



***CANADIAN ROCKY MOUNTAINS
ECOREGIONAL ASSESSMENT
Volume Three: Conservation Areas
Descriptions***



Conservation Data Centre

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Top, left to right:

The Nature Conservancy of Canada's Mount Broadwood Conservation Area (*Dave Hillary*); Water howellia (*howellia aquatilis*); Grizzly bear (*Ursus arctos horribilis*) (*Dave Fraser*); Northern Leopard Frog (*rana pipiens*), Columbia Valley Wildlife Management Area (*Dave Hillary*); Maligne Lake, Jasper National Park (*Pierre Iachetti*)

Bottom, left to right:

Mission Valley, Montana (*Marilyn Wood*); Palouse Prairie, Idaho (*KJ Torgerson*); Harlequin duck (*histrionicus histrionicus*)

TABLE OF CONTENTS

CONSERVATION AREA SUMMARIES	4
Adams River	5
Bitterroot	6
Bull Lake/East Cabinet	7
Camas Prairie	9
Cougar Bay	11
Crown of the Continent	13
Cusick	15
Dayton Creek /Hog Heaven	16
Dishman Hills/Mica Peak	17
East-West Connectivity North	19
East-West Connectivity South	21
Elk River Valley	23
Flathead Lake and Wetlands	25
Fraser River Headwaters	27
Granby	28
Kakwa - Willmore	29
Jocko River	31
Kootenai River	33
Kootenay River A (Libby Dam to Kootenay Lake)	35
Kootenay River B	38
Kootenay River C	40
Lake Pend Oreille	41
Little Bitterroot River	43
Lower Coeur d’Alene	45
Lower Columbia A	47
Lower Columbia B	49
Lower Columbia C	50
Middle Columbia	52
Mission Valley	54
Mountain Parks	55
North Thompson River	57
Orofino – Ford Creeks	58
Palouse Prairie	60
Pend Oreille River	62
Pleasant Valley	64
Purcell Mountains	66
Rocky Mountain Front	68
Rocky Mountain Trench A	69
Rocky Mountain Trench B	71
Salmo-Priest-Selkirks	73
Salmo River	75
Scotchman Peak	77
Shuswap Highlands	78
Slocan River	80

Spirit Lake.....	82
St. Joe-Clearwater.....	84
Thompson- Lower Clark Fork (Idaho-Montana).....	87
Upper Coeur d’Alene.....	88
Weitas Creek.....	90
Wells Gray/Bowron.....	91
Ahbou Lake.....	93
Bitterroot Mountainsnail EO.....	93
Bull Trout Spawning Area.....	93
Burbot Spawning Area.....	93
Cyr Culch Bald Eagle Nest EO.....	93
Fleabane/Salmon Driven.....	93
Hixon Creek Headwaters.....	93
Hunt Girl Creek.....	94
Landslide.....	94
Least (Selkirk) Chipmunk.....	94
Little NF CDA Trib.....	94
Mabel Lake.....	94
Moffat Creek.....	94
Moody Creek.....	95
Moyie River Headwaters.....	95
Murphy Creek.....	95
Red Cedar Stand on Snowshoe Creek.....	95
SF Lolo Creek.....	95
Slender-Spike Manna Grass EO.....	95
Swamp Creek.....	95
Torpy River.....	96
Wapiabi Cave.....	96
Wolf Creek.....	96
Woolly Daisy EO.....	96

CONSERVATION AREA SUMMARIES



Adams River.

Size: 131,524 acres/53,267 hectares.

Conservation Area Description: This conservation area is located in the northeast corner of the ecoregion, north of the Shuswap Lake area. It was primarily selected for the aquatic systems and salmon populations in the Adams River.

Adams River – Adams River Salmon Society

Principal Targets: Aquatic species include pink salmon (*Onchorhynchus gorbuscha*), coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), chinook salmon (*Onchorhynchus tshawytscha*), and bull trout (*Salvelinus confluentus*).

Ownership: Ownership within this conservation area is 85% BC provincial Crown land, 10% BC Provincial Parks, 4% BC provincial Crown land held under Tree Farm License (TFL) and 1% privately owned.

Threats and Management Issues: Degradation of aquatic habitat including, but not limited to, incompatible forestry practices along streams and rivers, point source pollution, diversion and water allocation and the construction of barriers to fish movement. Allocation of the fisheries resource in Canada and the US also critical to long-term viability of salmon stocks.



Clark Fork – Marilyn Wood

Bitterroot.

Size: 476,707 acres/19,066 hectares.

Conservation Area Description: This conservation area is located in west central Montana along the Idaho border. The mountains here are steep and rugged with narrow drainages that flow into the Clark Fork River. The predominant geology is quartzite and argillite with elevations ranging from 2300 to 7500 feet.

Mean annual precipitation is from 25 to 80 inches. Near and in the valley floor, dominant trees are ponderosa pine and Douglas-fir and western larch, giving way to subalpine fir and Engelmann spruce at the higher elevations. The area is the northern boundary the Selway/ Bitterroot Wilderness; one of the largest wilderness areas in the United States. The primary disturbance process is fire, flooding, insects and disease, and flooding. The size and integrity of this area and its connection to large roadless areas in Idaho make this conservation area important for connectivity values. It has been proposed to reintroduce grizzly bears into this ecosystem.

Principal Targets: Terrestrial targets include habitat for fisher (*Martes pennanti*), lynx (*Lynx canadensis*), wolf (*Canis lupus*) and grizzly bear (*Ursus arctos horribilis*). Aquatic targets include the westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and bull trout (*Salvelinus confluentus*). Rare plant and plant community conservation targets include clustered lady's slipper (*Cypripedium fasciculatum*), and Idaho Strawberry (*Waldsteinia idahoensis*).

Ownership: Ownership within the conservation area is 73% Federal, 4% the State of Montana, and 23% privately owned.

Threats and Management Issues: Primary issues are altered fire regime, timber harvest, mining, grazing, and recreation uses.

Opportunities: US Fish and Wildlife Service Critical Carnivore Linkage project; conservation easements of private lands.

Stakeholders: Lolo National Forest, Montana Department Fish, Wildlife and Parks, US Fish and Wildlife Service, community of St. Regis, Clark Fork Coalition.



Bull Lake/East Cabinet.

Size: 98,403 acres/39,853 hectares.

Conservation Area Description: This conservation area is located in northwestern Montana, just south of the town of Libby. The area includes the northern portion of the East Cabinet Mountain Range and the portion of the Bull Valley, which contains Bull Lake and Lake Creek.

Bull Valley – Marilyn Wood

Bull Lake sits in the middle of the valley and is the origin of Lake Creek, which runs north eventually draining into the Kootenai River near the town of Troy, Montana. Predominant geology is glaciated argillite, siltite, quartzite, and dolomite. Volcanic ash deposits occur throughout the area. Vegetation is lush, dense, and highly productive due to the Pacific Maritime climate where annual precipitation ranges from 25 inches in the valleys to up to 100 inches in the mountains. Some of the largest western redcedar trees in Montana can be found in this area. Forest habitat type series are western redcedar, Englemann spruce, and western hemlock in the warmer valley floors, and mountain hemlock and subalpine fir in the cooler upper elevations. The steep, extremely rugged terrain of the Cabinet Mountains and heavy snowfall set the scene for frequent avalanche activity. The resulting avalanche chutes are dense with Sitka alder and mountain ash, along with a high diversity of other moist site shrubs, forbs, sedges and grasses. The Cabinet Mountains Wilderness defines the crest of the East Cabinet Mountain Range. The primary natural disturbance processes are fire and insect epidemics.

Principal Targets: Terrestrial targets include Townsend’s big-eared bat (*Corynorhinus townsendii*). Aquatic targets include the westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), and the white sturgeon (*Acipenser transmontanus*) in the Kootenai River system. Among plant conservation targets are the rare moonworts, particularly mountain moonwort (*Botrychium montanum*), which is restricted to old-growth western redcedar forests.

Ownership: Ownership within the conservation area is 76% Federal 76%, 3% the State of Montana, and 21% privately owned.

Threats and Management Issues: Land use is predominantly timber harvest, mining and recreation. Threats to natural systems and native species include improper timber harvest techniques, mine development, damming of rivers, exotic species, and altered fire regimes. Although fire return intervals are long in the stand replacement fire regimes found in this conservation area, there have been no significant fires in the area for nearly 70 years as a result of aggressive fire suppression.

Opportunities: Provide input into the Forest Plan revision currently in development; pursue land trades between USFS and Plum Creek on important parcels; provide conservation area and targets information for the Sub Basin Plans (NWPPC); BPA fisheries mitigation plan; participate in USFWS critical linkage area conservation planning (determine endangered species funding for acquisitions or easements possibilities).

Stakeholders: Kootenai National Forest; Bull Lake homeowners; Troy municipality; Plum Creek Timber Company; Cabinets Natural Resource Council; Northwest Power Planning Council (NWPPC); Bonneville Power Administration (BPA); US Fish and Wildlife Service.



Camas Prairie

Size: 19,007 acres/7,698 hectares.

Conservation Area Description: Camas Prairie is situated between the towns of Perma and Hot Springs, Montana. The Camas watershed includes three small perennial tributaries: Camas Creek, Cottonwood Creek, and Clear Creek. The Camas Prairie ripple marks were formed as the deep and swift flowing water from Glacial Lake Missoula raced through the failed ice dam at speeds up to 50 miles per

hour. In the swales between giant ripple marks, vernal wetlands formed which now provide habitat for two rare plant species: the Dwarf woolly-head and the Columbia onion. Due to low precipitation in the area, and because valley geology is well-drained gravels and alluvium, the ridges of the ripple marks are quite dry. The presence of vernal pools in the grasslands gives the area higher than usual biodiversity value. As Camas and Cottonwood Creeks emerge from coniferous forestlands onto the valley floor of Camas Prairie, their channel patterns have been severely disrupted by agricultural practices. Downstream from Camas Prairie, the channel is well defined, but generally incised. Forest habitats dominate the riparian zone in the upper reaches of the stream, that later grade into mixed forest and shrub-dominated habitats at lower elevations. Beyond the riparian zone, the watershed is largely grassland and is used for livestock grazing and other agricultural practices. Within the watershed two isolated populations of pure-strain westslope cutthroat persist. This system is unique in that the fish barriers protecting these tributary populations have been created by the tendency of these streams to submerge as they reach the valley floor then re-emerge down valley in the mainstem Camas Creek.

Principal Targets: Conservation targets include rare vascular plants - Columbia onion (*Allium columbianum*) and sagebrush steppe ecosystem.

Ownership: Ownership within the conservation area is 22% Federal Tribal land, 5% by the State of Montana, and 73% privately owned.

Threats and Management Issues: Exotic species, agriculture and inappropriate grazing techniques are the dominant threats. Non-native fish species, timber harvest practices, riparian degradation also threaten biodiversity.

Opportunities: Camas Prairie has been identified as a priority area for acquisitions and watershed restoration by Confederated Salish and Kootenai Tribes; potential cooperative projects with CSKT on private land conservation through easements and acquisitions; riparian and grassland restoration projects needed.

Stakeholders: Confederated Salish and Kootenai Tribes (CSKT), Hot Springs municipality, Camas Elementary school, local landowners.



Cougar Bay – KJ Torgerson

Cougar Bay

Size: 13,269 acres/5,374 hectares.

Conservation Area Description: This conservation area lies within a mosaic landscape of mixed coniferous forests, meadows, mountain lakes and streams. Cougar Bay itself lies at an elevation of 2,136 feet on the northwestern end of Lake Coeur d’Alene, Idaho. It exists as one of the last undeveloped bays on the lake.

Key habitat features include 5 distinct habitat types: aquatic, wetlands (including a vernal pond), shoreline, edge, and forested upland. The historic expanse of the wetland was much greater than today. Over time, significant portions of the wetland have been drained or altered for agriculture and development of county roads and US Hwy. 95. Cougar Bay is supported by the Cougar Creek watershed, which drains northeast from Blossom Mountain (4408 feet), Shasta Butte (4852 feet) and Mica Peak (5241 feet).

The bay itself is protected from log booms at the mouth that serve to reduce wave action. The log booms have for decades stored logs at the confluence of Cougar Bay and the Spokane River for various timber companies before the logs are transported to the mills downstream. Historically, timber companies have transported their logs from their company lands to the mill through lake Coeur d’Alene. Tugboats are used to haul large packs of logs north across the lake to the storage area located at the mouth of the Spokane River. From here, logs were then sorted and transported to one of two mills along the river. Today, only one mill still accepts logs by water. The booms used to store the logs serve to protect the bay from wave action and boating activities. As a result, the wetlands have expanded and flourished since the booms were installed.

Ownership: Ownership within the conservation area is 94% private, 3.2% state (IDL), 2.8% water.

Principal Targets: Terrestrial targets include bald eagle (*Haliaeetus leucocephalus*) nest sites. Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and one important aquatic system.

Threats and Management Issues: Non-compatible recreational activities (i.e. increased motor boat activities); invasives; (particularly knapweed and Eurasian water milfoil); diminished water quality through elevated sources of heavy metals associated with upstream mining activities; point and non-point sources of pollution; incompatible timber harvest practices in the watershed, rural residential development; sedimentation associated with increased road densities, development and timber harvest; altered fire

regimes due to rural development; downstream hydropower operations (Post Fall Dam) impact the bay elevations and thus wetland habitat.

Opportunities: 1) Work with Forest Capital Partners to restrict development on their lands in this conservation area, 2) Facilitate the implementation of the Lake Management Plan, and 3) assist fee/conservation easement/ development right acquisition of associated properties.

Stakeholders: The Nature Conservancy; city and county governments; BLM, Forest Capital Partners, Idaho Department of Lands; Coeur d'Alene Tribe of Indians; Coeur d'Alene Lakeshore Owners Association, Sportsman's groups, EPA.



Glacier Park – Marilyn Wood

Crown of the Continent.

Size: 4,266,640 acres/1,727,989 hectares.

Conservation Area Description: The Crown of the Continent Conservation Area (CoC) was defined as such a large area because of the importance of connectivity and ecosystem integrity. The CoC is located at the narrowest point along the Rocky Mountain corridor in northwestern Montana, southwestern Alberta, and southeastern British Columbia.

Thrust faulted mountains formed from argillite, siltite, and dolomite and were strongly shaped by alpine glaciations. Glacial till covers much of the landscape. Elevation range from 3,200 to 10,100 ft. Mean annual precipitation ranges from 20 to 110 inches, about 80 percent falling as snow. Lakes occur in glacial cirques and in glacial valleys. The CoC shares common geological, climatic and biological characteristics and is located at a point of continental convergence. The Great Plains run abruptly into the Rocky Mountain Cordillera. This continental convergence results in a tremendous orthographic variation over a relatively short distance with resultant broad species diversity. The CoC is the source headwaters of three major water systems of North America (the Columbia, the Missouri/Mississippi, and Saskatchewan/Nelson). At the core of the conservation area lies Glacier-Waterton International Peace Park (a UNESCO World Heritage Site) and the Bob Marshall-Great Bear-Scapegoat Wilderness complex. Fire is the most important natural disturbance in the region. Other common natural disturbances include avalanches, landslides, tree fall, windstorms, floods, and epidemics such as bark beetle infestations. The CoC is particularly rich in community diversity because of the contrast in climates between the east and west side of the Continental Divide, the large amount of topographic relief, and the presence of both calcareous and non-calcareous soils. Species from five major floristic provinces meet here. The region's significance to biodiversity goes beyond its complex floristic component to one of international significance for its role as source populations of carnivores and as the most vital connection between populations to the north and south. Land use outside the protected parks and wilderness includes timber harvest, ranching, rural development, and transportation corridors. The CoC provides core habitat for populations of grizzly bears, wolves, wolverine, lynx, and fisher.

Principal Targets: Terrestrial targets include habitat for all wide ranging carnivores, harlequin duck (*Histrionicus histrionicus*), northern leopard frog (*Rana pipiens*), Flammulated owl (*Otus flammeolus*), trumpeter swan (*Cygnus buccinator*), Gillette's Checkerspot butterfly (*Euphydryas gelletii*), white tailed ptarmigan (*Lagopus leucurus*); Also found in the conservation area are numerous rare plants including wetland and high alpine species.

Ownership: Ownership within the conservation area is Alberta (Federal 3%, Province 2%, Private 5%), British Columbia (Federal 11%, Province 1%, Private 1%), Montana (Federal 61%, Tribal 3%, Private 6%, State 4%).

Threats and Management Issues: Steadily rising human population growth and continuing fragmentation of lands due to recreational and residential development are key factors that are having pronounced effects on the ecology of the region. The western portion of the conservation area has some of the highest population growth in Montana. While the core of the CoC receives some of the highest protection, the surrounding low elevation habitats, which are integral to ecological completeness, are threatened by increasing residential development pressures and increased highway development. Land use changes from large ranching to rural development communities on the east side of the CoC are increasing. This region will face increasing development pressures in the next 10 years. While habitat loss and fragmentation are primary threats, other issues also risk the region's integrity. Jurisdictional complexity is a barrier to managing natural resources to support ecological integrity. Several US and Canadian government agencies (Federal, State/Provincial, and Local), and First Nations all have differing resource goals. Management of grizzlies and wolves differ between US and Canada. One major landowner in the Swan Valley portion (Plum Creek) is proposing to dispose of large holdings within the CoC. Major transportation corridors located north (Highway 3-Crowsnest Pass) and through the heart of the CoC (Highway 2-Marias Pass) contribute to wildlife mortality, increased development, and risk of hazardous material spills. Gas/oil exploration and development are significant issues as well as potential coal development. Altered fire regime, incompatible timber harvests and non-native species introductions are other major management issues.

Opportunities: Collaborate with existing conservation efforts in the Swan Valley and Middle Fork (GNESA and Swan Valley Ad Hoc Committee); participate in the Crown of the Continent Managers Forum; provide leadership for the integration of watershed management of the North Fork through the Flathead Basin Commission; continue conservation of private ranch lands on the east front; provide data/conservation values to the Southern Rockies Management Plan process; conservation easements on corporate timber lands (Tembec); provide data/conservation values to Flathead National Forest plan revisions.

Stakeholders: Glacier National Park, Flathead National Forest, Lewis and Clark National Forest, Blackfeet Indian Reservation, Ministry of the Environment (BC and Alberta), Montana Department of Transportation, US Fish and Wildlife Service, Plum Creek Timber Company, Tembec Timber Company, Montana Department of Natural Resources, Montana Department Fish, Wildlife and Parks, Great Northern Environmental Stewardship Area, Swan Valley Ad Hoc Committee, Flathead Land Trust, Trust For Public Lands, Montana Land Reliance, Southern Alberta Land Trust, University of Montana Biological Station, and several municipalities.



Cusick – Bob Rowen (Progressive Image)

Cusick.

Size: 8,413 acres/3,407 hectares.

