

# Land Information Ontario

## Data Class Fact Sheet: FOREST MANAGEMENT UNIT

Version 1.0

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## ***Additional Information***

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## 1. Introduction

Data modeling involves identifying the things of importance to an organization (entities), the properties of those things (attributes) and how they are related to one another (relationships). This document provides the logical view of the data model. Appendix 1 provides details on understanding data models.

## 2. Overview

This data class is part an Information Class.

Information Class: **ADMIN OR RESOURCE MANAGEMENT AREA (ADMINRES)**

Data Classes are:

- i. Agreement Forest Area*
- ii. Bear Management Area*
- iii. Breeding Zone*
- iv. Conservation Authority Area*
- v. Fire Management HQ Area*
- vi. Fire Response Sector*
- vii. Fire Weather Sector*
- viii. Forest Management Unit*
- ix. MNR Area*
- x. MNR District*
- xi. MNR Region*
- xii. OTIB Zone*
- xiii. Restricted Fire Zone*
- xiv. Seed Zone*
- xv. Wildlife Management Unit – Data Collection (Wildlife Data collection Unit)*
- xvi. Wildlife Management Area*

### Forest Management Unit (FORMGMT)

A Forest Management Unit (FMU) is a designated administrative area that depicts a forest management boundary. The area within these boundaries are used for forest resource planning and management purposes of the Crown Forest Sustainability Act. An FMU is primarily identified by an assigned official name and a unique numeric code. The Forest Management Branch ,Forest Management Planning Section of the Ontario Ministry of Natural Resources, approves FMU boundaries, codes and official names.

## Abstract Class

Abstract Spatial Multi-Non-Tessellating-Polygon User Object. One or more polygons form a single object. Polygons may NOT overlap. However, holes gaps and islands are allowed. An example of this might be parks if we allow for parks with multiple disjoint pieces (Thousand Islands Park), or if we model a municipal or other jurisdiction as only containing the land (but not major water bodies) within its boundaries then the City of Toronto with the Toronto Islands would fall into this class as would any townships or districts that contained island with major bodies of water (Mantoulin).

## Custodian

Provincial Government, Ministry of Natural Resources, Forest Division (FD), Forest Management Branch (FMB), Forest Management Planning Section.

## Geographic Unit Types

### Forest Management Unit (1092)

A Forest Management Unit (FMU) is a designated administrative area that depicts a forest management boundary. The area within these boundaries are used for the forest resource planning and management purposes of the Crown Forest Sustainability Act.(1995).



## 4. Data Dictionary

See Appendix 2 for how to interpret a data dictionary.

### Entity : ADMIN OR RESOURCE MGT AREA

**Description :**

An area where specific resources are managed as one unit or an area that is administered by a group. These areas should never overlap within the same data class.

|  |                                    |     |           |
|--|------------------------------------|-----|-----------|
| <u>Official Name</u>                                       | Character (variable length string) | 100 | Mandatory |
| MNR's official name or a name defined by an official body. |                                    |     |           |

**Class :**

**Subtype Of** GEOGRAPHIC UNIT COMPONENT

### Entity : AGREEMENT FOREST AREA

**Description :**

An area of forested private land governed by a Forest Management Agreement. Private companies have agreed, through negotiated agreements with MNR, to carry out planning and all operational timber management, except protection operations (i.e. insect and disease pest control). See the "Class Environmental Assessment for Timber Management on Crown Lands in Ontario, p.12.

**Subtype Of** ADMIN OR RESOURCE MGT AREA

### Entity : BEAR MANAGEMENT AREA

**Description :**

An area where bear hunting is regulated. This area is typically characterized by potential bear habitat sites, and tourist outfitters or guides licensed to hunt bear. May need to track bear harvest limit per year.

|   |                                    |    |           |
|---|------------------------------------|----|-----------|
| <u>Bear Management Area ID</u>                                | Character (variable length string) | 10 | Mandatory |
| Unique identifier of the Bear Management Area. e.g. CC-30-008 |                                    |    |           |

