

# 3 Threats to and Status of Resources



*Wetland restoration on private land in the Swan Valley.*

This chapter discusses the effects of establishing the Swan Valley Conservation Area.

## **EFFECTS ON THE BIOLOGICAL ENVIRONMENT**

The establishment of the Swan Valley CA has a variety of effects on wildlife habitat and water resources.

### ***WILDLIFE HABITAT***

Establishing the Swan Valley CA will provide for the conservation of up to 11,000 acres of important habitat on private land. This project will help maintain the uniqueness of the Swan Valley and complement conservation efforts of the MFWP, TNC, TPL, Montana Land Reliance (MLR), Vital Ground, Swan Valley Ecosystem Center, and other federal and state agencies.

Conservation easements within the Swan Valley will help alleviate habitat fragmentation issues. Key biological linkages will facilitate wildlife movement and provide for wildlife habitat requirements. The potential for human-wildlife conflicts will be greatly reduced.

Compatible agricultural practices such as livestock grazing or haying will continue, while sodbusting (breaking of native rangeland) and wetland drainage

will be prohibited. Easements will maximize the connectivity with other protected lands and decrease the negative impacts of habitat fragmentation on grassland birds (Owens and Myers 1972).

### ***WATER RESOURCES***

Water resources on the 10,000 acres of conservation easements and the additional 1000 acres of fee-title acquisitions will be protected from increased nonpoint source pollution from residential subdivision, commercial development, and draining of wetlands, all of which are prohibited under the easement project. This protection will also improve water resources throughout the Swan Valley watershed.

Landowners participating in the conservation easement project will continue to own and control water rights.

## **EFFECTS ON THE SOCIOECONOMIC ENVIRONMENT**

The analysis of the chosen alternative considered landownership and land use, the value of intact ecosystems, wind energy development, and public use effects on the socioeconomic environment.

### LANDOWNERSHIP AND LAND USE

The Swan River watershed includes the communities of Condon, Salmon Prairie, Swan Lake, Ferndale, and Bigfork, and spans portions of Lake and Flathead counties. The remaining private land in the Swan Valley is relatively undeveloped except for two small communities totaling less than 400 people.

The Service will purchase up to 1,000 acres of fee-title land, and approximately 10,000 acres of conservation easements. Only willing sellers will be considered and paid appraised market value for these lands. Buffer areas will be maintained around rural communities to provide them with the ability to meet their community development goals and objectives.