Conservation Area Description: This conservation area consists of two relatively small areas that include aquatic, riparian and floodplain habitats at 600-700 m (1800-2100 ft) elevation in the Pend Oreille River Basin. The area encompasses the cottonwood groves and riparian habitats at the confluence of Tacoma Creek, which is located on the western boundary of the Kalispell Indian Reservation. The northern area is approximately 5 km downstream

from the Reservation and encompasses a portion of the Pend Oreille River containing the confluence with LeClerc Creek. The Pend Oreille River, grass farming, and cattle grazing dominate the landscape. The Pend Oreille River is impounded throughout the conservation area as a result of Box Canyon Dam, which is located 27 km downstream near the town of Ione. At first, the northern area was thought to be important ecologically. We subsequently found out however that it was nominated more as an opportunity for acquisition to consolidate state ownerships for habitat restoration. Consequently, the northern area should not be considered a priority site for conservation.

Principal Targets: Terrestrial species include bald eagle (*Haliaeetus leucocephalus*) nest sites and wetlands.

Ownership: Ownership of the conservation area is 71% private, 18% WDNR, 5% USDI Bureau of Indian Affairs Trust or Tribes, 4% USFS, and 2% WDFW.

Threats and Management Issues: Altered flow regimes and altered aquatic habitats as a result of the Box Canyon Dam are major conservation issues. Continued loss of riparian habitats to first and second home development is a significant issue; especially cottonwood groves that provide habitat for raptors and neotropical birds. Other issues include incompatible grazing and agriculture, and invasive plants (European milfoil).

Opportunities: Box Canyon Dam re-licensing and NWPPC's sub-basin planning offer important opportunities for conservation actions within the conservation area. Acquisition or protection of cottonwood groves and islands within the river channel would be an important management objective during re-licensing and sub-basin planning.

Stakeholders: USFS, DNR, WDFW, USFWS, Kalispell Indian Tribe, Pend Oreille PUD, USDI BLM, grass farmers, private land owners, Boise Cascade Corporation, US Army Corp of Engineers, Inland Northwest Wildlife Council, Stimson Timber Company.

Dayton Creek /Hog Heaven.

Size: 60,098 acres/24,342 hectares.

Conservation Area Description: The Hog Heaven Range, a sub-range of the Salish Mountains, is made up of glaciated argillite, siltite, quartzite, and dolomite. Mean annual precipitation ranges from 20 to 50 inches. The dominant vegetation at the lower elevations of the Hog Heaven Range is coniferous forest comprised of Douglas-fir and Lodgepole pine on the south slopes, and western larch and grand fir on the north slopes. Higher in the mountains, the forests are dominated by subalpine fir and spruce. The foothills of the range give way to Ponderosa pine woodlands, shrub-steppe and remnants of rough fescue grasslands. On the rocky outcrops some of the driest vegetation types in western Montana occur, where cactus (brittle cholla) and bitterbrush can be found. The Dayton Creek watershed comprises almost 45,000 acres with 42 miles of perennial streams and 83.5 miles of intermittent streams within the watershed boundary. Dayton Creek crosses the boundary of the Flathead Indian Reservation and is joined by Ronan Creek where it eventually enters Flathead Lake just south of the town of Dayton. Ronan Creek flows from the southeast corner of Lake Mary Ronan, a large lake west of Flathead Lake. Dayton Creek is considered important in replacing lost spawning habitat to the Flathead Lake ecosystem as a result of Hungry Horse Dam. Primary natural disturbance processes are fire, insects and disease.

Principal Targets: Principal conservation targets in this area are the federally Threatened Spalding's catchfly (or Spalding's campion)(*Silene spaldingii*) where a number of tiny populations occur. Animal conservation targets include habitat for wolf (*Canis lupus*), and fisher (*Martes pennanti*).

Ownership: Ownership within the conservation area is Federal 6%, Federal (Tribal) 29%, State (MT) 6%, and Private 60%.

Threats and Management Issues: Principal land use is heavy timber harvest, grazing and agriculture. Residential development is a major threat on the shores of Flathead Lake. Inappropriate grazing in the drier plant communities has encouraged the invasion of exotic species and erosion.

Opportunities: Provide input into the Forest Plan revision process; Dayton Creek has been identified by the Tribes and EPA as an important restoration watershed, collaborative projects on private land.

Stakeholders: Flathead National Forest; Plum Creek Timber Company; Confederated Salish and Kootenai Tribes, US Environmental Protection Agency; Montana Department Fish, Wildlife and Parks, Montana Department of Natural Resources, University of Montana Riparian and Wetland Research Program, University of Montana Biological Station, US Bureau of Reclamation, the Flathead Basin Commission, Flathead Lakers and landowners.



Spokane – Howard Ferguson (WDFW)

Dishman Hills/Mica Peak

Size: 59,083 acres/23,932 hectares.

Conservation Area Description: This is a relatively small conservation area that is located directly adjacent to the City of Spokane on its southern and southeastern sides. It extends several kilometers into Idaho just east of Liberty Lake. The conservation area ranges from 600m elevation near Liberty Lake and the Spokane River to 1586 m elevation at Mica Peak.

Dishman Hills and Mica Peak form a small range of hills that extend west from Idaho. Douglas-fir and grand fir forest occur on north-facing slopes and in drainages, whereas ponderosa pine forests occur on the south-facing slopes and drier sites. Remnants of steppe habitats are scattered within the conservation areas as well. A number of parks and protected areas are located within the conservation area. That include: Liberty Lake County Park, Iller Creek Conservation Area, Dishman Hills Natural Resources Conservation Area, and Morrow Conservation Area. Dishman Hills is named after a relatively undeveloped, higher elevation site in eastern side of the conservation area. This location (Dishman Hills proper) is almost entirely surrounded by urban and suburban development, with little habitat connectivity remaining to nearby undeveloped areas. Conversely, Mica Peak is much less developed and has substantial connectivity to habitats to the east in Idaho and to the south in Washington.

Principal Targets: Aquatic targets within the conservation area include the west-slope cutthroat trout (*Onchorhynchus clarki lewisi*), as well as a number of aquatic systems. Ponderosa pine communities are terrestrial.

Ownership: Ownership within the conservation area is 92% private, 5% local governments (Spokane County and City of Spokane), 2% WDNR, and 1% IDL.

Threats and Management Issues: Development and road building are the major threats in this conservation area. Development threatens to completely surround the central, higher elevation landscapes with continuous suburban development as a perimeter, eliminating existing habitat corridors and connectivity to the Mica Peak area and habitats to the south.

Opportunities: Protecting and maintaining habitat corridors through acquisitions or easements is essential for the Dishman Hills area. Measures to manage or limit growth in this area may also act to protect the perimeter of the protected areas and the corridors needed for connectivity.

Stakeholders: WDNR, Spokane County, City of Spokane, WDFW, IDL, TNC, Dishman Hills Natural Association, Inland Northwest Wildlife Council, Sierra Club, Friends of Centennial Trail, The Lands Council, Spokane Audubon.



East-West Connectivity North.

Size: 421,239 acres/170,602 hectares.

Conservation Area Description: The Bugaboo conservation area is located in the Purcell Mountains mid way between the Rocky Mountain Trench on the east and the Duncan River on the west and halfway between Golden, BC and Radium Hot Springs, BC.

Bugaboo Glacier – Dave Hillary

The conservation area is within the North Columbian Mountain and East Purcell Mountain ecosections. The topography of the area is extremely rugged with sculpted granite masses uplifting into spectacular spires, some of which exceed 3000 meters. Although the high elevation zone is well represented in the existing protected areas network, this area offers the best representation of warm, wet variants of the Englemann Spruce-Subalpine Fir biogeoclimatic subzone. The area also contains the Alpine Tundra zone, which consists of alpine heath and sedge, mosses and lichens. Woodland riparian vegetation can also be found in the Vowell Creek marshes and wetlands. The area contains habitat for a wide diversity of species including Mountain Goat, Grizzly Bear, wolverine, and fisher. The headwaters of Bugaboo, Vowell and Malloy Creeks as well as numerous high alpine lakes are found here. This conservation area provides a key connector between the Rocky Mountain Trench and the Duncan River. Bugaboo Provincial Park is 13,646 ha and is located in the Conservation area and is essentially unroaded.

Principal Targets: Terrestrial targets include grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*), wolf (*Canis lupus*), and lynx (*Lynx canadensis*). Aquatic species include bull trout (*Salvelinus confluentus*), and westslope cutthroat trout (*Onchorhynchus clarki lewisi*). A number of significant aquatic systems also occur in the conservation area.

Ownership: Ownership within the conservation area is 53% BC provincial Crown land, 38% BC provincial Crown land held under Tree Farm License (TFL), 8% BC provincial Crown land managed by Water, Land and Air Protection and less than 1% privately owned.

Threats and Management Issues: Although forestry and mining are dominant land uses, the recent land use planning process have reflected public appreciation and concern for protected areas. The result has been the protection of 18.5% of the East Kootenay area. The bugaboos were the birthplace of helicopter skiing in Canada and the area has become a worldwide destination for this activity. The area is also internationally renowned for rock climbing and mountaineering activities, all of which pose a threat to biodiversity conservation.

Opportunities: Actions to reduce commercial tenures on crown land are viewed as important in this area. Improve forest practices especially along important riparian areas.

Stakeholders: Ktunaxa-Kinbasket Tribal Council, The Nature Conservancy, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, Regional District of East Kootenay, East Kootenay Environmental Society, East Kootenay Conservation Program, Invermere and Golden Rod and Gun Club, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Slocan Forest Products, Tembec Industries Inc., Canadian Mountain Holidays (CMH).



Alpine Meadow (Purcells) – Dave Hillary

East-West Connectivity South.

Size: 546,306 acres/221,254 hectares.

Conservation Area Description: The East Purcell area is located in the Purcell Mountains, bordered on the east by the Rocky Mountain Trench and on the west by Kootenay Lake. This virtually undisturbed area contains grasslands, high mountains, alpine lakes and provides habitat for grizzly bear, mountain goats, west slope cutthroat trout and mountain caribou.

This area also contains one of the largest provincial protected areas in the region; The Purcell Wilderness Conservancy at 106,290 ha. The area includes the unroaded middle portions of the drainages of Findley Creek, Dutch Creek and Toby Creek. The size, location and lack of roads create very high values for biodiversity conservation. It contains provincially significant biogeoclimatic subzone/variant Kootenay Dry Mild Interior Douglas-fir and contributes to the gap in the Dry Cool Montane Spruce subzone within the East Purcell Mountains Ecoregion.

Principal Targets: Terrestrial targets include grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*), wolf (*Canis lupus*), lynx (*Lynx canadensis*), and badger (*Taxidea taxus jeffersoni*). Aquatic targets include bull trout (*Salvelinus confluentus*), and westslope cutthroat trout (*Onchorhynchus clarki lewisi*). A number of significant aquatic and temperate grassland communities also occur in the conservation area.

Ownership: Ownership within the conservation area is 55% BC Ministry of Water, Land and Air Protection (provincial park), 44% BC provincial crown land, and 1% privately held.

Threats and Management Issues: Current use in the area includes commercial heli-skiing and guiding, along with trapping. The Ktunaxa/Kinbasket and Shuswap First Nations have included the area within their asserted traditional territory and as such have a vested interest in use and development. New threats to this area include a proposed glacier skiing operation and increased interest in mining.

Opportunities: Actions to limit new tenure on crown land. Actions to limit new commercial recreational developments.

Stakeholders: Ktunaxa-Kinbasket Tribal Council, The Nature Conservancy, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, Regional District of East Kootenay, East Kootenay Environmental Society, East Kootenay Conservation Program, Invermere and Golden

Rod and Gun Club, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program.



Elk River Valley

Size: 867,194 acres/351,214 hectares.

Conservation Area Description: This conservation area is located in the southeastern corner of British Columbia and extends from Elk Lakes Provincial Park (north of Elkford) southwesterly to the Rocky Mountain Trench near Elko. The conservation area includes low elevation deciduous riparian areas along the Elk River to mountains in excess of 2286m (7500 feet). Included in the area is the Nature Conservancy of Canada's Mt. Broadwood Heritage Conservation Area;

Elk River Valley – Dave Hillary

a 22,000-acre parcel donated by Shell Canada Ltd. in 1992. The Elk River runs from north to south through the area and contains significant populations of bull trout and west slope cutthroat trout. Streams in the area include the Bull River, White River, Morrisey Creek and Lizard Creek. The area supports populations of grizzly bear, Rocky Mountain bighorn sheep and also includes some of the highest value deer, elk and sheep winter range in the Province.

Principal Targets: Aquatic Targets within the conservation area include white sturgeon (*Acipenser transmontanus*), westslope cutthroat trout (*Oncorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), and tailed frog (*Ascaphus truei*). Terrestrial targets include badger (*Taxidea taxus*), habitat and connectivity values for grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*) and gray wolf (*Canis lupus*); plant species include barren ground fleabane (*Erigeron trifidus*) and woolly fleabane (*Erigeron lanatus*). Community targets include subalpine wet meadow, grasslands, subalpine riparian, montane riparian, montane spruce, interior Douglas-fir forests, interior western redcedar – hemlock forests and interior subalpine forests.

Ownership: The majority of the Elk River Valley Conservation Area is managed by the Province of British Columbia with provincial Crown Land constituting 78% of the landscape, private land accounting for 12% and provincial Protected Areas contributing 10%.

Threats and Management Issues: The valley bottoms in the area are increasingly being developed for commercial recreation and residential (second home) development. This development, when combined with linear corridors has fragmented a significant amount of the remaining natural landscape. Opportunities still exist to maintain these connectors. Industrial logging and mining (mainly coal) have traditionally been viewed as the major influences on the conservation area; these influences have now been superseded by recreation/residential development.

Opportunities: Maintenance and/or enhancement of north-south connectivity for wide ranging carnivores is critically important in this area. There are a number of significant low-elevation private holding that need to be secured. Expansion and increased management on Mt. Broadwood is also necessary to maintain ecological integrity. Partner with other organizations to maintain aquatic integrity of the Elk River.

Stakeholders: Ktunaxa-Kinbasket Tribal Council, The Nature Conservancy, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, City's of Fernie, Sparwood and Elkford, Tembec Industries Inc., Galloway Lumber, Fording Coal, Regional District of East Kootenay, East Kootenay Environmental Society, East Kootenay Conservation Program, Fernie and Elkford Rod and Gun clubs, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program.



Flathead Lake and Wetlands.

Size: 246,374 acres/99,781 hectares.

Conservation Area Description: The Flathead Valley is an intermontane basin formed of alluvium, glacial outwash, and lacustrine sediments. Elevations range from 2,300 to 3,300 ft. Mean annual precipitation ranges from 14 to 25 inches, about 50 percent falling as snow.

Flathead Lake – Marilyn Wood

Flathead Lake was formed when a large terminal moraine blocked the Flathead River Drainage, forming one of the largest glacial lakes in the western United States. Potential natural vegetation of the conservation area is foothills prairie and western ponderosa pine at the southern end of the Flathead Valley, becoming more mesic coniferous forest on the north end. Interspersed throughout the area is a diverse array of wetlands. Slow gradient, meandering streams, oxbows, major river systems and low lying spots are locations where many wetland community types can be found. The most rare of these are fens, a type of peat land where numerous rare plants occur. Key conservation concerns are native trout habitat, very diverse wetland components, and the relatively intact, low elevation riparian habitat associated with the 3 main tributaries. Primary natural disturbances are fire and flooding. Land uses include agriculture and residential development.

Principal Targets: Terrestrial targets include bald eagle (*Haliaeetus leucocephalus*), western toad (*Bufo boreas*), northern leopard frog (*Rana pipiens*). Aquatic targets include short head sculpin (*Cottus confusus*), longmouth pondsnail (*Stagnicola elrodiana*), bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), Numerous rare plants including Spalding's catchfly (*Silene spaldingii*), small winged sedge (*Carex stenoptila*), dwarf water lily (*Nymphaea leibergii*), and moonworts; and many natural communities such as fen, montane riparian forest, marsh, conifer swamp also occur in the conservation area.

Ownership: Ownership within the conservation area is Federal 13%; State (MT) 2%; Private 53%; Water 30%.

Threats and Management Issues: Land use is predominantly agriculture, rural/suburban development, and some timber harvest. Flathead Valley is one of the fastest growing counties in Montana. Extensive research indicates decline in water quality since 1977. Nutrients, siltation, flow alteration, invasive exotic aquatic plants threaten water and

wetland ecosystems here. Introductions of non-native aquatic animals species have impacted the native trout populations.

Opportunities: Many agencies and NGO's are working to protect water quality and open space values in the Flathead Valley; evaluate potential for public funding of conservation projects; provide data/conservation values to land use-planning efforts; collaborate with the Flathead Lakers Critical Lands Project.

Stakeholders: Flathead National Forest, Plum Creek Timber Company, Confederated Salish and Kootenai Tribes, US Environmental Protection Agency, Montana Department Fish, Wildlife and Parks, University of Montana Biological Station, US Bureau of Reclamation, US Fish and Wildlife Refuge, the Flathead Basin Commission, Flathead Lakers, Flathead Land Trust, Montana Land Reliance.



Mt. Robson – Dave Hillary

Fraser River Headwaters.

Size: 83,125 acres/33,666 hectares.

Conservation Area Description: This conservation area is located at the north end of the Rocky Mountain Trench between the Rocky Mountains and the Cariboo Mountains, and is the headwaters for the mighty Fraser River. Located along the continental divide this conservation area is the birthplace of one of British Columbia's most important salmon bearing rivers - the Fraser.

From its source in Mt. Robson Provincial Park, the Fraser flows north on its way to Prince George, where it heads south to the Pacific Ocean – a total distance of 1,500 kilometers. Many other rivers originate in, or adjacent to the conservation area. These include the North Thompson, Canoe, Kakwa and a major fork of the Columbia.

The area supports a wide array of vegetation types and is also key habitat for wide ranging mammals including the grizzly bear, wolverine, and mountain caribou.

Principal Targets: Terrestrial targets include habitat for grizzly bear (*Ursus arctos horribilis*) and to a lesser extent the entire suite of wide ranging carnivores. Aquatic targets include chinook salmon (*Onchorhynchus tshawytscha*), and bull trout (*Salvelinus confluentus*). Seven significant aquatic systems also occur in the conservation area along with Lodgepole Pine Forest and Woodlands.

Ownership: Ownership within the conservation area is 70% BC provincial crown land, 28% privately owned, 1% BC provincial park and 1% ENGO.

Threats and Management Issues: Connectivity between Kakwa and Bowron Lake Provincial Parks. Logging in the Goat River watershed.

Opportunities: Enhance logging practices.

Stakeholders: Fraser Headwaters Alliance, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, McBride Forest Industries, CN Rail, Lheidli, Lhatako, North Thompson First Nations.



Granby.

Size: 525,641 acres/212,885 hectares.

Conservation Area Description: Found at the extreme eastern edge of the Ecoregion, this conservation area is located north of Grand Forks, BC and south of the Shuswap area. It lies within the Selkirk Foothills Ecosection in the southern Monashee Mountains. This area includes the headwaters of the Granby River; a tributary to the Columbia River system along with Traverse, Burrell, Goatskin, Arthur and Galloping Creek.

