National Landscape Conservation System (NLCS)

DATA STANDARD REPORT

September 8, 2010

Version 1.1

United States Department of the Interior
Bureau of Land Management
National Operations Center
Division of Resource Services
Denver Federal Center
Denver, Colorado 80225

Purpose of Data Standard Report

The Data Standard Report is the necessary document for a new or revised National Data Standard. The DOI data standards process requires certain pieces of information to be documented for a data standard to be valid. The Data Standard Report is the tool BLM uses to accomplish this documentation. The completed Report is distributed for review and comment on the content of the standard. The comments are gathered and resolutions are developed through working with the appropriate data stewards, commenters and other subject matter experts. More iterations can occur depending on comments and complexity of the data standard. Once all comments are resolved, the data standard report is then finalized.

Table of Contents

INTRODUCTION

Description of Standard

National Landscape Conservation System (NLCS) Boundaries. In June 2000, the BLM responded to growing concern over the loss of open space by creating the NLCS. The NLCS brings into a single system some of the BLM's premier designations. By putting these lands into an organized system, the BLM hopes to increase public awareness of these areas' scientific, cultural, educational, ecological, and other values. The NLCS consists of the following:

- National Monuments (Monuments)
- National Conservation Areas (NCA)
- Outstanding Natural Areas (ONA)
- Cooperative Management and Protection Areas (CMPA)
- Forest Reserves (FR)
- Wildernesses
- Wilderness Study Areas (WSA)
- Wild and Scenic Rivers (WSR)
- National Scenic and Historic Trails (NSHT)
- Conservation Lands of the California Desert
- And other closely related lands will be included (eligible and suitable wild and scenic river segments, Wilderness Value - Lands With Wilderness Characteristics, and Wilderness Characteristic Protection Areas)

The data standard for these boundaries will assist in the management of these lands.

Affected Groups

Land use planners, GIS specialists, NLCS team leads, BLM managers, public stakeholder groups

Sponsor

Carl Rountree - Director of National Landscape Conservation System and Community Programs Office

DATA STEWARD / CONTACT INFORMATION

Office	Role	Name	Contact Information
UT-DO	Main Point of Contact	Andrew Dubrasky Cedar City	Andrew_Dubrasky@blm.gov 435-865-3050
WO-171	BLM Business Data Steward (Wilderness & WSA, Wilderness Characteristics)	Dave Harmon	Dave_Harmon@blm.gov 202-912-7177
WO-171	BLM Business Data Steward (WSR)	Joe Ashor	Joe_Ashor@blm.gov 202-912-7179
WO-172	BLM Business Data Steward (Trails)	Deb Salt	Deb_Salt@blm.gov 406-862-2630
WO-171	BLM Business Data Steward (NCA, Monuments)	Kristin Bail	Kristin_Bail@blm.gov 202-912-7078
WO-171	BLM Business Data Steward (CMPA)	Kristin Bail	Kristin_Bail@blm.gov 202-912-7078
WO-171	BLM Business Data Steward (ONA)	Kristin Bail	Kristin_Bail@blm.gov 202-912-7078
WO-171	BLM Business Data Steward (FR)	Kristin Bail	Kristin_Bail@blm.gov 202-912-7078
WO-171	BLM Business Data Steward (Desert Conservation Lands - California)	Douglas Herrema	Douglas_Herrema@blm.gov 202-912-7172
WO-210	BLM Geospatial Data Steward	Duane Dippon, Detailee	Duane_Dippon@blm.gov 202-912-7213

DATA SET CHARACTERISTICS

Overall Security

a.	**Identify Security Level**
	Public
b.	**Privacy Information**
	None

Data Privileges

Who has create, read, update, and/or delete privileges?
GIS Specialists and NLCS Team Leads (including each state's team leads) can create, update, delete, and read this information. The public and other BLM employees can view this information.

