Appendix 27

Target Species Descriptions and Links

This appendix provides brief descriptions of each of the target species and general and specific links with more detailed information. For each target biome, it lists in a table the terrestrial species closely associated with that biomes, highlighting the target species. Species descriptions for each target species follow the table along with listings of associated electronic links. Table 1 below lists the all of the target species.

Table 1. Terrestrial target species.

MAMMALS	IBIS STATUS	BIRDS (CONT.)	IBIS STATUS	BIRDS (CONT.)	IBIS STATUS
American Beaver	*CFLS*	Black Swift	*FS*	Merlin	*FS*
American Pika	*CFLS*	Black Tern	*CFLS*	Northern Goshawk	
Big Brown Bat	*CFLS*	Black-backed Woodpecker		Northern Pygmy-owl	*FS*
Black Bear	*CFLS*	Black-chinned Hummingbird	*CFLS*	Olive-sided Flycatcher	
Bushy-tailed Woodrat	*CFLS*	Boreal Owl	*FS*	Peregrine Falcon	*FS*
Deer Mouse	*CFLS*	Brewer s Sparrow		Pileated Woodpecker	
Fisher	*CFLS*	Brown Creeper		Red-eyed Vireo	
Golden-mantled Grnd Squirrel	*CFLS*	Brown-headed Cowbird	*CFLS*	Red-naped Sapsucker	
Grizzly Bear	*CFLS*	Calliope Hummingbird		Ruffed Grouse	
Lynx	*FS*	Canada Goose	*CFLS*	Rufous Hummingbird	*CFLS*
Mink	*CFLS*	Columbian Sharp-tailed Grouse		Snowy Owl	*FS*
Montane Vole	*CFLS*	Common Loon		Three-toed Woodpecker	
Moose	*CFLS*	Common Nighthawk	*FS*	Trumpeter Swan	
Mule Deer	*CFLS*	Cordilleran Flycatcher		Tundra Swan	*CFLS*
Northern Bog Lemming	*FS*	Flammulated Owl		Turkey Vulture	*FS*
Northern Pocket Gopher	*CFLS*	Grasshopper Sparrow		Vaux s swift	
Nuttall's Cottontail	*CFLS*	Great Blue Heron	*CFLS*	Veery	
Raccoon	*CFLS*	Great Horned Owl	*CFLS*	Williamson's Sapsucker	*CFLS*
Red Squirrel	*CFLS*	Gyrfalcon	*FS*	Willow Flycatcher	
River Otter		Hammond s Flycatcher		Winter Wren	
Rocky Mountain Elk	*CFLS*	Harlequin Duck	*FS*	**AMPHIBIANS**	
Snowshoe Hare	*CFLS*	Hooded Merganser		Boreal Toad	
Wolverine	*FS*	Horned Grebe		Long-toed Salamander	*CFLS*
BIRDS		House Finch	*CFLS*	Northern Leopard Frog	
American Crow	*CFLS*	Lazuli Bunting		Spotted Frog	
Bald Eagle		Lewis s woodpecker			
Barrow s Goldeneye		Long-billed Curlew			

[1] *FS = Functional specialist, species that have only one or a very few number of key ecological functions. Functional specialist species could be highly vulnerable to changes in their environment (such as loss of carrion causing declines or loss of carrion-feeder functional specialists) and thus might be good candidates for focal species.*

[2] *CFLS = Critical functional link species, species that are the only ones that perform a specific ecological function in a community. Their removal would signal loss of that function in that community. Thus, critical functional link species are critical to maintaining the full functionality of a system. See Appendix 65 (see links column) for the critical functions associated with each of these species.*

4.3.1 Aquatic Biome

Table 2 lists terrestrial species closely associated[14] with the aquatic biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Table 2. Terrestrial wildlife species closely associated with the aquatic biome. Target species are highlighted.

Aquatic Biome		
Belted Kingfisher	Greater Scaup	Ring-billed Gull
Tiger Salamander	Lesser Scaup	California Gull
Long-toed Salamander	Harlequin Duck	Herring Gull
Great Basin Spadefoot	Bufflehead	Glaucous Gull
Boreal Toad	Common Goldeneye	Caspian Tern
Pacific Chorus Frog	Barrow's Goldeneye	Forster's Tern
Columbia Spotted Frog	Hooded Merganser	Vaux's Swift
Painted Turtle	Common Merganser	Tree Swallow
Horned Grebe	Red-breasted Merganser	N. Rough-winged Swallow
Red-necked Grebe	Ruddy Duck	Bank Swallow
Eared Grebe	Osprey	Cliff Swallow
Western Grebe	Bald Eagle	Barn Swallow
Great Blue Heron	American Coot	Muskrat
Canada Goose	Black-bellied Plover	Moose
Mute Swan	Semipalmated Plover	American Dipper
Trumpeter Swan	Greater Yellowlegs	Mink
Tundra Swan	Lesser Yellowlegs	Northern River Otter
Wood Duck	Spotted Sandpiper	Yuma Myotis
Gadwall	Semipalmated Sandpiper	Big Brown Bat
Northern Shoveler	Western Sandpiper	Beaver
Northern Pintail	Wilson's Phalarope	Common Loon
Canvasback	Bonaparte's Gull	Surf Scoter
Redhead	Mew Gull	

Target Amphibian Species Aquatic Biome

General Amphibian Links

The following links provide general and specific information on subbasin target amphibian species.

Click Here

For information on factors that may present a risk to amphibian population viability and accounts on the distribution, habitat use, natural history, and the status and conservation of this species go to Appendix 56.

[14] *According to IBIS-Canada, these species are closely associated with this biome.*

For amphibian information on global and state rank, life history, status, range, migration, habitat, food habitats, and ecology, go to the Montana Field Guide and the Species of Concern Field Guide at http://nhp.nris.state.mt.us/animal/index.html.

Click Here

For amphibian information on conservation status, distribution, rank factors (including threats), economic attributes, ecology, and life history go NatureServe Explorer at http://www.natureserve.org/explorer/servlet/NatureServe?init=Species

Click Here

For species information compiled by the Northwest Habitat Institute, go to: http://www.nwhi.org/ibis/Queries/species/species.asp

Click Here

For amphibian distribution information for Montana, go to: http://gapserv.cr.usgs.gov/state/mt/herps.html

Click Here

Glacier National Park has Excel and Arcview files with presence/absence data for amphibians in the park. Contact Steve Corn at: SteveCorn@usgs.gov. Information is also available from the park on the effects of global climate change on amphibians.

Flathead National Forest (FNF) has amphibian data for the forest that includes a GIS map with locations and an accompanying data base.

Long-toed salamander, *Ambystoma macrodactylum.*

Long-toed salamanders are the most widely distributed and common amphibian species west of the Continental Divide. Risk factors include those common to other amphibians species. In addition, introduced fish can eliminate long-toed salamanders from lakes, roadways can cause significant mortality, and timber harvest techniques can reduce populations of terrestrial salamanders by as much as 75%. Research findings also suggest that the species may be more vulnerable to enhanced UV-B radiation from thinning of the ozone layer than other amphibian species (Maxell 2000). The species is common in the subbasin, and populations are apparently stable.

The long-toed salamander is considered a critical functional link species because it feeds on freshwater or marine zooplankton.