### VALUE OF INTACT ECOSYSTEMS

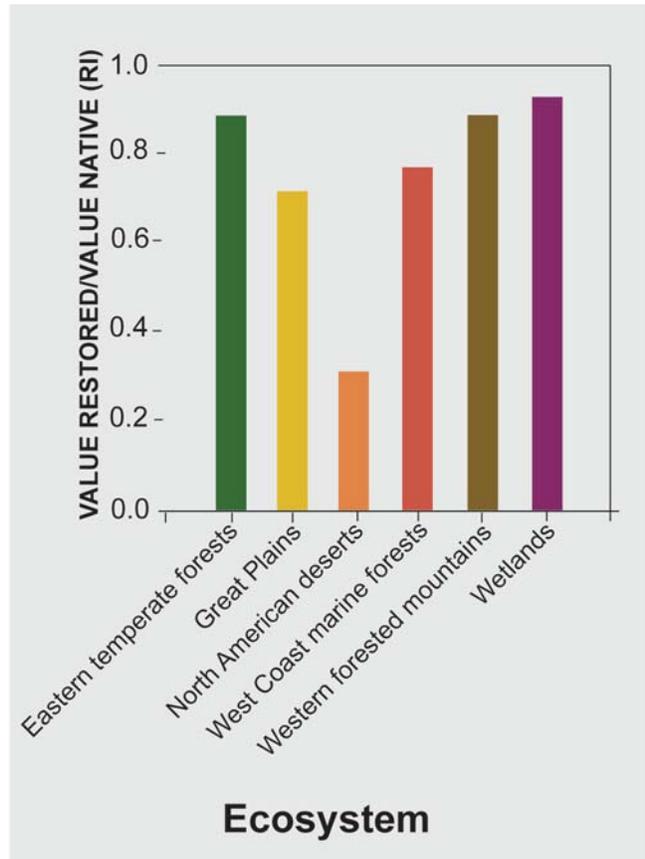
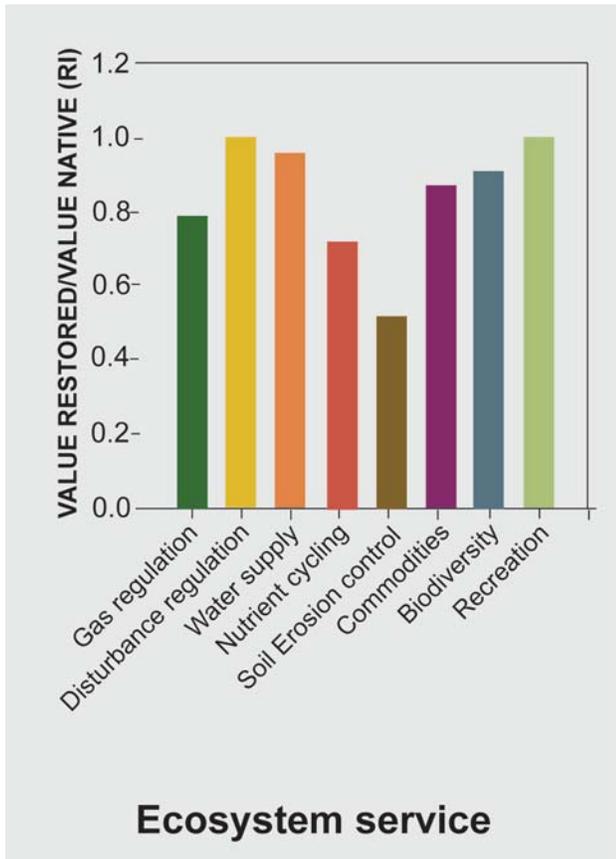
Humans influence every ecosystem on earth, leading to impairment of natural ecosystem structure and function (MEA 2005). Converting native land to row-crop agriculture, suppressing fire, diverting water flow, increasing nutrient and toxic pollution, altering global precipitation patterns and gas concentration, and homogenizing and lowering global biodiversity are a few of the ways humans have altered

ecosystems. North American forests, savannas, and grasslands have experienced substantial losses, whereas woody savanna, shrubland, and desert areas have expanded because of desertification and woody expansion into grasslands (Wali et al. 2002), inevitably leading to changes in ecosystem function (Dodds et al. 2008).

Conserving native land cover is an important component of maintaining ecosystem structure and function. Native forest habitats will remain intact, continuing to provide ecosystem goods and services to landowners and local communities. Ecosystem services include: soil erosion control, water supply, biodiversity, and carbon sequestration. The project will help protect valuable ecosystem services (see figure 4). The Swan Valley is a relatively intact system. Protecting this system is less expensive than the prohibitively high cost of restoration.

### WIND ENERGY DEVELOPMENT

Wind development within the Swan Valley Conservation Area will not occur on conservation easement and fee-title properties due to restrictions on wind development. This reduces fragmentation within the valley from the placement of towers



**Figure 4. Relative native and restored benefits of ecosystem goods and services.**

The relative value, RI, is determined as the ratio of estimated benefits derived from native and restored acreages per year. (Source: Dodds et al. 2008)

and associated infrastructure development. This improves the wildlife corridors' integrity throughout the valley and helps reduce human–bear conflicts. Restricting wind towers also prevents mortality from direct strikes of towers by migratory birds and other avian wildlife species.

### **PUBLIC USE**

Conservation easements purchased on private tracts will not change the landowner's right to manage public access to their property. Under the easement project, private landowners will retain full control over their property rights, including allowing or restricting hunting and fishing on their lands.