**Class :** Business Identifier

|  |         |   |          |
|--|---------|---|----------|
| <u>Bear Management Area ID Suffix</u>  | Integer | 2 | Optional |
| A sequential number when combined with the Bear Management Area ID makes the identifier unique. The intent of this attribute is to resolve the issue around splitting a bear management area along database project boundaries. If only one BMA then this field may be NULL or '1' depending on if the data was from data load or via the application. (Changed June 98 - this field should always have a value of at least '1') |         |   |          |

**Class :** Number

|   |                                    |   |          |
|---|------------------------------------|---|----------|
| <u>Mast Areas Available Indicator</u>   | Character (variable length string) | 3 | Optional |
| An indication of whether there is at least one mast area within the Bear Management Area.<br>May be derived from Mast Producing entity; however, may be cases where the Mast Producing area may not exist yet |                                    |   |          |

**Class :** Indicator

**Permissible Values :**

'Yes','No'

|  |                                    |   |          |
|--|------------------------------------|---|----------|
| <u>Denning Site Available Indicator</u>  | Character (variable length string) | 3 | Optional |
| An indication of whether there is at least one denning site available in the Bear Management Area. |                                    |   |          |

**Class :** Indicator

**Permissible Values :**

'Yes','No'

**Subtype Of** GEOGRAPHIC UNIT COMPONENT

### Entity : BREEDING ZONE

**Description :**

A geographic area in which from which flora selections are made and interbred.

**Breeding Zone Number**

Numeric

Mandatory

Unique identifier of the Breeding Zone.

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

**Entity : CONSERVATION AUTHORITY AREA****Description :**

A Conservation Authority Area is an area of jurisdiction of a Conservation Authority. The Conservation Authorities Act reads as follows: "The objects of an authority are to establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals".

**Subtype Of** ADMIN OR RESOURCE MGT AREA

**Entity : FIRE MANAGEMENT HQ AREA****Description :**

A Fire Management Headquarters Area, also referred to as Fire Management Area, is a polygon feature that represents administrative areas for the Ontario Ministry of Natural Resources Fire Program. Fire Management Headquarters Areas are analogous to Ministry Districts. In all cases, the areas follow OMNR District boundaries, and in most cases, a FMHA will have the same extent as one OMNR District. In some cases, the FMHA will encompass two OMNR Districts. In all, there are 18 FMHAs in the province. The boundaries for these polygons can be verified by the Aviation, Flood and Fire Management Branch.

**Subtype Of** ADMIN OR RESOURCE MGT AREA

**Entity : FIRE RESPONSE SECTOR****Description :**

An area for which response planning and attack services are delivered. In some locations, response sector boundaries coincide with OMNR District boundaries, but elsewhere, many response sectors contain portions of more than one district and do not follow any other administrative OMNR boundaries. There are a total of 14 Fire Response Sectors in the province.

**Subtype Of** ADMIN OR RESOURCE MGT AREA

**Entity : FIRE WEATHER SECTOR****Description :**

An administrative area that represents local climatic areas and is used by the Fire Management Program for weather forecasting purposes. North of the French River, weather sector boundaries correspond to the areas used by Environment Canada for public weather forecasting. South of the French River, OMNR combined 25 Environment Canada Areas into 6 larger units (E13-18).

**Fire Weather Sector Code**

Character (variable length string) 5

Mandatory

The OMNR weather sector identifier used for generating weather forecast information. The ID is a letter that identifies the region (W for West Fire Region, or E for East Fire Region) and a number for each sector within that region (ie: W02, E07). Some sectors (W07, W13, E02 and W01) overlap regional boundaries and serve both regions.

**Class :** Business Identifier

*Valid values in NRVIS\_FIRE\_WEATHER\_SECTOR.*

**Subtype Of** ADMIN OR RESOURCE MGT AREA

**Entity : FOREST MANAGEMENT UNIT****Description :**

All or part of a Crown forest which has been designated as a management unit for the purposes of the Crown Forest Sustainability Act.

**Forest Management Unit Code**

Character (variable length string) 8

Mandatory



A code which uniquely identifies the Forest Management Unit within the province.

