Consolidated Wetland Data Summary Report 2026

Integrated Data and Analysis Services Branch
Ministry of Water, Land and Resource Stewardship

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Revisions

Important revisions, such as changes in project roles, people, procedures, or budget revisions shall be recorded below. Likewise, approvals of the document should be recorded below. Change the version number each time the document undergoes such a revision. If the change is a significant overhaul or published version, change the numeral (e.g., V1.0, 2.0, 3.0 etc. Otherwise, assign a new decimal number (1.1, 1.2, 1.3 …). Minor changes that do not change the intent of a section (e.g., spelling, grammar, general tweaking) do not require recording or changing the version number.

This document will be reviewed and revised, if necessary, on an annual basis.

Table 1.1. Record of Revisions.

Version	Date (DD MMM YY)	Description of Change
1.0	23 Feb 26	Document created
1.0	13 Mar 26	Document review, edit, and publication

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1 Introduction

Two consolidated wetlands datasets were created to improve access and understanding of available wetland spatial data in British Columbia, Canada (BC), **Consolidated Wetlands – Polygons** and **Consolidated Wetlands – Points**. They bring together identified wetlands from multiple sources improving access to wetland data and reducing duplication of effort to compile and interpret wetland data. This project was initiated under the 5-year Nature Smart Climate Solutions contribution agreement between Environment and Climate Change Canada (ECCC) and the British Columbia (BC) Ministry of Water, Land and Resource Stewardship (WLRS) titled **BC Wetlands Inventory, Policy and Education**.

These layers are a step towards improved data systems to support wetland policy and literacy. This includes informing the design and development of robust and enduring data processes and databases; informing the development of data standards, templates, and tools to facilitate standardized collection of new data; and, to provide a centralized wetland spatial data holding which may be used by qualified wetland professionals, decision makers, and data modellers.

The consolidated wetland datasets are dynamic and may be updated as new information becomes available. While early versions were prepared for internal review and testing, the current version 3 (v3) represents the inaugural publication and contains more than 1,200,000 wetlands polygons and more than 7,000 wetland point observations. **Consolidated Wetlands – Polygons** contains overlapping polygons where wetlands have been identified by multiple sources; this requires careful consideration for each use case and may result in erroneous results if not appropriately managed. This report presents a summary of the wetland data compilation methodology and accompanies v3 publication which may be accessed through the BC Data Catalog at the following links: Consolidated Wetlands - Points, Consolidated Wetlands - Polygons.

1.1 Scope and Objectives

Wetland data compilation and consolidation include tasks related to the identification, acquisition, evaluation, and consolidation of wetland spatial data into a harmonized schema. Broad scope, resourcing, and data complexity place limitations on the volume of material that was considered, highlighting the need for a targeted scope, data source prioritization, and a continuous update cycle. The objectives include:

- Identify and explore available wetland spatial data sources,
- Acquire wetland datasets,
- Review and evaluate data sources using consistent processes and standardized documentation,
- Prioritize data sources for inclusion,
- Extract wetland related records,

- Create harmonized schema for wetland attributes and develop cross-walk relationships where appropriate, and
- Create data dictionaries of wetland data fields and attributes.

2 Methodology

Creation of the consolidated wetland datasets was accomplished through 5 main tasks: Data Exploration and Acquisition, Data Evaluation and Prioritization, Wetland Record Extraction, Schema Development, and Data Loading and Cross-walking. As discussed above, the current version 3 represents the initial publication of the **Consolidated Wetlands – Polygons** and **Consolidated Wetlands – Points**, but two earlier versions were prepared for internal review and testing with fewer wetland records and data sources. Methods and findings described in this report focus on v3 but are also applicable to versions 1 and 2.

The initial step to create the consolidated wetland datasets was to identify and acquire available wetland datasets for BC. Search criteria were kept broad to capture datasets with potentially useful wetland spatial information. A wide range of data sources were considered, ranging from targeted wetland mapping projects to mapping and inventory datasets containing some wetland information, but in which wetland mapping was not a primary objective. Not all acquired wetland data sources were integrated into the consolidated wetland datasets, but these may be included in future versions. Datasets selected for consolidation are listed and described in Table 3.1 (points) and Table 3.2 (polygons).

