive Order 13007 (Indian Sacred Sites) or traditional cultural properties (TCP). However, information on TCP's and sacred sites is obtained primarily through tribal consultation. As part of the heritage resources permitting process, the BLM

made contact with the Shoshone and Bannock tribes and the PNF made contact with the Nez Perce and Shoshone Tribes regarding any issues they might have for resources in the study area, and none have responded with any concerns.

4.12.2 Cumulative Impacts

Potential cumulative impacts on environmental justice as a result of the Proposed Project could occur if the Proposed Project produced environmental and health impacts similar to those that result from other activities on affected and adjacent lands in the vicinity. If these combined impacts were to result in impacts that would be high and adverse, environmental justice issues would arise if minority and low-income populations were affected disproportionately. Recommended mitigation measures and BMPs, however, should ensure that adverse impacts to populations are minimized. Therefore, cumulative impacts on environmental justice issues should be low.

4.12.3 Direct and Indirect Effects of the No Action Alternative

Census data for Adams and Washington Counties indicate that minorities comprise less than 16 percent of the total population and that less than 16 percent of the study area population lives below the poverty level. Accordingly, it appears that any Proposed Project alternative, including No Action Alternative, does not satisfy the criteria established by CEQ for a finding of Environmental Justice non-compliance.

Chapter 5
List of Preparers
(40 CFR Part 1502.17)

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Chapter 6
Agencies and Persons Consulted

In accordance with NEPA and the Council of Environmental Quality (CEQ) implementing regulations (40 CFR Part 1500 - 1508), a scoping process was developed for the Proposed Project to ensure that members of the public and federal, state, and local agencies were contacted, consulted, and given an adequate opportunity to be involved in the process. This chapter describes the agency scoping process and the issues and concerns identified.

6.1 Coordination with PNF and BLM

USFS and BLM staff met with IPCo and POWER Engineers, Inc., on three occasions to discuss the Proposed Project. Although the PNF served as the lead agency, representatives from both agencies attended the public open houses held in Cambridge, Council, and New Meadows. Phone conversations and e-mails occurred between POWER Engineers and the PNF and BLM to discuss the Proposed Project direction and agency involvement. Discussion topics included public involvement, project purpose and need, impacts, NEPA approach, alternative routes, and protection of sensitive biological, cultural, and human resources. Key issues identified during these meetings included recommendations for the following actions:

1. Consider all reasonable alternatives.
2. Avoid routing through anadromous fish habitat.
3. Avoid BLM designated sensitive areas (Goodrich Creek RNA).
4. Minimize impacts to visual resources.
5. Minimize construction of new roads.
6. Minimize impacts to wildlife, with key concerns focusing on the northern Idaho ground squirrel, bull trout, and anadromous fish species.
7. Consider appropriate mitigation measures to minimize impacts.

6.2 Agencies and Individuals Consulted

Table 6-1 lists individuals from federal, state and local agencies and organizations having jurisdiction and/or specific interests within the Proposed Project area. These individuals were contacted to inform them of the Proposed Project, to verify the status and availability of existing environmental data, to solicit their input during the initial routing study and EA scoping process, and to notify them of the open houses held in February 2003.

Table 6-1 Persons Consulted List

Name of Person Consulted	Title/Specialty Area
U.S. Forest Service	
Dan Anderson	*NEPA Coordinator*
Vincent Archer	*Soil Scientist*
Jeff Canfield	*Supervisory Forester*
Sylvia Clark	*Land Management Planning Specialist*
Ted Demetriades	*Forester-Inventories*
Michael Dixon	*Civil Engineer: Landslides, Road construction, Geology*
Mary Farnsworth	*District Ranger*
Joe Foust	*Wildlife Biologist*
Alma Hanson	*Botanist*
Vanessa Hawk	*Forestry Technician*
Dave Hogen	*Wildlife Biologist/Fisheries*
Jill Kemp	*Realty Specialist*
Larry Kingsbury	*Archaeologist Supervisor*
Faye Krueger	*Deputy Forest Supervisor*
Maura Laverty	*Rangeland Management Specialist*
Dean Martens	*Soil Scientist*
Brian McLaughlin	*Civil Engineer*
Mickey Pillers	*Data Base Manager*
Erin Rohlman	*Lands Forester*
Lonnie Schultz	*Wildlife Biologist*
Valerie Shaw	*Legal Assistant*
Pattie Soucek	*Forest Planner*
Curtis Spalding	*Acting Forest Planner*
Forrest Starkey	*Planning and Resource Information Management*
Mike Stayton	*Trails Coordinator*
Randy Zuniga	*Hydrologist*
Bureau of Land Management	
Daryl Albiston	*Four Rivers Field Manager (former)*
Tim Carrigan	*Wildlife Biologist*
Ann DeBolt	*Botanist*
Jim Johansen	*Associate Field Manager*
Pat Kane	*Weed Management Specialist*
Effie Schultsmeier	*Realty Specialist*
Dean Shaw	*Cultural Resources*
U.S. Fish and Wildlife Service	
Alison Beck-Haas	*Snake River Fish and Wildlife Office*
National Marine Fisheries Service, Idaho Habitat Branch	
Charley Rains	*National Fire Plan Biologist*
U.S. Army Corps of Engineers, Walla Walla District Headquarters	
Brad Daly	*Chief*
Duane Mitchell	*Regulatory Specialist*
Idaho Department of Fish and Game	
Jeff Rohlman	*Regional Wildlife Manager*
Don Wright	*Regional Supervisor, Southwest Region*
Idaho Department of Fish and Game – Conservation Data Center	
Angie Schmidt	Zoology Information Manager
George Stephens	Zoology Information Manager
Idaho Department of Water Resources	
Gene Gibson	*Water Resource Agent*

Idaho Department of Environmental Quality	
Charles Ariss, P.E.	*Engineering Regional Manager*
Idaho Department of State Lands	
Perry Whittaker	*Lands Real Estate Bureau Chief*
Sheldon Keafer	*Lands Area Supervisor*
Jay Sila	*Lands Resource Supervisor*
Idaho State Historical Society, Historic Preservation Office	
Susan Pengilly-Neitzel	*Compliance Coordinator and Deputy SHPO*
Idaho Department of Transportation (District 3)	
Robert Amoureux	*Principal Design*
Aaron Bauges	*Project Coordinator*
Jason Brinkman	*Design Group Manager*
Daris Bruce	*Project Manager*
Wade Christiansen	*Project Manager*
Joseph Haynes	*Project Engineer*
Katherine Porter	*Staff Engineer*
Felicia Statkus	*Project Engineer*
Valley County Planning and Zoning Department	
Cindy Herrick	*County Planner*
Valley County Board of County Commissioners	
Leland Heinrich	*County Commissioner*
Adams County Planning and Zoning Department	
Don Horton	*County Planning and Zoning Administrator*
Denny Minshall	*County Planning and Zoning (GIS)*
Washington County Planning & Zoning Department	
Wayne Laird	*County Planning and Zoning Administrator*
City of Council	
Ron Hasselstrom	*Public Works Supervisor*
Albertson College	
Dr. Eric Yensen	*Wildlife Biologist – Northern and Southern Idaho Ground Squirrel Specialist*
Idaho Power Company	
Tom Barber	*Project Leader*
Jerry Ellsworth	*Project Leader*
Mike Jacobs	*Right-of-Way Agent*
Jeff Lincoln	*Project Engineer*
Friends of the Weiser River Trail	
Shirley Atteberry	*Treasurer*

6.3 Tribal Governments Consulted

Contact with tribal governments occurred on a formal, government-to-government basis. The PNF and BLM utilized the "Wings and Roots" program and formal scooping letters in its consultation. The Wings and Roots program is utilized to facilitate formal dialogue between the BLM Boise District and the Dock Valley Shoshone-Paiute and Shoshone-Bannock tribes. The following tribal governments were contact through this process and formal scoping letters sent by the PNF and BLM:

- Umatilla Indian Tribal Council

- Nez Perce Tribal Council
- Burns Paiute Tribal Council
- Shoshone-Bannock Business Council
- Shoshone-Paiute Tribes
- Fort McDermitt Tribal Council

6.4 Public Scoping

Public scoping activities included three informal open houses presented in Cambridge, Council, and New Meadows in February 2003 followed in late August of 2003 by formal solicitation for written comments to the proposed route. The informal open houses were sponsored by IPCo and were held to provide information and solicit written and verbal feedback from concerned area residents and landowners on the results of the Cambridge to Council to McCall 138kV Transmission Line Routing Study Report conducted in 2002 to identify potential route options. Questionnaires were distributed during the open houses to solicit feedback on the various routing options. These questionnaires are archived in the Project Administrative Record. The information provided by the public through the open house and questionnaire process was used to develop the proposed route described in this EA. Once the proposed route was identified, the formal scoping process, in accordance with the NEPA regulations, was conducted. The formal scoping effort consisted of sending direct mailings to landowners in the vicinity of the proposed transmission line corridor, direct mailings to individuals who attended the open houses, and publishing a "Request for Comments" in the public notices section of the Idaho Statesman (August 31, 2003). **Table 6-2** provides a summary of the comments received during the formal scoping process and a reference to the chapter where the particular concern is addressed. Comments are paraphrased for clarity.

Table 6-2 Public Scoping Comments

Person or Agency	*Comment*	*Response and Section Where Addressed in this Document*
Lee Daniels – Landowner (via telephone conversation with Jill Kemp, PNF, 9/11/03).	Wants at least three alternatives; including 1) improve the Cambridge-Indian Valley-Council line; 2) improve the Oxbow-McCall line and have "shaded" fuels breaks (i.e., thinned and pruned); and 3) local, new, small hydropower close to existing power lines and solar development. Would like some of the line buried. Project should be part of relicensing of hydro projects in Hells Canyon. Commenter prefers steel towers. Suggests using helicopters to put in poles.	Chapter 2 describes the alternative development process and alternatives considered. Burying high voltage lines can incur costs of 6 to 10 times more than overhead lines. This Proposed Project is not related to the Hells Canyon relicensing project. Corten® steel towers will be used in the existing utility corridor on PNF lands and helicopters will be used to install poles in very steep terrain as described in Chapter 2.
Fred Glemser - Landowner (via telephone conversation with Jill Kemp, PNF, 9/8/03)	Commenter believes there should be majority approval of the proposed transmission line location.	No comment.
Ruth Herrington - Landowner	Objects to the Proposed Project due to 1) the hazard to wildlife caused by poles, lines, and maintenance on the roads; 2) erosion of soils caused by road construction. Commenter indicates that the needs of wildlife should be protected completely and that the project should be denied.	Wildlife and soils are discussed in Chapters 3.4, 3.5 and 4.4 and 4.5.
Harold Mackey - Landowner	Why cannot the existing line be upgraded? What is proposed to be done with the existing transmission line if the proposal for the new line is accepted?	Discussions of purpose and need and alternatives considered is provided in Chapters 1 and 2.

Person or Agency	Comment	Response and Section Where Addressed in this Document
Dean Martin - Landowner	The line will pass by commenter's property within ¼ to 3/8 of a mile on the south. The existing (Oxbow-McCall) line lies ½ to ¾ of a mile north of property. Commenter is burdened with two visual obstructions. He supports a route proposed by Mr. Ben White (who wrote to IPCo 9/12/03) to "*. . . bring the proposed line up the ridge on the west side of the West Fork of the Weiser River, utilizing the existing corridor from the point of intersection clear to the proposed North Council substation.*" Commenter also indicates concern regarding the humming noise from the existing line and indicates he has witnessed fires caused by it. Additional roads will create traffic due to recreation users or service to the line.	The route for the Proposed Project was selected after considerable discussion with local landowners (see this Chapter (Chapter 6) for discussion of scoping process) and all efforts were made to minimize impacts to private property. Noise and safety are discussed in sections 3.10 and 4.10. Construction specifications designed to mitigate the hazards caused by lightning strikes are discussed in Chapter 2. Land use impacts are described in section 4.1.
William Shore - Landowner	Believes this project is part of the overall Hells Canyon project and should not be ruled upon unilaterally. Should be part of the Hells Canyon relicensing application. IPCo has not addressed environmental impact on private ground to commenter's satisfaction. Invasive weeds will be a problem that may not be enforceable due to fragmented ownership along ROW. Commenter suggests storm proofing the line from Oxbow to Starkey and adding a second line to handle additional power along with upgrading the existing Hwy 95 power lines to boost the needed KW's.	See response to Lee Daniels. A Noxious Weed Control Plan is included in the Plan of Development. The alternative development process is discussed in Chapter 2.