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Entity : GEOGRAPHIC UNIT

### Description :

A bounded geographic area of a specified type. A thing of interest to the Ministry that has spatial characteristics (i.e. location represented by a point, line or polygon) and requires supporting evidence (GEOGRAPHIC UNIT SOURCE ITEM) and justification (GEOGRAPHIC UNIT JUSTIFICATION) for its creation and major changes.

|  |           |           |
|--|-----------|-----------|
| <u>System Effective Date</u>   | Timestamp | Mandatory |
| Date that the record becomes effective i.e. date that the record becomes a part of the database. |           |           |

**Class :** Date

|   |           |          |
|---|-----------|----------|
| <u>System Expiry Date</u>   | Timestamp | Optional |
| Date the record is no longer part of the database. This is only populated in the history tables otherwise it will be null except for code tables. |           |          |

**Class :** Date

|  |         |    |          |
|--|---------|----|----------|
| <u>System Calculated Metric</u>  | Decimal | 16 | Optional |
| Size of the area in square meters or length of a line in metres. Will only be applied when the Geographic Unit is a polygon or a line. |         |    |          |

**Class :** Measurement

|  |         |    |          |
|--|---------|----|----------|
| <u>User Calculated Area</u>  | Decimal | 16 | Optional |
| Size of the area in square metres. Potentially applicable to points, lines, or polygons. |         |    |          |

**Class :** Quantity

Each GEOGRAPHIC UNIT May be One or more SITE ACCESS METHOD(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more ALIAS NAME(s). Exclusive :

Each GEOGRAPHIC UNIT May be One and only one GEOGRAPHIC UNIT DESCRIPTION(s). Exclusive :

Each GEOGRAPHIC UNIT May be One and only one GEOGRAPHIC UNIT VERIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more JUSTIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be Derived From One or more SOURCE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Described By One or more ALIAS NAME(s). Exclusive :

Each GEOGRAPHIC UNIT May be Employing One or more GEONAME EXTENT AND FEATURE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Justified By One or more JUSTIFICATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be Plays One or more ROLE(s). Exclusive :

Each GEOGRAPHIC UNIT May be Referenced By One or more ANNOTATION(s). Exclusive :

Each GEOGRAPHIC UNIT May be The Specific Location For One or more PLAN(s). Exclusive :

Each GEOGRAPHIC UNIT Must be One or more DATA ENTRY(s). Exclusive :

Each GEOGRAPHIC UNIT May be One or more SOURCE(s). Exclusive :

Each GEOGRAPHIC UNIT Must be Defined By One and only one GEOGRAPHIC UNIT TYPE(s). Exclusive :

## Entity : GEOGRAPHIC UNIT COMPONENT

### Description :

A Geographic Unit that may be included in a Geographic Unit Consolidation.

Location Accuracy Character (variable length string) 2 Mandatory  
The degree of conformity or closeness of a measurement within the database to its true value in the world.

**Class :** Code  
*Valid values in NRVIS\_LOCATION\_ACCURACY.*

**Subtype Of** GEOGRAPHIC UNIT

Each GEOGRAPHIC UNIT COMPONENT May be One and only one FIRE DETAIL(s). Exclusive :

Each GEOGRAPHIC UNIT COMPONENT May be One and only one GEOGRAPHIC UNIT SENSITIVITY(s). Exclusive :

Each GEOGRAPHIC UNIT COMPONENT May be Defined By One or more DRAWING SCALE(s). Exclusive :

## Entity : GEOPOLITICAL AREA

**Description :**  
An area defined by statute that is either the jurisdictional area of a governing body (eg. a province, state, municipality, country) or an area represented by an elected person (eg. an electoral riding, municipal ward).

**Subtype Of** GEOGRAPHIC UNIT COMPONENT

## Entity : MNR AREA

**Description :**  
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory  
A business identifier used to uniquely identify MNR administrative areas.

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

Each MNR AREA Must be In One and only one MNR DISTRICT(s). Exclusive :

## Entity : MNR DISTRICT

**Description :**  
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory  
A business identifier used to uniquely identify MNR administrative areas.

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

Each MNR DISTRICT May be Has One or more MNR AREA(s). Exclusive :

Each MNR DISTRICT Must be In One and only one MNR REGION(s). Exclusive :

## Entity : MNR REGION

**Description :**  
A Ministry of Natural Resources organizational unit.

Administrative Area ID Character (variable length string) 3 Mandatory  
A business identifier used to uniquely identify MNR administrative areas.