The datasets were reviewed and assessed for accuracy, completeness, and suitability for inclusion. Datasets were systematically evaluated according to: (1) presence of spatial wetland or wetland-related information; (2) applicability and consistency of wetlands attribution for identification and cross-walking; (3) spatial resolution and accuracy of wetlands mapping; and (4) data ownership and licensing. This information was used to prioritize datasets for consolidation, and future versions may include lower priority data sources that were not included in version 3.

The consolidated wetland schema was developed in consultation with members of the Inter Ministry Wetland Working Group to identify the key attributes deemed important for various user groups. These attribute themes are listed in Table 2.1, however only a subset of the identified attributes were included for version 3. The included attributes were used to create point and polygon feature class templates.

Wetland records from the prioritized datasets were then extracted using customized queries and loaded into the **Consolidated Wetlands – Polygons** and **Consolidated Wetlands – Points** feature class templates. Where feasible, cleanup and code cross-walking was completed using scripted procedures in Python and the GIS software Esri ArcGIS. Not all source datasets contain all attributes, and missing information reflects gaps in the source data.

Table 2.1. Summary of dataset attributes identified as important when considering wetland data, along with the decision to include or exclude these attributes in **Consolidated Wetlands – Points** or **Consolidated Wetlands - Polygons**.

Decision	Attribute Theme	Attribute Example
Included for Version 3	Identification	• Wetland (Yes/Potential) • Percent wetland area of polygon
	Characterization	• Hydric soils • Hydrophytic vegetation • Hydrology • Kind
	Classification	• Land Management Handbook (LMH) 52 • Biogeoclimatic Ecosystem Classification (BEC) v12 • Canadian National Wetland Inventory (CNWI) Class • Hydrogeomorphic system • Forestry Riparian Class • Realm/Group/Class • Ecological community
	Condition	• Health - FREP
	Metadata	• Dates • Unique IDs • Linking keys • Spatial accuracy • Source method and information • Comments • Quality considerations
Excluded	Restoration / Monitoring	• Restoration or monitoring sites • Infrastructure or treatments
	Wildlife / Fish	• Wildlife observations • Fish observations • Wildlife features (e.g., beaver dams)
	Carbon	• Soil lab analysis • Peat depth • Above ground vegetation
	Condition	• Function - WESP scores • Health – Range (Cows & Fish) • State – Conservation Data Centre
	Permitting / Assessments	• Application information or status • Ecosystem or wildlife observations
	Impact	• Cumulative Effects • Invasive or At-Risk Species

3 Consolidated Wetland Layer

3.1 Consolidated Wetland - Points

The **Consolidated Wetlands – Points** layer v3 contains more than 7,000 wetland records in BC. These points represent discrete wetland or wetland-related feature occurrences from multiple sources. The full list of point datasets, sources, wetland data descriptions are provided in Table 3.1. Wetland data relevance summarizes of the kinds of wetland information contained in each source, and provides justification for why each was included.

3.2 Consolidated Wetland - Polygons

The **Consolidated Wetlands – Polygons** layer v3 contains more than 1,200,000 wetland records in BC. The polygons represent areas of wetland or wetland-related features collected at differing scales and precision from multiple sources. It is important to note the following key properties of the polygon dataset:

1. **Ecosystem-complex polygons are included** – Polygons sourced from BC Terrestrial Ecosystem Inventory System (TEIS) are characterized by up to three unique ecosystem components that are assigned a decile (percentage) of the feature. In other words, the area within the polygon contains a mix of different ecosystem types, including wetlands. Consolidated polygons from this source contain a minimum of 10% wetland ecosystem by area. For polygons containing less than 100% wetland, the location of wetland ecosystems within a complex polygon cannot be precisely determined from geometry alone. Non-wetland ecosystem components are also included for these records to provide the full ecosystem context for a given polygon.
2. **Overlapping polygons are included** – The consolidation dataset contains overlapping polygons and does not represent a seamless surface. Given the data included in the **Consolidated Wetlands – polygons** were created for different purposes and project goals, it is difficult to determine which polygons should take priority over others. As a result, polygons must be evaluated individually (rather than by source), and this is often a time-consuming process. A benefit of retaining overlapping polygons is that overlapping areas (and the lack thereof) can indicate where multiple sources agree or disagree on wetland presence. Agreement and disagreement between sources can provide an inference on the level of confidence in wetland data. Wetlands identified from different sources may have different boundaries and attributes.

