Wetland User Guide

Version 2.2

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Ontario

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Additional Information

This document is one of several that contain different levels of content and detail about the Wetland data. Depending on your needs refer to one or more related documents:

- **Wetland Maintenance Guide** – The maintenance guide is intended for those who will be editing or updating the Wetland geometry or attributes in the LIO Editor application and contains details specific to maintenance of the digital data. This document is in development and is planned to be available by the end of March 2014.

- **Wetland Data Capture Guidelines** – The data capture guidelines document will contain detailed guidelines for capturing and creating Wetland data. This document is in development and is planned to be available by the end of March 2014.

- **LIO Metadata Management Tool Record** – The metadata record contains the basic description of a data class.

- **Technical Bulletins** – Technical bulletins describe recent changes to the data or data model.

These documents are available from the LIO Metadata Management Tool website. On the Wetland metadata page scroll down the web page to the "Transfer Options" documentation section for links to the documents.

(Note: Two of the above documents are in development and planned to be available by the end of March 2014.)

- **Ontario Wetland Evaluation System (OWES)** – The Ministry of Natural Resources (MNR) maintains OWES to provide a consistent method of assessing wetland functions and their values to society. OWES enables the province to rank the relative value of wetlands for land use planning purposes. The OWES manuals are technical guidance documents that use scientific criteria to quantify wetland values and allow comparisons among wetlands.

For information about OWES and manuals see the Biodiversity Wetlands website.

Contact Information

For more information about this Wetland User Guide, please contact:

Land Information Ontario (LIO), Email: lio@ontario.ca Phone: 705-755-1878

Please report any errors, omissions or website links that need updating. Recommendations to improve this document are welcome.

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Introduction

The **Wetland User Guide** contains a general overview of the Wetland data model and highlights details that users should be aware of.

The Wetland data class was previously known as Wetland Unit. The word "Unit" has been dropped from the name.

The Wetland data provides spatial representation and attribute information for wetlands in Ontario. Not all wetlands have been identified and mapped. Active maintenance is ongoing throughout the province. The currency and accuracy of the spatial representation is variable and requires on-the-ground verification.

Many attribute fields were added in 2012. Values will be added to these fields over time. Certain attributes identify which wetlands have been evaluated with the Ontario Wetland Evaluation System (OWES) and of those which ones have been designated as Provincially Significant Wetlands (PSW). Not all wetlands have had an OWES evaluation.

Previous to 2011 this layer contained only wetlands that had been evaluated through OWES.

The Wetland Consolidation project was carried out in the spring of 2011 to consolidate several wetland datasets into one comprehensive layer (Wetland). The MNR district staff were consulted to identify the best available existing wetland data for their district. The resulting data were added to the Wetland layer where they did not overlap existing OWES evaluated wetland data. Sources for wetland data included Wetland Interim (OBM/NTS), Forest Resource Inventory (FRI), Southern Ontario Land Recourse Inventory System (SOLRIS) and MNR district data stored in the Significant Ecological Area layer.

The FRI and SOLRIS layers will continue to exist to meet specific business needs. They will be maintained separately from the Wetland layer. They may be referenced when updating the Wetland layer but will not necessarily be synchronized.

The scale of the wetland data typically ranges from 1:10,000 in Southern Ontario, 1:20,000 in Northern Ontario and 1:50,000 in the Far North. The best available data are used for updating with a trend towards a larger scale.

The Wetland data are managed independently from the Ontario Hydro Network (OHN) layers and may overlap waterbodies or other OHN data. Wetland data may also overlap other Natural Heritage features including Woodlands and Areas of Natural and Scientific Interest (ANSI).

The Wetland data in Ontario's Far North Hudson Bay Lowlands and surrounding area have been updated as of March 31 2013.

Where to obtain Wetland data

The Wetland data is distributed through the [LIO Data Distribution System](). Wetland data is continually being updated. Users must order new cuts of the data to ensure they have a current version.

Wetland Polygons

Wetlands are lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface. In either case, the presence of abundant water causes the formation of hydric (moist) soils and has favoured the dominance of hydrophytic (water loving) or water tolerant plants.

Wetland Type

An individual spatial wetland polygon represents a discrete wetland type. The current wetland types are Bog, Fen, Marsh, Open Water (Marsh), Swamp, Treed Peatland, or Unknown (Figure 1).

- **Bog:** Bogs are peat-covered areas or peat-filled depressions with a high water table and a surface carpet of mosses, chiefly Sphagnum. The water table is at or near the surface in the spring, and slightly below during the remainder of the year. The mosses often form raised hummocks, separated by low, wet interstices. The bog surface is often raised, or, if flat or level with the surrounding wetlands, it is virtually isolated from mineral soil waters. Hence, the surface bog water and peat are strongly acidic and upper peat layers are extremely deficient in mineral nutrients. Peat is usually formed in situ under conditions of closed drainage and low oxygen levels.

- **Fen:** Fens are peatlands characterized by surface layers of poorly to moderately decomposed peat, often with well-decomposed peat near the base. Fen peats generally consist of mosses and sedges. Sphagnum, if present, is usually composed of different Sphagnum species than occur in bogs. There are two main fen types: nutrient rich fens typically are fed by groundwater and have a high pH. Nutrient-poor fens, such as those in moraine dominated landscapes, can occur in isolated depressions with less groundwater inputs and a lower pH (but not as low as in bogs).

- **Marsh:** Marshes are wet areas periodically inundated with standing or slowly moving water, and/or permanently inundated areas characterized

by robust emergents, and to a lesser extent, anchored floating plants and submergents. Surface water levels may fluctuate seasonally, with declining levels exposing drawdown zones of matted vegetation or mud flats. Water remains within the rooting zone of plants during at least part of the growing season.

- **Open Water (Marsh):** These areas are not to be confused with lakes and rivers. They have been identified as wetlands but they may overlap or be coincident with Ontario Hydro Network (OHN) lakes and rivers. All wetlands dominated by submergents, floating plants, free floating plants or unvegetated are considered to be open water marsh. Typically there is enough open water for a duck to swim or to navigate a canoe.

- **Swamp:** Swamps are wooded wetlands with 25% cover or more of trees or tall shrubs. In swamps, standing to gently flowing waters occur seasonally or persist for long periods on the surface. Frequently there is an abundance of pools and channels indicating subsurface water flow.

- **Treed Peatland:** Currently the Treed Peatland value is only being used in the far north where the interpretation process could not accurately identify if the Peatland was a Bog or Fen.

- **Unknown:** The "Unknown" value may be used for wetland polygons that have not had the type identified and may be updated when the type is known.

For a more thorough definition and additional information on wetland types see the [OWES manuals](#).
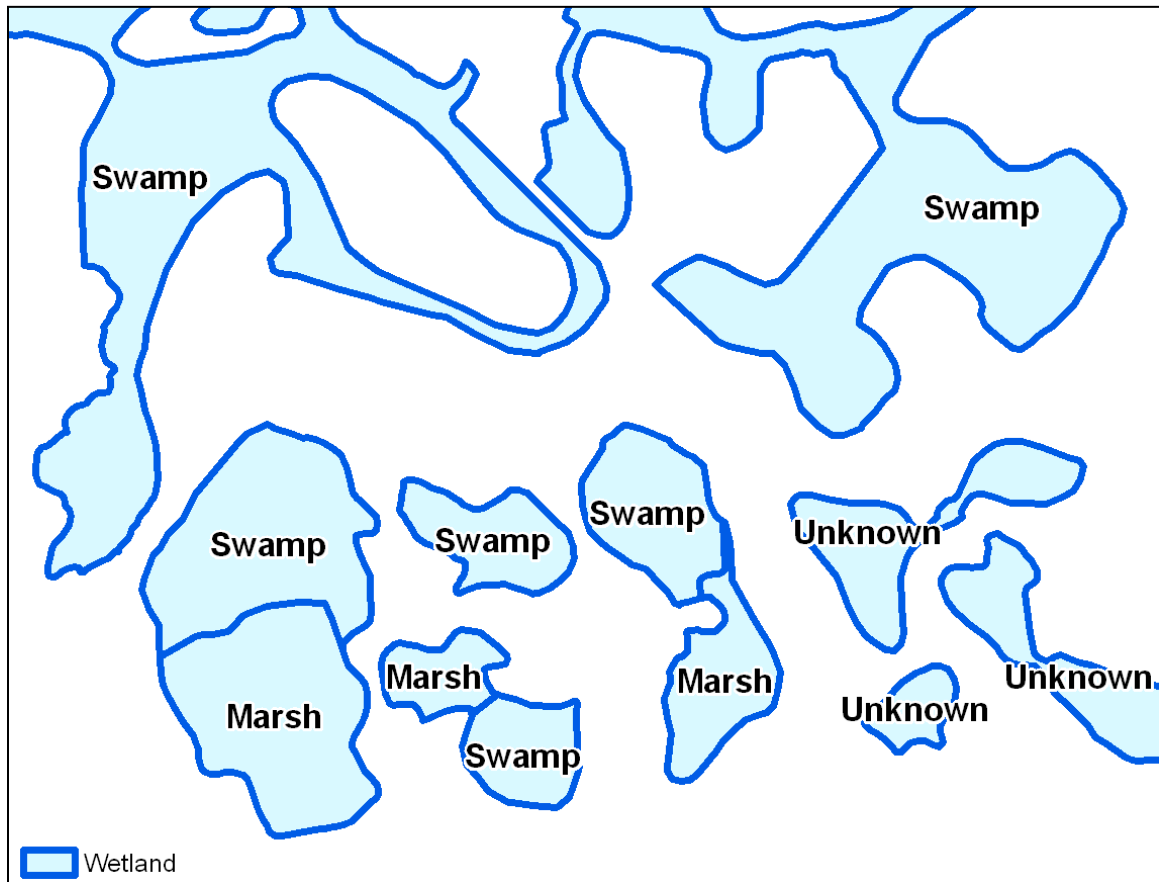
Figure 1: Wetland polygons labelled by *Wetland Type*.

Some of the attributes relate to the specific Wetland polygon while other attributes are only populated if the polygon has been associated with an evaluation through OWES.

Wetland attributes that will be populated for all polygons include *Wetland Type*, *Evaluated Wetland Indicator* and *Location Accuracy*. *Evaluated Wetland Name*, *Evaluated Wetland ID* and *Wetland Significance* will only be populated if the polygon has been associated with an OWES evaluation.

Evaluated Wetlands

Evaluated Wetlands are those identified and assessed using the technical criteria in the OWES manuals. An evaluation may be for either an Evaluated Wetland or an Evaluated Wetland Complex. Not all wetlands in Ontario have been evaluated.

An Evaluated Wetland consists of one or more adjacent (contiguous) Wetland polygons.

An Evaluated Wetland Complex is a group of physically separate Wetland polygons that have similar or complementary biological, social and/or hydrological functions, are located in close proximity, and are functionally linked (ecologically or hydrologically). An Evaluated Wetland Complex may contain adjacent Wetland polygons but must comprise at least one separate Wetland polygon (Figure 2).
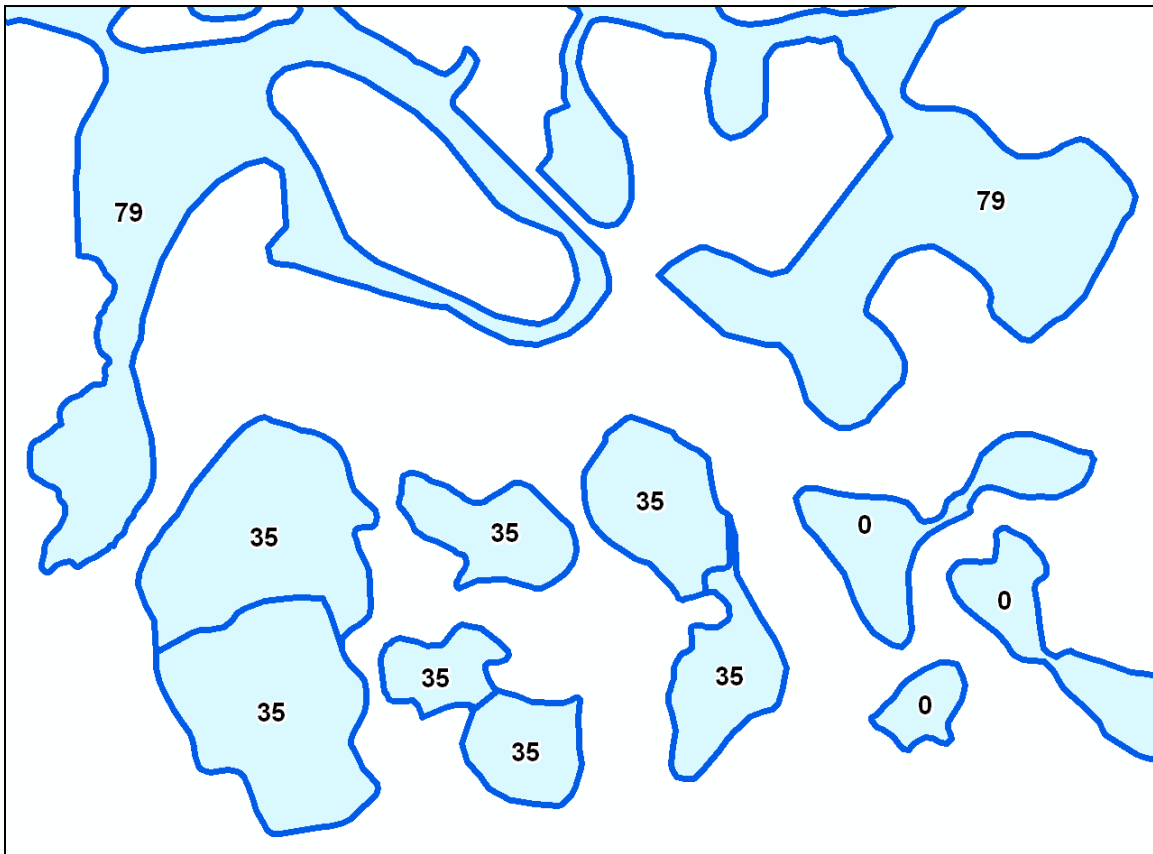
Figure 2: Wetland polygons labelled by *Evaluated Wetland Identifier* (ID). Many Wetland polygons with the same ID will be linked to the same OWES evaluation and considered to be one Evaluated Wetland (or Evaluated Wetland Complex). The exception being those labelled with zero which have not been evaluated.

