

User Guide
for the
Ontario Hydro Network
(OHN)

Version 1.2

**Provincial Mapping Unit
Mapping and Information Resources Branch
Corporate Management and Information Division
Ministry of Natural Resources and Forestry**

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Contact Information

For more information about this user guide, please contact Land Information Ontario (LIO) at lio@ontario.ca.

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

Additional Information

This document contains an overview of the Ontario Hydro Network (OHN) and highlights details useful to a user.

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

- **Data Capture Specification for Hydrographic Features** – The data capture specification is intended for anyone capturing OHN data and should also be referenced for data maintenance. It contains detailed OHN medium scale data specifications.
- **Metadata Record** – Metadata describes data. From the metadata, you can determine the age of the data, who collected it, what the intended purpose of the data was and other important information.

These documents are available at the following Land Information Ontario (LIO) website:

- [LIO Metadata Management Tool \(OHN Waterbody\)](https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=3ebaf6b2-6dd6-4ebb-a6bb-4fc778426709)
(<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=3ebaf6b2-6dd6-4ebb-a6bb-4fc778426709>)

Executive Summary

Key Words

Canals, Creeks, Drainage, Hydrography, Hydrology, Lakes, OHN, Ontario Hydro Network, Rivers, Shorelines, Streams, Water, Water Flow, Water Management, Waterbody, Watercourse

Abstract

This user guide provides details for the series of data classes that make up the Ontario Hydro Network (OHN) within the Land Information Ontario (LIO) warehouse. The OHN consists of 6 medium scale data classes and 21 small scale data classes. The 6 OHN medium scale data classes, which have their own distinct metadata record, are:

- OHN Waterbody
- OHN Watercourse
- OHN Shoreline
- OHN Hydrographic Point
- OHN Hydrographic Line
- OHN Hydrographic Poly

The OHN small scale consists of 3 distinct data classes (Waterbody, Watercourse and Shoreline) and corresponding 3 metadata records for each of the following 7 scales:

- 1:100,000 (100K)
- 1:200,000 (200K)
- 1:500,000 (500K)
- 1:1,000,000 (1M)
- 1:2,000,000 (2M)
- 1:5,000,000 (5M)
- 1:10,000,000 (10M)

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List of Acronyms

CGNDB: Canadian Geographical Names Data Base

GEL: Geographic Named Extent Layer

GIS: Geographic Information System

LIO: Land Information Ontario

MIRB: Mapping and Information Resources Branch

MNRF: Ontario Ministry of Natural Resources and Forestry

NHN: National Hydro Network

NRCan: Natural Resources Canada

OBM: Ontario Base Maps

ODI: Ontario Dam Inventory

OGF: Ontario Geospatial Feature

OGNB: Ontario Geographic Names Board

OHN: Ontario Hydro Network

OIH: Ontario Integrated Hydrology

OPS: Ontario Public Service

OWES: Ontario Wetland Evaluation System

PMU: Provincial Mapping Unit

ROD: Regional Operations Division

Glossary of Terms

Confluence – Two watercourse lines converge into one watercourse line.

Data class – A collection of similar features. For example, the OHN – Waterbody data class contains a collection of waterbody polygons.

Divergence – One watercourse line diverges into two watercourse lines.

Feature – A point, line or polygon representation of (all or a portion of) a real world object, such as a lake, stream, dam or rapid.

Nodes – The vertices at the ends of a line are referred to as nodes. A line will have a 'from node' (at the start) and a 'to node' (at the end) giving the line direction.

Vertex (vertices) – Points along a line or a polygon edge used to create define the shape of the feature.

1. Introduction

The User Guide for the Ontario Hydro Network (OHN) contains an overview of all the OHN data classes and highlights details of which users of hydro data should be aware. Hydro data is defined as surface water information including lakes, rivers, streams, barriers and obstacles. The OHN data is distributed through Land Information Ontario (LIO). The OHN is continually updated.

The OHN is a provincial medium-scale map product consisting of the following scales: 1:10,000, 1:20,000 and 1:50,000. As the OHN is updated along with improvements to its currency and accuracy, the scale of feature-capture is also improving. Many areas that were originally captured at 1:20,000 or 1:50,000 are now being represented at 1:10,000.

The medium scale OHN consists of the following six data classes:

1. **OHN - Watercourse** – Line features that represent flowing surface water (natural or constructed).
2. **OHN - Waterbody** – Polygon features that represent bodies of surface water (natural or constructed).
3. **OHN - Shoreline** – Lines that represent the shorelines of waterbodies. The shoreline is derived from the OHN - Waterbody data.
4. **OHN - Hydrographic Point** – Point features (natural or constructed) that occur on waterbodies or watercourses which may pose hazards or impediments to water flow or navigation.
5. **OHN - Hydrographic Line** – Line features (natural or constructed) that occur on waterbodies or watercourses which may pose hazards or impediments to water flow or navigation.
6. **OHN - Hydrographic Poly** – Polygon features (natural or constructed) that occur on waterbodies or watercourses which may pose hazards or impediments to water flow or navigation.

The OHN data is provided to Natural Resources Canada (NRCan) for incorporation into the National Hydro Network (NHN). The NHN specifications differ from the OHN and therefore the NHN geometry and attributes may differ from the OHN.

Geographic names on the NHN data posted to [Geogratis](http://geogratis.gc.ca/geogratis/search?lang=en) (<http://geogratis.gc.ca/geogratis/search?lang=en>) for Ontario are sourced from the Canadian Geographical Names Data Base (CGNDB). As a result, geographic names on the NHN product for Ontario may differ from the Ontario Geographic Named Extent Layer (GEL).

The official names of geographic features and unincorporated places (for example, villages, hamlets, etc.) of Ontario as authorized through the Ontario Geographic Names Board (OGNB) Act can be obtained from the Geographic Named Extent Layer (GEL) which is available through LIO at [Geographic Named Extent](https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=84dda87b-7828-40b3-bfbc-7d9314f03b06). (<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=84dda87b-7828-40b3-bfbc-7d9314f03b06>)

The OHN data class layers are the authoritative source for medium and small scale water geometry for Ontario.

2. Objectives

This guide is intended for users with a general interest in the OHN data classes and it describes the extent and context of the information collected in those six classes.

3. Data Classes: OHN

OHN - Watercourse

Watercourse features are line features (natural or constructed) that represent the location of flowing water. The OHN Watercourse features may be used for cartographic or network analysis purposes. The bullets below explain some options to consider depending on the use of the data.

- **Flow direction** – The watercourse lines are oriented in the direction that water normally flows across the landscape. The direction is usually governed by changes in ground elevation – water flows downhill. However, dams and other structures may redirect the flow.

Cartographic products typically symbolize streams as blue lines and are not concerned with the flow direction (Figure 1: a).

For network analysis the flow direction is crucial for tracing up or down stream, stream ordering, creating watersheds, etc. The watercourse lines may be symbolized as lines with arrows to display the direction of water flow (Figure 1: b).

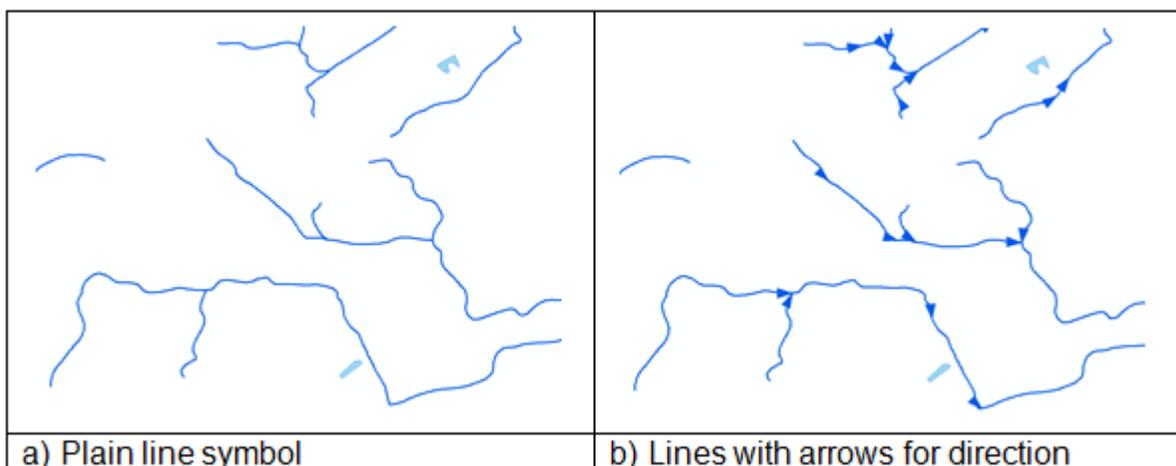


Figure 1: Examples of watercourse line symbology.

- **Connectivity** – Connectivity is crucial for network analysis. Streams entering and exiting waterbodies are connected with virtual flow lines that occur on the waterbody polygons.

Cartographic products typically ignore the virtual flow lines so that they are not displayed in the waterbodies (Figure 2: a). Alternatively the virtual flow line may be symbolized as a dashed line or as a different colour (Figure 2: b).

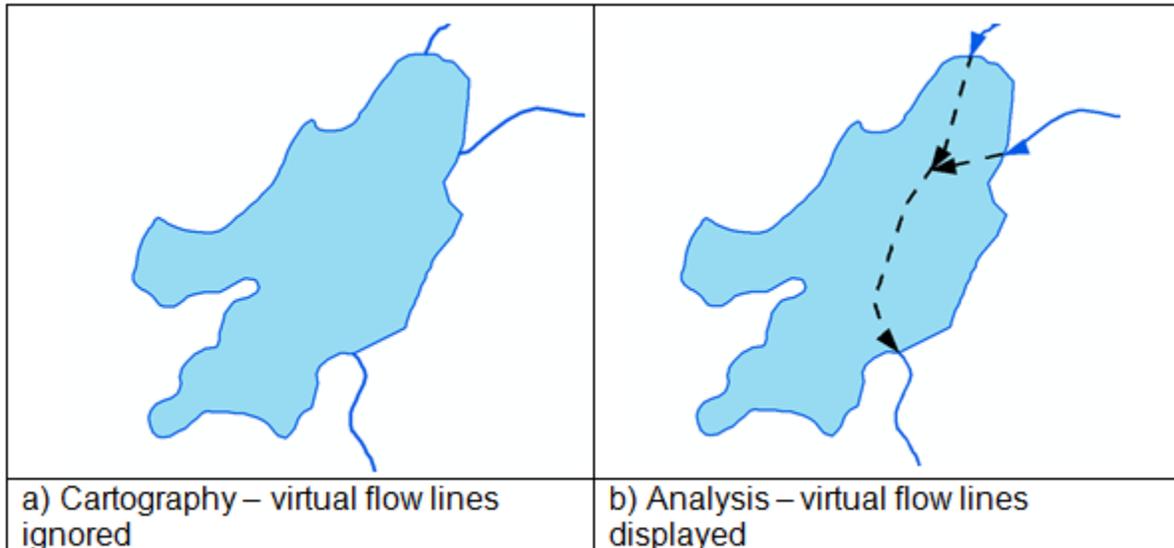


Figure 2: Virtual Flow line symbology.