Data Collection & Maintenance Protocols

a.	**Location Accuracy Requirements**
	The expected accuracy for a location will be within +/- 40 feet. This will be documented in the feature level metadata for each arc. Spatial Accuracy: ACCURACY MEASUREMENT IN FEET
b.	**Data Content Accuracy Requirements**
	The expected accuracy (quality) of the data values will be at least 95%.
c.	**Collection & Input Protocols:**
	There is currently no single method for data collection and input for this data set. Data may be collected and input from a variety of sources as long as the data are documented with metadata. BLM has not yet migrated enough of its existing data stores to any specific format to eliminate any methods for digital data collection.
d.	**Update Procedures:**
	The data for the NLCS should be reviewed and updated as appropriate.

Data Quality

a.	**Transaction level data quality:**
	Implementation will include domain value edits during data entry.
b.	**Monitoring level data quality:**
	GIS Specialist and NLCS Team Leads should review the data for quality both upon entry and then during at least annual reviews.

Relationship To Other Standards

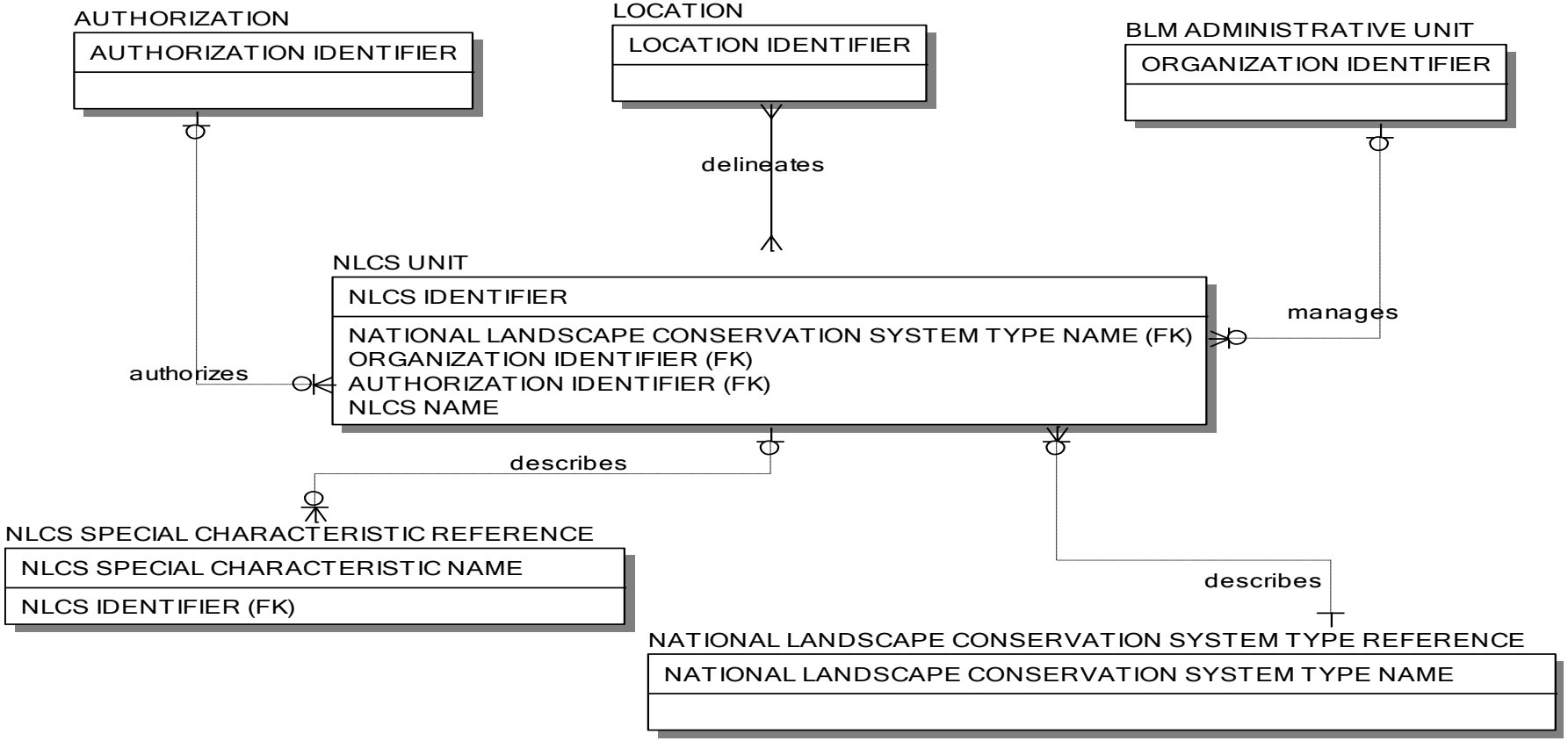
- Federal Trails Data Standard (FTDS)
- Facility Asset Management System (FAMS)
- National Hydrography Dataset (NHD)