The *Evaluated Wetland Indicator* is a mandatory attribute that is used to identify whether the wetland has been evaluated through OWES with valid values of Yes or No (Figure 3). The attribute appears as "EVAL_IND" in the Wetland shapefile table and "EVALUATED_WETLAND_IND" in the Wetland geodatabase table.

Figure 3: Wetland polygons symbolized by *Evaluated Wetland Indicator* values of Yes or No. Polygons with a hatch symbol have been evaluated.

Provincially Significant Wetlands (PSW)

The OWES evaluation information is collected to support the wetlands component of the Provincial Policy Statement. Wetlands that meet certain criteria through OWES are designated as Provincially Significant.

The *Wetland Significance* attribute is used to identify which Wetland polygons have been identified as Provincially Significant. The attribute name appears as SIGNIF in the Wetland shapefile table, and WETLAND_SIGNIFICANCE in the Wetland geodatabase table and associated Evaluated Wetland table.

Since not all wetlands have been evaluated the attribute is optional. This attribute will be populated if the polygon is associated with an OWES evaluation.

Valid values are "Evaluated-Provincial", "Evaluated-Other", or "Not evaluated per OWES". If the attribute value is "Evaluated-Provincial" then it has been evaluated through OWES and identified as a PSW.

If the attribute value is "Evaluated-Other" then it has been evaluated through OWES but not identified as a Provincially Significant Wetland.

Some municipalities and local planning authorities may have local wetland protection policies and may consider wetlands identified through OWES as "Evaluated-Other" to be "Locally Significant Wetlands". This would be done at the local level and is not part of this Wetland data set.

The *Wetland Significance* attribute can be used to symbolize maps or select wetlands by wetland significance (Figure 4).
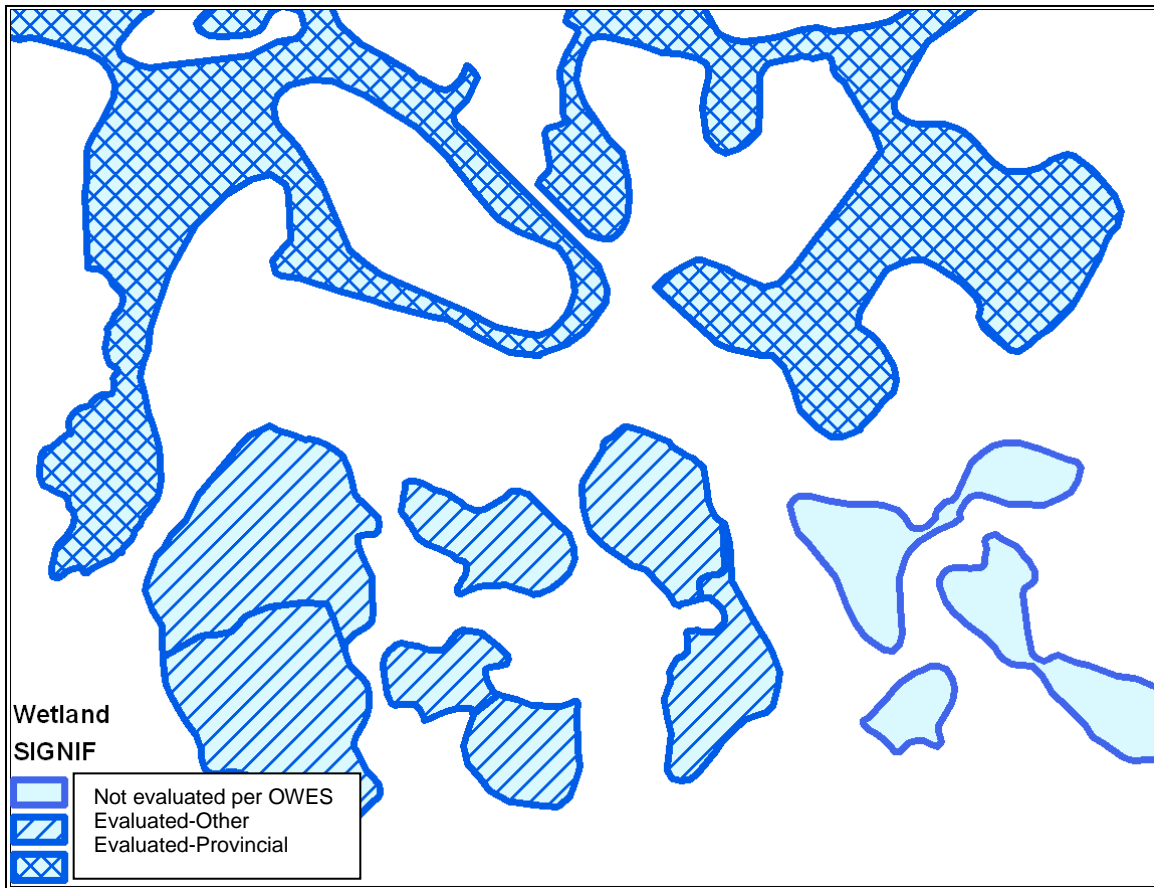
Figure 4: Wetland polygons symbolized by *Wetland Significance* (SIGNIF). Polygons which have not been evaluated are displayed with a solid fill symbol. Polygons with a simple hatch symbol have been evaluated but have not been designated as Provincially Significant. Polygons with a cross hatch symbol have been evaluated and designated as Provincially Significant Wetlands (PSW).

Policy and Plans Protecting Wetlands

The Provincial Policy Statement (PPS) 2005 provides protection for significant wetlands and significant coastal wetlands that have been designated through OWES.

Other policies exist in provincial plans that protect wetlands in specific areas whether they have been evaluated or not. Wetlands protected by a plan can be identified with the Plan Protection attribute. Current values include the Oak Ridges Moraine conservation plan (ORM), Green Belt plan (GB), Niagara Escarpment plan (NE), and the Lake Simcoe protection plan (LS).

Contact local MNR district offices and local municipalities for interpretation of policies related to wetlands.

Use Constraints

Accuracy of wetland boundaries will vary depending on data source and vintage.

Wetlands are dynamic ecosystems and, as such, wetland boundaries may change over time. Wetland boundaries represent the extent of the wetland at the time of interpretation.

Due to the size of Ontario, associated scale variations and the fact that original data was collected over many years by different contractors using a variety of photography or imagery products at varying resolution, the source datasets are inconsistent, even within a geographic area.

The Wetland data provides spatial representation and attribute information for wetlands in Ontario. Not all wetlands have been identified and mapped. Active maintenance is ongoing throughout the province. The currency and accuracy of the spatial representation is variable and requires on-the-ground verification.

Wetland evaluations are considered to be dynamic files and are subject to change as more information becomes available or as a consequence of changes to the wetland itself.

Users should confirm the spatial outline and contextual information before making business decisions.

The Wetland data are managed independently from the Ontario Hydro Network (OHN) layers and may overlap waterbodies or other OHN data. Wetland data may also overlap other Natural Heritage features including Woodlands and Areas of Natural and Scientific Interest (ANSI).

Tables and Relationships
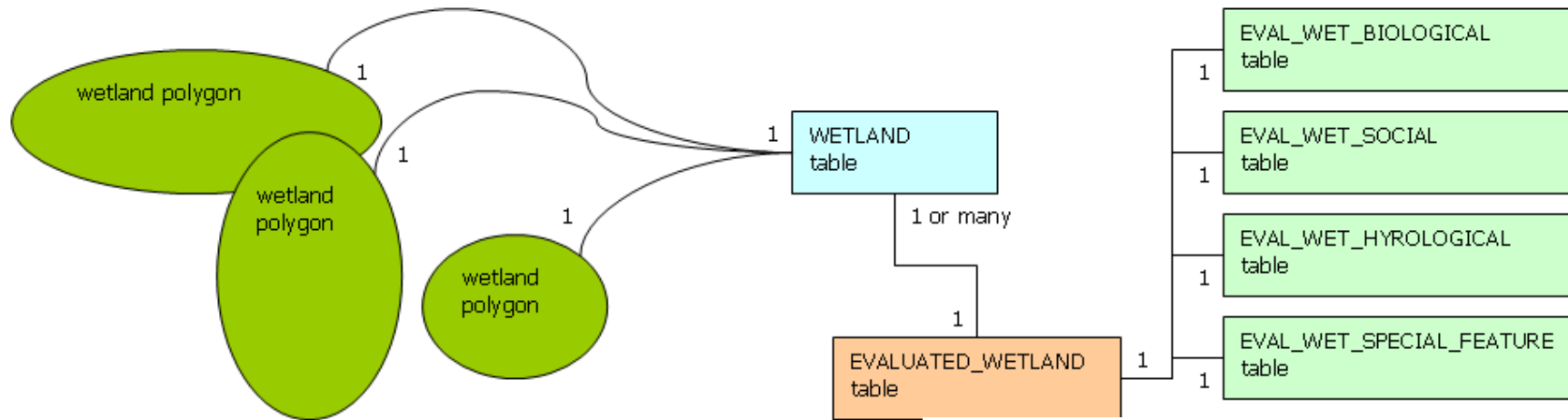
Figure 5: Wetland Tables and Relationships.

1. Each wetland polygon will be related to one record in the Wetland table. One-to-one relationship. The fields of this record will be on the polygon feature.
2. Wetland polygons that have not been evaluated will not be related to any records in the Evaluated Wetland table.
3. For OWES evaluated wetlands, one or many Wetland table records (one or many polygons) will be related to one Evaluated Wetland table record. Many-to-one relationship.
4. One Evaluated Wetland table record will be related to one record in each of the 4 scoring tables (Biological, Social, Hydrological, Special Feature). One-to-one relationship.

Attributes – Shapefile and Geodatabase tables

This section describes the attributes in the Wetland shapefile and geodatabase tables distributed from the LIO warehouse. The name of a shapefile field is limited to 10 characters.

Each attribute section will list:
- Geodatabase field long name
- Field data type (Number, Varchar2)
- Field width
- Mandatory (Yes, No)
- Relationship Key (Primary, Foreign)
- Shapefile field short name
- Pick list values (list of valid values)
- Description

Note: Many field descriptions refer to specific sections of the OWES manuals. Refer to the manuals for more details.

Wetland Table.

