6 Draft Land Protection Plan

The land protection plan provides a general description of the operations and management of the Swan Valley Conservation Area, as outlined in alternative B, the proposed alternative of the Swan Valley Conservation Area environmental assessment. The U.S. Fish and Wildlife Service developed this LPP during the planning process to provide local landowners, governmental agencies, and the interested public with a general understanding of the anticipated management approaches for the proposed easement program. The purpose of the LPP is to present a broad overview of the Service's proposed management approach to wildlife and associated habitats, public uses, interagency coordination, public outreach and other operational needs.

PROJECT DESCRIPTION

The Swan Valley Conservation Area is a conservation strategy to protect one of the last undeveloped, low elevation coniferous forest ecosystems in western Montana. The Swan Valley is situated between the roadless areas of the Glacier National Park/Bob Marshall Wilderness Complex, the Mission Mountains Wilderness, and the equally large Bitterroot/Selway Wilderness Complex to the southwest. As such, it provides an avenue of connectivity between the Canadian Rockies and the Central Rockies of Idaho and Wyoming.

The Swan River Valley is part of the Interior Columbia River Basin Area. The Swan River originates at Gray Wolf Lake in the Mission Mountains and flows through Swan Lake at the northern end of the valley, before entering the Flathead Lake watershed, ultimately flowing into the Columbia River System. The Swan Valley lies at the western edge of the Crown of the Continent ecosystem that is the last remaining ecosystem that still supports a full assemblage of large mammalian predators including grizzly bears, gray wolves, wolverine, and Canada lynx.

The project area encompasses an 187,400-acre landscape on the valley floor of the 469,000-acre Swan watershed. The Swan Valley is located on the western edge of the CoCE, approximately 30 miles southeast of Kalispell, Montana. The Bob Marshall Wilderness and Glacier National Park mark the eastern boundary, with the Mission Mountains Wilderness and Confederated Salish and Kootenai tribal lands on the western boundary, and the Blackfoot River Valley flanking the southern side of the watershed.

STRATEGIC HABITAT CONSERVATION

Strategic Habitat Conservation (SHC) is a means of applying adaptive management across large landscapes. SHC involves an ongoing cycle of biological planning, conservation design, conservation delivery, outcome-based monitoring, and assumption-based research. SHC uses science to focus conservation in the right places (USFWS 2008).

In 2004, the U.S.Fish and Wildlife Service's Partners for Fish and Wildlife program led a statewide, strategic habitat conservation planning effort for focusing work in Montana. The state was divided into three broad geographic regions based on similar habitat types. Within each region, priority federal trust species and "guilds" were identified. The Montana Habitat and Population Evaluation Team (HAPET) office then assisted with gathering and creating spatially-explicit models and data sets for priority trust resources. In addition, the scientific-based planning efforts of partner agencies and conservation organizations were incorporated. These include the Strategic Habitat Conservation Report prepared by the National Ecological Assessment Team (NEAT); Upper Missouri/Yellowstone/Upper Columbia River Ecosystem Team Focus Area Plan; the Montana Partners Program 1999 Focus Area Plan; Montana's Comprehensive Fish and Wildlife Conservation Strategy Plan; and The Nature Conservancy of Montana's Statewide Conservation Plan. Seven stakeholder meetings were held to gather input from other partners to identify focus areas and develop and appropriate conservation strategy. The 2007 Montana Step-down Strategic Plan identified geographic focus areas, habitat accomplishment targets, and benefit to federal trust species. The comprehensive process ultimately produced ten conservation focus areas for Montana. The Swan Valley CA is within the identified focus areas.

The preparation of this project area LPP addresses the four key elements of SHC: planning, design, delivery, and monitoring and research (see figure 6).