Person or Agency	Comment	Response and Section Where Addressed in this Document
John Swanson - Landowner	The project will damage soil, water, wildlife, fish and plant resources and will impact the following areas: Upper portion of Trail Creek, Bayford Creek, and Filly Creek. Commenter suggests a biological resources study of the project.	These topics are discussed in Chapters 3 and 4. In addition to this document, separate biological assessments are being prepared for aquatic and terrestrial plants and animals.
Irene Victory – Packer Victory Family Heritage - Landowner	Commenter indicates that they are in approval of the project and that an EA should not be required. Commenter suggests encouraging IPCo to complete the work in 2004.	No comment.
Ben White - Landowner	Commenter indicates that proposed route would place poles within feet of his property on BLM lands on which he has a grazing permit. The line would be in view of his deck in two locations. Route will also pass within feet of a developed spring that provides water to animals. Believes that landowners bearing burden of line should not have to pay full cost for bringing power to their home.	IPCo responded to this comment in a personal letter dated October 24, 2003. Impacts to wildlife are discussed in section 4.4.

6.5 Public Review of the EA

Public review of the EA will be completed following the 30-day comment period. If no significant impacts are identified and the Proposed Project was approved, the PNF and the BLM would issue a Finding of No Significant Impact (FONSI) for public lands crossed by the Proposed Project. The Forest Service would issue a Decision Notice concurrently with the FONSI.

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Glossary

Cumulative Effects: The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions (40 CFR 1508.7).

Deadend: A location on a transmission line where the support structure is used to terminate the conductor run. Can also be the location where the transmission line changes direction (large angle) and two separate conductors are terminated at the structure.

Demand: The usage of power in a certain unit of time, e.g., kilowatt hours is a measure of power demand that is the number of kilowatts used in one hour.

Electric and Magnetic Fields (EMF): Invisible lines of force that surround any electrical device. Electric fields are produced by voltage and increase in strength as the voltage increases. Electric fields can be created by having conductors that are of different potentials in proximity to one another. For instance, an electric field exists around a transmission line because of the differing potentials of the transmission lines and the reference ground, earth. Magnetic fields result from the flow of current through wires or electrical devices and increase in strength as the current increases.

Goal: As Forest Plan management direction, a goal is a concise statement that helps describe a desired condition, or how to achieve that condition. Goals are typically expressed in broad, general terms that are timeless, in that there are no specific dates by which the goals are to be achieved. Goal statements form the basis from which objectives are developed (PNF, 2003).

Guideline: As Forest Plan management direction, a guideline is a preferred or advisable course of action generally expected to be carried out. Deviation from compliance does not require a Forest Plan amendment (as with a standard), but rationale for deviation must be documented in the project decision document (PNF, 2003).

Lek: A communal mating display and breeding ground used by greater sage-grouse and sharp-tailed grouse.

Load: The real-time usage of electric power, or a particular device (crane, elevator, pump, etc.) that is consuming power.

Looped Feed: An electric distribution system where the electric line is connected to two or more generation sources. Increased reliability due to multiple generation sources.

Megawatt: One million watts

Mitigation Measures: Modifications of actions that (1) avoid impacts by not taking a certain action or parts of an action in a given area of concern; (2) minimize impacts by limiting the degree or magnitude of the actions and its implementation; (3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action;

or (5) compensate for impacts by replacing or providing substitute resources or environments (PNF, 2003).

N-1 case: A contingency scenario in which a typical case is reviewed with one non-standard event-taking place. i.e., look at the normal operation of a facility and then apply the failure of one item.

Non-specular conductors: An electric conductor which has a finish that is dulled by sandblasting in order to reduce the reflectivity/glare of the conductor.

Objectives: As Forest's Plan management direction, an objective is a concise time-specific statement of actions or results designed to help achieve goals. Objectives form the basis for project-level actions or proposals to help achieve Forest goals. The time frame for accomplishing objective, unless otherwise stated, is generally considered to be the planning period, or the next 10 to 15 years. More specific dates are not typically used because achievement can be delayed by funding, litigation, environmental changes, and other influences beyond the Forest's control (PNF, 2003).

Point of Intersection: The point where a transmission line changes physical direction.

Radial Line: An electric distribution system where the electric line is connected to one generation source. If this one generation source is lost, electricity flow is interrupted.

Reconductor: The process of replacing existing transmission line wires with new wires and associated components to facilitate higher voltage capacities.

Running Angle: The location where a transmission structure allows the line to change direction without terminating the conductor (usually a small angle).

Standard: As Forest Plan management direction, a standard is a binding limitation placed on management actions. A project or action that varies from a relevant standard may not be authorized unless the Forest Plan is amended to modify, remove, or waive application of the standard (PNF, 2003).

Appendix A

Management Direction

Table A-1 Forest Wide Management Direction

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Management Direction for Threatened, Endangered, Proposed, and Candidate Species				
Standard	TEST02	III-11	For Forest-wide, watershed, or project-level Biological Opinions (BOs) and Biological Assessments (BAs) with letters of concurrence, requirements shall continue to apply until their expiration date unless these documents are specifically updated during further review with related regulatory agencies. Exception to this standard: The 1995 and 1998 Chinook and Steelhead BOs and 1998 Bull Trout BO are replaced by the BO for this Forest Plan revision (refer to page 4 of Chapter 3 of the 2003 LRMP).	This standard is noted and will be complied with.
Standard	TEST03	III-11	Design and implement projects to meet the terms of USFS approved portions of recovery plans. If a recovery plan does not yet exist, use the best information available (e.g., BAs, BOs, letters of concurrence, Forest Service-approved portions of Conservation Strategies) until a recovery plan is written and approved.	4.4.3
Standard	TEST04	III-11	Management actions that have adverse effects on Proposed or Candidate Species or their habitats, shall not be allowed if the effects of those actions would contribute to listing of the species as Threatened or Endangered under the ESA	4.2.3 4.4.3
Standard	TEST05	III-11	For management actions that include application of insecticides, herbicides, fungicides, or rodenticides, mitigation shall avoid or minimize adverse effects on TEPC species or their habitats.	4.2.3 4.4.3
Standard	TEST06	III-11	Management actions shall be designed to avoid or minimize adverse effects to listed species and their habitats.	4.2.3 4.4.3
Standard	TEST12	III-11	Mitigate, through avoidance or minimization, management actions within known nest or denning sites of TEPC species if those actions would disrupt reproductive success during the nesting or denning period. During project planning, determine sites, periods, and appropriate mitigation measures to avoid or minimize effects.	4.4.3
Standard	TEST13	III-12	Mitigate, through avoidance or minimization, management actions within known winter roosting sites of TEPC species if those actions would adversely affect the survival of wintering or roosting populations. During project planning, determine sites, periods, and	4.4.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			appropriate mitigation measures to avoid or minimize effects.	
Standard	TEST31	III-14	Adverse effects from new facilities to occupied TEPC plant habitat shall be avoided.	4.3.3
Standard	TEST32	III-14	When taking water from TEPC fish-bearing streams for roads and facility construction and maintenance activities, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch) or as determined through coordination with NMFS and/or USFWS.	4.2.3
Guideline	TEGU02	III-14	For proposed actions that may affect potential habitat of TEPC species, identify potential habitat and determine species presence within or near the project area. Document the rationale for not identifying potential habitat and determining species presence for TEPC species in the project record.	4.2.3 4.3.3
Guideline	TEGU03	III-14	Management actions in occupied Proposed or Candidate species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.	4.2.3 4.4.3
Guideline	TEGU06	III-14	Coordinate with Forest resource specialists to consider TEPC habitat needs when designing and implementing management activities that may affect EEPC species and their habitats.	4.2.3 4.4.3
Guideline	TEGU07	III-14	During site/project-scale analysis and review, a Forest botanist should review insecticide or herbicide spray plans and prescribed burning plans to determine whether effects to TEPC plant species and their pollinators should be mitigated, through avoidance or minimization.	4.4.3
Guideline	TEGU12	III-15	Where the authority to do so was retained, proposed or existing special use authorizations should be issued, re-issued, or amended upon expiration, only if adverse effects of the authorization on TEPC species can be minimized.	4.4.3
Guideline	TEGU13	III-15	To protect TEPC plant species and their occupied habitat, water supply points, service areas, and other needs for road and facility construction projects should be specified in project planning and used in project implementation.	4.3.3
Guideline	TEGU14	III-15	For watersheds with listed aquatic species, essential fish habitat, or designated critical habitat, transportation system design criteria for fish passage should be coordinated with NMFS	4.2.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			or USFWS, as appropriate.	
Management Direction for Soil, Water, Riparian, and Aquatic Resources				
Standard	SWST01	III-21	Management actions shall be designed in a manner that maintains or restores water quality to fully support beneficial uses and native and desired non-native fish species and their habitat, except as allowed under SWRA Standard #4 below. Use the Matrix located in Appendix C to assist in determining compliance with this standard.	4.2.3
Standard	SWST02	III-21	Management activities that may affect soil detrimental disturbance (DD) shall meet the following requirements: a) In an activity area where existing conditions of DD are below 15 percent of the area, management activities shall leave the area in a condition of 15 percent or less detrimental disturbance following completion of the activities; b) In an activity area where existing conditions of DD exceed 15 percent of the area, management activities shall include mitigation and restoration so that DD levels are moved back toward 15 percent or less following completion of he activities. To estimate soil DD, it is essential that he glossary definitions for *activity area*, *detrimental soil disturbance*, and *total soil resource commitment* (TSRC) are clearly understood.	4.5.3
Standard	SWST03	III-21	Management activities that may affect TSRC shall meet the following requirements: a) In an activity area where existing conditions of DD are below 5 percent of the area, management activities shall leave the area in a condition of 5 percent or less detrimental disturbance following completion of the activities; b) In an activity area where existing conditions of DD exceed 5 percent of the area, management activities shall include mitigation and restoration so that DD levels are moved back toward 5 percent or less following completion of he activities. To estimate soil DD, it is essential that he glossary definitions for *activity area*, *detrimental soil disturbance*, and *total soil resource commitment* (TSRC) are clearly understood.	4.5.3
Standard	SWST04	III-22	Management actions will neither degrade nor retard attainment of properly functioning soil, water, riparian, and aquatic desired conditions, except: a) Where outweighed by demonstrable short- or long-term benefits to watershed resource conditions; or b) Where the USFS has limited authority (e.g., access roads, hydropower, etc.). In these cases, the USFS shall work with	4.2.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			permittee(s) to minimize the degradation of watershed resource conditions. Use the Matrix located in Appendix C to assist in determining compliance with this standard.	
Standard	SWST07	III-22	Within legal authorities, ensure that new proposed management activities within watersheds containing 3039d) listed water bodies improve or maintain overall progress toward beneficial use attainment for pollutants that led to the listing.	4.2.3
Standard	SWST08	III-22	Fish passage shall be provided at all proposed and reconstructed stream crossings of existing and potential fish bearing streams unless protection of pure-strain native fish enclaves from competition, genetic contamination, or predation by exotic fish is determined to be an overriding management concern.	4.2.3
Standard	SWST10	III-22	Trees or snags that are felled within RCAs must be left unless determined not to be necessary for achieving soil, water, riparian, and aquatic desired conditions. Felled trees or snags left in RCAs shall be left intact unless resource protection (e.g., the risk of insect infestation is unacceptable) or public safety requires bucking them into smaller pieces.	4.2.3
Standard	SWST11	III-22	Do not authorize storage of fuels and other toxicants or refueling within RCAs unless there are no other alternatives. Storage of fuels and other toxicants or refueling sites within RCAs shall be approved by the responsible official and have an approved spill containment plan commensurate with the amount of fuel.	4.2.3
Standard	SWST12	III-23	Site-specific analysis or field verification of broad-scale landslide-prone models shall be conducted in representative areas that are identified as landslide prone during site/project-scale analysis involving proposed management actions that may alter soil-hydrologic processes. Based on the analysis findings, design management actions to avoid the potential for triggering landslides. Refer to the *Implementation Guide for Management on Landslide and Landslide Prone Areas*, located in Appendix C to help determine compliance with this standard.	4.6.3
Guideline	SWGU02	III-23	When doing fine-scale assessments, the Matrix in Appendix C should be used to assist in establishing reference and current conditions. Based on a comparison of current and desired conditions, identify management opportunities	This will be included in the Biological Assessment for Aquatic Resources.

