

Important Amphibian and Reptile Areas Nomination Form

Personal Information

Name: Marc-André Beaucher

Organization / Affiliation: Creston Valley Wildlife Management Area

Address: Box 640

City / Town: Creston **Province:** British Columbia

Postal Code: V0B 1G0

Telephone: (250) 402-6907

E-mail: biology@crestonwildlife.ca

Location

Site names: Creston Valley Wildlife Management Area (CVWMA)

Province: British Columbia **Region:** Central Kootenays

Closest City / Town: Creston. Located on the floodplain of the Kootenay River at the south end of Kootenay Lake in the Kootenay Region of British Columbia.

UTM / Geographical Coordinates: Northern limit: Northing - 5460 000m, Easting - 525 000m.

Southern Limit: Northing - 5428 500m, Easting - 532 000m.

Elevation: 530m

Direction to site: 10 kilometers west of Creston on B.C. Highway 3, turn left on West Creston Road.

Map (attached): see Figure 1 in Appendix 1

Physical Description

Area: 6978 hectares

Site Description, habitat type, vegetation type, presence and type of water bodies.

The CVWMA area is located south of Kootenay Lake and north of the Canada – US border, nestled between the Selkirk and Purcell Mountain ranges. The area encompasses a substantial portion of the Kootenay River floodplain (≈530 m elevation) and consists primarily of dyked marshland, lakes, sloughs, agricultural fields, and adjacent river terraces. The CVWMA is located within the very dry warm variant of the Interior Cedar-Hemlock (ICHxw) biogeoclimatic subzone, and experiences very hot dry summers and very mild winters with light snowfall of short duration. These climatic conditions combined with an abundance of wetland and riparian habitat make the Creston Valley a critical breeding, staging and wintering area for a broad diversity of wildlife species (Wilson et al., 2004).

Of the 6978 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 habitat and steeper mountain slopes on the western boundary of the area.

The area is in the Southern Columbia Mountain ecosection, commonly referred to as the “interior wet belt”. The forest 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 papyfera*), Black Cottonwood (*Populus trichocarpa*), Willow (*Salix* spp.) and Red Osier Dogwood (*Cornus stolonifera*). Common species in unmanaged wetland are bulrush (*Scirpus* spp.), and sedges (*Carex* spp.), and in managed wetland aquatic macrophytes like milfoil (*Myriophyllum* spp.), bladderwort (*Utricularia* spp.), smartweed (*Polygonum* spp.) and buttercup (*Ranunculus* spp.) are abundant.

Habitat and vegetation types and presence and type of water bodies with their approximate sizes (hectares)

- Permanent wetland - 992
- Seasonally-flooded wetland - 996
- Lowland coniferous forest - 61
- Lakes and open water
 - Duck Lake - 1428
 - Kootenay Lake - 676
- Rivers and wide channels
 - Kootenay River - 293
 - Old Kootenay Channel - 22
- Upland grassland - 777
- Upland deciduous forest - 752
- Upland coniferous forest - 608
- Upland shrub - 179
- Agricultural fields - 174
- Roads - 21

Site designations:

1. Wetland of International Importance under the Ramsar Convention on Wetlands¹
2. Important Bird Area (IBA) by BirdLife International²

Wetland Type (RAMSAR Classification System):

Inland Wetlands:

- L- Permanent inland delta
- M- Permanent rivers/streams/creeks; includes waterfalls
- O- Permanent freshwater lakes (over 8 ha); includes large oxbow lakes
- U- Non-forested peatlands; includes shrubs or open bogs, swamps, fens.

Land Ownership

Name: British Columbia Alienated Crown Land

Organization / Affiliation: Creston Valley Wildlife Management Area

Address: 1874 Wildlife Road, Box 640

City / Town: Creston **Province:** British Columbia

Postal Code: V0B 1G0

Telephone: (250) 402-6900 **Fax:** (250) 402-6910

E-mail: askus@crestonwildlife.ca

Are the landowners / managers aware of the importance of the site to amphibian and reptile conservation?