Watercourse Type

Watercourses are line features (natural or constructed) that can be defined as flowing water within a defined channel with beds or banks and usually discharges itself into some other watercourse or waterbody. A digitized watercourse can also be virtual, inferring water flow within a waterbody or inferring water flow over land where a defined channel is absent.

- **Stream** (default) - A natural body of water (such as a river, stream or creek) through which water flows.
- **Ditch** - A small, open constructed channel for the purpose of conveying water. Open conduits, constructed drains, irrigation channels, aqueducts, penstocks, flumes and sluices are included.

- **Virtual Flow** - An inferred watercourse feature **inside** a waterbody needed to maintain the continuity of water flow between adjacent water features. These will be lines through a waterbody that connect all adjacent water features.
- **Virtual Connector** - An inferred watercourse feature **outside** of a waterbody needed to maintain the continuity of water flow between adjacent water features. These will be lines where flow is known to exist but is not directly mapped, such as underground conduits.

Flow Direction Verified

An indicator of known correct geometry direction. This is a Yes/No field with a default value of 'No'.

Permanency

An indication of the permanency of the water feature.

- **Permanent** – (default) A watercourse is considered permanent if it contains flowing water at least 9 months of the year.
- **Intermittent** – A watercourse is considered intermittent if it contains flowing water less than 9 months of the year.

Note: Virtual Flow segments must be assigned the permanency value of 'Permanent'.

Flow Classification

The Flow Classification attribute is used to identify the different pieces of a loop (sometimes referred to as a 'cycle'). A loop is created when one watercourse line diverges into two lines and further downstream converges back into one line (Figure 3: a). Loops may occur inside (with virtual flow lines) or outside of waterbodies. The following bullets explain the three pieces of a loop.

- **Primary** (default) – All watercourse lines are initially considered to be primary. Only inside of a loop are some of the lines classified otherwise.

- **Secondary** – At a divergence, the side of the loop that is considered to be the main flow channel remains classified as primary. The side of the loop that is considered to be the secondary flow channel is classified as secondary until the next feature (e.g. confluence or waterbody) (Figure 3: c). From that next feature, the rest of the secondary side of the loop would be classified primary.
- **Flow Gap** – Loops need to have a piece removed (to break the loop) for some network analysis processes. The Flow Gap value is assigned to the first watercourse line on the Secondary side of the divergence (Figure 3: d). If required, the Flow Gap lines can be removed before performing network analysis.

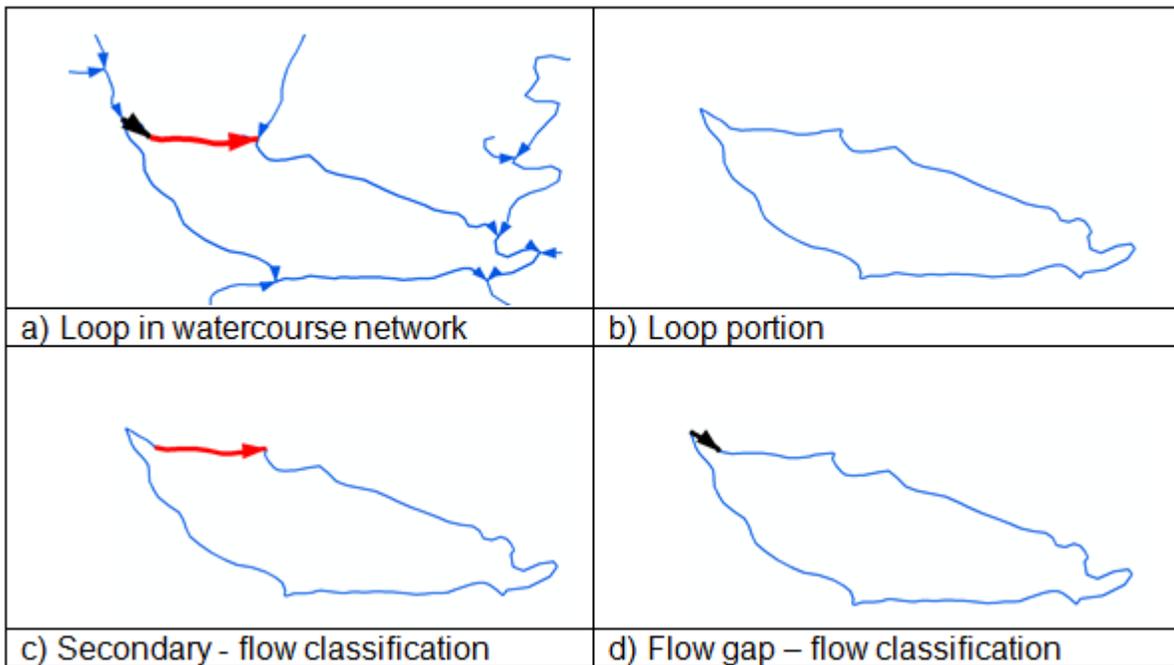


Figure 3: Flow Classifications – Primary, Secondary and Flow Gap.

Note: Watercourse segments that are isolated from the flow network may form incomplete loops. They may diverge into two or more streams and not converge back together. In these cases the same rules already explained will apply for primary, secondary and flow gap.

This attribute is typically used for network analysis purposes and may be ignored for most cartographic purposes.

OHN - Waterbody

Waterbody Type

Mandatory attribute. The nature of a body of water defined according to its water velocity and usage. Available values are:

- **Lake** (default value) - A natural, usually flat, open body of water, which excludes wetlands, islands, surface rocks or other hazards to water flow and/or navigation.
- **River** - A natural body of water usually narrower than a lake through which water may flow.
- **Canal** - An artificial watercourse serving as a navigable waterway or to channel water.
- **Reservoir** - A wholly or partially human-made body of water for storing and/ or regulating and controlling water.
- **Kettle Lake** - A shallow, sediment-filled lake formed by retreating glaciers or draining floodwaters.
- **Pond** - A body of standing water, usually smaller than a lake. This feature type is used to differentiate non-lake features from lakes, including: irrigation ponds, reservoirs, flooded aggregate pits and quarries.
- **Beaver Pond** - A pond that is created by a beaver dam.
- **Ocean** - A coastal waterbody (Hudson Bay and James Bay).

Permanency

An indication of the permanency of the water feature.

- **Permanent** (default value) - A waterbody is considered permanent if it contains water at least 9 months of the year.
- **Intermittent** - A waterbody is considered intermittent if it contains water less than 9 months of the year.

OHN - Shoreline

The OHN Shoreline data class is derived from the OHN Waterbody data class. It can be used to cartographically display the line where water meets the land.

The shoreline can differ from the outline of waterbody polygons. For example, a large lake may be divided into several polygons which would result in outlines passing through the lake. Another example would be where a lake polygon is adjacent to a river polygon. The adjacent outlines would appear to run through the water (Figure 4: a).

The cartographic solution is to symbolize the OHN - Shoreline as a dark line and leave the OHN - Waterbody outlines transparent (Figure 4: b).

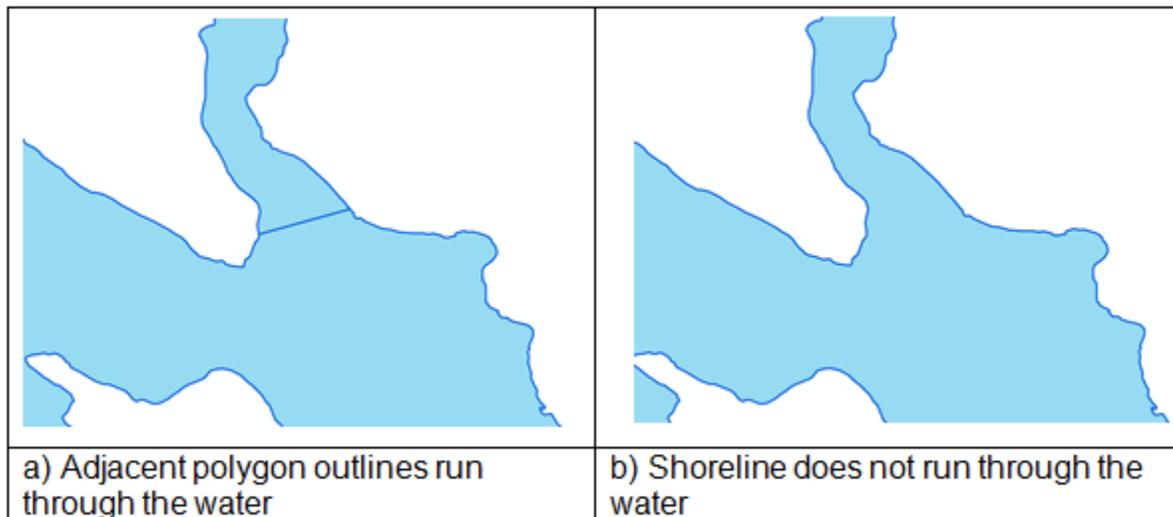


Figure 4: Example of shoreline symbology that demonstrates the differences between OHN-Waterbody polygon outlines and OHN-Shoreline.

OHN – Hydrographic Point, Line, Polygon

The natural or constructed features that occur on waterbodies and/or watercourses and may pose hazards or impediments to water flow and/or navigation. See Table 1 for details.

Feature Type	Point	Line	Polygon
Falls	X	X	Not Applicable
Rapids	X	X	X
Rocks	X	Not Applicable	Not Applicable
Dam	Not Applicable	X	X
Hydro Wall	Not Applicable	X	X
Lock-Gate	Not Applicable	X	Not Applicable
Sea Lamprey Barrier	X	X	Not Applicable
Wreck	X	X	Not Applicable

Table 1: Feature types found as a point, line or polygon marked by 'X'.

Hydrographic Types

- **Falls** - A perpendicular or steep drop in a body of water over which water flows.
- **Rapids** - A fast-flowing, often turbulent, section of a body of water, generally containing exposed rocks or boulders.
- **Rocks** - A rock or earthen formation always visible above the water surface.
- **Dam** - A feature representing an obstacle that disturbs or impedes the flow of surface water, excluding beaver dams, water-crossings and culverts.
- **Hydro Wall** - A human-made structure built in a waterbody and possibly extending onshore, or built along a waterbody forming the shoreline, that does not allow water to pass under it, but allows water to pass around it. Hydro walls may extend along and/or may be contained within a waterbody, and may include wharfs, docks, piers, jetties, headwalls, groynes, locks, berms or embankments.
- **Lock-Gate** - A gate on a navigable canal used to raise or lower the water level so that boats may pass from one level to another.

- **Sea Lamprey Barrier** - A feature on a watercourse or waterbody that forms a barrier (either electrical or physical) to the migration of Sea Lamprey.
- **Wreck** - The remains of a grounded ship that is partially above the water surface.

OHN Common Attributes

The attributes listed in this section are found on all OHN data classes except for Shoreline. Attributes that are specific to data classes can be found in earlier sections.

OGF ID – A unique numeric provincial identifier assigned to each object.

Location Accuracy - The degree of conformity or closeness of a measurement within the database to its true value in the world.

Verification Status - An indication as to whether a qualified employee has verified the existence of the feature.

Verification Status Date - The date that the geographic unit was verified/validated.

General Comments - A 2000 character field for general comments about the feature.

Source Detail - A 254 character field that contains what part of the source pertains to the feature. Examples: Summary data from a database, pages in a book or atlas, figure number and page from a publication, a section of a map, or record in a database.