DATA CHARACTERISTICS

Each data standard is to be supported by a data model which includes entities and relationships between entities. The logical data model with its associated data dictionary is included in Appendix B.

National Landscape Conservation System Conceptual Data Model

National Landscape Conservation System Units (NLCS Unit) are authorized by Congress. There are several types of NLCS units shown in the NLCS TYPE REFERENCE such as Wild and Scenic River, Wilderness, and Wilderness Study Area. Some of these NLCS Units include specific characteristics (such as Wild and Scenic Rivers can be wild, scenic, or recreational).



Legend: See Appendix C

National Landscape Conservation System Data Elements

The following is a list of the data elements and associated metadata relevant to this data standard. Any design considerations for these data elements are included in the implementation guidelines. Naming conventions can be found in the "Data Administration and Management Handbook" BLM Manual H 1283-1.

Standard Attributes for all or most NLCS Units

These attributes will have the same logical name and definition across all NLCS types in the data standard report. In the implementation guidelines we can add language to make it specific to the feature class.

Data Element Name	Type	Size	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			The designed primary key that will uniquely identify a single occurrence of the entity.	
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME	character	100	The name of a nationally significant designated area with scientific, cultural, educational, ecological and other values.	
NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE NAME	character	50	The name that indicates the type of the nationally significant designated areas.	
CASE FILE NUMBER	character	17	The number that refers to the serialized case file number of the group of official documents that record the facts, or actions taken, on a specific application, such as an oil and gas lease, exchange, airport lease, easement acquisition, etc.	LR2000 contains the Case File Number. Use default value of "unknown" if number not available.
Feature Level Metadata			Feature Level Metadata also has standard attributes as does GIS miles & acres.	See Appendix B: Logical Data Model; Location Logical Data Model

Attributes for Monuments, NCA, ONA, CMPA, and FR

NATIONAL MONUMENT DRAFT ENTITY

National Monuments are areas, when designated by presidential proclamation, that protect objects of scientific or historic interest pursuant to the Antiquities Act of 1906; or, when designated by Congress, that protect, enhance, or preserve significant values and opportunities for present and future generations. National monuments typically contain unique and nationally important natural, cultural, scientific, recreational or scenic resources.

NATIONAL CONSERVATION AREA DRAFT ENTITY

National Conservation Areas are areas of public land designated by Congress to, generally, conserve, protect, and enhance certain unique and nationally important values, such as natural, cultural, scientific, recreational or scenic resources.

OUTSTANDING NATURAL AREA DRAFT ENTITY

Outstanding Natural Areas are areas designated by Congress to preserve exceptional, rare, or unusual natural characteristics, protect wildlife habitat, and provide for the protection or enhancement of natural, educational, or scientific values.

COOPERATIVE MANAGEMENT AND PROTECTION AREA DRAFT ENTITY

Cooperative Management and Protection Areas are areas designated by Congress to conserve, protect, enhance, and manage the long-term ecological integrity and socio-economic environment of an area, cooperative and innovative management projects, and traditional access to cultural and gathering sites; to promote sustainable uses such as grazing and recreation; and to promote and foster cooperation, communication, and understanding and to reduce conflict between users and interests.