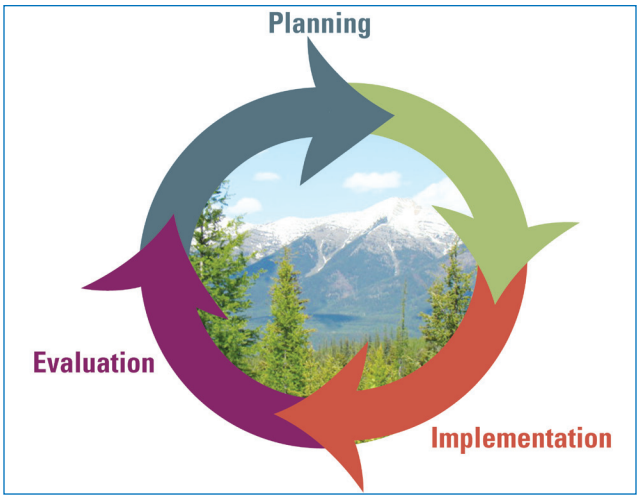


Figure 6. The elements of strategic habitat conservation.

Biological Planning

The Swan Valley is unique among Montana's spectacular valleys in that it contains over 1,000 glacially derived wetlands. In fact, approximately 16% of the land in the Swan Valley is considered wetland habitat (lakes, rivers, ponds, marshes, wet meadows, peatlands, and riparian areas). By comparison, the remainder of Montana averages 1% wetland habitat. There is a higher number of wetland-associated rare-plant species in the Swan Valley, including, federally threatened water howellia. Water howellia is found exclusively in small, swallow depressional wetlands scattered across the valley floor. The Swan Valley is believed to contain the world's greatest density of water howellia.

This fact, along with its diverse forest types, makes the Swan Valley an ideal habitat for a diverse array of wildlife. The federal trust species that would benefit from the proposed habitat protection include listed and candidate species such as grizzly bear, wolf, wolverine, pine martin, and lynx; migratory birds such as harlequin duck, common loon, red-necked grebe, black tern, peregrine falcon, and greater sandhill crane; and native salmonoids such as the westslope cutthroat trout and bull trout.

Focal Species

In order to strategically conserve habitat within the Swan Valley, the Service chose to focus on the grizzly bear and native salmonids, including the threatened bull trout. These species were chosen because they are federal trust resources, they represent the variety of key habitats and capture the needs of several other species in the Swan Valley, and there is sufficient information about them to develop a land protection plan. Water howellia was not chosen as a focal species because a significant number of known populations occur on land that is already protected. However, water howellia depend on dynamic, healthy, and functional wetlands and in Swan Valley the wetlands, streams, and rivers are connected through complex hydro-geomorphic processes (Frissell et al. 1995). Focusing on healthy rivers, streams and associated wetland complexes for bull trout may capture some of the needs for water howellia on private lands.

Population Objectives

Because each of the focal species for the Swan Valley are protected under the Endangered Species Act, specific mission-based population objectives have been defined that correspond to the species' recovery.

Bull Trout

The Swan Valley core area lies within the Clark Fork Recovery Unit (RU). For the Swan Lake core area, the total adult bull trout abundance, distributed among local populations, must exceed 1,000 fish, and adult bull trout abundance must exceed 2,500 in Swan Lake (USFWS 2002).

Grizzly Bear

The Swan Valley lies within the NCDE recovery zone. The Grizzly Bear Recovery Plan (USFWS 1993) specifies multiple thresholds that must be maintained before the grizzly bear population in the NCDE can be considered recovered. For the NCDE, 10 females with cubs inside Glacier National Park and 12 females with cubs outside GNP over a running 6-year average both inside the recovery zone and within a 10 mile area immediately surrounding the recovery zone, excluding Canada; twenty-one of twenty-three bear management units (BMUs) occupied by females with young form a running 6-year sum of verified sightings and evidence, with no two adjacent BMUs unoccupied; and known human-caused mortality not to exceed 4 percent of the population estimate based on the most recent 3-year sum of females with cubs. Furthermore, recovery cannot be achieved without occupancy in the Mission Mountains portion of the ecosystem.

Limiting Factors

Increasing urbanization which causes increased fragmentation of habitat from housing developments and associated road development is a major threat to the Swan Valley and the entire CoCE. Most current published statistics (2000–2009) by the U.S. Census Bureau reported Missoula and Lake Counties experiencing a 13.4% increase in population from 2000 (US Census Bureau 2010). Communities within the Swan Valley experienced a similar growth rate increase of 25%. Montana as a whole experienced a 10.5% increase within that same period (U.S. Census Bureau 2010).

