

**HEBGEN CABIN  
TRACT I**

# HEBGEN CABIN - TRACT I

## Introduction

This land is owned by the FS near Hebgen Dam, Montana. The eight structures on the parcel are owned by NorthWestern Energy with use allowed by virtue of its location within the FERC Project Boundary. Disposal of the Hebgen Cabin tract was reviewed for consistency with guidelines for land exchanges included in the Gallatin National Forest's Forest Plan. The Alberton Gorge Land Exchange proposal to dispose of NFS lands near Hebgen Dam is consistent with these guidelines. This tract is used for limited recreation and is adjacent to two other special use areas (Federal Energy Regulatory Commission or FERC-authorized project management residence and shop buildings, and a power line easement).

It is proposed that this tract transfer from the FS to River Network, then to NorthWestern Energy, thus creating an inholding in Gallatin NF. NorthWestern Energy has traditionally used their cabins for non-commercial, recreational purposes, for company employees and their guests as part of the license with FERC. Historically, this site was included in the FERC boundary for the Missouri/Madison hydroelectric project. This boundary is in the process of being amended to exclude the subject tract from the FERC boundary. This tract includes a lodge, three cabins, two bathhouses and two abandoned outhouses.

The approximately 2.2-acre tract is located on a wooded hillside adjacent to and east of Highway 287, about 22 miles northwest of West Yellowstone, Montana. The tract is accessed from the highway and is surrounded by Gallatin National Forest lands. Hebgen dam is about 1,500 feet southeast of the parcel.

The company has voluntarily agreed to implement a restrictive easement on the tract to prohibit subdivision and commercial use in an effort to protect wildlife habitat and the historical footprint of the tract. The improvements on the tract are considered contributing elements of the historic property 24GA248, Hebgen Hydroelectric Camp Historic District, which includes the Hebgen Dam "Operator Camp" adjacent to the tract. NorthWestern Energy has agreed to maintain the historic buildings according to a "Continuity of Use" (COU) agreement developed with consultation from SHPO and implemented as part of a conservation easement or restriction (see the Cultural and Historic Resources later in this section). No change in use is planned for the Hebgen Cabin subject parcel.