FOREST RESERVE DRAFT ENTITY

Forest Reserves are areas designated by Congress to conserve and study land, fish, wildlife, and forests occurring in such areas while providing public recreation opportunities and other management needs. Forest Reserves may enter into cooperative management agreements for the purpose of acquiring from and providing to the State in which they occur goods and services to be used by the Secretary and the State in cooperative management.

Data Element Name	Type	Size	Req'd?	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER				See Standard Attributes, above	
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME				See Standard Attributes, above	
NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE NAME				See Standard Attributes, above	5 of the NLCS unit types - see Domains.
CASE FILE NUMBER			Opt	See Standard Attributes, above	The authorization for withdrawal of lands for NLCS.

Attributes for Wildernesses and WSA

WILDERNESS DRAFT ENTITY

A Wilderness is a special place where the earth and its community of life are essentially undisturbed; they retain a primeval character, without permanent improvements and generally appear to have been affected primarily by the forces of nature. In 1964, Congress established the National Wilderness Preservation System and designated the first Wilderness Areas in passing the Wilderness Act. The uniquely American idea of wilderness has become an increasingly significant tool to ensure long-term protection of natural landscapes. Wilderness protects the habitat of numerous wildlife species and serves as a biodiversity bank for many species of plants and animals. Wilderness is also a source of clean water.

WILDERNESS STUDY AREA DRAFT ENTITY

The Federal Land Policy and Management Act of 1976 directed the Bureau to inventory and study its roadless areas for wilderness characteristics. To be designated as a Wilderness Study Area, an area had to have the following characteristics: Size - roadless areas of at least 5,000 acres of public lands or of a manageable size; Naturalness - generally appears to have been affected primarily by the forces of nature; Opportunities - provides outstanding opportunities for solitude or primitive and unconfined types of recreation. In addition, Wilderness Study Areas often have special qualities such as ecological, geological, educational, historical, scientific and scenic values.

WILDERNESS VALUE - LANDS WITH WILDERNESS CHARACTERISTICS

Inventoried areas not in Wilderness or Wilderness Study Areas that have been determined to meet the size, naturalness, and the outstanding solitude and/or the outstanding primitive and unconfined recreation criteria.

WILDERNESS CHARACTERISTIC PROTECTION AREAS

Former lands with Wilderness Value - Lands with Wilderness Characteristics where a plan decision has been made to protect them.

Data Element Name	Type	Size	Req'd?	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			Yes	See Standard Attributes, above	
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME				See Standard Attributes, above	
NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE NAME				See Standard Attributes, above	
CASE FILE NUMBER			Opt	See Standard Attributes, above	
WILDERNESS STUDY AREA RECOMMENDATION NAME	character	20	Yes	The name that indicates the BLM recommendation on wilderness suitability.	Wilderness Areas will have a value of "designated".
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE DESIGNATION DATE	date		Opt	The date on which a national landscape conservation unit was designated as such through Congress or other authorized body.	This date is required for a Wilderness only.
ORGANIZATION ACRONYM CODE	character		Yes	The code that indicates the preferred acronym for an organization.	Designation Source Agency (see Domain document).

Attributes for WSR

NATIONAL WILD AND SCENIC RIVER DRAFT ENTITY

Selected rivers in the United States preserved for possessing outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Rivers, or sections of rivers, so designated are preserved in their free-flowing condition and are not dammed or otherwise improved.

Data Element Name	Type	Size	Req'd?	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			Yes	See Standard Attributes, above	SEGMENT_NO (LINE) char 10
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME				See Standard Attributes, above	
CASE FILE NUMBER			Opt	See Standard Attributes, above	
WILD AND SCENIC RIVER STATUS NAME	character	15	Yes	The name that indicates the status of the wild and scenic river conservation classification.	See Domains; non-suitable rivers will not be included in the feature class.
RIVER CONSERVATION CLASSIFICATION NAME	character	15	Yes	A name that indicates one of the river classifications as defined in the Wild and Scenic Rivers Act of 1968.	See Domains: a segment only has one classification, the one it is managed at.
NATIONAL WILD AND SCENIC RIVER STATUS DATE	Date		Yes	The date on which the river conservation classification for a segment of the wild and/or scenic river changed status.	
LOCATION IDENTIFIER				The designed primary key that will uniquely identify a single occurrence of the entity.	The segment of the WSR (LINE) character 10
(National Hydrography Location)	character	14	Opt	(This is a 14 character code – the first 8 digits are the hydrological unit code for the watershed subbasin, the last 6 characters are a unique sequential number.)	The Reach Code for a National Hydrography Segment