Granby River – Granby Wilderness Society

The area is bisected by Highway #6, which runs from Cherryville to Needles and currently has limited use. The area contains the 40,845 ha Granby Provincial Park, a pristine park that encompasses the headwaters of the Granby River; one of the few large, undisturbed watersheds in the Okanagan-Boundary area. Lower elevation areas contain old-growth stands of cedar and hemlock forests, while extensive rolling alpine and sub alpine grassland meadows occur at higher elevations. The site supports populations of grizzly bears, mountain goats and speckled dace as well as the nettle-leafed giant-hyssop (red-listed in BC).

Principal Targets: Terrestrial targets include western moonwort (*Botrychium hesperium*), grizzly bear (*Ursus arctos horribilis*), and important connectivity corridors. Aquatic targets include bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), and speckled dace (*Rhinichthys osculus*). 15 important aquatic systems are also found in the conservation area.

Ownership: Ownership within the conservation area is 68% BC provincial crown land, 19% BC provincial park (administered by the Ministry of Water, Land and Air Protection), 12% BC provincial crown land held under tree farm license and 1% privately held.

Threats and Management Issues: Current use in the area includes industrial logging (Pope&Talbot), commercial guiding, trap lines and mineral tenures. The Sinixt Nation also uses the area. Future threats include continued logging of old growth forests and increased crown tenure relative to tourism.

Opportunities: Limit tenure on crown land. Minimize logging in old growth and riparian areas.

Stakeholders: Sinixt First Nation, Pope and Talbot, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Columbia Basin Trust, Columbia Basin Fish and Wildlife Conservation Program, Granby Wilderness Society.



Kakwa - Willmore

Size: 1,827,627 acres/740,189 hectares.

Conservation Area Description: Situated in the Canadian Rocky Mountains, just north of Jasper National Park, this conservation area includes representative samples of montane, subalpine and alpine ecosystems. Running along the continental divide, this rugged region is still relatively inaccessible and contains the 1840 sq mile Willmore Wilderness Park.

Kakwa – Dave Hillary

The climate can be described as continental with temperatures ranging from 95 degrees in the summer to –40 degrees in the winter. Average annual precipitation is 24 inches.

The montane region occupies the river valley floor and provides excellent winter range for elk, deer and Rocky Mountain bighorn sheep. The subalpine region runs from the montane to the alpine and supports wildlife such as mountain caribou, wolf, grizzly bear, lynx and cougar. The alpine region (above tree line) supports populations of goats, ptarmigan, and pika.

Industry in the conservation area includes timber harvesting, oil and gas exploration and increasingly tourism. Human population is minimal as are roads.

Principal Targets: Terrestrial targets include habitat for grizzly bear (*Ursus arctos horribilis*), wolf (*Canis lupus*), and lynx (*Lynx canadensis*); barren ground fleabane (*Erigeron trifidus*), Porsild’s whitlow-grass (*Draba porsildii*), bog adder’s-mouth (*Malaxis paludosa*), brown moss (*Drepanocladus crassicostatus*), moss (*Seligeria subimmersa*) and harlequin duck (*Histrionicus histrionicus*). Aquatic targets include chinook salmon (*Onchorhynchus tshawytscha*) and several important aquatic systems.

Ownership: Ownership within the conservation area is 60% Alberta provincial park, 29% Alberta provincial crown land, 5% BC provincial park, 5% BC provincial crown land, and less than 1% held by Parks Canada and other private interests.

Threats and Management Issues: Oil and gas exploration and forestry. Road density issues.

Opportunities: Work with oil and gas companies and logging companies to limit public access to area.

Stakeholders: BC Ministry of Water, Land and Air Protection, BC Ministry of Forests, BC Ministry of Sustainable Resource Management, Alberta Ministry of Environment, Alberta Ministry of Community Development, Alberta Ministry of Sustainable Resource

Development, Alberta Wilderness Association, Alberta Fish and Game Association, Oil and Gas exploration companies, logging companies, Parks Canada.

Jocko River.

Size: 156,724 acres/63,473 hectares.

Conservation Area Description: The Jocko River conservation area is located north of Missoula near Arlee, Montana and lies entirely within the Flathead Indian Reservation. The watershed includes three forks of the Jocko River as well as two large tributaries – Finley Creek and Valley Creek. Jocko Spring Creek is a large tributary that is entirely supported by ground water discharge. The South Fork of the Jocko lies within the Jocko Primitive Area and the headwaters for the North Fork issue from the Mission Mountains Wilderness area. The Jocko watershed is predominantly a forested watershed. Forested tributaries range from steep cascades to moderately sinuous, step-pool streams. On the valley floor, the Jocko River is a moderately sinuous gravel-bedded river. In places, the river passes between high terraces or canyon walls and the meanders of the river are constrained. There are large sections of the river with significant upwellings of groundwater. They produce diverse floodplain habitats and the largest patches of wetlands in the Jocko Watershed. The Jocko River and its tributaries have the most significant native trout populations on the Flathead Indian Reservations. Irrigation canals and diversions function as fish barriers keeping the tributaries free of rainbow trout. Thus the area remains a strong hold for pure-strain westslope cutthroat trout. Bull trout have been documented in the watershed as well. The Jocko River is designated a bull trout recovery area. The Jocko watershed and its location near Evaro Pass provide a critical linkage area between the Bob Marshall complex and the Selway/ Bitterroot road less areas for wide-ranging species.

Principal Targets: Terrestrial targets include bald eagle (*Haliaeetus leucocephalus*) nest site, Flammulated owl (*Otus flammeolus*), Townsend’s bat (*Corynorhinus townsendii*), west slope cutthroat trout (*Oncorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), western toad (*Bufo boreas*); Plant targets include linear leaf moonwort (*Botrychium lineare*), clustered lady’s slipper (*Cypripedium fasciculatum*). Alpine mountainsnail (*Oreohelix alpina*) also occur in the conservation area.

Ownership: Ownership in the conservation area is Federal (U.S. FWS) 6.5%, (Tribal) 61%, State 3.4%, and Private 29%.

Threats and Management Issues: Since the 1990’s population growth has been high along the U.S. Highway 93 corridor, and in many of the rural areas of the watershed. Non-native fish species are found in much of the watershed. Habitat restoration of riparian areas is an issue, as well as screening diversion structures to limit non-native fish species. The Salish and Kootenai Tribe have instituted a number of actions to restore bull trout populations.

Opportunities: Watershed, especially riparian restoration projects; more information on status of rare plants and natural communities needed; collaborative projects with the Tribes; Native American Land Trust potential.

Stakeholders: Confederated Salish and Kootenai Tribes, US Fish and Wildlife Service, Montana Department of Transportation, Montana Department of Fish, Wildlife and Parks, Lolo National Forest, community of Arlee.



Kootenai River – Marilyn Wood

Kootenai River.

Size: 74,741 acres/30,270 hectares.

Conservation Area Description: The Kootenai (Kootenay) watershed is an international watershed and is the second largest tributary to the Columbia River. The conservation area includes that segment of the Kootenai River below Libby Dam in Montana to the Idaho border.

Libby Dam is located 17 miles upstream from the town of Libby and creates the 90-mile long Lake Kookanusa. From Libby Dam, the river turns west and flows through a gap between the Cabinet Mountains to the south and Purcell Mountains to the north. The river valley is relatively narrow and confined until it reaches the Idaho border where broad bench landform exits. At this point the river exits Montana at the lowest elevation (1862 ft) found within the state. Climate is described as “modified” pacific maritime influenced. Artic air masses contribute to the broad temperature variations. This segment of the river is considered the canyon portion and has a limited floodplain due to the closeness of the mountains. Substrate consists of large cobble and gravel. The uplands are heavily forested with Douglas-fir and western spruce-fir. The Kootenai river population of white sturgeon was listed as endangered in 1994, and has been isolated since the last glacial age, 10,000 years ago. The burbot population found in the Idaho segment has been petitioned for listing. Landownership includes public lands in the uplands and mixed private ownership along portions of the valley floor. Corporate timberlands are included in the private ownership. Primary land use includes intensive timber harvest, two towns, and rural subdivision.

Principal Targets: Terrestrial targets include common loon (*Gavia immer*), bald eagle (*Haliaeetus leucocephalus*) nest site, Flammulated owl (*Otus flammeolus*), Coeur d’Alene Salamander (*Plethodon idahoensis*), habitat for lynx (*Lynx canadensis*). Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*), and white sturgeon (*Acipenser transmontanus*). Natural Communities include Interior Douglas-fir forest and interior western cedar/hemlock forests

Ownership: Ownership within the conservation area is Federal (USDA, USDOD) 58%, State (Mt) 2%, Private 33%.

Threats and Management Issues: The operation of Libby Dam for hydropower operations has drastically altered the hydrograph, thermograph, and the downstream nutrient loading rates in the Kootenai River. Associated impacts include reduced bank stability, loss of riparian habitat and species composition. Decline of white sturgeon

productivity has been attributed to altered flow regimes. Conflicting resource needs for native fish species and downstream salmon flow requirements are caught up in multi-jurisdiction regulations.

Opportunities: Sub-basin planning efforts by NWPPC; Kootenai National Forest Plan revisions.

Stakeholders: Kootenai National Forest, US Fish and Wildlife Service, US Bureau of Reclamation (Libby Dam), Bonneville Power Administration, Northwest Power Planning Council, Montana Department Fish, Wildlife and Parks, communities of Troy and Libby, Trout Unlimited, Kootenai Tribe, Plum Creek Timber Company.



KJ Hackworthy

Kootenay River A (Libby Dam to Kootenay Lake)

Size: 357,229 acres/144,569 hectares

Conservation Area Description: This conservation area is part of the greater Kootenai River Sub-basin, which is an international watershed, including parts of British Columbia, Montana and Idaho. The headwaters of the Kootenai River originate in Kootenay National Park, B.C. From there, the river flows south within the Rocky Mountain Trench into the reservoir created by Libby Dam, located near Libby, Montana, then west to Idaho, and then loops north within the Purcell Trench to Kootenay Lake, B.C. The Kootenai River is the second largest Columbia River tributary in terms of runoff volume. It is the third largest in terms of watershed area, encompassing 45,584 km² or 1,13 million acres (Knudson 1994).

Synder and Minshall (1996) identified three different geomorphic reaches, *canyon*, *braided* and *meander*, of the Kootenai River A conservation area (between Libby Dam and Kootenai Lake) that affect ecosystem processes: The canyon reach extends from Libby Dam to the Moyie River (92 km) and flows through a canyon in places, and otherwise has a limited flood plain due to the closeness of the mountains. The substrate consists of large cobble and gravel. The braided reach extends from the Moyie River to the town of Bonners Ferry (7.5 km). This reach is extensively braided with depths typically less than 9 m, and substrate consisting of gravels. The meander reach extends from just below the town of Bonners Ferry to the confluence of the Kootenay Lake (82.5 km) where the average gradient slows to 0.02 m/km, deepens. The meandering section through the Kootenai Valley is characterized water depths of up to 12 meters deep in runs and up to 30 meters in pools.

The meander reach of the Kootenai River has a fairly low channel gradient. Flooding and the river reworking its floodplain formed an extensive network of marshes, tributary side channels, and sloughs. In the last century 95% of seasonal, semi-permanent, and riparian wetlands through the meander reach have been lost. During the 1920's, the Kootenai River was tamed through the construction of 80 miles of levees and the Libby Dam in Montana in 1975 to provide flood control and power generation. Hydrologic alteration in the project area through construction of the Libby Dam and river levees, stream channelization, and the establishment of 16 agricultural drainage districts has eliminated seasonal flooding, lowered groundwater levels, and furthered the degradation of wetland habitats.

Once the river bottomlands were protected from flooding, the cottonwood forests were removed and the wetlands were drained or levelled and planted with crops.

Approximately 31,000 acres of wildlife habitat were converted in the US portion of the meander reach, including 17,000 acres of wetlands.

Principal targets: Habitat for the suite wide-ranging carnivores- gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*). Mammal- Townsend big-eared bat (*Corynorhinus townsendii*), northern pocket gopher (*Thomomys talpoides segregatus*). Avian- bald eagle (*Histrionicus histrionicus*), Flammulated owl (*Otus flammeolus*), short-eared owl (*Asio flammeus*). Fish- white sturgeon (*Acipenser transmontanus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), Umatilla dace (*Rhinichthys umatilla*), burbot (*Lota lota*). Amphibian- Coeur d'Alene salamander (*Plethodon idahoensis*), northern leopard frog (*Rana pipiens*). Vascular plants- *Carex comosa*, *Botrychium paradoxum*, *Botrychium montanum*, *Botrychium ascendens*. Expert nominated- fen, montane riparian forests, marsh, sphagnum bog, montane wet meadows, interior western cedar/hemlock/Douglas fir forests. 11 Aquatic systems.

Ownership: 1% Federal CA (First Nations Reserve), 29% Federal US (United States Forest Service, Bureau of Land Management, US Fish and Wildlife Service), 2% State (Idaho Department of Fish and Game, Idaho Department of Lands), 21% Provincial (BC Ministry of Water, Land and Air Protection, Crown Land), 46% Private (NGO's etc.), 1% Water

Threats and Management Issues: The operation of Libby Dam for hydropower operations has drastically altered the hydrograph, thermograph, and the downstream nutrient loading rates in the Kootenai River. Hydropower-related discharge has resulted in a wider *varial zone* and rapid fluctuations in dam discharges have increased bank instability. Moreover, hydropower facilities have reversed discharge patterns and altered seasonal and daily flow patterns, reducing riparian diversity and cottonwood recruitment and increasing sedimentation from dike sloughing. River diking, bank stabilization and tributary channelization have eliminated side channel sloughs habitat, reduced the natural source of river nutrient inputs, and eliminated virtually all low velocity, backwater and side-channel habitat, and converted a large segment of the river from a lotic to lentic environment. Subdivision of bottomlands has resulted in 90% of private landowners being located along low-elevation riverine systems. Agricultural practices have resulted in the draining and conversion of wetlands, loss of riparian habitat, loss of aspen and cottonwood galleries, and introduction of herbicide and pesticide contaminants into the watershed. Historic forestry practices have cleared large areas of interior western cedar forest in the floodplain. Fire suppression over the past 50 years has permitted remaining deciduous stands to be crowded out by competing conifers and put aspen stands at high risk of being lost from the landscape. Introduction of non-native plant species has resulted in the invasion of noxious weeds, habitat degradation, the reduction and/or loss of native plant species and plant communities, and the reduction of plant diversity and richness. Introductions of non-native fish species have set up negative inter-species competition with native fish. Brown trout, brook trout, Kamloops and coastal rainbow,

northern pike, largemouth bass, small mouth bass, bluegill, and yellow perch have been introduced into the sub-basin.

Stakeholders: BC Ministry of Water, Land and Air Protection, IDFG, USFWS, BLM, IDL, Private Timber Companies (Forest Capital, Louisiana Pacific), NGO's (Nature Conservancy Canada, The Nature Conservancy, Ducks Unlimited, Vital Ground, Idaho Conservation League, Lands Council, The Owens Foundation for Wildlife), County and Municipal Government, Bonneville Power Administration, Kootenai Tribe of Idaho, First Nations Reserve.

Opportunities: 1) watershed-based habitat enhancement and fish recovery actions to mitigate the losses caused by hydropower operations in the Kootenai Sub basin, i.e. a- Work with ACOE on Libby Dam flows to meet the needs of burbot, sturgeon, salmon and bull trout, b- protect, enhance and restore critical stream and upland habitat lost or affected by the construction and operation of the Federal power system, 2) reconnection of artificially fragmented habitats and re-establishment of valley floodplain, 3) Large scale wetland restoration, 4) Land acquisition and conservation easements of critical bottomlands, 5) water quality enhancement (develop TMDL's, reduce sedimentation, etc), 6) cottonwood gallery protection and restoration, 7) compatible economic development (alternative sources of income- "eco-dollars"), 8) Sub-basin Planning (Kootenai Tribe of Idaho is the lead) and BPA projects, 9) Selkirk Cooperative Weed Management Agreement- utilize this resource to develop early detection and invasion control programs, 10) build public involvement and interagency/NGO cooperation for ecosystem-wide habitat restoration.



Northern Leopard Frog – CVWMA

Kootenay River B.

Size: 816,676 acres/330,754 hectares.

Conservation Area Description: This conservation area is part of the greater Kootenai River Sub-basin, which is part of an international watershed, including parts of British Columbia, Idaho and Montana. The southern extent of the conservation area is located just north of the international boundary near Creston, British Columbia and continues north to the northern most tip of

Kootenay Lake. The conservation area falls within the West Kootenay region of British Columbia and south, north and west arms of Kootenay Lake. The area is bordered on the east by the Purcell Mountains and on the west by the Selkirk Mountains. The area is highly representative of the Southern Columbia Mountains (SCM) Ecosection owing to inclusion of several drainages, lakeshore to mountain top elevation range and diversity of vegetation and wildlife. The area supports Selkirk Wet Cold Englemann Spruce-Subalpine Fir subzone, Alpine Tundra, Columbia-Shuswap Moist Warm Interior Cedar-Hemlock subzone, and provincially significant Dry Warm Interior Cedar-Hemlock subzone. Old-growth stands of Englemann Spruce/Subalpine Fir can be found in various locations.

Conservation values are very high in this conservation area and it is internationally significant for old-growth habitats, grizzly bear, wolverine, mountain caribou and westslope cutthroat trout. Mineral exploration, timber harvesting, residential use (along the lake) and increasingly commercial recreation activities all have impacts on the ecological significance of the area. Two large provincial parks can be found within the conservation area: Kokanee Glacier provincial Park and West Arm Provincial Park.

Principal Targets: Terrestrial targets include rare plants - Ussurian water-milfoil (*Myriophyllum ussuriense*), (*Barbula eustegia*), (*Tetradontium repandum*); an amphibian - Coeur d'Alene salamander (*Plethodon idahoensis*); rare plant communities - Interior Douglas-fir Forest, Ponderosa Pine Woodland and Marsh. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), Umatilla dace (*Rhinichthys umatilla*) and 9 significant aquatic systems.

Ownership: Ownership within the conservation area is 68% BC provincial crown land, 17% BC provincial park (administered by the Ministry of Water, Land and Air Protection), 15% privately held.

Threats and Management Issues: Of paramount importance in this conservation area is its contribution to both mountain caribou and grizzly bear habitat. Inappropriate forestry practices and increased tourism pressure are the most significant threats to the area.

Opportunities: private forestry companies hold significant large blocks of land. Acquisition and/or the purchase of conservation covenants on these lands provide the best opportunity to maintain ecological integrity. Support on-going recovery efforts relative to mountain caribou. Enhance public education and strengthen legislation as it relates to foreshore development along Kootenay Lake.

Stakeholders: Ktunaxa-Kinbasket tribal council, Columbia Basin Trust, Mountain caribou Recovery Team, Darkwoods Forestry, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Columbia Basin Fish and Wildlife Compensation Program, BC Hydro, Wynndel lumber, City of Nelson.



Lardeau River – BC Parks

Kootenay River C.

