Unclassified

Land Information Ontario
Data Description

Waterpower Potential Site

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LIO Class Description

Waterpower Potential Site

Class Short Name: WPPOTSTE

Version Number: 3

Class Description:

A site which has the potential to be used for hydroelectric power generation.

Abstract Class Name: SPSPNT

Abstract Class Description:

Spatial Single-Point: An object is represented by ONE and ONLY ONE point. Examples: A cabin, bird nest, tower.

~~**Metadata URL:**~~

Tables in LIO Class:

Waterpower Potential Site

WPOWER_POTENTIAL_SITE_FT

A site which has the potential to be used for hydroelectric power generation.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER(13,0)	Yes	OGF_ID	
The system generated identifier, unique at the application level.				
SITE_IDENT	VARCHAR2(10)	Yes	SITE_IDENT	
The identifier assigned to a specific hydraulic site. The first three characters in the identifier represent the watershed and sub-watershed in which the site is located. The last one or two digits in the number are the site location within that watershed, e.g. site 4MC02 is in watershed number 4MC and at site number 2 in the watershed.				
SITE_NAME	VARCHAR2(100)	Yes	SITE_NAME	
The name of the hydraulic site.				
CURRENT_PROCESS	VARCHAR2(50)	No	PROCESS	Direct Site Release Process, Non-Competitive Site Release Process, Competitive Site Release Process,MNR Dams Site Release Process
A waterpower development on crown land will be releasd through one of four site release processes: Direct Site Release Process, Non-Competitive Site Release Process, Competitive Site Release Process, MNR Dams Site Release Process.				
IPSP_IND	VARCHAR2(3)	No	IPSP_IND	Yes, No
Integrated Power System Plan Indicator - Indicates if the site has been identified in the Integrated Power System Plan (IPSP).				
WATERSHED_BASIN	VARCHAR2(100)	No	WATERSHED	
The name of the secondary watershed in which the Waterpower Potential Site is located.				
WATERBODY_NAME	VARCHAR2(100)	No	WBODY_NAME	
The name of the waterbody. It is preferable to use the official name for the waterbody if it exists which is the name formally laid down, sanctioned, or imposed by a governing body.				
DEVELOPMENT_STATUS	VARCHAR2(25)	No	DEV_STATUS	Formerly Developed, Undeveloped
Indication as to whether there has been development at a potential hydro site. This development may exist currently or may have existed in the past.				
HEAD_MEASUREMENT	NUMBER(5,2)	No	HEAD_MEAS	
The hydraulic head measured in metres.				
ORIGINAL_DRAINAGE_AREA	NUMBER(8,2)	No	ORIG_AREA	
DEM_DRAINAGE_AREA	NUMBER(8,2)	No	DEM_DRAIN	
The immediate upstream drainage area, measured in square kilometres, calculated using provincial Digital Elevation Models (DEMs) from which the potential hydropower site would receive water.				

QMAF_ORIGINAL_DRAINAGE	NUMBER(8,2)	No	QMAF_ORIG	
QMAF_CALC_DEM_DRAINAGE	NUMBER(8,2)	No	QMAF_CALC	
Immediate upstream drainage area (km?) calculated using provincial Digital Elevation Models (DEMs).				
POWER_CAPACITY_OLD_KW	NUMBER(8,2)	No	CAP_OLD_KW	
POWER_CAPACITY_NEW_KW	NUMBER(8,2)	No	CAP_NEW_KW	
Energy potential estimate using the updated values for Mean Annual Flow (QMAF) and drainage area derived from provincial Digital Elevation Models (DEMs). It is measured in kW.				
POWER_CAPACITY_NEW_MW	NUMBER(6,2)	No	CAP_NEW_MW	
Energy potential estimate measured in MW using the updated values for Mean Annual Flow (QMAF) and drainage area derived from provincial Digital Elevation Models (DEMs).				
MEAN_ANNUAL_FLOW_OLD	NUMBER(8,2)	No	MN_FLOW_O	
MEAN_ANNUAL_FLOW_NEW	NUMBER(8,2)	No	MN_FLOW_N	
The mean annual flow (cubic metres per second) calculated using the drainage area derived from provincial DEMs and updated mean annual runoff (QMAR).				
WPOWER_RESERVOIR_ID	NUMBER(13,0)	No	RESERV_ID	
The system generated identifier, unique at the application level corresponding to the waterbody on which the reservoir is located.				
SOURCE_DETAIL	VARCHAR2(254)	No	SRC_DETAIL	
LOCATION_ACCURACY	VARCHAR2(25)	Yes	ACCURACY	Not Applicable, Over 10,000 metres, Within 1 metre, Within 10 metres, Within 10,000 metres, Within 100 metres, ... (See LOCATION_ACCURACY_LIST table)
The degree of conformity or closeness of a measurement within the database to its true value in the world.				
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.				
SHAPE	SDO_GEOMETRY	No	SHAPE	
Geometry attribute.				