The full list of polygon datasets, sources, and wetland data descriptions are provided in Table 3.2. Wetland data relevance summarizes of the kinds of wetland information contained in each source, and provides justification for why each was included.

Table 3.1. Consolidated wetland layer point source dataset information.

Data Group	Theme	Source URL	Wetland Data Relevance
Canadian National Wetland Inventory (CNWI) BC Supplement v13	Wetlands	https://catalogue.data.gov.bc.ca/dataset/canadian-national-wetland-inventory-cnwi-bc-supplement	CNWI is a national initiative to compile, process, and publish the best available wetland mapping and field data throughout Canada. The CNWI BC Supplement is an amalgamated dataset that includes ass CNWI national data within BC as well as additional BC-specific fields and domains to capture attributes and categories described in various BC classification systems. The majority of records were collected in wetland ecosystems and contain ecosystem codes as described in the LMH 52.
BC Soil Information System (BCSIS)	Soils	https://www.env.gov.bc.ca/esd/distdata/ecosystems/Soil_Data/BCSIS/Readme.htm	BCSIS is composed of soil point data that can be used to identify potential wetlands on a site level using soil order (e.g., Organic [excluding Folisols], Gleysolic, and Cryosolic [excluding static Cryosols]). Attributes including Drainage may be used to support wetland interpretations. Where records are fully populated, BCSIS points contain most of the attributes required for hydric soil identification. Extracted records include common wetland soils, but do not indicate whether wetland vegetation or hydrology is present. These records have the potential to be wetland ecosystems. Other attributes recorded at the horizon level were not included.
Forest and Range Evaluation Program (FREP)	Wetlands	https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring/forest-range-evaluation-program	FREP supports the principles in the Forest and Range Practices Act (FRPA) by evaluating and monitoring 11 resource values. Wetlands are not one of the 11 resource values, however, wetland data are collected opportunistically and are included as part of the "fish/riparian monitoring" resource value. The wetland subset contains records occurring in wetland ecosystems and contain ecosystem codes as described in the LMH 52.
BC Wildlife Federation (BCWF) Wetland Ecosystem	Wetlands	https://bcwfwatershedteam.ca/wetland-ecosystem-services-protocol/	WESP provides a standard method for assessing the function and value of wetlands. The goal is to build a catalogue of wetlands to identify those that are highly productive or require protection and/or restoration. The dataset contains field plot data collected in BC, and includes many attributes related to wetland characterization and condition. All associated records were

Services Protocol (WESP)			collected in wetland ecosystems, but contain limited information that may be cross-walked to the schema.
Atlin Wetland Field Plots	Wetlands	N/A	Atlin Wetland Field Plots were collected near Atlin, BC during the 2023 and 2024 field seasons. Field plots were collected in wetland ecosystems using standard Ecosystem Field Forms, and contain relevant site, vegetation, and soils information. All associated records were collected in wetland ecosystems and contain ecosystem codes as described in the LMH 52.
Kootenay Boundary nBEC	Ecosystems	Data (BAPID 6651) can be requested by emailing TEI_mail@gov.bc.ca	Kootenay Boundary nBEC includes field plots collected in the Kootenay Boundary region for the provincial predictive ecosystem mapping methods project.

Table 3.2. Consolidated wetland layer polygon source dataset information.