Effective Date/Time - Date/time that the record was created in the LIO database.

OHN Small Scale Layers

The OHN small scale consists of 3 distinct data classes (Waterbody, Watercourse and Shoreline) and 3 corresponding metadata records for each of the following 7 scales:

- 1:100,000 (100K)
- 1:200,000 (200K)
- 1:500,000 (500K)
- 1:1,000,000 (1M)
- 1:2,000,000 (2M)
- 1:5,000,000 (5M)
- 1:10,000,000 (10M)

Watercourse	Waterbody	Shoreline
OHN – 100K Watercourse	OHN - 100K Waterbody	OHN – 100K Shoreline
OHN – 200K Watercourse	OHN – 200K Waterbody	OHN – 200K Shoreline
OHN – 500K Watercourse	OHN – 500K Waterbody	OHN – 500K Shoreline
OHN – 1M Watercourse	OHN – 1M Waterbody	OHN – 1M Shoreline
OHN – 2M Watercourse	OHN – 2M Waterbody	OHN – 2M Shoreline
OHN – 5M Watercourse	OHN – 5M Waterbody	OHN – 5M Shoreline
OHN – 10M Watercourse	OHN – 10M Waterbody	OHN – 10M Shoreline

Table 2: List of the 21 OHN small scale data classes

The small scale OHN products are intended to support cartographic and web mapping services. This data is not designed for analytical purposes. Users that require OHN data for analytical purposes should use the medium scale OHN data classes.

It should be noted that the OHN small scale products contain data that extends beyond the Ontario provincial boundary and includes additional data sourced from NRCan (for adjacent provinces and territories) and from the United States Geologic Service (for selected US states). Please refer to the OHN small scale metadata records for further details on these sources.

4. OHN Data Maintenance

The OHN medium scale data class layers are considered 'live' datasets, which means they are edited as frequently as daily. Often updates and improvements to OHN medium scale layers closely follow the release of new aerial imagery. Users may need to refresh their copy of the water data frequently based on the high probability that changes have occurred.

Maintenance occurs where better information exists from other sources including MNR's Regional Operations Division (ROD), the general public, municipalities, conservation authorities, forest industry and other Ontario Public Service (OPS) ministries or agencies. Large scale data is filtered to meet the standard requirements defined in the [Data Capture Specifications for Hydrographic Features \(Medium Scale\)](https://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/CMID/OHN%20-%20Data%20Capture%20Spec.pdf). (<https://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/CMID/OHN%20-%20Data%20Capture%20Spec.pdf>)

5. Model Diagrams

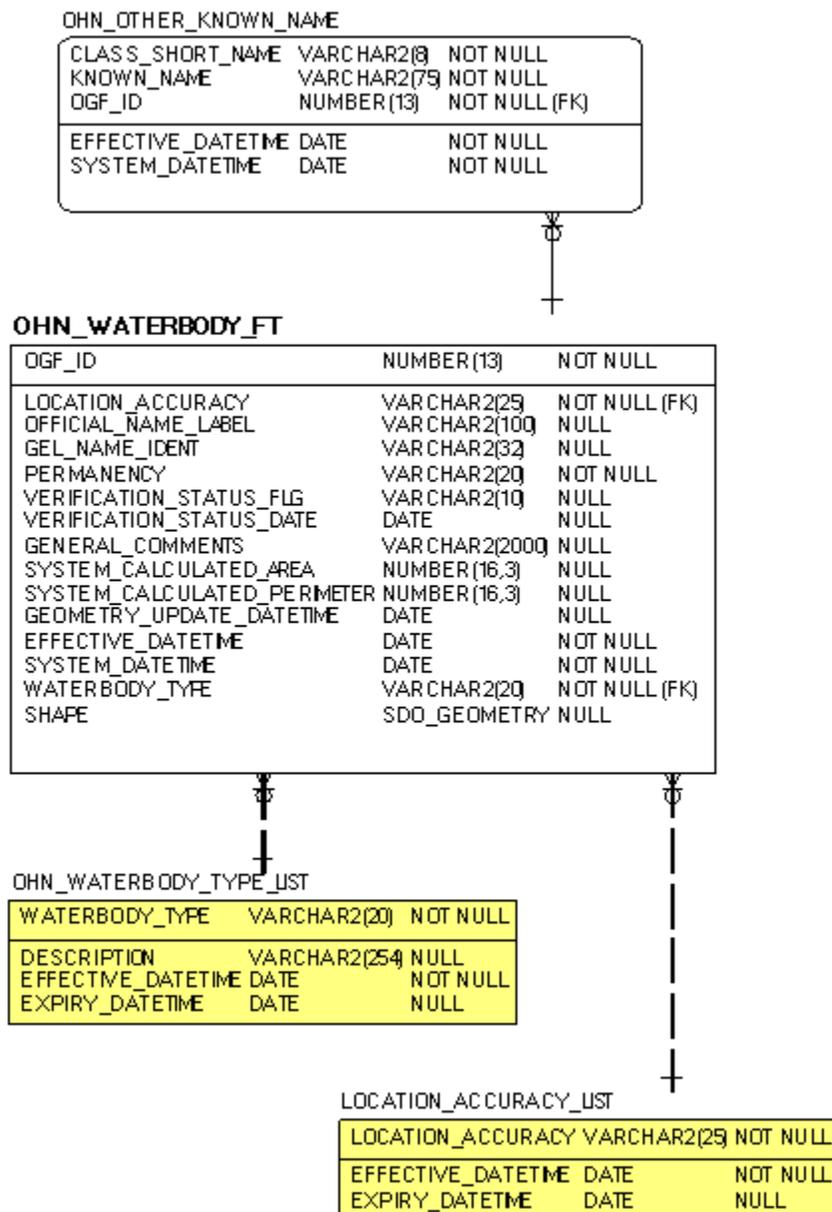
OHN Medium Scale

OHN Waterbody

Physical Model Diagram for OHN - Waterbody (OHNWBDY)
Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.



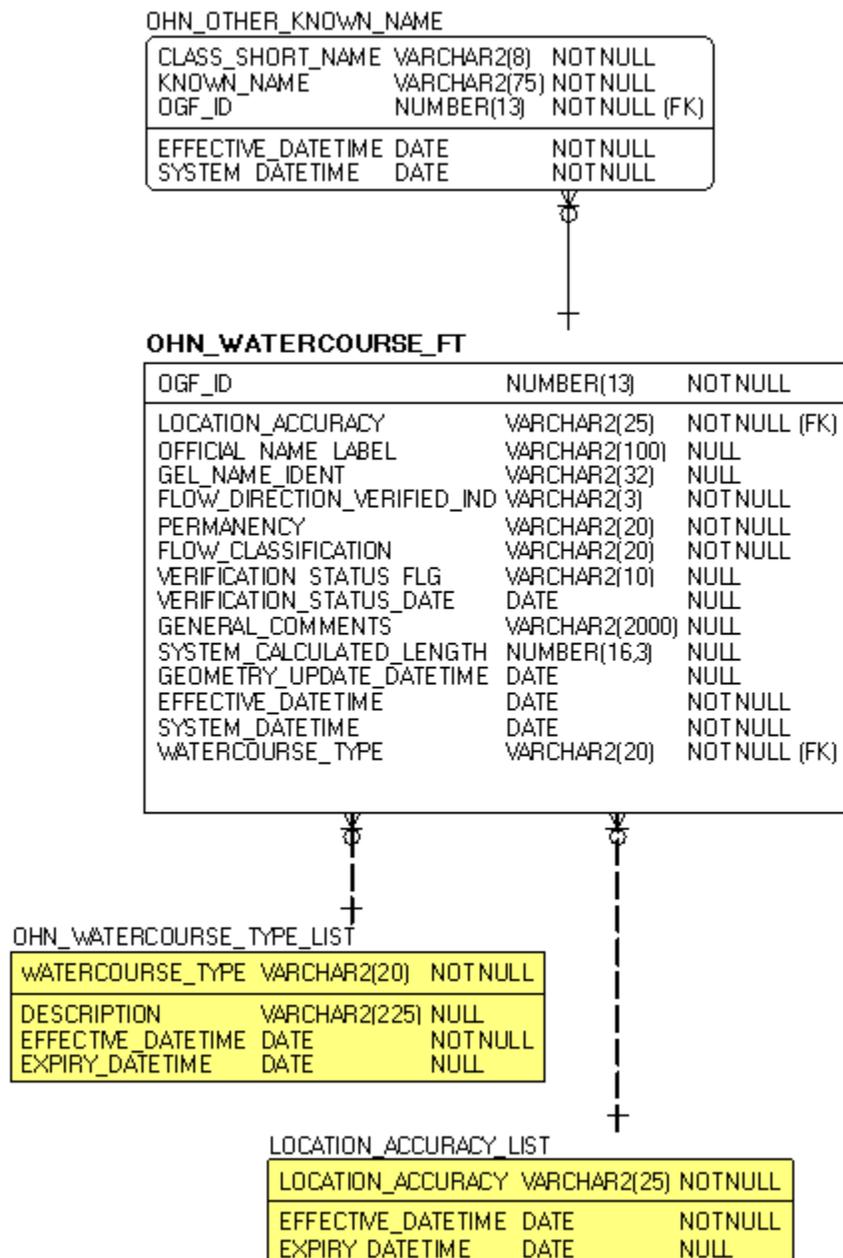
OHN Watercourse

Physical Model Diagram for OHN - Watercourse (OHNWCRS)

Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.



OHN Shoreline

Physical Model Diagram for OHN – Shoreline (OHNSLIN)
Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.

