

User Guide for LIO Data Classes

Wildlife Values Area

Wildlife Values Site

Integration Branch
Regional Operations Division
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Introduction

The Ministry of Natural Resources and Forestry (the Ministry or MNRF) manages the land and its resources for over 85% of the area of the province of Ontario. Accurate information is required for proper resource management and the organization and management of information is key to making appropriate planning and management decisions.

Resource management requires that areas wildlife use for a variety of life processes be protected. These features can only be protected if their spatial data and biological details are readily available to MNRF staff and easily shared between MNRF and other organizations working in the province. Previously, the Ministry managed multiple spatial data classes related to wildlife activities and habitat use. In the interest of finding efficiencies, the Ministry went through a rationalization process to combine wildlife information tracked in thirteen data classes down to two. The legacy classes that were combined include:

Wildlife Values Area – Polygon

- Aquatic Feeding Area
- Breeding Area
- Calving Fawning Site
- Feeding Area, Wildlife
- Mast Producing Area
- Nursery Area, Wildlife
- Resting Area
- Staging Area, Wildlife
- Travel Corridor, Wildlife
- Wintering Area

Wildlife Values Site – Point

- Den Site
- Mineral Lick
- Nesting Site

The Ministry's largest resource management activity on Crown land is forest management and because of this, most of the decisions made around the layers described here are to support the policies and legislation associated with Crown Forest Sustainability Act. This does not preclude the data in these classes being used to support other resource management decisions or activities.

Users should be aware that these layers:

- were primarily developed to support forest management planning;
- may be used to support other resource management activities;
- do not include Caribou habitat data;
- do not represent regulated habitat under the Endangered Species Act;
- are not the only layers in LIO that contain wildlife data;

This guide has been prepared on behalf of the Wildlife data class consolidation working group which was assembled to analyze Regional Operations Division (ROD) data business needs. The Working Group was facilitated by Information Coordination Section in Integration Branch.

The guide is intended for both users of the data and MNRF staff responsible for maintaining Wildlife data via the Land Information Ontario Editor. This document provides guidance on data management standards for Wildlife data classes and includes the reference to the documents where standard methods for collection of this data in the field can be found.

Additional Information

If you have any questions about this guide or how the data outlined here is maintained, contact Information Coordination section or the Regional GIS Specialist for your region.

Feedback about this guide is also welcome. Please report any errors or omissions back to the information owner so that they may be acted upon in a timely fashion. The intention is that users of this guide find this information useful and recommendations for how to improve this guide are welcome.

Keywords

Wildlife, Wintering, Aquatic Feeding, Mast, Mineral Lick, Den, Calving, Fawning, Breeding, Resting, Travel Corridor, Nursery, Staging, Nest, Nesting, Bird, Ungulate, Geographic, Location, Distribution, Area, Site, Value, Species at Risk, Wildlife Activity Site, Wildlife Activity Area

List of Acronyms

FMP: Forest Management Plan

GeoHub: LIO's spatial metadata management tool

LIO: Land Information Ontario

LUT: Lookup Table

MNRF: Ontario Ministry of Natural Resources and Forestry

OGF ID: Ontario Geospatial Feature Identifier

ROD: Regional Operations Division

SSG: Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Stand and Site Guide)

Glossary Of Terms

Spatial data: Digital data which represents a physical object's geographic location on the earth's surface (ex. the location of a bird's nest).

GIS (Geographic Information System): Combination of programs that work together to manage, manipulate, analyze and visualize spatial information.

Data Layer: Collection of features (locations) their size shape and other pieces of information about them (attributes).

Data Model: Description of the framework used to organize information in a database. Information may be organized into one or more tables which contain one or more attributes.

Table: a grouping of columns (attributes) and rows (records) which organize related information

Attribute: Specific piece of information in a table which describes a spatial feature.

Optional: An attribute which is not required to enter information into in order to save a record.

Mandatory: An attribute which is required to enter information into in order to save a record.

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Description of the Data Classes

MNRF previously managed thirteen legacy data classes which were related to wildlife values. These classes underwent a review and analysis process. The source data classes were combined into two new classes **Wildlife Values Area** (polygons) and **Wildlife Values Site** (points), based on similarity in data model structure and feature types. The term “Wildlife” is commonly used to describe only animals, but its true context includes all organisms that live or grow in the wild. So, plant habitat values which are important to forest management and not captured in other LIO data classes are also included in both new classes.

Each grouping of features in each Wildlife class is separated into individual **Habitat Classes**. Some of the habitat classes are based on the original sourced layers, other habitat classes did not exist in the original data layers and were included in these classes to meet mapping requirements defined in the stand and site guide.

The data model for these new classes was designed in a specific way to avoid users choosing inconsistent combinations of species and activities. For example, a user is not able to assign a breeding area habitat class to a butternut tree or a denning site habitat class to an osprey. This will allow for the information to be entered consistently by users across the province and will allow for users to query the data to easily find the location information they are seeking.

The description for each Data Class and their associated Habitat Classes are listed below. For a full list of habitat classes and their associated Wildlife Activity Types see the Appendix. The habitat classes are further described in the Data Collection & Maintenance section regarding policies related to specific activity types and where they are referenced within in the stand and site guide.

Wildlife Values Area

This data class identifies the areas where specific wildlife activities such as breeding, calving/fawning, denning, feeding, general habitat, nursery, staging, nesting, travel corridors, wintering etc. are of local interest to Ministry of Natural Resources and Forestry Districts and Regions. These areas may be species-specific or generally described. Intended for wildlife features that are best represented as a delineated boundary (area or polygon) such as bird nesting colonies.

In this data class, an object is represented by one and only one polygon. Polygons may overlap only when their respective Wildlife Values Types are different. Holes within and gaps between polygons are allowed. Example: ‘Calving Fawning Site’. A ‘Moose Calving Site’ may overlap a ‘Deer Fawning Site’, but Moose Calving Sites are not permitted to overlap one another.

Table 1. Habitat Classes in the Wildlife Values Area data class

Habitat Class – Wildlife Values Area	Description	Example Wildlife Values Type
Breeding - Area	An area where a species habitually breeds	Cerulean Warbler Breeding Area
Calving/Fawning - Area	An area where a species habitually migrates to give birth to young	Elk Calving Site
Feeding - Area	An area where a wildlife species habitually feeds	Moose Aquatic Feeding Area
General Habitat - Area	Area of general habitat for features that don't fit into the other Habitat Class designations. Includes plant features, some insects and others	American Ginseng - Large Patch
Nesting (Birds) – Area	An area that identifies the location of a colony of nests belonging to one specific colony bird species	Great Blue Heron Nesting Site/Colony
Nursery - Area	An area where a species raises its newborn, if that area is different from the birthing (calving/fawning) area	Eastern Wolf Nursery Area
Overwintering - Area	An area in which a species habitually spends the winter	Elk Wintering Area
Resting - Area	An area where species are known to habitually sleep or rest	Osprey Resting Area
Staging or Migration Stopover - Area	An area where wildlife species rests during migration	White-tailed Deer Staging Area
Traveling (including corridor) - Area	An area that identifies a route used by wildlife species for migration	Elk Travel Corridor

Wildlife Values Site

This data class identifies sites where specific wildlife activities such as denning, nesting etc. are of interest to Ministry of Natural Resources and Forestry in districts and regions. These areas may be species-specific or generally described. Intended for wildlife features that are best represented as a point feature.

In this data class, an object is represented by one and only one point. Examples: A den, nest, mineral lick.

Table 2. Habitat Classes in the Wildlife Values Site data class

Habitat Class – Wildlife Values Site	Description	Example Wildlife Values Type
Denning – Site	A site where a species lives in or retreats to a den	American Black Bear Den Site
Feeding – Site	A site where a wildlife species habitually feeds	Mineral Lick
General Habitat - Site	A point site location of general habitat for features that don't fit into the other Habitat Class designations. Includes plant features, some insects and other	Butternut Tree Site
Nesting (Birds) – Site	A point that identifies the location of one or more nests that belong to a specific bird species	Bald Eagle Nesting Site
Nesting (Reptiles) – Site	A point that identifies the location of one or more nests that belong to a specific reptile species	Wood Turtle Nesting Site
Resting - Site	A site where species are known to habitually sleep or rest	Chimney Swift Roosting Site

The remainder of this document describes the extent and context of the information collected for these Data Classes. Refer to the appendix for the Wildlife Values Type List to find which species is collected in which layer.

Forestry Focus

The Ministry is legally obligated to provide data mapping the location of wildlife habitat to the Sustainable Forest Licensees (SFLs) so that they will be protected during forestry operations. Some values are interpreted or buffered from the data on the ground locations.

The advantages of standardizing wildlife values information include:

- improvement of the management of wildlife habitat data for the purposes of forestry.
- ensuring consistent data management across Districts and during staff turnover.
- facilitating the sharing of information.
- other initiatives unrelated to forestry could also benefit from this grouping of related values
- discoverable centralized data set.

The purpose of these layers is to map wildlife habitat values requiring consideration during forestry operations and planning. The features are defined by and collected under the direction and standards provided in the Stand and Site Guide (SSG), Landscape Guide and individual Forest Management Plans.

This data may be used to support other decisions, including Significant Wildlife Habitat Criterion screening, Natural Heritage planning or Species at Risk mapping. This data was not collected specifically to support these programs and should only be considered as an additional source of information as the mapping guidelines or definitions for habitat used here may not align with those in other program areas or pieces of legislation. These layers do not represent habitat regulated under the Endangered Species Act.