MAP 13. Hebgen Cabin tract

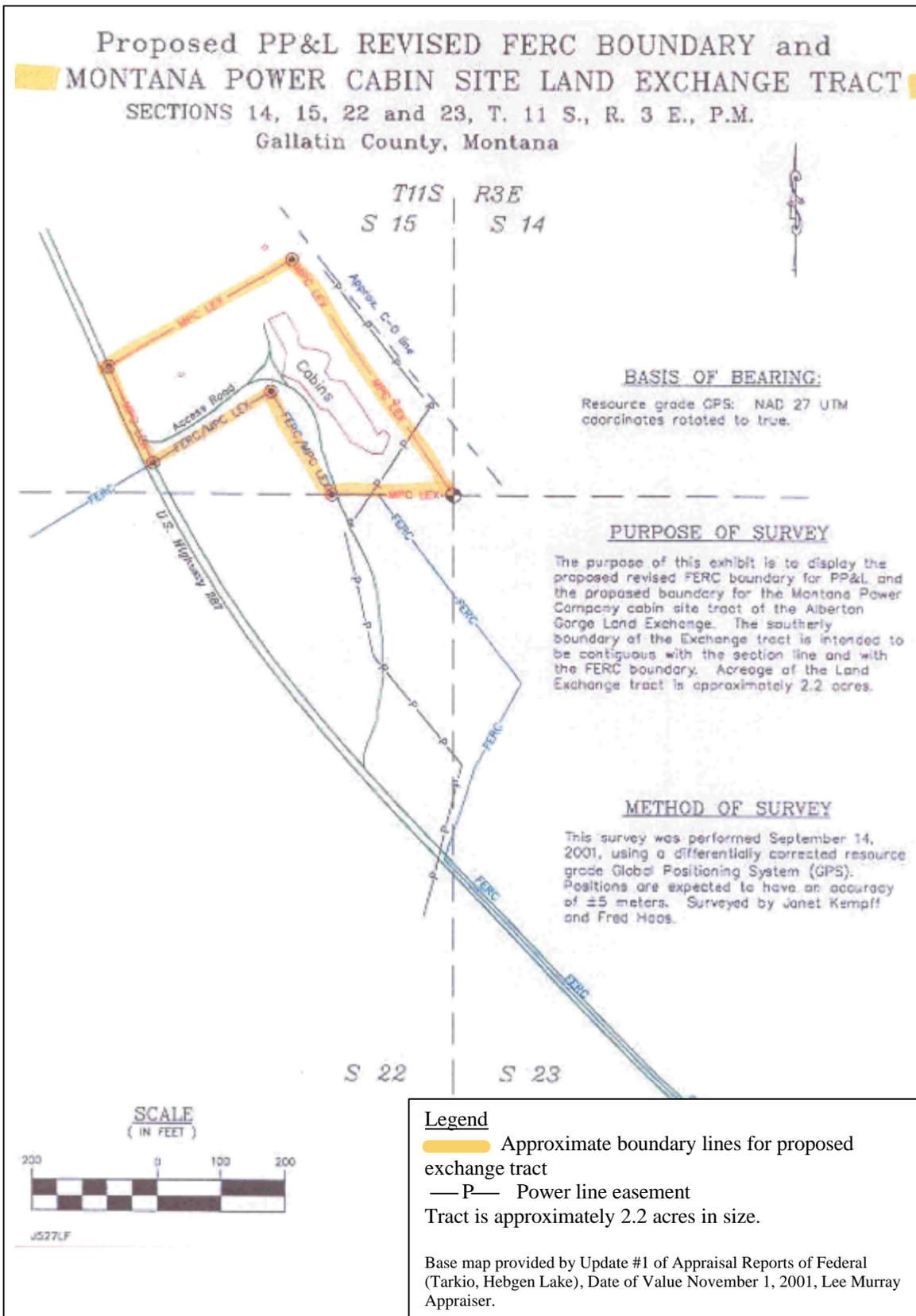
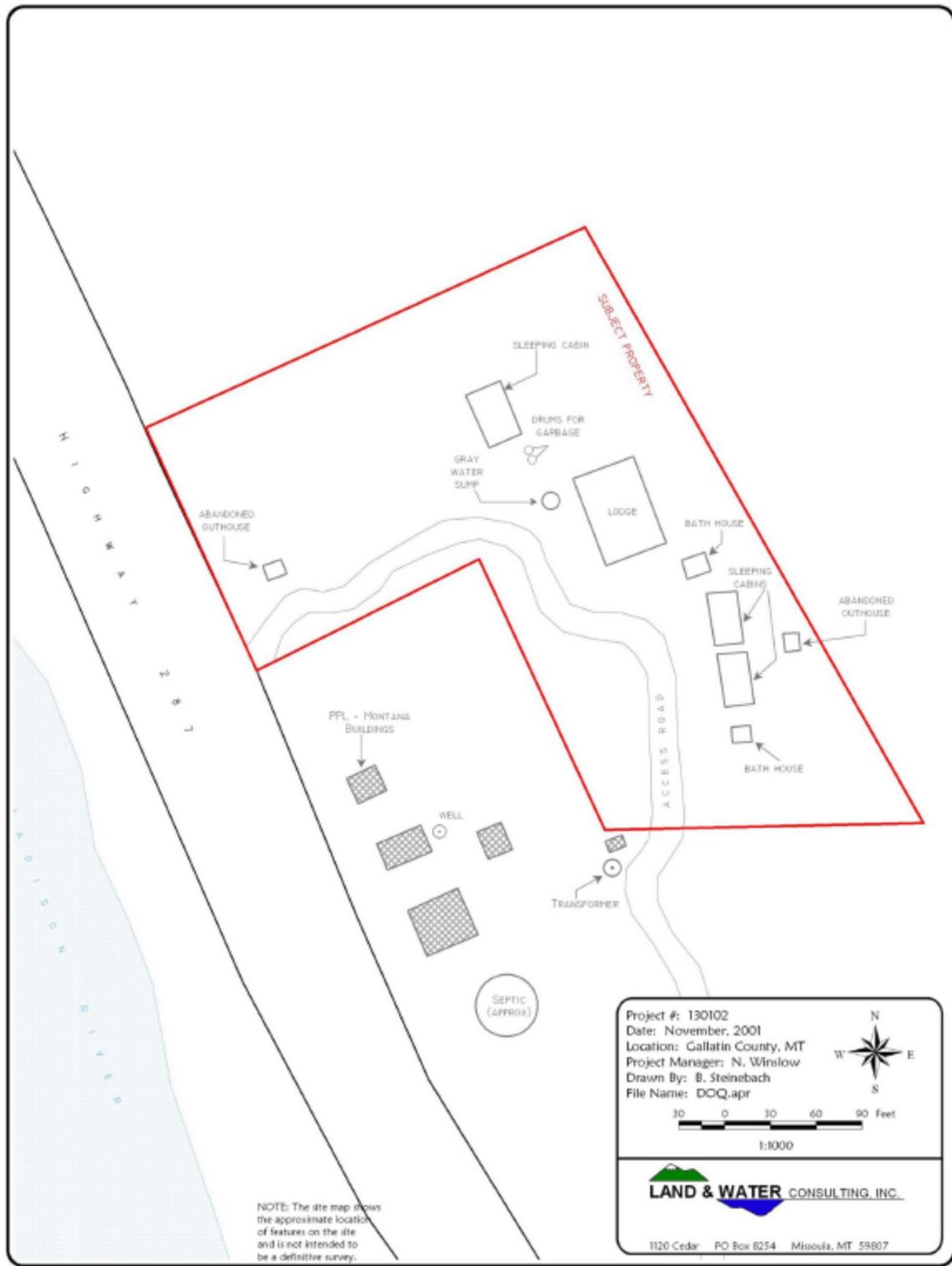