Yes

Are they aware of this site nomination and if so did they participate in the process?

Yes

¹ Designated as Ramsar site on 21 February 1994.

² Designated as Important Bird Area in 2000.

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Status of Amphibian and Reptile Species found on the CVWMA. COSEWIC: E= Endangered, T= Threatened, SC= Special Concern, NAR= Not at Risk; Provincial: R= Red, B= Blue, Y= Yellow, I= Identified Wildlife.

Species	Status	No. of Individuals	References
Northern Alligator Lizard <i>Elgaria coerulea principis</i>	NAR, Y	Not available	Rutherford, 2002; Rutherford and Gregory, 2001
Western Skink <i>Eumeces skiltonianus skiltonianus</i>	SC, B	Not available	Rutherford and Gregory, 2001
Rubber Boa <i>Charina bottae</i>	SC, Y	Not available	St. Clair, 1999
Common Garter Snake <i>Thamnophis sirtalis</i>	Y	Not available	P.T. Gregory, K.W. Larsen, D.R. Farr
Western Terrestrial Garter Snake <i>Thamnophis elegans</i>	Y	Not available	P.T. Gregory, M.B. Charland, D.R. Farr, K.M. Skebo, L.H. Crampton
Painted Turtle <i>Chrysemys picta</i>	B	Not available	M.-A. Beaucher
Northern Leopard Frog <i>Rana pipiens</i>	E, R, I	1098 (95% confidence interval 825-2431) -1991 Estimate. Waye and Cooper, 2001	Adama and Kendell, 2004; Adama et al., 2003, 2002; Adama et al., in prep; Beaucher, 2001; Gebhart and Roberge, 2001; Ohanjanian et al. 2004, 2003; Waye and Cooper, 2001, 1999; Waye, 1997; Wind, 2002.
Columbia Spotted Frog <i>Rana luteiventris</i>	NAR, Y	Not available	M.-A. Beaucher
Pacific Treefrog <i>Pseudacris regilla</i>	Y	Not available	M.-A. Beaucher
Western Toad <i>Bufo boreas</i>	SC, Y	Not available	M.-A. Beaucher
Long-toed Salamander <i>Ambystoma macrodactylum</i>	Y	Not available	M.-A. Beaucher
Coeur d'Alene salamander <i>Plethodon idahoensis</i> ³	SC, B, I	Not available	Ohanjanian and Teske, 1996

Although number of individuals for most species are unavailable, all but the Northern leopard frog, Western toad and Coeur d'Alene salamander are relatively common on the CVWMA (M.-A. Beaucher, pers. obs.).

³ Has not been recorded within CVWMA boundary, but occurs on tributaries of Duck Lake.

Other Species

List of major non-amphibian and non-reptile species present at the site, and description of the importance of the site to these species. COSEWIC: E= Endangered, T= Threatened, SC= Special Concern, NAR= Not at Risk, DD= data deficient; Provincial: R= Red, B= Blue, I= Identified Wildlife.

