

CRESTON VALLEY WILDLIFE MANAGEMENT AREA
WETLAND ENHANCEMENT PROJECT REPORT:
CORN CREEK UNIT 2B



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FOR
Columbia Basin Fish & Wildlife Compensation Program



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FORTISBC

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ACKNOWLEDGMENTS

On behalf of the Creston Valley Wildlife Management Area, I would like to thank the organizations and people that have contributed time and money to make this enhancement project happen: FortisBC, the Columbia Basin Fish & Wildlife Compensation Program, and Don Bjarnason (CVWMA). I would also like to thank Tembec and the Vancouver Foundation who have partnered to provide funding to purchase a plow for future enhancement projects on the CVWMA.

PROJECT LOCATION

The wetland enhancement project took place in pond 2b of Corn Creek Marsh (Figure 1), located approximately 8km west of Creston and 1km east of the CVWMA Wildlife Centre, south of Highway 3.

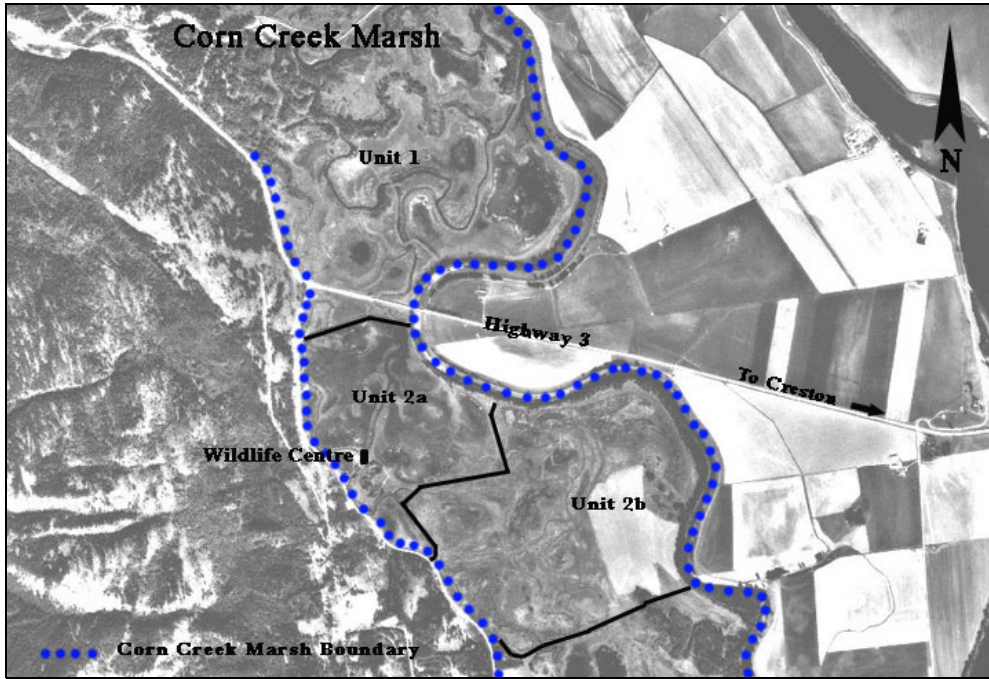


Figure 1 Corn Creek Marsh Units 1, 2a, and 2b.

GOAL OF PROJECT

Unit 2b of Corn Creek Marsh had not been drawn down since 1994. Dense stands of cattails as well as a thick layer of moss had developed and encroached on extensive portions of the permanently flooded ponds and ditches that connect several ponds. This vegetation encroachment caused a decline in use by wildlife and overall biodiversity.

The overall goal of the project was to restore 50 hectares of wetland to increase wildlife use and encourage listed species such as the Northern Leopard Frog, American White Pelican, American Bittern, Great-blue Heron, and Western Painted Turtle to utilize the area for foraging and/or breeding.

ACTIVITIES CONDUCTED

Through commonly used and proven techniques that have been successfully adapted to local site conditions, the Creston Valley Wildlife Management Area (CVWMA) staff treated 30 hectares of wetland in pond 2b of Corn Creek Marsh during the summer of 2005 (Figure 3).