Data Group	Theme	Source URL	Wetland Data Relevance
Freshwater Atlas (FWA) – Wetlands	Wetlands	https://www2.gov.bc.ca/gov/content/data/geographic-data-services/topographic-data/freshwater	FWA is a standardized dataset containing mapping of BC's hydrological features. FWA Wetlands contains polygons of wetland ecosystems, and is generally considered the BC Government's best available provincial coverage of wetland data. All associated records were classified as wetland ecosystems. Wetland class recorded as swamp or marsh is purely for cartographic purposes and therefore does not reflect wetland classification as defined in LMH 52. For this reason, the class attribute was not retained. This data source is suitable for identifying wetland presence only.
Freshwater Atlas (FWA) – Lakes	Lakes	https://www2.gov.bc.ca/gov/content/data/geographic-data-services/topographic-data/freshwater	FWA is a standardized dataset containing mapping of BC's hydrological features. FWA Lakes contains polygons of water bodies which includes shallow open water wetlands. Additionally, as identified during imagery-based review, many lake polygons or portions of lake polygons could be better classified as wetland ecosystems, including swamps, marshes, bogs, and fens. All records have been classified as potential wetland ecosystems to avoid excluding wetlands.
Terrestrial Ecosystem Information (TEI) – Operational v11	Ecosystems	https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/ecosystems/search-ecosystem-info	TEI Operational data include a large number of ecosystem, terrain, and soils mapping projects completed at multiple scales and for varying purposes. Polygons containing at least one wetland ecosystem component can be used to identify wetlands in BC. Additional attributes such as drainage and soil type may attributed for further analysis.
Canadian National Wetland Inventory (CNWI) BC v13	Wetlands	https://catalogue.data.gov.bc.ca/dataset/canadian-national-wetland-inventory-cnwi-bc-supplement	CNWI is a national initiative to compile, process, and publish the best available wetland mapping and field data throughout Canada. The CNWI-BC is an amalgamated dataset that includes CNWI national data within BC as well as additional BC-specific fields and domains to capture attributes and categories described in various BC classification systems. Records were classified as either wetland or potential wetland based on source attribution.
Columbia Wetlands Stewardship	Wetlands	https://wetlandstewards.eco/resources/reports/	CWSP provided vegetation mapping of the Columbia Valley, focussing on mapping floodplain and wetland units between Donald and Canal Flats, BC. Records that were classified as either Marsh, Swamp, or Shallow Water were considered wetland ecosystems.

Data Group	Theme	Source URL	Wetland Data Relevance
Partnership (CWSP)			
Slocan Wetland Assessment Monitoring Project (SWAMP) 2016 SEI	Wetlands	https://slocanlakess.com/swamp/	SWAMP's purpose is to map, assess, and monitor existing wetlands in the Slocan Valley Watershed. The mapping focusses on digitizing ecosystem polygons typically in valley bottom settings and may contain at least one wetland ecosystem component. Records were classified as either wetlands or potential wetlands based on source attribution.
Slocan Wetland Assessment Monitoring Project (SWAMP) 2018 Bonanza SEI	Wetlands	https://slocanlakess.com/swamp/	SWAMP's purpose is to map, assess, and monitor existing wetlands in the Slocan Valley Watershed. The mapping was completed near Slocan Lake, BC and includes polygons that may contain at least one wetland ecosystem component. This dataset has a number of duplicated records from SWAMP 2016. Records were classified as either wetlands or potential wetlands based on source attribution.
Nature Conservancy of Canada (NCC) - Darkwoods 2009 Mapping	Wetlands	https://natureconservancy.ca/	NCC is a land conservation organization who regularly collect data in wetland ecosystems.
Nature Conservancy of Canada (NCC) - Darkwoods 2009 SEI	Wetlands	https://natureconservancy.ca/	NCC is a land conservation organization who regularly collect data in wetland ecosystems. This dataset contains an extraction of SEI mapping focussed on swamp, marsh, and floodplain ecosystems.
Nature Conservancy of	Wetlands	https://natureconservancy.ca/	NCC is a land conservation organization who regularly collect data in wetland ecosystems. This dataset contains an assortment of wetland polygons that have been either directly surveyed in the field, or digitized at a desktop level from available imagery.

Data Group	Theme	Source URL	Wetland Data Relevance
Canada (NCC) - Wetlands			
Metro Vancouver SEI 2020	Ecosystems	https://open-data-portal-metrovancouver.hub.arcgis.com/datasets/fab5a4439b0a4a6bb902daccdb591b63_2	Metro Vancouver SEI maps sensitive ecosystems in and around Vancouver, BC. The data follow provincial SEI standards, and may contain at least one wetland ecosystem component.
Metro Vancouver TEM (2025)	Ecosystems	https://open-data-portal-metrovancouver.hub.arcgis.com/datasets/fd0b86db89704204b095316bf77086d5_0	Metro Vancouver TEM maps ecosystems in and around Vancouver, BC. The data follow provincial TEM standards, and may contain at least one wetland ecosystem component.
Vegetation Resource Inventory (VRI) – 2024 COMP POLY	Ecosystems	https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-inventory/data-management-and-access/vri-data-standards	VRI is a Ministry of Forests program intended to characterize and monitor forest ecosystems for economic prosperity and environmental sustainability. While the focus of VRI is on upland forest ecosystems, the database also contains polygons for wetlands, riparian areas, and water bodies. VRI incorporates FWA wetland and waterbody polygons, and may leave the original FWA polygons unchanged, adjust the boundaries to better align with landforms (i.e., accuracy is improved), or convert polygons to raster and back to vector again (i.e., accuracy is decreased).
Atlin	Wetlands	Data may be requested by emailing TEI_mail@gov.bc.ca	Atlin wetland polygons were mapped following the field program completed near Atlin BC during the 2023 and 2024 field seasons. Field plots collected in wetland ecosystems were used to inform wetland polygon mapping.