OHN_SHORELINE_FT

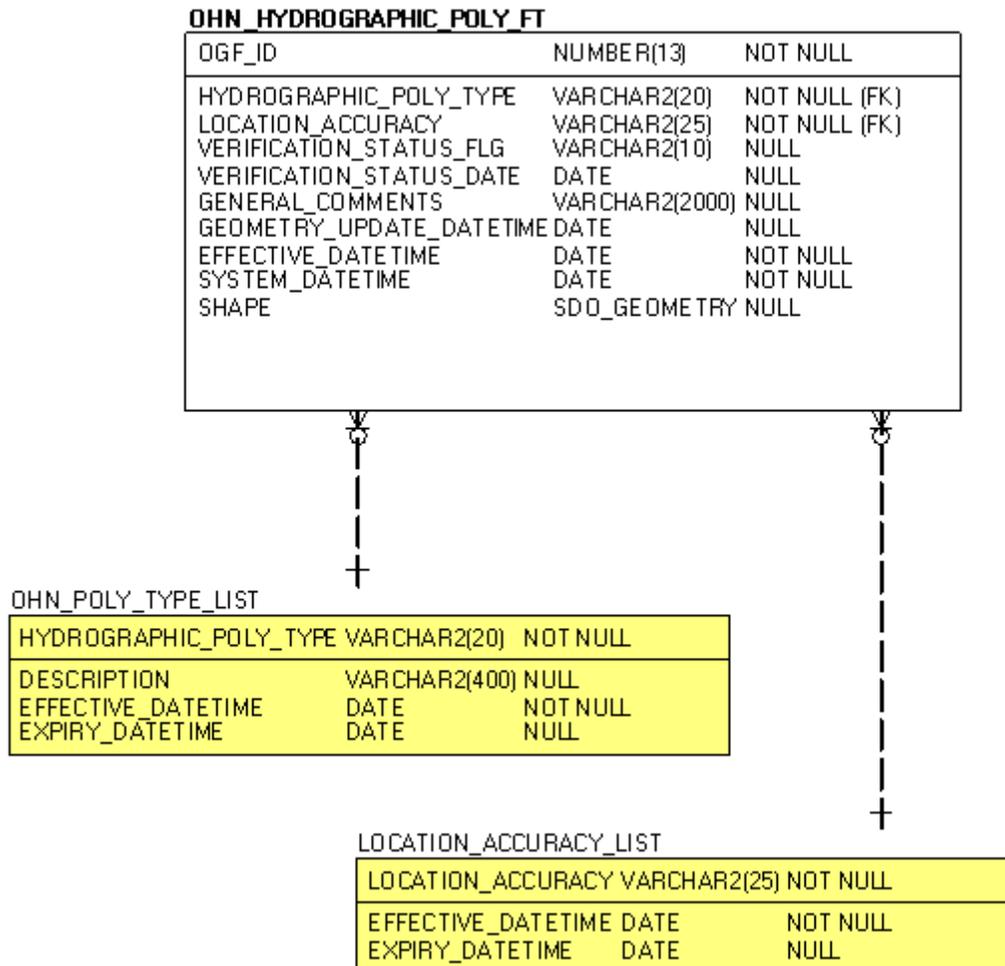
OGF_ID: NUMBER(13) NOT NULL
EFFECTIVE_DATETIME: DATE NOT NULL
SHAPE: SDO_GEOMETRY NULL

OHN Hydrographic Poly

Physical Model Diagram for OHN – Hydrographic Poly (OHNHPOLY)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.

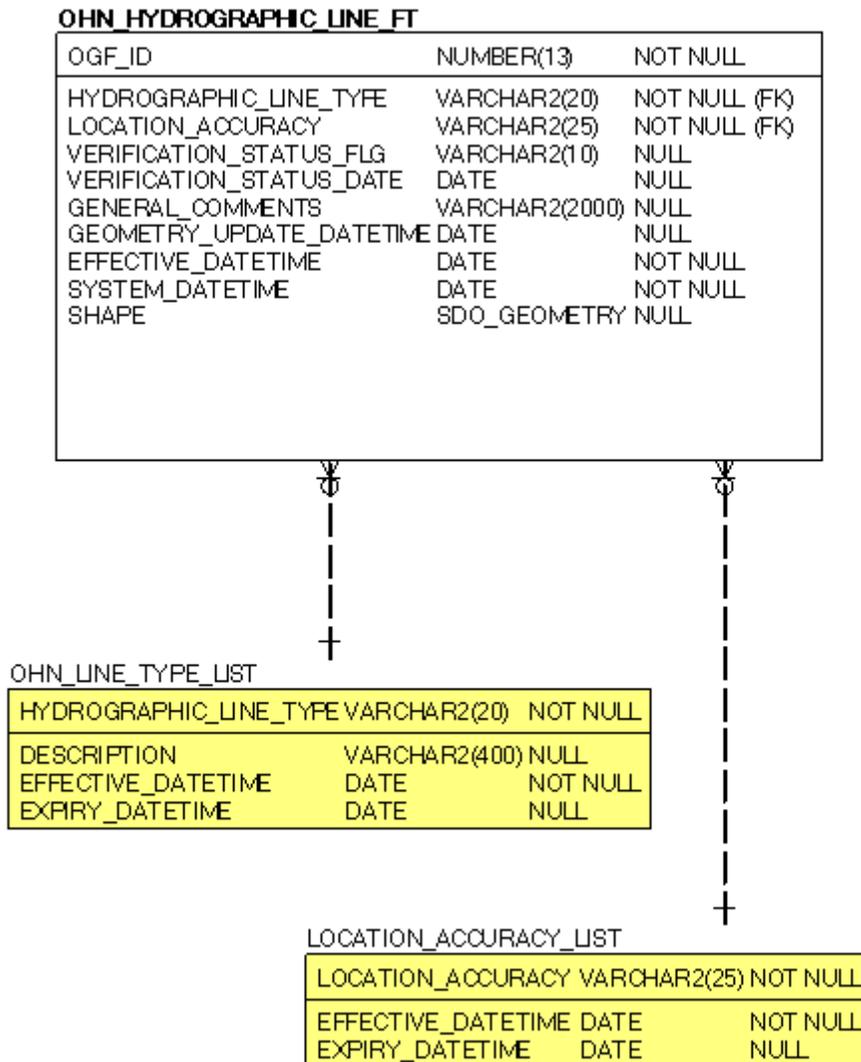


OHN Hydrographic Line

Physical Model Diagram for OHN – Hydrographic Line (OHNHLN)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.

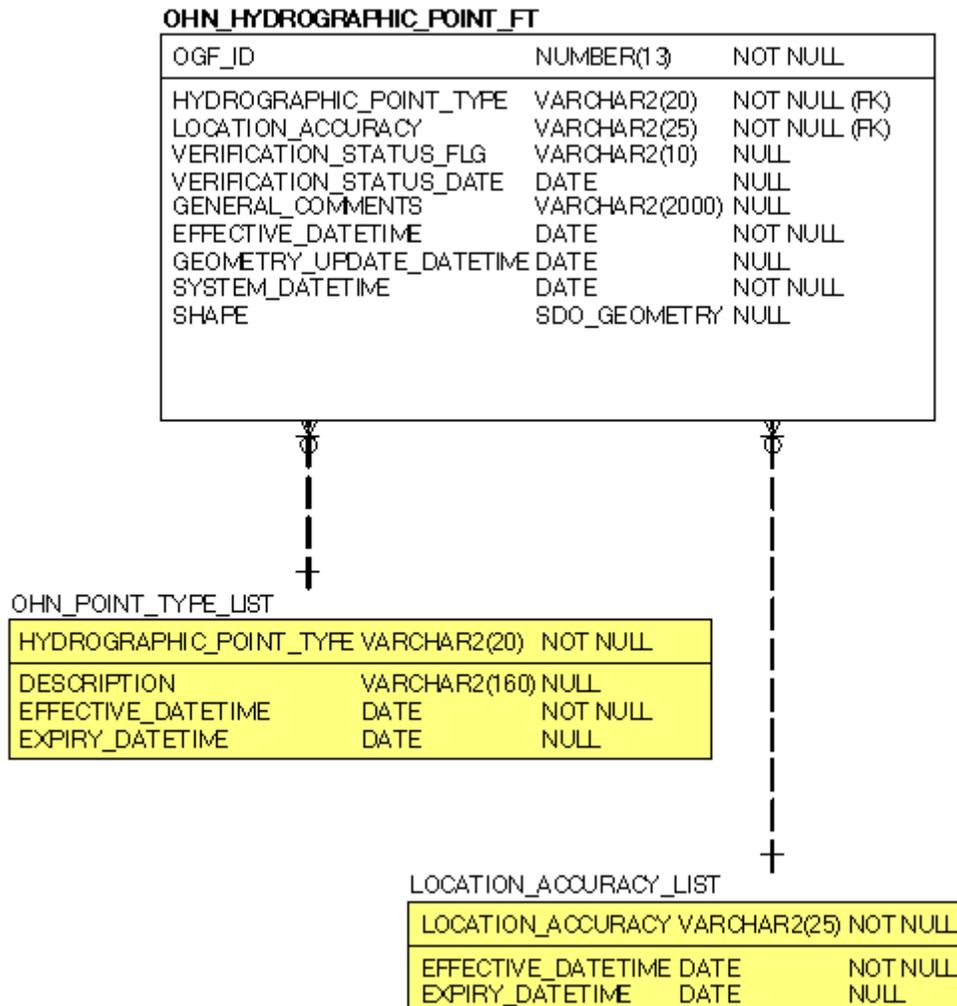


OHN Hydrographic Point

Physical Model Diagram for OHN – Hydrographic Point (OHNHPT)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.



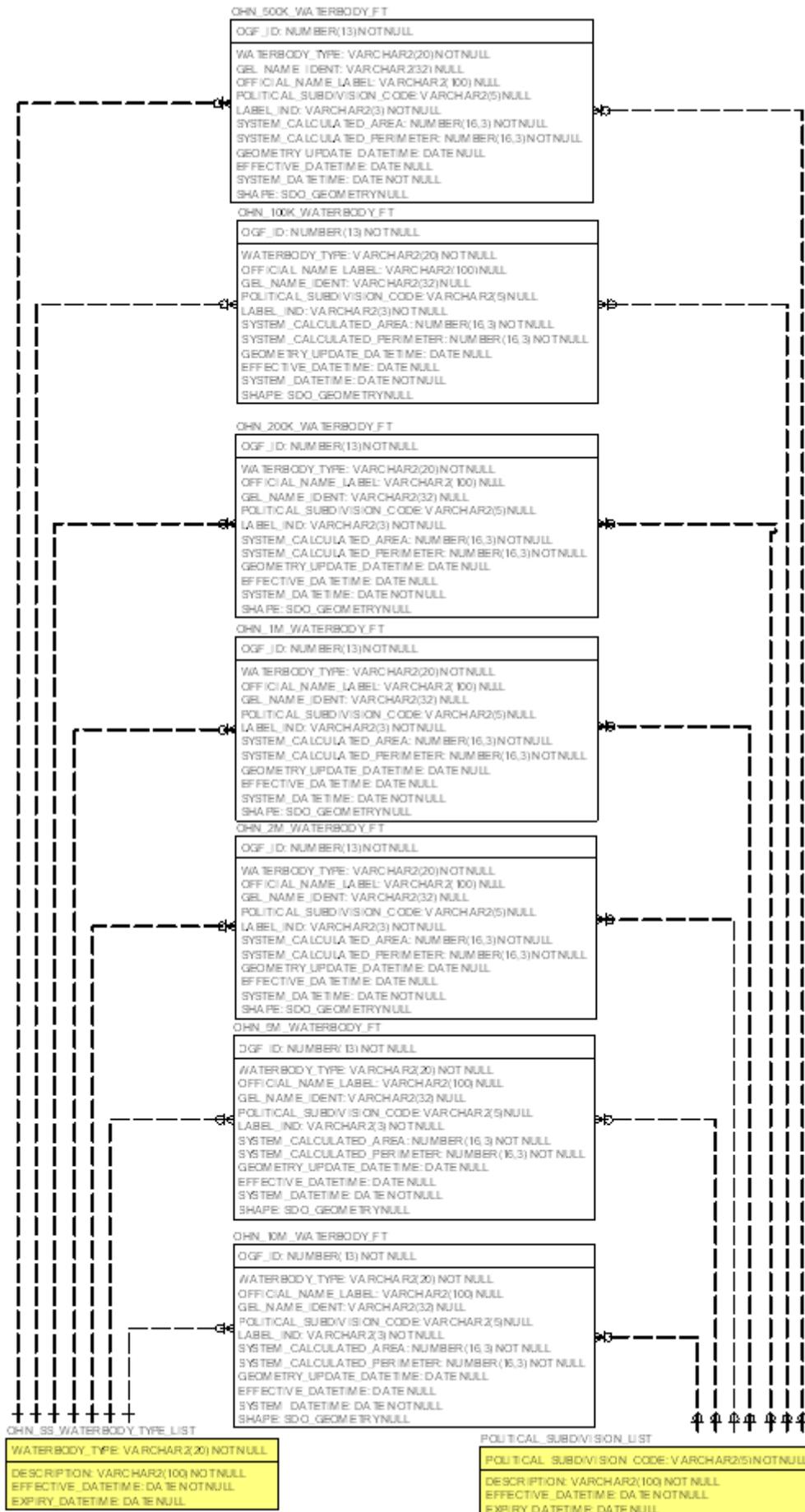
OHN Small Scale

OHN Small Scale Waterbody

Physical Model Diagram for OHN Small Scale Class – Waterbody
 (OHN100WB, OHN200WB, OHN500WB, OHN1MWB, OHN2MWB, OHN5MWB, OHN10MWB)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.