Boreal toad, *Bufo boreas boreas.*

Surveys in the late 1990s in the Northern Rocky Mountains indicated that boreal toads were absent from a large number of their historic localities and that although they were still widespread they occupied an extremely small proportion of suitable habitat (less than 10% in most cases, but usually less than 5%) (Maxell 2000). The USFS has since listed the boreal toad as a sensitive species in all Region 1 Forests and initiated a regional inventory program in Montana (Maxell 2000). That systematic inventory also found toads to be widespread, but extremely rare.

An inventory of standing water bodies in Glacier National Park during the summers of 1999 and 2000, toads were found and bred at approximately 5% (Maxell 2000). Similar patterns have been observed on the Flathead Indian Reservation where breeding occurred at only four of nine historical sites in 1999 and 2000, and at other sites several years have been skipped between breeding events (Maxell 2000). The chytrid fungus may be the most likely cause of declines of boreal toads in western Montana in the late 1970s and early 1980s and clearly represents a threat to populations today (Maxell 2000).

Spotted frog, *Rana luteiventris.*

This is the most common frog in the Flathead Subbasin and is found in the majority of water bodies with emergent vegetation that do not have fish or bullfrogs (Maxell 2000). While the species is common in much of the subbasin, bullfrogs, an introduced species, have apparently extirpated it from some sites along the lower Flathead River and possibly elsewhere. A 1993 survey of the Flathead Reservation found the spotted frog occurs throughout the lower Flathead drainage area, although populations appear diminished (Werner et al. 1995). Significant declines have been reported from states to the south and west of Montana and in the province of Alberta. Most of the habitat factors that many of those declines are attributed to, also occur in the Flathead Subbasin.

Target Bird Species Aquatic Biome

Montana Partners-In-Flight (PIF) Bird Conservation Plan (Casey 2000) classified breeding bird species in Montana based on their priority for conservation actions. Level I species have declining populations; Level II species are under fewer threats but still must be monitored. The following birds are the highest priority (levels I and II) breeding bird species found within the Flathead River Subbasin and are considered target species. Descriptions are adapted from Montana PIF. The technical team also considers all neotropical migrant birds to be species deserving conservation priority in the Flathead Subbasin, as are wood ducks, common goldeneyes, and sandhill cranes.

General Bird Links

The following links provide general and specific information on subbasin target bird species:

Click Here

For Breeding Bird Survey data, of which there are three sites on the Flathead Indian Reservation, go to: http://www.pwrc.usgs.gov/bbs/

For MAPS data (data from the mist-netting of songbirds), of which there are six sites on the reservation and six on the Flathead National Forest, go to: http://www.birdpop.org/nbii/default.asp

Click Here

For PIF priority bird species of the Central Rocky Mountains, go to http://www.blm.gov/wildlife/pl_64sum.htm

Click Here

For the Montana PIF website, which has status information on most of the species listed below go to: http://biology.dbs.umt.edu/landbird/mbcp/mtpif/mtpif.htm

Click Here

Horned grebe

The horned grebe is a level II species found in wetland habitats. It is considered uncommon. Transient records of the species have been reported statewide in Montana; breeding records are much more restricted, primarily from the northwest corner of the state. It has shown significant population declines in the physiographic area that includes eastern Montana

Great Blue Heron

Great blue herons are not a PIF species of concern and are secure. They are found in marshes and wetlands and along ponds, lakes, rivers, fields, and meadows. They are a critical functional link species because they create feeding, roosting, denning, or nesting opportunities for other organisms.

Canada Goose

This bird is not a PIF species of concern and is secure and found near water-related habitats, especially marshes, lakes, rivers, fields, etc. It is a critical functional link species because it feeds on grasses or forbs and may alter vegetation structure and composition.

Trumpeter Swan

The trumpeter swan is a level I species found in wetland habitats. It is considered rare. This species historically bred throughout much of western Montana, but now is found locally only on the Rocky Mountain Front and in the Greater Yellowstone Ecosystem. An attempt at reestablishing a population in the subbasin has been initiated on the Flathead Reservation. It is considered a threatened species and of special concern by all Montana PIF agencies. Montana is one of the few states still supporting a natural population of this species.

Tundra Swan

Tundra swans are not a PIF species of concern and are widely distributed in migration. They have overwintered in the subbasin and are considered secure

and a critical functional link species because they use nesting structures created by other species.

Harlequin Duck

The harlequin duck is a functional specialist. It is also a Partners-in-Flight level I species found in riparian habitats, such as that found along McDonald Creek in Glacier National Park. It is considered uncommon and is classified as a sensitive species by Montana PIF agencies due to its dependence on clean headwater streams for nesting and brood-rearing. Habitat degradation from mining, logging and/or overgrazing has probably reduced the amount of suitable habitat for this species over the last century. The species is the rarest "sea duck" identified in the North American Waterfowl Plan 1998 Update, with a continental population estimate of 200,000 birds.

Barrow's Goldeneye

The Barrow's goldeneye is a level II species that uses wetland and riparian habitats. Considered uncommon, this cavity-nesting duck is found throughout Montana west of the continental divide but is poorly monitored and not typically a target species for waterfowl habitat conservation projects. More than one third of its population is found in the northern Rockies.

Hooded Merganser

The hooded merganser is a level II bird that uses wetland and riparian habitats. A cavity-nesting duck, it is considered common but is poorly monitored in Montana and not typically a target species for waterfowl habitat conservation projects. They breed primarily west of the continental divide in Montana and overwinter in small numbers.

Bald Eagle

The bald eagles is a level II species that uses wetlands and riparian areas. They are considered common. After serious population declines, the bald eagle was designated as threatened in the U.S.A., conterminous (lower 48) states on March 11, 1967. Populations have rebounded and the species was proposed for delisting on July 06, 1999, but it is important to continue monitoring its breeding success in the state, in part as a requirement of the delisting process.

The subbasin provides critical winter foraging areas for resident and migratory eagles (Waller 2002). North of the Flathead Indian Reservation, bald eagle occupy habitats on the three forks and mainstem of the Flathead River, on some of the sloughs adjacent to the river, on the north shore of Flathead Lake, and numerous rivers and lakes throughout the remainder of the subbasin. Some twenty bald eagle

breeding territories occur within the Flathead Indian Reservation. Most of these are along the lower Flathead River, on islands or the shoreline of Flathead Lake, or along tributaries and irrigation reservoirs. Migrant and overwintering bald eagles may number as high as 70 birds during peak periods. Bald eagles are also present along Flathead Lake. There are roughly 30 successful nesting territories in the remainder of the Flathead subbasin (numbers vary from year to year). The northern portion of the subbasin (except for Glacier National Park) supports a productive bald eagle population. Most nests fledge one, and often two, young per nest.

Vaux's Swift

The Vaux's swift is a level II species of riparian and forest habitats and is considered common. It is uniquely dependent on very old, large hollow snags for nesting and roosting, and these components are increasingly rare in the riparian and cedar-hemlock habitats favored by the species. Western Montana and the rest of the northern Rockies support over 40% of the population of this species, most of which are declining. The species is poorly monitored in Montana.

Common Loon

The common loon is a Partners in Flight level I species found in wetland habitats. It is considered uncommon. The common loon is classified as a "sensitive species" by Region One of the Forest Service, and a Species of Special Concern by MFWP. The only significant common loon population in the western continental US is in Montana, and northwestern Montana (including the Flathead Subbasin) is estimated to have 85% of the breeding pairs found in Montana (Waller 2002). Major threats to loons are disturbances to nesting pairs caused by recreational activities, habitat loss due to shoreline development, and water pollution (Waller 2002). The Common Loon Working Group, which has been monitoring the number of adult common loons in the state and loon reproductive rates, does not presently know if current recruitment rates are adequate to maintain a stable population in Montana.