USFWS

Subdivision development impacts habitat connectivity.

For wide-ranging species, such as grizzly bears, unplanned development leads to loss of habitat connectivity within the project area and, on a larger scale, between the CoCE and other historic or potential ranges. Riparian zones, for example, provide excellent habitat and cover for bears moving throughout the watersheds, but they are also among the most desired locations for building (Lolo National Forest 2003). An increase in development also leads to more frequent conflicts between bears and people, due in large part to the increased presence of bear attractants. Human garbage, dog food, and bird seed can condition and habituate bears, leading to more interactions and conflicts with people. These factors can lead to human-caused grizzly bear mortality, which in turn results in a decrease in grizzly bear reproduction, and loss of population and genetic viability. More than 17% of the NCDE is private land and as estimated 71% of bear-human conflicts and bear deaths occur on these private lands (Dr. Christopher Servheen, Grizzly Bear Recovery Coordinator, University of Montana, Missoula, MT; personal interview in person, 11 June 2008). Minimizing attractants on private lands and limiting subdivision are keys to reducing this threat to grizzly bears.

Ultimately, unmanaged growth and residential sprawl may be one of the biggest threats to the recovery of bull trout in the Clark Fork Recovery Unit as well. The entire Recovery Unit holds many of the attributes that increasingly attract people seeking relief from the urban environment. Human population growth in western Montana and northern Idaho has accelerated. The way in which this growth is managed, and our ability to limit the impacts of growth, in particular on bull trout spawning and rearing streams, is pivotal to the success of the bull trout recovery effort (USFWS 2002)

Increasing human populations have a direct impact on all of the other categories of risk that affect bull trout. Both legal and illegal angling (poaching) have direct impacts on bull trout populations, despite the implementation of restrictive fishing regulations and strong educational efforts. The problem of illegal take of bull trout is intensified in stream corridors where roads provide access to highly visible (and therefore vulnerable) spawning stocks. (USFWS 2002).

Key Habitats for Protection

For grizzly bears, the Service used a computer based geographic information system (GIS) to map the Swan Valley and identify the areas of highest human influence. Less developed areas, called "linkage zones," where human activity is still fairly light and appropriate cover (for example, in riparian areas) exists were identified (Pelletier 1995, Servheen et al.2001). If protected, linkage zones can serve to connect the Mission Mountains to the west and the Swan Range and Bob Marshall Wilderness to the east, thus preserving feeding, breeding and travel opportunities for the bears. Models such as these simplify reality in order to make complex interactions manageable for conservation planning. While this analysis cannot capture all of the fine-scale aspects of how grizzlies move across the landscape, it represents the best available scientific information on how human activity influences grizzly bears. In general, as interactions with humans are lowered, bear mortality will also be lowered (Servheen et al. 2001).

For the bull trout, critical habitat (figure 7) has been designated and explicitly mapped in each recovery unit (RU). Critical habitats are those stream reaches and lakes deemed essential to the conservation of the species (USFWS 2009a). To identify those habitats within each RU essential to the conservation of bull trout, the Service used the four biological indicators derived from the 2002 and 2004 bull trout draft recovery plans and seven newly developed "guiding principles" (USFWS 2002, 2004).

The four biological indicators are distribution, abundance, trend, and connectivity. The seven guiding principles are to (1) conserve opportunity for diverse life-history expression, (2) conserve opportunity for genetic diversity, (3) ensure bull trout are distributed across representative habitats, (4) ensure sufficient connectivity among populations, (5) ensure sufficient habitat to support population viability (for example, abundance and trend indices), (6) consider threats (for example., climate change), and (7) ensure sufficient redundancy in conserving population units. In addition to proposed critical habitat, we also considered spatially explicit analysis of river linkages and hydro-geomorphic connectivity of bull trout habitat to key wetland complexes (Frissell et al. 1995).

Conservation Design

The design stage of the SHC process involves assessment of the current state of the system, formulation of habitat objectives, and determination of priority areas.