Lands purchased in fee-title will be managed as part of the Swan River NWR, which permits public use. Wildlife-dependent recreation opportunities at the Swan River NWR include hunting, fishing, wildlife observation and photography, interpretation, and environmental education. Fee-title acquisition will provide additional recreational opportunities on the refuge.

### **ECONOMIC IMPACTS**

Increases in employment, annual operating expenditure, and easement purchases will contribute to the economic activity that the Benton Lake National Wildlife Refuge Complex generates in the project area. The socioeconomic impact of visitor expenditure is not included in this analysis as historical public visitor data at conservation areas is not available, and visitor increases due to public awareness of conservation activities is difficult to quantify.

According to Service staff, new employment associated with this project will require 1.67 full-time equivalent (FTE) employees and \$91,518 in salaries or an average of \$54,801 per new employee. Assuming employees spend 79 percent of their earnings locally, the direct socioeconomic impact of increased employment at Swan Valley CA is \$72,299 annually.

Approximately \$15,210 in operating expenditures associated with landowner management, employee training, and travel expenses will be added. These funds are spent on local goods and services and therefore directly impact the economy in the study area.

The direct economic impact of easement acquisitions is more difficult to attribute to the study area as it is less obvious where landowners may spend this income. In the Swan Valley CA, easements are worth an estimated \$25,000,000. Table 4 presents a summary of annual operating costs and salaries associated with this project.

**Table 4. Summary of annual operating costs and salaries associated with the economic impacts of conservation easements in the Swan Valley Conservation Area.**

	<i>Current Impacts</i>	<i>Easement Program Impacts</i>
Salaries	\$ --	\$ 72,200
Operations	\$ --	\$ 15,210
Total Impacts	\$ --	\$ 87,509
Increase above baseline		\$87,509

As shown above, the total direct economic impacts related to the Swan Valley CA are estimated at \$87,509.

### **UNAVOIDABLE ADVERSE IMPACTS**

No direct or indirect unavoidable adverse impacts to the environment will result from the establishment of the Swan Valley CA, and it will not result in unavoidable adverse impacts on the physical or biological environment. The selection of an approved boundary will not, by itself, affect any aspect of landownership or values.

### **IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

There will not be any irreversible or irretrievable commitments of resources associated with the establishment of the Swan Valley CA. Once easements and fee-title lands are acquired, irreversible and irretrievable commitments of funds to protect these lands (such as expenditure for fuel and staff for monitoring) will exist. Some additional expenditure will occur for management and maintenance for additional fee-title acquisition near the refuge.

### **SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY**

The Swan Valley CA will maintain the long-term biological productivity of the Swan Valley, increase protection of endangered and threatened species, and protect biological diversity.

The nation will gain the protection of one of the last undeveloped, low-elevation coniferous forest ecosystems, and the associated fish and wildlife species, for future generations of Americans. The public will gain long-term opportunities for wildlife-dependent recreational activities on the fee-title additions.

## CUMULATIVE IMPACTS

Cumulative impacts are defined by National Environmental Policy Act (NEPA) policy as the impacts on the environment which result 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).

This section describes the cumulative impacts on the environment that may result from the combination of reasonably foreseeable actions in the Swan Valley CA, together with other biological and socioeconomic conditions, events, and developments.

Through the easement project and limited fee-title purchase, approximately 11,000 acres of privately owned biologically important habitats will be added to the 332,000 acres within the Swan Valley watershed that already have some level of protection. This will have long term positive impacts on wildlife habitat and result in the long term conservation of migratory birds, threatened and endangered species, native plants, and the overall biological diversity of the Swan River watershed.

### PAST ACTIONS

There are currently 332,000 acres within the Swan Valley River watershed project area that already has some level of protection.

