CANADA 32: CRESTON VALLEY WILDLIFE MANAGEMENT AREA,

BRITISH COLUMBIA

Information Sheet on Ramsar Wetlands

Effective Date of Information: The information provided is taken from the List of Canadian Wetlands Designated as of International Importance, May 1982 updated by the Canadian Wildlife Service - Pacific and Yukon Region in October 2001.

Reference: 32nd Ramsar site designated in Canada.

Name and Address of Compiler: Wildlife Branch, British Columbia Ministry of Environment, Lands and Parks, 780 Blanshard Street, Victoria, B.C., V8V 1X4

Date of Ramsar Designation: February 22, 1994.

Geographical Coordinates: 49 10' N. lat., 116 35' W. long.

General Location: Located on the floodplain of the Kootenay River at the south end of Kootenay Lake in the Kootenay Region of British Columbia; nearest town - Creston

Area: 6 970 hectares

Wetland Type (Ramsar Classification System): *Inland wetlands:* Type M - lowland river; Type L - inland delta; Type O - fresh eutrophic lakes; Type U - fens.

Elevation: 530 metres above sea level.

Overview (Principal Characteristics): The Creston Valley is a wide deltaic formation of the Kootenay River at its entry into the deep waters of Kootenay Lake. The area has been subject to significant dyking and water control schemes for agricultural purposes. Most of the existing wetlands are under some form of water control regime.

Physical Features (Geology, Geomorphology, Hydrology, Soils, Water, Climate): The deltaic formations of the Kootenay River are the result of historical seasonal flooding; the area was partially dyked at the turn of the century, and flood impacts were further moderated with the construction of the Libby Dam in 1984. Of the 6970 hectares, 4500 hectares are dyked with the balance natural wetland. There are some upland habitat components included in the CVWMA. Of particular note is the interface between marsh habitats and steeper mountain slopes on the western boundary of the area.

Ecological Features (Habitats, Vegetation): The area is in the Southern Columbia Mountains ecosection, commonly referred to as the "interior wet belt". The forests are characterized by Western Hemlock (*Tsuga heterophylla*), Western Red Cedar (*Thuja plicata*) and Western White Pine (*Pinus monticola*). On drier sites Douglas fir (*Pseudotsuga menziesii*) and Ponderosa Pine (*Pinus ponderosa*) can also be found. Riparian species include Paper Birch (*Betula papyrifera*), Black Cottonwood (*Populus trichocarpa*), Willow (*Salix spp.*) and Red Osier Dogwood (*Cornus stolonifera*). Common species in unmanaged wetlands are bulrush (*Scirpus acutus*) and sedges (*Carex spp.*), and in managed wetlands aquatic macrophytes like milfoil

(*Myriophyllum spp.*), bladderwort (*Ultricularia spp.*), smartweed (*Polygonum spp.*) and buttercup (*Ranunculus spp.*) are abundant.

Land Tenure:

(a) Site: The Creston Valley Wildlife Management Area was dedicated by provincial statute to be preserved in perpetuity for wildlife, and waterfowl in particular. This tenure is considered optimal for protection and conservation of wildlife habitat values.

(b) Surrounding Area: The surrounding lands are made up of a mosaic of private agricultural, commercial and residential lands, and forested uplands owned predominantly by the provincial government.

Conservation Measures Taken: The area is protected by provincial statute, the *Creston Valley Wildlife Management Area Act*. Management practice seeks to optimize the amount and quality of wetland habitat available to waterfowl and other wetland dependent species. This includes water level control, seeding, burning and associated activities.

Conservation Measures Proposed: None currently.

Current Land Use/Activities in:

(a) Site: Current uses on the site are mainly recreational; birdwatching, wildlife viewing, hunting, fishing, canoeing. Some agricultural activity takes place as a management tool.

(b) Surrounding Area: To the east and south, the surrounding area is rich agricultural land, supporting grazing, cereal crops and orchard lands. Lands west of the Creston Valley Wildlife Management Area are dominated by forested slopes, while the main body of Kootenay Lake extends north for over 100 kilometres.