FIGURE 9. Hebgen Cabin Site Plan



## Property Description

The Hebgen Cabin tract is accessible from Highway 287 about 22 miles northwest of West Yellowstone, Montana, in the Gallatin National Forest.

**Township 11 South, Range 3 East**

**Section 15, SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub>**

**Gallatin County**

**Total acreage = 2.2 acres**

The tract includes about 175 feet of U.S. Highway 287 frontage and can be accessed directly from the highway. Approximately 450 feet of unimproved dirt road crosses the tract, then enters FS land and exits on the highway south of the subject. Access via this route will continue by easement because it is shared by PPL Montana for access to their operator camp buildings, is a more useable grade and allows access to the cabins without constructing a switchback road or turn-around area.

The northwest and northeast boundaries border NFS lands. The southern boundaries coincide with the section line and abut PPL Montana revised FERC boundaries (Operator Camp).

The tract is characterized as residential with cabins and associated structures. Please refer to the site plan in *Figure 9*, above.

The tract is approximately 1500 feet northwest of Hebgen Dam and elevation ranges from 6480 to 6560 feet. The habitat type consists of Douglas-fir/snowberry across the entire site. Overall timber volume for the 2.2-acre tract is approximately 25,500 board feet ((*Specialist Report - Timber and Old Growth, Hebgen Dam Parcel, Case #MTM-89593*, Land and Water Consulting, Inc., September 2003))

Land reservations of the United States, exceptions to title and uses to be recognized (Murray, Lee, USDA Forest Service Alberton Gorge Land Exchange. Update #1 Complete Appraisal Summary Appraisal Report, November 1, 2001.).

### Reservations

- a. Reserving to the United States a right-of-way thereon for ditches or canals constructed by the authority of the United States (Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945).
- b. Reserving all the geothermal steam and associated geothermal resources to the United States, or persons authorized by the United States, the right to prospect for, mine and remove such resources, upon compliance with the conditions and subject to the provisions and limitations of the Act of December 24, 1970 (84 Stat. 1566; 30 U.S.C. 1024).