WSR – Outstandingly Remarkable Values (ORV). Each WSR segment may have one or more ORVs.

NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			Yes	See Standard Attributes, above	By segment
OUTSTANDINGLY REMARKABLE VALUE NAME	character	30	Yes	The name of the outstandingly remarkable value which is a unique, rare, or exemplary feature that is significant at a comparative regional or national scale.	See Domains – will include NONE for those areas without ORVs.

Attributes for NSHT

DESIGNATED NATIONAL TRAIL DRAFT ENTITY

A trail that is part of NLCS which has a national Congressional designation.

Data Element Name	Type	Size	Req'd ?	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			Yes	See Standard Attributes, above	
TRAIL SEGMENT IDENTIFIER	character	40	Yes	The official numeric or alpha numeric identifier for the trail segment.	
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME				See Standard Attributes, above	
CASE FILE NUMBER			Opt	See Standard Attributes, above	
TRAIL DESIGNATION TYPE NAME	character	20	Yes	The name that describes the type of designation given to a piece of land. If Designated National Trail, values are scenic or historic.	See Domains; for this data standard only scenic and historic are used. There are other trail types such as recreational, private, etc. that are not included as part of NLCS.
FACILITY IDENTIFIER			Opt	The designed primary key that will uniquely identify a single occurrence of the entity.	FAMS ID will be included if the trail is also included in FAMS.
ORGANIZATION ACRONYM CODE	character		Yes	The code that indicates the preferred acronym for an organization.	Managing Agency (see Domain document).
NHT CONDITION CATEGORY (NHT = National Historic Trail)	character	60	Yes	The text associated with the "Interagency classification category designed to assess the comparative character of visible trail remnants of the NHT at the time of mapping."	Data Element name from the Federal Trail Data Standard (FTDS); Logical Name: HISTORIC TRAIL CONDITION TEXT

Attributes for Conservation Lands of the California Desert

CONSERVATION LANDS OF THE CALIFORNIA DESERT DRAFT ENTITY

Those public lands (currently being identified in response to the 2009 Omnibus Public Land Management Act) within the California Desert Conservation Area that are administered by the BLM for conservation purposes. By act of Congress, all public lands within the California Desert Conservation Area administered by the BLM for conservation purposes are included in the BLM's National Landscape Conservation System.

Data Element Name	Type	Size	Req'd ?	Attribute Definition	Design Comment
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER			Yes	See Standard Attributes, above	
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME			Yes	See Standard Attributes, above	
CASE FILE NUMBER			Opt	See Standard Attributes, above	

BUSINESS RULES

Rules under which data is used and modified (See H 1283-1, Data Administration and Management Handbook, Chapter 8 – Documenting Business Rules).

1. NLCS Boundary Data Collection

The Federal Land Policy and Management Act (FLPMA) enables the BLM to manage the public lands not only for their commodity value, but also for their recreational opportunities and environmental qualities, such as open space. The mix of permitted uses depends on an area's resources; some BLM land is managed primarily for energy production, for example, and some for the protection of specific threatened or endangered species. FLPMA also ensures that many of BLM's traditional activities, such as grazing and hunting, will continue on lands within the NLCS, provided these activities are consistent with the overall purpose of the area.	
Business Rule Source and Description	
The BLM's management of all public lands, including those in the NLCS, is guided by the FLPMA.	
Type of Business Rule	Current Implementation
Standard (Required)	Manual Process