Data quality and distribution

Data in this layer will be biased towards areas on crown land within the area of the undertaking (AOU). Collection methods range from incidental observations provided by ministry staff and partners, to dedicated field collection efforts following a predefined methodology. The amount of effort spent searching for a value will depend on the location in the Province and the species. Search effort for each species will vary based on local resources and priorities. This will be reflected in the consistency in which features are mapped across jurisdictions.

The data access and distribution for the Wildlife classes defines most features in these classes as “Open” data but excludes any features that are associated with a tracked species. Any features that are defined as Open Data will be made available through Land Information Ontario’s [GeoHub](#).

The Wildlife Values data will be distributed to the forest industry through the Forest Information Portal as per the existing distribution process. MNR staff will access this data through standard Geographic Data Distribution (i.e. NDD).

The medium sensitive data within these classes will be made available to internal staff through the medium sensitive folder in NDD to users that have the appropriate training and access. Otherwise the medium data will be managed and distributed on a case by case basis.

The current model of the data will be revisited on an as needed basis. If a user thinks of a way to improve the contents or structure of these classes, they can send suggestions to the members of the Regional Operations Division data management sub-committee chair Catherine Bickram. The data custodians in Information Coordination Section will review any suggested changes and work to submit an enhancement project for the following fiscal year.

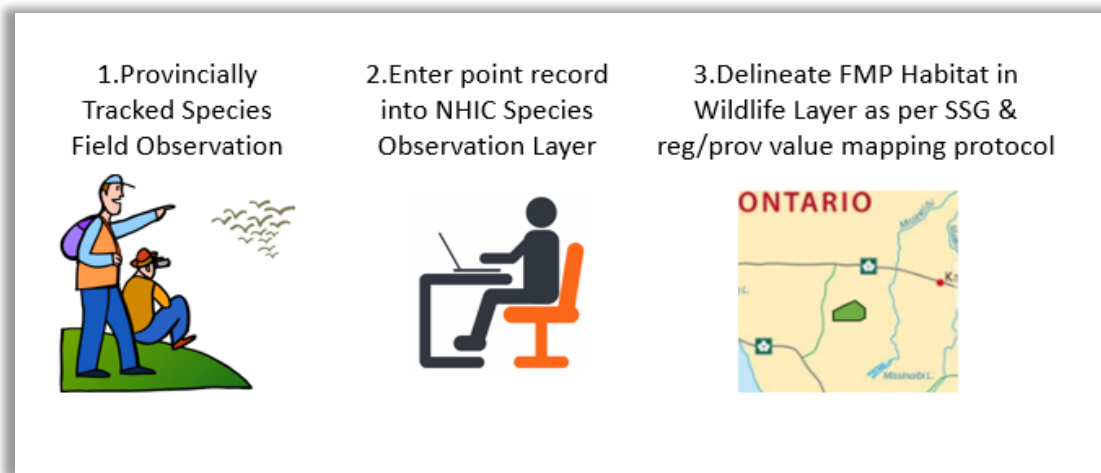
Managing Sensitive Data

In the legacy versions of the different data classes there was a variety of sensitivity classifications (Low, Medium and Non-Sensitive). Users had the ability to designate specific features with “low” sensitivity without legislative basis for the designation. In the new wildlife values classes sensitivity is designated based solely on species. All the features in these classes have an associated Element ID and if that ID is on the NHIC’s tracked species list the feature is designated as medium sensitive data and will be excluded from Open data distribution. If the species is not tracked the feature will be available for Open data distribution.

Most delineations of new habitat or boundary adjustments to existing habitat, are based on field observations of a species. Exceptions could include wintering area or nest sites outside of breeding season. Any observations that are known to be of a provincially tracked species must also be put in the appropriate NHIC data class to track rare species observations and permit subsequent identification of occurrences, if warranted.

All provincially tracked species observation and occurrence records, which may have informed the delineation of habitat features found in these classes, are required to be uploaded to the Species or Plant Community or Wildlife Concentration Area data layers.

Figure 1. Process for observing and documenting FMP habitat



Following this process ensures compliance with the [Protection and Distribution of Provincially Tracked Species Data](#) policy and adds a level of transparency and accountability by ensuring the source data is recorded and protected.

MNRF is legislatively required to identify, confirm and map known values, which include provincially tracked species. These classes delineate FMP habitat, not truly duplicating the observation and occurrence data managed by Natural Heritage Information Center (NHIC), but there can be overlap. The intent of the features entered here are to match how the values are described in the stand and site guide (SSG– the guide that identified the forest values required to be mapped for forest management planning) or in the description of a feature in a specific FMP. Contact your regional values lead for details about how to properly map features in this class and for information about what to do if you are mapping locations of rare species habitat.

Migration of Nesting Site data

Before being consolidated into these new wildlife classes, nesting related data (information about the location of one or more nests associated with a specific species) was stored in a point only data class. This meant that areas where nesting colony birds were located could only be represented by one point to define the location of the colony.

With the format of the new classes having an option of either point or polygon representation, now nesting areas for colony birds will be stored as areas in the Wildlife Values Area class and points defining the location of single nests of non-colony birds will be stored in the Wildlife Values site class. When the existing nesting site data was migrated to Wildlife Values Area for colony birds, the original points were buffered to turn them into areas and allow them to be

added to the polygonal class. If a single nest is found for a colony bird species it should be buffered by at least five metres in order to be added to the Wildlife Values Area class.

Users should understand the nesting habits of the specific bird species (i.e., solitary or colonial) when entering or searching for information about nesting areas/sites. For example:

- If searching for a Great Blue Heron they would need to search in the Wildlife Values Area data class because this species nests colonially
- If searching for a Golden Eagle they would need to search in the Wildlife Values Site data class because this species makes solitary nests

The Wildlife Values Type List in the Appendix provide a quick reference to which species' information is managed in each of the two new data layers.

Managing Caribou Data

The Caribou program has existing data management direction, preceding the development of these new classes. This direction was to capture caribou related features in Species Occurrence Locally Derived data class, managed by the Natural Heritage Information Centre. The original versions of the different data classes combined here had the ability to collect five caribou related subtypes: Caribou Calving Site, Caribou Migration Route, Caribou Nursery Area, Caribou Rutting Area, Caribou Wintering Area. The five caribou related subtypes were not carried over into the new classes in the interest of enforcing caribou data to be collected only in its authoritative source by the established process.

Viewing the Data

The result of combining many different feature types into one class means that viewing the data with all possible features showing can appear very complex, with features mashed together and overlapping other features. The information can easily be divided out to focus on specific information, this section will describe how to display individual habitat classes and/or features and attributes of interest.

For a user to find information they need to understand where that information is in the data model. Each class is made up of three main tables: the feature table, the nesting information table and the nest visit table. The same instructions would apply to either of the classes, but this explanation will focus on Wildlife Values Area.

Figure 2. Wildlife Activity Area Table

WILDLIFE_ACTIVITY_AREA_FT		
OGF_ID	NUMBER(13)	NOT NULL
WILDLIFE_ACTIVITY_TYPE	VARCHAR2(80)	NOT NULL (FK)
HABITAT_CLASS	VARCHAR2(30)	NOT NULL
LOCAL_IDENT	VARCHAR2(100)	NULL
HABITAT_QUALIFICATION	VARCHAR2(20)	NOT NULL
HABITAT_RANK	VARCHAR2(20)	NULL
LOCATION_CLASS	VARCHAR2(20)	NULL
SPECIES_EVIDENCE_FLG	VARCHAR2(20)	NOT NULL
FORAGE_TYPE	VARCHAR2(50)	NULL (FK)
LOCATION_DESCR	VARCHAR2(2000)	NULL
GENERAL_COMMENTS	VARCHAR2(2000)	NULL
VERIFICATION_STATUS_FLG	VARCHAR2(10)	NULL
VERIFICATION_STATUS_DATE	DATE	NULL
LOCATION_ACCURACY	VARCHAR2(25)	NOT NULL (FK)
SENSITIVITY_CLASS	VARCHAR2(15)	NOT NULL
SYSTEM_CALCULATED_AREA	NUMBER(16,3)	NULL
GEOMETRY_UPDATE_DATETIME	DATE	NULL
EFFECTIVE_DATETIME	DATE	NOT NULL
SYSTEM_DATETIME	DATE	NOT NULL
SHAPE	SDO_GEOMETRY	NULL

The feature table for the Wildlife Values Area polygon class is called **Wildlife Activity Area**. Being the feature table means it contains the spatial features of the polygonal values and their associated activity attributes.

The full list of attributes for all the tables can be found the appendix of this document where the logical data model is outlined, some examples of attributes on the Wildlife Activity Area feature table include:

- unique identifier for the feature
- wildlife activity type (the species/activity that the feature represents)
- habitat class (habitat type of the feature e.g. Nesting or Nursery)
- species evidence
- Location description and general comments

For most habitat classes, all possible attribute information about a feature can be found on that feature table, the only exception to this is nesting related features (which will be explained further in the next section).

Query Example 1 – American Ginseng Large Patch

This example outlines how to find information about the location of American Ginseng in Parry Sound district.