### Outstanding Rights

none

## ENVIRONMENTAL REVIEW

### Physical Environment

#### Land Resources

(The following **minerals** information is from the *Geologic Hazard, Mineral, and Energy Resources Specialist Report* prepared by Land and Water Consulting for the Alberton Gorge Land Exchange, Hebgen Dam Parcel, Case #MTM-89593, December 2001.)

The mineral estate on the Hebgen Cabin tract is owned by the FS and, in accordance with Forest land policy, will be transferred to River Network, then to NorthWestern Energy if the Alberton Gorge Land Exchange is completed.

#### Geology, Mineralization and Mineral Activity

The Hebgen Cabin tract is located in the southern portion of the Madison Valley where Precambrian (Archean) metamorphic rocks (gneiss) and Paleozoic and Mesozoic sedimentary rocks were thrust faulted and folded in Cretaceous time. Active normal faults parallel the Madison Range and trend northwest-southeast in the region of the tract. The leading edge of the Beaver Creek thrust plate is mapped about 2500 feet west of the tract and the Hebgen Fault, an active normal fault, is mapped about 300 feet west of the tract (Tysdal, 1990). The outcrops on the cliffs east of the tract and east of the Beaver Creek fault are Paleozoic-age limestone formations (Meagher limestone, Jefferson dolomite, and Madison limestone). The Madison River west of the subject property is flanked by Quaternary-age alluvium.

There are a series of active normal faults on the northeast side of Hebgen Reservoir. The epicenter of the August 1959 Hebgen Reservoir earthquake was about 12 miles southeast of Hebgen Dam. Algermissen and others (1990) estimate there is a 10 percent probability of exceedance of 0.43g ground motions in 50 years and 0.85 g in 250 years (equivalent to 500- and 2500-year return periods, respectively) for this region of Montana.

The tract is located in a seismically-active region that has potential for major ground disturbance. Geologic hazards include ground shaking and rupture from earthquakes and rock fall from nearby limestone formations. Hebgen Dam, upstream from the tract is predicted to be stable during predicted maximum earthquakes. The cabins on the tract could be affected by these hazards; however, the cabins survived the 1959 earthquake, which was nearly the same magnitude as the maximum probable earthquake for the area.

No rock outcrops were found on the tract, and Archean gneiss and Paleozoic sedimentary formations found near the tract do not show evidence of alteration or mineralization indicative of precious-metal deposits. Colluvium and rock "float" found on the tract do not show evidence of precious metal related alteration or mineralization. No economic deposits of precious metals have been found on or adjacent to the tract, nor is it located in a historic mining region. The closest mining prospect is located east of the tract in the southwest corner of Section 14. This was a uranium, phosphate and fluoride prospect inventoried by the US Bureau of Mines (USBM, 2001).

No mining claims have been staked on the tract (USDI BLM, 2001); however, the tract has been closed for mineral location because it is a designated recreation site.

#### Mineral Occurrence and Development Potential

Given the rock types on and near the subject property and the exploration history of the region, the potential for precious metal deposits on the Hebgen Cabin tract is very low.

No economic deposits of coal, oil, oil shale, or natural gas are located within 100 miles of the tract. No oil exploration wells have been drilled on or adjacent to the tract (DNRC, 2001). No wells have located oil or natural gas deposits in Gallatin or Madison Counties, Montana (DNRC, 2001). The Precambrian gneiss inferred to occur at depth on the subject property (Tysdal, 1990) is not a formation that would yield fossil fuels. If Paleozoic formations are present below the tract, the likelihood of these formations containing economically-extractable fossil fuels is relatively low, considering the character and productivity of these formations in the southwestern Montana region.

The potential for economic geothermal energy production at the tract is probably low. No geothermal wells or springs have been found on the tract. The geothermal fields of Yellowstone National Park are nearby, but springs and wells outside the park in the Hebgen Lake region have not proven favorable for economic energy production.