Table 1 - name: **WETLAND**						
Description: Wetlands are lands that are seasonally or permanently flooded by shallow water as well as lands where the water table is close to the surface. In either case, the presence of abundant water causes the formation of moist soils and favours the dominance of water tolerant plants. An individual spatial polygon represents a discrete wetland type. Values for wetland types are Marsh, Fen, Swamp, Bog, Treed Peatland, Open Water or Unknown.						
Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
OGF_ID	NUMBER	13,0	Yes	PK	OGF_ID	Wetland
Long name: Ontario Geospatial Feature (OGF) identifier. Pick list values: None. Description: Ontario Geospatial Feature (OGF) system generated identifier, unique at the application level.						
WETLAND_TYPE	VARCHAR2	14	Yes		WETL_TYPE	Wetland
Long name: Wetland type. Pick list values: Bog, Fen, Marsh, Swamp, Open Water, Treed Peatland, Unknown. Description: Wetland types are described in section 1.1.2 of the OWES manual.						
EVALUATED_WETLAND_IND	VARCHAR2	3	Yes		EVAL_IND	Wetland
Long name: Evaluated wetland indicator. Pick list values: Yes, No (default to No) Description: Indicates if a wetland has been evaluated with the Ontario Wetland Evaluation System (OWES). There must be an associated Evaluated Wetland record.						
EVALUATED_WETLAND_ID	NUMBER	13,0	No	FK	EVAL_ID	Wetland
Long name: Evaluated Wetland table Object ID Pick list values: None. Description: System generated identifier, unique at the application level. Foreign key to link to EVALUATED_WETLAND table.						
WETLAND_UNIT_NUMBER	NUMBER	3,0	No		UNIT_NUM	Wetland
Long name: Wetland Unit number						

Pick list values: None						
Description: Wetland Unit number from the OWES wetland size and boundaries sheet. Many polygons may have the same Wetland Unit number.						
VEG_COMMUNITY_CODE	VARCHAR2	5	No		VEG_COMMUN	Wetland
Long name: Vegetation Community Code						
Pick list values: None						
Description: Vegetation Community Code. OWES manual section 1.2.2. Examples: S3, M5, B2-A, F14, W11-B.						
SITE_TYPE	VARCHAR2	12	No		SITE_TYPE	Wetland
Long name: Site type						
Pick list values: Isolated, Palustrine, Riverine1, Riverine2, Lacustrine1, Lacustrine2, Lacustrine3.						
Description: Site type. OWES manual section 1.1.3.						
- Isolated.						
- Palustrine.						
- Riverine1, riverine on a river.						
- Riverine2, riverine at rivermouth.						
- Lacustrine1, lacustrine at rivermouth.						
- Lacustrine2, lacustrine on enclosed bay or barrier beach.						
- Lacustrine3, lacustrine exposed to lake.						
SOIL_TYPE	VARCHAR2	11	No		SOIL_TYPE	Wetland
Long name: Soil type						
Pick list values: clay/loam, silt/marl, limestone, sand, humic/mesic, fibric, granite.						
Description: Soil type. OWES manual section 1.1.1.						
DOMINANT_VEG_FORM	VARCHAR2	2	No		DOM_FORM	Wetland
Long name: Dominant vegetation form						
Pick list values: h, c, dh, dc, ts, ls, ds, gc, m, ne, be, re, ff, f, su, u.						
Description: Dominant vegetation form abbreviation. OWES manual section 1.2.2.						
DOMINANT_VEG_SPECIES	VARCHAR2	254	No		DOM_SP	Wetland
Long name: Dominant vegetation species.						
Pick list values: Scientific name values from the NHIC Species Master list.						
Description: Scientific name of the dominant vegetation species. OWES manual section 1.2.2.						

VEG_FORM_LIST	VARCHAR2	60	No		VEG_FORM_L	Wetland
Long name: Vegetation form list Pick list values: None Description: List of vegetation form abbreviations. OWES manual section 1.2.2. Possible values include h, c, dh, dc, ts, ls, ds, gc, m, ne, be, re, ff, f, su, u.						
PERCENT_OPEN_WATER	NUMBER	3,0	No		PCT_OPEN	Wetland
Long name: Percent open water Pick list values: None Description: Percent of the wetland that is open water. OWES manual section 1.0.						
PLAN_PROTECTION	VARCHAR2	3	No		PLAN_PROT	Wetland
Long name: Plan area providing protection Pick list values: ORM, GB, NE, LS. Description: Plan area that the wetland falls within. Pick the priority plan. Current plans include Oak Ridges Moraine (ORM) plan, Green Belt (GB) plan, Niagara Escarpment (NE) plan, Lake Simcoe (LS) plan.						
GENERAL_COMMENTS	VARCHAR2	2000	No		COMMENTS	Wetland
Long name: General comments. Pick list values: None. Description: General comments.						
GEOG_UNIT_DESCR	VARCHAR2	2000	No		GUNT_DES	Wetland
Long name: Geographic unit description. Pick list values: None. Description: Temporary field that may contain information from the old data model.						
LOCATION_DESCR	VARCHAR2	2000	No		LOCATION	Wetland
Long name: Location description. Pick list values: None. Description: Description of the area or directions on how to get to the site.						
LOCATION_ACCURACY	VARCHAR2	25	Yes	FK	ACCURACY	Wetland
Long name: Location accuracy. Pick list values: See LOCATION_ACCURACY_LIST table. Description: Location accuracy.						

VERIFICATION_STATUS_FLG	VARCHAR2	10	No		VERISTT_FL	Wetland
Long name: Verification status flag.						
Pick list values: Verified, Unverified.						
Description: An indication as to whether a qualified employee has verified the existence of the feature.						
VERIFICATION_STATUS_DATE	DATE		No		VERIF_DATE	Wetland
Long name: Verification status date.						
Pick list values: None.						
Description: Date that the wetland was verified/validated.						
SYSTEM_CALCULATED_AREA	NUMBER	16,3	No		SYS_AREA	Wetland
Long name: System calculated area.						
Pick list values: None.						
Description: The area of a polygon measured in square metres by the system.						
SYSTEM_CALCULATED_PERIMETER	NUMBER	16,3	No		SYS_PERIM	Wetland
Long name: System calculated perimeter.						
Pick list values: None.						
Description: The perimeter of a polygon measured in metres by the system.						
SOURCE_NAME	VARCHAR2	100	No	FK	SCR_NAME	Wetland
Long name: Source name.						
Pick list values: See SOURCE table.						
Description: The name of the source. Foreign key to the Source table.						
SOURCE_DETAIL	VARCHAR	254	No		SCR_DETAIL	Wetland
Long name: Source detail.						
Pick list values: None.						
Description: Details of the source of the data. Examples: OBM, SOLRIS, 2010 SWOOP, 2002 Ortho, GPS.						
IMPACT	NUMBER	1,0	No		IMPACT	Wetland
Long name: Impact.						
Pick list values: -1, 0, 1, 2, 3, 4. Default to zero.						
Description: Type of impact on the wetland as a result of modification by people. Types include: -1 – Unknown, 0 – No Value, 1 – Partly Drained, 2 – Farmed, 3 – Constructed, 4 – Partly Filled.						
MAP_CODE	VARCHAR2	3,0	No		MAP_CODE	Wetland

Long name: Map code. Pick list values: None. Description: Identifier storing unique polygon map code numbers from Ontario Wetland Evaluation system (OWES) field maps and notes. This will be used to relate individual polygons from OWES field maps and notes to corresponding digital wetland records.				
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Wetland
Long name: Geometry update date and time. Pick list values: None. Description: Date and time that the feature geometry was edited.				
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Wetland
Long name: Effective date and time. Pick list values: None Description: Date and time that the record was created in the database.				
SHAPE	GEOMETRY	No	SHAPE	Wetland
Long name: Shape. Pick list values: None. Description: SDO_GEOMETRY.				

Evaluated Wetland Table.

Table 2 - name: **EVALUATED_WETLAND**

Description: Evaluated Wetlands are those identified and assessed using the technical criteria in the Ontario Wetland Evaluation System (OWES) manuals. An evaluation may be for either an Evaluated Wetland or an Evaluated Wetland Complex. Not all wetlands in Ontario have been evaluated. An Evaluated Wetland consists of one or more adjacent (contiguous) wetland polygons. An Evaluated Wetland Complex is a group of physically separate wetland polygons that have similar or complementary biological, social and/or hydrological functions, are located in close proximity, and are functionally linked (ecologically or hydrologically). An Evaluated Wetland Complex may contain adjacent wetland polygons but must comprise at least one separate wetland polygon. Wetlands that meet certain criteria through OWES are designated as Provincially Significant Wetlands (PSW).

Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
OGF_ID	NUMBER	13,0	Yes	PK	OGF_ID	Evaluated Wetland
Long Name: Ontario Geospatial Feature ID. Pick list values: None. Description: Ontario Geospatial Feature (OGF) system generated identifier, unique at the application level.						
EVALUATED_WETLAND_NAME	VARCHAR2	100	Yes		WETL_NAME	Evaluated Wetland
Long Name: Evaluated Wetland Name. Pick list values: None. Description: Name of the evaluated wetland.						
EVALUATED_WETLAND_SIZE	NUMBER	6,2	No		WETL_SIZE	Evaluated Wetland
Long Name: Evaluated wetland size Pick list values: None Description: Total wetland size in hectares at the time of evaluation. This is the sum of the area of all wetland polygons in the evaluation including adjacent and separated polygons.						
EVALUATED_WETLAND_TYPE	VARCHA	25	Yes		WETL_TYPE	Evaluated Wetland

	R2						
Long Name: Evaluated Wetland Type. Pick list values: Evaluated Wetland, Evaluated Wetland Complex. Description: An evaluated wetland complex is a group of separated wetland polygons where as an evaluated wetland is a single wetland polygon or a group of contiguous wetland polygons.							
BIOLOGICAL_COMPONENT_SCORE	NUMBER	3,0	No		BIOLOGICAL	Evaluated Wetland	
Long Name: Biological component score. Pick list values: None. Description: Total score for the Biological Component of the OWES manual section 1.0. Sum of Productivity + Biodiversity + Size to a maximum of 250.							
SOCIAL_COMPONENT_SCORE	NUMBER	3,0	No		SOCIAL	Evaluated Wetland	
Long Name: Social component score. Pick list values: None. Description: Total score of the Social Component of the OWES manual section 2.0. Sum of Economic Products + Recreational Activities + Landscape Aesthetics + Education Awareness + Settlement Proximity + Ownership + Size + Aboriginal Cultural Values to a maximum of 250.							
HYDROLOGICAL_COMPONENT_SCORE	NUMBER	3,0	No		HYDROLOGIC	Evaluated Wetland	
Long Name: Hydrological component score. Pick list values: None. Description: Total score for the Hydrological Component of the OWES manual section 3.0. Sum of Flood Attenuation + Ground Water Recharge + Water Quality Improvement + Carbon Sink + Shoreline Erosion Control + Ground Water Discharge (north only) to a maximum of 250.							
SPECIAL_FEATURES_SCORE	NUMBER	3,0	No		SPECIAL_FE	Evaluated Wetland	
Long Name: Special features score. Pick list values: None. Description: Total score of the Special Features Component of the OWES manual section 4.0. Sum of Rarity + Significant Features and Habitat + Ecosystem Age + GL Coastal Wetland to a maximum of 250.							
OVERALL_WETLAND_SCORE	NUMBER	4,0	No		SCORE	Evaluated Wetland	

Long Name: Overall wetland score.						
Pick list values: None.						
Description: Total sum of points from OWES evaluation. Sum of Biological Component Score + Social Component Score + Hydrological Component Score + Special Features Score to a maximum of 1,000.						
LAST_UPDATED_DATE	DATE		No		LAST_UPD	Evaluated Wetland
Long Name: Last updated date.						
Pick list values: None.						
Description: Date that the wetland data were last updated. The intent of this attribute is to record when a wetland or wetland complex has been re-evaluated or had updates to the EVALUATED_WETLAND or scoring tables. Think of it as an update to the tabular evaluation rather than the geometry. On the wetland polygon (WETLAND table) there is a GEOMETRY_UPDATE_DATETIME field that is updated by the LIO Editor when the geometry (shape) changes. You won't be able to edit this field, it will be system generated when edited. There is also an EFFECTIVE_DATETIME field which the LIO Editor will update when either the geometry or attributes on the polygon (WETLAND table) are edited.						
LAST_EVALUATED_DATE	DATE		No		LAST_EVAL	Evaluated Wetland
Long Name: Last evaluated date.						
Pick list values: None.						
Description: Date that the wetland was last evaluated.						
WETLAND_SIGNIFICANCE	VARCHAR2	22	Yes		SIGNIF	Evaluated Wetland
Long Name: Wetland Significance.						
Pick list values: Evaluated-Provincial, Evaluated-Other.						
Description: Level of significance designated by an OWES evaluation. Provincially Significant Wetlands (PSW) are protected under the Provincial Policy Statement 2005, policy 2.1. This attribute will be copied to the feature on export from the database and features that don't have a related evaluation will be given the value "Not evaluated per OWES".						
EVALUATION_SYSTEM_TYPE	VARCHAR2	1	No		EVAL_SYS_T	Evaluated Wetland
Long Name: Evaluation system type.						
Pick list values: N, S.						
Description: An indication of which wetland OWES evaluation system was used to assess the wetland. eg. N= Northern Ontario, S = Southern Ontario						

EVALUATION_SYSTEM_EDITION	VARCHAR2	1	No		EVAL_SYS_E	Evaluated Wetland
Long Name: Evaluation system edition. Pick list values: 1, 2, 3. Description: An indication of which edition of the OWES evaluation system was used to evaluate the wetland. NOTE: Only Northern 1st edition and Southern 3rd edition will have scoring details entered.						
SCORING_SUMMARY_PRESENT_IND	VARCHAR2	3	Yes		SUMM_PRES	Evaluated Wetland
Long Name: Scoring summary present indicator. Pick list values: Yes, No Description: An indicator that a scoring summary has been entered for the evaluated wetland. NOTE: the scoring summary is set up to reflect the standards in the most current versions of the OWES manuals: version 1 for the North and version 3 for the South. Users should not attempt to enter scoring summaries compiled according to other versions, as fields will not match.						
SPECIAL_PLANNING_CONSIDERATION	VARCHAR2	2000	No		SPECIAL_PL	Evaluated Wetland
Long Name: Special planning consideration. Pick list values: None. Description: Comments on any considerations that should be referred to when planning for the wetland.						
ADDITIONAL_EVALUATION_COMMENTS	VARCHAR2	2000	No		COMMENTS	Evaluated Wetland
Long Name: Additional evaluation comments. Pick list values: None. Description: Comments in addition to the evaluation scoring.						
NHIC_NATURAL_AREA_ID	NUMBER	8,0	No		NHIC_ID	Evaluated Wetland
Long Name: NHIC Natural Area identifier Pick list values: None Description: Foreign key to the Natural Heritage Information Centre (NHIC) Natural Areas Database which contains additional natural heritage information for wetlands and other natural area types.						
DISTRICT_WETLAND_CODE	VARCHAR2	18	No		CODE	Evaluated Wetland

	R2						

Long Name: District Wetland code.
Pick list values: None.
Description: Unique code for the wetland evaluation file that is created and managed by individual MNR districts to use in their file management. Example: PB-PET-OR-003. (The old format was W + UTM zone + UTM Easting + UTM Northing, which districts may or may not use.)