Target Mammals Species Aquatic Biome

General Mammal Links

The following links provide information on subbasin target mammal species:

Appendix 58 includes specific information on habitat within the Flathead National Forest for individual focal and target species, primarily ESA-listed species, within the subbasin.

Click Here

Click Here *For information on global and state rank, life history, status, range, migration, habitat, food habitats, and ecology, of subbasin mammal target species go to the Montana Field Guide and the Species of Concern Field Guide at http://nhp.nris.state.mt.us/animal/index.html.*

Click Here *For information on conservation status, distribution, rank factors (including threats), economic attributes, ecology, and life history of subbasin target mammals go NatureServe Explorer at http://www.natureserve.org/explorer/servlet/NatureServe?init=Species*

Click Here *For information on threatened and endangered mammal species including status and life history with links to habitat conservation and recovery plans, go to : http://ecos.fws.gov/tess_public/TESSWebpageVipListed?code=V&listings=0*

Click Here *For mammal species information compiled by the Northwest Habitat Institute, go to: http://www.nwhi.org/ibis/Queries/species/species.asp*

Click Here *For mammal distribution information in Montana, go to: http://gapserv.cr.usgs.gov/state/mt/mammals.html*

Moose, *Alces alces*

The moose is a critical functional link species. Moose populations increased from the mid-1980s through 1995 and subsequently experienced sharp declines. Since 1999 they have rebounded slightly, but not to levels common in the mid-1980s. Recent surveys indicate bull/cow and calf/cow ratios improved somewhat from previous years, while calf/cow ratios remain lower than expected (MFWP 2001).

Moose are a considered a critical functional link species because their feeding on trees and shrubs may alter vegetation structure and composition.

Moose Links

Click Here *For information on moose in the Canadian and US portions of the North Fork of the Flathead, go to Appendix 59. This report on carnivores includes information on prey populations including moose.*

Click Here *Moose overall distribution and winter ranges data can be obtained at: http://www.fwp.state.mt.us/insidefwp/fwplibrary/gis/gisdownloads.asp#Wildlife*

Mink, *Mustela vison*

Mink favor forested, permanent or semipermanent wetlands with abundant cover, marshes, and riparian zones. They are secure and common in the subbasin. Mink dens in muskrat burrows, abandoned beaver dens, hollow logs, holes under tree roots, or in burrows dug into stream banks. Because they use structures created by other species, they are considered a critical functional link species.

River otter, *Lutra canadensis*

River otters like high flows of clear water with densely vegetated and undercut banks. These animals have an S4 conservation status, meaning they are potentially secure, though can be locally rare.

Big brown bat, *Eptesicus fuscus*

Big brown bats are apparently secure in the subbasin (S4) where they occupy wooded and semi-open habitats. They are more abundant in regions dominated by deciduous forest (cottonwood stands in the Flathead) than in coniferous forest areas. Summer roosts generally are in buildings; also hollow trees, rock crevices, tunnels, and cliff swallow nests. A critical functional link species, they control or depresses insect population peaks.

American beaver, *Castor canadensis*

Studies in the 1980s along the lower Flathead River suggested that altered flow regimes can place increased energy demands on adult beaver by requiring the building and maintenance of several dens to ensure suitable den sites during different discharge rates (Mack et al. 1990). Altered flow regimes can also complicate the task of establishing and securing winter food caches. In Montana and in the subbasin, beaver populations are considered secure, although below presettlement levels. A critical functional link species, they are primary consumers, specifically bark/cambium/bole feeders. They also create aquatic structures that may be used by other organisms, and they impound water by creating diversions or dams, creating ponds and wetlands.

4.3.2 Grassland Biome

Table 3 lists terrestrial species closely associated with the grassland biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Target Bird Species Grassland Biome

(for general bird links, see Aquatic Biome earlier in this section)

Red-naped Sapsucker

Red-naped sapsuckers are a level II species of riparian and forest habitats that are considered abundant. This species is almost uniquely dependent on aspen and birch for nesting, occurring in most forested habitats if these trees are present. Populations have increased in Montana. We have a responsibility to continue monitoring the species in the state, particularly if losses of aspen habitat are not reversed. Dobkin considers the red-naped sapsucker a summer resident in Montana and documents breeding distribution across the western two-thirds of the state.

Table 3. Terrestrial wildlife species closely associated with the grassland biome. Target species are highlighted.

Grassland Biome	
Red-naped Sapsucker	Long-legged Myotis
Sharp-shinned Hawk	Silver-haired Bat
Northern Goshawk	Big Brown Bat
Blue Grouse	Townsend's Big-eared Bat
Flammulated Owl	Snowshoe Hare
Northern Pygmy-owl	Townsend's Chipmunk
Barred Owl	Red-tailed Chipmunk
Northern Saw-whet Owl	Columbian Ground Squirrel
Hammond's Flycatcher	Golden-mantled Ground Squirrel
Cassin's Vireo	Cascade Golden-mntld Grnd Squrl
Golden-crowned Kinglet	Northern Flying Squirrel
Varied Thrush	Northern Pocket Gopher
Porcupine	Deer Mouse
American Marten	Bushy-tailed Woodrat
Lynx	Southern Red-backed Vole
Common Shrew	Heather Vole
Pygmy Shrew	Northern Long-eared Myotis
California Myotis	

Northern Goshawk

Northern goshawks are a level II species. Uncommon, this species has long been considered an indicator of old growth coniferous forests. Some biologists no longer believe this, due to the goshawk's use of forests other than old growth during the nesting season and changes in the definition of old growth in the region. No downward trend in population or habitat availability was found during evaluations conducted to determine sensitive species status, 1988-1991 and currently. But low elevation late successional mixed forests and cedar/hemlock forests used by goshawks for nesting have declined from historical levels.

Northern Goshawk Links

Click Here

For a GIS map showing potential nesting habitat for northern goshawks, go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Flammulated Owl

A level I species, flammulated owls occupy forest habitats and are considered rare. Little was known of the distribution and habitat needs of this species in Montana until recent years. Its preference for mature open, dry forests means it has probably declined in population during this century, although the species is poorly monitored. In Montana, the first nesting record was not documented until 1986, and Flammulated Owls were not found regularly until the 1990s. Most Montana breeding records are from west of the continental divide.

Flammulated Owl Links

For a GIS map showing potential habitat for flammulated owls, go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

Northern Pygmy-owl

This species is not a PIF species of concern and is apparently secure but may be impacted by certain logging practices that remove older trees and snags and habitat changes (e.g. dense successional forests following logging) that reduce hunting habitat, avian prey or primary nest excavators. It is found in forests or open woodlands in foothills and mountains and frequents meadows while foraging.

Hammond's Flycatcher

This flycatcher is a level II species of riparian and forest habitats. It is considered abundant. Hammond's Flycatcher populations are increasing in the northern Rockies, but the species' dependence on mature to old-growth forests (Hutto and Young 1999) means there may be a downward trend in suitable habitat.