Draining of Unit 2b started in March. Stop logs were removed from water control 2b and water flowed out naturally. On July 7th, a ditch (Figure 2) was dug at the northeast end of the unit to pump out water that could not drain through water control 2b. Forty-two hours of pumping were required to remove all the water from the treated area. Twenty hectares could not be treated because of poor site conditions resulting from heavy rain during the month of June.



Figure 2 Pumping ditch.

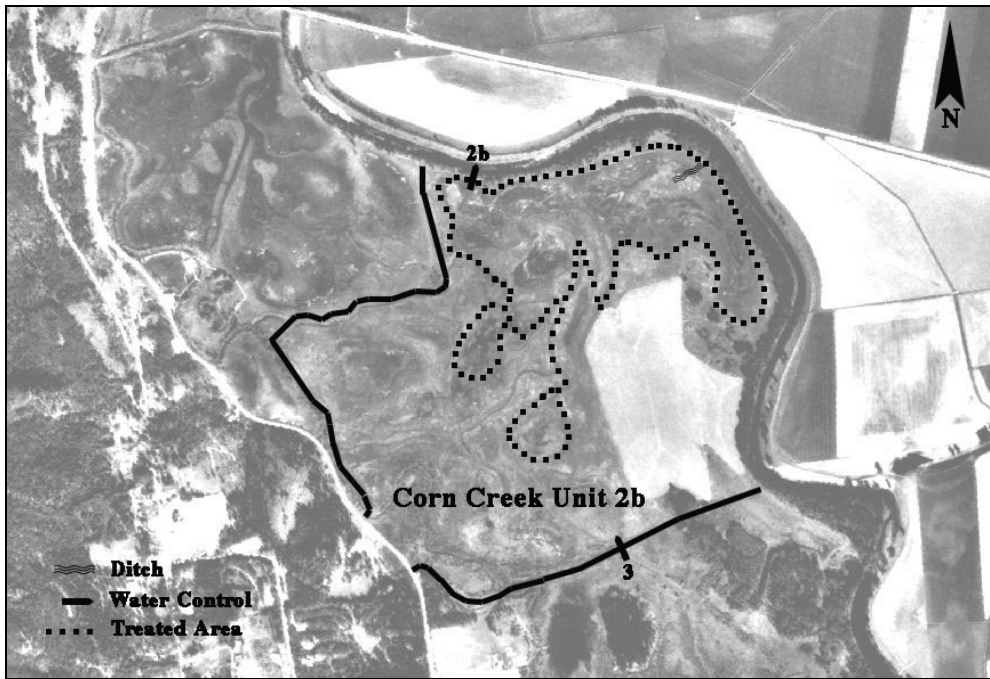


Figure 3 Corn Creek Marsh Unit 2b – treated area.

Staff began mowing on June 30th. Drier areas around the perimeter of the unit were mowed first and mowing continued until August 24th. Sixty-four hours were required to mow the area shown in Figure 3. Baling the vegetation took 31 hours, between August 15th and 26th. Six hundred and forty round bales (4-foot) were produced and then stacked in various locations for wildlife to use as platforms for loafing and/or nesting (Figure 4). Approximately twenty-six hours were necessary to move the bales around. Finally, the entire work area was plowed and disked. Thirty-and-a-half hours were spent plowing and 18 hours disking (Table 1). The inability to treat the additional 20 hectares due to poor conditions allowed staff to disk the entire 30 hectares that was treated. Disking increases root kill by exposing the roots of plants that may have started to re-germinate after plowing.

Table 1 Summary of activities conducted with respective number of hours.

Activity	Hours
Pumping	42
Mowing	64
Baling	31
Moving bales	25.5
Plowing	30.5
Disking	18
Total	211



Figure 4 Staff plowing (left), round bales stacked in platform (center), and disked area (right).

The enhancement project was completed by October 1st, 2005. No pumping was required to refill Unit 2b; large amounts of precipitation (rain and snow) from November through January re-flooded it naturally. Figure 5 shows the progression of the enhancement project through the seasons.



Figure 5 Corn Creek Unit 2b on July 20th, October 14th, November 22nd, 2005, and January 17th, 2006 (top left to bottom right).

WILDLIFE USE

No standardized wildlife surveys were conducted during the enhancement project. However, encounters and evidence of use were recorded during visits to the site.