Size: 402,284 acres/162,925 hectares.

Conservation Area Description: This conservation area is located in the West Kootenay region of southeastern British Columbia. The area runs generally north-south from the north end of Kootenay Lake to the headwaters of the Duncan River and is located within the Selkirk Mountains.

Duncan, Lardeau and Howser Rivers are tributaries to the Kootenay River and are all located within the conservation area. This conservation area is quite remote, with a very small human population. Traditional logging and mining are the major economic drivers in the area.

Principal Targets: Terrestrial targets include Riparian Forests, Marsh and habitat for the entire suite of wide-ranging carnivore species. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), burbot (*Lota lota*) and Umatilla dace (*Rhinichthys umatilla*). 7 important aquatic systems are also found in the conservation area.

Ownership: Ownership within the conservation area is 91% BC provincial crown land, 4% privately held, 3% BC provincial park (administered by the Ministry of Water, Land and Air Protection), 1% BC crown land held under tree farm license, and 1% ENGO.

Threats and Management Issues: Connectivity between the Purcell Wilderness Conservancy to the east and Goat Range Provincial Park to the west. Inappropriate logging practices that result in increased road density.

Opportunities: Unknown.

Stakeholders: BC Ministry of Forests, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Columbia-Kootenay Fisheries Renewal Partnership.



Lake Pend Oreille.

Size: 145,359 acres/58,870 hectares.

Conservation Area Description: The Lake Pend Oreille conservation area extends through Washington, Idaho, Montana and British Columbia. Lake Pend Oreille is the largest in Idaho, with an area of 180 square miles or 82,088 acres, and deepest (at 1,158 feet deep, there are only four deeper lakes in the nation.

Lake Pend Oreille – KJ Torgerson.

It is 65 miles long, 15 miles wide at its greatest width, and has 111 miles of shoreline. The Clark Fork River begins along the west slopes of the Continental Divide near Butte and drains most of western Montana before entering Idaho's Pend Oreille Lake, and supplies 85% of the total water flow.

Historically, the lake was home for the Kalispell Tribe of Indians for thousands of years until displaced by white settlers and relocated to reservations in Montana and Washington in the 1880s. Around Sandpoint, logged timberlands were then sold to settlers for home sites and farms. Commercial fishing for Kokanee salmon and whitefish flourished from 1945 until 1973 when it was banned. The lake and its trophy-size trout still draw recreational fisherman.

At the tip of the lake's south arm is Bayview. In 1942, the U.S. Navy built the second-largest naval training center in the world on this site (4,000 acres). Over a period of 15 months, 293,381 sailors received basic training at Farragut Naval Training Station. The Navy still has a research station in Bayview where it underwater tests sonar. Most of the base has been turned over to the State of Idaho, and is now Farragut State Park. Farragut State Park is currently planning an ecosystem restoration project as part of its Natural Resource Plan.

Dams were built in 1951 at Cabinet Gorge near Heron, MT (upstream from the lake), and at Albeni Falls near Newport (downstream from the lake). In the 1950s, the Army Corps of Engineers built the Albeni Falls Dam on the Pend Oreille River, the outlet of the lake. The Noxon Rapids Dam (upstream) was added in 1960. Today, lake levels are controlled by operations of the Albeni Falls dam, with levels fluctuating from a low of 2,051 feet above sea level to a typical high summer pool of 2,061 feet. At the current time, lake communities are advocating a change in dam operations that will permit a more stable lake level year-round, which would reduce the impacts to the spawning habitat for the lake's trout, char and Kokanee.

As a result of citizen concerns about increased aquatic weeds and algae in the Clark Fork River and Pend Oreille Lake, language was added to the 1987 Clean Water Act that directed the EPA to study the sources of pollution in the watershed. A comprehensive 3-year study led to the development of the Clark Fork- Pend Oreille Management Plan, which was finalized in early 1993 and designed to protect and restore water quality in the watershed from nutrient pollution. The Tri-State Water Quality Council is responsible for implementing numerous specific actions to achieve these objectives.

Principal Targets: Terrestrial targets include habitat for wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), and lynx (*Lynx canadensis*); Townsend big-eared bat (*Corynorhinus townsendii*), common loon (*Gavia immer*); rare plants - Birstly sedge (*Carex comosa*), and upward-lobed moonwort (*Botrychium ascendens*). Aquatic targets include bull trout (*Salvelinus confluentus*) and westslope cutthroat trout (*Onchorhynchus clarki lewisi*). Also identified within the conservation area are ecosystem targets - fen, marsh, interior western red cedar/hemlock/Douglas Fir, and montane riparian shrubland.

Ownership: Ownership within the conservation area is 38% federal (USFS, BLM), 19% private, 5% state, 38% water.

Threats and Management Issues: Elevated nutrients from sources including irrigated agriculture, septic tanks, and municipal and industrial wastewater discharges. Heavy metals from active and inactive mining and smelting activities. Operations from hydropower have altered the hydrograph, thermograph, and the downstream nutrient loading rates. Surrounding forestry practices have increased the sedimentation rates. Aquatic weeds and algae are prevalent problems. Invasive species (particularly lake trout) that prey on native species have resulted in the opening of a commercial fishery season to reduce their populations. Water quality suffers from both nutrient loading from the Clark Fork River and Pend Oreille River, resulting in near shore eutrophication in some areas, and poor macrophyte management and non-point sources of pollution.

Opportunities: 1) Work with partners on hydropower issues. 2) Encourage partners to establish and maintain a basin wide water quality-monitoring network to assess effectiveness and trends and to better identify sources of pollutants.

Stakeholders: Conservationists, Developers and Builders, Forestry, Government, Mining, Municipalities, Recreation, Lakeshore Property Owner Association. Kalispel Tribe of Indians, Tri- State Water Quality Council, NRCS, University of Idaho College of Natural Resources, Clark Fork Coalition, Idaho State Parks and Recreation, U.S. Geological Survey, Panhandle Health District, Eastern Washington University, Bonner County Planning and Development Department, Idaho Department of Environmental Quality, Idaho Department of Fish and Game, EPA.



Little Bitterroot River.

Size: 74,741 acres/30,270 hectares.

Conservation Area Description: The Little Bitterroot River is a moderately sinuous silt or gravel-bedded river. The watershed is located west of Kalispell and extends south until it reaches the confluence with the Flathead River near Moise. Nearly half of the watershed lies within the Flathead Indian Reservation (Salish and Kootenai Tribes). Hubbart Dam/reservoir is located in the upper

Little Bitterroot River – Marilyn Wood

section of the watershed. The riparian zone of the upper portion is characterized by diverse deciduous and coniferous forest habitats. Portions of the floodplain contains excellent wetland and wet meadow habitats. Adjacent uplands are largely used for agriculture, primarily pasture and hay production. The lower part of the drainage encompasses scattered shrub-dominated sites and is bordered by irrigated agricultural lands. Certain agricultural practices have significantly impacted the lower portion of the river. Pure-strain westslope cutthroat trout have been identified in 4 sub-basins of this watershed. Land uses include ranching and timber harvest. This is a relatively dry site with sagebrush and Ponderosa Pine component. It also is characterized by rather unique geology with deep canyons and isolated lakes. The area is important for furbearers, particularly bobcats. Dispersing wolves from the nearby Pleasant Valley conservation area are known to travel through this area.

Principle Targets: Terrestrial targets include a bald eagle (*Haliaeetus leucocephalus*) nest site, western toad (*Bufo boreas*), and a rare plant - Spalding's catchfly (*Silene spaldingii*). Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*).

Ownership: Federal (Tribal) 41%, State (MT) 4%, and Private 53%

Threats and Management Issues: Overgrazing, riparian degradation, timber harvest, and rural residential development are the key issues in this conservation area.

Opportunities: Identification of critical lands for watershed restoration needed; potential watershed restoration collaborative group; pursue riparian restoration projects and funding through Montana Department of Environmental Quality.

Stakeholders: Flathead National Forest, Confederated Salish and Kootenai Tribes, Plum Creek Timber Company, Montana Department of Natural Resources, Montana Department of Fish, Wildlife and Parks, local communities of Hot springs and Lone Pine, Eastern Sanders County Conservation District, Montana Department of Environmental

Quality, US Natural Resource Conservation.



Coeur d'Alene Range – KJ Torgerson

Lower Coeur d'Alene.

Size: 111,540 acres/45,174 hectares.

Conservation Area Description: The Coeur d'Alene range is a triangular group of mountains, made up of Belt Series sedimentary rocks, stretching from Lake Pend Oreille in the north to Lake Coeur d'Alene in the south, to Kellogg, Idaho in the east. The range is bounded by the Bitterroot Mountains in the east, the St. Joe Mountains in the south and Coeur d'Alene Lake and the Purcell Trench in the west.

This conservation area is located within the southern part of this range; south of Interstate 90 includes the area known as the chain of lakes. The majority of these lakes exist as wetlands and associated wetland habitat linked to the Coeur d'Alene River.

The conservation area is predominantly managed as public and private forestland, with the majority of the area owned by USFS, BLM, and BIA. Historically, mining was a major component of the area's economy. Mining activities over the last 100 years in the conservation area have significantly impacted the Chain of Lakes in terms of water quality and concentrations of lead, zinc, and cadmium in the water and soil. These problems have led to a portion of the watershed upstream from this area being designated a Superfund site. Although most mines in the area have closed, efforts to lessen the impacts of heavy metals contamination continues throughout the area. Tourism has become a major industry, with small communities attempting to draw visitors to offset the impacts of mine closure. Overcoming the perception of mining contamination continues to be an issue for the tourism industry.

Principal Targets: Terrestrial targets include habitat for gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), and lynx (*Lynx canadensis*); bald eagle (*Haliaeetus leucocephalus*) nest sites and wintering areas. Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), and three important aquatic systems. The conservation area also includes interior western cedar/hemlock/Douglas fir forests, montane wet meadows, subalpine wet meadow, montane riparian forest, and sub-alpine fir/mountain hemlock forest.

Ownership: Ownership within the conservation area is 24.5% federal (USFS, BIA, BLM), 56.2% private, 14.7% state, 4/6% water.

Threats and Management Issues: Mining activities over the last 100 years in the CA have significantly reduced the water quality through heavy metal contaminations resulting from increased concentrations of lead, zinc, and cadmium in the water and soil. Changes in stream bank and shoreline stabilization are of great threat of release heavy metals into the water column that are currently stored in the soil. Forest fragmentation

resulting from increased road densities, and loss of seral species (particularly white pine) has resulted from historic logging practices. Increased catastrophic pathogen invasions (particularly bark beetle), invasives (particularly knapweed and larkspur), altered fire regimes. In the Chain of Lakes area, draining and conversion of the wetlands to agriculture has occurred resulting in increased residential development and incompatible grazing practices as well.

Opportunities: 1) The Idaho Panhandle National Forest Plan is currently going under revision with a schedule completion date of April 2005. 2) The BLM Resource Management Plan is being revised with a completion date of 2006.

Stakeholders: USFWS, IDFG, USFS, BLM, Recreational Groups (hunter and fisherman groups, boaters), County and Municipal Government, Coeur d'Alene Tribe of Indians, NGO's.



Lake Revelstoke – Dave Hillary

Lower Columbia A.

Size: 395,604 acres/160,219 hectares.

Conservation Area Description: This conservation area follows the Columbia River from Mica Creek (outlet at Kinbasket Lake) south to Revelstoke, British Columbia. The conservation area falls within the Columbia Mountain ranges (Purcells, Selkirks, Cariboos, Monashees) that form the first mountain barrier east of the Coastal Mountains.

The Columbia Mountains intercept wet, mild westerly air masses, creating an area known as the interior wet belt. This area is world renowned for high annual precipitation, deep snow accumulations and relatively moderate winter temperatures. It is also world renowned for helicopter skiing.

The conservation area contains the alpine tundra ecoregion with productive meadows of sedge and heather along with lichen, bare rock and glacial moraine. It also contains the Interior Sub-alpine ecoregion dominated by Englemann spruce, subalpine fir and hemlock at lower elevations and alpine meadows at higher elevations. The dense vegetation of the valley bottom Interior Cedar Hemlock ecoregion is a result of tremendous precipitation and is characterized by thick forests of western red cedar, western hemlock, western white pine and associated shrubs such as devil's club.

These ecoregions collectively support populations of mountain caribou, grizzly bear, fisher, lynx white-tailed ptarmigan and a variety of neotropical migrant birds.

Principal Targets: Terrestrial targets include woodland caribou (*Rangifer tarandus caribou*), habitat for grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*) and an ecosystem target - fens. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*) and 6 important aquatic systems.

Ownership: Ownership within the conservation area is 54% BC provincial crown land, 37% BC provincial crown land held under tree farm license, 8% privately held, and 1% Parks Canada.

Threats and Management Issues: Hydroelectric development and the construction of associated dams have had a severe impact of lower elevation riparian areas. Logging of old-growth areas will likely increase in coming years as a result of recent provincial government decisions. The most significant disturbance agent in these wet forests though is insects and disease.

Opportunities: unknown

Stakeholders: Parks Canada, Columbia Basin Trust, BC Hydro, Columbia Basin Fish and Wildlife Compensation Program, City of Revelstoke, Regional District of Central Kootenay.



Arrow Lake – Dave Hillary

Lower Columbia B.

Size: 810,616 acres/328,299 hectares.

Conservation Area Description: This conservation area is located in the West Kootenay region of southeastern British Columbia between the City of Revelstoke at the north and the City of Castlegar at the south. Generally, the conservation area follows the mainstem of the Columbia River and includes Revelstoke Lake, Upper Arrow Lake and Lower Arrow lake.

These lakes are actually reservoirs created during hydroelectric developments on the Columbia system in the 1960's and 1970's. The result of this development was devastating on the ecosystem and also on the human population of the area. Permanent loss of both deciduous and coniferous riparian habitats, along with the severe alteration of fish habitat is typical throughout the conservation area.

Principal Targets: Terrestrial targets include ecosystems - Interior Douglas Fir Forest, Interior western redcedar/hemlock/Douglas-fir Forest, Riparian Forest; a rare plant - big-leaf sedge (*Carex amplifolia*); Lewis' woodpecker (*Melanerpes lewis*); habitat for grizzly bear (*Ursus arctos horribilis*); and the Coeur d'Alene salamander (*Plethodon idahoensis*). Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), Umatilla dace (*Rhinichthys umatilla*) and 16 important aquatic systems.

Ownership: Ownership within the conservation area is 51% BC provincial crown land, 37% BC provincial crown land held under tree farm license, 9% privately held, 2% BC provincial park (administered by the Ministry of Water, Land and Air Protection), and 1% Parks Canada.

Threats and Management Issues: Habitat alteration has resulted in significant climatic change in the conservation area. Altered flow regime has led to severe degradation of fish habitat.

Opportunities: Participate in renegotiation of Columbia Basin Treaty when renewed.

Stakeholders: BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Private Timber Companies, NGO's (The Nature Conservancy, Ducks Unlimited), Regional and Municipal Government, Bonneville Power Administration, Regional District of West Kootenay, Columbia Basin Trust, Columbia basin Fish and Wildlife Compensation Program, BC Hydro.



Pend Oreille – Roger Hansen, Friends of the Little Pend Oreille NWR

Lower Columbia C.

Size: 400,341 acres/162,138 hectares.

Conservation Area Description: This conservation area is located in the Selkirk Mountains and straddles the U.S.-Canadian border in northeastern Washington and southeastern British Columbia. It extends from the confluence of the Kootenay and Columbia Rivers just north of Castlegar, BC south to Chewelah, WA.

The Kettle and Colville Rivers bound it to the west and the Pend Oreille River to the east. The conservation area is bisected by Lake Roosevelt (WA) at its lowest elevation (393 m) and rises to its highest point at Old Glory Mountain (BC; 2376 m). In the southern portion of the area, grasslands and cliff habitats are found along Lake Roosevelt, which transition to landscapes dominated by ponderosa pine forests at lower elevations, to western larch - Douglas-fir - Grand fir forests at mid elevations, and ultimately to lodgepole pine-subalpine fir forests at the higher elevations. Moist interior cedar-hemlock forests occur in the wetter areas and valleys in much of the conservation area, especially in the northern portion.

Champion Lakes Provincial Park, King George VII Provincial Park, Little Pend Oreille National Wildlife Refuge, and Little Pend Oreille River Natural Area Preserve are protected landscapes within the conservation area. The area also includes a portion of Lake Roosevelt National Recreation Area, which includes a 130-mile long impoundment of the Columbia River that was formed by the construction of Grand Coulee Dam in 1941. Other dams in the conservation area include the Hugh Keenlyside dam on the Columbia River upstream from Lake Roosevelt and the Brilliant dam on the Kootenay River just upstream from its confluence with the Columbia River. Other rivers and streams in the area include the Little Pend Oreille River, Mill Creek, Sheep Creek, and Deep Creek. The conservation area has a relatively high road density, particularly in British Columbia (Highways 22, 3, 22A, and 3B). The cities of Trail, Castlegar and Rossland, BC are the only urban centers within the conservation area.

Principal Targets: Aquatic species include white sturgeon (*Acipenser transmontanus*), westslope cutthroat trout (*Oncorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), Shorthead sculpin (*Cottus confusus*), and Umatilla dace (*Rhinichthys umatilla*). Terrestrial targets include badger (*Taxidea taxus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Lewis' woodpecker (*Melanerpes lewis*), bald eagle (*Haliaeetus leucocephalus*) nest sites, and habitat and connectivity values for fisher (*Martes pennanti*), grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*) and gray wolf (*Canis lupus*); plant species include stalked moonwort (*Botrychium pendunculosum*), upward-lobed moonwort (*Botrychium ascendens*), Crenulate moonwort

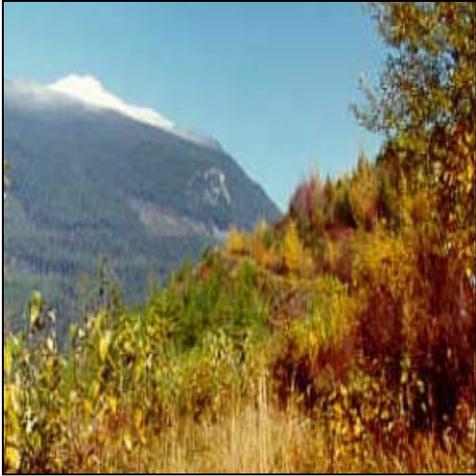
(*Botrychium crenulatum*), western moonwort (*Botrychium hesperium*), peculiar moonwort (*Botrychium paradoxum*), and Columbia River crazyweed (*Oxytropis campestris* var. *columbiana*). Community targets include western red cedar/wild sarsaparilla forests, alpine wet meadow, alpine grassland (dry), interior Douglas-fir forests, sparsely vegetated rock and talus, alpine cushion plant, and dwarf-shrubland.

Ownership: Ownership within the conservation areas is 49% private (BC and WA), 21% provincial (BC Crown Lands), 16% USFS, 8% WDNR, 3% USDI Fish and Wildlife Service, and 2% USDI Bureau of Land Management. Boise Cascade Corporation and Stimson Timber Company are major private landowners in Washington.

