

Ecosystem Enhancement Program

Upper Columbia Ecological Priorities

The following ecosystem priorities were identified through a review of regional plans and research, and by seeking input from community groups, First Nations representatives, government agencies, and subject matter experts. Priorities are listed in random order; no ranking is intended. Species, habitats, and processes are not limited to those listed below.

Wetland/Riparian		
Conservation, restoration and enhancement of wetlands and riparian areas		
Priority Habitat	Priority Species	Priority Processes
- valley bottom wetlands - high elevation wetlands - interconnected floodplain wetlands - riparian areas associated with rivers and streams - mature riparian cottonwood forests - steep-sided clay banks - migratory stopover sites - rare plant communities	- northern leopard frog - western painted turtle - western toad - At risk wetland and migratory birds (Great Blue Heron, Western Screech-Owl, Western grebe, Bobolink, Swallows (all), Long-billed Curlew, Olive-sided Flycatcher, Sandhill crane, American Bittern) - American beaver - rare plants - macroinvertebrates	- landscape connectivity valley bottom to mountain top - ecological corridors - hydrologic processes (filtering, recharge, flooding, storage) - geomorphic processes (erosion, levees, gravel, sedimentation, woody debris) - productivity - wildlife movement and migration - carbon storage - breeding and nesting - beaver wetland creation - resiliency - refugia and recruitment
Terrestrial		
Protection, enhancement and identification of corridors and linkage areas		
Priority: Golden corridor, Golden - Donald, Golden to Moberly, Columbia Wetlands ,Valemount Valley.		
Conservation and restoration of upland habitats that support species at risk and focal species		
Priority Habitat	Priority Species	Priority Processes
- open forest - ungulate winter range - climax grasslands - alpine and high elevation grasslands - mature aspen - old growth forest - inland temperate rainforest - rare plant communities - ice fields/glaciers	- elk, moose, mule deer - bighorn sheep - mountain caribou - mountain goat - bats - grizzly bear - wolverine - American badger - American beaver - American marten	- landscape connectivity valley bottom to mountain top - ecological corridors - wildlife movement and migration - refugia and recruitment - food web interactions (predator-prey, seed dispersal, pollination) - natural fire regime

• avalanche chutes • rock outcrops and caves • nesting and/or roosting sites • burrows or denning areas • hibernacula • wildlife trees and snags • mineral licks • calcareous rock / soils	• Lewis's Woodpecker • Clark's Nutcracker • Peregrine falcon • Common Nighthawk • Bobolink • Short Eard Owl • Red tailed chipmunk • whitebark pine, limber pine • huckleberry • native pollinators and other invertebrates • rare plants • fungi	• climate refugia • resiliency
Aquatic		
Conservation, restoration, and enhancement of aquatic habitat		
<i>Priority Habitat</i>	<i>Priority Species</i>	<i>Priority Processes</i>
• rivers and tributary streams that support rearing, spawning, overwintering, foraging • mainstem spawning • alluvial fans and creek mouths • cold water refugia • lakes and ponds • lake foreshore • shallow open water • groundwater-surface water interface (warm water spring; cold water source) • migratory stopover sites	• native fish (White sturgeon, Westslope Cutthroat Trout, Bull Trout, Kokanee, Rainbow Trout, Burbot, Sculpin, Dace) • waterbirds (Harlequin Duck, Western Grebe, Horned Grebe, Eared Grebe, Pied billed Grebe, American Dipper, Cliff Swallow, Black Swift) • freshwater mussels (Rocky Mountain ridged mussel) • invertebrates	• fish passage • fish spawning and rearing • fish overwintering • Hydrologic functions (filtering, recharge, scouring, flooding, storage) • connectivity • water temperature, water quality, nutrient cycling • geomorphological function (erosion, sedimentation, large woody debris, gravel recruitment) • refugia and recruitment
Cultural		
Protection and enhancement of Indigenous cultural values		
<i>Priority Habitat</i>	<i>Priority Species</i>	<i>Priority Processes</i>
• cultural use areas • riparian areas and wetlands • fisheries sensitive watersheds • berry habitat • old growth • grizzly bear habitat and connectivity corridors • fire maintained ecosystems • ungulate winter range • caribou habitat • wildlife habitat areas (WHAs) and features (WHFs) • biodiversity	• culturally significant and medicinal plants • furbearers • wide ranging carnivores • ungulates • species at risk • traditional fish food sources	• Indigenous knowledge and traditional practices • Indigenous-led conservation • Connectivity • Bioculture connections (traditional travel and trade routes) • Maintenance of subsistence networks (Hunting, trapping and fishing) • Cultural heritage resources • Wildlife food resource conservation