If mineral rights are not retained by the FS, a change in land ownership would remove these resources from public domain; however, the potential for the occurrence of mineral and energy resources is low to very low. A change of ownership would probably not forfeit potential economic deposits of precious metal, fossil fuel, or geothermal resources. No mining claims could be staked on the subject property.

If NorthWestern Energy acquires the Hebgen Cabin tract from the FS, the historic recreational use of the property would continue. This use would not cause soil instability or changes in geologic substructure. No changes are anticipated that would result in impacts to unique geologic or physical features of the area. Soil disruption, displacement, erosion, compaction or over-covering, which could reduce productivity or fertility are not anticipated. Changes are not planned that would change the siltation, deposition or erosion patterns, or modify the Madison River channel across Highway 287, west of the tract.

The cabins are currently subject to various geologic hazards; however, have withstood rock falls and a major earthquake with some repairs. The proposed exchange will not impact the potential occurrence of these natural hazards.

#### **Air**

Use of this tract will not change under NorthWestern Energy ownership. Air pollutants will not increase and ambient air quality will not decline as a result of the change in ownership. Objectionable odors, changes in air moisture, temperature patterns, local or

regional climate are not anticipated. No actions are foreseen that would conflict with federal or state air quality regulations.

### **Water and Flood Plains**

The *Hydrologic Resources Specialist Report* prepared by Land and Water Consulting, Inc. (December 2001) states that due to the lack of streams, springs, ponds, lakes, intermittent drainages, moist swales or other water features on the tract, there are no related **flood plains**. No wells or septic systems are on this tract.

The recreational cabins share a septic system and water well with the Hebgen Dam operator homes owned by PPL Montana. If the exchange is completed, NorthWestern Energy and PPL Montana will enter a cooperative agreement allowing continued shared use of these systems. Traditional use of the recreational cabins will continue; therefore, there should be no changes to other water users, or existing water rights or reservations. No discharges are predicted that would conflict with federal or state water quality regulations.

NorthWestern Energy has not revealed any future actions that would result in negative impacts to area surface water and ground water quality or quantities. Amounts of surface water, drainage patterns, rates of surface runoff and the magnitude of flood waters are expected to remain unchanged.

### **Vegetation, Wetlands, Prime & Unique Farmlands**

The *Botanical Specialist Report* prepared by Land and Water Consulting, Inc. (December 2001) identifies the following existing conditions on this tract. Vegetation is dominated by an overstory of pole to mature size Douglas-fir; understory is dominated by elk sedge (*Carex geyeri*), Idaho fescue (*Festuca idahoensis*), snowberry (*Symphoricarpos alba*), and similar dry forest species. The entire tract is considered Douglas-fir/snowberry (*Pseudotsuga menziesii/Symphoricarpos albus*) habitat type. The tract characteristics resemble the surrounding area on this same mountain slope. A complete list of plants observed on the site can be obtained from the specialist report filed at the FS Region 1 office in Missoula. The roadway leading to the main portion of the tract is dominated by non-native species of grasses.

The specialist report indicates that a search by the Montana Natural Heritage Program database did not identify any records of threatened or endangered species in the vicinity of the tract, nor were any observed when the site was visited. The threatened species found in Montana require more moist habitats than are found on the subject tract (*Howellia aquatilis* and *Spiranthes diluvialis*), or are found west of the Continental Divide (*Silene spaldingii*), far from the subject tract,. No sensitive plant species were observed during the site visits in November 2001 and August 2003 by Land and Water Consulting. Potential habitat for Gallatin NF sensitive plants is not present or very unlikely to occur on the Hebgen Cabin tract. FS surveys for sensitive plants conducted nearby the analysis area did not detect any sensitive plants (Lamont 2001). A list of Gallatin NF Sensitive Plant Species and the species encountered during the site visit of November 2001 are included in the *Vegetation Biological Assessment/Biological Evaluation* by Land and Water Consulting, September 2003.