Threats to Integrity of:

(a) Site: The lands within the Creston Valley Wildlife Management Area are under optimal conservation status; there are no perceived threats to the status of this land.

(b) Surrounding Area: There is growing concern, both regionally and nationally, about the spread of invasive plant species. Purple loosestrife (*Lythrum salicaria*) has been identified elsewhere in the Kootenay region, and it seems highly likely that it will encroach into the Creston wetlands at some point in the near future. This species is highly invasive and is a significant threat to native wetland plant communities. Knapweed (*Centaurea* spp.), another invasive exotic, is established in the region, and can displace native vegetation.

Residential developments on the boundary of the area may have some impact on the resource values, though the impact to this point has been negligible. A more pressing concern is the impact wildlife populations attracted to the area have on adjacent agricultural operations. Agriculturalists have expressed concern over wildlife predation on crops, resulting in some pressure to reduce management efforts aimed at maximizing waterfowl habitat. Cooperation with the agricultural

community has seen the development of lure crops on CVWMA lands to reduce the predation pressure.

Hydrological/Physical Values: The marshes act as a flood control and sediment retention mechanism for this section of the Kootenay River. The water retained behind the dykes has a significant but undetermined effect on local groundwater supplies. Historically, seasonal flooding and sediment loads were significant, but have been markedly reduced since construction of the Libby Dam upstream in Montana. Dyke maintenance programs are in place to stabilize the artificial shoreline.

Social/Cultural Values: The area is locally important for fisheries production, primarily for recreational users. Aboriginal peoples have lived in the area for thousands of years; archaeological surveys have located over 30 discrete sites either within the management area or immediately outside it, ranging from isolated artifacts (i.e. projectile points) to traditional fishing stations and petroglyph panels.

The historic Dewdney Trail, a significant early trade and exploration route in pre-Confederation British Columbia, runs along the eastern margin of the area.

Noteworthy Fauna: Creston Valley provides some of the most important waterbird habitat in British Columbia. Water level management strategies have resulted in an increase in waterfowl abundance and diversity. The marshes support large breeding populations of the following species:

Mallard	*Anas platyrhynchos*
Blue-winged Teal	*Anas discors*
Cinnamon Teal	*Anas cyanoptera*
Redhead	*Aythia americana*
Ring-necked Duck	*Aythia collaris*
Common Goldeneye	*Bucephala clangula*
Red-necked Grebe	*Podiceps grisegena*
Western Grebe	*Anas occidentalis* [1]
Pied-billed Grebe	*Podylimbus podiceps*
Forster's Tern	*Sterna forsteri* [2]
Black Tern	*Chlidonias niger* [3]
Great Blue Heron	*Ardea herodias* [4]
Osprey	*Pandion haliaetus* [5]
Wood Duck	*Aix sponsa* [6]
Northern Rough-winged Swallow	*S. Serripennis* [7]
Rufous Hummingbird	*Selasphorus rufus*
Calliope Hummingbird	*Stellula calliope*
Anna's Hummingbird	*Calypte anna*

1 second largest colony in British Columbia
2 the only breeding colony in British Columbia
3 largest breeding colony in British Columbia
4 average 55 pairs; second largest colony in B.C. east of Coast Range
5 highest population density in Canada
6 largest breeding concentration in B.C.
7 largest colonial population in B.C.

Large numbers of waterfowl pass through the valley during spring and fall migration; the most common migrants that pass through number over 100 000. Single day concentrations may also be spectacular, exceeding 40 000 on occasion.

The area is also significant habitat to other marsh dwelling animals such as beaver (*Castor canadensis*), muskrat (*Ondatrra zibethica*), coyote (*Canis latrans*) and elk (*Cervus canadensis*). Rare or endangered faunal elements which have been identified include:

Coeur D'alene salamander	*Plethadon idahoensis*
Black-chinned Hummingbird	*Archilochus alexandri*
Short-eared Owl	*Asio flammeus*
Bald Eagle	*Haliaeetus leucocephalus*
American Avocet	*Recurvirostra americana*
White Sturgeon	*Acipenser transmontanus*
Red-tailed Chipmunk	*Tamias ruficaudus simulans*

Summit Creek supports spawning Kokanee Salmon (*Oncorhynchus nerka*) and Leach and Duck Lakes support significant populations of warm water species such as Largemouth Bass (*Micropterus salmoides*) and others.