Upper Columbia Emerging Issues

- Climate Change
- Invasive Species
- Wildfire and fire management
- Emergent and persistent pests and diseases
- Imminent species/habitat decline
- Recreation and access management

Key References (Priorities and Emerging Issues):

BC Hydro. [Southern Interior Water Use Plans](#).

BC Hydro. 2023. [Columbia River Project Water Use Plan Kinbasket & Arrow Reservoir Revegetation Management Plan Annual Report: 2023](#).

Cirque Environmental Consulting. 2021. [North Columbia Bull Trout Population Monitoring- 2021 Final Report](#). Prepared for FWCP.

CMI. 2020. [Columbia Mountains Institute Annual Researchers Forum Summary](#). October 18, 2019 Golden Seniors Centre, Golden B.C.

CMI. 2023. Responsible Recreation: Pathways, Practices and Possibilities. Revelstoke, BC

Fish and Wildlife Compensation Program. 2023-2024. [FWCP Columbia Region 2023–2024 Project List](#)

Fish and Wildlife Compensation Program. 2024. [Columbia Region Action Plans](#).

[IUCN]. International Union for Conservation of Nature. 2020. Guidelines for conserving connectivity through ecological networks and corridors.

KNC Forestry. 2022. [Ktunaxa Forestry Standards Document for Forestry within ?AMAK?IS KTUNAXA](#).

Kootenay Connect. 2023. [Kootenay Connect: Riparian Wildlife Corridors for Climate Change. Year 4 Summary Report](#).

[KCP] Kootenay Conservation Program. [Columbia Valley Local Conservation Fund Projects](#)

Kootenay Conservation Program. 2020. [Virtual Golden Conservation Action Forum Summary Report](#).

Mahr, M. 2019. [Columbia Wetlands Conservation Action Framework 2020-2025 - Strategy Document for Conserving and Managing the Columbia Wetlands of the Upper Columbia Valley](#). Prepared for Columbia Wetlands Stewardship Partners.

Ministry of Forests, Lands and Natural Resource Operations, and Rural Development. 2020. Cranberry Marsh / Starratt Wildlife Management Area Management Plan.

Nesbit, B, Thibeault R., Borgstrom, G. Ministry of Sustainable Resource Management. 2004. [Valemount & Area Environmental Background Report](#).

[ONA] Okanagan Nation Alliance and [LGL] Limited environmental research associates. 2019/2020. [Exceptional Old Growth and Deciduous Forests: Upper Kinbasket](#).

Parks Canada. 2010. [Yoho National Park Management Plan](#). Parks Canada Agency, Ottawa.

Parks Canada. 2018. [A Natural Priority. A report on Parks Canada's Conservation and Restoration Program](#).

Proctor, M. and Mahr, M. 2021. [Kootenay Connect: Riparian Wildlife Corridors for Climate Change – Year 2 Annual Report](#). Kootenay Connect, Kaslo BC. 160pp.

Province of BC. Kootenay Boundary Land Use Plan Higher Level Plan Order.

Province of BC. 2024. [Chronic Wasting Disease](#).

RMT ER Steering Committee. 2006. [Fire-Maintained Ecosystem Restoration in BC's Rocky Mountain Trench](#) "A Blueprint for Action."

Wildsight Golden resources: <https://wildsight.ca/branches/golden/>