EFFECTIVE_DATETIME	DATE		Yes		EFF_DATE		Evaluated Wetland

Long Name: Effective date and time.
Pick list values: None.
Description: Date and time that the record was created in the database.

Biological Table

Table 3 - name: **EVAL_WETLAND_BIOLOGICAL**

Description: Values and scores relevant to the Biological Component Score 1.0 in the OWES Manual (Northern 1st edition; Southern 3rd edition).

Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
EVAL_WETLAND_OBJECT_ID	NUMBER	13	Yes	FK	EVAL_ID	Biological

Long Name: Evaluated Wetland ID.
Pick List Values: none
Description: System generated identifier, unique at the application level. Foreign key to EVALUATED_WETLAND table.

GROWING_DEGREE_DAYS	VARCHAR2	11	Yes		DEG_DAYS	Biological

Long Name: Growing Degree Days
Pick List Values: N lt 1600, N 1600-2000, N 2001-2400, N 2401-2800, N 2801-3000, N gt 3000, S lt 2800, S 2800–3200, S 3200–3600, S 3600–4000, S gt 4000.
Description: Growing degree days. OWES manual section 1.1.1.

SOILS_FA_CLAY_LOAM	NUMBER	3,2	No		FA_CLAY	Biological

Long Name: Soils Fractional Area - Clay/Loam

Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of clay/loam. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_SILT_MARL	NUMBER	3,2	No		FA_SILT	Biological

Long Name: Soils Fractional Area - Silt/Marl
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of silt/marl. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_LIMESTONE	NUMBER	3,2	No		FA_LIMEST	Biological

Long Name: Soils Fractional Area - Limestone
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of limestone. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_SAND	NUMBER	3,2	No		SAND	Biological

Long Name: Soils Fractional Area - Sand
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of sand. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_HUMIC_MESIC	NUMBER	3,2	No		FA_HUMIC	Biological

Long Name: Soils Fractional Area - Humic/Mesic
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of humic or mesic. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_FIBRIC	NUMBER	3,2	No		FA_FIBRIC	Biological

Long Name: Soils Fractional Area - Fibric
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the soil type of fibric. OWES manual section 1.1.1. (1 maximum)

SOILS_FA_GRANITE	NUMBER	3,2	No		FA_GRANITE	Biological

Long Name: Soils Fractional Area - Granite

Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the soil type of granite. OWES manual section 1.1.1. (1 maximum)						
GDD_SOILS_SCORE	NUMBER	2,0	Yes		GDD_SOILS	Biological
Long Name: Growing Degree Days and Soils Score Pick List Values: none Description: The score for wetland productivity based upon growing degree-days (GDD) and soil type. OWES manual section 1.1.1. (Range 4 – 30)						
WETLAND_TYPE_FA_BOG	NUMBER	3,2	No		TYPE_BOG	Biological
Long Name: Wetland Type Fractional Area - Bog Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the wetland type of bog. OWES manual section 1.1.2. (1 maximum)						
WETLAND_TYPE_FA_FEN	NUMBER	3,2	No		TYPE_FEN	Biological
Long Name: Wetland Type Fractional Area - Fen Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the wetland type of fen. OWES manual section 1.1.2. (1 maximum)						
WETLAND_TYPE_FA_SWAMP	NUMBER	3,2	No		TYPE_SWAMP	Biological
Long Name: Wetland Type Fractional Area - Swamp Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the wetland type of swamp. OWES manual section 1.1.2. (1 maximum)						
WETLAND_TYPE_FA_MARSH	NUMBER	3,2	No		TYPE_MARSH	Biological
Long Name: Wetland Type Fractional Area - Marsh Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the wetland type of marsh. OWES manual section 1.1.2. (1 maximum)						
WETLAND_TYPE_SCORE	NUMBER	2,0	Yes		TYPE_SCORE	Biological
Long Name: Wetland Type Score						

Pick List Values: none
Description: Score for wetland productivity based upon wetland type (swamp, marsh, fen, bog). OWES manual section 1.1.2. (15 maximum)

SITE_TYPE_FA_ISOLATED	NUMBER	3,2	No		FA_ISOLAT	Biological

Long Name: Site Type Fractional Area - Isolated
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the site type of isolated. OWES manual section 1.1.3. (1 maximum)

SITE_TYPE_FA_PALUSTRINE	NUMBER	3,2	No		FA_PAL	Biological

Long Name: Site Type Fractional Area - Palustrine
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the site type of palustrine. OWES manual section 1.1.3. (1 maximum)

SITE_TYPE_FA_RIVERINE	NUMBER	3,2	No		FA_RIV	Biological

Long Name: Site Type Fractional Area - Riverine
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the site type of riverine. OWES manual section 1.1.3. (1 maximum)

SITE_TYPE_FA_RIVERINE_RM	NUMBER	3,2	No		FA_RIV_RM	Biological

Long Name: Site Type Fractional Area - Riverine (at river mouth)
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the site type of riverine (at river mouth). This category only applies to wetlands formed where a river or stream enters one of Ontario's six large rivers (Ottawa, St. Lawrence, St. Clair, Detroit, Niagara and St. Mary's). OWES manual section 1.1.3. (1 maximum)

SITE_TYPE_FA_LACUSTRINE_RM	NUMBER	3,2	No		FA_LAC_RM	Biological

Long Name: Site Type Fractional Area - Lacustrine (at rivermouth)
Pick List Values: none
Description: Estimated fractional area of the wetland or wetland complex with the site type of lacustrine (at river mouth). This category applies where a river or stream enters a lake and forms a "rivermouth" wetland. OWES manual section 1.1.3. (1 maximum)

SITE_TYPE_FA_LACUSTRINE_EB	NUMBER	3,2	No		FA_LAC_EB	Biological
Long Name: Site Type Fractional Area - Lacustrine (on enclosed bay) Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the site type of lacustrine (on enclosed bay). This category applies where a wetland is separated from a lake by a barrier beach in which lake waters may from time to time be sealed off. OWES manual section 1.1.3. (1 maximum)						
SITE_TYPE_FA_LACUSTRINE_EL	NUMBER	3,2	No		FA_LAC_EL	Biological
Long Name: Site Type Fractional Area - Lacustrine (exposed to lake) Pick List Values: none Description: Estimated fractional area of the wetland or wetland complex with the site type of lacustrine (exposed to lake) – where a barrier beach is not present. OWES manual section 1.1.3. (1 maximum)						
SITE_TYPE_SCORE	NUMBER	1,0	Yes		SITE_TYPE	Biological
Long Name: Site Type Score Pick List Values: none Description: Score for wetland productivity based upon site type (isolated, palustrine, riverine, lacustrine). OWES manual section 1.1.3. (Range 1 – 5)						
PRODUCTIVITY_TOTAL	NUMBER	2,0	Yes		PROD_TOTAL	Biological
Long Name: Productivity Total Pick List Values: none Description: Total score of the Productivity sub-component of the Biological component. It is the sum of scores from sections 1.1.1, 1.1.2 and 1.1.3 of the OWES manual. Productivity Total = GDD Soils Score + Wetland Type Score + Site Type Score (Range 8 – 50)						
WETLAND_TYPE_COUNT_SCORE	NUMBER	2,0	Yes		TYPE_COUNT	Biological
Long Name: Wetland Type Count Score Pick List Values: none Description: Score for the number of wetland types (swamp, marsh, fen, bog) in the wetland. OWES manual section 1.2.1. (Range 9 – 30)						
VEGETATION_COMM_SCORE	NUMBER	2,0	Yes		VEGETATION	Biological
Long Name: Vegetation Community Score Pick List Values: none						

Description: Score for the number of vegetation communities mapped in a wetland. OWES manual section 1.2.2. (Range 1 - 45)						
SURROUNDING_CROP_IND	VARCHAR2	3	Yes		CROP	Biological
Long Name: Surrounding Habitat - Crops Pick List Values: Yes, No Description: Presence of crops at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_PASTURE_IND	VARCHAR2	3	Yes		PASTURE	Biological
Long Name: Surrounding Habitat - Pasture Pick List Values: Yes/No Description: Presence of pasture habitat at least 0.5ha in size within 1.5km of the wetland. Section 1.2.3 of OWES. (Default = No)						
SURROUNDING_ABAN_AGRI_IND	VARCHAR2	3	Yes		ABAN_AGRI	Biological
Long Name: Surrounding Habitat – Abandoned Agriculture Pick List Values: Yes/No Description: Presence of abandoned agricultural habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_DECIDUOUS_IND	VARCHAR2	3	Yes		DECIDUOUS	Biological
Long Name: Surrounding Habitat – Deciduous Forest Pick List Values: Yes/No Description: Presence of deciduous forest habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_CONIFEROUS_IND	VARCHAR2	3	Yes		CONIFEROUS	Biological
Long Name: Surrounding Habitat – Coniferous Forest Pick List Values: Yes/No Description: Presence of coniferous forest habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_MIXED_FOREST_IND	VARCHAR2	3	Yes		MIXED_FOR	Biological
Long Name: Surrounding Habitat – Mixed Forest Pick List Values: Yes/No						

Description: Presence of mixed forest habitat at least 0.5ha in size within 1.5km of the wetland. Mixed forest is defined as either 25% coniferous trees distributed singly or in clumps in deciduous forest, or 25% deciduous trees distributed singly or in clumps in coniferous forest. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_ABAN_PITS_IND	VARCHAR2	3	Yes		ABAN_PITS	Biological
Long Name: Surrounding Habitat – Abandoned Pits or Quarries Pick List Values: Yes/No Description: Presence of abandoned pits or quarries at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_OPEN_LAKE_IND	VARCHAR2	3	Yes		OPEN_LAKE	Biological
Long Name: Surrounding Habitat – Open Lake or Deep River Pick List Values: Yes/No Description: Presence of open lake or deep river habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_FENCE_ROWS_IND	VARCHAR2	3	Yes		FENCE_ROWS	Biological
Long Name: Surrounding Habitat – Fence Rows Pick List Values: Yes/No Description: Presence of fence row habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_RAVINE_IND	VARCHAR2	3	Yes		RAVINE	Biological
Long Name: Surrounding Habitat – Ravine Pick List Values: Yes/No Description: Presence of ravine habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_FLOODPLAIN_IND	VARCHAR2	3	Yes		FLOODPLAIN	Biological
Long Name: Surrounding Habitat – Creek Floodplain Pick List Values: Yes/No Description: Presence of a creek floodplain at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_ROCK_OUTCROP_IND	VARCHAR2	3	Yes		ROCK_OUTCR	Biological
Long Name: Surrounding Habitat – Rock Outcrop						

Pick List Values: Yes/No Description: Presence of rock outcrop habitat at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_RECENT_BURN_IND	VARCHAR2	3	Yes		RECENT_BUR	Biological
Long Name: Surrounding Habitat – Recent Burn Pick List Values: Yes/No Description: Presence of a recent burn (<5 years) at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_RECENT_CUT_IND	VARCHAR2	3	Yes		RECENT_CUT	Biological
Long Name: Surrounding Habitat – Recent Cut Pick List Values: Yes/No Description: Presence of a recent cutover or clearcut (<5 years) at least 0.5ha in size within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_UTILITY_IND	VARCHAR2	3	Yes		UTILITY	Biological
Long Name: Surrounding Habitat – Utility Corridor Pick List Values: Yes/No Description: Presence of a utility corridor within 1.5km of the wetland. OWES manual section 1.2.3. (Default = No)						
SURROUNDING_SCORE	NUMBER	1,0	Yes		SURROUND	Biological
Long Name: Surrounding Score Pick List Values: none Description: Score for the presence or absence of different habitat types of at least 0.5 ha in size in the landscape and found within 1.5 km of the wetland boundary. OWES manual section 1.2.3. (7 maximum)						
WETLAND_PROXIMITY_CATEGORY	NUMBER	1,0	Yes		PROX_CAT	Biological
Long Name: Proximity to Other Wetlands Pick List Values: 1, 2, 3, 4, 5, 6, 7. Description: First appropriate category of proximity to other wetland as listed in section 1.2.4 of the OWES manual. 1 - Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river within 5km. 2 - Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5km. 3 - Hydrologically connected by surface water to other wetlands (different dominant wetland type), or open lake or river from						

1.5 to 4km away.
4 - Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5km away.
5 - Within 0.75km of other wetlands (different dominant wetland type) or open lake or river, but not hydrologically connected by surface water.
6 - Within 1km of other wetlands, but not hydrologically connected by surface water.
7 - No wetland within 1 km.