Threats and Management Issues: Loss or alteration of natural hydrologic function and riparian habitats are significant issues as a result of the Brilliant, Hugh Keenlyside, and Grand Coulee dams. Point source pollution from Celgar Pulp Mill in Castlegar, BC and Tech Cominco (smelting) in Trail, BC are significant concerns for downstream environments and biota within and outside the conservation area. Fire suppression, invasive/exotic plants (e.g., knapweed), incompatible forestry, and incompatible grazing practices are additional threats and management concerns within the conservation area. Loss of large snag habitat and lack of snag habitat recruitment across the conservation area are more specific forestry issues.

Opportunities: Actions to reduce and remove contamination and restore contaminated sites. Opportunities to improve flow regimes and to restore riparian habitats should be investigated. Little Pend Oreille National Wildlife Refuge has used mechanical management and prescribed fire to reduce fuel loads to address fire suppression issues, especially in historically, open forest types. Work with NW Power Planning Council's sub-basin planning process to protect sites important for both planning efforts. Opportunities to acquire habitats and landscapes of importance are also available through the Washington Wildlife and Recreation Program (WWRP).

Stakeholders: USFS, Fisheries and Oceans Canada, USFWS, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, WDFW, WDNR, BC Hydro, Celgar Pulp and Paper, Columbia Power Corp., Tech Cominco, Columbia Basin Trust, Boise-Cascade Corporation, Stimson Timber Company, Inland Northwest Wildlife Council, TNC, NCC, Canadian Parks and Wilderness Society, Bonneville Power Administration, USDI Bureau of Reclamation, Columbia Basin Fish and Wildlife Compensation Program, Colville Confederated Tribe, private land owners, and Lake Roosevelt National Recreation Area (USDI NPS).



Kinbasket Peak – Dave Hillary

Middle Columbia.

Size: 1,687,186 acres/683,310 hectares.

Conservation Area Description: The Middle Columbia conservation area is located in the Canadian Rocky Mountains of southeastern British Columbia and includes Kinbasket Reservoir.

The area is found within the Central Park Ranges, the Northern Park Ranges and the Big Bend Trench Ecosections. Bordered on the east by both Jasper and Banff National Parks, this area contributes not only source habitats for a wide array of species, but also contributes greatly to east-west connectivity to and from existing protected areas.

The Kinbasket Reservoir, a result of hydroelectric development on the Columbia River, flooded much of the historic riparian habitat. The reservoir, and Columbia River system is fed by a number of creeks and rivers within the conservation area including the Beaver, Sullivan, Cummins and Wood. Clemenceau Icefield is also within the area as is Cummins Lake Provincial Park (21,000 ha). This park protects one of the last unharvested and unroaded watersheds in the area.

The area includes Englemann Spruce Subalpine Fir forest, valley bottom habitats (meadows, marsh), as well as habitats for grizzly bear, caribou and mountain goat. There is considerable backcountry use of this area including commercial heli-skiing, cat-skiing and hiking, but limited access across Kinbasket Reservoir and from Jasper National Park.

Principal Targets: Terrestrial targets include habitat for caribou (*Rangifer tarandus caribou*), grizzly bear (*Ursus arctos horribilis*), wolverine (*Gulo gulo luscus*), wolf (*Canis lupus*), and lynx (*Lynx canadensis*); and an ecosystems - fens. Aquatic targets include coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), chinook salmon (*Onchorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*). In addition, 18 important aquatic systems are found within the conservation area.

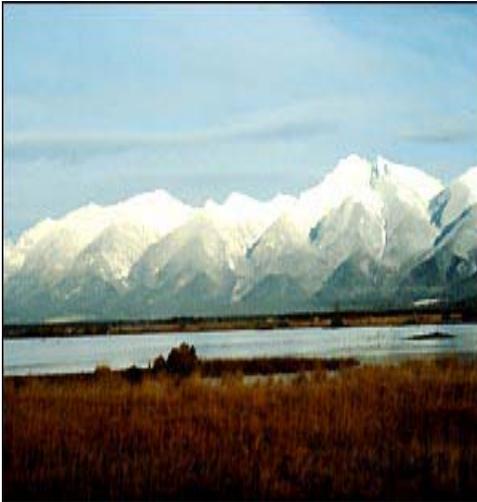
Ownership: Ownership within the conservation area is 97% BC provincial crown land, 1% BC provincial park (administered by the Ministry of Water, Land and Air Protection), 1% Parks Canada and 1% privately held.

Threats and Management Issues: Access management is critical to the long-term viability of many species within the conservation area. Increasing human use

(recreational) and road infrastructure need to be mitigated. Loss of riparian habitat resulting from the flooding of Kinbasket Reservoir necessitates the protection of remaining riparian areas. Seasonal water level fluctuations in the reservoir and river have also degraded fish habitat.

Opportunities: Secure by purchase and/or covenant key riparian areas. Partner with BC Ministry of Sustainable Resource Management to develop and implement an effective access management plan. Limit new provincial crown tenures within the area. Protect small pockets of old growth forest.

Stakeholders: Parks Canada (Jasper, Banff, Glacier), BC Ministry of Forests, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, East Kootenay Environmental Society, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Ktunaxa-Kinbasket First Nations, Alpine Club of Canada, Louisiana Pacific Forest Products, BC Hydro, Canadian Mountain Holidays, Great Canadian Heli-skiing, towns of Valemont and Golden



Mission Valley

Size: 161,383 acres/65,360 hectares.

Conservation Area Description: The Mission Valley is a glacially carved intermountain basin located in Lake County. The northern boundary of this conservation area is Flathead Lake and the southern boundary is the National Bison Range (USFWS) near Moise, Montana. The mainstem Flathead River forms the western boundary with the eastern boundary located at the edge of the Mission Mountains.

Mission Valley – Marilyn Wood

Extensive glacial formed potholes, spring creeks, forest stands, and small remnants of native prairie characterize the area. Ownership is a checkerboard of private lands, Tribal trust parcel, state owned wildlife management areas, and federally owned waterfowl production areas and wildlife refuges. Land uses include agriculture (pasture, hay production), residential development, and wildlife management. The complex wetlands and upland habitat contribute to making the Mission Valley the most productive site for migratory bird nesting in the lower 48 states. It also has the highest density within the lower 48 states of rough-legged hawks (*Buteo lagopus*). The area also supports large communal roost sites with over 300 individual raptors observed. Grizzly bear sightings are increasingly common along the riparian stringers in the valley floor.

Principal Targets: Terrestrial targets include common loon (*Gavia immer*), bald eagle (*Haliaeetus leucephalus*) nest sites, short-eared owl (*Asio flammeus*), western toad (*Bufo boreas*), and habitat for grizzly bear (*Ursus arctos horribilis*).

Ownership: Ownership within the conservation area is Federal (Tribal) 35%, State 3%, Private 57%.

Threats and Management Issues: Habitat fragmentation and habitat degradation are the primary threats in this conservation area. Spring creeks and streams have been overgrazed, channelized, diverted and dewatered. Invasive species are expanding rapidly. Single species management has reduced full native species potential. The area is rapidly developing with both residential and second home development.

Opportunities: Potential for Native American Land Trust; Highway mitigation funds, identification of critical lands for protection.

Stakeholders: Confederated Salish and Kootenai Tribes, US Fish and Wildlife Service, Montana Department of Transportation, Montana Department Fish, Wildlife and Parks, communities of Charlo, Polson, and Moise.



Moraine Lake – Dave Hillary

Mountain Parks

Portfolio Area: 5,527,826 acres/2,238,769 hectares.

Conservation Area Description: This conservation area is located in the Canadian Rocky Mountains and straddles the Alberta – British Columbia border. It extends from the Kananaskis country area in the south to Jasper National Park in the north and is bounded on the west by the Rocky Mountain Trench and on the east by the foothills and grasslands of Alberta.

The conservation area contains the headwaters of the Athabasca, Red Deer, Kootenay and Bow Rivers and is the largest conservation area in the portfolio. Included in the conservation area are Banff National Park, Jasper National Park and part of Kootenay National Park. Also included in the area are a number of smaller provincial parks in both Alberta and British Columbia. Considered the “backbone” of conservation, this area provides both source habitat for a wide variety of species, and of equal importance, connectivity (both north-south, and east-west). The conservation area is bisected by the TransCanada highway, which runs through Banff National Park and by the Yellowhead highway, which runs through Jasper National Park. Tourism development in the conservation area is concentrated along both highways and include the towns of Canmore, Banff and Jasper: this development has resulted in two very distinct fracture zones Further development along the east slopes of the Rockies (agriculture and oil/gas exploration) has resulted in land conversion and increased road densities.

Principal Targets: Terrestrial targets include habitat and connectivity values for caribou (*Rangifer tarandus caribou*), grizzly bear (*Ursus arctos horribilis*), wolf (*Canis lupus*), and wolverine (*Gulo gulo*); rare plants - barren ground fleabane (*Erigeron trifidus*), tundra whitlow-grass (*Draba kananaskis*), Wind River whitlow grass (*Draba ventosa*), low sandwort (*Arenaria longipedunculata*), and a moss (*Cladonia bacilliformis*). A very significant number of rare plant communities also occur in the conservation area including both forest and grassland communities. Aquatic targets include bull trout (*Salvelinus confluentus*) and westslope cutthroat trout (*Onchorhynchus tshawytscha*) and 28 aquatic systems.

Ownership: Ownership within the conservation area is 51% Parks Canada, 22% Alberta provincial Crown land, 13% Alberta Provincial Park, 10% BC Crown land. Private lands make up less than 1% of the conservation area.

Threats and Management Issues: Increasingly, commercial and residential developments along the TransCanada and Yellowhead highways are leading to habitat

fragmentation. In addition, this development has resulted in a dramatic population increase throughout the area (both permanent and seasonal) adding additional recreational pressure on the National Parks and surrounding areas. This is particularly true in the Banff/Canmore area. Commercial recreational development (ski hills, backcountry lodges) is exacerbating this problem. Oil and gas exploration along the east slopes has led to increased road densities and human access. This condition, in conjunction with a rapidly expanding human population, has led to serious impacts at the extent of many species range. Incompatible forestry, invasive species and an altered fire regime are additional threats and management concerns within. Due to the fact that over 50% of the land base is within National Parks, it is also important to develop complimentary legal and policy frameworks with the provinces of Alberta and British Columbia.

Opportunities: Acquisition of key lands on the east slopes of the Rocky Mountains. Donation and/or purchase of conservation easements on agricultural lands. Purchase of sub surface exploration rights. Maintain north-south connectivity along fragmentation areas.

Stakeholders: Parks Canada, BC provincial ministries, Alberta provincial ministries, University of Calgary, Alberta Wilderness Society, Canadian Parks and Wilderness Society, oil and gas exploration companies, timber companies, agricultural producers.



North Thompson River.

Size: 168,190 acres/68,117 hectares.

Conservation Area Description: This conservation area is located in the northwest corner of the ecoregion and includes the North Thompson River and several small tributaries. This conservation area was selected for its contribution to aquatic and salmonids goals. The area contains rich oxbow, marsh and wetland habitat. The Yellowhead highway also bisects the area.

North Thompson River – BC Parks

Principal Targets: Aquatic targets for this conservation area include coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), chinook salmon (*Onchorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*).

Ownership: Ownership within the conservation area is 87% BC provincial crown land, 12% privately held, and 1% BC provincial park (administered by the Ministry of Water, Land and Air Protection).

Threats and Management Issues: Degradation of aquatic habitat including, but not limited to, incompatible forestry practices along streams and rivers, water allocation and the construction of barriers to fish movement. Vegetation management in riparian areas.

Opportunities: Vegetation management – protection of riparian areas for shade and food supply for salmonids; insect and disease control; fire management.

Stakeholders: BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, Shuswap First Nations, Department of Fisheries and Oceans, BC Ministry of Transportation



Fishing Orofino Creek. Courtesy of Orofino Museum, ID.

Orofino – Ford Creeks.

Size: 44,976 acres/18,215 hectares.

Conservation Area Description: Orofino and Jim Ford Creeks are both headwaters of the Clearwater River. In 1860, gold was first discovered in Idaho on Orofino Creek which led to the establishment of Idaho's oldest mining town, Pierce, named after Captain ED Pierce. “Oro Fino” means fine gold.

Orofino Creek, more northerly and Jim Ford Creek, to the south are located due east of Orofino, ID and southeast of Dworshak reservoir and the Clearwater River. The Forest administers a small portion of the headwaters of the Orofino Creek drainage, upstream of the town of Pierce, Idaho. Private lands are intermingled with the USFS lands, especially as one proceeds downstream. Historic mining and past and on ongoing timber harvest are evident in the drainage.

The Orofino Creek Bank Stabilization Project was a flood mitigation project brought about by the 96 floods. The project consisted of removing earth and rock material deposited by the 96 floods (22,500 CY), excavating a toe trench and placing manufactured 3’ riprap (28,000 tons). Restoration of disturbed vegetation included planting of more than 5,000 Coyote Willows.

Ownership: Ownership within the conservation area is 84% federal (USFS, BLM), 9% private, 7% state (IDL).

Principal Targets: Includes habitat and connectivity values for wide-ranging carnivores - gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), and lynx (*Lynx canadensis*). Aquatic target include chinook salmon (*Onchorhynchus tshawytscha*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), rainbow trout, (*Onchorhynchus mykiss*), bull trout (*Salvelinus confluentus*). Rare plants include Daubenmire’s dasynotus (*Dasynotus daubenmirei*), Pennell’s kittentail (*Synthyris platycarpa*), Phantom orchid (*Cephalanthera austiniiae*), Clustered lady’s slipper (*Cypripedium fasciculatum*). Also included are an Expert nominated site- Interior western redcedar/maidenhair fern forest (*Thuja plicata/Adiantum pedatum*) forest, Interior Douglas-fir forests, Interior grand fir forests, Interior western redcedar/hemlock/Douglas-fir forests, ponderosa pine woodland; and 3 aquatic systems.

Management Issues: Both watersheds suffer from increased road densities and sedimentation associated with historic timber harvest. Jim Creek is also known to have

water quality problems associated with sedimentation, nutrients, pathogens, temperature, dissolved oxygen, flow alteration and habitat alteration. Invasives are also prevalent.

Opportunities: unknown

Stakeholders: Nez Perce Tribe, USFS, Recreational groups, Timber Companies.



KJ Torgerson

Palouse Prairie

Size: 631,074 acres/255,585 hectares (33,800 acres/13,700 hectares WA)

Conservation Area Description: This conservation area extends roughly south from the St. Maries River to the Clearwater canyon near its confluence with the Snake River, encompassing the Potlatch River. Underlying the area are Columbia River basalt flows that form a gently undulating surface over which episodic deposition of loess has occurred (with soil depths up to 100 feet characteristic), interspersed by large steptoes, undulating plateaus, scattered coulees and deeply incised major drainages. Mountains occur in the southeast part of the CA. Elevation ranges from 1,200 to 6,000 ft (366 to 1,830 m), averaging at 2,500 feet. Palouse Grassland (bluebunch wheatgrass - Idaho fescue) and meadow-steppe vegetation (Idaho fescue - Nootka rose/ common strawberry) are the prototypical climatic vegetation. Woodlands and forests occur in the eastern portion of the CA on hills and low mountains. Most of this grassland and meadow-steppe has been converted to cropland. Ponderosa pine woodlands and forests form the lower timberline in the eastern portion of the CA. Dry farming and livestock grazing occurs on about 90 percent of the area. The CA includes the 1,282-acre Lyon's Ferry State Park and 3,500-acre McCrosky State Park. Palouse grasslands are one of the most endangered ecosystems in the US, with estimations of only 0.1% remaining in a natural state (Noss 1995).

Principal targets: Includes habitat and connectivity values for wide-ranging carnivores- gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), and lynx (*Lynx canadensis*); amphibians- Idaho giant salamander (*Dicamptodon aterrimus*), western toad (*Bufo boreas*); aquatics- white sturgeon (*Acipenser transmontanus*), king salmon (*Onchorhynchus tshawytscha*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), rainbow trout, (*Onchorhynchus mykiss*), bull trout (*Salvelinus confluentus*); rare plants – Water howellia (*Howellia aquatilis*), Mountain moonwort (*Botrychium montanum*), Salmon-flower desert-parsley (*Lomatium salmoniflorum*), Leiberg's tauschia (*Tauschia tenuissima*), Jessica's aster (*Aster jessicae*), Howell's gum-weed (*Grindelia howellii*), Pyrrocoma liatrifomis, Case's corydalis (*Corydalis caseana* var. *hastata*), Broad-fruit mariposa (*Calochortus nitidus*), Phantom orchid (*Cephalanthera austini*), Clustered lady's slipper (*Cypripedium fasciculatum*); and 20 aquatic systems.

Ownership: 18% federal (United States Forest Service, Bureau of Land Management, Bureau of Indian Affairs, USDI Bureau of Land Management), 74% private, 8% state (Idaho Department of Fish and Game, Idaho Department of Lands, Idaho Department of Parks and Recreation, Washington State Department of Natural Resources)

Threats and Management Issues: Wind is the principal source of natural disturbance. Conversion to agriculture (mostly farming, but some grazing) has resulted in a severe loss of grassland remnants and native plant species, increased invasives, shrub encroachment, increased erosion and stream sedimentation, increased susceptibility to disturbance by wind, prairie habitat fragmentation, loss of the transition zone between prairie and forest, non-point pollution in the form of agricultural runoff. Subdivision for home site development is on the rise resulting in loss of remnant populations, increased road densities,

Stakeholders: BLM, NRCS, NGO's (Palouse Land Trust, Palouse Clearwater Environmental Institute, Palouse Prairie Foundation, Palouse Water Conservation Network, Idaho and Washington Native Plant Societies as well as numerous other plant conservation organizations and universities), County and Municipal Government, Coeur d'Alene Tribe of Indians, Nez Perce Tribe

Opportunities: 1) As this site lies at the eastern fringe of the Columbia Basin Palouse habitat, there needs to be further research into the viability of this area and the importance of this sites remnant Palouse habitat as part of the greater Columbia Plateau. 2) For the past two years, the Palouse Land Trust has been partnering with the BLM in a project addressing the need for private conservation agreements to protect remnants of Palouse Prairie and Canyon Grasslands. 3) Numerous non-profits and universities have mapped and prioritized remnant grassland/prairie habitat. 4) A portion of McCrosky State Park that contains remnant Palouse Grassland has been proposed for National Natural Landmark designation. 5) During a 1996 study by TNC/CDC 13 Palouse Grassland remnants with significant conservation value were identified, most of which are in private ownership. 5) Work with ITD to minimize/limit the impact of construction projects on remnant Palouse habitat.



Pend Oreille River

Size: 136,227 acres/55,172 hectares.