Species	Status	Importance of Site	References
American Avocet <i>Recurvirostra americana</i>	R	Migration corridor, rare breeder	Butler et al., 1986; Campbell, 1972
American Bittern <i>Botaurus lentiginosus</i>	B	Most important habitat in the Columbia basin and likely in B.C	Butler et al., 1986; Cooper and Beauchesne, 2003
American White Pelican <i>Pelecanus erythrorhynchos</i>	NAR, R	Foraging and loafing / non-breeders. Up to 300 individual recorded in 2004 (MAB, pers. obs.)	Butler et al., 1986; Gowans and Ohanjanian, 2000
Double-crested Cormorant <i>Phalacrocorax auritus</i>	NAR, R	Breeding, up to 14 nests in 2004	Butler et al., 1986; M.-A. Beaucher
Bobolink <i>Dolichonyx oryzivorus</i>	B	Most sightings on Creston flats	Butler et al., 1986
Forster's Tern <i>Sterna forsteri</i>	DD, R	Only confirmed nesting colony in British Columbia	Butler et al., 1986; Goossen et al., 1982; Wilson et al., 2004
Great Blue Heron <i>Ardea herodias herodias</i>	B, I	Breeding; largest breeding colony in the Columbia Basin	Butler et al., 1986; Forbes et al., 1985; Machmer and Steeger, 2004
Lewis's Woodpecker <i>Melanerpes lewis</i>	SC, B, I	Not available, very rare	Butler et al., 1986; M.-A. Beaucher
Long-billed Curlew <i>Numenius americanus</i>	SC, B, I	Occasional breeder in the valley	Butler et al., 1986; Ohanjanian and Beaucher, 2003
Prairie Falcon <i>Falco mexicanus</i>	NAR, R	Wintering habitat	Butler et al., 1986; M.-A. Beaucher
Sandhill Crane <i>Grus Canadensis tabida</i>	NAR, B	Migration corridor; rare	Butler et al., 1986; M.-A. Beaucher
Short-Eared Owl <i>Asio flammeus</i>	SC, B, I	Breeding	Butler et al., 1986; Cooper and Beauchesne, 2003; M.-A. Beaucher
Western Grebe <i>Aechmophorus occidentalis</i>	R	One of 2 nesting colonies in British Columbia	Forbes, 1985; Ohanjanian, 1997, 1998

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Species	Status	Importance of Site	References
Western Screech-Owl <i>Megascops kennicottii macfarlanei</i>	E, R, I	Breeding	Beaucher and Dulisse, 2004a, b
Sage Thrasher <i>Oreoscoptes montanus</i>	E, R, I	Migration corridor, rare	M.-A. Beaucher
Yellow-breasted Chat <i>Icteria virens</i>	E, R, I	Rare breeder	Butler et al., 1986; W. Campbell, pers. comm.
White Sturgeon <i>Acipenser transmontanus</i> pop. 1	E, R	Spawning in Kootenay River	Not available
Badger <i>Taxidea taxus</i>	E, R, I	Travel corridor	M.-A. Beaucher
Grizzly Bear <i>Ursus arctos</i>	SC, B, I	Travel corridor	Not available
Northern Pocket Gopher <i>Thomomys talpoides segregatus</i>	R	Not available	David Nagorsen
Red-tailed Chipmunk <i>Tamias ruficaudus simulans</i>	B	Not available	David Nagorsen
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	B	Not available	CBFWCP, 2004
Alkali-marsh Butterweed <i>Senecio hydrophilus</i>	R	Not available	Not available
Common Downingia <i>Downingia elegans</i>	R	Not available	Not available
Crested Wood Fern <i>Dryopteris cristata</i>	B	Not available	Not available
Fox Sedge <i>Carex vulpinoidea</i>	B	Not available	Not available
Montana Larkspur <i>Delphinium bicolor</i> ssp. <i>bicolor</i>	B	Not available	Not available
Purple Meadowrue <i>Thalictrum dasycarpum</i>	B	Not available	Not available
Spurless Touch-me-not <i>Impatiens ecalcarata</i>	B	Not available	Not available
Tall beggarticks <i>Bidens vulgata</i>	R	Not available	Not available
Western mugwort <i>Artemisia ludoviciana</i> var. <i>incompta</i>	B	Not available	Not available
White Sturgeon <i>Acipenser transmontanus</i> pop. 1	E, R	Spawning in Kootenay River	Not available