CLASS_DATABASE_REFERENCE

A link to an external database or an internal object in the same database.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER	Yes	OGF_ID	

	(13,0)			

A unique numeric provincial identifier assigned to each object.

INTERNAL_EXTERNAL_FLG	VARCHAR2 (10)	Yes	INT_EXT	Internal, External

A flag indicating if the database being referenced is internal (NRVIS/LIO) or external.

DATABASE_REFERENCE_IDENT	VARCHAR2 (50)	Yes	IDENT

Identifier of a reference that is linked e.g. Land Use Permit Number, LIS Number, the FMF Object ID of a Concrete Class.

CLASS_SHORT_NAME	VARCHAR2 (8)	Yes	CLASS_NAME

Static short name that will be used by for the concrete class.

DATABASE_REFERENCE_DETAIL	VARCHAR2 (2000)	No	DETAIL

Details on the rationale, use, dependency, or comments on the database reference. If a dependence on other data class geometry exists, this can be identified in this field.

RELATED_CLASS_SHORT_NAME	VARCHAR2 (8)	No	CLASS_NAME

The static short name that is used by the related concrete class.

EXT_REF_TYPE_CODE	VARCHAR2 (8)	No	EXT_TYPE

The type of external database that the identifier pertains to e.g. LUPS, LIS, etc.

TYPE_OTHER_DESCR	VARCHAR2 (60)	No	OTH_DESCR

A full description of the type when set to "other".

EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE

Date/time the record was created or last modified in the source database.

LOCATION_ACCURACY_LIST

List of valid LOCATION_ACCURACYs.

Column Name	Column Type	Mandatory	Short Name	Valid Values
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.

EXPIRY_DATETIME	DATE	No	EXP_DATE	

Date/time that the record was expired from use.

WPOWER_RESERVOIR

A reservoir is a natural or man-made body of water, replenished by rain and river or stream flow, which is formed after a dam is built on a river, and is used for the collection and storage of water.

A dam is a structure formed to hold water back, and is generally built near uncontaminated water collection sources in order to provide a drinking water supply t o the surrounding communities. In addition to providing municipal water supplies, reservoirs provide recreational areas, are used for irrigation, hydroelectric and flood control.

Column Name	Column Type	Mandatory	Short Name	Valid Values
OGF_ID	NUMBER (13,0)	Yes	OGF_ID	
System generated identifier, unique at the application level.				
RESERVOIR_NAME	VARCHAR2 (100)	Yes	NAME	
The name of the reservoir.				
RESERVOIR_PURPOSE	VARCHAR2 (25)	No	PURPOSE	Flood Control,Navigation, Waterpower, Irrigation,Municipal Water Supply, Industrial Water Supply,Recreation
The purpose of the reservoir.				
OPERATIONAL_FLOW_LIMITATIONS	NUMBER (10,2)	No	FLOW_LIMIT	
Restrictions on the rate of water being discharged from the dam reservoir measured in cubic meters per second as part of the normal dam functions.				
LICENCED_FLOW_RESTRICTIONS	NUMBER (10,2)	No	FLOW_REST	
Restrictions on the rate of water being discharged from the dam reservoir measured in cubic meters per second as part of the license agreement for the production of hydro power.				
LICENCED_FLOW_RATIONALE	VARCHAR2 (2000)	No	FLOW_RAT	
Reason for the restricted flow for the dam reservoir as part of the hydro power licensing agreement.				
LICENCED_DRAWDOWN_RATIONALE	VARCHAR2 (2000)	No	DRAWD_RAT	
Reason for the restricted drawdown levels for the dam reservoir as part of the hydro power licensing agreement.				
NORMAL_DRAWDOWN_LEVELS	NUMBER (10,2)	No	DRAWD_NORM	
The distance that the water surface elevation of a storage reservoir is lowered from a given or starting elevation as a result of the withdrawal of water to meet some project purpose (i.e., power generation, creating flood control space, irrigation demand, etc.). It is measured in metres.				
LICENCED_DRAWDOWN_RESTRICT	NUMBER (10,2)	No	DRAWD_REST	
Restrictions in the amount of drawdown (difference between static and operating surface water levels) that can be used due to hydro power licensing. It is measured in metres.				
SURFACE_AREA	NUMBER (10,2)	No	AREA	
The area of the surface of the headpond or reservoir measured in hectares.				