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			for watershed and aquatic restoration.	
Guideline	SWGU03	III-23	Where proposed management actions may alter soil-hydrologic processes, representative sample of landslides and landslide-prone areas should be field-verified to identify and interpret controlling and contributing factors of slope stability. Integrate the resulting information with supporting data to provide a final stability assessment and identification of appropriate land management actions in landslide and landslide-prone areas. Refer to the *Implementation Guide for Management on Landslide and Landslide Prone Areas*, located in Appendix C.	4.6.3
Guideline	SWGU04	III-23	General Field Verification Procedures for Landslides and Landslide-Prone Areas: Six major groups of known characteristics should be investigated to supply information adequate to characterize unstable conditions. These are: g) Landform; h) Overburden; i) Geological processes on the hill slope; j) Bedrock lithology and structure; k) Hydrology; l) Vegetation. Refer to the *Implementation Guide for Management on Landslide and Landslide Prone Areas*, located in Appendix C.	4.6.3
Guideline	SWGU05	III-23	After completion of ground-disturbing activities in a watershed, the minimum ground cover should be sufficient to prevent erosion from exceeding the range of soil erosion rates that are characteristic of the local soil type, landform, climate, and vegetation of the area, or the soil-loss tolerance.	4.5.3
Guideline	SWGU07	III-24	Projects in watersheds with 303(d) listed water bodies should be supported by the appropriate scale and level of analysis sufficient to permit an understanding of the implications of the project within the larger watershed context.	4.2.3
Guideline	SWGU08	III-24	Proposed actions analyzed under NEPA should adhere to the State Nonpoint source Management Plan to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act.	4.2.3
Guideline	SWGU09	III-24	Project proposals that may affect water quality should answer the 11 questions outline in the Idaho Nonpoint Source Management Plan (or as updated) to achieve federal consistency with the Clean Water Act as implemented by the state.	4.2.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Guideline	SWGU11	III-24	Transport hazardous materials on the Forest in accordance with 49 CFR 171 in order to reduce the risk of spills of toxic materials and fuels during transport through RCAs.	4.2.3
Guideline	SWGU12	III-24	During site/project-scale analyses, habitat should be determined for sensitive aquatic species within or near the project area. Surveys to determine presence should be conducted for those species with suitable habitat. Document the rationale for not conducting surveys for other species in the project record.	4.2.3
Management Direction for Wildlife Resources				
Standard	WIST01	III-26	Maintain at least 20 percent of the acres within each forested PVG found in a watershed (5th field HU) in large tree size class (medium tree size class for PVG 10, persistent lodgepole pine). Where analysis of available datasets indicates that the larger tree size class (medium tree size class in PVG 10) for a potential vegetation group in a watershed (5th field HU) is less than 20 percent of the total PVG acres, management actions shall not decrease the current area occupied by the large tree size class, except when: a) Fine or site/project scale analysis indicates the quality or quantity of large tree size class for a PVG within the 5th field HU would not contribute to habitat distribution or connective corridors for TEPC S and MIS species in short or long-tern *and* b) Management actions that cause a reduction in the area occupied by the large tree size class would not degrade or retard attainment of desired vegetation conditions in the short or long-term as described in Appendix A, including snags and coarse woody debris.	4.4.3
Standard	WIST02	III-27	Design and implement projects within occupied habitats of Sensitive species to help prevent them from becoming listed. Use USFS-approved portions of the Conservation Strategies and Agreements, as appropriate, in the management of Sensitive species habitat to keep management actions from contributing to a trend toward listing for these species.	4.4.3
Standard	WIST03	III-27	Mitigate management actions within known nesting or denning sites of MIS or Sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Sites, periods, and	4.4.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			mitigation measures shall be determined during project planning.	
Standard	WIST04	III-27	Mitigate management actions within known winter roosting sites or hibernacula (bats) of Sensitive species if those actions would measurably reduce the survival of wintering or roosting populations. Sites, periods, and mitigation measures will be determined during project planning.	4.4.3
Standard	WIST05	III-27	In goshawk territories with known active nest stands, identify alternate and replacement nest stands during project-level planning when it is determined that the proposed activity is likely to degrade nest stand habitat.	4.4.3
Standard	WIST06	III-27	Mitigate human-caused disturbances within winter/spring ranges if disturbances cause displacement of wildlife while they are occupying those ranges.	4.4.3
Guideline	WIGU05	III-27	During site/project-scale analysis, habitat should be determined for MIS or Sensitive wildlife species within or near the project area. Surveys to determine presence should be conducted for those species with suitable habitat. Document the rationale for not conducting surveys for MIS or Sensitive species in the project record.	4.4.3
Guideline	WIGU06	III-27	Management actions in occupied Sensitive species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.	4.4.3
Guideline	WIGU07	III-27	Use appropriate research to help define active, alternate, and replacement nest stands for goshawks, and configuration of post-fledging areas.	4.4.3
Guideline	WIGU11	III-28	Management actions should neither degrade or retard attainment of winter range desired conditions except where outweighed by demonstrable short- or long-term benefits to winter range or where the Forest Service has limited authority.	4.4.3.
Guideline	WIGU12	III-28	Calving and fawning areas should be protected from project-related disturbance during big game calving or fawning. Calving/fawning areas and periods should be determined during site/project-level planning.	4.4.3
Guideline	WIGU13	III-28	To address big game vulnerability to mortality, components of habitat security should be identified and managed during project planning and implementation. Management requirements or mitigation measures needed to maintain these	4.4.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			components should be determined during site/project-level planning. Consider components such as big game wallows and leks, public access, wildlife travel routes, created openings, meadows, forested stringers, and winter/spring ranges.	
Guideline	WGUI14	III-28	To address big game stress and exposure during critical wintering periods, thermal cover components on winter/spring ranges should be identified and managed during project planning and implementation. Management requirements or mitigation measures needed to maintain these components should be determined during site/project-level planning. As a general guideline, at least 15 percent thermal cover should be retained on big game winter ranges where this cover presently exists. Cover should be maintained in at least 30-acre patch sizes where available. Thermal and hiding cover may or may not occur on the same acres.	4.4.3
Management Direction for Vegetation				
Standard	VEST01	III-30	The activity area shall be used to assess snag and coarse wood conditions for vegetative management actions.	N/A
Guideline	VEGU01	III-31	During site/project-scale analysis, tradeoffs in the achievement of one or more of the vegetative components described in Appendix A may need to be considered. Current conditions of the vegetation may necessitate the need to move one component away from the desired condition in order to move another one toward the desired condition. In these situations, decisions should be based not only on which vegetative component is important to emphasize at any point in time to meet resource objectives, but also how to effectively move all components toward their desired condition over the long-term.	N/A
Guideline	VEGU03	III-31	When coarse woody debris (CWD) in the larger size classes (>15" diameter) is not available for retention in an activity area, smaller size classes (<6" diameter) may or may not be utilized to meet desired tonnage levels described in Appendix A. Decisions on the amount of CWD in smaller classes that are retained, whether the larger size classes are available or not, should be based on the level of fire hazard risk that can be reasonably assumed in light of management objectives. Risk as it relates to both the activity area and adjacent areas should be considered.	N/A

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Management Direction for Botanical Resources				
Standard	BTST01	III-33	Management actions that occur within occupied sensitive plant species habitat must incorporate measures to ensure habitat is maintained where it is within desired conditions, or restored where degraded.	4.3.3
Standard	BTST04	III-33	For projects or activities that include application of insecticides, herbicides, fungicides, or rodenticides, degrading effects on sensitive plant species will be mitigated.	4.3.3
Standard	BTST05	III-33	In revegetation and seeding projects in occupied sensitive plant habitat, a Forest botanist shall be consulted to ensure appropriate species are used.	4.3.3
Guideline	BTGU01	III-34	For site/project-scale analysis, suitable habitat should be determined for Sensitive species within or near the Proposed Project area. Conduct surveys for those species with suitable habitat to determine presences. Document the rationale for not conducting surveys for other species in the project record.	4.3.3
Guideline	BTGU02	III-34	During site/project-scale analysis and review, a Forest botanist should review insecticide or herbicide spray plans and prescribed burning plans to determine whether degrading effects to Sensitive and forest Watch plants and their pollinators should be mitigated.	4.3.3
Guideline	BTGU03	III-34	When available and not cost-prohibitive, seeds and plants used for seedings and plantings in revegetation projects should originate from genetically local sources of native species. When project objectives justify the use of non-native plant materials, documentation explaining why non-natives are preferred should be part of the project planning process.	4.3.3
Guideline	BTGU05	III-34	Coordinate with Forest botanists to consider sensitive species habitat needs when designing and implementing management activities that may affect these species or their habitats.	4.3.3
Management Direction for Non-Native Plants				
Standard	NPST02	III-36	All seed used on National Forest System lands will be certified to be free of seeds from noxious weeds listed on the current *All States Noxious Weeds List.*	4.3.3
Standard	NPST03	III-36	To prevent invasion/expansion of noxious weeds and invasive plants, the following provisions will be included in all special use authorizations, timber sale contracts, service contracts, or operating plans where land-disturbing activities	4.3.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			are associated with the authorized land use (additional direction may be found in timber ale and service contract provisions and in Forest Service handbooks): a) Re-vegetate 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 revegetation in preventing the invasion or expansion of noxious weeds and invasive plants. Potential areas would include: construction and development sites, underground utility corridors, skid trails, landings, firebreaks, slides, slumps, temporary roads, cut and fill slopes, and traveled ways 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 contacted after a WFSA/WFIP has been completed.	
Standard	NPST04	III-36	Contractors, with the exception of fire suppression prior to completion of WFSA/WFIP, 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.	4.3.3
Standard	NPST06	III-36	Materials such as hay, straw, or mulch that are used for rehabilitation and reclamation activities shall be free of noxious weed seed, and shall comply with the 1995 weed-free forage special order against use of non-certified hay, straw, or mulch. Materials that are not covered under a weed seed free certification, and that have the potential to contain noxious weed seed, shall be inspected and determined to be fee of weed seed before purchase and use.	4.3.3
Standard	NPST10	III-37	Projects that may contribute to the spread or establishment of noxious weeds and invasive plants shall include measures to reduce the potential for spread and establishment of noxious	4.3.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			weed infestations.	
Standard	NPST12	III-37	Implement the Forest Noxious Weed Management Plan upon completion.	4.3.3
Guideline	NPGU03	III-37	Identify areas with extensive noxious weed infestation where precautionary actions are necessary when planning and implementing management activities. In areas of extensive weed infestations, designated wash sites should be established as part of project planning. Wash sites should be located: (1) where they are easily accessible and useable, (2) on gravelly or we-drained soils, (3) where wash water runoff will not carry seeds away from site, (4) where wash water runoff will not directly enter streams, and (5) where they may be used repeatedly for several projects or activities within the area.	4.3.3
Guideline	NPGU04	III-37	Where feasible and practical, weed-free locations should be selected for incident camps, staging, cargo loading, drop points, helibases, and parking areas.	4.3.3
Management Direction for Lands and Special Uses				
Standard	LSST06	III-54	Do not accept special-use authorization applications that do not meet special-uses proposal screening and application criteria, as presented in 36 CFR 251.54.	4.1.3
Standard	LSST07	III-54	New authorized facilities shall be located outside of RCAs wherever possible. When new facilities must be located in RCAs, they shall be developed such that degrading effects to RCAs are mitigated, through avoidance or minimization.	4.1.3 4.2.3
Standard	LSST09	III-54	This standard suggests preference be given to analysis and approval of authorizations for new ROWs or other utility-related facilities requested within existing utility corridors. Proposals for utility ROWs outside designated corridors shall be considered after improvement of existing facilities to accommodate expanded use is analyzed.	4.1.3
Guideline	LSGU03	III-55	Necessary rights for county roads, state highways, and major utility improvements should be conveyed when such conveyances are in the long-term interest of management of the National Forest and in the public interest.	4.1.3
Guideline	LSGU16	III-56	The 1993 Western Regional utility Corridor Study, or its successors, should be used as a reference document or guide when considering land use decisions that may affect existing and/or	4.1.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			proposed major electric power utility corridors.	
Goal	LSGO04	III-52	Proposed special uses of national Forest System lands – such as hydroelectric development, communication sites, water developments, and utility corridors – are considered that meet public needs, are consistent with direction for other National Forest resources, and cannot be accommodated off the National Forest.	1.2 describes the Proposed Project's purpose and need.
Objective	LSOB04	III-53	Acquire and grant rights of way that meet resource access needs of the Forest Service, public users, and cost-share cooperators.	1.2 describes the Proposed Project's purpose and need.
Objective	LSOB09	III-53	Continue working with utilities and others to identify potential areas for additional designated utility and communication facilities.	2.2 describes the proposed location within an existing PNF utility corridor.
Management Direction for Facilities and Roads				
Standard	FRST02	III-59	To accommodate floods, including associated bedload, and debris, new culverts, replacement culverts, and other stream crossings shall be designed to accommodate a 100-year flood recurrence interval unless site-specific analysis using calculated risk tools or another method, determines a more appropriate recurrence interval.	The stream crossing specifications will be included in the POD/COM and will conform with all PNF standards, guidelines, and policies.
Standard	FRST04	III-59	Roads shall be constructed to a standard appropriate to their intended use, considering safety and concerns for resource degradation.	The raod specifications will be included in the POD/COM and will conform with all PNF standards, guidelines, and policies
Standard	FRST05	III-59	Mitigate handling of road waste material (e.g., slough, rocks) to avoid or minimize delivery of waste material to streams that would result in degradation of soil, water, riparian, and aquatic resources.	4.2.3
Guideline	FRGU01	III-59	To protect soil, water, and riparian resources, and their occupied habitat, water supply points, service areas, and other needs for road and facility construction projects should be specified in project planning and used in project implementation.	4.2.3
Guideline	FRGU02	III-60	In areas of existing extensive infestation, mitigation for noxious weed prevention should be incorporated into road layout, design, and project alternative evaluation.	4.3.3
Guideline	FRGU03	III-60	Prior to decommissioning roads, opportunities related to those roads for potential development or use as travel routes for ATVs, mountain bikes,	Road decommissioning specifications will be included in the