1. Determine in which data class information on Ginseng is stored
 - Look in the Wildlife Values Type List for Ginseng and note that the data is in Wildlife Values Area

Figure 3. Excerpt from Wildlife Values Type list look up table

Wildlife Values Type List		
Wildlife Values Type	Habitat Class	Wildlife Class Name
American Black Bear Den Site	Denning	Wildlife Values Site
American Black Bear Fishing	Feeding	Wildlife Values Area
American Crow Nesting Site	Nesting (Birds)	Wildlife Values Site
American Ginseng - Large Patch	General Habitat	Wildlife Values Area
American Ginseng - Small Patch	General Habitat	Wildlife Values Area

2. View the Wildlife Values Area data in ArcGIS application
3. Also add the MNR District data class to the view
4. Select Parry Sound from the MNR District data class
 - By choosing the “Select” tool and then clicking on Parry Sound so that the boundary is highlighted in blue (meaning it is selected)

Figure 4. Map showing features from Wildlife Values Area class

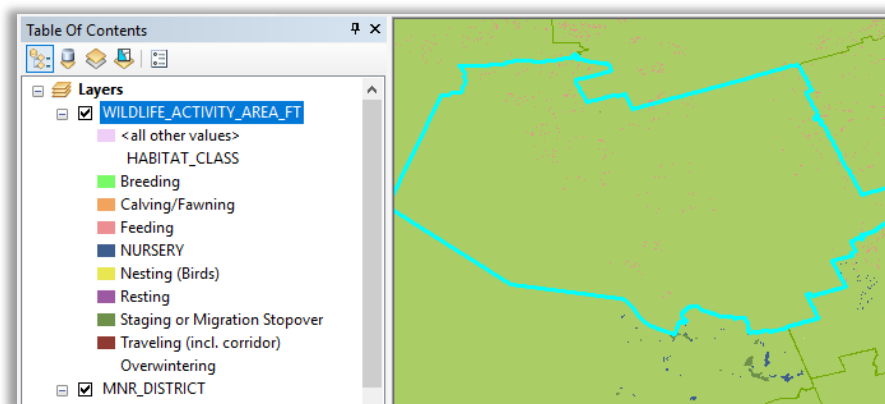
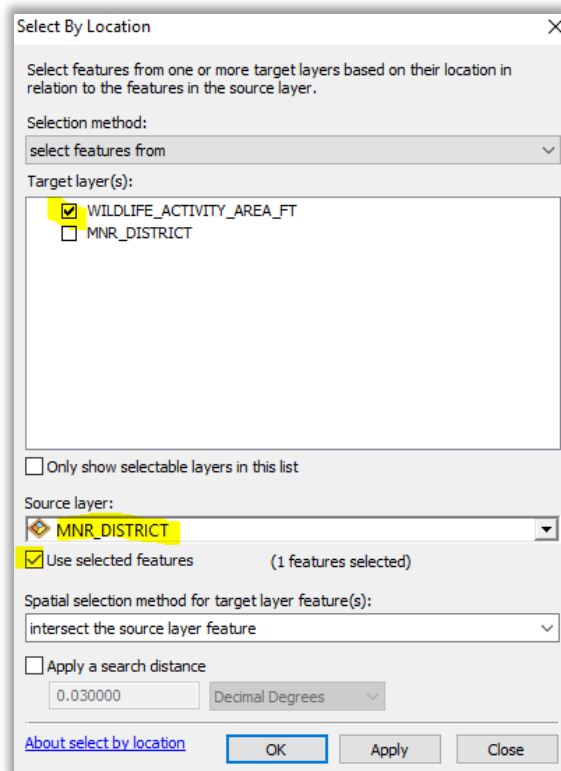
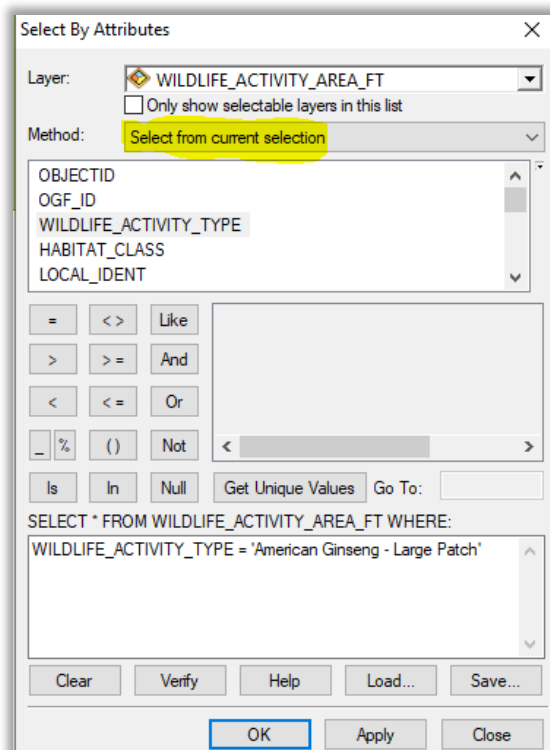


Figure 5. Example using Select by Location menu

5. From the selection menu choose “Select by Location”

6. In the “Select By Location” menu make the following choices

- Select features from “Wildlife Values Area”, source layer “MNR District” and check box “Use Selected Features”, spatial selection method “Intersect”
- This will select **all** the features from Wildlife Values area that fall within Parry Sound. This result will need to be refined in order to show just American Ginseng

Figure 6. Example using Select by Attributes menu

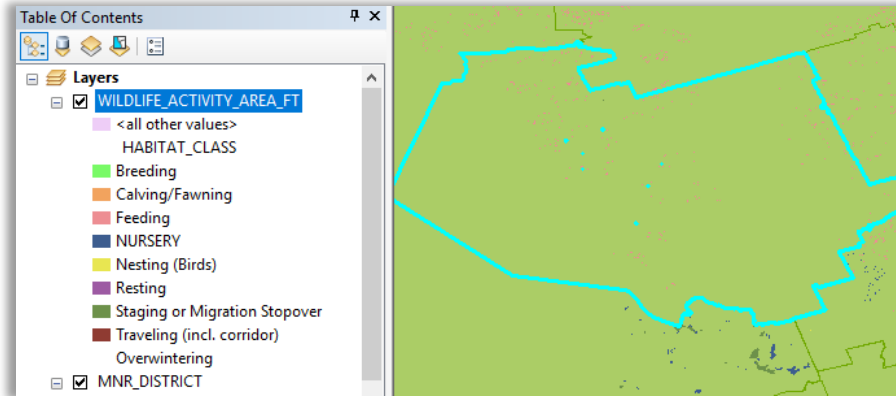
7. From the selection menu choose “Select by Attributes”

8. In the Select By Attributes window, design a query statement to select from the already selected features in Wildlife values area that are “American Ginseng – Large Patch”

- Be sure to choose method = Select from Current Selection to only select the features in Parry Sound, instead of the entire province

9. The result is the selected features of Wildlife Values Area are all American Ginseng – Large Patch that are located within Parry Sound district.

Figure 7. Map showing selected features from Wildlife Values area data class



Nesting Related Data Tables

There are two additional nesting data tables that need to be joined to the feature table in order to view the attributes related specifically to nesting.

Figure 8. Database physical attributes in the Wildlife Activity Area Nest table

WILDLIFE_ACTIVITY_AREA_NEST		
WILDLIFE_ACTIVITY_AREA_ID	NUMBER(13)	NOT NULL (FK)
GONE_DATE	VARCHAR2(20)	NULL
NESTING_ACTIVITY_STATUS	VARCHAR2(35)	NOT NULL
NEST_SUPPORT_TYPE	VARCHAR2(30)	NOT NULL
NEST_HEIGHT_ABOVE_GROUND	NUMBER(5,2)	NULL
NEST_TREE_CONDITION	VARCHAR2(15)	NULL
NEST_LOCATION_IN_TREE	VARCHAR2(25)	NULL
TREE_SPECIES_COMMON_NAME	VARCHAR2(60)	NULL (FK)
TREE_CROWN_DOMINANCE	VARCHAR2(25)	NULL
NEST_WIDTH_CATEGORY	VARCHAR2(20)	NULL
NEST_DEPTH_CATEGORY	VARCHAR2(10)	NULL
STICK_DIAMETER_CATEGORY	VARCHAR2(35)	NULL
NEST_CONSTRUCTION_CATEGORY	VARCHAR2(25)	NULL
EFFECTIVE_DATETIME	DATE	NOT NULL
SYSTEM_DATE TIME	DATE	NOT NULL

The **Wildlife Activity Area Nest** table contains information related to nesting areas for colony birds. (there is a similar table for wildlife activity site class called Wildlife Activity Site Nest)

Each record in the feature table would relate to zero or one of the records in the nest table. Additional

nest related data for the feature could include information such as:

- gone date
- nesting activity status
- nest support type
- nest location in tree

Figure 9. Database physical attributes in the Wildlife Activity Area Nest Visit table

WILDLIFE_ACTIV_AREA_NEST_VISIT		
WILDLIFE_ACTIVITY_AREA_ID	NUMBER(13)	NOT NULL (FK)
SITE_VISIT_DATE	DATE	NOT NULL
SITE_VISIT_TYPE	VARCHAR2(25)	NOT NULL
INSPECTED_BY	VARCHAR2(80)	NOT NULL
NUM_NESTS_IN_GOOD_REPAIR	NUMBER(3)	NULL
NUM_NESTS_IN_POOR_REPAIR	NUMBER(3)	NULL
NUM_OCCUPIED_NESTS_IN_COLONY	NUMBER(3)	NULL
NESTING_SITE_SUITABILITY	VARCHAR2(25)	NULL
NEST_OCCUPANCY_EVIDENCE_DESCR	VARCHAR2(2000)	NULL
NEST_SITE_VISIT_COMMENTS	VARCHAR2(2000)	NULL
EFFECTIVE_DATETIME	DATE	NOT NULL
SYSTEM_DATETIME	DATE	NOT NULL

The **Wildlife Activity Area Nest Visit** table contains information collected at specific visits to a specific nest. (there is a similar table for Wildlife Values Site class called Wildlife Activity Site Nest Visit)

Each nest feature could relate to zero, one or more records in the nest visit table (since a specific nest colony, the spatial feature, could be visited zero one or more times, each visit with its own specific information). Additional nest visit related data for the feature could include information such as: the type of site visit, the name of person inspecting the nest, the number of occupied nests in a colony or the nest site suitability.