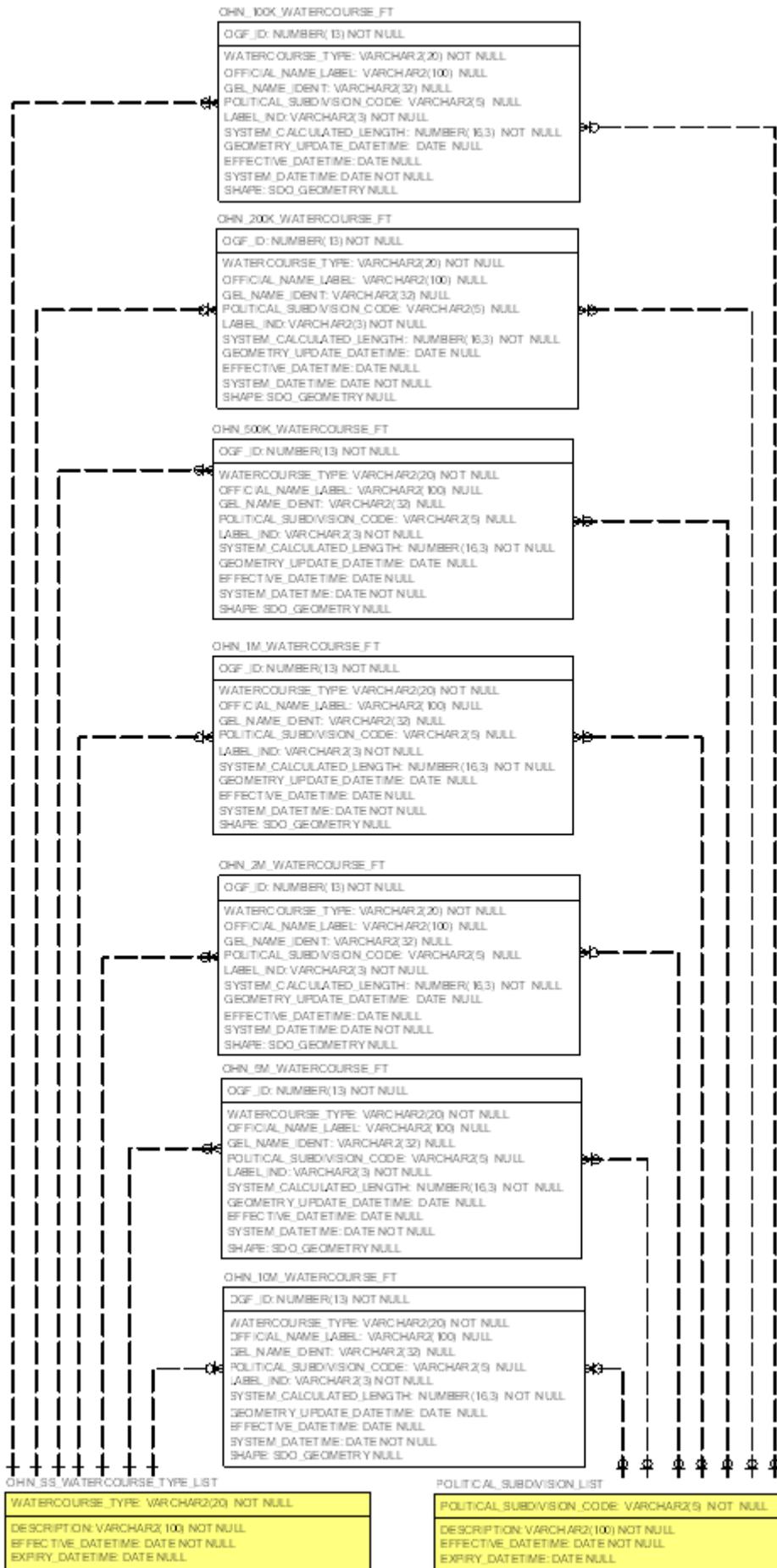


OHN Small Scale Watercourse

Physical Model Diagram for OHN Small Scale Class – Watercourse
 (OHN100WC, OHN200WC, OHN500WC, OHN1MWC, OHN2MWC, OHN5MWC, OHN10MWC)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.

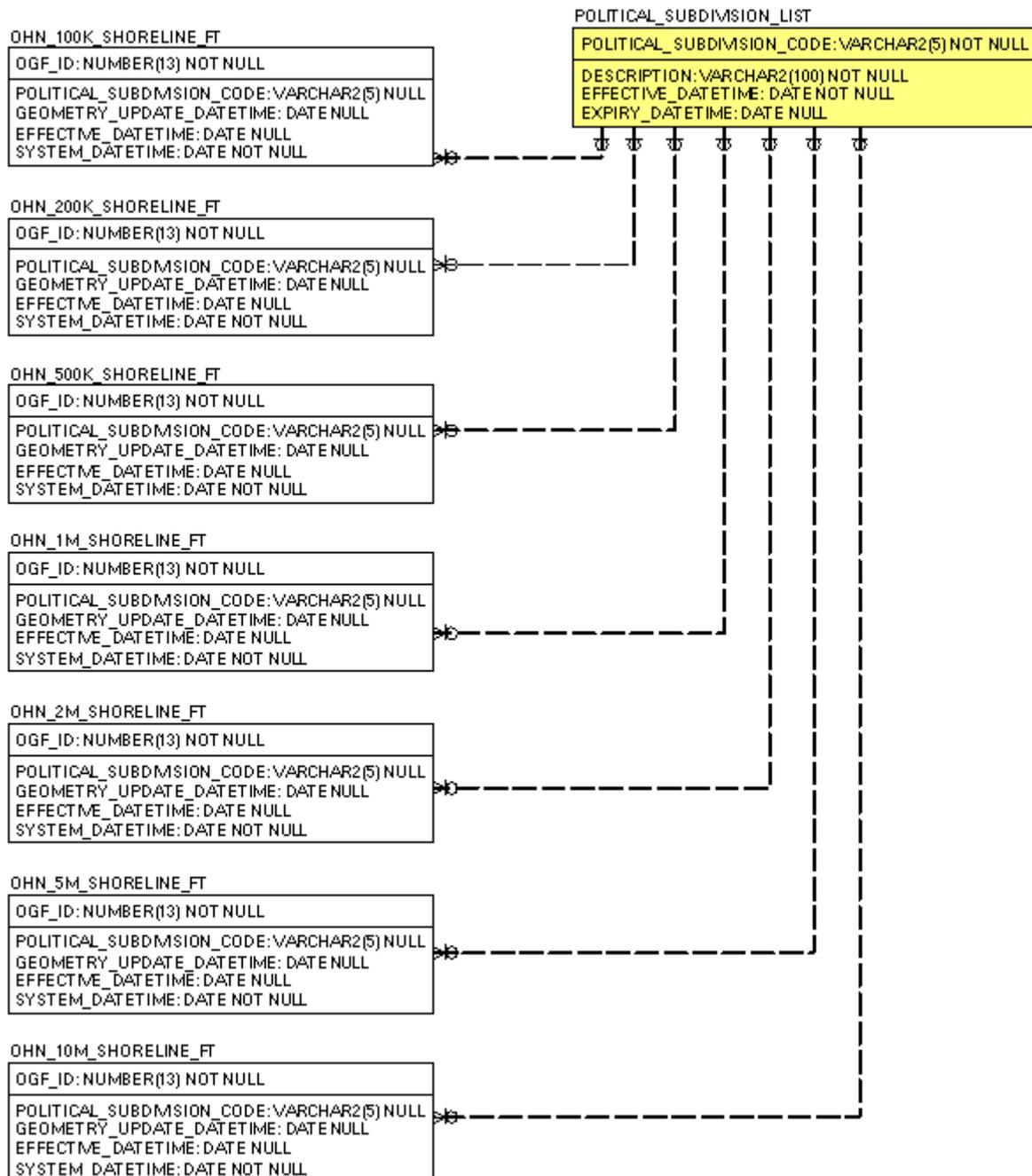


OHN Small Scale Shoreline

Physical Model Diagram for OHN Small Scale Class – Shoreline
 (OHN100SL, OHN200SL, OHN500SL, OHN1MSL, OHN2MSL, OHN5MSL, OHN10MSL)
 Model Effective Date 2012-JUN-14

Note: Where applicable to this model:

- Tables with a “_LIST” extension (shaded yellow) = Lookup Table (LUT)
- Additional feature-level metadata may be stored in other ‘Shared’ tables. Please refer to the Class Common Tables diagram for more information.



6. Data Description

The main business area table(s) for this model can be found below. Associated lookup tables will be listed in [Appendix A](#) of this document and are hyperlinked where referenced in this section.

OHN Medium Scale

OHN Waterbody

OHN_WATERBODY_FT

Waterbodies are polygon features (natural and constructed) that describe various realizations of surface water.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
WATERBODY_TYPE	VARCHAR2(20)	Yes	WBDY_TYPE	The nature of a body of water defined according to its water velocity and usage. Default = Lake
OFFICIAL_NAME_LABEL	VARCHAR2(100)	No	OFF_NAME	This field is a concatenation of the Geographic Name Extent Fields "Official Name" and "Alternate Name".
GEL_NAME_IDENT	VARCHAR2(32)	No	GEL_IDENT	A unique, 32 length, alpha-numeric identifier used to distinguish an object.

Column Name	Column Type	Mandatory	Short Name	Description
PERMANENCY	VARCHAR2(20)	Yes	PERMANENCY	An indication of the permanency of a water feature. Default = Permanent Permanent - Permanent water features are known to exist for at least 9 months a year. Intermittent - Intermittent water features are known to exist for less than 9 months a year. VALID VALUES: Permanent, Intermittent
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
VERIFICATION_STATUS_FLG	VARCHAR2(10)	No	VERISTT_FL	An indication as to whether a qualified employee has verified the existence of the geographic unit. VALID VALUES: Verified, Unverified
VERIFICATION_STATUS_DATE	DATE	No	VERISTT_DT	Date that the geographic unit was verified/validated.
GENERAL_COMMENTS	VARCHAR2(2000)	No	COMMENTS	General comments.
SYSTEM_CALCULATED_AREA	NUMBER(16,3)	No	SYS_AREA	The area of a polygon measured in square metres.
SYSTEM_CALCULATED_PERIMETER	NUMBER(16,3)	No	SYS_PERIM	The perimeter of a polygon measured in metres.