Target Mammal Species Grassland Biome

(for general mammal links, see Aquatic Biome earlier in this section)

Canada Lynx, *Lynx canadensis*

The Canada lynx is a functional specialist. The Canadian lynx is listed as a Threatened species that has historically existed at very low-densities. The status of the lynx in the subbasin is unknown at this time, although it is known lynx habitat exists and persistent populations exist. Over the last ten years, winter track surveys and remote-sensing camera surveys have consistently detected lynx on the Flathead Indian Reservation in appropriate habitat (CSKT unpubl. data). Track surveys throughout the remainder of the subbasin are detecting an increasing distribution of lynx. Studies of their status in the upper Swan drainage and the Middle Fork of the Flathead River are underway. It is estimated that current populations are relatively high compared to long-term averages, in response to high snowshoe hare populations (Alan Wood, MFWP, Pers. Comm. 2003).

Canada Lynx Links

For information on lynx in the Canadian and US portions of the North Fork of the Flathead, go to Appendix 59.

Click Here

For a map of lynx potential habitat go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

For USFS planning and other information on Canada lynx, go to: http://www.fs.fed.us/r1/planning/lynx.html

Click Here

Click Here *For maps of lynx home ranges and lynx occurrences, go to: http://www.fwp.state.mt.us/insidefwp/fwplibrary/gis/gisdownloads.asp#Wildlife*

Click Here *For a bibliography on Canada lynx, go to: http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/Lynx/Lynxclear.htm*

Click Here *See Appendix 72 for The Nature Conservancy's Wide-Ranging Carnivore Resource Selection Function Maps for lynx in the subbasin.*

Big brown bat, *Eptesicus fuscus*

For big brown bat description, see Aquatic Biome earlier in this section.

Snowshoe hare, *Lepus americanus*

In the subbasin, showshoe hares apparently prefer fairly dense stands of young pole-sized timber with some use of more open stands, openings, and edges. They are a primary prey species for lynx and are considered a critical functional link species because they are coprophagous (feeds on fecal material).

Golden-mantled ground squirrel, *Spermophilus lateralis*

Golden-mantled ground squirrels inhabit mountain slopes and foothills, alpine tundra, open areas in pine, spruce, and fir forests, rocky outcroppings and slides, margins of mountain meadows, and rocky sagebrush country. They are stable in the subbasin. They are considered a critical functional link species because they disperse plants, insects, and other invertebrates.

Northern pocket gopher, *Thomomys talpoides*

Northern pocket gophers use a variety of habitats in the subbasin—from cultivated fields and prairie to alpine meadows, only avoiding dense forests, very shallow, rocky soils, and areas with poor snow cover where the soil freezes over. They are secure and considered a critical functional link species because they are root feeders.

Deer Mouse, *Peromyscus maniculatus*

Deer mice use a wide variety of upland and riparian habitats from open areas and brushlands to coniferous and deciduous forests. Their population status is secure in the subbasin. Deer mice are considered a critical functional link species because they are herbivores that consume fungi.

Bushy-tailed woodrat, *Neotoma cinerea*

Bushy-tailed woodrats are secure in the subbasin. A critical functional link species, they are primary creators of structures that are possibly used by other organisms. They occur at all life zones in the subbasin typically in crevices and holes where

there are large amounts of sticks, leaves and other debris that are used by woodrats to build nests.

4.3.3 Wetland Biome

Table 4 lists terrestrial species closely associated with the wetland biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Table 4. Terrestrial wildlife species closely associated with the wetland biome. Target species are highlighted.

Wetland Biome		
Tiger Salamander	Northern Pintail	Tree Swallow
Long-toed Salamander	Green-winged Teal	N. Rough-wngd Swallow
Great Basin Spadefoot	Canvasback	Barn Swallow
Boreal Toad	Redhead	Muskrat
Pacific Chorus Frog	Lesser Scaup	Northern Bog Lemming
Columbia Spotted Frog	Bufflehead	Moose
Northern Leopard Frog	Ruddy Duck	Marsh Wren
Painted Turtle	Northern Harrier	Raccoon
Common Garter Snake	Virginia Rail	Mink
Common Loon	Sora	Northern River Otter
Pied-billed Grebe	American Coot	Common Yellowthroat
Horned Grebe	Sandhill Crane	Lincoln's Sparrow
Red-necked Grebe	Greater Yellowlegs	Red-winged Blackbird
Eared Grebe	Lesser Yellowlegs	Yellow-headed Blackbird
Western Grebe	Solitary Sandpiper	Yuma Myotis
American Bittern	Spotted Sandpiper	Big Brown Bat
Great Blue Heron	Western Sandpiper	Townsend's Big-eared Bat
Greater White-fronted Goose	Least Sandpiper	Beaver
Canada Goose	Baird's Sandpiper	Western Harvest Mouse
Tundra Swan	Pectoral Sandpiper	Deer Mouse
Wood Duck	Long-billed Dowitcher	Meadow Vole
Gadwall	Common Snipe	Montane Vole
American Wigeon	Wilson's Phalarope	Long-tailed Vole
Mallard	Forster's Tern	Short-billed Dowitcher
Blue-winged Teal	Black Tern	Bonaparte's Gull
Cinnamon Teal	Short-eared Owl	Mew Gull
Northern Shoveler		

Target Amphibian Species Wetland Biome

(for general amphibian links, see Aquatic Biome earlier in this section)

Long-toed salamander, *Ambystoma macrodactylum;* Boreal toad, *Bufo boreas boreas;* Spotted frog, *Rana luteiventris*

For species descriptions of these species, see Aquatic Biome earlier in this section.

Northern leopard frog, *Rana pipiens*

The northern leopard frog has been extirpated from all but one location in the subbasin, although recent surveys of this location suggest that this last population, too, may have disappeared (CSKT 2003). The cause(s) of the disappearance is unknown, although possible causes include disease, habitat loss and degradation, predation by introduced species, and the potential negative effects of increasing UV-B levels. Of these, disease is suspected to be the most likely on the Flathead Reservation due to the rapid decline of populations and the disappearance of leopard frogs from historic locations that would be considered relatively pristine. The chytrid fungus may be the most likely cause the near extirpation of northern leopard frogs in western Montana in the late 1970s and early 1980s and clearly represents a threat to populations today (Maxell 2000).

Target Bird Species Wetland Biome

(for general bird links, see Aquatic Biome earlier in this section)

Common loon, Horned grebe, Great blue heron, Canada goose, Tundra swan

For species descriptions of these species, see Aquatic Biome earlier in this section.

Black Tern

The Black Tern is a level II species of special concern in much of North America, due to continent-wide population declines since 1960 (Shuford 1999). Currently the species is listed as threatened or endangered in 6 states, and listed as a species of conservation concern in 18 other states and provinces. In Montana, the Black Tern is listed as a Species of Special Concern, but has not been consistently monitored. The main causes of population declines in North America appear to be habitat loss and degradation on the breeding grounds, although introduced species, human disturbance, and contaminants may be contributing factors. Little is known about threats to the Black Tern during migration and winter. They are considered a critical link species because they use aerial structures created by other species.

Target Mammal Species Wetland Biome

(for general mammal links, see Aquatic Biome earlier in this section)

Northern bog lemming, *Synaptomys borealis*
Northern bog lemmings are considered imperiled because of rarity (they have an S2 conservation status). Generally, they occupy sites with thick mats of moss, usually sphagnum. Little is known about this species in the subbasin.

Moose, *Alces alces*
For a species description of this species, see Aquatic Biome earlier in this section.

Raccoon, *Procyon lotor*
The raccoon has undergone a range expansion in the state over the last 100 years and is now found throughout the subbasin. They are most abundant in riparian and wetland habitats and mostly nocturnal. Populations are secure. The raccoon is considered a critical functional link species because it is a fish eaters and because it can influence terrestrial vertebrate populations.