The US Fish and Wildlife Service also identified the slender moonwort (*Bortrychium lineare*) as a Candidate species; however, it has not been found in Gallatin County. It is found in meadows in conifer forests within Glacier and Lake Counties, far northeast of the Hebgen Cabin tract (US Department of the Interior, Fish and Wildlife Service, Threatened, Endangered and Candidate Species in Montana, Endangered Species Act. December 2002.).

Ownership of this tract by NorthWestern Energy and similar future use is not expected to eliminate individual sensitive species or contribute to listing plant species as threatened or endangered.

The *Timber and Old Growth Specialist Report* prepared by Land and Water Consulting, Inc. (updated September 2003, Case #MTM-89593) estimates timber volume for subject 2.2-acre tract at 25,500 board feet, accounting for cabins and roads. The vegetation is dominated by an overstory of pole to mature size Douglas-fir: 8-30 inches diameter at breast height, 50-85 feet tall, and 50-225 years old. Average age is 175-200 years. One Douglas-fir snag is present on the site, diameter of approximately 30 inches.

According to the specialist report, the Hebgen Cabin tract is 30% below forest standards of old growth. It is part of a larger region of “recruitment old growth” on the north side of Hebgen Lake that will probably reach the full old growth criteria in 20 to 40 years. This area is not currently managed as old growth, and is therefore considered recruitment old growth.

The 2.2-acre parcel proposed for transfer has considerably less than 80,000 board feet of old growth **timber** noted above, due to the primary use of this tract for buildings, paths, roads, and parking.

Activities are not anticipated that would affect the diversity, productivity or abundance of plant species or plant communities, including foreseeable changes in old growth recruitment or harvestable timber.

Noxious weed management would fall under NorthWestern Energy’s land management policies. The low numbers of vehicles accessing this parcel will help to limit the spread of noxious weeds.

The *Hydrologic Resources Specialist Report* prepared by Land and Water Consulting, Inc. (December 2001) states that there are no jurisdictional **wetlands** or related vegetation, soils or hydrology.

Limestone from adjacent Paleozoic-age limestone formations has eroded, covering the down-gradient slopes on this tract with alluvium and colluvium (Land and Water Consulting, *Geologic Hazard, Mineral, and Energy Resources Specialist Report*, December 2001.) Mark Story, Gallatin NF, added that soil types on this tract are mapped as 61-2A (electronic communication March 6, 2002). This soil type has typical argiborolls

and typical calciborolls formed on alluvial fans on 10-20% slopes. The soils have a dark calcareous surface layer, very gravely silt loam, about 20" thick (reference Davis, C.E., H.F. Shovic. 1996. Soil Survey of Gallatin National Forest, Montana. USDA Forest Service and Natural Resources Conservation Service. Bozeman, Montana, 209 pp.) There are no **prime and unique farmlands** in this tract.

### **Fish & Wildlife**

There are no fish species on the tract due to lack of water features on this tract.

The *Wildlife Specialist Report* prepared by Land and Water Consulting (December 2001 and updated September 2003) states that the tract lacks habitat components for many species. Human activity at the cabins, Hebgen Dam caretaker residence, and Highway 287, likely influences wildlife use of the site. A variety of small mammals and birds are likely to pass through the analysis area, but no dens, nests, or other signs of permanent occupation were observed during November 2001 and August 2003 wildlife resources field reviews by Land and Water Consulting staff. These reviews broadly compared habitat conditions against the known habitat needs of species most likely to be at issue on this project. The most common game animals observed at the site by the dam caretaker are elk and deer.

The specialist report indicated that the Montana Natural Heritage Program database search revealed several threatened, endangered or sensitive species in the vicinity of the tract, including: grizzly bear, lynx, wolf, bald eagle, peregrine falcon, trumpeter swan, and cutthroat trout.

The dam caretaker has observed grizzly on the tract, and bald eagles passing over the tract. Canada lynx and wolves may sporadically pass through the area, as well. Designated critical habitat for these species does not exist on the tract. Marion Cherry, Gallatin NF Wildlife Biologist noted that NorthWestern Energy would be subject to the Gallatin County ordinance regarding food storage and trash disposal, which would limit the potential for impacts to grizzly bears at the cabin area (written communication from Fred Haas to Ron Erickson dated October 30, 2003). Bald eagles nest along the lake areas, but the Hebgen Cabin tract does not offer suitable resting and nesting characteristics. Peregrine falcons are known to inhabit the general area, but this tract does not provide nesting habitat.