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
			or other alternative forms of transportation, should be considered.	POD/COM and will conform with all PNF standards, guidelines, and policies
Guideline	FRGU05	III-60	Where practical alternatives exist, roads in RCAs that are degrading riparian-dependent resources should be evaluated for obliteration or relocation.	4.2.3
Guideline	FRGU06	III-60	New roads and landings should be located out of RCAs wherever possible. When new roads or landings must be located in RCAs, they should be developed such that degrading effects to RCAs are mitigated.	4.2.3
Guideline	FRGU11	III-60	Where opportunities to mitigate facilities and road management practices causing degradation have been identified, consider mitigating through measures such as relocation, closure, and changes in management strategy, alteration, or discontinuance.	4.2.3
Management Direction for Recreation Resources				
Guideline	REGU06	III-65	When proposed management actions may affect dispersed recreation sites, those potential effects should be evaluated during project-scale analysis.	4.1.1
Guideline	REGU13	III-65	Facilities identified as necessary should blend with the surrounding landscape character and the Recreation Opportunity Spectrum (ROS) setting.	4.1.1
Guideline	REGU23	III-66	Damage to or loss of Forest System trails from timber harvest, livestock grazing, road construction, mining, special uses, and prescribed fire activities should be repaired or mitigated by the appropriate party.	4.1.1
Guideline	REGU26	III-66	Protection measures for National Forest System trails should be included in all timber sale contracts, annual operating plans for grazing, mining, and special use authorizations, and prescribed fire implementation documents.	4.1.1
Management Direction for Scenic Environment				
Standard	SCST01	III-67	All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map.	4.7.3
Guideline	SCGU02	III-67	Duration of visual impacts from ground disturbing and vegetation removal activities to allow for herbaceous vegetative recovery of ground cover may extend to three years in fgR, fgPR, mgR, and mgPR. Consider timely initiation of reseeding in areas where natural recovery is questionable.	2.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Guideline	SCGU07	III-68	In fgR, roads should only be visible for a short distance from the sensitive travel way or use area. Other visible temporary excavation could occur providing the area is graded and natural-appearing contours are re-established within the same year and revegetation is initiated.	4.7.3
Guideline	SCGU08	III-68	There should be minimal distraction from scenic quality in fgPR and mgR from road construction, reconstruction, and other excavation management.	4.7.3
Guideline	SCGU09	III-68	Roads and other excavation may be visible in mgPR and bgPR, but should blend into the characteristic landscape of the surroundings.	4.7.3
Guideline	SCGU10	III-68	Roads and other excavation within the visual zone may dominate fgM and mgM landscapes, but their visual characteristics should be those of natural occurrences within the surrounding area. Efforts should be made to reduce sharp contrasts at any distance.	4.7.3
Guideline	SCGU11	III-68	Roads and other excavation may dominate MM views. When viewed as background, the visual characteristics should be those of natural occurrences within the surrounding area. Efforts should be made to reduce sharp contrasts at any distance.	4.7.3
Guideline	SCGU13	III-68	When a structure or facility is created for other than public use, the materials, color, and location should be chosen to reduce visual contrast of the structure.	4.7.1
Guideline	SCGU14	III-68	The use of natural or neutral colors and non-reflective surfaces should be considered for structures. An exception to this would be when the function of the structure is to be seen.	4.7.1
Guideline	SCGU15	III-68	Natural or neutral colors should be used to help structures blend with the landscape.	4.7.1
Management Direction for the Heritage Program				
Standard	HPST01	III-70	Review undertakings that may affect cultural resources to identify potential impacts. Compliance with Sections 106 and 110 of the NHPA shall be completed before the responsible agency official signs the project decision document.	4.11.3
Standard	HPST02	III-70	Conduct cultural resource inventories in consultation with the appropriate Tribal and State Historic Preservation Offices and other individuals and organizations likely to have knowledge of historic properties in the area.	4.11.3

Forest-Wide Management Direction				
Type	**Number**	**Page in Forest Plan**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Standard	HPST03	III-70	Treat unevaluated cultural resource sites as significant until valuated for national Register of Historic Places eligibility.	4.11.3
Management Direction for the Tribal Rights and Interests				
Standard	TRST01	III-72	Affected tribes shall be consulted prior to or during initial scoping of the site-specific project proposals in order to identify tribal interests.	4.11.3
Standard	TRST04	III-72	During project planning, affected tribes shall be consulted regarding opportunities for restoration, enhancement, and maintenance of native plant communities that are of interest to tribes when proposed activities may affect those plant communities.	4.11.3
Standard	TRST05	III-72	Decisions for environmental documents shall demonstrate how tribal interests raised during consultation or scoping were considered.	4.11.3
Standard	TRST06	III-72	Management decisions affecting cultural resources important to tribes shall consider Indian values and perspectives, as mandated by Section 106 and 110 of the NHPA.	4.11.3
Guideline	TRGU02	III-72	Consider opportunities for protection or enhancement of culturally significant plants that are known to occupy the project area and that the Tribes have identified during project scoping or consultation.	4.11.3

Source: U.S. Department of Agriculture, Forest Service (2003). Payette National Forest *Land and Resource Management Plan,* Revised July 2003.

Table A-2 Management Area 3 Management Direction

Management Area 3 Management Direction				
Type	**Number**	**Page in LRMP**	**Direction Description**	**Section where addressed in this Environmental Assessment**
Management Prescription Category 5.1				
Road Guideline	0311	III-130	Road construction or reconstruction may occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty, or c) To achieve restoration and maintenance objectives for vegetation, water quality, aquatic habitat, or terrestrial habitat, or d) To support management actions taken to reduce wildfire risks in wildland-urban interface areas; or e) To meet access and travel management objectives.	2.2.2
Management Prescription Category 6.1				
Road Guideline	0317	III-131	Same as Road Guideline 0311 above.	2.2.2
Wildlife Resources Standard	0339	III-132	The northern Idaho ground squirrel will receive priority consideration for all management activities that occur within their known occupied habitat. The intent of this standard is not to exclude all other activities within this habitat, but rather to reduce or minimize potential impacts to this species while emphasizing habitat improvement within and adjacent to known sites.	4.4.1
Wildlife Resources Guideline	0341	III-133	An increase in the white-headed woodpecker or flammulated owl habitat may be achieved by the following methods: a) Reducing tree densities and ladder fuels under and around existing large Ponderosa trees and snags to reduce the risk of tree-replacing fire and to restore more open canopy conditions. b) Managing the firewood program to retain large-diameter Ponderosa pine and large snags of other species through signing, public education, size restriction, area closures, or other appropriate methods.	N/A

Type	Number	Page in LRMP	Direction Description	Section where addressed in this Environmental Assessment
Lands and Special Uses Guideline	0390	III-137	Give preference to analysis and approval of authorizations for new rights-of-way or other utility-related facilities requested within these areas: Oxbow – McCall power line corridor, Council – Cuprum Road corridor, State Highway 71 corridor, and Cambridge – New Meadows power line corridor.	Comment noted.

Source: U.S. Department of Agriculture, Forest Service (2003). Payette National Forest *Land and Resource Management Plan,* Revised July 2003.

Table A-3 BLM Management Direction

Page in RMP	Resource Management Guideline	Section where addressed in this Environmental Assessment
Utility Specific Guidelines		
43	Rights of way, under Title V of FLPMA, will be considered in the Cascade Resource Area except where specifically identified in the RMP for avoidance. Future locations for ROWs will be encouraged within or adjacent to existing ROWs as much as possible. New sites will be considered if there is a demonstrated need and the resource conflicts are low or can be mitigated.	4.1.3
60	Generally, public lands may be considered for the installation of public utilities, except where expressly closed by law or regulation. Project approval will be subject to preparation of an environmental assessment or environmental impact statement.	4.1.3
Soil, Water, and Air		
44	Soils will be managed to maintain productivity and to minimize erosion. Project level planning will consider the sensitivity of soil, water, and air resources in the affected area on a site-specific basis.	4.5.3
45	Water quality will be maintained or improved in accordance with State and Federal standards.	4.2.3
45	Management actions within floodplains and wetlands will include measures to preserve, protect, or restore their natural functions of water storage, groundwater recharge, fish and wildlife values, and water quality.	4.2.3
Threatened, Endangered, Candidate, and Sensitive Plants		
48	Projects proposed in areas with known sensitive plants will include mitigating measures to protect the plants.	4.3.3

Page in RMP	Resource Management Guideline	Section where addressed in this Environmental Assessment
Wildlife		
48	In crucial wildlife habitats (winter ranges, raptor nest sites, strutting grounds, fawning habitat, etc.), major construction and maintenance work will be scheduled to avoid or minimize disturbance to wildlife. (Area and time stipulations are provided on page 49 of the RMP).	4.4.3
50	The construction of new roads into crucial wildlife habitat will be avoided. Permanent or seasonal road closures may be instituted where problems exist or are expected.	4.4.3
50	Areas disturbed during construction activities will be rehabilitated. Seedings will incorporate a mixture of plants adaptable to the site and beneficial to wildlife.	4.4.3
51	Where applicable, "Guidelines for Habitat Protection in Sage-grouse Range" and "Sage-grouse Management Practices" (Technical Bulletin No. 1) – Western States Sage-grouse Committee, June 1974, and 1982 respectively, will be followed. Also, "Habitat Requirements and Management Recommendations for Sage-grouse" Technical Note (USDS, BLM 1974) will be followed where applicable.	4.4.3
Riparian and Aquatic Habitat		
52	Provide a minimum 100-foot riparian buffer zone from the edge of any riparian habitat to protect riparian vegetation, fisheries, and water quality. Utilize this zone for the general exclusion of the following activities: New road construction that parallels streams – use best management practices when construction cannot be avoided; timber harvest activities; spraying of herbicides and pesticides; and gravel extraction. Utilize a 500-foot buffer zone from the edge of any riparian habitat, for the total exclusion of the following activities: Oil and gas development; introduction of chemical toxicants or sediments as a result of construction, agriculture, or mining.	4.2.3
52	Avoid construction activities that remove or destroy riparian vegetation and instream fish cover.	4.2.3
53	In all activities including maintenance of roads, and other facilities follow the guidelines outlined in the best management practices manual for management and protection of western stream ecosystems (American Fisheries Society, 1982).	4.2.3
53	In those areas where fishery/riparian values are identified as high priority habitats such as perennial/ intermittent streams with high potential, habitats with game species or "species of special concern," areas of high public visibility, unique or previous undisturbed habitats, and those habitats with high management potential, all other management practices will be designed to maintain the integrity of or improve those habitats.	4.2.3
Cultural Resources		
55	Cultural resource values discovered in a proposed work area will be protected by adhering to the following methods: Redesigning or relocating the project; salvaging, through scientific methods, the cultural resource values pursuant to a State Historic Preservation Office (SHPO) agreement.	4.11.3