Column Name	Column Type	Mandatory	Short Name	Description
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

OHN_OTHER_KNOWN_NAME

Other known names for a geographic feature. (INTERNAL ONLY)

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
CLASS_SHORT_NAME	VARCHAR2(8)	Yes	CLASS_NAME	VALID VALUES: OHNWBDY, OHNWCRS
KNOWN_NAME	VARCHAR2(75)	Yes	KNOWN_NAME	Other known name of the feature.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database. DEFAULT: SYSDATE

OHN Watercourse

OHN_WATERCOURSE_FT

Watercourses are line features (natural and constructed) that describe various realizations of surface water.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
WATERCOURSE_TYPE	VARCHAR2(20)	Yes	WCRS_TYPE	The type of watercourse. Default = Stream
OFFICIAL_NAME_LABEL	VARCHAR2(100)	No	OFF_NAME	This field is a concatenation of the Geographic Name Extent Fields "Official Name" and "Alternate Name".
GEL_NAME_IDENT	VARCHAR2(32)	No	GEL_IDENT	A unique, 32 length, alpha-numeric identifier used to distinguish an object.
FLOW_DIRECTION_VERIFIED_IND	VARCHAR2(3)	Yes	FLOW_VERIF	An indicator of known correct geometry direction. Default = No VALID VALUES: Yes, No

Column Name	Column Type	Mandatory	Short Name	Description
PERMANENCY	VARCHAR2(20)	Yes	PERMANENCY	<p>An indication of the permanency of a water feature.</p> <p>Default = Permanent</p> <p>Permanent - Permanent water features are known to exist for at least 9 months a year.</p> <p>Intermittent - Intermittent water features are known to exist for less than 9 months a year.</p> <p>VALID VALUES: Permanent, Intermittent</p>
FLOW_CLASSIFICATION	VARCHAR2(20)	Yes	FLOW_CLASS	<p>This classification defines the primary (main) and secondary (alternate) routes of a water flow network. Secondary streams are indicative of divergent flow where there are multiple routes traversing through a system (eg. a braided stream network or delta).</p> <p>Default = Primary</p> <p>Primary - The main route of a water flow network.</p> <p>Secondary - The alternate route of a water flow network.</p> <p>Flow Gap - A secondary flow segment which exists to represent proper flow routing but can be removed to break loops in divergent flow.</p> <p>VALID VALUES: Primary, Secondary, Flow Gap</p>

Column Name	Column Type	Mandatory	Short Name	Description
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
VERIFICATION_STATUS_FLG	VARCHAR2(10)	No	VERISTT_FL	An indication as to whether a qualified employee has verified the existence of the geographic unit. VALID VALUES: Verified, Unverified
VERIFICATION_STATUS_DATE	DATE	No	VERISTT_DT	Date that the geographic unit was verified/validated.
GENERAL_COMMENTS	VARCHAR2(2000)	No	COMMENTS	General comments.
SYSTEM_CALCULATED_LENGTH	NUMBER(16,3)	No	SYS_LENGTH	The length of a line measured in metres.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

OHN_OTHER_KNOWN_NAME

Other known names for a geographic feature.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
CLASS_SHORT_NAME	VARCHAR2(8)	Yes	CLASS_NAME	VALID VALUES: OHNWBDY, OHNWCRS
KNOWN_NAME	VARCHAR2(75)	Yes	KNOWN_NAME	Other known name of the feature.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database. DEFAULT: SYSDATE

OHN Shoreline

OHN_SHORELINE_FT

The derived line between water and land.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SHAPE	SDO_GEOMETRY	No	SHAPE	Geometry attribute.

Model Subject Area does not have any business area tables.

OHN Hydrographic Poly

OHN_HYDROGRAPHIC_POLY_FT

Natural and constructed features which occur on waterbodies and/or watercourses and may pose hazards or impediments to water flow and/or navigation.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
HYDROGRAPHIC_POLY_TYPE	VARCHAR2(20)	Yes	POLY_TYPE	The type of natural or constructed features that occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
VERIFICATION_STATUS_FLG	VARCHAR2(10)	No	VERISTT_FL	An indication as to whether a qualified employee has verified the existence of the geographic unit. VALID VALUES: Verified, Unverified
VERIFICATION_STATUS_DATE	DATE	No	VERISTT_DT	Date that the geographic unit was verified/validated.
GENERAL_COMMENTS	VARCHAR2(2000)	No	COMMENTS	General comments.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.

Column Name	Column Type	Mandatory	Short Name	Description
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

Model Subject Area does not have any business area tables.

OHN Hydrographic Line

OHN_HYDROGRAPHIC_LINE_FT

Natural and constructed features which occur on waterbodies and/or watercourses and may pose hazards or impediments to water flow and/or navigation.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
HYDROGRAPHIC_LINE_TYPE	VARCHAR2(20)	Yes	LINE_TYPE	The type of natural or constructed features that occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.

Column Name	Column Type	Mandatory	Short Name	Description
VERIFICATION_STATUS_FLG	VARCHAR2(10)	No	VERISTT_FL	An indication as to whether a qualified employee has verified the existence of the geographic unit. VALID VALUES: Verified, Unverified
VERIFICATION_STATUS_DATE	DATE	No	VERISTT_DT	Date that the geographic unit was verified/validated.
GENERAL_COMMENTS	VARCHAR2(2000)	No	COMMENTS	General comments.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

Model Subject Area does not have any business area tables.

OHN Hydrographic Point

OHN_HYDROGRAPHIC_POINT_FT

Natural and constructed features which occur on waterbodies and/or watercourses and may pose hazards or impediments to water flow and/or navigation.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.

Column Name	Column Type	Mandatory	Short Name	Description
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
HYDROGRAPHIC_POINT_TYPE	VARCHAR2(20)	Yes	POINT_TYPE	The type of natural or constructed features that occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.
VERIFICATION_STATUS_FLG	VARCHAR2(10)	No	VERISTT_FL	An indication as to whether a qualified employee has verified the existence of the geographic unit. VALID VALUES: Verified, Unverified
VERIFICATION_STATUS_DATE	DATE	No	VERISTT_DT	Date that the geographic unit was verified/validated.
GENERAL_COMMENTS	VARCHAR2(2000)	No	COMMENTS	General comments.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

Model Subject Area does not have any business area tables.

OHN Small Scale

OHN Small Scale Waterbody

OHN_100K_WATERBODY_FT, OHN_200K_WATERBODY_FT, OHN_500K_WATERBODY_FT,
 OHN_1M_WATERBODY_FT, OHN_2M_WATERBODY_FT, OHN_5M_WATERBODY_FT,
 OHN_10M_WATERBODY_FT

Waterbodies are polygon features (natural and constructed) that describe various realizations of surface water.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
WATERBODY_TYPE	VARCHAR2(20)	Yes	WBDY_TYPE	The nature of a body of water defined according to its water velocity and usage.
OFFICIAL_NAME_LABEL	VARCHAR2(100)	No	OFF_NAME	This field is a concatenation of the Geographic Named Extent Fields "Official Name" and "Alternate Name".
GEL_NAME_IDENT	VARCHAR2(32)	No	GEL_IDENT	An identifier from the Geographic Named Extent Layer (GEL). This is a unique, 32 length, alpha-numeric identifier used to distinguish an object.
POLITICAL_SUBDIVISION_CODE	VARCHAR2(5)	No	POL_SUBDIV	ISO codes for the representation of countries and their sub-divisions.
LABEL_IND	VARCHAR2(3)	Yes	LABEL_IND	Used to identify if the feature is to be labelled Default = No VALID VALUES: Yes, No

Column Name	Column Type	Mandatory	Short Name	Description
SYSTEM_CALCULATED_AREA	NUMBER(16,3)	Yes	SYS_AREA	The area of a polygon measured in square metres.
SYSTEM_CALCULATED_PERIMETER	NUMBER(16,3)	Yes	SYS_PERIM	The perimeter of a polygon or length of a line measured in metres.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	No	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	EXP_DATE	Date/time the record was loaded into or last modified in the LIO database.

Model Subject Area does not have any business area tables.

OHN Small Scale Watercourse

OHN_100K_WATERCOURSE_FT, OHN_200K_WATERCOURSE_FT, OHN_500K_WATERCOURSE_FT,
 OHN_1M_WATERCOURSE_FT, OHN_2M_WATERCOURSE_FT, OHN_5M_WATERCOURSE_FT,
 OHN_10M_WATERCOURSE_FT

Watercourses are line features (natural and constructed) that describe various realizations of flowing water.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
WATERCOURSE_TYPE	VARCHAR2(20)	Yes	WCRS_TYPE	The type of watercourse.

Column Name	Column Type	Mandatory	Short Name	Description
OFFICIAL_NAME_LABEL	VARCHAR2(100)	No	OFF_NAME	This field is a concatenation of the Geographic Named Extent Fields "Official Name" and "Alternate Name".
GEL_NAME_IDENT	VARCHAR2(32)	No	GEL_IDENT	An identifier from the Geographic Named Extent Layer (GEL). This is a unique, 32 length, alpha-numeric identifier used to distinguish an object.
POLITICAL_SUBDIVISION_CODE	VARCHAR2(5)	No	POL_SUBDIV	ISO codes for the representation of countries and their sub-divisions.
LABEL_IND	VARCHAR2(3)	Yes	LABEL_IND	Used to identify if the feature is to be labelled Default = No VALID VALUES: Yes, No
SYSTEM_CALCULATED_LENGTH	NUMBER(16,3)	Yes	SYS_LENGTH	The perimeter of a polygon or length of a line measured in metres.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	No	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

Model Subject Area does not have any business area tables.

OHN Small Scale Shoreline

OHN_100K_SHORELINE_FT, OHN_200K_SHORELINE_FT, OHN_500K_SHORELINE_FT, OHN_1M_SHORELINE_FT, OHN_2M_SHORELINE_FT, OHN_5M_SHORELINE_FT, OHN_10M_SHORELINE_FT

The derived line between water and land.

Column Name	Column Type	Mandatory	Short Name	Description
OGF_ID	NUMBER(13)	Yes	OGF_ID	A unique numeric provincial identifier assigned to each object.
POLITICAL_SUBDIVISION_CODE	VARCHAR2(5)	No	POL_SUBDIV	ISO codes for the representation of countries and their sub-divisions.
GEOMETRY_UPDATE_DATETIME	DATE	No	GEO_UPD_DT	Date/time the geometry was created or last modified in the source database.
EFFECTIVE_DATETIME	DATE	No	EFF_DATE	Date/time the record was created or last modified in the source database.
SYSTEM_DATETIME	DATE	Yes	SYS_DATE	Date/time the record was loaded into or last modified in the LIO database.