Based on habitat suitability and FS records, other sensitive species may occur in the area, including: goshawk, Harlequin duck, wolverine, black-backed woodpecker, Townsend's big-eared bat, and boreal toad (FS Wildlife Biologist Andy Pils written notes on Draft EA, March 2003).

The following animals are federally listed under the Endangered Species Act (US Department of the Interior, Fish and Wildlife Service, Threatened, Endangered and Candidate Species in Montana, Endangered Species Act. December 2002.) and were

considered in this environmental assessment. Many species are not present in this tract and may not be specifically discussed.

- Endangered - black-footed ferret, whooping crane, least tern, pallid sturgeon, white sturgeon (Kootenai River population);
- Threatened - grizzly bear, bald eagle, piping plover, bull trout (Columbia River basin and St. Mary-Belly River populations), Canada lynx (contiguous U.S. population);
- Proposed Threatened - mountain plover;
- Candidates for listing as threatened or endangered - Arctic grayling (fluvial population), warm spring zaitzevian riffle beetle, black-tailed prairie dog, yellow-billed cuckoo (western population);
- Proposed Critical Habitat – bull trout (Columbia River basin and St. Mary-Belly River populations: streams, lakes and reservoirs in the Clark Fork, Flathead and Kootenai river basins);
- Experimental, non-essential – gray wolf.

The Gallatin NF list of Management Indicator Species (MIS) includes the: grizzly bear, bald eagle, elk, wild trout, goshawk, and pine marten. The goshawk may occur in the area and the pine martin may occasionally utilize habitat on the property.

Forest associated migratory bird species common to southwest Montana are likely to use the Hebgen Cabin tract for nesting, feeding, loafing, and other various activities. Use of the tract is limited by its small size and lack of complex habitats. These species are protected under the Migratory Bird Treaty Act of 1918 and Executive Order 13186 (January 10, 2001) incorporating migratory bird conservation into agency programs.

The proposed exchange will not result in a change in land management over the current conditions. Because use of the site would be limited and intermittent, and existing wildlife use is light, effects on TES and other wildlife species from transferring ownership to NorthWestern are expected to be small, if any.

## **Human Environment**

### **Noise & Electrical Effects**

Continued occasional recreational use by NorthWestern Energy employees and their guests is not expected to increase noise levels. No changes to electrostatic or electromagnetic conditions are predicted. Radio and television reception will not be influenced by this exchange.

### **Land Use**

The traditional recreational activity by the company employees and guests would continue as it has for many years. The productivity and profitability of the Hebgen Cabin tract would not be affected if ownership transfers to NorthWestern Energy. Transferring ownership from the FS would reduce government administration of this site. The continued intermittent recreational use of the parcel and its remote location will have little effect on area residences.

### **Risk & Health Hazards**

Limited visitation and human use of the property presents little risk of explosion or release of hazardous substances in the event of an accident.

Land and Water Consulting completed a *Hazardous Materials Specialist Report*, December 2001, which did not find any recognized environmental conditions during a site visit or in the record search of the tract. No litter, debris, drums, household waste, hazardous material containers, or fuel storage tanks were found on the property or viewed on adjacent properties.

Continued recreational use of the tract by NorthWestern Energy is not expected to increase risks or health hazards.

### **Community Impact**

Due to continued use as an employee and guest recreational retreat, the human population in the area is not expected to differ with the proposed exchange. The dam maintenance staff residence is the only home near the subject parcel. The social structure of the communities of West Yellowstone (18 air miles southwest) or Ennis (39 air miles northeast) will not change from the proposal, nor will the industrial or commercial activity in the area. Patterns of human movement to, from and within the site are not expected to change.