Joining the Nest Data tables

To access the data about nest features, the tables containing nesting specific data need to be joined to the feature table. To join a related table to the feature table in ArcGIS, select Joins and Relates from the layer's context menu.

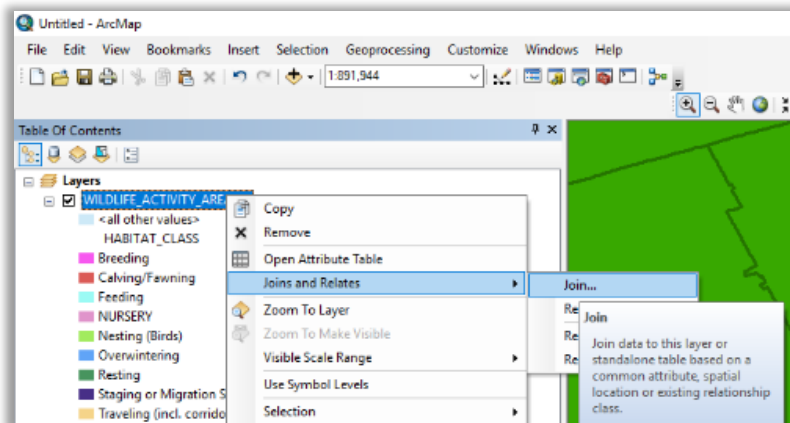
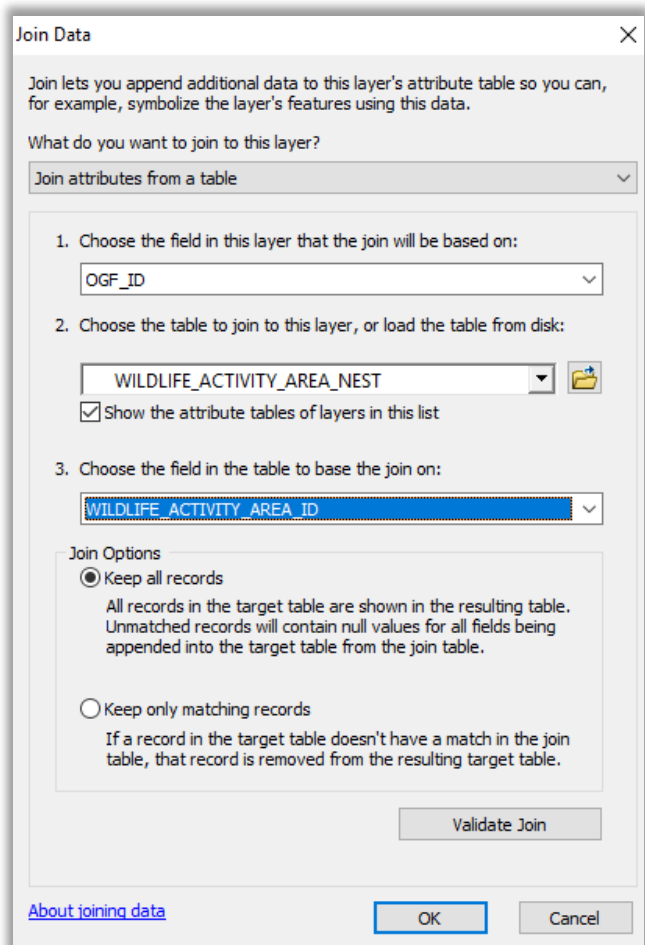
Figure 10. Image of ArcMap context menu showing option to add table Joins and Relates

Figure 10. Example using the Join Data menu


1. Enter the following information on the Join Data Menu
 - a. Choose the field in the Wildlife Values Area class to create the join on (OGF_ID)
 - b. Choose the table to be joined to the layer (WILDLIFE_ACTIVITY_AREA_NEST)
 - c. Choose the field in the joined table to base the join on (WILDLIFE_ACTIVITY_AREA_ID)
 - d. select OK
2. A join will be created between the feature table and the nesting data table, enabling the querying of information based on the attributes in the nesting data table.
3. The same process can be followed to join the nest site visit table to the feature table, the only difference in the steps above is the table in part b. – instead select WILDLIFE_ACTIV_AREA_NEST_VISIT

Query Example 2 – Bald Eagle Nest

A user has been asked to query out all the active bald eagle nests. Further information may be required to find recent nests known to be active since 2015. The user will need to reference the Stand and Site Guide and follow the definition of Active and Inactive nests to be sure they are querying the appropriate data:

“Nests – Active and Inactive: These terms apply to nests of the bald eagle, osprey, great gray owl, northern goshawk, and red-shouldered hawk. Active nests are those with a high likelihood of reuse and include those known or suspected to have been occupied at least once during the past 5 breeding periods unless the nest and all associated nests within the nesting area have been documented as unoccupied for ≥ 3 consecutive breeding periods. All other nests are classified as inactive. Nests known to have been occupied are those at which breeding activity was confirmed. Nests suspected to have been occupied are those at which breeding activity was not confirmed, but for which there is compelling evidence of recent use.”

1. Determine the data class in which information on bald eagle nests is stored
 - look in the Wildlife Values Type List for Bald Eagle Nesting and note that the data is stored in Wildlife Values Site

Figure 11. Excerpt from the Wildlife Values Type list showing Bald Eagle Nesting Site

American White Pelican Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area
Arctic Fox Den Site	Denning	Wildlife Values Site
Arctic Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area
Bald Eagle Feeding Area	Feeding	Wildlife Values Area
Bald Eagle Nesting Site	Nesting (Birds)	Wildlife Values Site

2. Add the Wildlife Values Site data to the view in GIS application
3. From the selection menu choose “Select by Attributes”

Figure 12. ArcMap menu item Selection showing Select By Attributes option

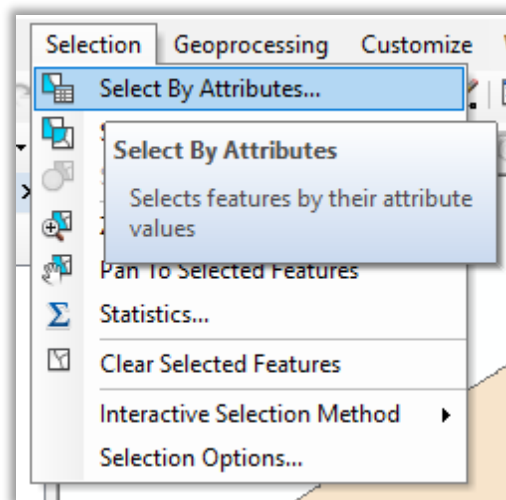
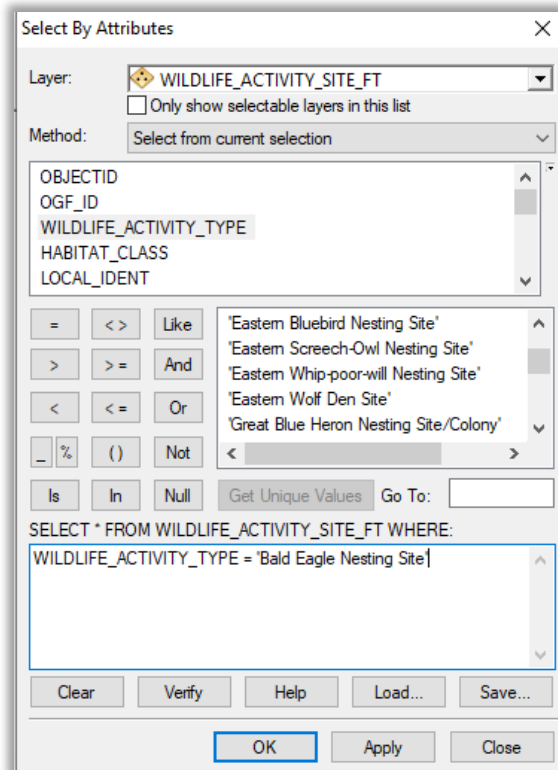
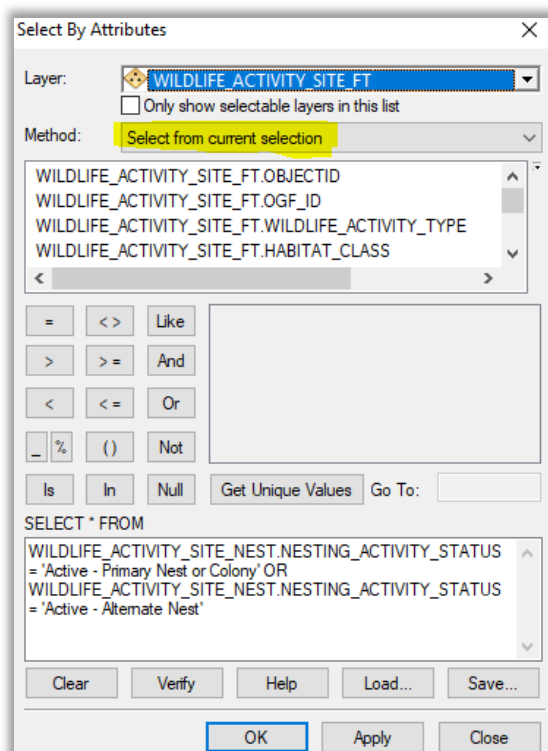


Figure 13. ArcMap menu Select By Attributes

4. In the “Select By Attributes” menu design a query statement to select the Wildlife Activity Type = Bald Eagle Nesting Site

- This will highlight all the bald eagle nesting sites in the province

5. In order to find the “Active” nesting sites as defined in the stand and site guide, another selection query will need to be made.

