

<p>ESTIMATES NOTE (2020)</p> <p>Confidential</p> <p>Ministry of Environment and Climate Change Strategy</p> <p>Date: February 11, 2020</p>	<p>Wetlands</p>
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KEY FACTS

Wetlands in BC

- Wetlands include various types of water-retaining ecosystems such as bogs, fens, marshes, swamps, shallow water ponds, and estuaries.
- British Columbia's wetlands are relatively rare on the landscape. They currently comprise around 5.28 million hectares (13.047 million acres), or approximately 7% of the province. These wetlands provide critical habitat for fish, birds and other wildlife, they are a water source for human communities, and play a key role in flood-mitigation, nutrient-cycling, and resilience against climate change.
- Wetlands in British Columbia (B.C.) are home to 161 species and 60 ecological communities at risk. Example of species on the Provincial Red List include the Painted Turtle, the Oregon Spotted Frog, Familiar Bluet (a damselfly), and Ute lady's tresses (a rare orchid). Examples of ecological communities on the Provincial Red List include Trembling Aspen / Pacific Crab Apple / Slough Sedge and Tufted Hairgrass communities.
- In the South Okanagan, 5 to 10 hectares are lost every year out of about 800 remaining hectares of significant wetland. Other losses in BC include up to 90% of the original wetlands in the Fraser River delta, 70% of wetlands in the Victoria region, and 85% of natural wetlands in the South Okanagan.ⁱ

Wetlands under the *Water Sustainability Act (WSA)*

- The definition of “stream” under the WSA was expanded from the former *Water Act*, which only included a “swamp”, to *explicitly* include wetlands.
- The definition of wetland was elaborated to include specific wetland types: swamp, marsh and fen.
- The WSA also created authority to add an additional feature/landscape type to the definition of wetland by regulation.
- The WSA also enables government to make a temporary protection order during times of scarcity to protect not only fish, but also aquatic ecosystems which include the natural environment of the stream (including wetland), vegetation, fish, wildlife and other living organisms.

- Because a wetland falls within the definition of a “stream” all the powers and authorities to protect streams can also be used to protect wetlands. These include, in general (but not exhaustive):
 - s. 6 WSA which requires an authorization to divert water from a wetland
 - s. 11 WSA which requires change approval to make a change in or about a stream, for example infilling or construction in a wetland
 - s. 46 WSA which prohibits deposit of refuse or waste into a wetland
 - s. 93 WSA creates authority for government to order removal / remediation of unauthorized construction or infilling of a wetland
- [Schedule 2, Violation Ticket Administration and Fines Regulation](#) under the *Offence Act* lists the WSA related penalties for ticketable offences (specified under s. 106 WSA).

Examples:

- unlawful diversion of water (s. 6 WSA) or changes in and about a stream, including a wetland (s. 11 WSA) can lead to a Violation Ticket of \$230.
- Deposit of foreign matter in a stream (s. 46 WSA) Violation Ticket of \$403.
- S. 106 WSA provides that on conviction and if not a continuing offence, a fine not more than \$200,000 or imprisonment of no longer than 6 months can be imposed for the aforementioned violations. In the case of a continuing offence, a fine of not more than \$200 000 for each day the offence is continued or imprisonment for not longer than 6 months, or both can be imposed.
- s. 107 WSA high penalty offences include constructing placing or making use of an obstruction such as a dam in a stream (including wetland) and failure to comply with a remediation order in relation to removing foreign matter in a stream. A conviction for a high penalty offence can bring a penalty of a fine up to \$1 million or imprisonment up to one year, or both. For a continuing offence, this penalty can be imposed for each day the offence continues.
- s. 108 WSA includes a power for a court to increase a fine imposed on the person by the amount equal to the court's estimation of the monetary benefit realized by the commission of the offence.

Wetland Mapping & Protections

- Currently ENV manages Ecosystem Mapping data that is capable of supporting a comprehensive wetland inventory, but coverage is patchy, encompassing approximately 65% of the land base.
- ENV in partnership with the BC Hydro's Fish and Wildlife Compensation Program, has initiated a wetland inventory mapping project covering 7 million hectares in the Peace Region. This mapping is supported by 14,699 individual wetland related data points.

- An interactive web mapping application is under development with all project data and scripts available through open source tools and platforms to facilitate transparency, information sharing, and collaboration.