7. Links to Additional Information

Official LIO Metadata Record for: [OHN Waterbody](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=3ebaf6b2-6dd6-4ebb-a6bb-4fc778426709>

Official LIO Metadata Record for: [OHN Watercourse](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=e547f2c8-488c-444d-a7b9-871541bb557b>

Official LIO Metadata Record for: [OHN Shoreline](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=3bdde256-22bb-438d-8fe1-1f020d4a0b5e>

Official LIO Metadata Record for: [OHN Hydrographic Poly](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=d4d07dbe-4f51-445c-bd5f-b3f0821a650b>

Official LIO Metadata Record for: [OHN Hydrographic Line](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=daed800f-8dd0-42fe-b0e7-b30fc121d129>

Official LIO Metadata Record for: [OHN Hydrographic Point](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=f82a5bcb-0b7f-4cd7-951a-7b65ea2c1f53>

Official LIO Metadata Record for: [OHN Small Scale Waterbody](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=5ca7801f-ef2c-4b0a-a930-dac60f1294e1>

Official LIO Metadata Record for: [OHN Small Scale Watercourse](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=8f232f53-3488-422d-a6ac-8c653da1720e>

Official LIO Metadata Record for: [OHN Small Scale Shoreline](#)

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=768217a2-0a9e-48df-9fe7-dea2dcbbf604>

Frequently Asked Questions (FAQ)

1. How can I extract Islands from the OHN?

The OHN does not contain island polygons. Islands are represented as holes in waterbodies.

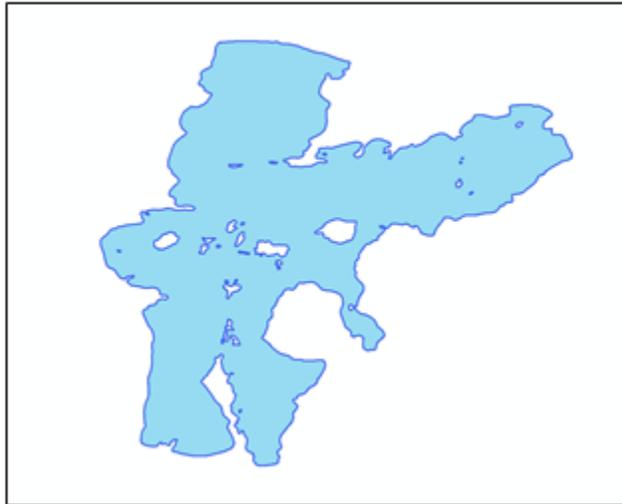


Figure 5: OHN Waterbody with holes that represent islands

The following steps are an example of how to create island polygons from waterbody polygons that have holes.

1. Create a polygon larger than the extent of the lakes being used
2. Erase the lakes from the large polygon
3. Convert the result from a multi-part feature to single-part features
4. Delete the outer feature which was the outer part of the large polygon and that will leave the island polygons

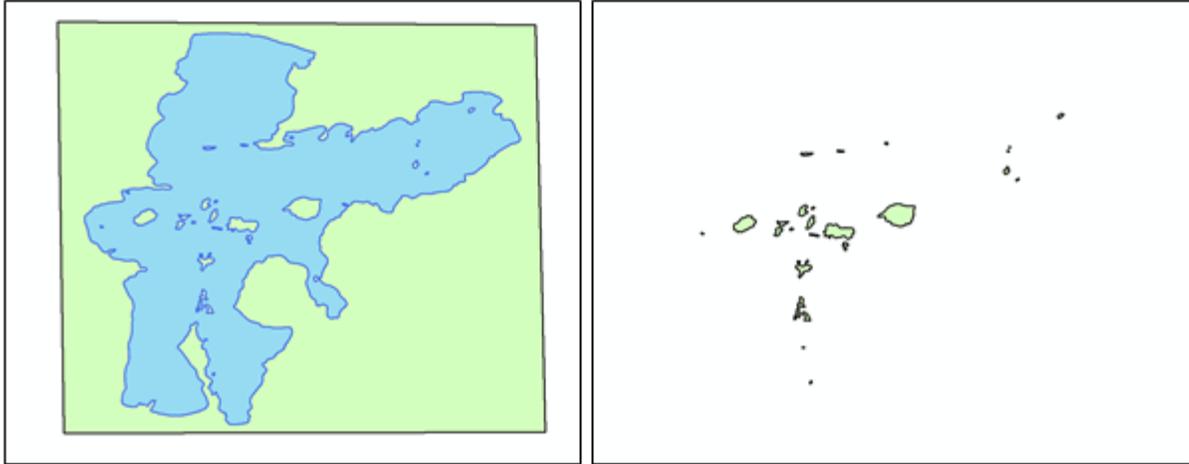


Figure 6: Polygon around the lake and the resulting island polygons after erasing the lake.

2. How are Wetland data related to the OHN?

The Wetland data are managed independently from other hydro data classes and may overlap waterbodies or other hydro data.

Wetland data is not part of the OHN. The Wetland data class is available from LIO.

The Wetland data class provides the spatial representation and basic information for wetlands in Ontario. The attributes identify which wetlands have been evaluated through the Ontario Wetland Evaluation System (OWES), and of those evaluated wetlands which ones have been designated as Provincially Significant.

3. How are Constructed Drains data related to the OHN?

Constructed Drains are watercourses in the form of ditches, natural watercourses that have been modified to improve drainage, or buried tile systems.

The Constructed Drains data class is not part of the OHN. It is disseminated from the LIO warehouse and is maintained by the Ontario Ministry of Agriculture, Food and Rural Affairs for monitoring modifications and new construction.

Some Constructed Drain features will overlap or duplicate OHN Watercourse features. It cannot be incorporated into the OHN Watercourse layer because their data model contains different attributes and their data specifications are for a larger scale product.

4. Does the OHN support network analysis?

Yes, the OHN Watercourse data class contains directionality and connectivity to support a geometric network for hydrological analysis.

For details on how to create a geometric network, see your GIS software documentation or contact support for your GIS software.

The Ontario Integrated Hydrology's Enhanced Water Course layer is an example of a geometric network derived from a dated copy of the OHN Watercourse. See [Ontario Integrated Hydrology Data](#).

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=5383ed26-4a12-4026-b624-65c2e431c861>

5. Where did the names come from?

Within the OHN_Waterbody and OHN_Watercourse data classes the official names were extracted from the GEL.

The small scale OHN layers source names from several contributing datasets.

- Ontario: OHN (GEL)
- Manitoba, Nunavut, Quebec: National Hydro Network (NHN) – Names in the NHN come from the Canadian Geographic Names Data Base (CGNDB)
- USA: The names and geometry come from the National Hydrography Dataset (NHD)

6. How authoritative is the OHN Official Name Label?

The source of OFFICIAL_NAME_LABEL and GEL_NAME_IDENT attributes on the OHN - Waterbody and OHN - Watercourse features is GEL. Users should not use the OHN as the authoritative source for official water names. Refer to the GEL data class to verify official names.

Note: Due to duplicate OFFICIAL_NAME_LABEL values, to select an entire named feature, select all waterbodies and watercourse features that share the same GEL_NAME_IDENT. In the Geographic Named Extent layer, the named extent will be one feature but the OHN segmentation may require the name to span multiple features in multiple layers. A single name may be attached to more than one waterbody as well as multiple watercourse features.

7. How is the Official Name and Official Alternate Name attribute used for labeling?

If an OHN feature has an official name and an official alternate name, then the OFFICIAL_NAME_LABEL will contain the official name and the official alternate in parenthesis, e.g. **Lake Ontario (Iac Ontario)**. Very few named extents will have an official alternate name.

8. Why are all water names not included in the OHN?

The OHN only supports one name per water feature. For more detailed water name information see the GEL.

A group of OHN features such as a group of lakes may be considered as one extent in the GEL and would then be represented as one multi-part feature in the GEL data class (e.g. Kawartha Lakes). Some multi-part GEL features (e.g. a group of lake polygons with a single name, like “Kawartha Lakes”) will have individual GEL features for each part (e.g. Pigeon Lake, Stony Lake, etc.). In these cases the OHN feature will only store one official name in the Official Name Label field. The more detailed name (e.g. Pigeon Lake) will be stored on the OHN feature. However, channels, bays and other similar more detailed GEL feature names will NOT be stored on the OHN feature.

10. Why is the OHN geometry different from the GEL?

In many instances, the geometry found in the GEL was copied from the OHN medium scale data classes. When the OHN is updated with new geometry, the geometry in GEL remains unchanged. Staff in the Parcel Mapping and Georeferencing Unit must review the changes in the OHN before adopting any changes to the GEL.

11. Are there other dam layers?

The Ontario Dam Inventory (ODI) is a point layer with basic attributes such as dam name and ownership. The ODI is available from LIO.

APPENDIX A: OHN Lookup Tables and Values

OHN Medium Scale

OHN Waterbody

LOCATION_ACCURACY_LIST

Column Name	Column Type	Mandatory	Short Name	Description
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	The accuracy of the location of the feature at an OBM scale. The degree of conformity or closeness of a measurement to the true value.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

LOCATION_ACCURACY_LIST Permissible Values

LOCATION ACCURACY	EXPIRY DATETIME
Not Applicable	Not applicable
Over 10,000 metres	Not applicable
Within 1 metre	Not applicable
Within 10 metres	Not applicable
Within 10,000 metres	Not applicable
Within 100 metres	Not applicable

LOCATION ACCURACY	EXPIRY DATETIME
Within 1000 metres	Not applicable
Within 2 metres	Not applicable
Within 20 metres	Not applicable
Within 200 metres	Not applicable
Within 2000 metres	Not applicable
Within 5 metres	Not applicable
Within 50 metres	Not applicable
Within 500 metres	Not applicable
Within 5000 metres	Not applicable
AC Accurate (to 10m)	01/12/2007
AP Approximate (to 500m)	01/12/2007
GE General (to 10,000m)	01/12/2007
MO Moderate (to 1000m)	01/12/2007
RE Reliable (to 100m)	01/12/2007
VA Very Accurate (to 2m)	01/12/2007
VG Vague (to 100,000m)	01/12/2007
^ Data Load	01/12/2007

OHN_WATERBODY_TYPE_LIST

Column Name	Column Type	Mandatory	Short Name	Description
WATERBODY_TYPE	VARCHAR2(20)	Yes	WBDY_TYPE	The nature of a body of water defined according to its water velocity and usage.
DESCRIPTION	VARCHAR2(254)	No	TYPE_DESCR	Describes the Waterbody Type
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_WATERBODY_TYPE_LIST Permissible Values

WATERBODY TYPE	DESCRIPTION	EXPIRY DATETIME
Beaver Pond	A pond that is created by a beaver dam.	Not applicable
Canal	An artificial watercourse serving as a navigable waterway or to channel water.	Not applicable
Kettle Lake	A shallow, sediment-filled lake formed by retreating glaciers or draining floodwaters.	Not applicable
Lake	A natural, usually flat, open body of water, which excludes wetlands, islands, surface rocks or other hazards to waterflow and/or navigation.	Not applicable
Ocean	A coastal waterbody (Hudson Bay and James Bay).	Not applicable
Pond	A body of standing water, usually smaller than a lake. This feature type is used to differentiate non-lake features from lakes, including: irrigation ponds, reservoirs, flooded gravel pits and quarries.	Not applicable
Reservoir	A wholly or partially human-made body of water for storing and/ or regulating and controlling water.	Not applicable

WATERBODY TYPE	DESCRIPTION	EXPIRY DATETIME
River	A natural body of water (such as a river, stream or creek) through which water may flow.	Not applicable

OHN Watercourse

LOCATION_ACCURACY_LIST

See table under [OHN Waterbody](#)

OHN_WATERCOURSE_TYPE_LIST

Column Name	Column Type	Mandatory	Short Name	Description
WATERCOURSE_TYPE	VARCHAR2(20)	Yes	WCRS_TYPE	The type of watercourse.
DESCRIPTION	VARCHAR2(225)	No	TYPE_DESCR	Describes the Watercourse Type
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_WATERCOURSE_TYPE_LIST Permissible Values

WATERCOURSE TYPE	DESCRIPTION	EXPIRY DATETIME
Ditch	A small, open constructed channel for the purpose of conveying water. Open conduits, constructed drains, irrigation channels, aqueducts, penstocks, flumes and sluices are included.	Not applicable
Stream	A natural body of water (such as a river, stream or creek) through which water flows.	Not applicable
Virtual Connector	An inferred watercourse feature needed to maintain the continuity of water flow between adjacent water features. These will be lines where flow is known to exist but is not directly mapped, such as underground conduits.	Not applicable
Virtual Flow	An inferred watercourse feature needed to maintain the continuity of water flow between adjacent water features. These will be lines through a waterbody that connect all adjacent water features.	Not applicable

OHN Hydrographic Poly

LOCATION_ACCURACY_LIST

See table under [OHN Waterbody](#)

OHN_POLY_TYPE_LIST

Describes the Hydrographic Poly Type.