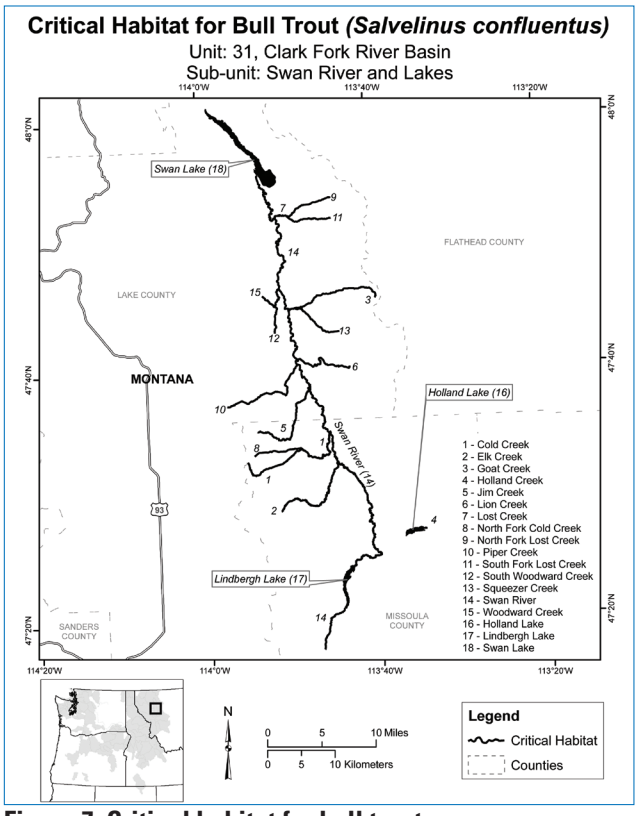


Figure 7. Critical habitat for bull trout.

Current State of the System

In recent years, the mortality threshold for grizzly bear recovery in the NCDE has been exceeded, but the significance of these numbers cannot be evaluated until there is accurate information on population size. Through the use of genetic analysis on collected hair samples, researchers were able to determine that an estimated 765 grizzly bears make their home in the Northern Continental Divide. Of those 765, researchers estimate 470 bears are females. Female bears were also found throughout the entire study area, indicating a good reproductive potential for the species. Analysis of hair samples has allowed researchers to determine genetic health of the grizzly bear population. Although overall genetic variation indicate a healthy population, it is only one piece of the puzzle that managers need for the recovery of grizzlies in the NCDE to be successful (Kendall et al. 2009).

Within the Clark Fork Recovery Area, the Swan Lake bull trout population has remained strong. The Swan Lake population is stable because fish can access about 150 miles of high quality tributary spawning habitat. Most bull trout populations are declining because of habitat degradation, but many of Swan Valley's tributary streams are in good to excellent condition. The core area populations (Swan, Holland, and Lindbergh lakes) represent working models for creating and sustaining bull trout recovery opportunities in heavily managed timber-producing watersheds (USFWS 2002).

Continuous identifiable female bull trout nesting areas (redd) count history dating to 1982 is available for bull trout for four index streams in the Swan River Watershed (MFWP 2009). Bull trout may have reached equilibrium in this system at a population level of about 2,000 adults and the current trend appears stable.

The total redd count was 598 in 2008, representing roughly 2,000 adults in the spawning run. Given that some adults do not spawn every year, the total adult population is likely over 2,500 adult bull trout.

Formulate Habitat Objectives

There are currently approximately 36,000 acres of private land in the proposed Swan Valley CA. 117 miles of bull trout critical habitat and 10,000 acres of grizzly linkage zones occur on private lands. With the current levels of development and fragmentation within the Swan Valley, bull trout populations appear stable, however, the pressure of human-cause mortality on grizzly bears is higher than acceptable for recovery. How much more fragmentation or development could occur, yet still keep bull trout populations stable, and not significantly add to

grizzly mortality, is unknown. Given that conserving all remaining private land with easements to prevent additional development is not a reasonable or desired goal, especially around the existing population centers of Condon and Salmon Prairie, we have set a goal to protect 11,000 acres of existing private lands. Long-term monitoring of grizzly bears and bull trout will be conducted and the goal of 11,000 acres will be periodically re-evaluated.

