

Site Restoration of a Remediation Excavation in a Sensitive Setting, Columbia National Wildlife Area - An Update

RemTech 2022

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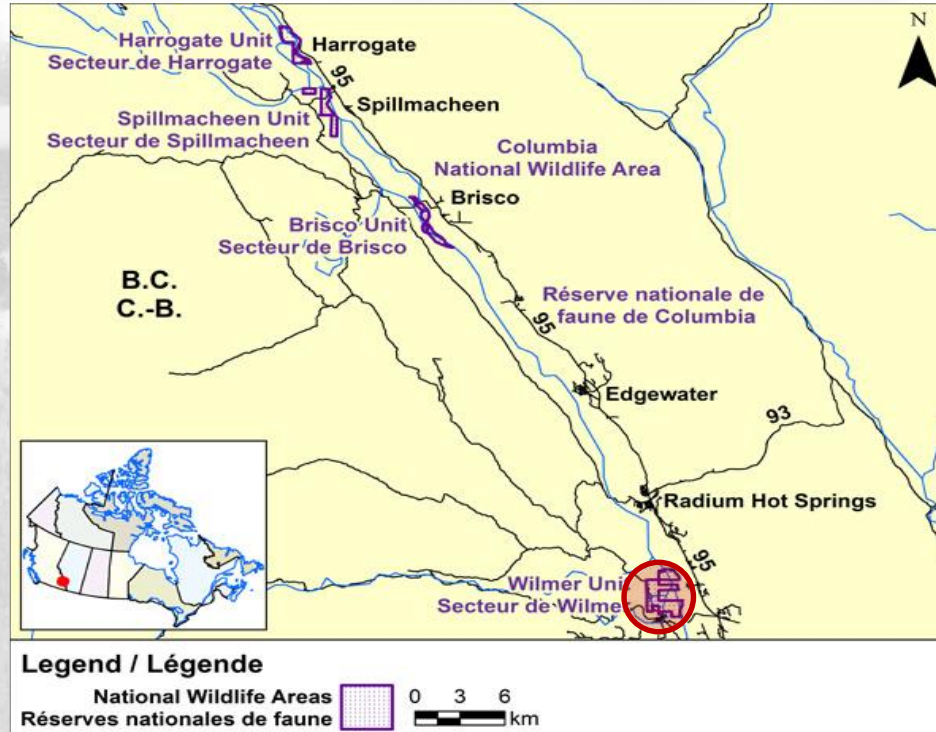


Overview

- Site History & Location
- Previous Environmental Work
- 2017 Remediation Summary
- Post-Remediation Site Restoration

Background-Site Location & History

Wilmer Marsh Unit, Columbia NWA



So Why Is This Site So Special?



COLUMBIA NATIONAL WILDLIFE AREA



Canada



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.



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/ap-pa/

Where is Columbia NWA?



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Environment Canada's Inquiry Centre at 1-800-668-6767
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landscape photos (cover and centre) © B. Hammond,
Lewis's Woodpecker © Thinkstockphotos.ca
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Wilmer Marsh Unit, Columbia NWA



Reason for Remedial Action



The entire 50m marsh shoreline comprised mostly garbage



Removing Car Bodies



Summary of Previous Work Completed by SLR



2017 Remediation Summary

The 2017 Remedial Area...

Project & Site Challenges...

- CWS permits are required prior to project work commencement
- Any backfill must be sourced from the Wilmer unit
- Only natural materials can be used onsite
- Precautions required to avoid introduction of invasive vegetation species
- Protection of remaining native vegetation communities
- Wildlife timing restrictions
- Steep slopes for equipment use and for excavation/restoration – steep gully sidewalls of 70-90%
- Geotechnically unstable soils

Excavation Challenges













Expect the Unexpected



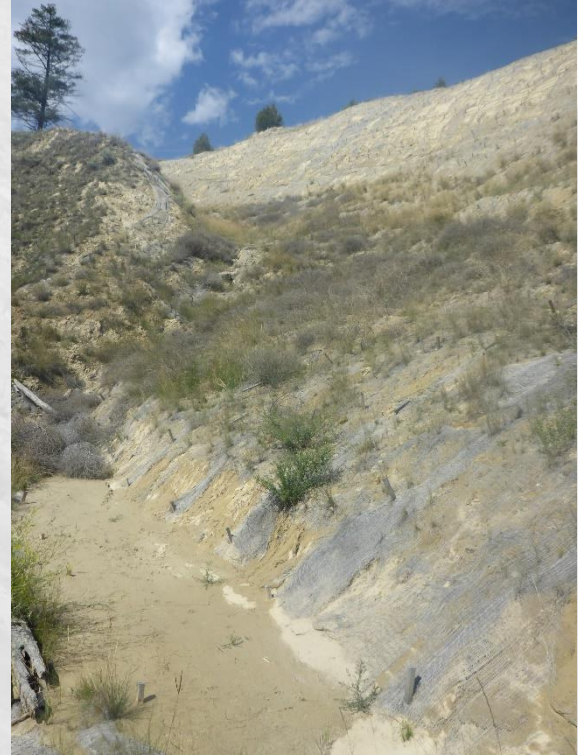
Post Remediation Site Restoration





March 2017

A Slide for Seeds



Vegetation – Adaptive Management



Grass Plug Planting



Grass Plug Planting



Grass Plug Planting



Reinforcing Slope Stability





2020



2021



2022



Thank You!

Questions?

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