Figure 14. Select by attributes example using select from current selection

- After joining the Nest Site information table to the wildlife activity site feature table, open the Select by Attributes menu again, choose the Method: Select from Current Selection and find the attribute in the related table WILDLIFE ACTIVITY_SITE_NEST called “Nesting Activity Status” and select both ‘Active – Primary Nest or Colony’ and ‘Active – Alternate Nest’.
- After applying the selection query just the active bald eagle nesting sites should be shown

Data Collection & Maintenance

All the values represented in these classes are captured because of a Forestry specific business need. There are a variety of established standards, guidelines and best practices which outline site specific direction required to mitigate the effect of forest operations on these values. These details can be found within the following documents

- [Boreal Landscape Guide](#)
- [Great Lakes-St.Lawrence Landscape Guide](#)
- [Stand and Site Guide](#)
 - [Background and Direction](#)
- Individual Forest Management Plans

In the future, this wildlife values user guide will be expanded upon to make direct connections between the wildlife values types found in this document with their collection and maintenance guidelines in these documents. But at the time of release these documented connections are still under development.

Wildlife Values Area - Data Dictionary

This section lists all the tables in each of the wildlife classes, the attributes those tables contain, a detailed description of what the attribute means as well as information on whether the attribute is required or optional. Descriptions of the attributes also identify relevant look-up tables.

Wildlife Activity Area – Feature Table

The wildlife area data class is made up of polygons that represent locations on the ground where certain activities occur. The following information is found in this class, attribute names that are **bold** are mandatory, all other attributes are optional.

Attribute Name	Description
Ontario Geospatial Feature Identifier	Ontario Geospatial Feature (OGF) ID. A unique numeric provincial identifier assigned to each feature record in the database.
Wildlife Activity Type	Identifies the specific type of wildlife activity associated with this feature. The activity may be specific to a species, or generally described. <u>VALID VALUES:</u> See Lookup Table WILDLIFE_ACTIVITY_TYPE_LIST
Habitat Class	A general classification of the habitat where wildlife activity takes place. The Habitat Class value is from the same row of the WILDLIFE_ACTIVITY_TYPE_LIST lookup table for the chosen WILDLIFE_ACTIVITY_TYPE. The values in this field can be used by users to group data into or to select specific habitat classes.
Local Identifier	A unique local identifier assigned to a wildlife activity feature such as a standardized district coding system (e.g. "FF-4712", or a name e.g. "Loring Deer Yard").
Habitat Qualification	A qualifying indicator of present habitat suitability. Values include: "Presently Suitable", "Presently Not Suitable" or "Not Specified". Refer to user-guide for more details. <u>VALID VALUES:</u> Presently Suitable Presently Unsuitable Not Specified

Habitat Rank	A relative indicator of habitat quality according to a ranking system used to define and compare Habitat quality e.g. Low, Moderate, High, Very High. A value of "Nil" indicates that area has been surveyed, but no suitable habitat has been found (this is an inventory practice for Moose Aquatic Feeding Areas). Null values are to be interpreted as not being applicable to this wildlife activity type feature. <u>VALID VALUES:</u> Nil = 0 Low = 1 Moderate = 2 High = 3 Very High = 4
Location Class	The landscape type or structure of the site. <u>VALID VALUES:</u> Island Peninsula Shoreline Upland I Upland II Wetland
Species Evidence Flag	Flag noting if there is direct evidence of species in this area or site. Values are described as follows: 1) Yes - Tangible evidence is present at this location e.g. species itself seen, tracks, scat etc. 2) No - No visual evidence of species found e.g. only heard calls. 3) Not Evaluated - Species evidence has not yet been evaluated e.g. for a Mast Producing Area. <u>VALID VALUES:</u> Yes No Not Evaluated
Forage Type	INTENDED FOR MOOSE AQUATIC FEEDING AREA AND MAST PRODUCING AREA ONLY. Where applicable, the type of forage vegetation that is the focus of wildlife activity at this site. <u>VALID VALUES:</u> See Lookup Table WILDLIFE_ACTIV_FORAG_TYPE_LIST

Location Description	Description of the area or directions on how to get to the site. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF
General Comments	General comments about the wildlife activity feature. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF
Verification Status Flag	An indication as to whether a qualified employee has verified the existence of the geographic unit. <u>VALID VALUES:</u> Verified Unverified
Verification Status Date	Date that the geographic unit was verified/validated.
Location Accuracy	The degree of conformity or closeness of a measurement for the mapped feature compared to its true location on the ground. <u>VALID VALUES:</u> See Lookup Table LOCATION_ACCURACY_LIST
System Calculated Area	The area of a polygon feature measured in square metres by the system.
Geometry Update Datetime	Date/time the geometry was created or last modified in the source database.
Effective Datetime	Date/time the record was created or last modified in the source database.
System Datetime	Date/time the record was loaded into or last modified in the LIO database. <u>DEFAULT:</u> SYSDATE

Wildlife Activity Area Nesting Information – Related Table

Nesting site information for colonial bird species where multiple nests are present. The scope of information stored in this layer is exclusively limited to bird species that are of interest to resource management planning activities, especially for species at risk (SAR) feature protection.

NOTE #1: Where appropriate, a new nesting site should also have an initial Wildlife Activity Nest Site Visit record created at the time of discovery to capture additional attributes.

The following information can be found in this table, attribute names that are **bold** are mandatory, all other attributes are optional.

Attribute Name	Description
Wildlife Activity Area ID	Foreign Key (FK) reference to parent WILDLIFE_ACTIVITY_AREA.OGF_ID feature record. <u>VALID VALUES:</u> See Table WILDLIFE_ACTIVITY_AREA_FT
Gone Date	The date the colony nests were documented as gone or abandoned. NOTE: "Gone Date" does not refer to the date when the nest no longer needs to be protected.
Nesting Activity Status	Identifies if the nest or colony is being used or not. RULE: If the "Gone Date" field is populated, users should assign a Nesting Activity Status of "Not Applicable". <u>VALID VALUES:</u> Active - Primary Nest or Colony Active - Alternate Nest Inactive Not Applicable
Nest Support Type	The structure in which the nests are located or constructed. For a colony the dominant nest support type should be recorded. <u>VALID VALUES:</u> Building Cave Cliff Floating Vegetation Ground Nesting Box Pole or Tower Tree Not Specified
Nest Height Above Ground	The average height of the colony nests above ground measured in metres.

Nest Tree Condition	The average/majority biological or physical condition of the tree supporting the colony nests e.g. alive, dead, dead at top. RULE: This field is only editable if the chosen Nest support Type = "Tree". <u>VALID VALUES:</u> Alive Dead Dead at Top
Nest Location in Tree	The average location of the colony nests in the trees. For a colony, the typical location should be identified. RULE: this field is only editable if the Nest Support Type chosen = "Tree". <u>VALID VALUES:</u> Base of Crown Cavity Top of Tree Within Crown
Tree Species Common Name	Identifies the common name of the dominant tree species that the colony nests are located in e.g. "Eastern White Pine". <u>VALID VALUES:</u> See Lookup Table WILDLIFE_ACTIVITY_TREE_SP_LIST
Tree Crown Dominance	Refers to the position of a living tree crown in relationship to the living tree crowns that are adjacent to it. Rule: this field is only editable if the Nest Support Type chosen is "Tree". <u>VALID VALUES:</u> Supercanopy Dominant Intermediate
Nest Width Category	The average width (or diameter) category of the colony nests expressed in centimeter ranges. This information will aid District Biologists identify bird species in instances where the nesting colonial species cannot be determined during a field survey e.g. "Unknown Heron" etc. <u>VALID VALUES:</u> Less than 75 cm 75 to 150 cm

	More than 150 cm
Nest Depth Category	The average depth category of the colony nests. This information will aid District Biologists identify bird species in instances where the nesting colonial species cannot be determined during a field survey e.g. "Unknown Heron" etc. Permissible values include: Shallow (less than half as deep as wide), Deep (more than half as deep as wide). <u>VALID VALUES:</u> Deep Shallow
Stick Diameter Category	The average diameter category of the sticks used in the construction of the colony nests. The chosen category will aid District Biologists identify bird species in instances where the nesting colony species cannot be determined during a field survey e.g. "Unknown Heron" etc. <u>VALID VALUES:</u> Mostly pencil-sized and larger Mostly cigar-sized and larger Mostly pencil-sized and smaller
Nest Construction Category	The average type of colony nest construction category. The chosen category will aid District Biologists identify bird species in instances where the nesting colony species cannot be determined during a field survey e.g. "Unknown Heron" etc. <u>VALID VALUES:</u> Loosely built Solid and shaggy Solid but not shaggy
Effective Datetime	Date/time the record was created or last modified in the source database. <u>DEFAULT:</u> SYSDATE
System Datetime	Date/time the record was loaded into or last modified in the LIO database.