Column Name	Column Type	Mandatory	Short Name	Description
HYDROGRAPHIC_POLY_TYPE	VARCHAR2(20)	Yes	POLY_TYPE	The type of natural or constructed features that may occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.
DESCRIPTION	VARCHAR2(400)	No	DESCR	Describes the Hydrographic Poly Type.
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_POLY_TYPE_LIST Permissible Values

HYDROGRAPHIC POLY TYPE	DESCRIPTION	EXPIRY DATETIME
Dam	A feature representing an obstacle that disturbs or impedes the flow of surface water, excluding beaver dams, water-crossings and culverts.	Not applicable

HYDROGRAPHIC POLY TYPE	DESCRIPTION	EXPIRY DATETIME
Hydro Wall	A human-made structure built in a waterbody and possibly extending onshore, or built along a waterbody forming the shoreline, that does not allow water to pass under it, but allows water to pass around it. Hydro walls may extend along and/or may be contained within a waterbody, and may include wharfs, docks, piers, jetties, headwalls, groynes, locks, berms or embankments.	Not applicable
Rapids	A fast-flowing, often turbulent, section of a body of water, generally containing exposed rocks or boulders.	Not applicable
Wreck	The remains of a grounded ship that is partially above the water surface.	Not applicable

OHN Hydrographic Line

LOCATION_ACCURACY_LIST

See table under [OHN Waterbody](#)

OHN_LINE_TYPE_LIST

Column Name	Column Type	Mandatory	Short Name	Description
HYDROGRAPHIC_LINE_TYPE	VARCHAR2(20)	Yes	LINE_TYPE	The type of natural or constructed features that may occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.
DESCRIPTION	VARCHAR2(400)	No	TYPE_DESCR	Describes the Hydrographic Line Type.

Column Name	Column Type	Mandatory	Short Name	Description
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_LINE_TYPE_LIST Permissible Values

HYDROGRAPHIC LINE TYPE	DESCRIPTION	EXPIRY DATETIME
Dam	A feature representing an obstacle that disturbs or impedes the flow of surface water, excluding beaver dams, water-crossings and culverts.	Not applicable
Falls	A perpendicular or steep drop in a body of water over which water flows.	Not applicable
Hydro Wall	A human-made structure built in a waterbody and possibly extending onshore, or built along a waterbody forming the shoreline, that does not allow water to pass under it, but allows water to pass around it. Hydro walls may extend along and/or may be contained within a waterbody, and may include wharfs, docks, piers, jetties, headwalls, groynes, locks, berms or embankments.	Not applicable
Lock-Gate	A gate on a navigable canal used to raise or lower the water level so that boats may pass from one level to another.	Not applicable
Rapids	A fast-flowing, often turbulent, section of a body of water, generally containing exposed rocks or boulders.	Not applicable
Sea Lamprey Barrier	A feature on a watercourse or waterbody that forms a barrier (either electrical or physical) to the migration of Sea Lamprey.	Not applicable
Wreck	The remains of a grounded ship that is partially above the water surface.	Not applicable

OHN Hydrographic Point

LOCATION_ACCURACY_LIST

See table under [OHN Waterbody](#)

OHN_POINT_TYPE_LIST

Column Name	Column Type	Mandatory	Short Name	Description
HYDROGRAPHIC_POINT_TYPE	VARCHAR2(20)	Yes	POINT_TYPE	The type of natural or constructed features that may occur on waterbodies or watercourses which may pose hazards or impediments to water flow and/or navigation.
DESCRIPTION	VARCHAR2(160)	No	TYPE_DESCR	Describes the Hydrographic Point Type
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_POINT_TYPE_LIST Permissible Values

HYDROGRAPHIC POINT TYPE	DESCRIPTION	EXPIRY DATETIME
Falls	A perpendicular or steep drop in a body of water over which water flows.	Not applicable
Rapids	A fast-flowing, often turbulent, section of a body of water, generally containing exposed rocks or boulders.	Not applicable
Rocks	A rock or earthen formation always visible above the water surface.	Not applicable
Sea Lamprey Barrier	A feature on a watercourse or waterbody that forms a barrier (either electrical or physical) to the migration of Sea Lamprey.	Not applicable
Wreck	The remains of a grounded ship that is partially above the water surface.	Not applicable

OHN Small Scale

OHN Small Scale Waterbody

OHN_SS_WATERBODY_TYPE_LIST

The nature of a body of water defined according to its water velocity and usage.

Column Name	Column Type	Mandatory	Short Name	Description
WATERBODY_TYPE	VARCHAR2(20)	Yes	WBDY_TYPE	The nature of a body of water defined according to its water velocity and usage.
DESCRIPTION	VARCHAR2(100)	Yes	DESCR	Describes the Waterbody Type
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN_SS_WATERBODY_TYPE_LIST Permissible. Values

WATERBODY TYPE	DESCRIPTION	EXPIRY DATETIME
Lake	A natural body of water that is localized to the bottom of basin and moves slowly if it moves at all.	Not applicable
Ocean	A coastal waterbody (Hudson Bay and James Bay).	Not applicable
River	A natural body of water (such as a river, stream or creek) through which water may flow.	Not applicable

POLITICAL_SUBDIVISION_LIST

ISO code list for the countries and their sub-divisions.

Column Name	Column Type	Mandatory	Short Name	Description
POLITICAL_SUBDIVISION_CODE	VARCHAR2(5)	Yes	POL_SUBDIV	ISO codes for the representation of countries and their sub-divisions.
DESCRIPTION	VARCHAR2(100)	Yes	DESCR	Describes the Subdivision Code
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

POLITICAL_SUBDIVISION_LIST Permissible Values

POLITICAL SUBDIVISION CODE	DESCRIPTION	EXPIRY DATETIME
CA-AB	Canada - Alberta	Not applicable
CA-BC	Canada - British Columbia	Not applicable
CA-MB	Canada - Manitoba	Not applicable
CA-NB	Canada - New Brunswick	Not applicable
CA-NL	Canada - Newfoundland and Labrador	Not applicable
CA-NS	Canada - Nova Scotia	Not applicable
CA-NT	Canada - Northwest Territories	Not applicable
CA-NU	Canada - Nunavut	Not applicable
CA-ON	Canada - Ontario	Not applicable
CA-PE	Canada - Prince Edward Island	Not applicable

POLITICAL SUBDIVISION CODE	DESCRIPTION	EXPIRY DATETIME
CA-QC	Canada - Quebec	Not applicable
CA-SK	Canada - Saskatchewan	Not applicable
CA-YT	Canada - Yukon Territory	Not applicable
US-AK	United States - Alaska	Not applicable
US-AL	United States - Alabama	Not applicable
US-AR	United States - Arkansas	Not applicable
US-AZ	United States - Arizona	Not applicable
US-CA	United States - California	Not applicable
US-CO	United States - Colorado	Not applicable
US-CT	United States - Connecticut	Not applicable
US-DE	United States - Delaware	Not applicable
US-FL	United States - Florida	Not applicable
US-GA	United States - Georgia	Not applicable
US-HI	United States - Hawaii	Not applicable
US-IA	United States - Iowa	Not applicable
US-ID	United States - Idaho	Not applicable
US-IL	United States - Illinois	Not applicable
US-IN	United States - Indiana	Not applicable
US-KS	United States - Kansas	Not applicable
US-KY	United States - Kentucky	Not applicable
US-LA	United States - Louisiana	Not applicable
US-MA	United States - Massachusetts	Not applicable
US-MD	United States - Maryland	Not applicable
US-ME	United States - Maine	Not applicable
US-MI	United States - Michigan	Not applicable
US-MN	United States - Minnesota	Not applicable
US-MO	United States - Missouri	Not applicable
US-MS	United States - Mississippi	Not applicable

POLITICAL SUBDIVISION CODE	DESCRIPTION	EXPIRY DATETIME
US-MT	United States - Montana	Not applicable
US-NC	United States - North Carolina	Not applicable
US-ND	United States - North Dakota	Not applicable
US-NE	United States - Nebraska	Not applicable
US-NH	United States - New Hampshire	Not applicable
US-NJ	United States - New Jersey	Not applicable
US-NM	United States - New Mexico	Not applicable
US-NV	United States - Nevada	Not applicable
US-NY	United States - New York	Not applicable
US-OH	United States - Ohio	Not applicable
US-OK	United States - Oklahoma	Not applicable
US-OR	United States - Oregon	Not applicable
US-PA	United States - Pennsylvania	Not applicable
US-RI	United States - Rhode Island	Not applicable
US-SC	United States - South Carolina	Not applicable
US-SD	United States - South Dakota	Not applicable
US-TN	United States - Tennessee	Not applicable
US-TX	United States - Texas	Not applicable
US-UT	United States - Utah	Not applicable
US-VA	United States - Virginia	Not applicable
US-VT	United States - Vermont	Not applicable
US-WA	United States - Washington	Not applicable
US-WI	United States - Wisconsin	Not applicable
US-WV	United States - West Virginia	Not applicable
US-WY	United States - Wyoming	Not applicable

OHN Small Scale Watercourse

OHN_SS_WATERCOURSE_TYPE_LIST

The type of watercourse.

Column Name	Column Type	Mandatory	Short Name	Description
WATERCOURSE_TYPE	VARCHAR2(20)	Yes	WCRS_TYPE	The type of watercourse.
DESCRIPTION	VARCHAR2(100)	Yes	DESCR	Describes the Watercourse Type
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	Date/time the record was created or last modified in the source database. DEFAULT: SYSDATE
EXPIRY_DATETIME	DATE	No	EXP_DATE	Date/time that the record was expired from use.

OHN SS_WATERCOURSE_TYPE_LIST Permissible Values

WATERCOURSE TYPE	DESCRIPTION	EXPIRY DATETIME
Stream	A natural body of water (such as a river, stream or creek) through which water flows.	Not applicable
Virtual Flow	An inferred watercourse feature needed to maintain the continuity of water flow.	Not applicable

POLITICAL_SUBDIVISION_LIST

See table under [OHN Small Scale Waterbody](#)

OHN Small Scale Shoreline

POLITICAL_SUBDIVISION_LIST

See table under [OHN Small Scale Waterbody](#)