Page in RMP	Resource Management Guideline	Section where addressed in this Environmental Assessment
Paleontological Resources		
58-59	Paleontologic resources will be managed to protect and maintain or enhance sites or areas for their scientific and educational values. This will include [re]viewing all EAs and CERs to determine if actions impact paleontologic resources. A bibliographic research will be made to help in determining the importance of the various paleontologic sites within the resource area.	4.6.3
Visual Resource Management		
59	The degree of alterations to the natural landscape will be guided by the criteria established for the four Visual Resource Management Classes as outline in BLM 8400. VRM Classes will be managed as shown on Map #3-8 (in the RMP).	4.7.3
Forest Management		
59	All roads will be rehabilitated by outsloping, waterbarring, or seeding.	2.3
59	Roads will be closed in crucial wildlife areas.	4.4.3
59	Undergrowth will be left as intact as possible.	2.3, 4.4.3
59	Maintain snag trees in timbered areas to the greatest extent practical to provide habitat for cavity nesting birds and other snag dependent species.	4.4.3

Appendix B

Access Road Location Maps

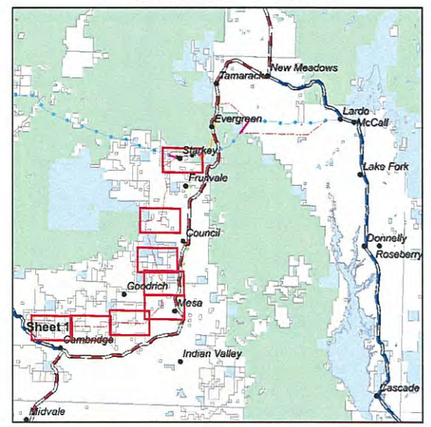
Figures 2-4 – 2-11

Access Roads on BLM Lands

15N03W

Horse Flat Substation

Sheet 1 of 8



Location Key

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Proposed New Roads - to be built as class 2 access roads.

New 138kV transmission line route

Existing 230kV transmission line

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

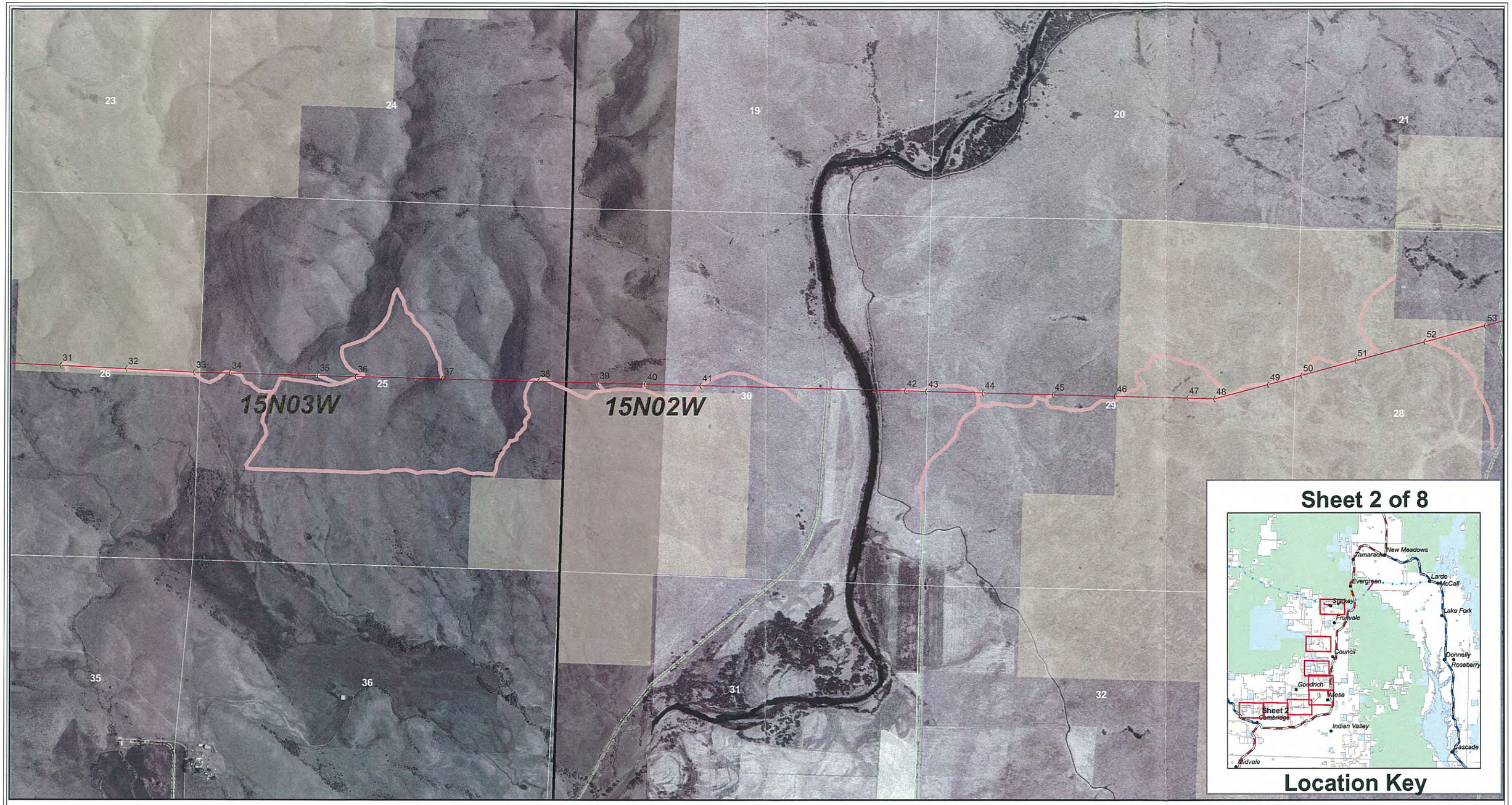
IDAHO POWER

Figure 2-4

POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja



Sheet 2 of 8

Location Key

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Proposed New Roads - to be built as class 2 access roads.

New 138kV transmission line route

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

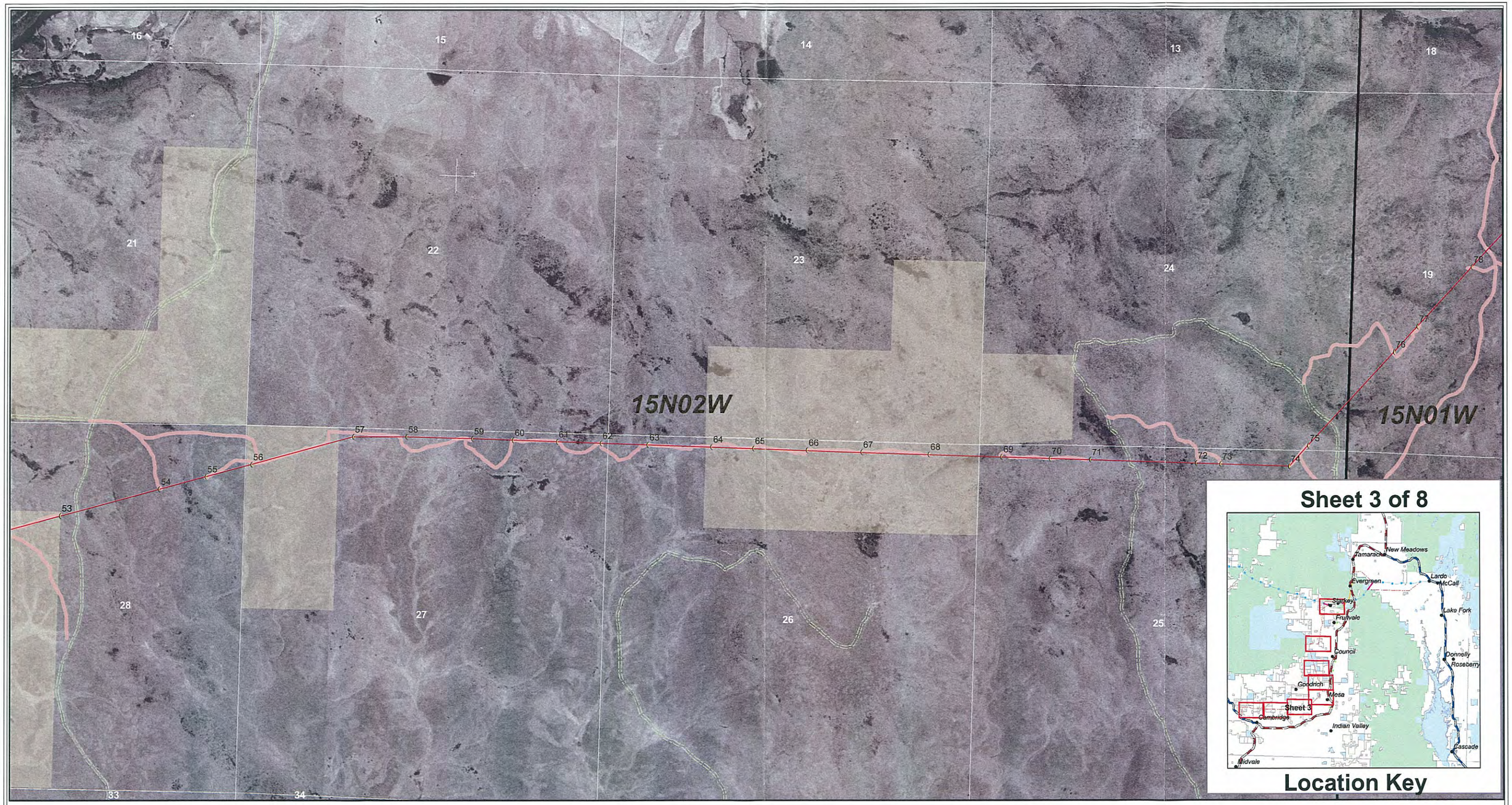
IDAHO POWER

Figure 2-5

POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja



Sheet 3 of 8

Location Key

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Proposed New Roads - to be built as class 2 access roads.