Ungulates and other mammals

The unit was used extensively by ungulates from May to October. Large patches of yellow pond-lilies (*Nuphar lutea*) exposed on the mudflats created by the receding water attracted a cow moose (*Alces alces*) and its two calves (Figure 6) for several weeks in May and June. As well, fresh growth of wapato (*Sagittaria latifolia*) and common water plantain (*Alisma subcordatum*) drew white-tailed deer (*Odocoileus virginianus*), which were seen feeding on the plants throughout the project (Figure 7). Large numbers of elk (*Cervus elaphus*) tracks were also observed in the soft mud in many locations within Unit 2b.



Figure 6 Two calves moose foraging on yellow pond-lily, in Unit 2b, on May 3rd, 2005.



Figure 7 White-tailed deer foraging in Unit 2b. Wapato shown on left.

Coyotes (*Canis latrans*) were seen often in the drawdown area and left many more tracks behind. River otter (*Lutra canadensis*) and muskrats (*Ondatra zibethicus*), as well as raccoons (*Procyon lotor*) also left their prints in many locations.

Birds

Shallow water left in ditches and deeper grounds attracted shorebirds and dabblers. Four Lesser (*Tringa flavipes*) and two Greater Yellowlegs (*Tringa melanoleuca*) were observed foraging with two Spotted Sandpipers (*Actitis macularia*) along the ditch that was dug out at the northwest end of the unit, on July 25th (Figure 2). Killdeer (*Charadrius vociferus*) were seen foraging on the large extent of mudflats throughout the area for the duration of the project. Cinnamon (*Anas cyanoptera*) and Blue-winged Teal (*Anas discors*) as well as Mallard (*Anas platyrhynchos*) were observed in the shallow receding water from May to early July. As the unit started to refill in late September, large numbers of Canada Geese (*Branta canadensis*), Mallard and American Wigeon (*Anas americana*) staged and foraged in the shallow water of Unit 2b. Other bird species encountered on a regular basis in the units were Song Sparrow (*Melospiza melodia*), Red-winged Blackbird (*Agelaius phoeniceus*), Common Yellowthroat (*Geothlypis trichas*), Marsh Wren (*Cistothorus palustris*), and Great-blue Heron (*Ardea herodias*).

Finally, a pair of Sandhill Crane (*Grus canadensis*) (Figure 8) foraged in the drawdown area for at least a month before flying away for the winter. The cranes were seen on October 4th, 13th, November 2nd, and 9th.



Figure 8 Sandhill Cranes foraging in Unit 2b on November 2nd 2005.

Creston Valley Wildlife Management Area

Invertebrates

The exposed mudflats also attracted a wide variety of invertebrates. Butterflies and dragonflies used the area extensively from June through July. Pale swallowtails (*Papilio eurymedon*) were observed mud puddling in Unit 2b in late May (Figure 9). Twelve-spotted Skimmers (*Libellula pulchella*) and Common Whitetail (*L. lydia*) were frequently observed in July along low-lying areas that still retained water (Figure 9).



Figure 9 Pale swallowtails, Twelve-spotted Skimmer, and Common Whitetail (left to right) photographed in Unit 2b.

Reptiles and Amphibians

Very few reptiles and amphibians were observed in the enhancement area. A few Columbia spotted frogs (*Rana luteiventris*) were seen in May as water receded from the pond, and less than a dozen common (*Thamnophis sirtalis*) and Western terrestrial garter snakes (*T. elegans*) were encountered in dry areas in July and August (Figure 10).



Figure 10 Columbia spotted frog, common and Western terrestrial garter snake (left to right).

BENEFITS TO WILDLIFE AND THE COMMUNITY

As presented above, several species benefited from the exceptional short-term conditions (foraging especially) created during the enhancement project. However, it is too early to say what the longer benefits will be.

In terms of wildlife viewing, the attractive foraging conditions created in Corn Creek Unit 2b should have definitely increased opportunities for the visiting public. Unit 2b was within easy walking distance from the Wildlife Centre (less than 15 minutes) and was also visible from the 3-storey observation tower located just west of the unit. It was a rare occasion for the public to witness and familiarize itself with the techniques used in wetland management. Wildlife viewing opportunities for the public should remain high for the next five to ten years.