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

Each MNR REGION May be Has One or more MNR DISTRICT(s). Exclusive :

## Entity : OTIB ZONE

### Description :

The Ontario Tree Improvement Board is a chartered cooperative that includes both MNR and industry as its members. The cooperative is structured as a provincial coordinating body and 6 semi-independent operational zones.

|  |         |   |           |
|--|---------|---|-----------|
| <u>OTIB Zone Number</u>                                    | Numeric | 1 | Mandatory |
| Ontario Tree Improvement Board administrative zone number. |         |   |           |

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Entity : RESTRICTED FIRE ZONE

### Description :

A Restricted Fire Zone is a geographic area in which the use of fire can be restricted under a regulation made by the Minister of Natural Resources in accordance with the Forest Fires Prevention Act. There are 26 Zones in Ontario (may expand in near future) that follow easily recognizable geographic boundaries, and take into consideration differing fire hazards and historic fire danger. The boundaries for these polygons can be verified by AFFMB. Their Official Name is a number from 1 to 25, with 2 zones identified as 14 A and 14 B.

**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Entity : SEED ZONE

### Description :

An area of the province used for the purposes of guiding seed and stock movement.

|                                  |         |   |           |
|----------------------------------|---------|---|-----------|
| <u>Seed Zone Number</u>          | Numeric | 2 | Mandatory |
| Unique identifier for Seed Zone. |         |   |           |

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Entity : WILDLIFE DATA COLLECTION UNIT

### Description :

A geographic unit designated for the purposes of wildlife data collection. An area similar to the WILDLIFE ADMINISTRATIVE UNIT (boundaries are squared off according the UTM grid) used in managing wildlife.

|   |                                    |   |           |
|---|------------------------------------|---|-----------|
| <u>Wildlife Data Collection Number</u>  | Character (variable length string) | 4 | Mandatory |
| The number identifying the Wildlife Data Collection Unit (i.e., the mercator grid block). |                                    |   |           |

**Class :** Business Identifier

**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Entity : WILDLIFE MANAGEMENT AREA

### Description :

An area of land within the Wildlife Administrative Unit managed as a unit for the purpose of maintaining wildlife. Each Wildlife Management Area usually has a Wildlife Management Plan.

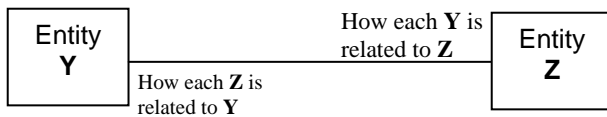
**Subtype Of** ADMIN OR RESOURCE MGT AREA

## Appendix 1: Reading an Entity Relationship Diagram

A modeler can define the data needs of a business using an **entity relationship diagram** (ERD). An ERD is a schematic representation showing entities and their relationship to other entities. An **entity** is a data object and a **relationship** is a model of the association between objects of one or more different entities. In an ERD, entities are rectangles connected to other entities by relationship lines. (Official definition excerpt from the *Information Modeling Handbook for the OPS – Ontario Government Management Board Secretariat Corporate Architecture Branch*)

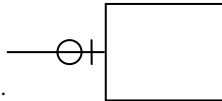
You will encounter the following symbology in an ERD.

**General Notation:** Text that describes a relationship between entities.

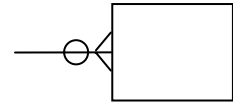


### Relationship Cardinality Symbols:

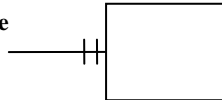
There *may* be **zero or one** occurrence of this entity. This means that the entity is optional.



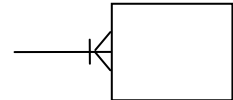
There *may* be **zero or more** occurrences of this entity. The relationship is optional.



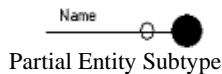
There *must* be **one and only one** occurrence of this entity. This means that the relationship is mandatory.



There *must* be **one or more** occurrences of this entity. The relationship is mandatory.