At the northern end of the valley where the Swan River flows into Swan Lake, the Service owns the Swan River National Wildlife Refuge. This 1,568-acre refuge, with an additional 210-acre USFS inholding, was purchased for migratory birds under the Migratory Bird Conservation Act, 16 U.S.C. 715-715. Adjacent to the refuge, TNC purchased a 392-acre property called the Swan River Oxbow Preserve in 1986. These critically important fee-title lands form a crucial biological anchor in the northern part of the Swan River watershed. This jointly owned 2,170-acre area is home to a variety of wetland communities, many species of birds, and several rare plants including the threatened water howellia. Historically, portions of this land served as a homestead site and supported such activities as farming, logging, grazing, and even a muskrat farm.

Protecting habitat for the federally listed water howellia is a high priority in the Swan Valley CA. Howellia is thought to be extinct in California and Oregon, and is threatened in Washington, Idaho, and Montana. On the preserve and refuge, water howellia grows in the extensive marshes. Water howellia populations fluctuate with changes in the climate and it is estimated that the Swan River Oxbow Preserve supports approximately 5,000 plants, due in part to the variable drying regimes found across the refuge and preserve. This population is extremely sensitive

to climatic change, soil conditions, and disturbance. The Bob Marshall and Scapegoat wilderness areas to the east perpetually protect over 1.5 million acres, connecting the Rocky Mountain Front and Blackfoot Valley to Swan Valley. To the west lies the 73,877-acre Mission Mountains Wilderness which provides connectivity to the Selway/Bitterroot Wilderness to the southwest covering an additional 1.3 million acres.

In 2008, The Nature Conservancy and the Trust for Public Lands entered into an agreement with Plum Creek Timber Company 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 are located on the valley floor in Swan Valley. The U.S. Forest Service is scheduled to purchase 44,821 acres in 2010 and 20,809 acres will be purchased by the Montana Department of Natural Resources 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.

### PRESENT ACTIONS

Within the CoCE, areas that were not suitable for homesteading and settlement were designated as federal lands. Settlers selected the milder and fertile valleys. These areas are currently under the greatest developmental pressure. Because of these threats and pressures, the Service has defined three project areas within the CoCE to concentrate strategic acquisition to (1) maintain biological diversity related to wildlife values; (2) link together existing protected areas; (3) preserve existing wildlife corridors; and (4) protect the large, intact, functioning ecosystem, while maintaining the rural character and agricultural lifestyle of western Montana. The Land and Water Conservation Fund and potential conservation partners will provide funding for these efforts. Table 5 shows the proposed acquisition acreage, type of acquisition tool, focal species, and key partners for each of the three project areas, Blackfoot Valley Conservation Area expansion, Rocky Mountain Front Conservation Area expansion, and Swan Valley Conservation Area.

### Economic Effects of Present Actions

Combining the effects of Service employment (\$228,177) and operations (\$22,123), the total baseline economic activity generated by the conservation areas in the twelve-county study region is approximately \$250,300 annually.

As described in Table 5, total operational expenditures will increase by \$64,423 for all three conservation projects. A total of 5.01 new FTE

**Table 5. Summary of U.S. Fish and Wildlife Service projects for the Crown of the Continent ecosystem.**

Project Area	Proposed Project Area	Potential New Acreage	Type of Acquisition Tool	Focal Species	Key Partners
Rocky Mountain Front Conservation Area Expansion	Expand existing area from 527,000 acres to 918,000 acres	125,000 acres	Conservation easement	Grizzly bear, migratory birds, long-billed curlew, Sprague's Pipit, McCown's longspur	Private landowners, The Nature Conservancy, The Conservation Fund, Richard King Mellon Foundation
Blackfoot Valley Conservation Area Expansion	Expand existing area from 165,000 acres to 824,024 acres	80,000 acres	Conservation easement	Grizzly bear, Canada lynx, bull trout, westslope cutthroat trout, migratory birds	Private landowners, The Blackfoot Challenge, The Nature Conservancy, Trout Unlimited
Swan Valley Conservation Area	New proposed area of 187,400 acres	11,000 acres	Conservation easement and limited fee title (less than 1,000 acres)	Grizzly bear, Canada lynx, bull trout, migratory birds: Lewis' woodpecker, black tern, trumpeter swan, olive-sided flycatcher	Private landowners, The Nature Conservancy, Trust for Public Lands, Swan Valley Ecosystem Center, Plum Creek Timber Company, Vital Ground, Trout Unlimited, Northwest Connections