PROXIMITY_SCORE	NUMBER	1,0	Yes		PROXIMITY	Biological

Long Name: Proximity Score
Pick List Values: none
Description: Score for the proximity of other wetlands to the evaluated wetland. OWES manual section 1.2.4. (8 maximum)

INTERSPERSION_SCORE	NUMBER	2,0	Yes		INTERSPERS	Biological

Long Name: Interspersion Score
Pick List Values: none
Description: Score for wetland spatial heterogeneity, as measured using the interspersion method described in section 1.2.5 of the OWES manual. (Range 3 – 30)

OPEN_WATER_TYPE	VARCHAR2	6	Yes		OPEN_TYPE	Biological

Long Name: Open Water Type
Pick List Values: Type 1, Type 2, Type 3, Type 4, Type 5, Type 6, Type 7, Type 8, None.
Description: Open water types as described and illustrated in section 1.2.6 of the OWES.

OPEN_WATER_TYPE_SCORE	NUMBER	2,0	Yes		OPEN_SCORE	Biological

Long Name: Open Water Type Score
Pick List Values: none
Description: Score for open water type, which assesses the proportion of open water in a wetland, and its interspersion with vegetation. OWES manual section 1.2.6. (30 maximum)

BIODIVERSITY_TOTAL_SCORE	NUMBER	3,0	Yes		BIODIVERS	Biological

Long Name: Biodiversity Total Score
Pick List Values: none
Description: Total score of the Biodiversity sub-component of the Biological component. It is the sum of scores from sections 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5 and 1.2.6 of the OWES manual. CALCULATION: Biodiversity Total Score = Wetland Type Count Score + Vegetation Comm Score + Surrounding Score + Proximity Score + Interspersion Score + Open Water Types

Score. (Range 13 – 150)						
SIZE_BIOLOGICAL_SCORE	NUMBER	2,0	Yes		SIZE_BIOL	Biological
Long Name: Size Biological Score						
Pick List Values: none						
Description: Score for the total area of the wetland, in terms of its biodiversity. It is read from the table in sub-component 1.3, by cross-referencing the total wetland area with the sub-total of the scores from section 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5 and 1.2.6 of the OWES manual. (Range 1 – 50)						

Social Table

Table 4 - name: **EVAL_WETLAND_SOCIAL**						
Description: Values and scores relevant to the Social Component Score 2.0 in the OWES (Northern: 1st edition; Southern: 3rd edition).						
Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
EVALUATED_WETLAND_ID	NUMBER	13	Yes	FK	EVAL_ID	Social
Long Name: Evaluated Wetland ID						
Pick List Values: none						
Description: System generated identifier, unique at the application level. Foreign key to EVALUATED_WETLAND table.						
WOOD_PRODUCTS_SCORE	NUMBER	2,0	Yes		WOOD_PROD	Social
Long Name: Wood Products Score						
Pick List Values: none						
Description: Score for the area of forested wetland. OWES manual section 2.1.1. (18 maximum south, 14 maximum north)						
WILD_RICE_SCORE	NUMBER	2,0	Yes		WILD_RICE	Social
Long Name: Wild Rice Score						
Pick List Values: none						
Description: Score for presence or absence of wild rice. OWES manual section 2.1.2. (6 maximum south, 10 maximum north)						
COMMERCIAL_FISH_SCORE	NUMBER	2,0	Yes		COMMERCIAL	Social

Long Name: Commercial Fish Score Pick List Values: none Description: Score for presence or absence of native bait fish and/or coarse fish. OWES southern manual section 2.1.3 and northern manual section 2.1.4. (12 maximum)						
BULLFROGS_SCORE	NUMBER	1,0	No		BULLFROGS	Social
Long Name: Bullfrogs Score Pick List Values: none Description: Score for the presence or absence of Bullfrogs. OWES southern manual section 2.1.4b. (1 maximum)						
SNAPPING_TURTLES_SCORE	NUMBER	1,0	No		SNAPPING	Social
Long Name: Snapping Turtles Score Pick List Values: none Description: Score for the presence or absence of Snapping Turtles. OWES southern manual section 2.1.4b. (1 maximum)						
CRANBERRY_SCORE	NUMBER	1,0	No		CRANBERRY	Social
Long Name: Cranberry Score Pick List Values: none Description: Score for the presence or absence of Lowbush cranberry. OWES northern manual section 2.1.2. (2 maximum)						
FURBEARERS_SCORE	NUMBER	2,0	Yes		FURBEARERS	Social
Long Name: Furbearers Score Pick List Values: none Description: Score for the number of qualified furbearers recorded in the wetland. OWES manual 2.1.5. (12 maximum)						
ECONOMIC_PRODUCTS_TOTAL	NUMBER	2,0	Yes		ECONOMIC	Social
Long Name: Economic Products Total Pick List Values: none Description: Total score of the Economically Valuable Products sub-component of the Social component. OWES manual section 2.1. Economic Products Total = Wood Products Score + Wild Rice Score + Commercial Fish Score + Furbearers Score + Bullfrogs Score (south) + Snapping Turtles Score (south) + Cranberry Score (north). (50 maximum)						
REC_HUNTING_SCORE	NUMBER	2,0	Yes		REC_HUNT	Social
Long Name: Recreational Hunting Score Pick List Values: 40, 20, 8, 0 Description: Score for the intensity of hunting. OWES manual section 2.2.						

REC_NATURE_SCORE	NUMBER	2,0	Yes		REC_NATURE	Social
Long Name: Recreational Nature Enjoyment/Ecosystem Study score Pick List Values: 40, 20, 8, 0 Description: Score for intensity of Recreational Nature Enjoyment/Ecosystem Study score. OWES manual section 2.2.						
REC_FISHING_SCORE	NUMBER	2,0	Yes		REC_FISH	Social
Long Name: Recreational Use - Fishing Pick List Values: 40, 20, 8, 0 Description: Score for the intensity of fishing. OWES manual section 2.2.						
RECREATIONAL_SCORE	NUMBER	2,0	Yes		RECREATION	Social
Long Name: Recreational Activity Score Pick List Values: none Description: Score for Recreational Activity. OWES manual section 2.2. The sum of Rec Hunting Score + Rec Nature Score + Rec Fishing Score. (80 maximum)						
DISTINCTNESS_SCORE	NUMBER	1,0	Yes		DISTINCT	Social
Long Name: Landscape Distinctness Score Pick List Values: 3, 0. Description: Score for distinctness within the landscape. OWES manual 2.3.1.						
HUMAN_DISTURBANCE_SCORE	NUMBER	1,0	Yes		HUMAN_DIST	Social
Long Name: Absence of Human Disturbance Score Pick List Values: 7, 4, 2, 1, 0 Description: Score for absence of human disturbance. OWES manual section 2.3.2.						
LANDSCAPE_AESTHETICS_TOTAL	NUMBER	2,0	Yes		LANDSCAPE	Social
Long Name: Landscape Aesthetics Total Pick List Values: none Description: Landscape Aesthetics score. OWES manual section 2.3. Landscape Aesthetics Total = Distinctness Score + Human Disturbance Score. (10 maximum)						
EDUCATIONAL_USES_SCORE	NUMBER	2,0	Yes		ED_USES	Social
Long Name: Educational Uses Score Pick List Values: 20, 12, 0 Description: Educational Uses score. OWES manual section 2.4.1.						

FACILITIES_SCORE	NUMBER	1,0	Yes		FACILITIES	Social
Long Name: Facilities and Programs Score						
Pick List Values: 8, 4, 2, 0						
Description: Facilities and Program score. OWES manual 2.4.2.						
RESEARCH_SCORE	NUMBER	2,0	Yes		RESEARCH	Social
Long Name: Research and Studies score						
Pick List Values: 12, 10, 5, 0.						
Description: Research and Studies score. OWES manual section 2.4.3.						
EDUCATIONAL_AWARENESS_TOTAL	NUMBER	2,0	Yes		ED_AWARE	Social
Long Name: Educational and Public Awareness Total						
Pick List Values: none						
Description: Educational and Public Awareness total. OWES manual 2.4. Education Awareness Total = Education Uses Score + Facilities Score + Research Score. (40 maximum)						
SETTLEMENT_NAME	VARCHAR2	40	Yes		SETTLEMENT	Social
Long Name: Settlement - Name						
Pick List Values: none						
Description: The name of the urban area, subdivision, small town, or cottage development that the wetland is in or nearest to. OWES manual section 2.5.						
SETTLEMENT_SCORE	NUMBER	2,0	Yes		SETT_SCORE	Social
Long Name: Settlement Score						
Pick List Values: none						
Description: Score based on the population and distance to areas of human settlement. OWES manual section 2.5. (40 maximum)						
OWNERSHIP_FA_TRUST	NUMBER	3,2	No		FA_TRUST	Social
Long Name: Ownership - Fractional Area in Trust						
Pick List Values: none						
Description: Fractional area in public or private ownership held under contract or in trust for wetland protection. OWES manual section 2.6. (1 maximum)						
OWNERSHIP_FA_PUBLIC	NUMBER	3,2	No		FA_PUBLIC	Social
Long Name: Ownership - Fractional Area Public						

Pick List Values: none						
Description: Fractional area in public ownership not held under contract or in trust for wetland protection. OWES manual section 2.6. (1 maximum)						
OWNERSHIP_FA_PRIVATE	NUMBER	3,2	No		FA_PRIVATE	Social
Long Name: Ownership - Fractional Area in Trust						
Pick List Values: none						
Description: Fractional area in private ownership not held under contract or in trust for wetland protection. OWES manual section 2.6. (1 maximum)						
OWNERSHIP_SCORE	NUMBER	2,0	Yes		OWNERSHIP	Social
Long Name: Ownership Score						
Pick List Values: none						
Description: Score for the type of land ownership and protection. OWES manual section 2.6. (10 maximum)						
SIZE_SOCIAL_SCORE	NUMBER	2,0	Yes		SIZE_SOC	Social
Long Name: Size Social Score						
Pick List Values: none						
Description: Score for the total area of the wetland in terms of its social values. OWES manual section 2.7. (Range 1 – 20)						
ABORIGINAL_SCORE	NUMBER	2,0	Yes		ABORIGINAL	Social
Long Name: Aboriginal Values Score						
Pick List Values: 30, 0						
Description: Significance of aboriginal values. OWES manual section 2.8.1.						
CULTURAL_SCORE	NUMBER	2,0	Yes		CULTURAL	Social
Long Name: Cultural Heritage Score						
Pick List Values: 30, 0						
Description: Cultural values stemming from historical events. OWES manual section 2.8.2. There must be a physical structure of historic or cultural value within the wetland boundaries.						
ABORIGINAL_CULTURAL_SCORE	NUMBER	2,0	Yes		ABORIG_C	Social
Long Name: Aboriginal values and cultural heritage score						
Pick List Values: none						
Description: Total score of the Aboriginal Values and Cultural Heritage. OWES manual section 2.8. (30 maximum)						

Hydrological Table

Table 5 - name: **EVAL_WETLAND_HYDROLOGICAL**						
Description: Values and scores relevant to the Hydrological Component Score 3.0 in the OWES (Northern: 1st edition; Southern: 3rd edition).						
Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
EVALUATED_WETLAND_ID	NUMBER	13,0	Yes	FK	EVAL_ID	Hydrological
Long Name: Evaluated Wetland ID Pick List Values: none Description: System generated identifier, unique at the application level. Foreign key to EVALUATED_WETLAND table.						
FLOOD_ATTENUATION_SCORE	NUMBER	3,0	Yes		FLOOD_ATTE	Hydrological
Long Name: Flood Attenuation Score Pick List Values: none Description: Score for flood attenuation based upon information regarding the wetland and the surrounding watershed. OWES manual section 3.1. Flood attenuation includes an assessment of upstream detention and wetland attenuation in the southern OWES manual and an assessment of upstream detention, peak flow attenuation and wetland surface form in the northern OWES manual. (100 maximum)						
WETLAND_ON_MAJOR_WATERBODY_IND	VARCHAR2	3	Yes		MAJOR_WBY	Hydrological
Long Name: Wetland on major lake or river Pick List Values: Yes/No Description: Whether the wetland is on one of the 5 defined large lakes or 5 major rivers. OWES southern manual 3.2.1 and northern manual section 3.3.2. (Default = No)						
WIF_FA_ISOLATED	NUMBER	3,2	No		WIF_ISO	Hydrological
Long Name: Water Improvement Factor Fractional Area - Isolated Pick List Values: None Description: Estimated fractional area that is isolated. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WIF_FA_RIVERINE	NUMBER	3,2	No		WIF_RIV	Hydrological
Long Name: Water Improvement Factor Fractional Area - Riverine						

Pick List Values: None Description: Estimated fractional area that is riverine. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WIF_FA_PALUSTRINE_NO_INFLOW	NUMBER	3,2	No		WIF_PAL_NO	Hydrological
Long Name: Water Improvement Factor Fractional Area – Palustrine with no inflow Pick List Values: None Description: Estimated fractional area that is palustrine with no inflow. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WIF_FA_PALUSTRINE_WITH_INFLOW	NUMBER	3,2	No		WIF_PAL_IN	Hydrological
Long Name: Water Improvement Factor Fractional Area – Palustrine with inflow Pick List Values: None Description: Estimated fractional area that is palustrine with inflow. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WIF_FA_LACUSTRINE_SHORELINE	NUMBER	3,2	No		WIF_LAC_SL	Hydrological
Long Name: Water Improvement Factor Fractional Area – Lacustrine on lake shoreline Pick List Values: None Description: Estimated fractional area that is lacustrine on lake shoreline. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WIF_FA_LACUSTRINE_FLOW	NUMBER	3,2	No		WIF_LAC_FL	Hydrological
Long Name: Water Improvement Factor Fractional Area – Lacustrine at lake inflow or outflow Pick List Values: None Description: Estimated fractional area that is lacustrine at lake inflow or outflow. OWES southern manual 3.2.1 and northern manual section 3.3.1. (1 maximum)						
WATERSHED_IMPROVEMENT_NORTH	NUMBER	2,0	No		WATERSHED	Hydrological
Long Name: Watershed Improvement Score Pick List Values: none Description: Score for the water quality improvement functions. OWES northern manual 3.3.1. (30 maximum)						
CATCHMENT_LAND_USE	NUMBER	1,0	No		CATCHMENT	Hydrological
Long Name: Catchment Land Use Factor Pick List Values: None.						