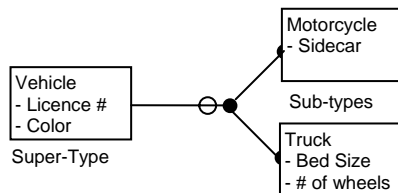


**Entity Sub-type Groups:** Entity subtype group icons link sub-type entities to the super-



type entity. All subtype entities inherit the characteristics of the super-type entity. For example: Entity subtype group icons link subtype entities to the super-type entity. All subtype entities inherit the characteristics of the super-type entity. For example:

The circle indicates that the definition of subtypes for the super-type Vehicle is only partially



The attributes for Motorcycle include not only Sidecar, but Licence # and Color.

The attributes for Truck include not only Bed Size and # of Wheels, but Licence # and Color.

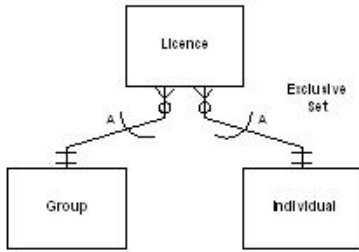
complete.

A line in this same location would indicate that all possible subtypes have been defined – indicating it as complete.

Types of vehicles that have not be explicitly defined would inherit only the characteristics of the Vehicle entity e.g. Car, ATV.

**Exclusive Set:**

An Exclusive Set describes a relationship between entities where, at any one time, only one of the relationships can be true. For example:



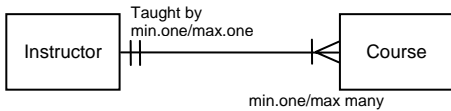
- A Group *may* be the holder of one or more Licences.
- An Individual *may* be the holder of one or more Licences.
- A Licence *must* be Issued to one and only one Group **or** One and only one Individual.
- One licence cannot be issued to both a group and an individual.

**Additional Examples:**

*Interpreted as :*

**An Instructor *must be* teaching One or More Courses.**

**A Course *must be* taught by One and Only One Instructor.**



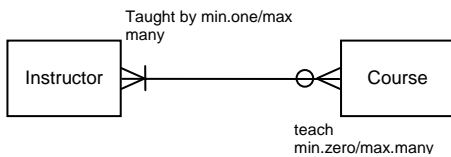
- An Instructor cannot exist unless they teach a course.
- A Course cannot exist unless it has an Instructor. Tag-Team teaching by Instructors is not permitted.
- A newly hired Instructor, not yet assigned to a course, may therefore not be part of this entity.

If the business rules dictate that this is not so, the relationship is incorrect. (See next example)

*Interpreted as :*

**An Instructor *may be* teaching One or More Courses.**

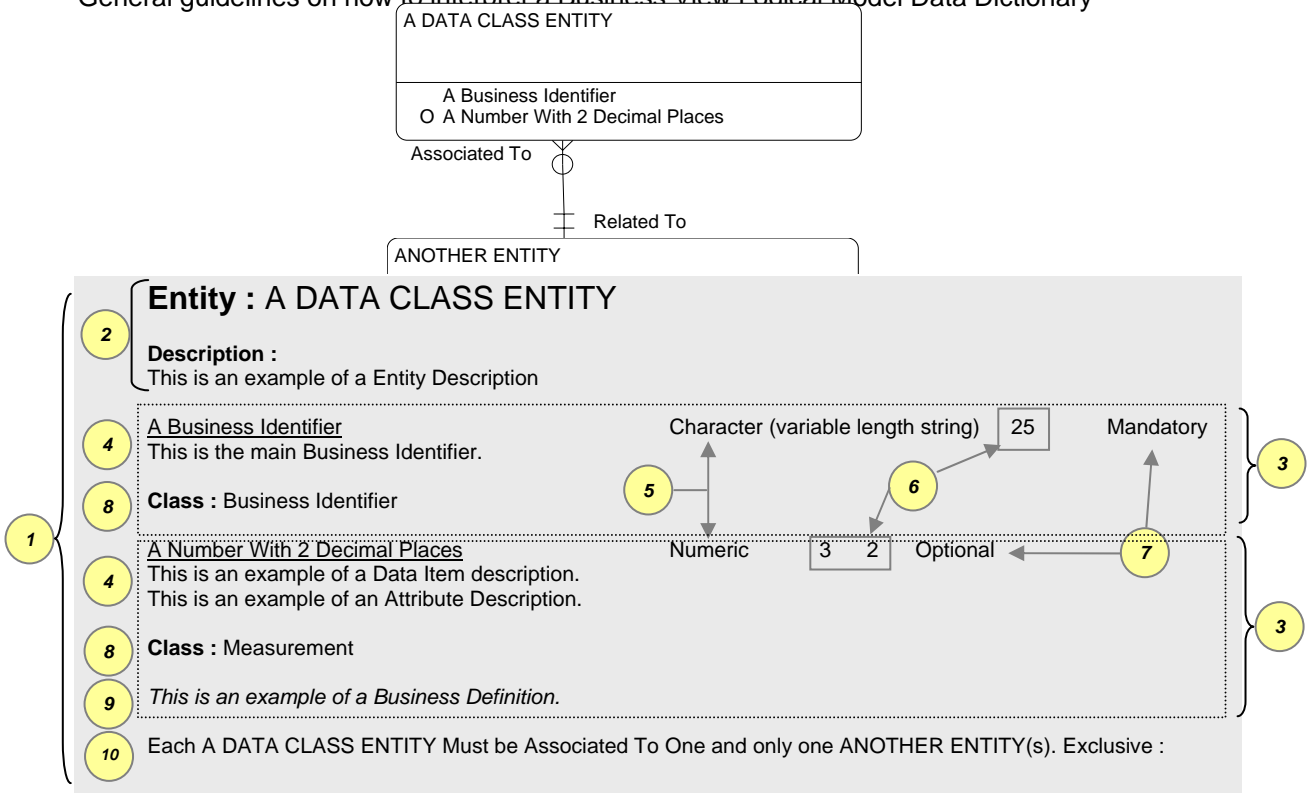
**A Course *must be* taught by One or More Instructors.**