Priority Areas

The Service is proposing to establish the Swan Valley Conservation Area to purchase conservation easements in order to reduce future impacts of development and habitat fragmentation. Typically, the Service will purchase an easement for the entire ownership of a landowner, therefore the priorities for the Swan Valley Land Protection Plan are based on the best available data on existing private ownerships.

Given the models and habitat objectives we developed the priority areas shown in figure 8. Areas where we can highly benefit both grizzly bears and bull trout through conservation easements have been designated as Priority 1. Priority 1 also includes areas where it appears feasible to link easements to create corridors across the valley. Areas where only one of the species may benefit significantly or where connectivity is more difficult due to small ownerships (<80 acres) or other barriers were designated priority 2. And the remaining areas are Priority 3. These priority areas will be regularly reevaluated and may be adjusted as additional quantifiable data on the habitat needs and limiting factors for focal species in the Swan Valley become available. The monitoring and research section provides further details on this feedback loop.

Conservation Delivery

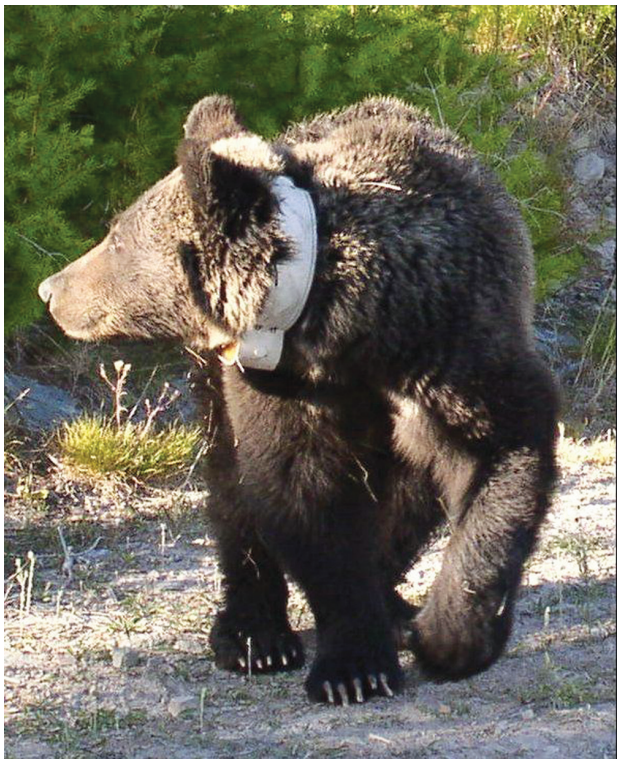
On approval of a project boundary, habitat protection would occur through the purchase of conservation easements. It is the long-established policy of the Service to acquire minimum interest in land from willing sellers to achieve habitat acquisition goals. Some fee-title acquisition would be authorized within the proposed project boundary immediately adjacent to Swan River NWR.

The acquisition authority for the proposed action is the Fish and Wildlife Act of 1956 (16 U.S.C. 742 a-742j). The federal money used to acquire conservation easements from the Land and Water Conservation Fund are derived primarily from oil and gas leases on the outer continental shelf, motorboat fuel tax revenues, and the sale of surplus federal property. There could be additional funds to acquire lands, waters, or interest therein for fish and wildlife conservation purposes through Congressional appropriations, the Migratory Bird Conservation Fund, North American Waterfowl Conservation Act funds, and donations from nonprofit organizations.

The basic considerations in acquiring an easement interest in private land are the biological significance of the area, existing and anticipated threats to wildlife resources, and landowner interest in the program. The purchase of conservation easements would occur with willing sellers only and would be subject to available funding.