Wildlife Activity Area Nest Site Visit – Related Table

Stores information about the current conditions at a nesting bird colony where multiple nests are present. Colonies may be visited several times over a period of years to assess current conditions in order to determine the appropriate level of protection for the feature against human activities (e.g. aggregate extraction, timber harvesting, and development). This table should also be used to document additional colonial bird nesting information for newly discovered colonies. The following information can be found in this table, attribute names that are **bold** are mandatory, all other attributes are optional.

Attribute Name	Description
Wildlife Activity Area ID	Foreign Key (FK) reference to parent WILDLIFE_ACTIVITY_AREA.OGF_ID feature record. <u>VALID VALUES:</u> See Table WILDLIFE_ACTIVITY_AREA_FT
Site Visit Date	The calendar date of when the site visit took place. Format: YYYY-MM-DD e.g. 2007-01-06 (January 6, 2007)
Site Visit Type	The type of visit to the site e.g. Field Visit - Ground, Field Visit - Air, Desktop Update. DEFAULT: Field Visit - Ground <u>VALID VALUES:</u> Field Visit - Ground Field Visit - Air Desktop Update <u>DEFAULT:</u> 'Field Visit - Ground'
Inspected By	Identifies the name and title of an inspector acting in an official and professional capacity e.g.: Robert Cardona, Area Technician, MNRF.
Number of Nests in Good Repair	The number of nests in the colony that are in a good enough condition for nesting.
Number of Nests in Poor Repair	The number of nests in the colony that are in poor condition.
Number of Occupied Nests in Colony	The number of occupied nests in the colony observed during the field visit.
Nesting Site Suitability	The overall suitability of the site for providing adequate support and cover for the nesting bird colony. A site may be deemed unsuitable for nesting where a) an adjoining tree damages the

	nesting tree, b) with ground nests where there is flooding, c) with cliff nesting areas - danger of rock fall etc. <u>VALID VALUES:</u> Suitable Unsuitable
Nest Occupancy Evidence Description	Free-text description of nest occupancy evidence observed in the colony during the field visit.
Nest Site Visit Comments	Additional comments about the nesting field visit not captured by other fields. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF
Effective Datetime	Date/time the record was created or last modified in the source database. <u>DEFAULT:</u> SYSDATE
System Datetime	Date/time the record was loaded into or last modified in the LIO database.

Wildlife Values Site - Data Dictionary

Wildlife Activity Site – Feature Table

The wildlife activity site data class is made up of points that represent locations on the ground where certain activities occur. The following information is found in this table, attribute names that are **bold** are mandatory, all other attributes are optional.

Attribute Name	Description
Ontario Geospatial Feature Identifier	Ontario Geospatial Feature (OGF) ID. A unique numeric provincial identifier assigned to each feature record in the database.
Wildlife Activity Type	Identifies the specific type of wildlife activity associated with this area. The activity may be specific to a species, or generally described. <u>VALID VALUES:</u> See Lookup Table WILDLIFE_ACTIVITY_TYPE_LIST
Habitat Class	A general classification of the habitat where wildlife activity takes place. The Habitat Class value is from the same row of the WILDLIFE_ACTIVITY_TYPE_LIST lookup table for the chosen WILDLIFE_ACTIVITY_TYPE. The values in this field can be used by users to group data into or to select specific habitat classes.
Local Identifier	A unique local identifier assigned to a wildlife activity feature such as a standardized district coding system (e.g. "FF-4712", or a name e.g. "Loring Deer Yard").
Habitat Qualification	A qualifying indicator of present habitat suitability. Values include: "Presently Suitable", "Presently Not Suitable" or "Not Specified". Refer to user-guide for more details. <u>VALID VALUES:</u> Presently Suitable Presently Unsuitable Not Specified

Habitat Rank	A relative indicator of habitat quality according to a ranking system used to define and compare Habitat quality e.g. Low, Moderate, High, Very High. A value of "Nil" indicates that area has been surveyed, but no suitable habitat has been found (this is an inventory practice for Moose Aquatic Feeding Areas). Null values are to be interpreted as not being applicable to this wildlife activity type feature. <u>VALID VALUES:</u> Nil (code = 0) Low (code = 1) Moderate (code = 2) High (code = 3) Very High (code = 4)
Location Class	The landscape type or structure of the site. <u>VALID VALUES:</u> Island Peninsula Shoreline Upland I Upland II Wetland
Species Evidence Flag	Flag noting if there is direct evidence of species in this area or site. Values are described as follows: 1) Yes - Tangible evidence is present at this location e.g. species itself seen, tracks, scat etc. 2) No - No visual evidence of species found e.g. only heard calls. 3) Not Evaluated - Species evidence has not yet been evaluated e.g. for a Mast Producing Area. <u>VALID VALUES:</u> Yes No Not Evaluated
Location Description	Description of the area or directions on how to get to the site. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF

General Comments	General comments about the wildlife feature. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF
Verification Status Flag	An indication as to whether a qualified employee has verified the existence of the geographic unit. <u>VALID VALUES:</u> Verified Unverified
Verification Status Date	Date that the geographic unit was verified/validated.
Location Accuracy	The degree of conformity or closeness of a measurement for the mapped feature compared to its true location on the ground. <u>VALID VALUES:</u> See Lookup Table LOCATION_ACCURACY_LIST
Geometry Update Datetime	Date/time the geometry was created or last modified in the source database.
Effective Datetime	Date/time the record was created or last modified in the source database.
System Datetime	Date/time the record was loaded into or last modified in the LIO database. <u>DEFAULT:</u> SYSDATE

Wildlife Activity Site Nesting Information – Related Table

Nesting site information for single-nest bird species. The scope of information stored in this layer is exclusively limited to bird species that are of interest to resource management planning activities, especially for species at risk (SAR) feature protection. The following information is found in this table, attribute names that are **bold** are mandatory, all other attributes are optional. NOTE #1: Where appropriate, a new nesting site should also have an initial Wildlife Activity Nest Site Visit record created at the time of discovery to capture additional attributes. NOTE #2: Since they are mapped as delineated areas, colonial bird species nesting sites are stored and maintained in the Wildlife Activity Area (WILDACAR) data class.

Attribute	Description
Wildlife Activity ID	Foreign Key (FK) reference to parent WILDLIFE_ACTIVITY_SITE.OGF_ID feature record.

	<u>VALID VALUES:</u> See Table WILDLIFE_ACTIVITY_SITE_FT
Gone Date	The date the nest was recorded as gone (e.g., the nest is no longer physically at the site). NOTE: "Gone Date" does not refer to the date when the nest no longer needs to be protected.
Nesting Activity Status	Identifies if the nest or colony is being used or not. RULE: If the "Gone Date" field is populated, users should assign a Nesting Activity Status of "Not Applicable". <u>VALID VALUES:</u> Active - Primary Nest or Colony Active - Alternate Nest Inactive Not Applicable
Nest Support Type	The structure in which the nest is located or was constructed. <u>VALID VALUES:</u> Building Cave Cliff Floating Vegetation Ground Nesting Box Pole or Tower Tree Not Specified
Nest Height Above Ground	The height of the nest above ground measured in metres. For example, a Bald Eagle nest recorded as being situated 10.25 metres above the base of a tree or cliff.
Nest Tree Condition	The biological or physical condition of the tree supporting the nest e.g. alive, dead, dead at top. RULE: This field is only editable if the chosen Nest support Type = "Tree". <u>VALID VALUES:</u> Alive Dead Dead at Top

Nest Location in Tree	The location of the nest in the tree. RULE: this field is only editable if the Nest Support Type chosen = "Tree". <u>VALID VALUES:</u> Base of Crown Cavity Top of Tree Within Crown
Tree Species Common Name	Identifies the common name of the dominant tree species that the nest(s) is/are located in e.g. "Eastern White Pine". <u>VALID VALUES:</u> See Lookup Table WILDLIFE_ACTIVITY_TREE_SP_LIST
Tree Crown Dominance	Refers to the position of a living tree crown in relationship to the living tree crowns that are adjacent to it. Rule: this field is only editable if the Nest Support Type chosen is "Tree". <u>VALID VALUES:</u> Supercanopy Dominant Intermediate
Nest Width Category	The width (or diameter) category of the nest expressed in centimeter ranges. This information will aid District Biologists identify bird species in instances where the nesting site species cannot be determined during a field survey e.g. "Unknown Raptor" etc. <u>VALID VALUES:</u> Less than 75 cm 75 to 150 cm More than 150 cm
Nest Depth Category	The depth category of the nest. This information will aid District Biologists identify bird species in instances where the nesting site species cannot be determined during a field survey e.g. "Unknown Raptor" etc. Permissible values include: Shallow (less than half as deep as wide), Deep (more than half as deep as wide). <u>VALID VALUES:</u> Deep Shallow

Stick Diameter Category	The diameter category of the sticks used in the construction of the nest. The chosen category will aid District Biologists identify bird species in instances where the nesting site species cannot be determined during a field survey e.g. "Unknown Raptor" etc. <u>VALID VALUES:</u> Mostly pencil-sized and larger Mostly cigar-sized and larger Mostly pencil-sized and smaller
Nest Construction Category	The type of nest construction category. The chosen category will aid District Biologists identify bird species in instances where the nesting site species cannot be determined during a field survey e.g. "Unknown Raptor" etc. <u>VALID VALUES:</u> Loosely built Solid and shaggy Solid but not shaggy
Effective Datetime	Date/time the record was created or last modified in the source database. <u>DEFAULT:</u> SYSDATE
System Datetime	Date/time the record was loaded into or last modified in the LIO database.