Wetland Monitoring

- A Provincial Wetland Protocol (Field Supplement to Evaluating the Health of Wetlands: Wetland Management Routine Effectiveness Evaluation) was published by FLNR (Forest & Range Effectiveness Program/FREP) in February 2019. This is a coarse-level filter for assessing and monitoring the health of wetlands in a cost-effective manner.

Contact: David Tesch, Executive Director
ESSPD, Phone #: 778 698-4406

Anthony Danks, Executive Director
ESSPD, Phone #778-698-4409

Ted Zimmerman, Executive Director
ESSPD, Phone #778-257-2578

ⁱ Wetland Stewardship Partnership (2010). A Wetland Action Plan for British Columbia. March 2010. Available: https://bcwetlandscs.files.wordpress.com/2016/11/bcwetlandactionplan_wsp_2010.pdf

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INTERNAL DRAFT (keep this version for references / sources. Final version is 2 pp total.

KEY FACTS

Wetlands in B.C.

- Wetlands currently comprise around 5.28 million hectares, or 13.047 million acres, or approximately **five percent of the provincial land base** ¹.
- Wetlands are relatively uncommon ecosystems in B.C. yet play an **integral role for nature and communities**. Wetlands provide and filter water, mitigate floods, sequester carbon, and support biodiversity.
- Wetlands have been declining** in B.C. (and elsewhere) since the early 1900s. Regions of notable wetlands loss include the **South Okanagan, Fraser River delta, and Greater Victoria**.

Wetlands biodiversity and species at risk

- Many provincial red and blue listed species are wetland dependent.** Wetlands provide essential habitat for about 170 species and 61 ecological communities at risk.
 - Example **red-listed species that rely on wetlands** are the Painted Turtle, Oregon Spotted Frog, Nelson's Sparrow, and Southern Maidenhair Fern.
 - Two example **red-listed wetland ecological communities** are Western redcedar—Slough Sedge, and Tufted Hairgrass.
- Work is under way toward **updating existing lists of species at risk** under the *Forest and Range Practices Act* and *Oil and Gas Activities Act* that will help protect wetland habitat for some wetland-dependent species.
- As part of government **COVID economic stimulus package**, over \$37 million have been dedicated to species, ecosystems, and watershed restoration and conservation projects.
 - More than **\$5 million** have been dedicated to **wetland restoration, creation, and enhancement** projects.
 - This directly supports our **Clean BC and climate adaptation initiatives**.

Contact: Alec Dale, Executive Director, Ecosystems Branch

¹ Wetlands Stewardship Partnership. 2010. A Wetland Action Plan for British Columbia. Multi-agency report prepared March 2010. Saved to I:\Ecosystems\Ecosystems Conservation\Wetlands

Commented [MME1]: From provincial website and no new info since early 2000's and in A Wetland Action Plan for British Columbia (see footnote).

Commented [MME2]: Based on total land base of 95m ha / 234 m ha.

Commented [MME3]: Based on BCSEE extract 30 March 21. Searched on R + B and habitat types = wetlands + stream/river + springs because WSA definition of stream includes wetlands, and because springs are wetlands. Excluded to pops of bison + sturgeon.

Commented [MME4]: Based on BCSEE extract 30 March 2021. Included R+B in wetland realm.

Environmental Sustainability Division, 778 698-4384

Wetland Mapping

- ENV manages an **ecosystem mapping database** capable of supporting a comprehensive wetland inventory. Coverage is patchy and encompasses approximately 65% of the land base.
- ENV in partnership with the BC Hydro's Fish and Wildlife Compensation Program completed a **wetland inventory mapping** project covering 7.2 million hectares in the **Peace Region**. This mapping is supported by 14,699 wetland related data points that filled gaps where data was deficient.
- An **interactive wetland web mapping application** has been published with all data and scripts available through open source tools and platforms to facilitate transparency, information sharing, and collaboration.

Contact: David Tesch, Executive Director, Knowledge Management Branch
Environmental Sustainability Division (ESD), 778 698-4406

Wetland Monitoring

- A **Provincial Wetland Protocol** (Field Supplement to Evaluating the Health of Wetlands: Wetland Management Routine Effectiveness Evaluation) was published by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development's **Forest & Range Effectiveness Program** in February 2019. This is a coarse-level filter for assessing and **monitoring the health of wetlands** in a cost-effective manner.