2. BLM Manual for NLCS Legal Boundary Descriptions

This manual identifies responsibilities and necessary steps for preparing, transmitting, storing, and disseminating for long term retention, congressionally required maps and legal boundary descriptions for National Landscape Conservation System designations.	
Business Rule Source and Description	
Draft BLM Manual 6120 “Congressionally Required Maps and Legal Boundary Descriptions for National Landscape Conservation System Designations”	
Type of Business Rule	Current Implementation
Standard (Required)	Manual Process

3. NLCS Areas

All NLCS polygons will represent the "outside" extent of the unit. Other agency lands will be included within the polygon. If surface management lands need to be known they will be derived through analysis. This is a change from the way Wilderness and WSA data have previously been compiled, but is consistent with the way other NLCS designations are portrayed. Inholdings will not be portrayed. If information on inholdings is needed, analysis can be conducted using land status. Any NLCS polygon that crosses state boundaries does not split the polygon at the boundary - unless there is a change in attributes (ex: Casefile Number) at the state line. Polygons may be subdivided by local entities if necessary to track a local attribute (ex: Utah has a special designation within an NCA that is not tracked in the core attributes). The national standard attributes will be the same on both sides of the subdivision.	
Business Rule Source and Description	
NLCS Data Stewards	
Type of Business Rule	Current Implementation
Guideline	Manual Process

4. Wild and Scenic River Management

WSR corridors will not have overlapping polygons at confluence points. The acres associated with a segment will always be assigned to the higher management restriction (1. Wild, 2. Scenic, and 3. Recreational). If two segments have the same designation, then the higher order stream segment will be assigned the acres. If two segments have the same designation and order, then the local agency office will assign the acres as it sees fit. The WSR segment will have associated Outstandingly Remarkable Values. Segments will need to be split and attributed accordingly in order to track these in the related table.	
Business Rule Source and Description	
NLCS Data Stewards	
Type of Business Rule	Current Implementation
Standard (Required)	Manual Process

5. National Scenic and Historic Trail Segments

Where segments are included in the FAMS database, the FAMS ID number will be attributed to the segment. In the few instances where segments are both scenic and historic, duplicate lines will be maintained.	
Business Rule Source and Description	
NLCS Data Stewards	
Type of Business Rule	Current Implementation
Standard (Required)	Manual Process

OTHER MATERIAL

Other supporting material that aids in the understanding or use of the data standard
National Landscape Conservation System Data Standard Proposal

DOMAINS SPECIFIC TO THIS DATA STANDARD

For domains specific to NLCS, see the NLCS Domains document.

APPENDIX A: DOI DATA CATEGORIES

Data Subject Areas and Information classes are categories of information that support a DOI line of business. According to the DOI Data Standardization Handbook, one or more categories must be identified for a data standard. Any changes to these categories and their definitions would be made through the DOI Data Advisory Committee (DAC).