Description: Catchment land use factor. OWES southern manual 3.2.1. (1 maximum)						
PUF_FA_TREES	NUMBER	3,2	No		PUF_FA_TRE	Hydrological
Long Name: Pollutant uptake factor fractional area - Trees Pick List Values: None Description: Estimated fractional area with live trees, shrubs, herbs or mosses. OWES southern manual 3.2.1. (1 maximum)						
PUF_FA_EMERGENT	NUMBER	3,2	No		PUF_FA_EME	Hydrological
Long Name: Pollutant uptake factor fractional area - Emergent Pick List Values: None Description: Estimated fractional area with emergent, submergent or floating vegetation. OWES southern manual 3.2.1. (1 maximum)						
PUF_FA_NO_VEGETATION	NUMBER	3,2	No		PUF_FA_NO	Hydrological
Long Name: Pollutant uptake factor fractional area – No vegetation Pick List Values: None Description: Estimated fractional area with little or no vegetation. OWES southern manual 3.2.1. (1 maximum)						
SHORT_TERM_IMPROVE_SOUTH	NUMBER	2,0	No		SHORT_TERM	Hydrological
Long Name: Short Term Improvement South Pick List Values: none Description: Score for the short-term water quality improvement functions. OWES southern manual 3.2.1. The short-term water quality improvement score includes a determination of the watershed improvement factor (WIF), the catchment land use factor (LUF) and the pollutant uptake factor (PUF). (60 maximum)						
LONG_TERM_NUTRIENT_DESCR	NUMBER	1	No		NUTRIENT	Hydrological
Long Name: Long term nutrient description Pick List Values: 1, 2, 3, 4, 5. Description: Long term nutrient trap. OWES southern manual 3.2.2. 1 – Wetland located in a river mouth. 2 – Wetland is a bog, fen, or swamp with more than 50% of the wetland being covered with organic soil. 3 – Wetland is a bog, fen, or swamp with less than 50% or the wetland being covered with organic soil. 4 – Wetland is a marsh with more than 50% of the wetland covered with organic soil. 5 – None of the above.						
LONG_TERM_NUTRIENT_SOUTH	NUMBER	2,0	No		NUTRIENT_S	Hydrological

Long Name: Long Term Nutrient South Pick List Values: None Description: Score for the long-term functions of the wetland as a nutrient trap based on the wetland type, site type and soils. OWES southern manual 3.2.2. (10 maximum)						
GW_DISCHARGE_SCORE	NUMBER	2	Yes			Hydrological
Long Name: Ground Water Discharge Score Pick List Values: None Description: Score for the groundwater discharge function of the wetland based on the wetland features, type, soils, catchment and topography. OWES southern manual section 3.2.3 and northern manual section 3.6. (30 maximum)						
BROAD_UPSLOPE_LANDUSE	NUMBER	2,0	No		BROAD_UPS	Hydrological
Long Name: Broad upslope land use Pick List Values: None Description: Broad upslope land use. OWES northern manual 3.3.2. (20 maximum)						
LINEAR_UPSLOPE_LANDUSE	NUMBER	2,0	No		LINEAR_UPS	Hydrological
Long Name: Linear upslope land use Pick List Values: None Description: Linear upslope land use. OWES northern manual 3.3.2. (15 maximum)						
POINT_SOURCE_LANDUSE	NUMBER	2,0	No		POINT_SOUR	Hydrological
Long Name: Point-source land uses present Pick List Values: None Description: Point source land uses present. OWES northern manual 3.3.2. (15 maximum)						
ADJACENT_LAND_USE_NORTH	NUMBER	2,0	No		ADJACENT_N	Hydrological
Long Name: Adjacent and watershed land use north Pick List Values: None Description: Score for adjacent and watershed land use. OWES northern manual section 3.3.2. Sum of Broad Upslope Land Use (BLU) + Linear Upslope Land Use (LUU) + Point-Source Land Use (PS). (50 maximum)						
VEGETATION_FORM_NORTH	NUMBER	2,0	No		VEGETATION	Hydrological
Long Name: Vegetation Form North Pick List Values: None Description: Score for the water quality improvement functions of the wetland based on dominant vegetation types. OWES						

northern manual section 3.3.3. (10 maximum)

DOWNSTREAM_QUALITY_NORTH	NUMBER	2,0	No		DOWNSTR_N	Hydrological

Long Name: Downstream water quality improvement north
Pick List Values: None
Description: Total score for downstream water quality improvement. OWES northern manual section 3.3. Downstream Quality North = Watershed Improvement North + Adjacent Land Use North + Vegetation Form North. (84 maximum)

WATER_QUALITY_IMPROVE_SOUTH	NUMBER	3,0	No		WATER_QUAL	Hydrological

Long Name: Water Quality Improvement South
Pick List Values: None
Description: Total score for water quality improvement. OWES southern manual 3.2. Water Quality Improve South = Short Term Improve South + Long Term Nutrient South + GW Discharge Score. (100 maximum)

CARBON_SINK_SCORE	NUMBER	2,0	No		C_SINK	Hydrological

Long Name: Carbon Sink Score
Pick List Values: None
Description: Score for the potential to sequester carbon over the long-term. OWES southern manual section 3.3 and northern manual section 3.4. (5 maximum south, 15 maximum north)

SHORELINE_EROSION_CONTROL	NUMBER	2,0	Yes		SHORELINE	Hydrological

Long Name: Shoreline Erosion Control
Pick List Values: None
Description: Score for the potential of vegetation to reduce or prevent shoreline erosion. OWES southern manual section 3.4 and northern manual section 3.5. (15 maximum)

RECHARGE_MAJOR_RIVERS_IND	VARCHAR2	3,0	Yes		R_RIVERS	Hydrological

Long Name: Ground water recharge – Major Rivers
Pick List Values: Yes/No
Description: Ground water recharge located on one of the five major rivers. OWES southern manual section 3.5.1 and northern manual section 3.2.1. (Default = No)

RECHARGE_FA_ISO_PAL	NUMBER	3,2	No		R_FA_ISO	Hydrological

Long Name: Ground water recharge – Fractional area – Isolated or palustrine
Pick List Values: None
Description: Estimated fractional area that is isolated or palustrine. OWES southern manual section 3.5.1 and northern

manual section 3.2.1. (1 maximum)						
RECHARGE_FA_RIVERINE	NUMBER	3,2	No		R_FA_RIV	Hydrological

Long Name: Ground water recharge – Fractional area – Riverine
Pick List Values: None
Description: Estimated fractional area that is riverine. OWES southern manual section 3.5.1 and northern manual section 3.2.1. (1 maximum)

RECHARGE_FA_LACUSTRINE	NUMBER	3,2	No		R_FA_LAC	Hydrological

Long Name: Ground water recharge – Fractional area – Lacustrine
Pick List Values: None
Description: Estimated fractional area that is lacustrine (wetland <50% lacustrine). OWES southern manual section 3.5.1 and northern manual section 3.2.1. (1 maximum)

WETLAND_SITE_TYPE_SCORE	NUMBER	2,0	Yes		TYPE_SCORE	Hydrological

Long Name: Wetland Site Type
Pick List Values: None
Description: Score for the potential of the wetland to recharge ground water based on wetland site type. OWES southern manual section 3.5.1 and northern manual section 3.2.1. (50 maximum south, 20 maximum north)

RECHARGE_SOIL_SCORE	NUMBER	2,0	Yes		R_SOIL	Hydrological

Long Name: Recharge Soil Score
Pick List Values: None
Description: Score for the potential of ground water recharge based on wetland site type and soils. OWES southern manual section 3.5.2 and northern manual section 3.2.2. (10 maximum)

RECHARGE_SCORE	NUMBER	2,0	Yes		R_SCORE	Hydrological

Long Name: Recharge Score
Pick List Values: none
Description: Total score for Ground Water Recharge potential. OWES southern manual section 3.5 and northern manual section 3.2.
Recharge Score = Wetland Site Type Score + Recharge Soil Score. (60 maximum south, 30 maximum north)

Special Features Table

Table 6 - name: **EVAL_WETLAND_SPECIAL_FEATURE** Description: Values and scores relevant to the Special Feature Component Score 4.0 in the OWES (Northern: 1st edition; Southern: 3rd edition).						
Geodatabase Field Name	Type	Width	Mandatory	Key	Short Name (shapefile)	Table
EVALUATED_WETLAND_ID	NUMBER	13,0	Yes	FK	EVAL_ID	Special
Long Name: Evaluated Wetland ID Pick List Values: None Description: System generated identifier, unique at the application level. Foreign key to EVALUATED_WETLAND table.						
RARITY_WITHIN_LANDSCAPE	NUMBER	2,0	No		RARITY_WIT	Special
Long Name: Rarity Within Landscape Pick List Values: None Description: Score for the rarity of wetlands within site districts. OWES Southern manual section 4.1.1.1. (80 maximum)						
RARITY_OF_WETLAND_TYPE	NUMBER	2,0	Yes		RARITY_TYP	Special
Long Name: Rarity of Wetland Type Pick List Values: None Description: Score for the rarity of wetland type (marsh, swamp, bog, fen) within site districts. OWES manual section 4.1.1.2. (80 maximum south, 70 maximum north)						
RARITY_WETLAND_SCORE	NUMBER	3,0	Yes		RARITY_WET	Special
Long Name: Rarity Wetland Score Pick List Values: None Description: Score for the rarity of wetlands within the landscape and the rarity of wetland type. OWES manual section 4.1.1. Sum of Rarity Within Landscape + Rarity of Wetland Type. (160 maximum)						
SPECIES_BREEDING_SCORE	NUMBER	4,0	Yes		SP_BREED	Special
Long Name: Species Breeding Score						

Pick List Values: None Description: Score for reproductive habitat for an endangered or threatened species. OWES manual section 4.1.2.1. (no maximum)						
SPECIES_TRADITIONAL_SCORE	NUMBER	4,0	Yes		SP_TRAD	Special
Long Name: Species Traditional Score Pick List Values: None. Description: Score for traditional migration or feeding habitat for an endangered or threatened species. OWES manual section 4.1.2.2. (no maximum)						
SPECIES_PROV_ANIMAL_SCORE	NUMBER	3,0	Yes		SP_PROV_AN	Special
Long Name: Provincially Significant Animal Species Score Pick List Values: None Description: Score for the occurrence of provincially significant animal species. OWES manual section 4.1.2.3. (no maximum)						
SPECIES_PROV_PLANT_SCORE	NUMBER	3,0	Yes		SP_PROV_PL	Special
Long Name: Provincially Significant Plant Species Score Pick List Values: None Description: Score for the occurrence of provincially significant plant species. OWES manual section 4.1.2.4. (no maximum)						
SPECIES_REGIONAL_SIG_SCORE	NUMBER	3,0	Yes		SP_REG_SIG	Special
Long Name: Species Regionally Significant Score Pick List Values: None Description: Score for the occurrence of regionally significant species in the site region. OWES manual section 4.1.2.5. (no maximum)						
SPECIES_LOCAL_SIG_SCORE	NUMBER	3,0	Yes		SP_LOCAL	Special
Long Name: Species Locally significant Score Pick List Values: None Description: Score for the occurrence of locally significant species in the site district. OWES manual section 4.1.2.6. (no maximum)						
SPECIES_SPECIAL_SCORE	NUMBER	2,0	No		SP_SPECIAL	Special
Long Name: Species Special Score Pick List Values: None Description: Score for the presence of breeding habitat for Black Duck. OWES Northern manual section 4.1.2.7. (25						

maximum)

SPECIES_RARITY_TOTAL	NUMBER	5,0	Yes		SP_RARITY	Special

Long Name: Species Rarity Total
Pick List Values: None
Description: Total score for species rarity in the wetland. OWES manual section 4.1.2. Species Rarity Total = Species Breeding Score + Species Traditional Score + Species Prov Animal Score + Species Prov Plant Score + Species Regional Sig Score + Species Local Sig Score + (Species Special Score in northern evaluation only). (no maximum) There is a cap on final component score.