HEADPOND_OR_RESERVOIR_VOLUME	NUMBER (10,2)	No	VOLUME	
Amount of space occupied by the headpond or reservoir as measured in cubic units (metres).				
CATCHMENT_AREA	NUMBER (10,2)	No	CATCH_AREA	
The area drained by a river or body of water. It may be measured in ha or km2.				
CATCHMENT_AREA_UNIT_OF_MEAS	VARCHAR2 (10)	No	CATCH_MEAS	ha,km2
The list of possible units of measure for the Catchment Area. e.g. km2 for square kilometres, ha for hectare.				
AREA_FLOODED_BY_DAM	NUMBER (10,2)	No	AREA_FLOOD	
Area downstream from a dam that potentially could be flooded if the water flow exceeded the capacity of the dam. It is measured in hectares or square kilometres.				
AREA_FLOODED_UNIT_OF_MEAS	VARCHAR2 (10)	No	AREA_MEAS	ha,km2
The list of possible units of measure for the area flooded by the dam. e.g. km2 for square kilometres, ha for hectare.				
LIVE_STORAGE_VOLUME_AVAILABLE	NUMBER (5,0)	No	VOL_AVAIL	
The volume of a reservoir that is available for power irrigation, flood control, or other purposes. Active storage excludes flood surcharge. All values are multiples of 10^6 mn. For example, a value of 427 equates to 427 x 10^6 m3.				
LIVE_STORAGE_VOLUME_UTILIZED	NUMBER (5,0)	No	VOL_UTIL	
The volume of a reservoir presently used for power production. All values are multiples of 10^6 mn. For example, a value of 427 equates to 427 x 10^6 m3.				
WATERBODY_MEAN_DEPTH	NUMBER (5,2)	No	MEAN_DEPTH	
The mean depth of the waterbody measured in metres (m).				
WATERBODY_MAXIMUM_DEPTH	NUMBER (5,2)	No	MAX_DEPTH	
The maximum depth of the waterbody measured in metres (m).				
YEAR_BUILT	NUMBER (4,0)	No	YEAR_BUILT	
The year the facility was built.				
RESERVOIR_ELEVATION	NUMBER (10,0)	No	ELEVATION	
Amount in metres that a geographic entity is above mean sea level.				
WATERBODY_ID	NUMBER (13,0)	No	WBODY_ID	
The system generated identifier, unique at the application level corresponding to the waterbody on which the reservoir is located.				
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	
Date/time the record was created or last modified in the source database.				

WPOWER_RESERVOIR_OPERATOR

Column Name	Column Type	Mandatory	Short Name	Valid Values
WPOWER_RESERVOIR_ID	NUMBER (13,0)	Yes	RESERV_ID	
The FMF Object Id of the associated Reservoir.				
RESERVOIR_OPERATOR	VARCHAR2 (50)	Yes	OPERATOR	
The operator of the reservoir.				
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	
Date/time the record was created or last modified in the source database.				

WPOWER_RESOURCE_CONSID_AREA

A designation that is assigned to a Potential Hydro Site which identifies how a development opportunity would proceed.

Column Name	Column Type	Mandatory	Short Name	Valid Values
WPOWER_POTENTIAL_SITE_ID	NUMBER (13,0)	Yes	POTSITE_ID	
The FMF Object Id of the associated Waterpower Potential Site.				
WATERPOWER_RESOURCE_TYPE	VARCHAR2 (50)	Yes	RES_TYPE	Direct Site Release,Far North,Federal Lands, General Use Area,Moose River Basin,Moose River Basin - Park and Protected Area, Northern Rivers,Northern Rivers - Park and Protected Area, Park and Protected Area,Non-Competitive Site Release,Competitive Site Release
A high-level classification of the ownership of the land on which the Potential Hydro Site is located. Potential entries for Waterpower Resource Type are: - Direct Site Release - Far North - Federal Lands - General Use Area - Moose River Basin - Moose River Basin - Park and Protected Area - Northern Rivers - Northern Rivers - Park and Protected Area - Park and Protected Area - Non-Competitive Site Release - Competitive Site Release				
EFFECTIVE_DATETIME	DATE	Yes	EFF_DATE	
Date/time the record was created or last modified in the source database.				

LIO Lookup Table Values:

LOCATION_ACCURACY_LIST

LOCATION ACCURACY	EXPIRY DATETIME
Not Applicable	
Over 10,000 metres	
Within 1 metre	
Within 10 metres	
Within 10,000 metres	
Within 100 metres	
Within 1000 metres	
Within 2 metres	
Within 20 metres	
Within 200 metres	
Within 2000 metres	
Within 5 metres	
Within 50 metres	
Within 500 metres	
Within 5000 metres	
AC Accurate (to 10m)	2007-01-12
AP Approximate (to 500m)	2007-01-12
GE General (to 10,000m)	2007-01-12
MO Moderate (to 1000m)	2007-01-12
RE Reliable (to 100m)	2007-01-12
VA Very Accurate (to 2m)	2007-01-12
VG Vague (to 100,000m)	2007-01-12
^ Data Load	2007-01-12