Contact: Matthew LeRoy, Director, Resource Planning and Assessment Branch
Forests, Lands and Natural Resource Operations and Rural
Development, 778 974-2405

Wetlands under the Water Sustainability Act (WSA)

- The definition of "stream" under the WSA *explicitly* includes wetlands.
- The WSA definition of wetland includes swamp, marsh, fen or a prescribed feature.
- The inclusion of "a prescribed feature" establishes the authority to add an additional feature/landscape type to the definition of wetland by regulation.
- The WSA also enables government to make a temporary protection order during times of scarcity to protect the natural environment of the stream, including wetland, vegetation, fish, wildlife and other living organisms.
- Because a wetland falls within the definition of a "stream" all the powers and authorities to protect streams can also be used to protect wetlands. These include, in general but not exhaustive:
 - s. 6 WSA which requires an authorization to divert water from a wetland;
 - s. 11 WSA which requires change approval to make a change in or about a stream, for example infilling or construction in a wetland;

Commented [MME5]: Approved by David Tesch 1 April 2021

Commented [MME6]: • From Deepa: there is also the Freshwater atlas maps wetlands as polygons but no meaningful info. Defined as non-treed wetlands, not rocky, doesn't do well in alpine or grasslands, done in 80s & 90s (forestry), doesn't capture shallow open water or swamp.

Commented [MME7]: Waiting for final approval from Matt LeRoy.

Commented [MME8]: Approved by WPSB ED via Julia Berardinucci 1 April 2021.

- s. 46 WSA which prohibits deposit of refuse or waste into a wetland; and,
- s. 93 WSA creates authority for government to order removal / remediation of unauthorized construction or infilling of a wetland.

Contact: Julia Berardinucci, Director, Water Strategies and Conservation, ESD,
(778) 698-4061

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KEY FACTS

Wetlands in B.C.

- Wetlands currently comprise around 5.28 million hectares, or 13.047 million acres, or approximately **five percent of the provincial land base**.
- Wetlands are relatively uncommon ecosystems in B.C. yet play an **integral role for nature and communities**. Wetlands provide and filter water, mitigate floods, sequester carbon, and support biodiversity.
- **Wetlands have been declining** in B.C. (and elsewhere) since the early 1900s. Regions of notable wetlands loss include the **South Okanagan, Fraser River delta**, and **Greater Victoria**.

Wetlands biodiversity and species at risk

- **Many provincial red and blue listed species are wetland dependent.** Wetlands provide essential habitat for about 170 species and 61 ecological communities at risk.
 - Example **red-listed species that rely on wetlands** are the Painted Turtle, Oregon Spotted Frog, Nelson's Sparrow, and Southern Maidenhair Fern. Two example **red-listed wetland ecological communities** are Western redcedar—Slough Sedge, and Tufted Hairgrass.
- Work is under way toward **updating existing lists of species at risk** under the *Forest and Range Practices Act* and *Oil and Gas Activities Act* that will help protect wetland habitat for some wetland-dependent species.
- As part of government **COVID economic stimulus package**, over \$37 million have been dedicated to species, ecosystems, and watershed restoration and conservation projects.
 - More than **\$5 million** have been dedicated **to wetland restoration, creation, and enhancement** projects.
 - This directly supports our **Clean BC and climate adaptation initiatives**.

Contact: Alec Dale, Executive Director, Ecosystems Branch
Environmental Sustainability Division, 778 698-4384

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Contact: David Tesch, Executive Director, Knowledge Management Branch
Environmental Sustainability Division, 778 698-4406

Wetland Monitoring <not yet approved by at Director level but info has been published elsewhere and repeated in previous years' notes>

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(778) 698-4061

Estimates note: Wetland bullets

From: Dolhaine, Daphne ENV:EX <Daphne.Dolhaine@gov.bc.ca>
To: LeRoy, Matthew FLNR:EX <Matthew.LeRoy@gov.bc.ca>
Cc: McCoy, Marian ENV:EX <Marian.McCoy@gov.bc.ca>
Sent: April 6, 2021 10:37:16 AM PDT
Attachments: 7_Wetlands_Estimates 2021_DRAFT_clean.docx

Hi Matt,

We have been asked to prepare an estimates note on wetlands.

We would like to include info about FLNRORD work.

Could you review the attached bullets relevant to your shop?

Thanks,

Daphne Dolhaine

Director, Biodiversity Assessment

Ecosystems Branch

Ministry of Environment and Climate Change Strategy

778 698 4909

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