RARITY_TOTAL	NUMBER	5,0	Yes		RARITY_TOT	Special

Long Name: Rarity Total
Pick List Values: None
Description: Total score for the rarity of the wetland. OWES manual section 4.1. Rarity Total = Rarity Wetland Score + Species Rarity Total. (no maximum) There is a cap on final component score.

COLONIAL_WATERBIRDS_SCORE	NUMBER	2,0	Yes		WATERBIRDS	Special

Long Name: Colonial Waterbirds Score
Pick List Values: None
Description: Score for nesting or feeding of colonial waterbirds in the wetland. OWES manual section 4.2.1. (50 maximum)

WINTER_WILDLIFE_COVER_SCORE	NUMBER	3,0	Yes		WINTER_COV	Special

Long Name: Winter Wildlife Cover Score
Pick List Values: None
Description: Score for winter cover for wildlife in the wetland. OWES manual section 4.2.2. (100 maximum)

WATERFOWL_STAGE_SCORE	NUMBER	3,0	Yes		FOWL_STAGE	Special

Long Name: Waterfowl Staging Area Description
Pick List Values: 150, 100, 50, 10, 5, 0
Description: Level of waterfowl staging area significance. Description for values are 150 = Nationally Significant, 100 = Provincially Significant, 50 = Regionally Significant, 10 = Locally Significant, 5 = Known to occur, and 0 = Not possible/Unknown. OWES manual section 4.2.3. (150 maximum)

WATERFOWL_MOULT_SCORE	NUMBER	3,0	Yes		FOWL_MOULT	Special

Long Name: Waterfowl Moulting Area Description
Pick List Values: 150, 100, 50, 10, 5, 0

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Description: Level of waterfowl moulting area significance. Description for values are 150 = Nationally Significant, 100 = Provincially Significant, 50 = Regionally Significant, 10 = Locally Significant, 5 = Known to occur, and 0 = Not possible/Unknown. OWES manual section 4.2.3. (150 maximum)						
WATERFOWL_STAGE_MOULT_SCORE	NUMBER	3,0	Yes		FOWL_S_MLT	Special
Long Name: Waterfowl Stage Moult Score Pick List Values: None Description: Score for the staging and/or moulting of waterfowl. OWES manual section 4.2.3. (150 maximum)						
WATERFOWL_BREEDING_SCORE	NUMBER	3,0	Yes		FOWL_BREED	Special
Long Name: Waterfowl Breeding Score Pick List Values: None Description: Score for the breeding of waterfowl. OWES manual section 4.2.4. (100 maximum south, 150 maximum north)						
MIGRATORY_STOPOVER_SCORE	NUMBER	3,0	Yes		MIGRATORY	Special
Long Name: Migratory Stopover Score Pick List Values: None Description: Score for the use of migratory stop-over areas by passerine, shorebird or raptor species. OWES manual section 4.2.5. (100 maximum south, 150 maximum north)						
UNGULATE_SUMMER_COVER_IND	VARCHAR2	3,0	No		SUMMER_COV	Special
Long Name: Ungulate Habitat - Summer Cover Pick List Values: Yes/No Description: Ungulate summer cover refers to black spruce stands in which the canopy is thick enough to provide thermal cover (shade) for ungulates during the heat of summer. OWES northern manual section 4.2.6. (Default = No)						
UNGULATE_MINERAL_LICK_IND	VARCHAR2	3,0	No		MINERAL	Special
Long Name: Ungulate Habitat – Mineral Licks Pick List Values: Yes/No Description: Evidence of mineral lick for sodium. OWES northern manual section 4.2.6. (Default = No)						
UNGULATE_MOOSE_FEEDING	NUMBER	2,0	No		MOOSE	Special
Long Name: Ungulate – Moose aquatic feeding habitat score Pick List Values: 0, 10, 20, 35 Description: Score for moose aquatic feeding area class. MNR District and Area offices must be contacted to obtain information about moose aquatic feeding areas. OWES northern manual section 4.2.6. (35 maximum)						

UNGULATE_SCORE	NUMBER	3,0	No		UNGULATE	Special
Long Name: Ungulate Score Pick List Values: None Description: Score for the quality of moose habitat. OWES northern manual section 4.2.6. (100 maximum)						
FISH_SPAWNING_PRESENT_IND	VARCHAR2	3,0	Yes		SPAWN_PRES	Special
Long Name: Fish Spawning Habitat - Present Pick List Values: Yes/No Description: Presence or absence of fish spawning and nursery habitat. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (Default = No)						
FISH_SPAWNING_SIG_KNOWN_IND	VARCHAR2	3,0	Yes		SPAWN_KNOW	Special
Long Name: Fish Spawning Habitat – Known Significance Pick List Values: Yes/No Description: Fish Spawning Habitat significance is known. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (Default = No)						
FISH_SPAWNING_SIGNIFICANCE	VARCHAR2	13	Yes		SPAWN_SIG	Special
Long Name: Fish Spawning Habitat – Significance Pick List Values: Site Region, Site District, Locally(5+ha), Locally(<5ha). Description: Significance of the fish spawning and nursery habitat. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1.						
FISH_SPAWNING_LOW_MARSH_IND	VARCHAR2	3	Yes		SPAWN_LOW	Special
Long Name: Fish Spawning Habitat – Low Marsh Pick List Values: Yes/No Description: Presence or absence of low marsh. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (Default = No)						
FISH_SPAWNING_HIGH_MARSH_IND	VARCHAR2	3	Yes		SPAWN_HIGH	Special
Long Name: Fish Spawning Habitat – High Marsh Pick List Values: Yes/No Description: Presence or absence of high marsh. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (Default = No)						
FISH_SPAWNING_SWAMP_IND	VARCHAR2	3	Yes		SPAWN_SWAM	Special

Long Name: Fish Spawning Habitat - Swamp Pick List Values: Yes/No Description: Presence or absence of seasonally or permanently flooded swamp. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (Default = No)						
FISH_SPAWNING_SCORE	NUMBER	3,0	Yes		SPAWNING	Special
Long Name: Fish Spawning Score Pick List Values: None Description: Score for the presence and significance of fish spawning and nursery habitat. OWES southern manual section 4.2.6.1 and northern manual section 4.2.7.1. (100 maximum)						
FISH_MIGRATION_PRESENT_IND	VARCHAR2	3	Yes		MIG_PRES	Special
Long Name: Fish Migration and Staging Habitat - Present Pick List Values: Yes/No Description: Presence or absence of fish migration and staging habitat. OWES southern manual section 4.2.6.2 and northern manual section 4.2.7.2. (Default = No)						
FISH_MIGRATION_SIG_KNOWN_IND	VARCHAR2	3	Yes		MIG_KNOWN	Special
Long Name: Fish Migration and Staging Habitat – Known Significance Pick List Values: Yes/No Description: Fish Migration and Staging Habitat significance known. OWES southern manual section 4.2.6.2 and northern manual section 4.2.7.2. (Default = No)						
FISH_MIGRATION_SIGNIFICANCE	VARCHAR2	20	Yes		MIG_SIGNIF	Special
Long Name: Fish Migration and Staging Habitat - Significance Pick List Values: Site Region, Site District, Locally, None of Above. Description: Significance of the fish spawning and nursery habitat. OWES southern manual section 4.2.6.2 and northern manual section 4.2.7.2.						
FISH_MIGRATION_SITE_TYPE	VARCHAR2	1	Yes		MIG_TYPE	Special
Long Name: Fish Migration and Staging Habitat – Site Type Pick List Values: 1, 2, 3, 4. Description: Site type of fish migration and staging habitat. OWES southern manual section 4.2.6.2 and northern manual section 4.2.7.2. 1 – Wetland is riverine at rivermouth or lacustrine at rivermouth.						

2 – Wetland is riverine, within 0.75 km of rivermouth. 3 – Wetland is lacustrine, within 0.75 kn of rivermouth. 4 – Fish staging and/or migration habitat is present, but not as above.						
FISH_MIGRATION_SCORE	NUMBER	2,0	Yes		MIG_SCORE	Special
Long Name: Fish Migration Score Pick List Values: None Description: Score for the presence and significance of fish migration and staging habitat. OWES southern manual section 4.2.6.2 and northern manual section 4.2.7.2. (25 maximum)						
FISH_HABITAT_TOTAL	NUMBER	3,0	Yes		FISH_HABIT	Special
Long Name: Fish Habitat Total Pick List Values: None Description: Total score for the presence and quality of fish habitat in the wetland. The sum of the scores from the Spawning and Nursery Habitat, and Migration and Staging Habitat. OWES southern manual section 4.2.6 and northern manual section 4.2.7. (125 maximum)						
SIG_FEATURES_AND_HAB_TOTAL	NUMBER	3,0	Yes		SIG_FEATUR	Special
Long Name: Significant Features and Habitat Total Pick List Values: None Description: Total score for significant features or habitat in the wetland. Sig Features And Habitat Total = Colonial Waterbirds Score + Winter Wildlife Cover Score + Waterfowl Stage Moult Score + Waterfowl Breeding Score + Migratory Stopover Score + Fish Habitat Total + (Ungulate Score in northern evaluation). OWES manual section 4.2. (825 maximum)						
ECOSYSTEM_FA_BOG	NUMBER	3,2	Yes		FA_BOG	Special
Long Name: Ecosystem Age – Fractional Area of Bog Pick List Values: None Description: Fractional area of the wetland that is bog. OWES manual section 4.3. (1 maximum) (Default = 0.00)						
ECOSYSTEM_FA_FEN_MAT	NUMBER	3,2	Yes		FA_FEN_MAT	Special
Long Name: Ecosystem Age – Fractional Area of Fen on deeper soils Pick List Values: None Description: Fractional area of the wetland that is fen on deeper soil, floating mats or marl. OWES manual section 4.3. (1 maximum) (Default = 0.00)						
ECOSYSTEM_FA_FEN_LIMESTONE	NUMBER	3,2	Yes		FA_FEN_LIM	Special

Long Name: Ecosystem Age – Fractional Area of Fen on Limestone Rock Pick List Values: None Description: Fractional area of the wetland that is fen on limestone rock. OWES manual section 4.3. (1 maximum) (Default = 0.00)						
ECOSYSTEM_FA_SWAMP	NUMBER	3,2	Yes		FA_SWAMP	Special
Long Name: Ecosystem Age – Fractional Area of Swamp Pick List Values: None Description: Fractional area of the wetland that is swamp. OWES manual section 4.3. (1 maximum) (Default = 0.00)						
ECOSYSTEM_FA_MARSH	NUMBER	3,2	Yes		FA_MARSH	Special
Long Name: Ecosystem Age – Fractional Area of Marsh Pick List Values: None Description: The fractional area of the wetland that is marsh. OWES manual section 4.3. (1 maximum) (Default = 0.00)						
ECOSYSTEM_SCORE	NUMBER	2,0	Yes		ECOSYSTEM	Special
Long Name: Ecosystem Score Pick List Values: None Description: Score for the age of the ecosystem. OWES manual section 4.3. (25 maximum)						
GREAT_LAKES_COASTAL_SCORE	NUMBER	2,0	Yes		GREAT_LAKE	Special
Long Name: Great Lakes Coastal Score Pick List Values: None Description: Score for the size of Great Lakes coastal wetlands. OWES manual section 4.4. (75 maximum)						

Wetland Consolidation Project 2011 – Data Sources

Previous to 2011 the Wetland Unit layer contained only data for wetlands that had been evaluated through the Ontario Wetland Evaluation System (OWES). There were several other sources for wetland data that had not been evaluated. It was not an easy task for users to compile a complete coverage of wetland data for a given area of the province from many layers. It was also not clear which layer to update when new information was available.

The rationale for the Wetland Consolidation Project was to provide one layer with complete coverage for Ontario that would be maintained. In the spring of 2011 MNR district staff were consulted to identify the best available existing wetland data for their district. The resulting data were added to the Wetland Unit layer where it did not overlap existing OWES evaluated wetland data.

Sources for wetland data included Wetland Interim (OBM/NTS), Forest Resource Inventory (FRI), Southern Ontario Land Recourse Inventory System (SOLRIS) and MNR district data that was being stored in the Significant Ecological Area layer. Due to the changing landscape in the south western portion of the province and the vintage of available source data Aylmer district chose not to add data to the existing Wetland Unit Layer. In the Far North Hudson Bay Lowlands and surrounding area some of the wetlands were not available and will be populated with the Far North Land Cover wetland data.