New 138kV transmission line route

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet

0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-6

POWER ENGINEERS

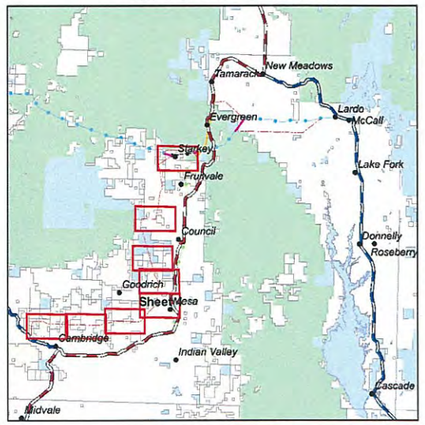
R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja

15N02W

15N01W

Sheet 4 of 8



Location Key

Legend

Jurisdiction

USFS	BLM
Private	STATE

- Pole structures
- Existing Access Roads
- Proposed New Roads - to be built as class 2 access roads.
- New 138kV transmission line route
- No changes to existing 69kV line

Cambridge to McCall

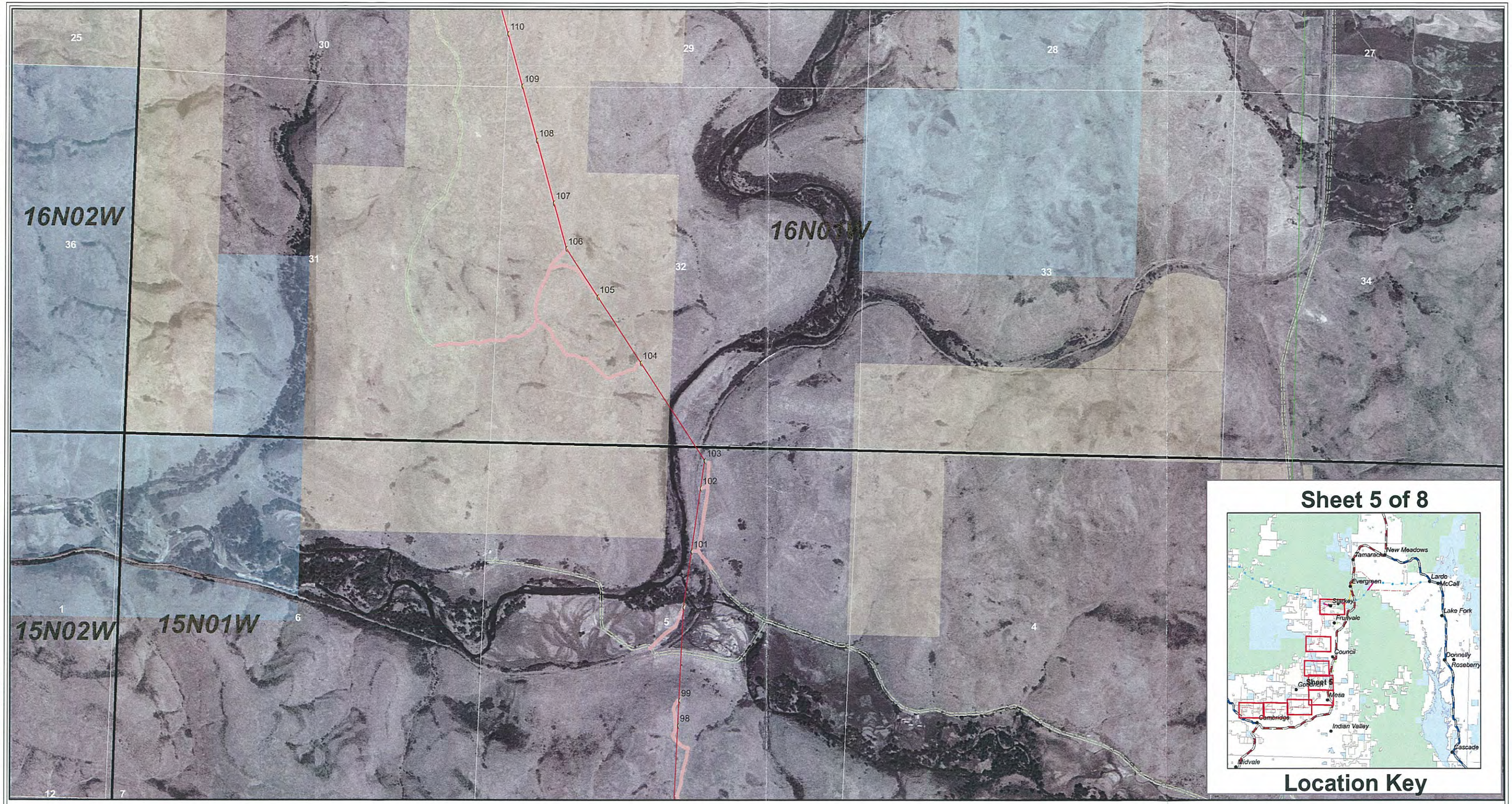
138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-7

POWER ENGINEERS



Sheet 5 of 8

Location Key

Legend

Jurisdiction

- USFS
- BLM
- Private
- STATE

- Pole structures
- Existing Access Roads
- Proposed New Roads - to be built as class 2 access roads.
- New 138kV transmission line route
- No changes to existing 69kV line

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-8

POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja

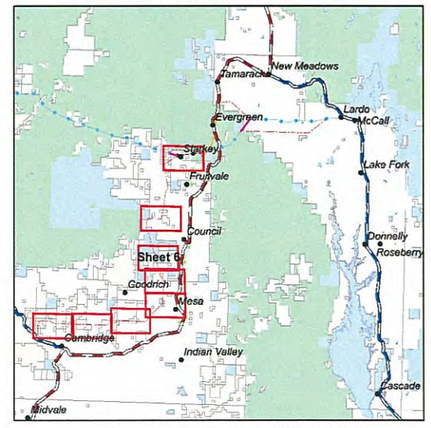
16N02W

16N01W

122 121 120 119 118 117 116 115 114 113 112 111 110

13 14 18 17 16 15 23 24 19 20 21 22 26 25 30 29 36

Sheet 6 of 8



Location Key

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Proposed New Roads - to be built as class 2 access roads.

New 138kV transmission line route

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-9

POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja

17N02W

17N01W

16N02W

16N01W

Sheet 7 of 8

Location Key

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Proposed New Roads - to be built as class 2 access roads.

Existing Trails - to be rebuilt as class 2 access roads.

New 138kV transmission line route

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-10

POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-28-05 jja

Existing transmission line will be removed

Existing 138kV transmission line will be reconductored

Existing transmission line will be removed

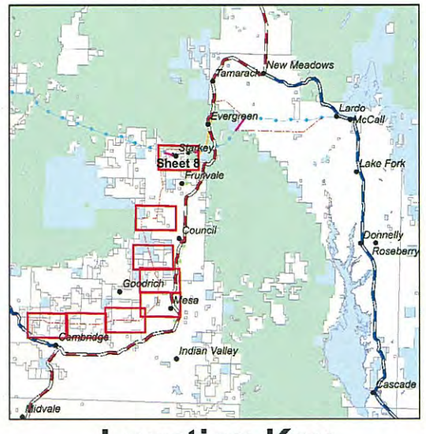
Existing road will be rebuilt as class 1 road

18N01W

17N01W

North Council Substation

Sheet 8 of 8



Location Key

Legend

Jurisdiction

USFS
BLM
Private
STATE

- Pole structures
- Existing Access Roads
- Proposed New Roads - to be built as class 2 access roads.
- Existing Trails - to be rebuilt as class 2 access roads.
- Existing road - to be rebuilt as class 1 access road.
- New road - to be built as class 1 access road.
- New 138kV transmission line route
- No changes to existing 69kV line
- To be rebuilt from 69kV to 138kV
- No changes to existing 138kV line
- Existing 138kV to be reconductored
- To be removed

Cambridge to McCall

138 kV Transmission line
Access roads on BLM Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-11

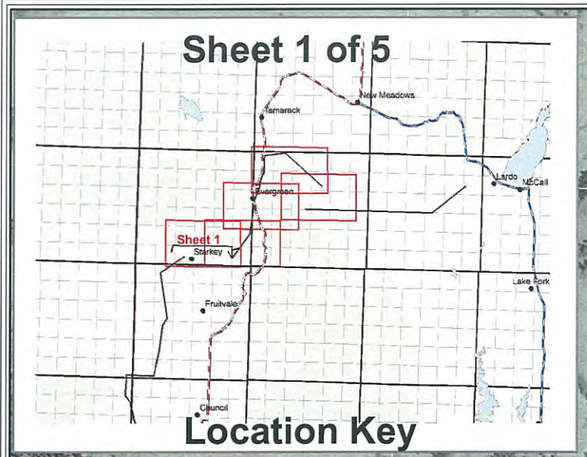
POWER ENGINEERS

R:/CC&M/ Resource Files/FinalData 1-20-05/Final Figures

106497 BLM access roads 1-27-05 jja

Figures 2-12 – 2-16

Access Roads on Forest Service Lands



Existing roads - used for access

Existing trail - to be rebuilt as new class 2 access road

New class 2 access road

Existing 138kV transmission line will be reconductored

Existing Transmission Line to be removed

New road - to be built as class 1 road See Detail - Sheet 6

Existing 138kV transmission line will be reconductored

Existing road - to be rebuilt as class 1 road See Detail - Sheet 6

Existing Transmission Line to be removed

Proposed Substation

18N01W

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Existing Trails - to be rebuilt as class 2 access roads.

Proposed New Roads - to be built as class 2 access roads.

Existing road - to be rebuilt as class 1 access road.

New road - to be built as class 1 access road.

New 138kV transmission line route

To be rebuilt from 69kV to 138kV

No changes to existing 138kV line

No changes to existing 69kV line

Existing 138kV to be reconductored

To be removed

Cambridge to McCall

138 kV Transmission line
Access roads on USFS Lands

Feet
0 1,320 2,640 3,960 5,280

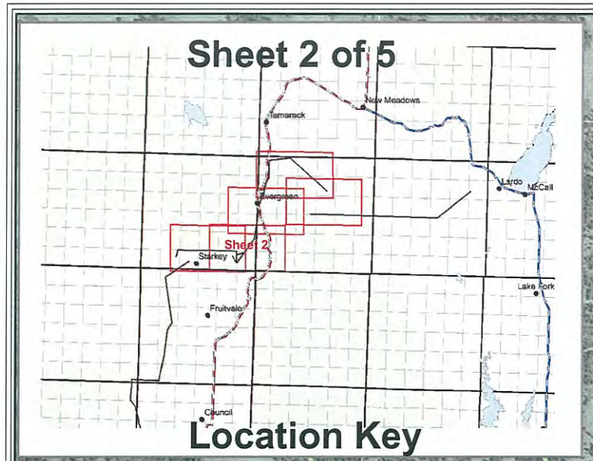
IDAHO POWER

Figure 2-12

POWER ENGINEERS

R:/CC&M/resource data/FinalData 1-20-05/Final Figures

106497 access roads 1-28-05 jja



Existing roads - used for access

Existing Transmission Line to be rebuilt from 69kV to 138kV

Existing trail - to be rebuilt as new class 2 access road

New class 2 access road

18N01W

18N01E

Existing Transmission Line to be removed

Existing 138kV transmission line will be reconductored

Existing 138kV transmission line will be reconductored

New road - to be built as class 1 road See Detail - Sheet 6

Proposed Substation

Existing road - to be rebuilt as class 1 road See Detail - Sheet 6

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Existing Trails - to be rebuilt as class 2 access roads.

Proposed New Roads - to be built as class 2 access roads.

Existing road - to be rebuilt as class 1 access road.

New road - to be built as class 1 access road.

New 138kV transmission line route

To be rebuilt from 69kV to 138kV

No changes to existing 138kV line

No changes to existing 69kV line

Existing 138kV to be reconductored

To be removed

Cambridge to McCall

138 kV Transmission line
Access roads on USFS Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-13

POWER ENGINEERS

R:/CC&M/resource data/FinalData 1-20-05/Final Figures

106497 access roads 1-28-05 jja

Existing roads - used for access

New class 2 access road

Existing trail - to be rebuilt as new class 2 access road

Existing Transmission Line to be rebuilt from 69kV to 138kV

18N01W

18N01E

11 12 14 13 7 17 16 23 24 19 20 21

273 272 271 270 269 268 267 266 265 264 263 262 261 260

Sheet 3 of 5

Location Key

New Meadows
Tamarack
Sheet 3
Meadows
Lardo
McCall
Starkey
Lake Fork
Fruitvale
Council

Legend

Jurisdiction

USFS BLM

Private STATE

Pole structures

Existing Access Roads

Existing Trails - to be rebuilt as class 2 access roads.

Proposed New Roads - to be built as class 2 access roads.