Conservation Area Description: After draining Lake Pend Oreille, the Pend Oreille River enters Washington, journeys north into Canada and returns to the U.S. before joining with the Columbia River. One of the only north-flowing rivers in the world, the Pend Oreille River contributes about 10% of the water in the Columbia River. Water leaving the lake forms the Pend Oreille River, which flows across the Idaho Panhandle and Washington's northeastern corner before draining into the Columbia River just past the Canadian border. Stream flow in the main stem is heavily dependent on precipitation and reservoir storage conditions upstream.

Early white settlers came to the Pend Oreille Valley during the early 1880s for its abundant resources: minerals and precious metals, timber and tall grasslands. The initial settlement centered in the Kalispel Basin where the grasslands supported livestock and the river provided easy access. Agricultural operations are still located within the river corridor.

Over 200 logging and lumber companies operated in the Pend Oreille Valley between the early 1900s and late 20s. When the mills started closing in the 1930's the population peaked at around 2,000. Today the region's beauty, including the North Pend Oreille Scenic Byway, and natural resources lure vacationers and urban refugees.

Principal Targets: Terrestrial targets include habitat and connectivity values for gray wolf (*Canis lupus*), and fisher (*Martes pennanti*); common loon (*Gavia immer*), and bald eagle nest site (*Haliaeetus leucocephalus*); rare plants - Bristly sedge (*Carex comosa*), and mountain moonwort (*Botrychium montanum*). Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*). Also identified in the conservation area are fen, marsh, sphagnum bog, riparian shrubland, montane wet meadow and riparian forest.

Ownership: Ownership within the conservation area is 75% private, 16% federal (USFS, BLM), 6% state, 3% water.

Threats and Management Issues: Elevated nutrients from sources including irrigated agriculture, septic tanks, and municipal and industrial wastewater discharges. Heavy metals from active and inactive mining and smelting activities. Operations from hydropower have altered the hydrograph, thermograph, and the downstream nutrient loading rates. Surrounding forestry practices have increased the sedimentation rates. Aquatic weeds and algae are prevalent problems. Invasive species (particularly lake trout, Eurasian water milfoil) that prey on native species have resulted in the opening of a commercial fishery season to reduce their populations. Continued loss of riparian habitats is a significant issue. First and second home development along the river is responsible for the loss of some of this habitat. Incompatible grazing, dikes, and expansive agriculture are other management issues in the conservation area.

Opportunities: 1) Work with partners to stop the spread of Eurasian water milfoil. 2) Encourage partners to establish and maintain a basin wide water quality-monitoring network to assess effectiveness and trends and to better identify sources of pollutants. 3) Box Canyon Dam re-licensing and NWPPC's sub-basin planning offer important opportunities for conservation actions regarding hydropower operations. 4) Acquisition or protection of cottonwood groves and islands within the river channel would an important management objective during re-licensing and sub-basin planning.

Stakeholders: Developers and Builders, Mining, Municipalities, Recreation, Kalispel Tribe of Indians, Washington Department of Ecology, Washington Department of Environmental Quality, Washington Department of Fish and Wildlife, Clark Fork Pend Oreille Coalition, Idaho County Commissions, Idaho Department of Environmental Quality, Idaho Department of Fish and Game, Intermountain Forest Industry Association, Pend Oreille Conservation District, Natural Resources Conservation Service, U.S. Environmental Protection Agency, U.S. Forest Service, University of Idaho, Avista, Department of Natural Resources, USFWS, Pend Oreille PUD, BLM, private land owners, Boise Cascade Corporation, US Army Corp of Engineers, Inland Northwest Wildlife Council, Stimson Timber Company.



Pleasant Valley – Marilyn Wood

Pleasant Valley.

Size: 96,151 acres/38,941 hectares.

Conservation Area Description: This conservation area is located approximately 25 miles west of Kalispell, Montana. The valley was formed during the Pleistocene Period by glacial and sedimentation activity.

The glacial deposits sit on top of the older Belt Rock formation, which in turn has faulted over younger Palaeozoic rocks, which are thought to contain oil and gas. The valley has exceptional diversity of palustrine wetlands and sloping upland areas dominated by timber. Drainage ditches and water impoundments have altered many of the wetlands. The timbered uplands include larch, subalpine fir, Douglas-fir, grand fir, spruce, cedar, aspen, and ponderosa pine. Mean annual precipitation ranges from 20-50 inches. Elevations range from 3,500 to 4,600 feet. The habitat supports a wide variety of wildlife species including many migratory waterfowl and shorebirds. Wildlife species of special concern known to occupy the area include bald eagle, loon, grizzly bear and gray wolf. Land uses are primarily timber harvest and agriculture. Landownership includes a recently acquired U.S. Fish and Wildlife Refuge (Lost Trail), U.S. Forest Service, Plum Creek Timber Company, and several private ranches. A new population of federally listed rare plant, Spalding's catchfly, was recently discovered on the refuge. It is believed that this population is the largest in existence.

Principal Targets: Terrestrial targets include common loon (*Gavia immer*), and habitat for wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), and lynx (*Lynx canadensis*); rare plant - Crenulate moonwort (*Botrychium crenulatum*). Fen, marsh, and montane wet meadows communities also occur within the conservation area.

Ownership: Ownership within the conservation area is Federal (U.S.) 13.3%; State (Mt) 5.8%; Private 77%.

Threats and Management Issues: Alteration of wetlands and stream courses has reduced the amount of natural wetland complexes. Single species or species group management may limit full biodiversity expression. Timber management practices over many years have altered the forest structure. Ranches are being sold and subdivided. Conflicts between wolves and livestock have occurred.

Opportunities: Watershed conservation and restoration involving all stakeholders; determine suite of conservation values needed for protection; Refuge Management Planning process; Forest Plan revisions.

Stakeholders: US Fish and Wildlife Service, Flathead National Forest, Montana Department Fish, Wildlife and Parks, private ranchlands.



Purcell Mountains.

Size: 893,596 acres/361,906 hectares.

Conservation Area Description: The Purcell Mountain conservation area includes a large mountainous area in northwestern Montana west of the continental divide range. The Purcell ranges parallel the Selkirk range to the west and are part of the Kootenai River watershed.

Gilnockie Park – BC Parks

The mountain range is closely spaced with restricted valleys including the Yaak River, and the upper watershed of the Tobacco River. Elevations range from 1,800 to 7,700ft. This conservation area exhibits effects from orthographic uplift making the windward side (west) of the range one of the wetter areas while the leeward side (east) and is significantly influenced by rain shadow effect. While areas in the extreme northwest portion have rugged mountains and moist site vegetation, less dramatic low elevation dry forests with a long history of human activities, including extensive timber harvest and roading, characterize much of the conservation area. Historically the Purcell Mountains support the highest timber production in Montana. Land uses include timber harvest, recreation, and rural subdivision in the valley bottoms. The Kootenai River drainage population of Redband trout is Montana's only native rainbow trout and represents the furthest inland penetration of Redband trout in the Columbia River Basin. Historically Redband trout were native to low gradient valley bottoms but now genetically pure strains of Redband trout are found only in the headwaters of a few tributaries of the Yaak River. Wolves have recently reoccupied the Purcell Mountains both by natural dispersal from other populations in the Whitefish Range and translocation efforts in the Yaak. The northwest corner of the Purcells also supports a strong lynx population. A small number of grizzly bears are found in the Yaak (Cabinet-Yaak Recovery area) as well as isolated observations in the eastern part of this conservation areas. The Purcell area is important for connectivity between the Whitefish Range and the Selkirk mountains.

Principal Targets: Terrestrial targets include common loon (*Gavia immer*), white-tailed ptarmigan (*Lagopus leucurus*), Flammulated owl (*Otus flammeolus*), several moonworts, including peculiar moonwort (*Botrychium paradoxum*), and western moonwort (*Botrychium hesperium*) and habitat and connectivity values for wide-ranging carnivores. Aquatic targets include the northern leopard frog (*Rana pipiens*) and tailed frog (*Ascaphus montanus*), bull trout (*Salvelinus confluentus*), and Inland Redband trout (*Oncorhynchus mykiss gairdneri*).

Ownership: Ownership within the conservation area is Federal (Canada) 22%, Federal (US) 68%, Private 7%.

Threats and Management Issues: Timber harvest practices, altered fire regime, road density, invasive species (weeds), mining, hybridization, over harvest, and competition.

Opportunities: USFS is currently revising the Forest Plan; USFWS has identified the upper Kootenai watershed, including tributaries to Tobacco River as one of twelve restoration watersheds for bull trout restoration, as well as a focus area for Partners for Wildlife Program; Yaak Forest Council community forest restoration projects.

Stakeholders: Kootenai National Forest, US Fish and Wildlife Service, Montana Department Fish, Wildlife and Parks, Montana Department of Natural Resources, Owens and Hurst Timber Company, Plum Creek Timber Company, Yaak Forest Council, communities of Yaak, Eureka, Trego.



Whaleback – Rick Rowell

Rocky Mountain Front.

Size: 761,805 acres/308,531 hectares.

Conservation Area Description: This area encompasses portions of the Porcupine Hills, a slightly disjunct portion of the montane habitats east of the front ranges of the Rocky Mountains, the Whaleback area of southwestern Alberta known for its large expanses of foothills fescue grasslands, and the Crowsnest Pass – a low elevation pass into the Rockies.

The significance of this region includes the Crowsnest River, an internationally significant river for fishing and winter habitat for ungulates. The Whaleback region and surrounding heritage ranchlands are among the last relatively untouched fescue grasslands in Alberta and critical winter range for ungulates.

Principal Targets: Principal conservation targets include: several rare plants – a woolly fleabane (*Erigeron lanatus*), dwarf fleabane (*Erigeron radicans*), point leaf small kettle moss (*Tayloria acuminata*); an amphibian – northern leopard frog (*Rana pipiens*); and several natural communities – Penstemon - talus, Western mountain larch - Pine grass, Aspen, Montane dry grasslands

Ownership: Ownership within the conservation area is 68% Alberta Crown lands; 13% Alberta community development; 9% private; 7% BC Crown lands.

Threats and Management Issues: Steadily rising human population growth in and around the Calgary and continuing fragmentation of land due to recreational and residential development are major factors having effects on the ecology of the region. While ranching has been the staple agricultural activity for the last century, increasing land pressures are resulting in the fragmentation of the landscape. This trend will continue. In addition technologies such as coal bed methane extraction will have cumulative impacts on the region. Habitat connectivity issues are already being identified in the Crowsnest region of Alberta that could have significant effects on wide ranging species.

Opportunities: Acquisition of key properties. Purchase and/or donation of conservation easements on key agricultural lands. Purchase of sub surface mineral rights.

Stakeholders: Alberta government ministries, Municipality of Crowsnest Pass, Alberta Wilderness Association, Southern Alberta Land Trust, agricultural producers, timber companies, oil and gas exploration companies.



Rocky Mountain Trench A

Size: 754,656 acres/305,636 hectares.

Conservation Area Description: This Conservation area is located in the Rocky Mountain Trench bordered on the east by the Rocky Mountains and on the west by the Purcell Mountains. The southern extent of this conservation area is at Canal Flats; where the mighty Columbia River originates and flows north from Canal Flats to the Kinbasket Reservoir.

Columbia River Wetlands – Dave Hillary

The Kinbasket reservoir was created when the first hydroelectric dam was built on the Columbia River in 1965. The Columbia River Wetland (between Canal Flats and Kinbasket Reservoir) is the longest uninterrupted wetland in western North America, and the only piece of the Columbia left in an unaltered state. It supports a wide variety of migratory waterfowl and a very diverse aquatic environment. The site also contains the northern most extent of grassland and open forest communities in the region. These communities support both biological richness and rarity and contain significant rare and endangered population. Badger, Grizzly Bear, Rocky Mountain Bighorn sheep, Lewis' Woodpecker, Flammulated Owl, Burbot and the Southern Maiden Hair Fern occur here. The Rocky Mountain Trench is currently under represented in the existing protected areas network – less than .8% of the land base is protected.

Principal Targets: Principal species include two rare vascular plants – woolly fleabane (*Erigeron lanatus*), ascending moonwort (*Botrychium ascendens*); a moss – point-leaf small kettle-moss (*Tayloria splachnoides*); a bird – Lewis woodpecker (*Melanerpes lewis*); a mammal - Jefferson's badger (*Taxidea taxus jeffersonii*); habitat and connectivity values for gray wolf (*Canus lupus*), grizzly bear (*Ursus arctos horribilis*); and three natural communities – sagebrush/ bluebunch wheatgrass/ balsamroot, montane riparian forest, and montane dry grasslands.

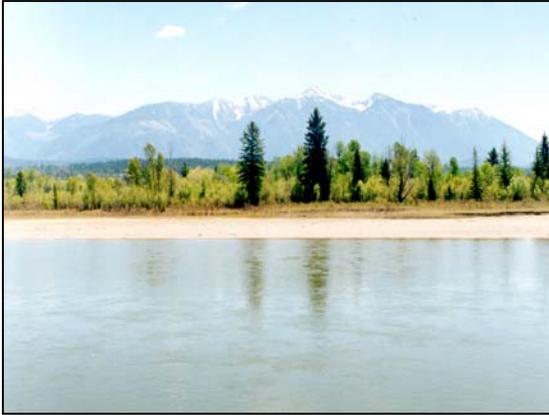
Ownership: Ownership within the conservation area is 52% BC provincial crown land; 23% Parks Canada; 15% Private; 5% BC WALP (in a wildlife management area).

Threats and Management Issues: Threats to this ecosystem include forest in growth and encroachment on the grassland community. This threat is as a result of an altered fire regime – historically high frequency low intensity fires occurred at regular intervals. Fire suppression, beginning in the later part of the 19th century, has altered the natural state of the grassland community putting many associated species at risk. Increasingly residential

(second home) development is fragmenting the habitat in this area. Invasive Species and water quality degradation are also important issues in this conservation area.

Opportunities: Acquisition of wetland and grassland properties. Purchase and/or donation of conservation covenants on key agricultural lands. Support existing programs to re-introduce fire to the ecosystem. Support existing programs to mitigate impacts of noxious weeds. Support existing recovery efforts for rare species.

Stakeholders: Parks Canada, Ktunaxa-Kinbasket Tribal Council, The Nature Conservancy of Canada, The Land Conservancy of BC, The Nature Trust of BC, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, Municipal governments, Tembec Industries Inc., Slokan Forest Products, Regional District of East Kootenay, East Kootenay Environmental Society, East Kootenay Conservation Program, Windermere Valley Rod and Gun Club, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Kootenay Livestock Association, Trench Restoration Society, Bighorn in Our Backyard, Fairmont Hot Springs Resort, Columbia-Kootenay Fisheries Renewal Partnership, Upper Columbia Watershed Council



Rocky Mountain Trench B.

Size: 545,643 acres/220,985 hectares.

Conservation Area Description: This conservation area is located in south-eastern British Columbia and runs from the Canadian – US border in the south to the headwaters of the Columbia river at Canal Flats in the north.

Kootenay River – Dave Hillary

The conservation area contains the middle reach of the Kootenay River, and the Elk, Wigwam, St. Mary's and Skookumchuck Rivers. Low elevation grasslands and open forests dominate the site – examples of these are the St. Mary's prairie and Skookumchuck Prairie. Habitats support a variety of endangered species including badger, Flammulated owl, Rocky Mountain bighorn sheep, curlew, bull trout and west slope cutthroat trout. The Wigwam River contains the largest bull trout runs in the region. Lake Kookanusa, a lake created after the establishment of the Libby dam in 1965, had a devastating effect on both riparian areas along the Kootenay River and the species that depend on this ecosystem to survive.

Principal Targets: Terrestrial targets include rare plants - Spalding's campion (*Silene spaldingii*), Slim-head manna grass (*Glyceria leptostachya*); birds - common loon (*Gavia immer*), Lewis' woodpecker (*Melanerpes lewis*); amphibians - Tiger salamander (*Ambystoma tigrinum*), Western Toad (*Bufo boreas*); habitat for gray wolf (*Canis lupus*); ecosystems - ponderosa pine, grassland, montane scrub and montane riparian forest. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), and westslope cutthroat trout (*Onchorhynchus clarki lewisi*). 12 aquatic systems are also found in this conservation area.

Ownership: Ownership within the conservation area is 52% BC provincial crown land, 33% privately held, 6% ENGO (other), 5% First Nations Reserve and 4% various US agencies.

Threats and Management Issues: Hydroelectric development in the US has had devastating and long-term impacts on this site. Altered fire regimes have led to forest in-growth and encroachment of the grassland communities and hence have limited the quality and quantity of range and forage available to ungulate populations. Invasive species (noxious weeds) like spotted knapweed, hounds tongue and leafy spurge exacerbate this loss of range. Inappropriate grazing practices and the alienation of agricultural lands to residential and recreation developments is increasing as well. Restoration is necessary to return the area to a dynamic/productive environment.

Opportunities: Acquisition of key lands. Purchase and/or donation of key agricultural lands. Support ongoing restoration initiatives. Support ongoing noxious weed control programs. Support efforts to mitigate negative impacts associated with the construction of the Libby dam in the Lake Kookanusa area. Support initiatives to re introduce fire to the ecosystem.

Stakeholders: Ktunaxa-Kinbasket Tribal Council, The Nature Conservancy of Canada, The Land Conservancy of BC, The Nature Trust of BC, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, Municipal governments, Tembec Industries Inc., Regional District of East Kootenay, East Kootenay Environmental Society, East Kootenay Conservation Program, Cranbrook/Kimberley Rod and Gun Club, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Kootenay Livestock Association, Trench Restoration Society, Columbia-Kootenay Fisheries Renewal Partnership.



Ralph Maughan (with permission)

Salmo-Priest-Selkirks

Size: 609,474 acres (23,100 BC;
157,586 WA)-

Conservation Area Description: The Lower Selkirks Conservation Area extends through Washington, Idaho and British Columbia and in many places rises abruptly more than 8,000 ft (2,400 m). This conservation area maintains several protected areas including the 50,755-acre Salmo-Priest Wilderness Area (designated in 1984), the road less Selkirk Crest Management Area, the road less Upper Priest Lake Scenic Area, 6 RNA's (Research Natural Areas) and 4 pRNA's, Lionhead and Priest Lake state parks, and the Priest River Experimental Forest. The area typically consists of parallel, north-south running ridges formed of granite from the Kaniksu Batholith and Spokane Dome that are interspersed by glacial cirques and gem-like lakes high above timberline. Streams have cut deep drainages into the ridges, which flow to multiple watersheds consisting of inland rain forests maintaining western red cedar, western hemlock, Douglas fir, grand fir, and larch. The name "Kaniksu Range" is sometimes used to identify the mountains west of the Priest Lakes; the central crest is sometimes known as the "Priest Range." Rare plants include at least 30 S1 or S2 species. Rare animals include at least 5 S1 or S2 mammals and 5 S1 or S2 birds.