Site Criteria

1. Species of Conservation Concern:

Species	Conservation concern – A, B, C	Significant Number – 1, 2, 3
Northern leopard frog – Southern Mountain Population	B – Endangered/ COSEWIC (May 2000) C – Red-listed (CDC B.C.)	2 - Only known population in British Columbia
Western skink	B – Special Concern/ COSEWIC (May 2002) C- Blue-listed (CDC B.C.)	3 – has been reliably documented on the CVWMA
Rubber boa	B – Special Concern/ COSEWIC (May 2003)	3 - has been reliably documented on the CVWMA
Painted turtle	C – Blue-listed (CDC B.C.)	3 - has been reliably documented on the CVWMA
Coeur d’Alene salamander	B – Special Concern/ COSEWIC (November 2001) C – Blue-listed (CDC B.C.)	3 – has been reliably documented on tributaries that flow into the CVWMA

2. High Species Diversity:

Six species, or 14% and 29% of all amphibian, and 6 species, or 14% and 50% of all reptile species found in Canada and British Columbia, respectively, occur within the CVWMA, or in areas adjacent to it.

Although population numbers are not available for most species of amphibians and reptiles on the CVWMA, it is likely that the site is nationally important as five of the 12 species occur in B.C. only. Provincially, the CVWMA likely supports an important number of western skinks, alligator lizards, and rubber boas, but further investigations are needed to support this statement.

Provincially, the CVWMA is critical to the northern leopard frog as it sustains the only known population.

3. Important Life History Requirements:

While the Northern Leopard frog has disappeared from all regions of British Columbia, a population persists on the CVWMA. The Columbia Basin Fish and Wildlife Compensation Program funded a three-year monitoring project (1997-1999) to assess the status of the northern leopard frog population on the CVWMA. In 2000, more funding was provided by the CBFWCP to study the species and a recovery effort was initiated in 2001. Habitat requirements such as breeding, summer and overwintering habitat are under investigation and other important negative factors such as introduced predatory fish and diseases are also being looked at.

As mentioned previously, the CVWMA is provincially critical to the survival of the northern leopard frog as it supports the only known population.

The 7000-ha wetland is also an important breeding site for long-toed salamanders, Pacific chorus frogs and Columbia spotted frogs. Without it, the existence of these three species would likely be jeopardized in the valley.

Human Impacts

Please describe how humans are impacting the site and the immediately surrounding areas in the following ways:

Current site usage (if any), e.g. industrial, residential, farming, logging, camping, recreation, etc. (please indicate relative importance).

Farming is an important component of the Creston Valley economy and is predominant across the valley. Sections of land are rented to farmers on the CVWMA. Some areas are strictly used for lure crops and others allow free-range cattle grazing. It is unknown at this point if free-ranging cattle has a positive or negative impact on the species present in the implicated areas. Further research is needed to assess the impact of farming in those areas.

Logging is very rare on the CVWMA and does not pose a threat. Nevertheless, industrial logging occurs on mountains adjacent to the CVWMA and might indirectly impact various physical attributes such as water quality and ground stability.

While offering excellent opportunities for nature interpretation, wildlife viewing, bird-watching, canoeing, camping, hunting and fishing, the number of visitors is increasing from year to year on the CVWMA and the impact of these recreational activities by people are becoming more and more obvious. Increased use of motorized vehicles touring the premises, especially in critical areas, needs to be addressed. People walking their dogs and not obeying the “keep dogs on leash” policy is of great concern for the benefit of any wildlife present on the CVWMA. While not very conspicuous to many of us, gun shells and wads from hunting are widespread in areas where hunting is permitted. Furthermore, due to fee increase at the municipal refusal site, it appears that dumping in remote areas of the CVWMA is on the rise. Garbage, garden wastes, and farm animal wastes are becoming more common. Garden wastes such as introduced non-native plants pose a threat to the flora on the CVWMA. Increased use of the camping area at Duck Lake with inadequate camping facilities has resulted in human wastes being deposited in inappropriate places. Stricter regulations or acquisition of permits should be mandatory for people wanting to use the campsite. Stricter regulations also need to be put in place for campfire activities and use of vehicles off roads. Campfire activities result in habitat degradation where people cut down trees and burn fires in undesignated sites. While forbidden, use of motorized vehicle beyond roads is taking place and also causes habitat degradation, such as bank erosion in many areas, and poses a threat to Painted Turtles which use gravelly banks for laying their eggs.