To be rebuilt from 69kV to 138kV

Cambridge to McCall

138 kV Transmission line
Access roads on USFS Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-14

POWER ENGINEERS

R:/CC&M/resource data/FinalData 1-20-05/Final Figures

106497 access roads 1-28-05 jja

New class 2 access road

Existing trail - to be rebuilt as new class 2 access road

Existing Transmission Line to be rebuilt from 69kV to 138kV

Existing roads - used for access

Existing Transmission Line to be removed

18N01W

18N01E

Sheet 4 of 5

Location Key

Sheet 4

New Meadows

Tamarack

Lardo

McCall

Ewegmoo

Starkey

Lake Fork

Fruitvale

Council

Legend

Jurisdiction

- USFS
- BLM
- Private
- STATE

- Pole structures
- Existing Access Roads
- Existing Trails - to be rebuilt as class 2 access roads.
- Proposed New Roads - to be built as class 2 access roads.
- New 138kV transmission line route
- To be rebuilt from 69kV to 138kV
- No changes to existing 138kV line
- To be removed

Cambridge to McCall

138 kV Transmission line
Access roads on USFS Lands

Feet
0 1,320 2,640 3,960 5,280

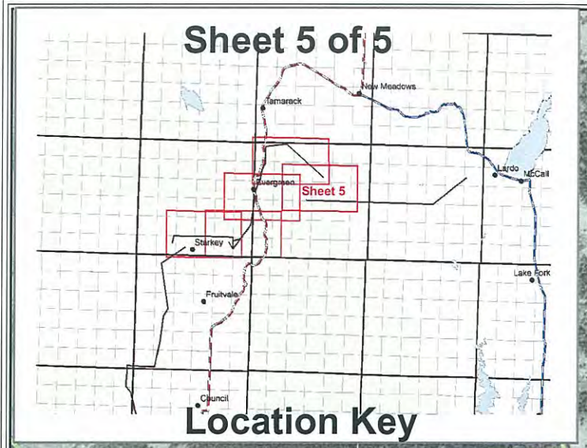
IDAHO POWER

Figure 2-15

POWER ENGINEERS

R:/CC&M/resource data/FinalData 1-20-05/Final Figures

106497 access roads 1-28-05 jja



New class 2 access road

Existing trail - to be rebuilt as new class 2 access road

Existing Transmission Line to be removed

18N01E

Existing roads - used for access

Existing trail - to be rebuilt as new class 2 access road

Legend

Jurisdiction

USFS
BLM
Private
STATE

- Pole structures
- Existing Access Roads
- Existing Trails - to be rebuilt as class 2 access roads.
- Proposed New Roads - to be built as class 2 access roads.
- New 138kV transmission line route
- No changes to existing 138kV line
- To be removed

Cambridge to McCall

138 kV Transmission line
Access roads on USFS Lands

Feet
0 1,320 2,640 3,960 5,280

IDAHO POWER

Figure 2-16

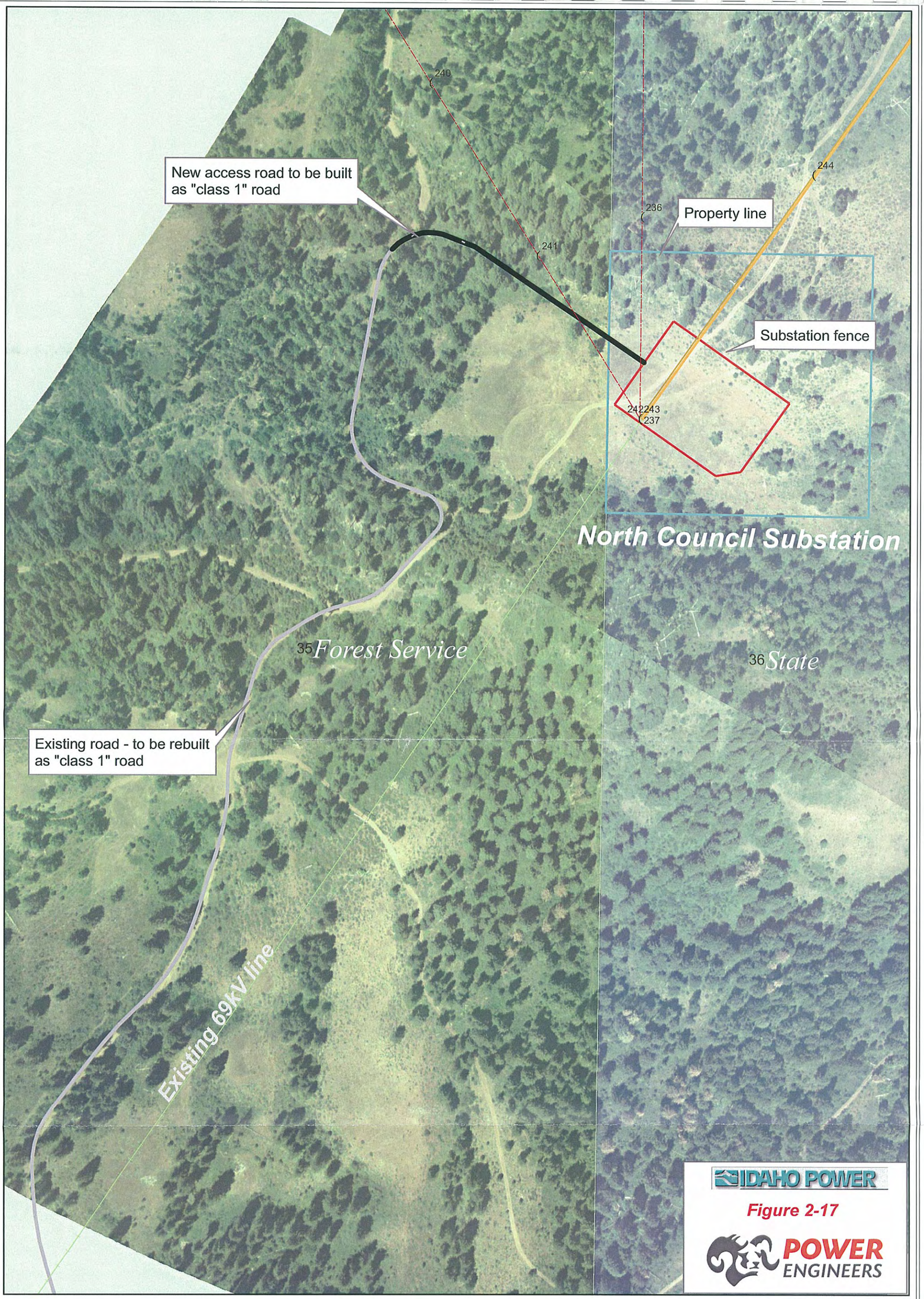
POWER ENGINEERS

R:/CC&M/resource data/FinalData 1-20-05/Final Figures

106497 access roads 1-28-05 jja

Figure 2-17

North Council Substation Property Locations and Access Roads



IDAHO POWER

Figure 2-17

POWER ENGINEERS

Detail - Sheet 6
North Council Substation
Proposed Location and Access Roads

Pole structures
Existing road - to be rebuilt as class 1 access road.
New road - to be built as class 1 access road.
New transmission line route
To be rebuilt from 69kV to 138kV

Feet
0 100 200 300

106497 access roads 1-27-05 jja

Appendix C

Wildlife

IDAHO CONSERVATION DATA CENTER

RARE ANIMAL OBSERVATION REPORT FORM

SPECIES: Bald Eagle (Haliaeetus leucocephalus) **Date Observed:** 10/16/2003

CONTACT INFORMATION

Observer(s): Mark Gerber/Todd Glindeman

Address: 600 E. Riverpark Lane; Suite 210; Boise, ID 83706

Phone: (208) 384-3130 Email address: mgerber@brwncald.com

LOCATIONAL INFORMATION (Provide either Township, Range, Section or UTM coordinates)

Township 19N Range 1E UTM Coordinates: -116 22 31.4 E

NW ¼ of the SW ¼ of Section 19 Zone: 11 44 58 04.5 N

Include a photocopy of a map (USFS, BLM, or USGS topo) with the location clearly marked

County: Adams Elevation: 4050 (ft) or 1234 (m)

Location of Observation (be specific; use place names that can be located on a topographic map): Approximately 1/4 mi E. of Highway 95 N. of Tamarack, ID. There is a FS road that leads into an old abandoned sawmill. There are piles of wood chips all around.

OBSERVATIONS

Type of Observation (tracks, nest, colony, sighting): Sighting

Total Number of Individuals 1 No. of Males (if identifiable) _____ No. of Females (if identifiable) _____

Habitat Description: This is low bottomland, recovering from sawmill use. There are young ponderosa pines and grassy areas, as well as severely disturbed areas. Numerous dirt roads criss-cross the area and there are abandoned structures as well.

Other Comments About this Observation: The Eagle was feeding on a deer carcass at a fork in the road. The carcass was only a torso. There were common ravens (Corvus corax) and black-billed magpies (Pica pica) also feeding on the carcass. The Eagle flew up and to the east when we approached.

Photograph Taken ? Yes No **Specimen Collected? Yes No**

Return this form to:

Idaho Conservation Data Center
Idaho Dept. of Fish and Game
600 South Walnut, P.O. Box 25
Boise, ID 83707

IDAHO CONSERVATION DATA CENTER

RARE ANIMAL OBSERVATION REPORT FORM

SPECIES: Pileated Woodpecker (Dryocopus pileatus) **Date Observed:** 10/15/2003

CONTACT INFORMATION

Observer(s): Mark Gerber/Todd Glindeman

Address: 600 E. Riverpark Lane; Suite 210; Boise, ID 83706

Phone: (208) 384-3130 Email address: mgerber@brwncald.com

LOCATIONAL INFORMATION (Provide either Township, Range, Section or UTM coordinates)

Township 18N Range 1W UTM Coordinates: -116 24 24.6 E

NE ¼ of the NW ¼ of Section 36 Zone: 11 44 51 34.3 N

Include a photocopy of a map (USFS, BLM, or USGS topo) with the location clearly marked

County: Adams Elevation: 4188 (ft) or 1277 (m)

Location of Observation (be specific; use place names that can be located on a topographic map): North of Starkey, ID

This was in the middle of the woods with no real point of reference.

OBSERVATIONS

Type of Observation (tracks, nest, colony, sighting): Sighting

Total Number of Individuals 1 No. of Males (if identifiable) _____ No. of Females (if identifiable) _____

Habitat Description: Mature ponderosa pines with a light mix of Douglas fir. There is a cleared 138kV power transmission corridor approximately 50 yards to the west of the location and a FS road approximately 25 yds to the south of the location. The sighting occurred in dense ponderosa pine next to a grassland/forb clearing.

Other Comments About this Observation: The weather was cloudy, temperature was 55 F.

Photograph Taken ? X**Yes No** **Specimen Collected? Yes** X**No**

Return this form to:

Idaho Conservation Data Center
Idaho Dept. of Fish and Game
600 South Walnut, P.O. Box 25
Boise, ID 83707

IDAHO CONSERVATION DATA CENTER

RARE ANIMAL OBSERVATION REPORT FORM

SPECIES: White-headed woodpecker (Picoides albolarvatus) **Date Observed:** 10/15/03

CONTACT INFORMATION

Observer(s): Mark Gerber/Todd Glindeman

Address: 600 E. Riverpark Lane; Suite 210; Boise, ID 83706

Phone: (208) 384-3130 Email address: mgerber@brwncald.com

LOCATIONAL INFORMATION (Provide either Township, Range, Section or UTM coordinates)

Township 18N Range 1W UTM Coordinates: -116 24 22.1 E

NE ¼ of the NW ¼ of Section 36 Zone: 11 44 51 34.8 N

Include a photocopy of a map (USFS, BLM, or USGS topo) with the location clearly marked

County: Adams Elevation: 4188 (ft) or 1277 (m)

Location of Observation (be specific; use place names that can be located on a topographic map): North of Starkey, ID

This was in the middle of the woods with no real point of reference.

OBSERVATIONS

Type of Observation (tracks, nest, colony, sighting): Sighting

Total Number of Individuals 1 No. of Males (if identifiable) 1 No. of Females (if identifiable) _____

Habitat Description: Mature ponderosa pines with a light mix of Douglas fir. There is a cleared 138kV power transmission corridor approximately 100yards to the west of the location and a FS road approximately 50 yds to the south of the location. The sighting occurred in dense ponderosa pine next to a grassland/forb clearing.

Other Comments About this Observation: The weather was cloudy, temperature was 55 F.