- A newly hired Instructor, not yet assigned to a course, can exist.
- A new inexperienced Instructor, can be paired up with an experienced Instructor to teach a course until they are confident to teach solo.
- A Course cannot exist unless it has an Instructor.
- Once again, if the business rules dictate that this is not so, the relationship is incorrect.

## Appendix 2: Interpreting a Data Dictionary

General guidelines on how to interpret a Business View Logical Model Data Dictionary



1. Entity Block
2. Entity Name and Description
3. Attribute Block
4. Attribute name (underlined) with item description (below). Sometimes, the item is also described at the attribute level to describe its specific usage within an entity.
5. Field Type. E.g.: Character, Numeric, Date etc...
6. Field Length and where applicable – number of decimal places. The maximum capacity for a field’s content is determined by the Item’s set length. With the examples above...
  - The 1st item, has been defined as a Character (Variable length string) field, with a maximum length of 25 characters.
  - The 2<sup>nd</sup> item has been defined a Numeric field with a width of 3 including 2 decimal places. (9.99)  
Other numeric definition examples: 99.99 would be defined as 4 2, 999.9 as 4 1, 999 as 3 0 etc...
 Whenever numeric data items are defined, it is good practice to include an example in the item’s description.
7. Attribute Optionality within Entity
8. Logical Class of the Data Item. Examples include:
  - Business Identifier: a field used by a business area as a reference to obtain more information.
  - Code: Where values are stored as a code – with the full value sometimes stored in a corresponding lookup table.
  - Date: For storing date information e.g.: Year, full or partial dates, character dates etc...
  - Description: For storing long descriptions.
  - Flag: Where the field is used to store a condition that may be used by the business area to trigger an event.
  - Identifier: Where field is used to store an identifier e.g.: a Licence Number.
  - Indicator: Usually Boolean e.g. Yes/No
  - Measurement: The unit of measure is also defined e.g.: mm, feet, kilograms etc...
  - Name: Where field is used to store a name. e.g.: Lake Rome
  - Quantity: Where a field stores a value that measures quantity. E.g.: Number of Moose Observed: 12
9. Business Definition. E.g.: *Valid Values in NRVIS\_2NUM Lookup Table*
10. Entity Relationship Description

## Document Control

| Version | Date            | Author/Editor    | Comments                     |
|---------|-----------------|------------------|------------------------------|
| 1.0     | January 5, 2006 | Victor AZONDEKON | First draft pending approval |
|         |                 |                  |                              |

## Contributors

## Approvals