employees will be hired at a combined salary of \$274,554. Assuming 79 percent of salaries are spent within the impact region, there will be an additional \$216,897 in direct economic impacts to the study area. The increased operational (\$64,423) and employment (\$216,897) expenditures added to baseline direct economic activity (\$250,300) yields a total direct economic impact of \$531,620 annually, which is an increase of \$281,320 from current baseline impacts.

### Other Present Actions by the Service

The Partners for Fish and Wildlife Program continues to develop strong partnerships with private landowners in Swan Valley through the implementation of habitat restoration and management projects on private lands. Strong partnerships have also been developed with a variety of agencies and organizations jointly involved to accomplish similar objectives through restoration and protection projects. Habitat restoration efforts currently focus on wetlands, streams, native grasslands, and riparian areas. Typical projects

include wetland restoration, riparian corridor enhancement (revegetation), instream restoration, and the development of grazing systems to rejuvenate native grasslands.

Several grant programs administered by the Division of Ecological Services are available to tribes, states, and individual private landowners, for projects that benefit federally listed, proposed, or candidate species. The Swan Valley provides an opportunity for the Service to collaborate with many public and private partners to conserve endangered species.

The Swan Valley CA will protect and maintain the integrity of the Swan Valley's unique complex of wetland, grassland, and riparian habitats and their diverse complement of fish, wildlife, and plants. These easements will also provide a vital link or protected habitat corridor between the existing protected "biological anchors" including the Bob Marshall Wilderness and Mission Mountain Wilderness, Swan River NWR, and TNC Swan River Oxbow Preserve.

The Swan Valley CA will have long term positive impacts on wildlife habitat and will result in the long term conservation of migratory birds, threatened and endangered species, native plants, and the overall biological diversity of the Swan Valley and the CoCE.

### ***REASONABLY FORESEEABLE FUTURE ACTIONS***

Based on past conservation successes within the Crown of the Continent ecosystem, we anticipate nonprofit organizations continuing to promote and secure conservation easements on additional private lands. It is likely the bulk of the nonprofit work involving conservation easements will be in partnership with the Service's goal of protecting 216,000 additional acres within the Crown of the Continent ecosystem.

### **Missoula County Open Space Bond**

Missoula County within the Crown of the Continent ecosystem has established an open space bond with over \$5,000,000 dedicated to protecting private lands, while keeping it in private ownership and on the tax rolls. Future partnerships to protect private land and the associated fish and wildlife resources are expected to occur with the Service under this initiative.

### **Vital Ground Foundation**

The Vital Ground Foundation is a Missoula, Montana-based land trust dedicated to protecting private land and habitat for the endangered grizzly bear and other wildlife. The foundation was established in 1990 and has worked with a variety of individual, corporate, foundation, agency, and community-based partners and supporters. In the past 20 years, the group has helped to protect nearly 600,000 acres of crucial wildlife habitat including portions of the Crown of the Continent ecosystem. Future partnerships to protect critical grizzly bear habitat are expected to occur with the Service (Vital Ground 2010).

### **Montana Land Reliance**

“The mission of the Montana Land Reliance is to provide permanent protection for private lands that are significant for agricultural production, fish and wildlife habitat, and open space. The immediate accomplishments of MLR's conservation work are measured in miles of streambanks and acres of land and habitat that are protected. The lasting benefits of MLR's work are the perpetuation of a lifestyle and an economy that rely on responsibly managed private land and increasingly valuable Montana open spaces that will continue to nourish the spirit of future generations.” The MLR has been active in the Swan Valley for over 10 years. Future partnerships with the Service are expected to conserve fish and wildlife resources in the future (Montana Land Reliance 2010).