Mink, *Mustela vison;* River otter, *Lutra canadensis; Big brown bat, Eptesicus fuscus; American beaver, Castor canadensis*
For species descriptions of these species, see Aquatic Biome earlier in this section.

Deer Mouse, *Peromyscus maniculatus*
For a species description of this species, see Grassland Biome earlier in this section.

Montane vole, *Microtus montanus*
Montane voles live in mountain valleys in wet meadows, cropland, especially fields and pastures of grass and legumes along fence rows; grassy areas by streams, lakes. They are secure in the subbasin. Montane voles are considered a critical functional link species because they create runways used by other species, and because they feed on grasses or forbs, potentially altering vegetation structure and composition.

4.3.4 Riparian Biome

Table 5 lists terrestrial species closely associated with the riparian biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Table 5. Terrestrial wildlife species closely associated with the riparian biome. Target species are highlighted.

Riparian Biome		
Belted Kingfisher	Long-eared Owl	Cedar Waxwing
Red-naped Sapsucker	Willow Flycatcher	Yellow Warbler
Tiger Salamander	Least Flycatcher	American Redstart
Long-toed Salamander	Eastern Kingbird	Northern Waterthrush
Rcky Mtn Tailed Frog	Warbling Vireo	Common Yellowthroat
Great Basin Spadefoot	Red-eyed Vireo	Yellow-breasted Chat
Boreal Toad	Black-billed Magpie	Spotted Towhee
Pacific Chorus Frog	Tree Swallow	Black-headed Grosbeak
Columbia Spotted Frog	N. Rough-wngd Swallow	Bullock's Oriole
Common Garter Snake	Bank Swallow	American Goldfinch
Great Blue Heron	Cliff Swallow	Water Shrew
Wood Duck	Barn Swallow	Yuma Myotis
Mallard	Black-capped Chickadee	Long-legged Myotis
Harlequin Duck	Pygmy Nuthatch	Big Brown Bat
Bufflehead	Water Vole	Spotted Bat
Hooded Merganser	Muskrat	Snowshoe Hare
Common Merganser	Western Jumping Mouse	Beaver
Bald Eagle	Moose	Western Harvest Mouse
Ring-necked Pheasant	American Dipper	Deer Mouse
Ruffed Grouse	Veery	Bushy-tailed Woodrat
Blue Grouse	Gray Catbird	Southern Red-backed Vole
Sharp-tailed Grouse	European Starling	Meadow Vole
Solitary Sandpiper	Pacific Jumping Mouse	Long-tailed Vole
Spotted Sandpiper	Raccoon	Common Loon
Rusty Blackbird	Mink	Pacific-slope Flycatcher
Alder Flycatcher	Northern River Otter	Yellow-headed Blackbird
Mourning Dove	White-tailed Deer	N. Long-eared Myotis
Western Screech-owl		

Target Amphibian Species Riparian Biome

(for general amphibian links, see Aquatic Biome earlier in this section)

Long-toed salamander, *Ambystoma macrodactylum;* Boreal toad, *Bufo boreas boreas;* Spotted frog, *Rana luteiventris*

For species descriptions of these species, see Aquatic Biome earlier in this section.

Target Bird Species Riparian Biome

(for general bird links, see Aquatic Biome earlier in this section)

Great blue heron, Harlequin duck, Hooded merganser, Bald eagle, Common loon

For species descriptions of these species, see Aquatic Biome earlier in this section.

Red-naped sapsucker
For species descriptions of these species, see Grassland Biome earlier in this section.

Ruffed Grouse
The ruffed grouse is a level II species found in riparian habitats and is considered common in the subbasin. Although grouse populations are notorious for being cyclic, ruffed grouse have shown a significant long-term decline in the northern Rockies. There is no current monitoring in system in Montana for the species.

Willow Flycatcher
Willow flycatchers are a level II species found in riparian habitats. They are considered common. In other portions of the arid West, the (Southwestern) Willow Flycatcher has been listed as an endangered species, due primarily to habitat loss and parasitism. Though the species could be prone to the same fate here, populations have shown an upward trend in both the northern Rockies and in Montana, but the species merits continued monitoring attention in the state.

Red-eyed Vireo
The red-eyed vireo is a level II species of riparian habitats that is common. The species is essentially a riparian obligate in Montana. Populations show significant downward trends in both physiographic areas that overlap Montana, but interestingly, an upward trend in Montana. The species is vulnerable to fragmentation and subsequent nest parasitism.

Veery
The veery is a level II species of riparian habitats that is considered uncommon. It is a National Watch List species that has shown significant population increases in the northern Rockies, but its preference for large riparian stands with dense understory, and its susceptibility to cowbird parasitism make it vulnerable to landscape changes. It is poorly monitored in the state.

Target Mammal Species Riparian Biome

(for general mammal links, see Aquatic Biome earlier in this section)

Moose, *Alces alces;* Big brown bat, *Eptesicus fuscus;* Mink, *Mustela vison;* River otter, *Lutra canadensis*
For species descriptions of these species, see Aquatic Biome earlier in this section.

Raccoon, *Procyon lotor*
For a species description of this species, see Wetland Biome earlier in this section.

Deer Mouse, *Peromyscus maniculatus;* Bushy-tailed woodrat, *Neotoma cinerea*
For species descriptions of these species, see Grassland Biome earlier in this section.

4.3.5 Ponderosa Pine Biome

Table 6 lists terrestrial species closely associated with the ponderosa pine biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Table 6. Terrestrial wildlife species closely associated with the Ponderosa Pine Biome. Target species are highlighted.

Ponderosa Pine Biome	
White-headed Woodpecker	Porcupine
Northern Goshawk	Elk
Blue Grouse	Big Brown Bat
Flammulated Owl	Spotted Bat
Northern Saw-whet Owl	Townsend's Big-eared Bat
Common Poorwill	Pallid Bat
Western Wood-pewee	Yellow-pine Chipmunk
Dusky Flycatcher	Columbian Ground Squirrel
Western Kingbird	Golden-mantled Ground Squirrel
White-breasted Nuthatch	Cascade Golden-mantled Grnd Sqrl
Pygmy Nuthatch	Northern Pocket Gopher
White-tailed Deer	Deer Mouse
Western Bluebird	

Target Bird Species Ponderosa Pine Biome

(for general bird links, see Aquatic Biome earlier in this section)

Northern goshawk
For a species description of this species, see Grassland Biome earlier in this section.

Flammulated Owl
A level I species, flammulated owls occupy forest habitats and are considered rare. Little was known of the distribution and habitat needs of this species in Montana until recent years. Its preference for mature open, dry forests means it has probably declined in population during this century, although the species is poorly monitored.

In Montana, the first nesting record was not documented until 1986, and Flammulated Owls were not found regularly until the 1990s. Most Montana breeding records are from west of the continental divide.

Flammulated Owl Links

For a GIS map showing potential habitat for flammulated owls, go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

Target Mammal Species Ponderosa Pine Biome

(for general mammal links, see Aquatic Biome earlier in this section)

Elk, *Cervus elaphus*

The elk is a critical functional link species[1] (Appendix 37). Elk populations in the South, Middle, and North Fork of the Flathead drainages experienced long-term declines over the last 40 years; however, populations have remained relatively stable over the last 10 years (Vore and Schmidt 1997 and Alan Wood, MFWP, pers. comm., 2003). Populations in the remainder of subbasin outside of the Flathead Indian Reservation have also been relatively stable over the last 10 years although they seem to have increased slightly since 1998 (Alan Wood, MFWP, pers. comm., 2003). Because of the limited amount of winter range and chronic conflicts with surrounding ranchers, Tribal biologists on the Flathead Indian Reservation now manage elk within the Ferry Basin Elk Conservation Area well below what the summer range could support (CSKT 2001).