Wildlife Activity Site Nest Visit – Related Table

Stores information about the current conditions at a bird nesting site (single nest). Where applicable, a nesting site may be visited several times over a period of years to assess current conditions in order to determine the appropriate level of protection for the feature against human activities (e.g. aggregate extraction, timber harvesting, and development). This table should also be used to document additional bird nesting information for newly discovered nests. The following information is found in this table, attribute names that are **bold** are mandatory, all other attributes are optional.

Attribute	Description
Wildlife Activity Site ID	Foreign Key (FK) reference to parent WILDLIFE_ACTIVITY_SITE.OGF_ID feature record. <u>VALID VALUES:</u> See Table WILDLIFE_ACTIVITY_SITE_FT

Site Visit Date	The calendar date of when the site visit took place. Format: YYYY-MM-DD e.g. 2007-01-06 (January 6, 2007)
Site Visit Type	The type of visit to the site e.g. Field Visit - Ground, Field Visit - Air, Desktop Update. DEFAULT: Field Visit - Ground <u>VALID VALUES:</u> Field Visit - Ground Field Visit - Air Desktop Update <u>DEFAULT:</u> 'Field Visit - Ground'
Inspected By	Identifies the name and title of an inspector acting in an official and professional capacity e.g.: Robert Cardona, Area Technician, MNRF.
Nest Condition	The condition of the nest at the time of the visit e.g. Good. <u>VALID VALUES:</u> Good Poor Gone Not Found
Nest Occupancy Status	Identifies if the nest is being used or not. A nest is occupied if there is a bird in the nest or physical evidence (see Evidence of Nest Occupancy). The most recent Nest Occupancy Status should be used to determine the Activity Status in the main Nesting Site table. <u>VALID VALUES:</u> Occupied Unoccupied
Nesting Site Suitability	The suitability of the site for providing adequate support and cover for a nesting bird. A site may be deemed unsuitable for nesting where an adjoining tree damages the nesting tree, and in the case of ground nests where there is flooding, with a cliff nesting site - danger of rock fall etc. <u>VALID VALUES:</u> Suitable Unsuitable
Nest Occupancy Evidence Description	Free-text description of nest occupancy evidence observed at the nesting site during the field visit.

Nest Site Visit Comments	Additional comments about the nesting field visit not captured by other fields. Do not include personal information that would contravene the Freedom of Information and Protection of Privacy Act (FIPPA). If MNRF staff names need to be included in the comment they must be properly identified. Example: John Doe – MNRF
Effective Datetime	Date/time the record was created or last modified in the source database. <u>DEFAULT</u>: SYSDATE
System Datetime	Date/time the record was loaded into or last modified in the LIO database.

Appendices

A. Look Up Tables

Wildlife Values Type List

Wildlife Values Type	Habitat Class	Wildlife Class Name	Sensitivity
American Black Bear Den Site	Denning	Wildlife Values Site	Non-Sensitive
American Black Bear Fishing	Feeding	Wildlife Values Area	Non-Sensitive
American Crow Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
American Ginseng - Large Patch	General Habitat	Wildlife Values Area	Medium
American Ginseng - Small Patch	General Habitat	Wildlife Values Area	Medium
American Kestrel Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
American Marten Den Site	Denning	Wildlife Values Site	Non-Sensitive
American White Pelican Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Arctic Fox Den Site	Denning	Wildlife Values Site	Medium
Arctic Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Bald Eagle Feeding Area	Feeding	Wildlife Values Area	Medium
Bald Eagle Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Bank Swallow Colony	Nesting (Birds)	Wildlife Values Area	Medium
Barn Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Barn Swallow Breeding Area	Breeding	Wildlife Values Area	Medium
Barred Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Beach-dune Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Non-Sensitive
Beaver Feeding Area (Feed Piles)	Feeding	Wildlife Values Area	Non-Sensitive
Beaver Ponds and Beaver Meadows	General Habitat	Wildlife Values Area	Non-Sensitive
Black Tern Breeding Area	Breeding	Wildlife Values Area	Medium
Black Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Black-crowned Night Heron Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Blanding's Turtle Aquatic and Associated Habitats	General Habitat	Wildlife Values Area	Medium
Blanding's Turtle Hibernacula	Overwintering	Wildlife Values Area	Medium
Blanding's Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Bonaparte's Gull Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Boreal Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Broad-winged Hawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Butternut Tree Site	General Habitat	Wildlife Values Site	Medium
Canada Warbler Breeding Area	Breeding	Wildlife Values Area	Medium
Caspian Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Cerulean Warbler Breeding Area	Breeding	Wildlife Values Area	Medium

Chimney Swift Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Chimney Swift Roosting Site	Resting	Wildlife Values Site	Medium
Cliff Swallow Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	
Common Five-lined Skink (Southern Shield population) Habitat	General Habitat	Wildlife Values Area	Medium
Common Loon Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Common Loon Staging Area	Staging or Migration	Wildlife Values Area	Non-Sensitive
Common Nighthawk Breeding Area	Breeding	Wildlife Values Area	Medium
Common Raven Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Common Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Coopers Hawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Double-crested Cormorant Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Eastern Bluebird Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Eastern Foxsnake (Georgian Bay population) Hibernacula	Overwintering	Wildlife Values Area	Medium
Eastern Foxsnake (Georgian Bay population) Oviposition Site	Nesting (Reptiles)	Wildlife Values Site	Medium
Eastern Garter Snake Hibernacula	Overwintering	Wildlife Values Area	Non-Sensitive
Eastern Hog-nosed Snake Hibernacula	Overwintering	Wildlife Values Area	Medium
Eastern Hog-nosed Snake Oviposition Site	Nesting (Reptiles)	Wildlife Values Site	Medium
Eastern Milksnake Hibernacula	Overwintering	Wildlife Values Area	Medium
Eastern Milksnake Oviposition Site	Nesting (Reptiles)	Wildlife Values Site	Medium
Eastern Musk Turtle Hibernacula and Associated Aquatic Features	Overwintering	Wildlife Values Area	Medium
Eastern Musk Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Eastern Ribbonsnake Hibernacula	Overwintering	Wildlife Values Area	Medium
Eastern Screech-Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Eastern Whip-poor-will Breeding Area	Breeding	Wildlife Values Area	Medium
Eastern Whip-poor-will Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Eastern Wolf Den Site	Denning	Wildlife Values Site	Medium
Eastern Wolf Rendezvous Site	Nursery	Wildlife Values Area	Medium
Elk Calving Site	Calving/Fawning	Wildlife Values Area	Non-Sensitive
Elk Travel Corridor	Traveling	Wildlife Values Area	Non-Sensitive
Elk Wintering Area	Overwintering	Wildlife Values Area	Non-Sensitive
Flooded Jellyskin Aquatic and Terrestrial Habitat	General Habitat	Wildlife Values Area	Medium
Forster's Tern Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Golden Eagle Feeding Area	Feeding	Wildlife Values Area	Medium
Golden Eagle Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Golden-winged Warbler Breeding Area	Breeding	Wildlife Values Area	Medium

Gray Fox Den Site	Denning	Wildlife Values Site	Medium
Gray Ratsnake (Frontenac Axis population) Hibernacula	Overwintering	Wildlife Values Area	Medium
Gray Ratsnake (Frontenac Axis population) Oviposition Site	Nesting (Reptiles)	Wildlife Values Site	Medium
Great Black-backed Gull Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Medium
Great Blue Heron Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Great Gray Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Great Horned Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Grouse Leking Area	Breeding	Wildlife Values Area	Non-Sensitive
Hawk/Owl Staging Area	Staging or Migration	Wildlife Values Area	Non-Sensitive
Herring Gull Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Horned Grebe Breeding Area	Breeding	Wildlife Values Area	Medium
Kirtland's Warbler Breeding Area	Breeding	Wildlife Values Area	Medium
Laurentian Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Medium
Least Bittern Breeding Area	Breeding	Wildlife Values Area	Medium
Least Bittern Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Little White Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Medium
Loggerhead Shrike Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Long-eared Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	
Louisiana Waterthrush Breeding Area	Breeding	Wildlife Values Area	Medium
Massasauga Rattlesnake (Great Lakes / St. Lawrence population) Gestation Site	Breeding	Wildlife Values Area	Medium
Massasauga Rattlesnake (Great Lakes / St. Lawrence population) Hibernacula	Overwintering	Wildlife Values Area	Medium
Mast Producing Area	Feeding	Wildlife Values Area	Non-Sensitive
Merlin Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Mineral Lick	Feeding	Wildlife Values Site	Non-Sensitive
Monarch Butterfly Staging Area	Staging or Migration	Wildlife Values Area	Medium
Moose Aquatic Feeding Area	Feeding	Wildlife Values Area	Non-Sensitive
Moose Calving Site	Calving/Fawning	Wildlife Values Area	Non-Sensitive
Moose Early Wintering Area	Overwintering	Wildlife Values Area	Non-Sensitive
Moose Late Wintering Area	Overwintering	Wildlife Values Area	Non-Sensitive
Moose Migration Corridor	Traveling	Wildlife Values Area	Non-Sensitive
Moose Nursery Area	Nursery	Wildlife Values Area	Non-Sensitive
Moose Rutting Area	Breeding	Wildlife Values Area	Non-Sensitive
Mountain Lion or Cougar Den Site	Denning	Wildlife Values Site	Medium
Northern Barrens Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Medium
Northern Goshawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Northern Gray Wolf Den Site	Denning	Wildlife Values Site	Non-Sensitive