Pollution, e.g. air, water, light, noise, etc.

Air in the Creston Valley is not always at its best. Due to various meteorological factors and the physical attributes of the Creston valley, smoke from various sources can be trapped in the valley for weeks. Three major sources for smoke in the valley are: 1) farmers burning their fields at the end of the growing season (extensive), 2) burning of slash piles in the fall by the forest industry, and 3) forest fires. A great amount of smoke also comes from the state of Idaho during various periods of the year. A less significant amount of smoke comes from burning of domestic wastes and woodburning stoves.

There are numerous orchards in the valley and although very few orchards are adjacent to the CVWMA, the use of pesticides by fruit growers contributes to air and water pollution in the valley. Tree farms and sod farms are growing in numbers and could pose a serious threat to many species of amphibians, especially the northern leopard frog, as most farms are located upstream from where the frogs are known to occur.

Threats to habitat, e.g. development, habitat loss or degradation, succession, fire, etc.

The CVWMA has its own Act under the Wildlife Act, which makes it unique and also protects it from further development. Nevertheless, important degradation and loss of habitat has occurred over the years as a result of damming and dyking for agricultural purposes in adjacent areas. Succession is taking place in many units as it is not regulated anymore by annual flooding.

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Habitat degradation and fragmentation resulting from the encroachment of invasive plant species such as water-shield (*Brasenia schreberi*), reed-canary grass (*Phalaris arundinacea*), Yellow flag (*Iris pseudacorus*), or cattails (*Typha latifolia*) may be one of the most significant threats posed to amphibians on the CVWMA, especially to the northern leopard frog. Increasing growth of woody vegetation along many bodies of water may also become an issue in the near future, as some of the amphibians occurring on the CVWMA prefer relatively open grassy habitat characteristics.

Habitat conservation and restoration.

The CVWMA's mission is to manage for conservation and natural species diversity through active habitat management, research, education and public support. A habitat management plan has been drafted (Wilson et al., 2004) and habitat conservation and restoration priorities are presented. Since its creation, the CVWMA has managed the wetland to maintain or increase its productivity, but nothing has been done specifically for reptiles and amphibians. However, the CVWMA has been very cooperative in its management practices in regards to the northern leopard frog recovery effort in the last 8 years.

Recommended conservation actions for this area.

1. Pursue research and recovery efforts to maintain, increase, and secure the last northern leopard frog population in B.C. Continue the efforts to expand the recovery effort to areas outside the Creston Valley Wildlife Management Area and acquire additional expertise (academic) in amphibian conservation to assist the recovery team in decision-making.
2. Initiate research projects to assess the status of most amphibian and reptile population that occur on the CVWMA and establish monitoring programs to detect changes that may be occurring.
3. Identify and map areas with high concentration of amphibian and reptile species and put in place mechanisms to protect these areas in perpetuity.
4. Instigate research projects to determine the impacts of invasive plant species as well as vegetation encroachment on amphibians occurring on the CVWMA, and establish programs to stop or prevent any further potential negative effects on habitat characteristics that are critical to the survival of many amphibian species.

Other Concerned Organizations.

BC Ministry of Water, Land and Air Protection
Canadian Wildlife Service
Ducks Unlimited
RAMSAR Convention on Wetlands
Columbia Basin Fish & Wildlife Compensation Program
BC Hydro
Northern Leopard Frog recovery Team

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Previous Work.