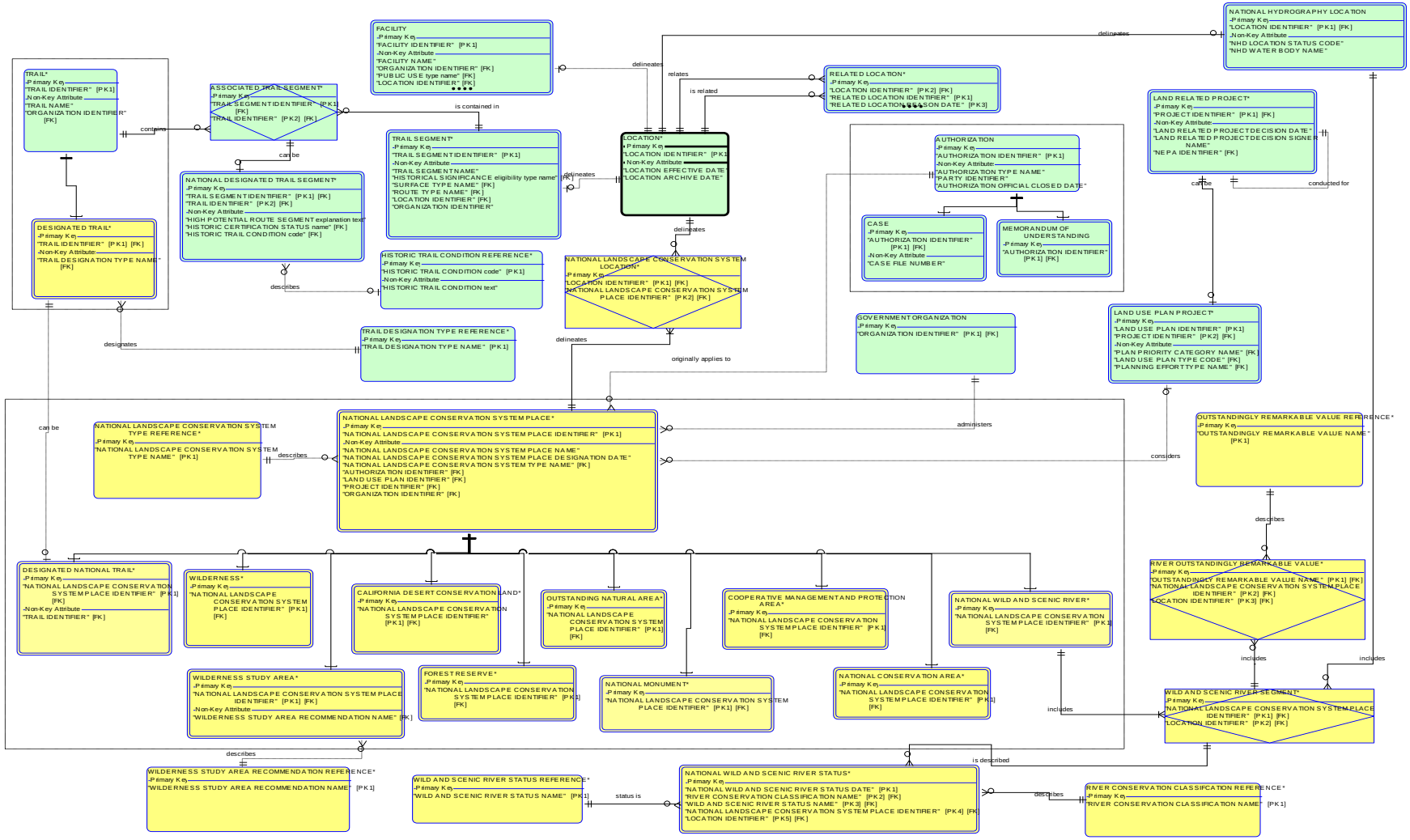
Subject Area: A collection of data classifications representing broad categories of information that support a line of business.
Information Class: A logical grouping of entities that are subcategories of the subject areas.

Only the Subject Areas and Information Classes that are appropriate to this data standard are included in this listing. For the full list of Subject Areas and their Information Classes please see http://web.blm.gov/data_mgt/guidelines/DOI_SubjectArea_InfoClass.doc

This standard proposal covers the following DOI Subject Areas and Information Classes:	
CONTROLS AND OVERSIGHT (Subject Area)	*Information about the supervision, oversight, and administrative operations and programs of the DOI and its external partners that ensure compliance with applicable laws and regulations, and the prevention of waste, fraud and abuse. This includes the evaluation of conformance with policy, guidance, standards, and statutory requirements, as well as a means to evaluate the overall quality of products and services.*
• Conservation (Information Class)	*Information about activities devoted to ensuring the preservation of land, water, wildlife, and natural resources, both domestically and internationally. It also includes information about the sustainable stewardship of natural resources on federally owned/controlled lands for commercial use (mineral mining, grazing, forestry, fishing, etc.).*
GEOSPATIAL AND GEOGRAPHY (Subject Area)	*Information about data that includes a terrestrial coordinate system or geographic reference. This includes geospatial data sets, mapping, imagery, coverage's, elevations, and features.*
• Location (Information Class)	*Information about an identifiable place of existence. A geographic or spatial identification assigned to a region or feature based on a specific coordinate system, or by other precise information such as a street address, a postal address, a descriptive location, a legal land definition, etc. Location data types primarily consist of Vector data.*
• Map (Information Class)	*A graphic depiction on a flat surface of the physical features of the whole or a part of the earth or other body, or of the heavens, using shapes to represent objects and symbols to describe their nature. Maps generally use a specified projection and indicate the direction of orientation.*
PROTECTION (Subject Area)	*Information about activities that protect something or someone from exposure, injury, damage, or destruction.*
• Habitat Protection (Information Class)	*Information about all activities performed to protect the environment in which an organism or biological population lives and grows.*