Monitoring and Research

As the Swan Valley Conservation Area project develops and conservation easements are purchased, grizzly bears and bull trout will continued to be monitored. The U.S. Fish and Wildlife Service, MFWP, and USGS all have active grizzly bear monitoring and research projects. MFWP, in particular, is focused on developing a science-based population monitoring program that provides the information necessary to successfully manage bears in western Montana (Dood et al. 2006). Specifically, MFWP will monitor a representative sample of twenty-five or more adult females in the NCDE to establish population trends, MFWP will use verified sightings to document changes in bear distribution and linkage areas used, especially by female bears. MFWP will monitor mortality, including timing and causes, and gather survivorship data in cooperation with other agencies. In addition, results from the



MFWP

Collared grizzly bear movement is used to assess populations.

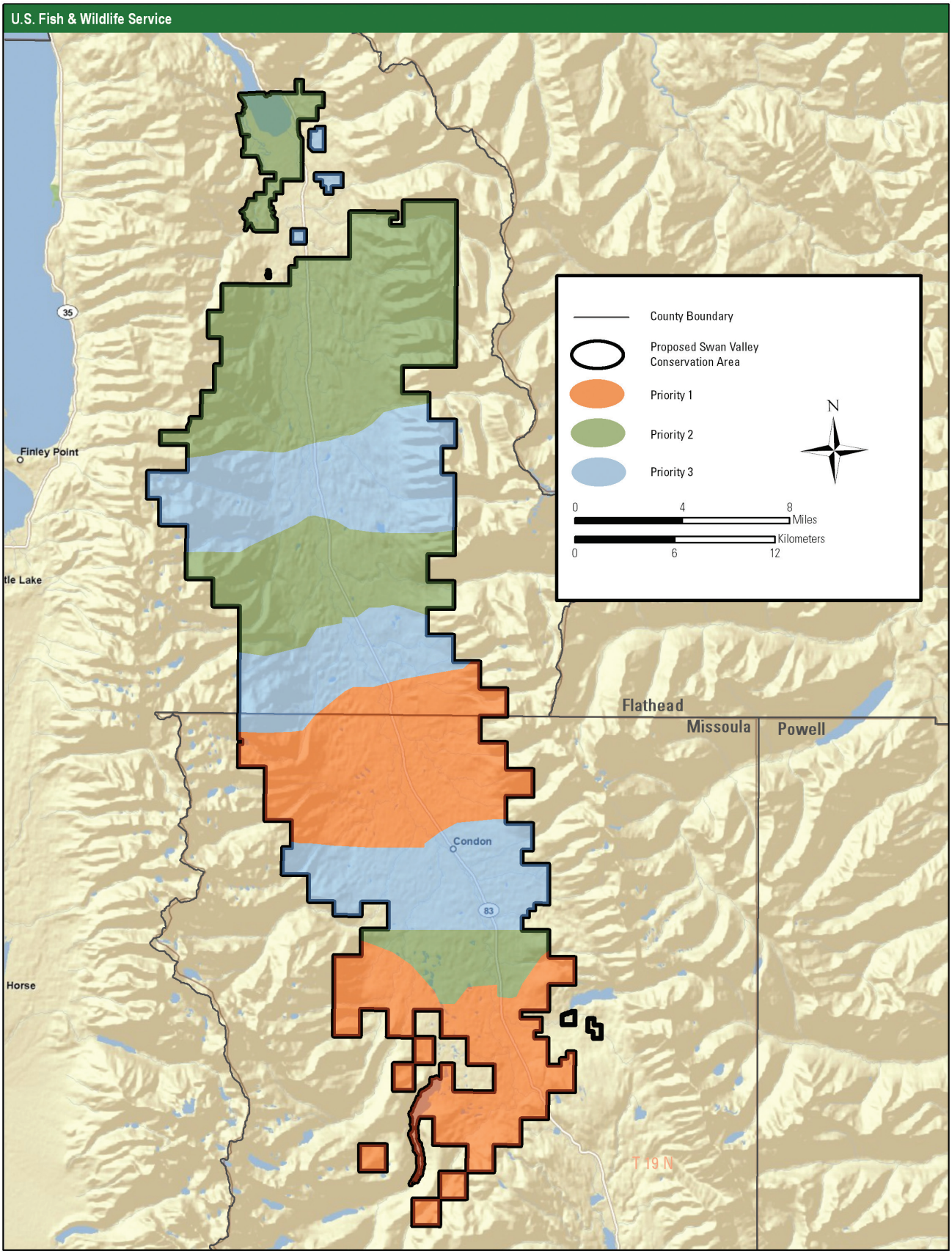


Figure 8. Swan Valley Conservation Area priorities.