Elk are a critical functional link species because they create ponds or wetlands through wallowing.

Elk Links

For information on elk in the Canadian and US portions of the North Fork of the Flathead, go to Appendix 59.

Click Here

For information on elk distributions overall and during winter, summer, and parturition, as well as migration areas go to: http://www.fwp.state.mt.us/insidefwp/fwplibrary/gis/gisdownloads.asp#Wildlife

Click Here

For elk distribution information for Montana, go to: http://gapserv.cr.usgs.gov/state/mt/mammals.html

Click Here

For GIS data on elk and deer winter range go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

Big brown bat, *Eptesicus fuscus*

For a species description of this species, see Aquatic Biome earlier in this section.

Golden-mantled ground squirrel, *Spermophilus lateralis*; Northern pocket gopher, *Thomomys talpoides*; Deer Mouse, *Peromyscus maniculatus*
For species descriptions of these species, see Grassland Biome earlier in this section.

4.3.6 Montane Coniferous Forest Biome

Table 7 lists terrestrial species closely associated with the montane coniferous forest biome in the Flathead Subbasin. Species descriptions for the target species closely associated with the biome follow the table along with listings of associated electronic links.

Table 7. Terrestrial wildlife species closely associated with the Montane Coniferous Forest Biome. Target species are highlighted.

Montane Coniferous Forest	
Rcky Mtn Tailed Frog	Water Shrew
Sharp-shinned Hawk	Long-legged Myotis
Boreal Owl	Snowshoe Hare
Olive-sided Flycatcher	Mountain Beaver
Gray Jay	Townsend's Chipmunk
Caribou	Columbian Ground Squirrel
Golden-crowned Kinglet	Golden-mantled Ground Squirrel
Ruby-crowned Kinglet	Cascade Golden-mantled Ground Squirrel
Varied Thrush	Northern Flying Squirrel
Porcupine	Keen's Mouse
American Marten	Bushy-tailed Woodrat
Dark-eyed Junco	Southern Red-backed Vole
Evening Grosbeak	Heather Vole
Common Shrew	

Target Bird Species Montane Coniferous Forest Biome

(for general bird links, see Aquatic Biome earlier in this section)

Boreal owl

The boreal owl is a level III species (meaning it is a species of concern but not in imminent risk). It is one of several forest-dwelling owl species breeding in Montana whose distribution, habitat needs and population status are poorly known. Better monitoring is needed.

Olive-sided Flycatcher

Olive-sided flycatchers are a level I species of forest habitats and are considered common. Based on BBS data, populations of Olive-sided Flycatchers appear to have suffered widespread declines. Populations appear to have declined approximately 3% in the northern Rocky Mountains physiographic region from 1966 to 1996, and approximately 5.8% within Montana over the same period. Initial speculation on the reasons for relatively consistent declines across the breeding range has focused on habitat alteration on the wintering grounds, but this has not been clearly demonstrated. A lack of data correlating declines in the breeding grounds with wintering populations and areas makes it difficult to determine whether declines are due to changes breeding or wintering habitat, although declines in Olive-sided Flycatchers have occurred in the absence of changes in habitat on the breeding grounds. Speculation that the reason for the declines can be pinned on the wintering grounds is supported by the fact that Olive-sided Flycatchers have been identified as one of 45 Nearctic migratory landbirds most likely to be adversely affected by destruction of tropical forests, including one of the 12 most highly vulnerable species.

On the breeding grounds, conversion of forest to non-forest as a result of urbanization and residential development poses a threat to Olive-sided Flycatcher habitat, although this threat was greatest during settlement of the west and today occurs to a lesser degree. Hutto has speculated that Olive-sided Flycatchers are an early post-fire dependant species that is lured into managed forest types which have similar structural conditions but may function as ecological sinks.

Target Mammal Species Ponderosa Pine Biome

(for general mammal links, see Aquatic Biome earlier in this section)

Snowshoe hare*, Lepus americanus;* Golden-mantled ground squirrel, *Spermophilus lateralis*; Bushy-tailed woodrat*, Neotoma cinerea*

For a species description of this species, see Grassland Biome earlier in this section.

American beaver, Castor canadensis

For a species description of this species, see Aquatic Biome earlier in this section.

4.3.7 Other Target Species

The following species descriptions are for target species that were not identified by IBIS-Canada as being closely associated with any of our six target biomes in the Flathead Subbasin.

Birds

(for general bird links, see Aquatic Biome earlier in this section)

American Crow

Crows are not a PIF species of concern, and are secure and widespread. They are considered a critical link species because they pirate food from other species.

Black Swift

The black swift is a functional specialist and a Partners-in-Flight level II riparian species. It is considered rare. It breeds from southeastern Alaska and western Canada, south to southern California, northwestern Montana, Colorado, Utah, northern New Mexico, and southeastern Arizona. In Montana, the only breeding records are in the northwest latilongs.

Black-backed Woodpecker

The black-backed woodpecker, a level I species of forest habitats, is considered uncommon. Although the Black-backed woodpecker is actually rare across most of its range, it can be locally common in burned, flooded or windthrow areas. It is considered a sensitive, special concern or management indicator species by most Montana PIF agencies, because of its close ties to burned forests.

Black-backed Woodpecker Links

Click Here

For a GIS map showing potential habitat for black-backed woodpeckers, go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Black-chinned Hummingbird

This bird is not a PIF species of concern and is apparently secure in the subbasin though locally it can be rare. Preferring semiarid habitats near water and riparian woodlands, the black-chinned hummingbird nests in northwestern Montana and is considered a critical link species because it is a nectivore (nectar feeder).

Brewer's Sparrow

A level II species of shrublands, this species is considered rare. The nominate form of this species is a sagebrush obligate which has shown significant population

declines throughout much of its range, including the two physiographic areas which overlap Montana. Very little is known about the distribution and habitat needs of the "Timberline" form of this species in the state.

Brown Creeper

A level I species, the brown creeper is found in forest habitats and is uncommon. It is found breeding in the western one-third of the state primarily from the Rocky Mountain Front westward. Although the brown creeper does not score high in the PIF prioritization scheme, it is a near-obligate old-growth associated species, particularly in cedar-hemlock forest. Research has shown the species to be highly intolerant of logging at both the local and landscape scale.

Brown-headed cowbird

This bird is not a PIF species of concern, is secure and in fact increasing. It occupies woodland, forest (primarily deciduous), forest edge, city parks, suburban gardens, farms, ranches. Prior to European settlement, brown-headed cowbirds were limited to open grasslands. The main reason for their expansion is the fragmentation of forest tracts into small pieces of forest interspersed with fields, pastures, roads, and towns. They are considered a critical link species because they are nest parasites.

Calliope Hummingbird

Calliope hummingbirds are a level II species of riparian, forest and shrubland habitats. They are abundant. More than 3/4 of this species' population is found in physiographic area 64, which includes western Montana. Populations are increasing, but we have a responsibility for improved monitoring.