Photograph Taken ? X Yes No **Specimen Collected?** Yes X No

Return this form to:

Idaho Conservation Data Center
Idaho Dept. of Fish and Game
600 South Walnut, P.O. Box 25
Boise, ID 83707

Appendix D

Comparison of Potential Effects to USFS Sensitive Species

Table D-1 Comparison of Potential Effects to USFS Sensitive Species

Common Name	Scientific Name	No Action Alternative	Proposed Action Alternative
Wolverine	*Gulo gulo*	Not likely to occur	Not likely to occur
Fisher	*Martes pennanti*	Not likely to occur	Not likely to occur
Elk	*Cervus elaphus*	No effect	May affect individuals; will not trend species toward listing
Spotted Bat	*Euderma maculatum*	No effect	May affect individuals; will not trend species toward listing
Townsend's Big-eared Bat	*Corynorhinus townsendii*	No effect	May affect individuals; will not trend species toward listing
Columbia Spotted Frog	*Rana luteiventris*	No effect	May affect individuals; will not trend species toward listing
Pileated Woodpecker	*Dryocopus pileatus*	No effect	May affect individuals; will not trend species toward listing
White-headed Woodpecker	*Picoides albolarvatus*	No effect	May affect individuals; will not trend species toward listing
American Three-toed Woodpecker	*Picoides tridactylus*	Not likely to occur	Not likely to occur
Peregrine Falcon	*Falco peregrinus*	No effect	May affect individuals; will not trend species toward listing
Northern Goshawk	*Accipiter gentiles*	No effect	May affect individuals; will not trend species toward listing
Flammulated Owl	*Otus flammeolus*	No effect	May affect individuals; will not trend species toward listing
Great Gray Owl	*Strix nebulosa*	No effect	May affect individuals; will not trend species toward listing
Boreal Owl	*Aegolius funereus*	Not likely to occur	Not likely to occur
Harlequin Duck	*Histrionicus histrionicus*	Not likely to occur	Not likely to occur

Appendix E

Heritage Resources Area Overview

Heritage Resources Area Overview

Prehistoric Overview

The following prehistoric synthesis of west central Idaho was summarized from several sources: Butler (1986), Meatte (1990), and Roll and Hackenberger (1998).

The most common site type is labeled a lithic scatter, which consists of pieces of stone (mainly basalt) showing evidence of human production and result from the manufacture of stone tools. These sites may have time diagnostic artifacts, such as spear or arrow points, and rarely have hearths, in which case they are considered campsites.

The earliest human occupation of the Eastern Plateau was likely during the Early Prehistoric Period (before 10,000 to 7,000 years before present [B.P.]). This period is noted for fluted and/or large lanceolate spear points. Based on excavated open sites and sites in caves with preserved material, it is assumed that the human occupants followed a seasonal settlement and subsistence pattern based primarily on available plant and animal resources. Other types of sites known from this time period are large mammal kill sites, sites where either plants or animals were processed for food, and raw material sources for stone tools, known as quarries.

The Middle Prehistoric Period (7,000 to 1,500 B.P.) is based on diagnostic projectile points including early, large Bitterroot or Northern side-notched and Cascade lanceolate, with smaller Oxbow and Cold Springs side-notched somewhat later. Compared to other areas, burials, clustered in apparent cemeteries, are unusually common in the Weiser and Payette drainages starting early in this period. A dominant activity was quarrying of exposed basalt outcrops, with distribution of the resulting tools and scatters of basalt flakes (residue from tool production) over a broad area. The most frequent projectile point types in the latter half of this period are large and small corner-notched varieties reflecting influence from the Great Basin. Human settlement and resource exploitation patterns seem to focus in and around grassland areas both in valley bottom and mountainside exposures. Increased exploitation of plant resources due to a decrease in animal and fish resources, based on location and types of processing sites, and more intensive settlement, in the form of villages, is proposed (Roll and Hackenberger, 1998).

In the Snake River - Salmon River drainage subarea, the entire period from 7,800 to 1,500 B.P. is known as the Archaic Period. Early diagnostic projectile points include the Bitterroot or Northern side-notched, other unnamed, large side-notched types, and an unnamed stemmed-indented base type. About midway through the period, south of the Snake River the predominant projectile point is the Humboldt concave base. This time period includes the Western Idaho Burial (also known as Midvale) Complex (Butler, 1986). Points from this complex include large corner-notched and side-notched points, along with a distinctive type referred to as the "turkey tail" type. By late in the period semi-subterranean houses are common along the Snake River, often clustered in twos or threes, and are associated with Elko series points, hopper mortars for processing seeds or other plant parts, and increasing evidence of fish utilization.

The beginning of the Late Prehistoric Period (1,500 to 250 B.P.) in the Eastern Plateau is marked by the appearance of small side- and corner-notched projectile points indicating the introduction of the bow and arrow. After 1,000 B.P., slightly larger side-notched points, referred to as Old Women's, and varieties of corner-notched arrow points begin replacing Avonlea and variants. Similar point types in the western part of the region are referred to as Plateau Side-notched, while other small varieties include Columbia Corner-notched, Wallula Rectangular Stemmed, and Columbia Stemmed. Similar point types from the Great Basin are referred to as Desert Side-notched, while other small varieties include the Rosegate series. Two other hallmarks of this period are Great Basin-derived pottery, which dates as early as 2,500 B.P., and increasingly intensive settlement as time progresses. The subsistence base during this time period included substantial quantities of deer with varying quantities of bison at a few sites and salmonids and fresh water mussels in riverine locations.

The Late Period (1,500 to 200 B.P.) in the Snake River - Salmon River drainage subarea is noted for the presence of pottery and basketry at sites where preservation occurs, Rosegate or Rose Spring type points, and semi-subterranean house pits are more common than previously. As in the previous period, these house pits are located along the Snake River and its major tributaries. Storage facilities, diverse artifact assemblages, increased reliance on fish, and cemeteries are evidence of long-term occupations during the period (Meatte, 1990). The earlier occupants of this period are referred to as the Northern Fremont culture, followed by ancestral Shoshoneans as early as 550 B.P.

Ethnographic Overview

The Proposed Project area contains not only the approximate boundary between the Northern Paiute in the southwest and the Northern Shoshone in the southeast, but also the Nez Perce mainly in the north. At times the three groups lived peacefully and gathered in large groups at Council into the early 1870s, while at other times there were hostilities and competition for land or resources (Council Valley Museum, 2003; Corless, 1996; Jones, 1989 and 1996). The Northern Shoshone group most often identified in the Council Valley is the *tukudeka* or "mountain sheep eaters." In addition to mountain sheep, the three Native American groups also hunted bison, deer, antelope, elk, caribou, and rabbits. Groups located camps and villages along anadromous fish streams fished especially for salmon, but took native species as well. Other food sources seasonally exploited included waterfowl, game birds, numerous root crops, berries, and seed crops (Meatte, 1990; Murphy and Murphy, 1986; Walker, 1998; Walker and Sprague, 1998).

The introduction of the horse changed the organization and interaction of Plateau, Great Basin, and other tribes. Horses permitted larger tribal gatherings – such as those reportedly held at Council, created wealth differences among tribal members, allowed for expanded knowledge of the region, permitted the faster and wider spread of diseases, and increased the incentive and methods to engage in warfare and raiding (Walker and Sprague, 1998). "By 1800 the Northern Plains had become a scene of perpetual equestrian conflict as the mounted Shoshone left the Great Basin to pursue a life of raiding and buffalo hunting, ultimately going as far as Canada. The Blackfoot, with both firearms and horses, began their own campaign of expansion and drove the Shoshone to

the south and west, thereby establishing their dominance in the Northwestern Plains by 1750-1800" (Walker and Sprague, 1998).

Historic Overview

As with most of the northwest United States, explorers, trappers, and traders were the first non-Indians to visit the area. While members of the Lewis and Clark Expedition were within 40 miles of the Weiser River, the employees of the Astoria Company, the North West Company, the Hudson's Bay Company, and the American Fur Company trapped and traded throughout the area until the early 1840s (Corless, 1996).

Euroamerican settlement in the Weiser River country paralleled developments throughout the West. Following explorers, trappers and traders came prospectors and their attendant support settlements, farmers and ranchers, improved transportation networks, and industries and businesses that supported the needs of settlers. In the early 1860s gold and copper were discovered in several regions of Idaho, including the Seven Devils Mountains. In the following years, mining in the Seven Devils region greatly influenced development in the Weiser River country, as towns such as Council serviced the needs of miners (Conley, 1982; Sappington and Tracy, 1990; Thorsen, 1994).

The decades of the 1860s and 1870s included significant events in the history of the region, highlighted by Idaho's organization as a territory in 1863, and the establishment of the first permanent Euroamerican settlements (Barber and Martin, 1956). The Middle, Salubria, Indian, and Council valleys along the Weiser River all saw their first permanent non-Indian residents in 1868 (Council Valley Museum, 2003; Fisk, 2001). However, non-Indians did not settle the northern edge of the area, near McCall, until the 1890s (Boone, 1988; Derig, 1996).

Emigration to Idaho increased following the close of the Civil War, with many of the newcomers trying their hands at farming or ranching on land often obtained through homesteading. The heavily vegetated valleys along the Weiser River were used for livestock grazing as well as harvesting hay. Early farmers in the Boise, Payette, and Weiser valleys grew oats, wheat, barley, corn, beans, and fruit (Schwantes, 1991). By the late 1880s large herds of cattle, sheep, and horses dominated ranches along the main river valleys, including the Weiser, the Little Salmon, and the North Fork of the Payette. Livestock had to be driven as far as Cheyenne or Winnemucca until the arrival of the Oregon Short Line in Weiser in 1884 and the Pacific & Idaho Northern Railroad Company's march up the Weiser River from 1899 to 1911 (Fisk and Dopf, 2001; Schwantes, 1991). By the 1930s the primary industries of Adams and Valley counties were reported to be agriculture or farming, fruit raising, stock raising, lumber (in Valley County), and mining (Bean, 1998).

As non-Indian populations grew in Idaho Territory, Indians either lost or were denied access to traditional hunting, fishing, or food and material gathering areas. The resulting friction led to the negotiation of treaties between the U.S. Government and various Idaho tribes in the 1850s and 1860s. A series of wars through the late 1870s between Indians and non-Indians lead to relocation of Indians to reservations. Nevertheless, through the end of the nineteenth century and into the early twentieth century groups of Nez Perce and the Weiser Band of the Sheepeater Shoshone continued to fish, hunt, gather, and

trade with non-Indians in Long Valley, Indian Valley, and the Salubria Valley and use the hot springs at Starkey (Corless, 1996; Jones, 1996; Kingsbury, 1998; Preston, 1999).

After Idaho became the 43rd state in 1890, the population increased and the state continued to develop various resources. Washington County, established in 1879, covered a very extensive area. In 1911 Adams County was carved out of the northern half of Washington County. Following completion of the Union Pacific Railroad to McCall in 1914, Valley County was established in 1917.

Wagon roads continued to be built and improved throughout the Weiser River watershed to carry mail, dry goods, and produce to mining camps, as well as to towns and cities growing outside the area; nevertheless, these roads remained subject to the vicissitudes of inclement weather and were oftentimes nearly impassible (Bean, 1998; Jones, 1989; Thorsen, 1994). In 1918 the State of Idaho started construction of the "North-South Highway" (U.S. 95) and concerted road building in the area corresponded to construction of the Snake River dams beginning in the 1950s. There have been major highway improvement projects over the decades since, with the improved transportation network contributing to the demise of the railroads.

In 1812, Congress established the General Land Office in the Department of the Treasury to oversee the disposition of Federal lands and encourage settlement. The Taylor Grazing Act of 1934 established the U.S. Grazing Service to manage grazing on public lands. The Bureau of Land Management was created in 1946, when the Department of the Interior merged the Grazing Service with the General Land Office.

Following establishment of the Weiser National Forest in 1905 and the Idaho National Forest in 1908, some of the early forest management issues or concerns dealt with included overgrazing, uncontrolled timber cutting, fires, floods, and soil erosion. By 1915 grazing permits covered most livestock on the forests, with few exemptions, and conflicts among stockowners were controlled, at least partially, through stock reduction programs. In 1944 the two forests were consolidated into the PNF and by the 1950s timber harvesting was the major contributor to the local economy. The Civilian Conservation Corps (CCC) was another major government program that affected central Idaho through construction of roads and campgrounds and development of lakes and reservoirs during the 1930s. Through the second half of the twentieth century tourism grew to be a substantial part of the regional economy (Altork, 1995; Bean, 1998; Fisk, 2001; Hansen, 1994; and Jones, 1989).

Historic site types include trails, roads and railroads and related features, cabins and homesteads, farm and ranch buildings and features, buildings and features related to the development of hot springs, irrigation ditches and features related to farming and orchards, and CCC camps or development projects.