Other fish species present include:

Rainbow Trout	*Salmo gairdneri*
Cutthroat Trout	*Salmo clarkii*
Dolly Varden	*Salvelinus malma*
Mountain Whitefish	*Prosopium wiliamsoni*
Longnose Sucker	*Catostomus catostomus*
Redside Shiner	*Richardsonius balteatus*
Peamouth Chub	*Mylocheilus caurinus*
Yellow Perch	*Perca flavescens*
Smallmouth Bass	*Micropterus dolomieui*
Bullhead	*Ictaluridae spp.*

The increase in warm water species has occurred since water control mechanisms were developed, and have triggered a significant increase in the populations of fish eating species such as grebes and ospreys.

Noteworthy Flora: The following rare or endangered floral elements have been identified:

Pink Fairies	*Clarkia pulchella*
Common Downingia	*Downingia elegans*
Spurless Touch-me-not	*Impatiens ecalcarata*
Western Burnet	*S. occidentalis*
Fox Sedge	*Carex vulpinoidea*
Tall Beggarticks	*Bidens vulgata*
Alkali-marsh Butterweed	*Senecio hydrophilus*
Purple Meadowrue	*Thalictrum dasycarpum*

Current Scientific Research and Facilities: There are a number of research projects ongoing in the area, sponsored by a number of Canadian universities. Simon Fraser University (SFU) is sponsoring research into the fighting behaviour of American Coot

(*Fulicia americana*), breeding behaviour of Osprey (*Pandion haliaetus*), and an examination of Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) nestling begging behaviour. SFU plans to build a research station on site. The University of Victoria is currently sponsoring research into snake population inventories, as well as species ecology and distribution. The Wildlife Centre operated by the CVWMA provides research support facilities through the provision of work space, administrative services and equipment use.

Current Conservation Education: The Creston Valley Wildlife Centre provides full interpretive facilities including displays, an exhibit hall, theatre and library. Programs are tailored to meet specific educational needs for school groups of varying levels and sizes. The centre operates on a seasonal basis, serving approximately 14 000 visitors annually.

Current Recreation and Tourism: The area receives extensive recreational use, including wildlife viewing, fishing, hunting, camping, canoeing, photography and hiking. Powered vessels are prohibited.

Management Authority: The area is jointly managed by the Government of British Columbia and the Government of Canada. The three person Board of Directors includes representatives from the two levels of government, and an additional public member.

Creston Valley Wildlife Management Authority
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Jurisdiction: The area is jointly managed by the Government of the Province of British Columbia (British Columbia Department of Environment, Parks and Wildlife) and the Government of Canada. The three person Board of Directors includes representatives from the two levels of government, and an additional public member.

References:

- Butler, R.W. *et al.* 1985. *The Birds of the Creston Valley and southeastern British Columbia.* Canadian Wildlife Service, Ottawa. Occasional Paper No. 58.
- Forbes, L.S. 1985. Nesting of Eared Grebes at Duck Lake near Creston, B.C. Murrelet 66:20-21.
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- Munro, J.A. 1950. *The Birds and Mammals of the Creston Region, British Columbia.* British Columbia Provincial Museum, Victoria, B.C. Occasional Paper No. 8.
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Reasons for Ramsar Designation: The Creston Valley area plays a significant role in support of foodchains in this part of the South Columbia Mountains ecosection, as well as supporting migrating species using this flyway.

The Creston area regularly supports over 100 000 waterfowl during migration periods. The area supports significant populations of "particular groups of waterfowl" including grebes, herons, geese and ducks, and terns.

Status of Management Plan: The Creston Valley Wildlife Management Area has been in existence for 25 years. In this time, a number of management plans have been developed and applied, including a *Multi-Year Operational Plan* in November 1985 and a *Working Draft Plan for the Next Five Years* prepared in January 1993. In October 1993, a draft report entitled *Creston Valley Wildlife Management Area - A Strategic Plan...the Next 25 Years* was released to the public for comment and consultation.