Northern Gray Wolf Rendezvous Site	Nursery	Wildlife Values Area	Non-Sensitive
Northern Harrier Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Northern Hawk Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Northern Map Turtle Hibernacula and Associated Aquatic Features	Overwintering	Wildlife Values Area	Medium
Northern Map Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Northern Saw-whet Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Olive-sided Flycatcher Breeding Area	Breeding	Wildlife Values Area	Medium
Osprey Feeding Area	Feeding	Wildlife Values Area	Non-Sensitive
Osprey Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Osprey Resting Area	Resting	Wildlife Values Area	Non-Sensitive
Pale-bellied Frost Lichen Habitat	General Habitat	Wildlife Values Area	Medium
Peregrine Falcon Breeding Area	Breeding	Wildlife Values Area	Medium
Peregrine Falcon Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Pileated Woodpecker Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Piping Plover Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Polar Bear Den Site	Denning	Wildlife Values Site	Medium
Polar Bear Staging/Concentration Area	Staging or Migration	Wildlife Values Area	Medium
Prairie Long-lipped Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Medium
Red Fox Den Site	Denning	Wildlife Values Site	Non-Sensitive
Red-headed Woodpecker Breeding Area	Breeding	Wildlife Values Area	Medium
Red-headed Woodpecker Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Red-necked Grebe Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Red-shouldered Hawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Red-tailed Hawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Ring-billed Gull Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Ruffed Grouse Leking Area	Breeding	Wildlife Values Area	Non-Sensitive
Rusty Blackbird Breeding Area	Breeding	Wildlife Values Area	Medium
S1,S2,S3 Ranked Plant Species	General Habitat	Wildlife Values Area	Medium
Sandhill Crane Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Sharp-shinned Hawk Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Sharp-tailed Grouse Leking Area	Breeding	Wildlife Values Area	Non-Sensitive
Short-eared Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Medium
Snake Hibernacula	Overwintering	Wildlife Values Area	Non-Sensitive
Snapping Turtle Hibernacula and Associated Aquatic Features	Overwintering	Wildlife Values Area	Medium
Snapping Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Snow Goose Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Spiny Softshell Turtle Hibernacula and Associated Aquatic Features	Overwintering	Wildlife Values Area	Medium
Spiny Softshell Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium

Spotted Turtle Aquatic and Associated Habitats	General Habitat	Wildlife Values Area	Medium
Spotted Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Spruce Grouse Leking Area	Breeding	Wildlife Values Area	Non-Sensitive
Trumpeter Swan Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Tundra Swan Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Turkey Vulture Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Unidentified Duck Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Unidentified Eagle/Osprey Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Unidentified Goose Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Unidentified Hawk/Owl Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Unidentified Heron Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive
Unidentified Raptor Nesting Site	Nesting (Birds)	Wildlife Values Site	Non-Sensitive
Variable Tiger Beetle Habitat	General Habitat	Wildlife Values Area	Medium
Waterfowl Migration Corridor	Traveling	Wildlife Values Area	Non-Sensitive
Waterfowl Nursery Area	Nursery	Wildlife Values Area	Non-Sensitive
Waterfowl Staging Area	Staging or Migration	Wildlife Values Area	Non-Sensitive
Waterfowl Winter Concentration Area	Overwintering	Wildlife Values Area	Non-Sensitive
West Virginia White Habitat	General Habitat	Wildlife Values Area	Medium
White-tailed Deer Fawning Site	Calving/Fawning	Wildlife Values Area	Non-Sensitive
White-tailed Deer Migration Route	Traveling	Wildlife Values Area	Non-Sensitive
White-tailed Deer Nursery Area	Nursery	Wildlife Values Area	Non-Sensitive
White-tailed Deer Rutting Area	Breeding	Wildlife Values Area	Non-Sensitive
White-tailed Deer Staging Area	Staging or Migration	Wildlife Values Area	Non-Sensitive
White-tailed Deer Wintering Area (Stratum 2)	Overwintering	Wildlife Values Area	Non-Sensitive
White-tailed Deer Yard (Stratum 1)	Overwintering	Wildlife Values Area	Non-Sensitive
Wild Leek Patch	General Habitat	Wildlife Values Area	Non-Sensitive
Wolverine Den Site	Denning	Wildlife Values Site	Medium
Wood Turtle Aquatic and Terrestrial Habitats	General Habitat	Wildlife Values Area	Medium
Wood Turtle Hibernacula	Overwintering	Wildlife Values Area	Medium
Wood Turtle Nesting Area	Nesting (Reptiles)	Wildlife Values Area	Medium
Yellow Rail Breeding Area	Breeding	Wildlife Values Area	Medium
Yellow-crowned Night-heron Nesting Site/Colony	Nesting (Birds)	Wildlife Values Area	Non-Sensitive

Wildlife Activity Forage Type List

FORAGE TYPE	FORAGE CATEGORY	WILDLIFE ACTIVITY TYPE
Acorn	Mast Nut Type	Mast Producing Area
Acorn/Beech	Mast Nut Type	Mast Producing Area
Acorn/Beech/Hazelnut/Walnut	Mast Nut Type	Mast Producing Area
Acorn/Beech/Walnut	Mast Nut Type	Mast Producing Area
Acorn/Hazelnut	Mast Nut Type	Mast Producing Area
Acorn/Hazelnut/Walnut	Mast Nut Type	Mast Producing Area
Acorn/Walnut	Mast Nut Type	Mast Producing Area
Beech	Mast Nut Type	Mast Producing Area
Beech/Hazelnut/Walnut	Mast Nut Type	Mast Producing Area
Beech/Walnut	Mast Nut Type	Mast Producing Area
Emergent	Aquatic Vegetation Type	Moose Aquatic Feeding Area
Emergent/Submergent	Aquatic Vegetation Type	Moose Aquatic Feeding Area
Hazelnut	Mast Nut Type	Mast Producing Area
Hazelnut/Walnut	Mast Nut Type	Mast Producing Area
Submergent	Aquatic Vegetation Type	Moose Aquatic Feeding Area
Walnut	Mast Nut Type	Mast Producing Area

Wildlife Activity Tree Species List

TREE SPECIES COMMON NAME	SPECIES ELEMENT ID
American Basswood	108000
American Beech	46002
American Chestnut	46000
American Elm	47004
American Mountain-Ash	82380
American Witch-Hazel	80000
Balsam Fir	13000
Balsam Poplar	41002
Big Shellbark Hickory	44004
Birch sp.	45034
Bitter-Nut Hickory	44000
Black Ash	141008
Black Gum	122000
Black Locust	83212
Black Maple	102018
Black Oak	46026
Black Pine	13018
Black Spruce	13010
Black Walnut	44014
Blue Ash	141018
Blue Spruce	13012
Butternut	44012
Cherry Birch	45014

Choke Cherry	82294
Cucumber Tree	67002
Eastern Cottonwood	41006
Eastern Hemlock	13032
Eastern Red Cedar	13506
Eastern White Cedar	13508
Eastern White Pine	13024
European Larch	13002
European Mountain-Ash	82382
European Weeping Birch	45022
Gray Birch	45024
Green Ash	141010
Hawthorn sp.	82036
Honey Locust	83100
Horse Chestnut	103004
Jack Pine	13016
Japanese Larch	996
Kentucky Coffee-Tree	83106
Large-Tooth Aspen	41012
Mountain Maple	102022
Northern Catalpa	154006
Northern Red Oak	46020
Norway Maple	102008
Norway Spruce	13006
Pawpaw	69000
Pin Cherry	82274
Pin Oak	46014
Pitch Pine	13022
Pumpkin Ash	141016
Red Maple	102012
Red Mulberry	48004
Red Pine	13020
Red Spruce	13014
Redbud	83044
Rock Elm	47014
Sassafras	70002
Scotch Pine	13026
Shag-Bark Hickory	44008
Shumards Oak	46022
Silver Maple	102014
Striped Maple	102006
Sugar Maple	102016
Swamp White Oak	46006
Sweet Pignut Hickory	44002

Sycamore	81002
Trembling Aspen	41016
Tulip Tree	67000
White Ash	141004
White Birch	45020
White Oak	46004
White Poplar	41000
White Spruce	13008
Wild Black Cherry	82288
Yellow Birch	45010

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

B. Physical Data Model Diagram