### **Taxes**

It is estimated that taxes paid to Gallatin County would not significantly change. NorthWestern Energy currently pays taxes on the property improvements and Gallatin NF pays PILT and 25% Fund monies on the 2.2 acres of land. If the exchange is implemented, the land and improvements will be taxed as private property and paid by NorthWestern Energy.

### **Public Services, Utilities**

The proposed transfer of the subject tract from the FS to NorthWestern Energy would reduce the level of future governmental services required. No new utilities are proposed by NorthWestern Energy. The water and septic system will continue to be shared with the Operator Camp systems under an agreement between NorthWestern Energy and PPL Montana. There is sufficient space on the tract to construct a septic system and water well, however, if necessary in the future.

The Hebgen Cabin tract includes approximately 450 feet of unimproved **road** to the cabins, which can be legally accessed directly from U.S. Highway 287. The road continues south and east onto FS lands and exits again on the highway. Continued access via this southern route allows for through traffic on a more moderate slope and reduces the space necessary for parking and turn-around. In compliance with the Forest Land Management Planning Act of 1976, the U.S. would issue a perpetual easement to NorthWestern Energy for use of the road on FS land. The U.S. will retain the right to

review the easement terms and conditions every 30 years and the U.S. will retain the right to use this road to access FS lands surrounding this tract.

No revenue is collected by the FS from this site. Maintenance costs for the roads, land, and buildings would be borne by the owner.

### **Aesthetics & Recreation**

Transfer of this property will not alter the scenic vistas and aesthetic character of this area. Because the cabins are considered historically important, NorthWestern Energy has agreed to maintain them and has no plans for significant changes to the site. This site has not been open to the public in the past, therefore public recreational opportunities will not be altered.

This is not part of a recognized wilderness area or educationally important study area.

### **Cultural & Historical Resources**

The land itself is the subject being transferred under the proposed exchange. The buildings located on this tract are owned by Northwestern Energy. These are considered contributing elements of the historic site “24GA848: Hebgen Dam Recreation Camp.” The remaining structures (Operator Camp) that compose the historic site 24GA848 are owned by PPL Montana and would be managed under the stipulations agreed to under the Federal Energy Regulatory Commission license for the Missouri-Madison Hydroelectric Project.

The buildings on the Hebgen Cabin tract that contribute to the historic district are: the lodge, two 4-room cabins, a two-room cabin, two bath houses, and two abandoned outhouses.

NorthWestern Energy (formerly MPC) and PPL Montana have agreed to maintain the historic buildings of site 24GA848 according to the management plan developed during the FERC relicensing titled the “Hebgen Developments: Replacement in Kind” agreement or the “Continuity of Use” (COU) agreement developed in consultation with Montana SHPO. This plan was stipulated in the Missouri-Madison Hydroelectric Project Final Environmental Impact Statement (FERC, 1999; page 2-16) and Environmental Report (MPC, 1992; page E-1-45) (Land and Water Consulting, *Cultural and Historical Resources Specialist Report*, December 2001). NorthWestern Energy has agreed to implement this COU agreement on the subject tract as part of a conservation easement held by a qualified receiver. With this agreement adopted into a conservation easement, it will ensure that the historic property will continue to be managed in the same way as under FS ownership, thus no adverse effect (36 CFR800.9 c (2)) (electronic communication from Walt Allen, Gallatin NF Archeologist, March 27, 2002).

### **Evaluation of Mitigation or other Control Measures**

If a portion of the overall Alberton Gorge Land Exchange fails, this proposal to transfer the Hebgen Cabin tract to NorthWestern Energy may fail, as well.

This component of the land transfer is not expected to conflict with local, state or federal regulations. Substantial debate is not expected about the nature of the impacts created, nor is substantial public controversy anticipated regarding the Hebgen Cabin tract since historic use will continue and no significant impacts have been identified.

The conservation of the historic site 24GA848 is an important element in this tract and can be accomplished through implementing the “Hebgen Developments: Replacement in Kind” or COU agreement in a conservation easement or restrictive covenants.