2004 USGS NCDE Grizzly Bear DNA project will assist MFWP with bear population size estimation, distribution and population trend from that point (USGS 2004).

The state of Montana began development of a bull trout restoration plan in 1993. The final plan, published in June 2000, sets goals, objectives and criteria for restoration; outlines actions to meet those criteria; and establishes a structure to monitor implementation and evaluate the effectiveness of the plan (MBTRT 2000). One of the stated goals of the plan is to develop and implement a statistically valid population monitoring program. This monitoring program will be an effective tool to assess the status of bull trout in the Swan Valley CA.

Grizzly bears and bull trout have been identified as a focal species for the Great Northern Landscape Conservation Cooperative. The GNLCC was established, in part, to foster cooperation between agencies and support monitoring and research where there are common interests. Continual evaluation of grizzly bear population trends and habitat use will be used to evaluate and refine conservation efforts on the ground within the GNLCC.

COORDINATION

The proposed Swan Valley Conservation Area has been discussed with landowners, conservation organizations, government officials, and other interested groups and individuals. The proposal and associated EA address the protection of native habitats, primarily through acquisition of conservation easements by the Service under the direction of the National Wildlife Refuge System.

Public open houses were held in Condon, Montana on May 18 and June 2, 2010. Public comments were taken to identify issues to be analyzed for the proposed project.

Approximately thirty-seven landowners, citizens, and elected representatives attended and most expressed positive support for the project.

In addition, the Service's field staff has contacted local government officials, other public agencies, sportsmen's and women's groups, and conservation groups, all of which have expressed an interest in and a desire to protect the Front from the pressures brought about by rural subdivision.

SOCIAL AND CULTURAL CONSIDERATIONS

The Swan Valley watershed ownership consists of 286,798 acres of federal (U.S. Forest Service and Service) lands, 45,676 acres of state (Montana Department of Natural Resources) land, 66,066 acres owned by The Nature Conservancy, 12,154 acres owned by Plum Creek Timber Company, and 51,808 acres of private lands. Most of the middle and high elevation forested lands within the watershed are administered by the U.S. Forest Service. Private lands are concentrated in the low elevation portions of the watershed (see figure 3, map of landownership in Swan Valley Conservation Area).

In 2008, The Nature Conservancy and the Trust for Public Lands entered into an agreement with PCTC to purchase, in a three-phase project, a total of 312,500 acres in western Montana known as the Montana Legacy Project. A total of 65,630 acres is located on the valley floor in Swan Valley. The USFS is scheduled to purchase 44,821 acres in 2010 and 20,809 acres will be purchased by the Montana DNRC in 2011. The Montana Legacy Project is the single largest conservation effort in the country to date. This transfer of ownership from corporate lands to public lands will have major benefits in reducing the checkerboard pattern of ownership within the valley and in protecting critical fish and wildlife habitat.

Currently, landowners pay property taxes on their private land to the counties. The Swan Valley CA is mainly a proposed conservation easement program; the land does not change hands and, therefore, the property taxes paid by the landowner to the county are not affected. Minimal changes to the tax base are anticipated. Fee-title lands purchased would be subject to the Revenue Sharing Act (16 USC 715s) which requires revenue sharing payments to counties for the purchase of the land. The amount is based on the greatest of (1) ¾ of 1 percent of the market value, (2) 25 percent of the net receipts, or (3) 75 cents per acre.

Hunting and fishing are very popular throughout the project area. Hunting for a variety of wildlife includes waterfowl, upland game birds, pronghorn, elk, moose, deer, black bear, bighorn sheep, mountain lion, and furbearers. Private landowners often give permission for hunting and fishing on their land. Under a conservation easement, control of public access to land would remain under the discretion of the landowner. Any parcels adjacent to Swan River NWR acquired by fee-title, would be administered and managed as part of the refuge, where a variety of wildlife-dependent recreational opportunities are available to the public.