The existing Wetland Unit data (OWES evaluated wetlands) remained unchanged and was considered to be the priority 1 layer. Each MNR district confirmed which data source to use as priority 2 and priority 3 for their particular district (Figure 6).
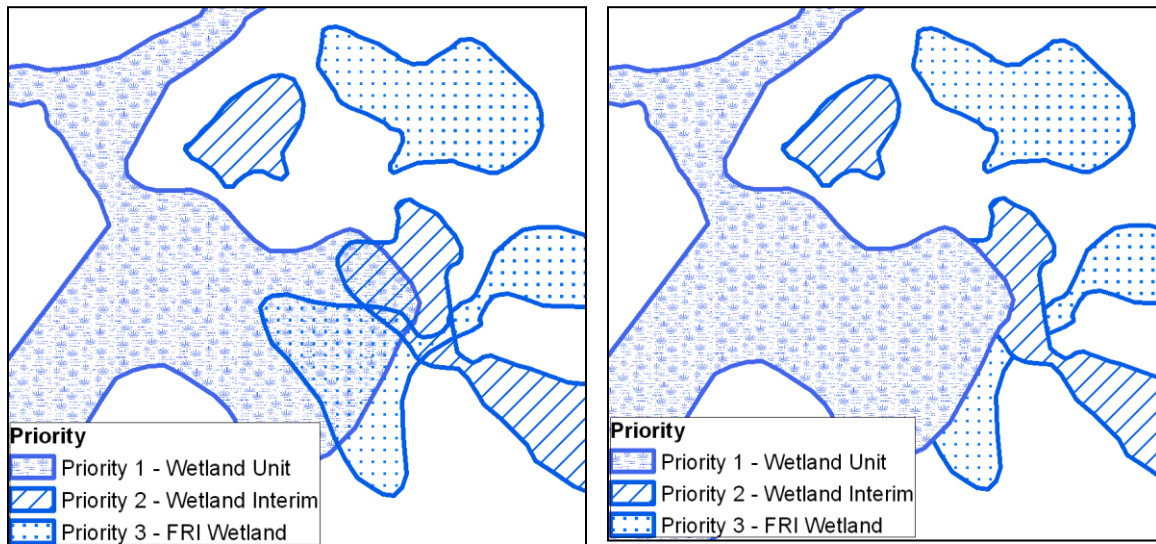
Figure 6: The left image illustrates the data before the consolidation process with the priority 2 and 3 layers overlapping the priority 1 layer. The right image illustrates the data after the consolidation process with the overlapping portions of the priority 2 and 3 layers removed.

The wetland data to be consolidated were separated into two categories of isolated or adjacent. Isolated wetland polygons did not touch any polygon of a higher priority. Adjacent wetland polygons did touch or overlap polygons of a higher priority. The overlapping portions of the adjacent polygons were removed so that polygons could touch but not overlap (Figure 6). Each MNR district decided whether to consolidate the isolated or adjacent or both for their district.
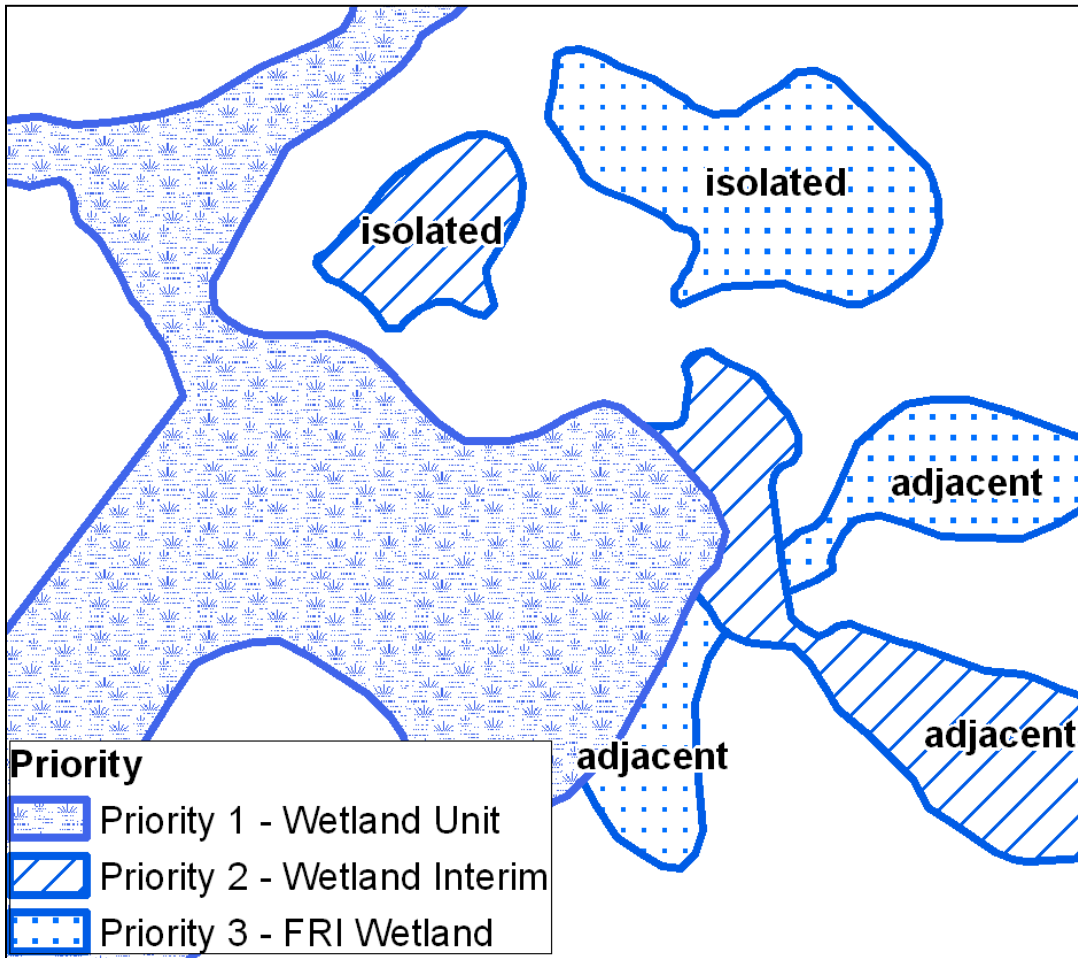
Figure 7: Isolated polygons did not touch other polygons where adjacent polygons did.

The following map (Figure 8) and table (Table 7) show the priority layers that were consolidated into the Wetland Unit Layer for each MNR district. The table also lists if isolated, adjacent or both were used.
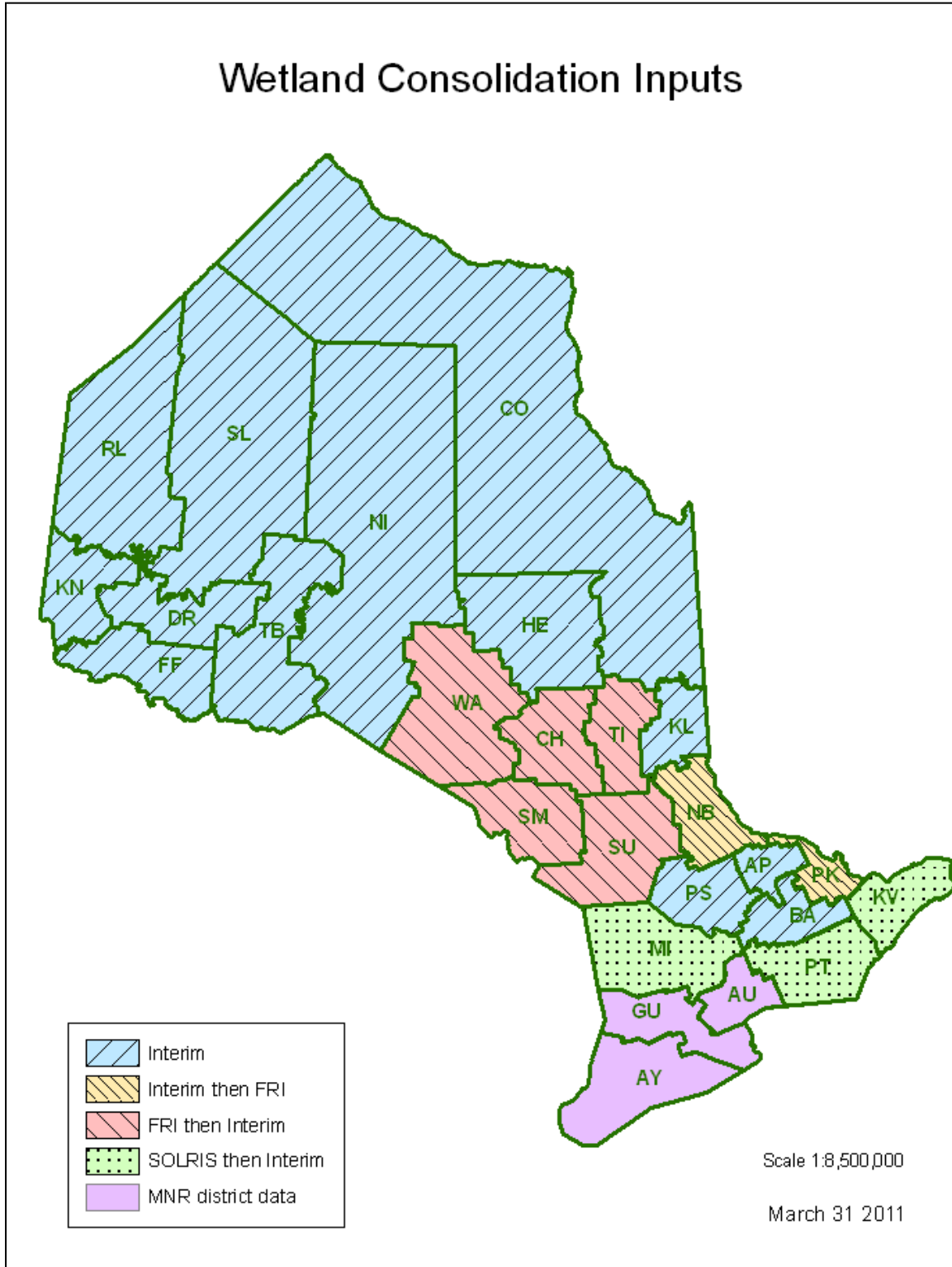
Figure 8: Wetland Consolidation Inputs map.

Table 7: Consolidation Priority Layers by MNR District.

MNR District	Priority One	Priority Two	Priority Three
Algonquin Park (AP)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Aurora (AU)	existing WU	district data (Significant Ecological Area)	
Aylmer (AY)	existing WU		
Bancroft (BA)	existing WU	SOLRIS_islolated SOLRIS_adjacent (covering part of district)	Wetland_interim_isolated Wetland_interim_adjacent
Chapleau (CH)	existing WU	FRI_isolated FRI_adjacent	Wetland_interim_isolated Wetland_interim_adjacent
Cochrane (CO)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Dryden (DR)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Fort Frances (FF)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Guelph (GU)	existing WU	district data (Significant Ecological Area)	
Hearst (HE)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Kemptville (KV)	existing WU	SOLRIS_islolated SOLRIS_adjacent	Wetland_interim_isolated Wetland_interim_adjacent
Kenora (KN)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Kirkland Lake (KL)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Midhurst (MI)	existing WU	SOLRIS_islolated SOLRIS_adjacent	Wetland_interim_isolated Wetland_interim_adjacent
Nipigon (NI)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
North Bay (NB)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	FRI_isolated FRI_adjacent
Parry Sound (PS)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Pembroke (PK)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	FRI_isolated FRI_adjacent
Peterborough (PT)	existing WU	SOLRIS_islolated SOLRIS_adjacent	Wetland_interim_isolated Wetland_interim_adjacent
Red Lake (RL)	existing	Wetland_interim_isolated	

	WU	Wetland_interim_adjacent	
Sault Ste Marie (SM)	existing WU	FRI_isolated	Wetland_interim_isolated
Sioux Lookout (SL)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Sudbury (SU)	existing WU	FRI_isolated FRI_adjacent	Wetland_interim_isolated
Thunder Bay (TB)	existing WU	Wetland_interim_isolated Wetland_interim_adjacent	
Timmins (TI)	existing WU	FRI_isolated FRI_adjacent	Wetland_interim_isolated Wetland_interim_adjacent
Wawa (WA)	existing WU	FRI_isolated FRI_adjacent	Wetland_interim_isolated Wetland_interim_adjacent

Attributes from the consolidated source layers

- **Evaluated Wetland Indicator:** The Evaluated Wetland Indicator attribute was set to "No" for all polygons added to the Wetland Unit layer from other source layers.

- **Significant Ecological Area:** All attributes for wetland polygons in the Significant Ecological Area layer were transferred to the appropriate fields in the Wetland Unit layer.

- **Source:** The source of consolidated data was added to the General Comments field and will later be added to the Source Detail field.

- **Wetland Unit Type:** The SOLRIS data was classified into 4 types which were transferred to the Wetland Unit Type field. The FRI and Wetland Interim were set to "Unknown" and their classification information was transferred to the General Comments field for reference. (Table 8)

Table 8: Wetland Unit Type information transferred from source data to Wetland Unit.

Source	Wetland Unit Type	General Comments
SOLRIS	Bog	
	Fen	
	Marsh	
	Swamp	
FRI	Unknown	OMS, open wetland, wet areas of mosses, grasses, sedges, and small herbaceous plants, often interspersed with small areas of open water.
		TMS, treed wetland, areas of dry or wet muskeg on which stunted trees occur as widely spaced individuals or in small groups.
		BSH, brush and alder, areas covered with 'non-commercial' tree species or shrubs. These areas are normally associated with wetlands or water features.
Wetland Interim	Unknown	Wetland Area, Permanent.
		Wetland Area, Seasonally Inundated.