Principal targets: Includes habitat and connectivity values for wide-ranging carnivores - gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*); birds- Common Loon (*Gavia immer*), Harlequin Duck (*Histrionicus histrionicus*), Bald Eagle (*Haliaeetus leucocephalus*), and Flammulated Owl (*Otus flammeolus*); a mollusk- spotted slug (*Magnipelta mycophaga*); an amphibian- western toad (*Bufo boreas*). Aquatic targets include - white sturgeon (*Acipenser transmontanus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), Umatilla dace (*Rhinichthys umatilla*), and burbot (*Lota lota*). Community targets include Scrub birch/sedge/sphagnum (*Betula glandulosa* / *Carex* / *Sphagnum*), Interior western redcedar/skunk cabbage/sphagnum (*Thuja plicata* / *Lysichiton americanum*/ *Sphagnum*), Interior western redcedar/devil's club (*Thuja plicata* / *Oplopanax horridus*), Western white pine/Queen's cup forest (*Pinus monticola* / *Clintonia uniflora* Forest), Western redcedar/maidenhair fern (*Thuja plicata* / *Adiantum pedatum* Forest), Western hemlock/false azalea forest (*Tsuga heterophylla* / *Menziesia ferruginea* Forest). Rare plants include Birstly sedge (*Carex comosa*), mountain moonwort (*Botrychium*

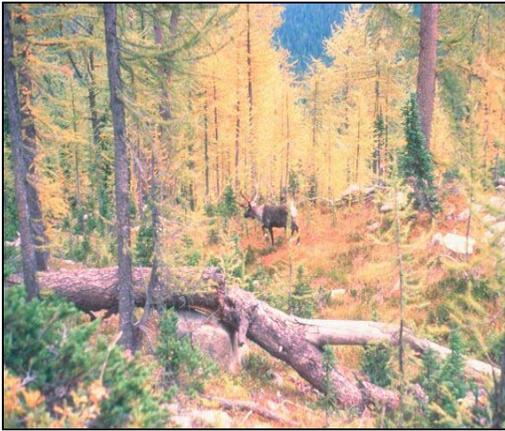
montanum), stalked moonwort (*Botrychium pendunculosum*). Expert nominated sites include montane wet meadows, conifer swamp, sphagnum bog, and subalpine wet meadow. There are also 9 aquatic systems in this conservation area.

Ownership: 64% federal (United States Forest Service, Bureau of Land Management), 19.5% state (Idaho Department of Fish and Game, Idaho Department of Lands, Idaho Department of Parks and Recreation), 10% private (Private and NGO's), 3.5% provincial (Crown Land), 3% water

Threats and Management Issues: This CA is predominantly managed as public forestland. The majority of the CA is owned by the USFS, Idaho Department of Lands, or BLM. Historic logging practices have resulted in the loss of seral species (particularly white pine), increased catastrophic pathogen invasions (particularly bark beetle), invasives (particularly knapweed, hawkweed), forest fragmentation resulting from increased road densities, and altered fire regimes.

Stakeholders: USFS, IDL, BLM, Private Timber Companies (Forest Capital, Louisiana Pacific), NGO's (Selkirk Coalition, Priest Basin Association, Rocky Mountain Elk Foundation, Nature Conservancy Canada, The Nature Conservancy, Inland Northwest Land Trust, Vital Ground, Idaho Conservation League), County and Municipal Government, Bonneville Power Administration, Kootenai Tribe of Idaho, Kalispell Tribe of Indians.

Opportunities: 1) The Upper Priest River is currently being proposed as a Wild and Scenic River. 2) Long Canyon is currently being considered for proposal as a Wilderness Area. It is an 18-mile long road less drainage that has not been logged and exists as a corridor from the broad and low elevation Kootenay Valley (Purcell Trench) through a verdant old growth forest, onto the granite ridges of the Selkirk's crest. This area maintains 24 sub-alpine lakes and a rare interior rain forest. 3) Idaho contains more land in road less areas (8 million acres) than any other state in the nation, except Alaska, with a large portion of that located in the Priest and Selkirk ranges. 4) The Idaho Panhandle National Forest Plan is currently going under revision with a schedule completion date of April 2005.



Mountain Caribou – Trevor Kinley

Salmo River.

Size: 81,294 acres/32,924 hectares.

Conservation Area Description: The Salmo River conservation area is located in the West Kootenay region of southeastern British Columbia. It runs generally north-south along the Salmo River from just north of the Canada/US border to Nelson, British Columbia.

Included in the conservation area are the Salmo and South Salmo Rivers, along with Clearwater, Sheep, Erie and Wallack Creeks; these rivers and creeks are all tributaries to the Pend Oreille River, which in turn feeds the Columbia River. Low elevation deciduous riparian habitat dominates the area and this habitat is bisected by highway 3/6; a major highway connecting the BC interior with the west coast.

The towns of Salmon Siding (now Salmo), Ymir and Erie are all located within the conservation area and grew up along the historic Nelson/Ft. Sheppard railway. These towns and the railway serviced a growing mining industry (placer and hard rock) from the late 1800's to the early 1940's. Mining still occurs in the area today for gold, silver, zinc, lead and tungsten.

Prior to the construction of dams on the Columbia River, salmon were common in the rivers and streams of this conservation area. The Salmo River was originally named the Salmon River, attesting to this fact. Bull trout and rainbow trout are now the dominant species in the area.

Principal Targets: Terrestrial targets include Interior Douglas-fir Forest, Interior Western redcedar/hemlock/Douglas-fir Forest, Fen, Riparian Forest, a moss (*Hygrohypnum norvegicum*), tailed frog (*Ascaphus montanus*), harlequin duck (*Histrionicus histrionicus*), and habitat for grizzly bear (*Ursus arctos horribilis*). Aquatic targets include bull trout (*Salvelinus confluentus*) and westslope cutthroat trout (*Onchorhynchus clarki lewisi*). 6 aquatic systems occur in the conservation area.

Ownership: Ownership within the conservation area is 65% privately held and 35% BC provincial crown land.

Threats and Management Issues: Aquatic issues dominate in this area. Non point source pollution from mining along with the conversion of deciduous riparian areas for agriculture use have led to the alteration and degradation of fish habitat, including sedimentation, erosion and the deposition of potentially toxic substances.

Opportunities: Secure by purchase and/or covenant key deciduous riparian areas. Assist local groups and organizations with aquatic restoration and conservation projects.

Stakeholders: Columbia-Kootenay Fisheries Renewal Partnership, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Salmo River Protection Society, Salmo Watershed Steamkeepers Society, Department of Fisheries and Oceans, logging companies.



Scotchman Peak

Size: 12,842 acres/5,201 hectares.

Conservation Area Description: This relatively pristine conservation area is part of the greater Scotchman Peak road less area located within Idaho and Montana. Although Scotchman Peak itself is in Idaho, most of this 90,000 acres road less area is in Montana and exists as part of the Cabinet-Yaak ecosystem.

Scotchman Peak – KJ Torgerson

The Forest Service has recommended 55% of this for wilderness protection by Congress. Scotchman Peak extends to 7,009 feet, making it the 5th highest peak in Idaho, and towers 5,000 feet over Lake Pend Oreille. The road less area, in several places, extends from the valley floor to the rugged, glaciated peaks far above. A notable feature in the Montana portion of the Ross Creek Cedar Grove contains impressive 500-year old western red cedar.

Ownership: Ownership within the conservation area is 100% federal (USFS).

Principal Targets: Aquatic target - westslope cutthroat trout (*Onchorhynchus clarki lewisi*), and one important aquatic system. Expert Nominated Site- disturbed colluvial landslide, Engelmann spruce/subalpine fir dry forest, Engelmann spruce/ subalpine fir dry parklands, lodgepole pine forest and woodlands.

Management Issues: Area is currently designated as road less area, a designation that could change. If the road less designation were eliminated, the area would potentially be managed for timber harvest and at risk for incompatible forest practices. Other threats include invasives, forest pathogens and altered fire regimes.

Opportunities: Support efforts to include this area as part of the Cabinet Mountain Wilderness Area.

Stakeholders: U.S. Forest Service, University of Idaho, and Montana Wilderness Association.



Shuswap Lake – Dave Hillary

Shuswap Highlands

Size: 1,082, 465 acres/438,398 hectares.

Conservation Area Description: This conservation area is south central British Columbia in the Thompson-Okanagan region. The area is dominated by Shuswap Lake, which is bisected by the TransCanada Highway. The unusual pattern of the lake is caused by several intersecting valleys formed by the movement of ancient glaciers in the Shuswap Highlands.

Forest cover is greatly affected by the diverse moisture patterns so tree species vary from cedar, hemlock, spruce, white pine, Douglas fir and Ponderosa Pine.

Recreational development around Shuswap Lake has been occurring for the past 30 years. This trend has been accelerated in the past 7 years, with increasing demands from urban dwellers looking for second/vacation homes.

Principal Targets: Terrestrial targets include Mexican mosquito fern (*Azolla mexicana*), and fens. Aquatic targets include white sturgeon (*Acipenser transmontanus*), pink salmon (*Onchorhynchus gorbuscha*), coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), inland Redband trout (*Onchorhynchus mykiss gairdneri*), and chinook salmon (*Onchorhynchus tshawytscha*) In addition, 13 important aquatic systems occur within this conservation area.

Ownership: Ownership within the conservation area is 91% BC provincial crown land, 5% privately owned, 3% BC crown land under Christmas tree licence, and less than 1% under the management and control of BC provincial parks and First Nations.

Threats and Management Issues: The entire Shuswap area is influenced by high recreational use and increasingly by second home development. This increased recreational and residential development has resulted in increased non-point pollution particularly domestic waste and pesticides. Linear corridors in conjunction with the topography of the area have led to habitat fragmentation as well.

Opportunities: Development of watershed councils dealing with domestic sewage, water quality monitoring, and public education could be one potential way of mitigating the effects of pollution in the area. The land ownership pattern in the conservation area would suggest that partnerships are necessary between the provincial government and other levels of government and NGO's.

Stakeholders: Federal Department of Fisheries and Oceans, BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, BC Ministry of Forests, BC Ministry of Transportation, Shuswap First Nations, Several Regional Districts and Municipalities, timber companies specifically Co-op Canoe operations.



Slocan River – Dave Hillary

Slocan River.

Size: 324,912 acres/131,589 hectares.

Conservation Area Description: This conservation area generally follows the Slocan River watershed in the West Kootenay region of southeastern British Columbia between the City of Castlegar and the village of Hills, at the north end of Slocan Lake. The conservation area is found within the Selkirk Mountains within what is known as the interior wet belt.

The dominant feature of the Slocan Valley landscape is steep terrain. The main valley and tributaries are characterized by flat, narrow valley bottoms, which change abruptly to steep mountainous terrain. These dramatic changes in topography have a distinct effect on climate, soils, and vegetation and aquatic systems. Climate can be described as continental with warm summers and cold winters annual precipitation is approximately 30 inches.

Upper elevations within the conservation area are dominated by Engelmann spruce and subalpine fir. Middle and lower elevations contain both Douglas fire and Ponderosa pine. At one time, large western red cedar and hemlock stands dominated the riparian areas; virtually all of these stands have been cleared for settlement.

Valhalla Provincial Park at, 49,893 hectares, is the largest protected area within the conservation area. The park was established to protect the diverse topography, majestic peaks and unique vegetation typical of the Selkirk Mountains (BC Parks). Mining, industrial logging and settlement are all prevalent throughout the area.

Principal Targets: Terrestrial targets include Riparian Forests. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), Umatilla dace (*Rhinichthys umatilla*), and Shorthead sculpin (*Cottus confusus*). Nine important aquatic systems are also found within this conservation area.

Ownership: Ownership within the conservation area is 49% BC provincial crown land, 38% provincial park (administered by the Ministry of Water, Land and Air Protection), 12% private, and 1% ENGO.

Threats and Management Issues: Issues within the conservation area include water allocation (as it relates to water temperature), and the construction of in-stream barriers to fish movement. Also important is forest pathogens including insects and disease.

Opportunities: In-stream habitat enhancement. Restoration of altered fir regime. Maintain remnants of old-growth forest.

Stakeholders: BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Columbia Basin Trust, Columbia Basin Fish and Wildlife Compensation Program, Valhalla Wilderness Society.



Spirit Lake.

Size: 17,738 acres/7,184 hectares.

Conservation Area Description: Kootenay (Water People) Indians who lived on the shores of the lake name the lake "Tesemini" or "Lake of the Spirits." Spirit Lake became a resort town around 1910. City population was 900 in 1989, but seasonal residents boost the population to nearly triple that number.

Spirit Lake – KJ Torgerson

The lake itself measures more than 4.5 miles long, is over a mile across at the widest point, maintains a surface area of 1,445 acres, and has 12 miles of shoreline. Spirit Lake is reputed to be one of only two lakes in the world with a sealed bottom - this seal has been leaking for the past ten years. In 2002, through a state funded project, part of the lake was drained, the seal repaired and the water returned. The western end of the lake maintains a large wetland complex

Part of the conservation area includes Mount Spokane State Park which is 13,919-acres directly west and upstream of Spirit Lake. The mountain peaks at 5,883-foot elevation, feature stands of old-growth timber and granite rock outcroppings, and receives 300 inches of snow in the winter. The park features 25 kilometers of groomed Nordic ski trails, extensive ski areas including five chair lifts, a 2,000-foot ski hill, and groomed trails for snowmobiling. All land within the boundaries of Mt. Spokane State Park, except for the area immediately west of the alpine ski area, was classified in 1999 using the Park Commission's 1995 guidelines. As a result, about 58% of Mt. Spokane State Park is now classified as Resource Recreation, 10% Recreation, 22% Natural Forest Area, 4% Natural Area Preserve, and 1% Heritage. The conservation area has a history of logging and is currently managed as timberlands.

Principal Targets: Terrestrial targets include habitat and connectivity values for gray wolf (*Canis lupus*), fisher (*Martes pennanti*), and lynx (*Lynx canadensis*); and bald eagle (*Haliaeetus leucocephalus*). Community targets include Western hemlock/bear grass forest (*Tsuga heterophylla/Xerophyllum tenax forest*). Expert nominated sites- fen, marsh, and sphagnum bog. Also included is 1 aquatic system.

Ownership: Ownership within the conservation area is 67% federal (US Dept of Defense, Bureau of Indian Affairs, Bureau of Recreation), 23% private, 9% state (Idaho Dept of Fish of Game, Idaho Department of Lands, Idaho Department of Recreation), 1% water.

Threats and Management Issues: The main sources of revenue within the conservation area are from recreation and timber production. This conservation area is predominantly managed for public recreation and private forestland. Historic and current forestry practices have resulted in the loss of seral species (particularly white pine), catastrophic pathogen invasions (particularly bark beetle), invasives, and forest habitat fragmentation resulting from increased road densities and altered fire regimes have resulted in negative impacts. The wetlands at the west end of the lake are at risk of further rural development that could result in habitat degradation and fragmentation, increased stream sedimentation, and non-point sources of pollution to the wetlands and lake. Currently, part of the wetlands have been drained and converted to agriculture, and experience incompatible grazing practices. Associated with the recreational facilities nearby and the high increase roads densities are increased recreational vehicles.

Opportunities: 1) The Idaho Panhandle National Forest Plan is currently going under revision with a schedule completion date of April 2005. 2) The Forestry Department at IEP manages 115,000 acres of company-owned timberland in northeastern Washington and northern Idaho, 60,000 acres of which encompasses this CA. The IEP forestry mission is to produce a continuous supply of high quality saw logs to area sawmills while securing a stable wood fiber supply for the paper mill.

Stakeholders: US Dept of Defense, BIA, Bureau of Recreation, Washington State Parks and Recreation, Inland Empire Paper, Outfitters, NGO's (Inland Northwest Land Trust), County and Municipal Government, Idaho Department of Fish and Game, Idaho Department of Lands, Idaho Department of Recreation, private developers.



St. Joe-Clearwater

Size: 1,432,089 acres/579,996 hectares

Conservation Area Description: This conservation area, which includes parts of both the St. Joe and Clearwater watersheds, extends through the St. Joe Mountains to the Bitterroot Mountains in the east and through the Clearwater Mountains to the Clearwater River area in the south. The Saint Joe Mountains, made up of Belt Series sedimentary rocks, form a high ridgeline that runs 45 miles east to west between the Saint Joe and the Coeur d'Alene rivers.

Clearwater - USFS

The range reaches its highest point northeast of Saint Maries at Latour Peak (6,408 feet). Much of the Saint Joes' crest line is barren of trees due to both elevation and a 3 million-acre forest fire in 1910. The upper St. Joe River Basin includes four road less areas. The St. Joe River, with an altitude of 2,128 feet at its lower reaches, lies between the St. Joe and Clearwater ranges. Of the 66.3 miles of river, 26.6 were designated Wild and Scenic River in 1978. The lower stretch is an uninterrupted, nearly continuous cottonwood corridor interspersed with islands and cobble bars.

The Clearwater Basin is formed mostly of Idaho Batholith granite. During the Pleistocene ice age alpine glaciers carved cirques and lake basins into the sides of higher Clearwater peaks. The Clearwater River drains 27,000 km² and eventually joins the Snake River near Lewistown, Idaho. The highest point is about 2,745 m (9,000 ft). The Clearwater range includes the Selway- Bitterroot Wilderness (designated in 1964), and the Middle Fork of the Clearwater, which was designated Wild and Scenic in 1968. The landscape of this conservation area is dominated by western red cedar, western white pine, grand fir, western larch and western hemlock. In lower elevations, ponderosa pine and bluebunch wheatgrass exist as the predominant vegetation types. The upper basin, specifically the Selway, Lochsa and North Fork canyons, is home to low-elevation, warm, moist canyons that serve as refugia for a globally unique forest ecosystem that harbors 40 plant species with coastal affinities. Researchers agree this ecosystem is a relict leftover from more widespread conditions that occurred during the Miocene and Pliocene.

Several hydroelectric dams were built and removed along the system over the years. Currently, Dworshak dam on the North Fork of the Clearwater, completed in 1973, and remains as a complete block to anadromous and resident fish passage, as well as 22 more dams on tributaries of the Clearwater, which are used for agricultural purposes (reduce spawning habitat). Dworshak reservoir is 53 miles long and has a surface area of 19,824 acres with 30,935 acres of adjacent "project lands". The Dworshak Hatchery is the largest steelhead hatchery in the world, and is operated by the U.S. Fish and Wildlife Service.

Principal Targets: Terrestrial targets include habitat and connectivity values for gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*); harlequin duck (*Histrionicus histrionicus*), bald eagle (*Haliaeetus leucocephalus*) wintering area, and Flammulated owl (*Otus flammeolus*). Amphibian targets include Coeur d'Alene salamander (*Plethodon idahoensis*), and the Idaho giant salamander (*Dicamptodon aterrimus*). Aquatic targets include chinook salmon (*Onchorhynchus tshawytscha*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), rainbow trout (*Onchorhynchus mykiss*), bull trout (*Salvelinus confluentus*), and 17 important aquatic systems. Community targets include Interior western redcedar/skunk cabbage/sphagnum forest (*Thuja plicata* / *Lysichiton americanum* / *Sphagnum*), Interior western redcedar/maidenhair fern forest (*Thuja plicata* / *Adiantum pedatum* Forest), Interior western redcedar/wild sarsaparilla forest (*Thuja plicata* / *Aralia nudicaulis* Forest), Mountain hemlock/clasping twisted stalk forest (*Tsuga mertensiana* / *Streptopus amplexifolius* Forest). Rare plants include Case's corydalis (*Corydalis caseana* var. *hastata*), Clearwater phlox (*Phlox idahonis*), Constance's bitter cress (*Cardamine constancei*), Idaho strawberry (*Waldsteinia idahoensis*), spacious monkeyflower (*Mimulus ampliatus*), Pennell's kittentail (*Synthyris platycarpa*), Broad-fruit mariposa (*Calochortus nitidus*), Phantom orchid (*Cephalanthera austiniiae*), clustered lady's slipper (*Cypripedium fasciculatum*), Mountain moonwort (*Botrychium montanum*). Expert nominated sites include alpine meadow, fen, interior grand fir forests, montane riparian shrubland, subalpine wet meadow, rock outcrop/cliff, montane riparian forest, and dwarf-shrubland.