Columbian Sharp-tailed Grouse

The subspecies Columbian sharp-tailed grouse, a level II species of grassland and riparian habitats, has undergone a significant rangewide decline; they currently occupy less than 10% of their former range and are thought to be extirpated from the subbasin. The conversion of native grassland and shrub/grass communities to agriculture and other unsuitable land uses has been primarily responsible for the reduction in populations. Much of the remaining historical habitat that has not been converted to other uses has been degraded by fire (too much in some areas, not enough in other areas), invasion of nonnative annual vegetation, and excessive grazing by livestock.

In Montana, Columbian sharp-tailed grouse once occupied much of the grassland habitats in the intermountain valleys on the west side of the Continental Divide, and the subspecies was considered to be fairly common (Cope 1992).

But by 1969, populations were known to exist only in the northwestern corner of the state in Lake, Powell, and Lincoln Counties (Hand 1969). The last verified observations on the Flathead Indian Reservation occurred west of Ronan in 1978 and nearby in 1980 (CSKT, Unpubl. data).

Common Nighthawk

This bird is not a PIF species of concern and is secure. Common nighthawks are found throughout the subbasin in mountains and valleys in both open and semi-open habitat from open coniferous forests and savanna to grasslands and fields.

Cordilleran Flycatcher

Cordilleran flycatchers are a level II species found in forest habitats. They are considered uncommon. Nearly 40% of this species' population inhabits the two physiographic areas overlapping the state. We therefore have a high responsibility for the species. Population-trend data are inconclusive.

Grasshopper Sparrow

Grasshopper sparrows are a level II species of grasslands. They are rare. The species has experienced rangewide population declines, including the physiographic area that covers western Montana but has done well in Montana. It is sensitive to grazing.

Great Horned Owl

Great horned owls are not a PIF species of concern and are secure. They use various forested habitats, moist and dry from coniferous forests to open temperate woodlands. They a critical functional link species because they are a user of aerial structures created by other species.

Gyrfalcon

Gyrfalcons are not a PIF species of concern. They are rare winter residents and migrants in areas of the subbasin with waterfowl or upland gamebirds. They are not frequently seen.

House Finch

The house finch is not a PIF species of concern, is secure, and common in open woodland and savanna areas of the subbasin as well as agricultural lands and towns. It is a critical functional link species because it is a sap feeder and a nest parasite.

Lazuli Bunting

The lazuli bunting is a level II species of riparian and shrubland habitats that is considered common. The species is particularly susceptible to parasitism by brown-headed cowbirds. One analysis of the Gap habitat layers indicated that only in a few wilderness areas in the western part of the state were suitable habitat patches also far enough from agricultural and urban landscapes to serve as potential source populations for the species.

Lewis' Woodpecker

Lewis' woodpecker is a level II species of riparian and forest habitats. It is considered rare. Based on Breeding Bird Survey (BBS) data, Lewis's Woodpecker populations in North America have declined 60% from 1966 to 1991. In Montana, trends are strongly downward for the same time period but the number of survey routes are insufficient for statistical analysis.

Long-billed Curlew

Long-billed curlews are a level II species of grassland habitats considered uncommon. The North American population has declined in the past 25 years as suitable nesting habitat has been converted to other uses. The species was formerly listed as a category 2 candidate under ESA. Breeding habitat within the state appears to be fragmented and unprotected. Migration is directly southwest from the breeding grounds to the wintering grounds in southern California and Mexico.

Merlin

The merlin is not a PIF species of concern and is apparently secure though locally rare. Populations declined in the 1960s but have increased since. Merlins use a wide variety of habitats including open woodlands, shrubs, grasslands, fields, and wetlands.

Peregrine Falcon

The peregrine is a functional specialist. It is also a Partners-in-Flight level II species that uses wetland and riparian habitats. It is considered rare. Peregrines are uniquely dependent on cliff/rock habitat for breeding. Dramatic population declines occurred from the 1950s through the 1970s, due to pesticide accumulation and eggshell thinning. The species has increased in recent decades as pesticide levels have decreased, and as reintroduction programs have placed birds back into suitable habitats. The species was delisted in 1999.

North of the Flathead Indian Reservation, most peregrine observations have been of migratory birds. Recently, some residents have been observed in

isolated locations such as Lower Stillwater Lake. However, no surveys have been completed. On the Flathead Indian Reservation, the species probably inhabited portions of the Mission Mountains and possibly the lower Flathead River. Prior to the early 1990s, peregrines were observed as occasional migrants during fall and spring, and were seen during the summer as recently as 1990. In the early 1990s two reintroduction sites were established on the reservation. Reintroduction has been successful at both of these sites, and two additional nesting territories have been established.

Pileated Woodpecker

A level II species of forest habitats, the pileated woodpecker is common. Because pileated woodpeckers are associated with old-growth and require large areas for territories, they are especially vulnerable to both local and landscape-scale alterations. In the west the species is confined to Washington, Oregon, northern California, and the northern Rocky Mountains. In Montana, the species is restricted to forested areas west of the Continental Divide, eastward to the edge of large trees on the east slope of the Rockies.

Pileated Woodpecker Links

Click Here

For a GIS map showing potential habitat of pileated woodpeckers, go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Rufous Hummingbird

The Rufous Hummingbird is a PIF level three species, which means it is a species of concern but not at imminent risk. This species suffered significant declines throughout the West in the 1970s and 80s, and may incur population sinks when attracted to seral shrub habitats in managed forests. Although found most commonly in willow/alder dominated riparian shrubland, it is also found in seral habitats with a mosaic of open forest and shrubland. It is considered a critical functional link species because it is a pollination vector.

Snowy Owl

Snowy owls are not a PIF species of concern and have been observed throughout Montana. They are an occasional winter visitor to subbasin valleys, especially in the Ninepipe area.

Three-toed Woodpecker

The three-toed woodpecker is a level II species of forest habitats that is considered common. Although not as much a fire obligate as the Black-backed Woodpecker, this species is also highly reliant on burned, insect-killed and decadent timber stands. It is poorly monitored in the state.

Turkey Vulture
This species is not a PIF species of concern and is secure and common in the subbasin. It uses forested and open habitats in mountains and valleys.

Williamson's Sapsucker
The Williamson's sapsucker is a critical functional link species. It is also a Partners-in-Flight level II forest species that is considered uncommon. They inhabit mainly mature and old-growth mixed conifer and ponderosa pine forests, as well as aspen stands during the breeding season. Nearly half of the global population of Williamson's Sapsucker inhabits the northern Rockies. In Montana, their range is restricted to the main chain of the Rocky Mountains. They are poorly sampled by BBS, so population trends are unknown. Regional point count data indicate heavy use of harvested forest stands, but it is unknown if such habitats provide adequate recruitment over the long term.

Winter Wren
The winter wren is a level II species of forest habitats and is considered common. It is one of a suite of species which are near obligates for cedar-hemlock habitat in the state. They rely heavily on downed woody debris. Snags, downed logs, and large trees (often old-growth components) are increasingly scarce in western North America.

Mammals

(for general bird links, see Aquatic Biome earlier in this section)
American pika, *Ochotona princeps*
Pikas are widespread and populations are secure in the subbasin. Found at high elevations in mountain ranges where talus slides, boulder fields, and rock rubble (with interstitial spaces adeq. for habitation) occur near meadows, which is virtually all the higher mountain ranges in the subbasin. Pikas also can occasionally be found at mid elevations where there is suitable rock cover and food plants. A critical functional link species, they are heterotrophic consumers that feed on fecal material.

