

Remediation of a Former Unofficial Dumpsite – Wilmer Marsh Unit Columbia National Wildlife Area



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global **environmental** and **advisory** solutions



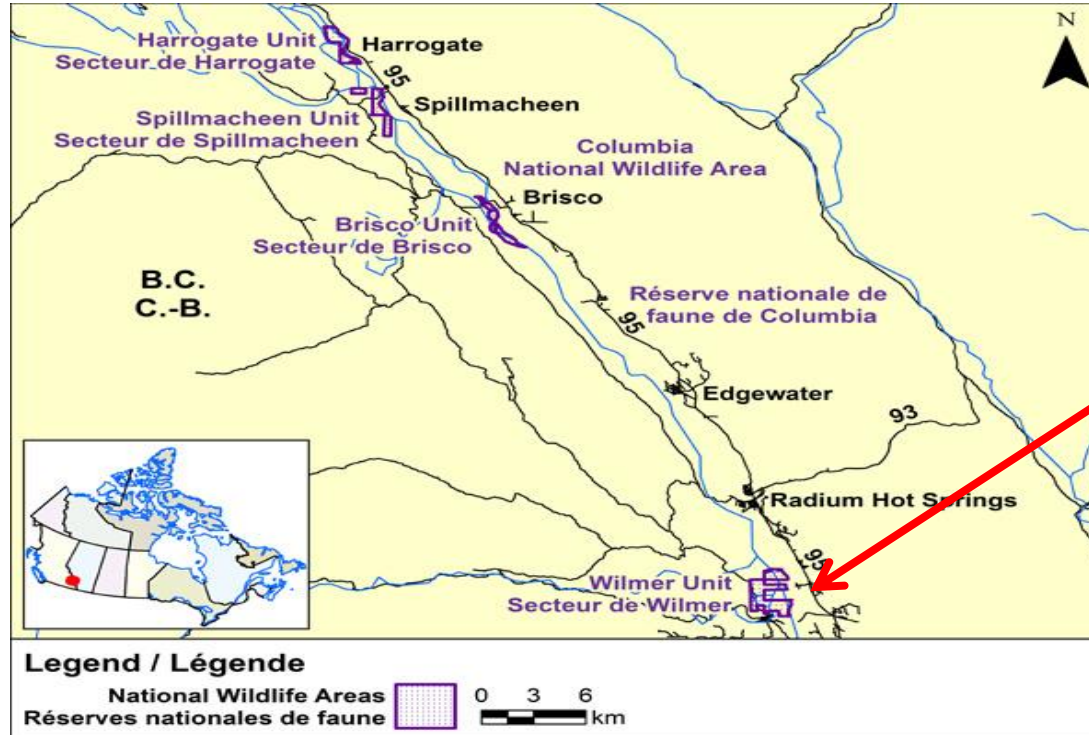
Unique Site

Columbia National Wildlife Area – Wilmer Unit



Background – Site Location and History

Wilmer Marsh Unit, Columbia NWA



Background – Site Location and History

Wilmer Marsh Unit, Columbia NWA



Background – Reason for Remedial Action



Background – Reason for Remedial Action



Background – Reason for Remedial Action



Background – Reason for Remedial Action

- Decades of illegal dumping, both on the uplands and in the marsh below have resulted in soil, sediment and surface water contamination (primarily metals) above the applicable CCME standards
- Environmental work commenced in 2002-2003 – assessment of soil, sediment, and surface water.
- Follow up assessments between 2003-2006 and 2009/2010 around identified dumping areas and visual debris.
- Remedial planning conducted 2009-2013 to determine areas of importance and least invasive.
- Debris removed:
 - 2010 (upper slopes)
 - 2011 (marsh)
 - 2012 (upper slopes and gullies)
 - 2015 (marsh and upper slopes/trail)
 - 2017 (upper slopes/trail)

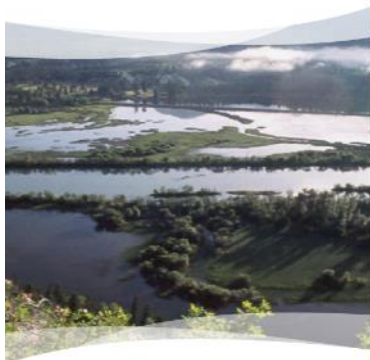
Background – The Cleanup



Background – The Cleanup



COLUMBIA NATIONAL WILDLIFE AREA



Columbia National Wildlife Area

What makes Columbia NWA so special?

Columbia National Wildlife Area (NWA) is situated in the southern part of British Columbia's spectacular Rocky Mountain Trench. The Columbia River and its extensive wetlands provide important staging and breeding habitats for waterfowl and migratory birds of the Pacific flyway, as well as homes for many other wetland-dependent wildlife, fish and plant species. Established between 1978 and 1984, the four units in the NWA—Wilmer, Spillimacheen, Brisco and Harrogate—protect 1001 hectares of wildlife habitat for

- over 250 bird species including **Trumpeter** and **Tundra Swans**;
- 17 mammal species including the endangered **American Badger**;

- 6 species at risk such as **Lewis's Woodpecker** and 4 rare plant communities.

Columbia NWA also contributes to protecting the Columbia Wetlands Ramsar site, recognized as a wetland ecosystem of international importance.

What are Environment Canada Protected Areas?

Environment Canada establishes marine and terrestrial NWAs for the purposes of conservation, research and interpretation. NWAs are established to protect migratory birds, species at risk, and other wildlife and their habitats. NWAs are established under the authority of the

Canada Wildlife Act and are, first and foremost, places for wildlife. Migratory Bird Sanctuaries (MBSs) are established under the authority of the *Migratory Birds Convention Act 1994*, and provide a refuge for migratory birds in marine and terrestrial environments. The current Protected Areas Network consists of 54 NWAs and 92 MBSs comprising more than 12 million hectares across Canada.

What can I do at Columbia NWA?

Some seasonal activities such as hiking, canoeing and wildlife viewing are permitted. Some other types of activities may be allowed, although additional federal or provincial permits may be required. More information on access and permitting for Columbia NWA can be obtained by contacting the Environment Canada regional office.



Lewis's Woodpecker



Raccoon Shrew

Who can I contact?

Environment Canada – Pacific and Yukon Region
Canadian Wildlife Service
5421 Robertson Road
Delta, British Columbia V4K 3N2
1-800-668-6767
email: enviroinfo@ec.gc.ca
www.ec.gc.ca/pn-pa/

Where is Columbia NWA?



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Project and Site Challenges

- CWS permits are required prior to project work commencement
- Any backfills must be sourced locally
- Only natural materials can be used onsite
- Native CWS approved seeding only – no other matrix
- Protection of remaining native vegetation communities
- Wildlife timing restrictions

- Ice conditions for work at the marsh
- Use of helicopters and spider hoes and other approved equipment
- Steep slopes for equipment use and for excavation/restoration – steep gully sidewalls of 70-90%
- Powdery glaciolacustrine deposits
- Erosion control
- Limited staging area along Westside Road – no equipment staging on site





















Restoration











March 2017







2011



2017

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Thank You