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Appendix 1

Creston Valley Wildlife Management Area

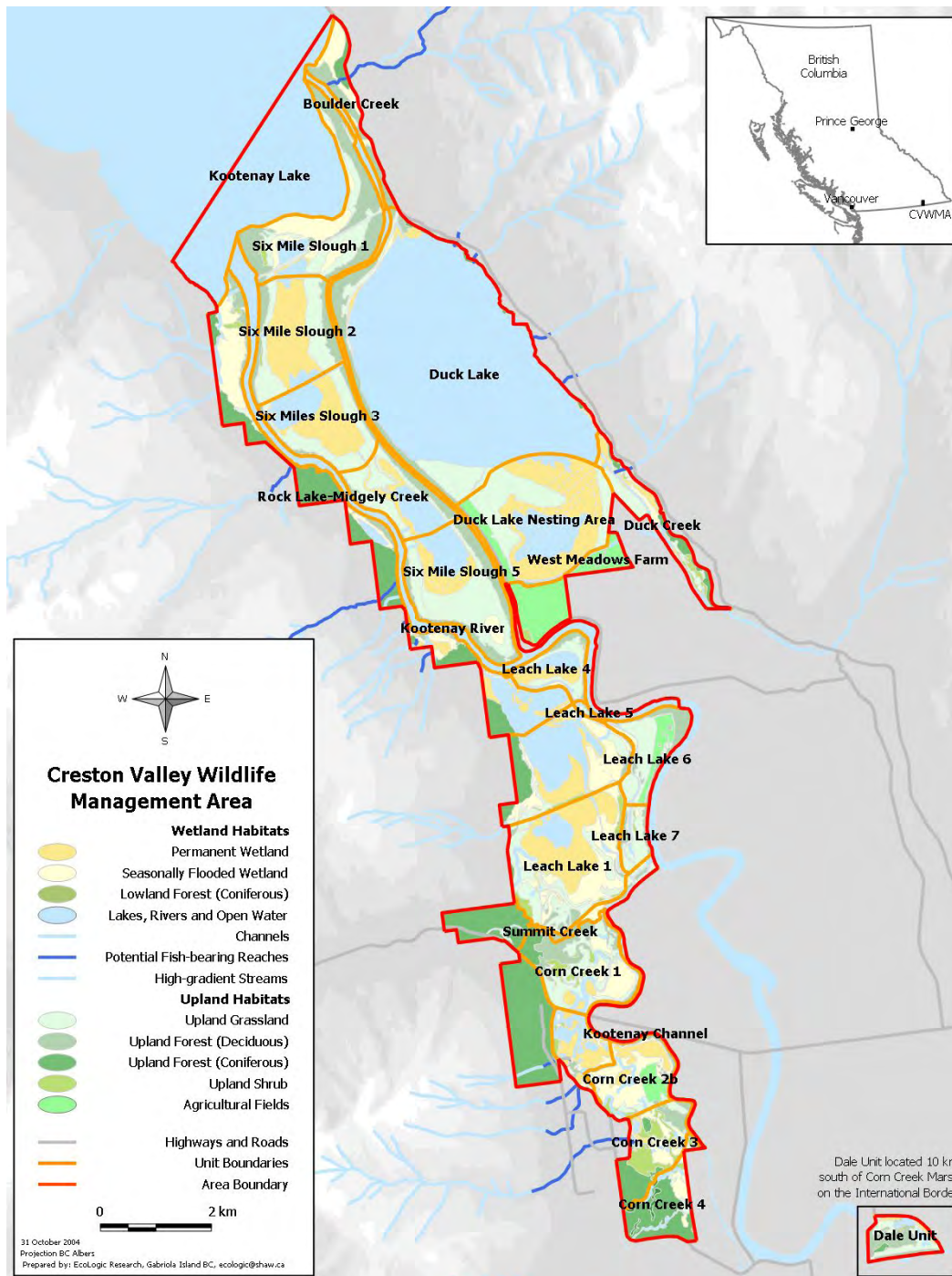


Figure 1. Map of the Creston Valley Wildlife Management Area.