Ownership: Ownership within the conservation area is 67% federal (US Dept of Defense, Bureau of Indian Affairs, Bureau of Recreation), 23% private, 9% state (Idaho Dept of Fish and Game, Idaho Department of Lands, Idaho Department of Recreation) 1% water.

Threats and Management Issues: The main source of revenue within the conservation area is from timber production. This area is predominantly managed as public and private forestland with the USFS, BLM and private timber companies owning the majority of the land. Threats include loss of seral species (particularly white pine), forest fragmentation, and increased road densities associated with historic logging practices; catastrophic pathogen invasions (particularly bark beetle); invasives; altered fire regimes; altered hydrograph, thermograph and downstream nutrient loading rates associated with hydropower operations; and a high number of landslides resulting in stream sediment loading. The high amount of recreational use has significantly increased the trail system as well as number of ORV's.

Opportunities: 1) The Idaho Panhandle National Forest Plan is currently going under revision with a schedule completion date of April 2005. 2) Potlatch owns approximately 675,000 acres of timberland in northern Idaho, most in this conservation area. About one-fourth of the acreage Potlatch harvests annually is clear-cut. Potlatch uses GIS in its efforts to develop a "landscape" approach to managing its Idaho forests and hopes in the future that "forestry activities can be balanced to maintain water quality and wildlife

habitats.” Potlatch is currently actively seeking opportunities to consolidate its lands as well as acquire dollars for conservation projects.

Stakeholders: USFWS, IDFG, USFS, IDL, BLM, Private Timber Companies (Forest Capital, Potlatch), Outfitters, NGO’s (Rocky Mountain Elk Foundation, The Nature Conservancy, Idaho Conservation League, Palouse Clearwater Environmental Institute), County and Municipal Government, Nez Perce Tribe.

Thompson- Lower Clark Fork (Idaho-Montana)

Size: 599,583 acres/242,648 hectares

Conservation Area Description: This conservation area is located in northwestern Montana. Three main rivers: the Clark Fork, Thompson, and Bull Rivers are included. Waters from the northern extent of the Bitterroot Mountains and the southern extent of the East Cabinet Mountains drain into to the lower Clark Fork River System. Two dams here, the Noxon Rapids Dam, and the Cabinet Gorge Dam, impede the flow of the lower Clark Fork shortly before the river leaves the state of Montana. Backed up river waters span as wide as two miles just behind the Noxon Rapids dam. Predominant geology is glaciated argillite and quartzite, with alluvium in the valley floor. The Bitterroot Range also has intrusions of granite near the Idaho batholith. Mean annual precipitation varies significantly from the west to the east within this area, as the Bitterroot Mountains form a rain shadow that makes the vegetation in the area near Plains, Montana, and in the Thompson River are much drier (ponderosa pine and Douglas-fir) as opposed to what is found at the same elevations in the Bull River Valley. The lower Bull River is a low gradient meandering stream with many S-curves and oxbows. The wetlands along the river are extensive, and vegetation is lush with numerous sedge marshes and Douglas-spiraea riparian shrublands. The diverse and highly productive vegetation is due to the Pacific Maritime climate where annual precipitation ranges from 25 inches in the valleys to up to 100 inches in the mountains. Forest habitat type series are western red cedar, Englemann spruce, and western hemlock in the warmer valley floors, and mountain hemlock and subalpine fir in the cooler upper elevations. The conservation area could serve as a key corridor between the Cabinet/Yaak and the Selway/Bitterroot grizzly bear populations. The primary natural disturbance processes are fire, flooding, disease and insect epidemics.

Principal Targets: Includes habitat and connectivity values for fisher (*Martes pennanti*), grizzly bear (*Ursus arctos horribilis*), and lynx (*Lynx canadensis*); amphibians - western toad (*Bufo boreas*), Coeur d'Alene Salamander (*Plethodon idahoensis*); and a bird - Flammulated owl (*Otus flammeolus*). Fish targets are the westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and bull trout (*Salvelinus confluentus*). Rare plant conservation targets include clustered lady's slipper (*Cypripedium fasciculatum*), mountain moonwort (*Botrychium montanum*), and the rare moss *Grimmia brittoniae*.

Ownership: Federal 76%, State (Mt) 3%, and Private 21%

Threats and Management Issues: Land use is predominantly timber harvest, mining, limited grazing, and recreation. The area has been heavily logged in the past. Threats to natural systems and native species include improper timber harvest techniques, mining, damming of rivers, exotic species, and altered fire regimes.



Upper Coeur d'Alene

Size: 151,340 acres/61,292 hectares.

Conservation Area Description: The Coeur d'Alene range is a triangular group of mountains, made up of Belt Series sedimentary rocks, stretching from Lake Pend Oreille in the north to Lake Coeur d'Alene in the south, to Kellogg, Idaho in the east.

Upper Coeur d'Alene – KJ Torgerson

The range is bounded by the Bitterroot Mountains in the east, the St. Joe Mountains in the south and Coeur D'Alene Lake and the Purcell Trench in the west. The Upper Coeur d'Alene conservation area within this range is located in the northeastern part along the ID-MT border (continental divide) and includes the entire watershed upstream from Prichard, ID. The tallest peak in the CA is Hullman Peak, rising 5,586. The CA encompasses the headwaters of the Coeur D'Alene River and includes TeePee, Independence and Shoshone creeks. The North Fork of the Coeur D'Alene River lies to the southwest and is not located in the CA.

In fall of 2001, the Coeur d'Alene River Ranger District completed the construction of a comprehensive watershed restoration project. The assessment identified the TeePee Creek watershed as “functioning-at-risk” due to high sediment levels introduced by past riparian impacts, and of the highest priority for aquatic restoration and net road reduction. As a result of the subsequent restoration project, the Coeur d'Alene River Ranger District of the USFS Idaho Panhandle National Forest were the 2002 winners of the Award of Excellence in Riparian Management for their work on the Teepee Creek. The problems of high sedimentation and habitat alteration on TeePee Creek are characteristic of problems throughout the CA. The CA has a long history timber harvesting and associated road building. As a result, the area is highly roaded and maintains stream sedimentation problems, and thus is a focus area of the USFS to reduce road densities and restore watersheds. To date, over 50 miles of old logging roads that were laced with 78 stream crossings have been treated.

Principal Targets: Includes habitat and connectivity values for wide-ranging carnivores- gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), fisher (*Martes pennanti*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*); a bird – Harlequin duck (*Histrionicus histrionicus*); an amphibian- Coeur d'Alene salamander (*Plethodon idahoensis*). Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*), and bull trout (*Salvelinus confluentus*). Rare plants include Idaho strawberry (*Waldsteinia idahoensis*), Phantom orchid (*Cephalanthera austiniiae*), Crenulate moonwort (*Botrychium crenulatum*). Expert nominated site- interior western

cedar/hemlock/Douglas fir forests, montane wet meadows, subalpine wet meadow, montane riparian forest, sub-alpine fir/mountain hemlock forest. 2 aquatic systems.

Ownership: Ownership within the conservation area is 99.9% federal (US Forest Service), <1% private.

Threats and Management Issues: This conservation area is predominantly managed as public forestland with the USFS owning the majority of the land. Most of the CA has been heavily harvested resulting in the water quality degradation from high systemic sedimentation rates, loss of seral species (particularly white pine), increased catastrophic pathogen invasions (particularly bark beetle), invasives (particularly knapweed), forest fragmentation resulting from increased road densities, and altered fire regimes. Channel straightening has occurred in efforts to control white pine blister rust (dozer piling operation), increase hay production for livestock, and install small sawmills. High recreational use has impacted areas along roads and riparian areas.

Opportunities: 1) The Idaho Panhandle National Forest Plan is currently going under revision with a schedule completion date of April 2005.

Stakeholders: USFS, BLM, Recreational groups (fishing and hunting user groups, ORV's), County Government, Coeur d'Alene Tribe of Indians, NGO's.



Weitas Creek

Size: 4,462 acres/1,807 hectares.

Conservation Area Description: The over 200,000-acre Bighorn/Weitas roadless area is located in the northern part of the Clearwater Mountains. It lies just to the south of Mallard-Larkins and west of the Great Burn and straddles the east-to-west-running divide between the Clearwater River drainage to the south and the St. Joe to the north.

Weitas Creek – KJ Torgerson

Weitas Creek is a large stream and blue ribbon trout fishery. Idaho conservationists proposed about 220,000 acres of wilderness. The Forest Service has since recommended about 150,000 acres as designated wilderness.

Ownership: Ownership within the conservation area is 100% federal (USFS).

Principal Targets: Terrestrial targets include habitat and connectivity values for gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos horribilis*), and lynx (*Lynx canadensis*); subalpine fir/mountain hemlock forest, and subalpine dry grassland. Aquatic targets include chinook salmon (*Onchorhynchus tshawytscha*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), rainbow trout, (*Onchorhynchus mykiss*), bull trout (*Salvelinus confluentus*), and one important aquatic system.

Management Issues: Incompatible timber harvest, incompatible off-road vehicle use (there is a plan to turn the Weitas Creek trail into an all terrain vehicle track), forest pathogens (particularly root rot), altered fire regimes, and invasives.

Opportunities: Support the wilderness designation.

Stakeholders: Unknown.



Wells Gray/Bowron.

Size: 3,627,967 acres/1,469,327 hectares.

Conservation Area Description: The Wells Gray/Bowron conservation area is located south of Prince George, BC and northeast of Kamloops, BC in both the Caribou Mountains and Quesnel Highlands. It includes the Fraser, Clearwater, Caribou, and Rausch rivers along with Mahood, Quesnel, Clearwater and Canim Lakes.

Green Mountain Lookout – Dave Hillary

Topography is diverse ranging from rugged mountains in the Caribou range to the rounded hilltops of the Quesnel Highlands. Two Provincial protected areas are located in the conservation area: Wells Gray Provincial Park at 540,000 ha, and Bowron Lake Provincial Park at 149,207 ha. Alpine Tundra, Englemann Spruce-Subalpine fir, Interior Cedar-Hemlock and Sub-boreal spruce can all be found in the area. It supports a diverse population of fish and wildlife species including white sturgeon and bull trout along with grizzly bear, mountain caribou, American bittern and wolverine. The area is also a prime connection to the larger mountain parks to the east.

Principal Targets: Terrestrial targets include habitat and connectivity values for grizzly bear (*Ursus arctos horribilis*), wolf (*Canis lupus*), wolverine (*Gulo gulo luscus*), and lynx (*Lynx canadensis*); ecosystems - alpine wet meadow, fen, sphagnum bog, subalpine dry grassland and rock outcrop/cliff. Aquatic targets include white sturgeon (*Acipenser transmontanus*), chinook salmon (*Onchorhynchus tshawytscha*), coho salmon (*Onchorhynchus kisutch*) and sockeye salmon (*Onchorhynchus nerka*). 42 important aquatic systems are found in this conservation area; the highest number in any single area.

Ownership: Ownership within the conservation area is 61% BC provincial crown land, 28% BC provincial park (administered by the Ministry of Water, Land and Air Protection), 9% BC provincial crown land held under tree farm license, and 2% privately held.

Threats and Management Issues: Industrial logging and oil and gas exploration are the most significant threats to conservation efforts in the area.

Opportunities: unknown

Stakeholders: BC Ministry of Water, Land and Air Protection, BC Ministry of Sustainable Resource Management, Federal Department of Fisheries and Oceans.

Ahbou Lake

Size: 4,544 acres/1,839 hectares

Description: This conservation area contains an important aquatic system and chinook salmon (*Onchorhynchus tshawytscha*).

Bitterroot Mountainsnail EO

Size: 13,904 acres/5,627 hectares

Description: This conservation area is located in west-central Montana near the Idaho border. It contains a Bitterroot mountainsnail (*Oreohelix amariradix*) occurrence and an important terrestrial system – Subalpine Larch forests. Ownership is 73% private and 27% USDA Forest Service.

Bull Trout Spawning Area.

Size: 1,425 acres/577 hectares.

Description: This conservation area contains important bull trout (*Salvelinus confluentus*) spawning habitat. Westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and two important aquatic systems also occur here. 82% BC provincial crown land, 18% privately held.

Burbot Spawning Area.

Size: 982 acres/398 hectares.

Description: This conservation area contains important burbot (*Lota lota*) spawning habitat. Westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*) and two important aquatic systems also occur here. 68% of land is held privately, 32% BC provincial crown land.

Cyr Culch Bald Eagle Nest EO.

Size: 13,572 acres/5,496 hectares.

Description: This conservation area contains an important bald eagle (*Haliaeetus leucocephalus*) nest site. Other terrestrial targets include Montane Riparian Forest, Ponderosa Pine Woodland, and Interior Douglas Fir Forest. Aquatic targets include Westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and one important aquatic system. Ownership is 82% privately held, 15% USDA Forest Service and 3% other.

Fleabane/Salmon Driven.

Size: 25,609 acres/10,372 hectares.

Description: This conservation area contains barren ground fleabane (*Erigeron trifidus*), bull trout (*Salvelinus confluentus*) and one important aquatic system. Ownership is 96% BC provincial protected area and 4% National Park.

Hixon Creek Headwaters.

Size: 11,983 acres/4,853 hectares.

Description: This conservation area contains chinook salmon (*Onchorhynchus tshawytscha*) and one important aquatic system. 96% of the area is BC provincial crown land, and 4% is BC provincial crown land held under tree farm license.

Hunt Girl Creek.

Size: 9,541 acres/3,864 hectares.

Description: This conservation area contains Interior Western Cedar Hemlock Forest, Montane Wet Meadow, Englemann Spruce Subalpine Fir Dry Forest, Subalpine Fir Mountain Hemlock Woodlands and Fen. One important aquatic system also occurs in the conservation area. 100% is in USDA Forest Service.

Landslide.

Size: 44,863 acres/18,169 hectares.

Description: This conservation area contains disturbed colluvial landslide. Aquatic targets include white sturgeon (*Acipenser transmontanus*), bull trout (*Salvelinus confluentus*), chinook salmon (*Onchorhynchus tshawytscha*) and two important aquatic systems. 98% is BC provincial crown land and 2% is privately held.

Least (Selkirk) Chipmunk

Size: 4,596 acres/1,861 hectares.

Description: This conservation area contains Least (Selkirk) Chipmunk (*Tamias minimus selkirki*), and one important aquatic system. 68% is BC provincial crown land and 32% is privately held.

Little NF CDA Trib.

Size: 3,437 acres/1,392 hectares.

Description: This conservation area contains Western Hemlock/False azalea Forest, Interior Douglas Fir Forest and Interior Grand Fir Forest. Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*) and one important aquatic system. Ownership is 100% USDA Forest Service.

Mabel Lake.

Size: 100,558 acres/40,726 hectares.

Description: This conservation area contains chinook salmon (*Onchorhynchus tshawytscha*), coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), bull trout (*Salvelinus confluentus*), and one important aquatic system. 85% is BC provincial crown land and 15% is held privately.

Moffat Creek.

Size: 32,868 acres/13,312 hectares.

Description: This conservation area contains chinook salmon (*Onchorhynchus tshawytscha*), coho salmon (*Onchorhynchus kisutch*), sockeye salmon (*Onchorhynchus nerka*), and two important aquatic systems. Ownership is 100% BC provincial crown land.

Moody Creek.

Size: 8,994 acres/3,643 hectares.

Description: This conservation area contains Montane Dry Grassland and Ponderosa Pine Woodland. Aquatic targets include speckled dace (*Rhinichthys osculus*) and two important aquatic systems. Ownership is 88% BC provincial crown land and 12% privately held.

Moyie River Headwaters.

Size: 31,330 acres/12,689 hectares.

Description: This conservation area contains modeled data for wide ranging carnivores. Aquatic targets include bull trout (*Salvelinus confluentus*), westslope cutthroat trout (*Onchorhynchus clarki lewisi*), and two important aquatic systems. Ownership is 100% BC provincial crown land.

Murphy Creek.

Size: 2,951 acres/1,195 hectares.

Description: This conservation area contains modeled data for wide ranging carnivores and one important aquatic system. Ownership is 100% privately held.

Red Cedar Stand on Snowshoe Creek.

Size: 267 acres/108 hectares.

Description: This conservation area is a result of an Alberta ESA. Ownership is 100% Alberta provincial crown land.

SF Lolo Creek.

Size: 19,295 acres/7,814 hectares.

Description: This conservation area contains modeled data for wide ranging carnivores. Ownership is 65% USDA Forest Service, 32% privately held and 3% Montana Department of Natural Resources and Conservation.

Slender-Spike Manna Grass EO.

Size: 43,490 acres/17,613 hectares.

Description: This conservation area contains Slender-spike manna grass (*Glyceria leptostachya*), and modeled data for wide ranging carnivores. Aquatic targets include westslope cutthroat trout (*Onchorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), and three important aquatic systems. Ownership is 89% BC provincial crown land and 11% privately held.

Swamp Creek.

Size: 17,297 acres/7,005 hectares.

Description: This conservation area contains a fen, modeled data for wide-ranging carnivores and one important aquatic system. Ownership is 71% USDA Forest Service, 28% privately held and 1% other.

Torpy River.

Size: 16,219 acres/6,569 hectares.

Description: This conservation area contains white sturgeon (*Acipenser transmontanus*), chinook salmon (*Onchorhynchus tshawytscha*), bull trout (*Salvelinus confluentus*), two important aquatic systems and modeled data for wide ranging carnivores. Ownership is 100% BC provincial crown land.

Wapiabi Cave.

Size: 178 acres/72 hectares.

Description: This conservation area was a result of an Alberta ESA and includes one important aquatic system. Ownership is 100% Alberta provincial crown land.

Wolf Creek.

Size: 24,872 acres/10,073 hectares.

Description: This conservation area contains a fen, modeled data for wide-ranging carnivores and two important aquatic systems. Ownership is 71% privately held, 19% USDA Forest Service and 10% Montana Department of Natural Resources and Conservation.

Woolly Daisy EO.

Size: 12,512 acres/5,067 hectares

Description: This conservation area contains woolly daisy (*Erigeron lanatus*), modeled data for wide-ranging carnivores and one important aquatic system. Ownership is 100% BC provincial crown land.