Black Bear, Ursus americanus
The black bear is a critical functional link species. The Flathead Subbasin has some of the highest densities of black bears in Montana. MFWP reports that just under half of the black bears harvested in the state come from northwestern Montana (Waller 2002). Attractants such as garbage, pet food, and fruit trees have become a more significant problem as populations in wildland-urban

interface areas increase. The problem is compounded by the tendency for bears to become habituated to humans. Populations have remained relatively stable, although they fluctuate depending on natural food production (Alan Wood, MFWP, pers. comm. 2003). A critical functional link (CFL) species, they are primary consumers, specifically bark/cambium/bole feeders. Other CFLs include: being a heterotrophic consumer (cannibalistic), creating standing dead trees (snags); and physically fragmenting standing wood;

Black Bear Links

Click Here

For a bibliography on black bears, go to: http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/BlackBear/blackbearclear.htm

Fisher, *Martes pennanti*

The fisher is a critical functional link species. Fisher populations were supplemented with transplants during the 1950s and 1960s They continue to persist in the subbasin at low-densities, as they have historically. A critical functional link species, they use aquatic structures created by other species.

Fisher Links

Click Here

For a bibliography on fisher, go to: http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/Fisher/Fisherclear.htm

Click Here

For a map of fisher habitat go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

See Appendix 72 for The Nature Conservancy's Wide-Ranging Carnivore Resource Selection Function Maps for fisher in the subbasin.

Grizzly Bear, *Ursus arctos horribilis*

The grizzly bear is a critical functional link species. On March 11, 1967, the grizzly bear was designated as Threatened in the conterminous (lower 48) states. Grizzly bears are found mainly in Glacier National Park and adjacent areas, and in and around the Scapegoat, Bob Marshall, Great Bear, and Mission Mountains Wilderness areas and the South Fork of the Jocko Primitive Area. The Flathead Subbasin is located within the Northern Continental Divide Ecosystem (NCDE), which is thought to contain one of the most productive populations in the lower United States. The Canadian and U.S. portions of the North Fork of the Flathead River Drainage support the highest density of inland grizzlies in North America (Weaver 2001). Grizzly bear management is primarily focused on reducing human/bear conflicts, minimizing bear mortality, and providing secure, high-quality habitat. Human/bear conflicts are currently the leading cause of bear mortality. Other current threats include degradation of habitat due to rural and recreational development, road building, energy and mineral exploration and development (Waller 2002). Historical factors causing population declines included livestock

depredation control, habitat deterioration, commercial trapping, unregulated hunting, and perceptions the bear was threat to human life (Waller 2002).

Data on the number and location of grizzly bear family groups seen in the NCDE and the number of known, human-caused grizzly bear deaths is kept by USFWS to evaluate status and recovery progress. Those data show that the number of unduplicated sightings of females with cubs fluctuated widely between years and no clear trend is evident. The total number of known, human-caused grizzly deaths has also fluctuated but appears to be trending upward since 1993 (Waller 2002). In undeveloped Canadian portions of the Flathead subbasin, populations are thought to be increasing (Hovey and McLelland 1996). The same may be true in peripheral areas of the Northern Continental Divide ecosystem. In the Swan Mountain Range and other core habitat areas populations seem to be stable to slightly decreasing (Mace and Waller 1998).

The USGS Biological Resources Division recently conducted a DNA research project to estimate the number of grizzly bears in and around Glacier National Park. That study estimated that approximately 437 grizzly bears live in the northern portion of the NCDE, and an estimated 332 live in the park itself. Because of statistical variation, the actual number in these two geographical areas could be between 349 and 590 in the northern part of the NCDE and 241 and 549 within the park. (Waller 2002).

A critical functional link species, grizzly bears create feeding, roosting, denning, or nesting opportunities for other organisms. They also create feeding opportunities for other organisms.

Grizzly Bear Links

For information on grizzly bears in the Canadian and US portions of the North Fork of the Flathead, go to Appendix 59.

Click Here

For information on grizzly bears in the Northern Continental Divide Ecosystem, go to: http://www.fwp.state.mt.us/wildthings/t&e/threatened.asp#grizzly

Click Here

For information on Greater Glacier Bear DNA Project and the Northern Divide Grizzly Bear Project and the results of data collected as part of these projects, go to: http://nrmsc.usgs.gov/research/beardna.htm

Click Here

For information on a Flathead (Canada) grizzly bear study, go to: http://www.cmiae.org/research/flathead.htm

Click Here

For a cumulative effects report on grizzly bears in the Canadian portion of the Flathead Subbasin go to Appendix 60.

Click Here

For a bibliography on grizzly bears, to: http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/Grizzly/GrizzlyClear.htm

Click Here

Grizzly Bear Links

Click Here

See Appendix 72 for The Nature Conservancy's Wide-Ranging Carnivore Resource Selection Function Maps for grizzly bears in the subbasin.

Mule Deer, *Odocoileus hemionus*

The mule deer is a critical functional link species. Mule deer populations throughout the subbasin have been declining over the last 15 years. Although populations have rebounded slightly since 1998, populations seem to be in a slow, long-term decline (Alan Wood, MFWP, Pers. Comm., 2003). MFWP analysis of mule deer surveys for 2001 and 2002 reports that in Region One, which includes the Flathead Subbasin, mule deer fawns ranged in the mid 30s to 40s per 100 adults, which is at or above the long-term average, but lower than the 54 fawns per 100 adults counted in the previous year in the same areas. The short-term outlook for mule deer is normal to slightly improved.

Mule deer are a considered a critical functional link species because their feeding on grasses and forbs may alter vegetation structure and composition.

Mule Deer Links

Click Here

For GIS data on mule deer winter range go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

Mule deer overall distribution and winter ranges data can be obtained at: http://www.fwp.state.mt.us/insidefwp/fwplibrary/gis/gisdownloads.asp#Wildlife

Nuttall's (Mountain) cottontail, *Sylvilagus nuttallii*

Found throughout the subbasin, cottontails are usually found in dense shrubby undergrowth, shrubby gullies, and forest edges. They are secure and designated a critical functional link species because they are coprophagous (meaning they feed on fecal material).

Red squirrel, *Tamiasciurus hudsonicus*

This species is most common in ponderosa pine, Douglas-fir, and subalpine forests in the subbasin. Populations are secure. It is considered a critical functional link species because it creates roosting, denning, or nesting opportunities for other organisms.

Wolverine, *Gulo gulo*

The wolverine is a functional specialist. The most viable and widespread population of wolverines in the contiguous 48 states occurs in the Rocky Mountains of Montana (MFWP 2003), and MFWP considers the North Fork of the Flathead/Whitefish range at the top area in the state for wolverines (Weaver 2001). Wolverine populations exist at very low densities in the higher elevations of the subbasin. Aerial track surveys have shown a persistent, widespread subpopulation of wolverines in the

Mission Range (CSKT unpubl. data). Populations have probably increased since poison baits were banned in the early 1970s.

Wolverine Links

For information on wolverine in the Canadian and US portions of the North Fork of the Flathead, go to Appendix 59.

Click Here

For a map of wolverine habitat go to: http://www.fs.fed.us/r1/cohesive_strategy/datafr.htm

Click Here

See Appendix 72 for The Nature Conservancy's Wide-Ranging Carnivore Resource Selection Function Maps for wolverine in the subbasin.

Click Here