4 Intended Use and Limitations

The **Consolidated Wetlands – Polygons** and **Consolidated Wetlands – Points** are intended to streamline access to and understanding of available wetland data sources in British Columbia. Wetland data sources vary in quality, completeness, attribution, purpose, classification and definitions used. The layer shows where wetlands have been identified and mapped for various purposes and is not a reliable indication of wetland absence. This data layer may be used to visualize where wetlands and wetland data mapping projects are located throughout the province. This data may also be used as a reference tool to understand the distribution of wetlands in a region (e.g., when considering land use applications), but should not supersede appropriate field-based investigations completed by qualified professionals. By combining multiple data sources and considering their respective study area extents, users may infer confidence in wetland interpretations based on the degree of agreement (e.g., overlap) between projects.

4.1 Limitations

The consolidated wetland layers are subject to limitations and errors related to the compiled source data. Generalizations, assumptions and limitations also stem from the consolidation methodology. These include:

- The **Consolidated Wetlands – Points** have varying degrees of spatial accuracy within source datasets and between source datasets.
- The **Consolidated Wetlands – Polygons** layer contains overlapping polygons where the same wetland may have been identified by different sources. Use caution and understand this limitation when using the dataset for GIS analysis and summary statistics.
- The **Consolidated Wetlands – Polygons** layer contains complex ecosystem polygons and therefore, spatial boundaries may include a combination of wetland and non-wetland areas. Use caution and understand this limitation when using the dataset for GIS analyses and summary statistics.
- Wetland mapping is not exhaustive in BC. Wetlands may not be captured if they were not detected or not mapped in the source data.
- These datasets are not a regulatory mapping layer and should not be used as a substitute for site-specific investigations.
- Source datasets vary by mapping scale, spatial accuracy and precision, and intended use. Individual records are tied to the accuracy of the source data, and users are advised to refer to the original source if clarifications are necessary.
- Source datasets vary in spatial coverage ranging from local ecosystem to provincial scale mapping. Some regions are covered by numerous wetland mapping projects, while others may only be covered by a few.
- Wetland mapping has been completed at varying time periods and does not represent conditions at a single point in time. Wetlands are dynamic ecosystems, and can respond to changes in seasonality, hydrology, vegetation, disturbance and land use.

- Wetlands may be interpreted and described according to different classification systems. Interpretations of wetland presence or specific wetland classes should be considered in combination with the level of effort and purpose of mapping in the source data.
- Most of the data sources use imagery or field investigation from one point in time.
- Efforts have been made to cross-walk selected attributes where feasible. Cross-walking can result in errors if source data does not translate cleanly, and can reduce the level of nuance present in the original source data.

5 Conclusion

Two consolidated wetland datasets were created to improve wetland spatial data knowledge in BC, defined as the **Consolidated Wetlands – Polygons** and the **Consolidated Wetlands – Points.** Consolidation was performed through data exploration and acquisition, data evaluation and prioritization, wetland record extraction, schema development, and data loading and cross-walking. Following this, the **Consolidated Wetlands - Polygons** and **Consolidated Wetlands – Points** contain more than 1,200,000 wetland records and potential wetland records throughout BC.

Consolidated wetland spatial data varies in quality, completeness, attribution, purpose, and classification system. These datasets are best used as reference data and for visualization. The **Consolidated Wetlands – Polygons** and **Consolidated Wetlands – Points** datasets are subject to limitations and possible errors related to their source and assumptions made for compilation. Users are advised to apply caution and understand the full limitations when relying on this data.