APPENDIX B: LOGICAL DATA MODEL

The entities in green are not part of this standard and do not need to be reviewed. They are provided to show context and provide relationships to other data only. To improve viewing, zoom to 200%; to print a larger version, use the 11"x17" model on the same webpage as this document.



Legend: See Appendix C

Data Dictionary

This lists entities and attributes (in alphabetical order, not hierarchical or chronological order) in the logical data model shown above.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
ASSOCIATED TRAIL SEGMENT							DRAFT ENTITY
	The one or more segments that together make up a complete trail. One segment can be part of more than 1 trail.						
		TRAIL SEGMENT IDENTIFIER	character	40	Yes	PK, FK	The official numeric or alpha numeric identifier for the trail segment.
		TRAIL IDENTIFIER	character	40	Yes	PK, FK	The official numeric or alpha numeric identifier for the trail.
CALIFORNIA DESERT CONSERVATION LAND							DRAFT ENTITY
	Those public lands (currently being identified in response to the 2009 Omnibus Public Land Management Act) within the California Desert Conservation Area that are administered by the BLM for conservation purposes. By act of Congress, all public lands within the California Desert Conservation Area administered by the BLM for conservation purposes are included in the BLM's National Landscape Conservation System.						
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
COOPERATIVE MANAGEMENT AND PROTECTION AREA							DRAFT ENTITY
	Cooperative Management and Protection Areas are areas designated by Congress to conserve, protect, enhance, and manage the long-term ecological integrity and socio-economic environment of an area, cooperative and innovative management projects, and traditional access to cultural and gathering sites; to promote sustainable uses such as grazing and recreation; and to promote and foster cooperation, communication, and understanding and to reduce conflict between users and interests.						
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
DESIGNATED NATIONAL TRAIL							DRAFT ENTITY
	A trail that is part of the National Landscape Conservation System which has a national congressional designation.						
		TRAIL IDENTIFIER	character	40	Yes	FK	The official numeric or alpha numeric identifier for the trail.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
DESIGNATED TRAIL							DRAFT ENTITY
	A subtype of a trail that was designated for a national reason.						
		TRAIL DESIGNATION TYPE NAME	character	20	Yes	FK	The name that describes the type of designation given to a piece of land. If Designated National Trail, values are scenic or historic.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
		TRAIL IDENTIFIER	character	40	Yes	PK, FK	The official numeric or alpha numeric identifier for the trail.
FOREST RESERVE							DRAFT ENTITY
Forest Reserves are areas designated by Congress to conserve and study land, fish, wildlife, and forests occurring in such areas while providing public recreation opportunities and other management needs. Forest Reserves may enter into cooperative management agreements for the purpose of acquiring from and providing to the State in which they occur goods and services to be used by the Secretary and the State in cooperative management.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
HISTORIC TRAIL CONDITION REFERENCE							DRAFT ENTITY
The domain values for interagency classification category designed to assess the comparative character of visible trail remnants of the National Historic Trail at the time of mapping.							
		HISTORIC TRAIL CONDITION CODE	character	10	Yes	PK	The code associated with the "Interagency classification category designed to assess the comparative character of visible trail remnants of the NHT at the time of mapping."
		HISTORIC TRAIL CONDITION TEXT	character	40	Yes		The text associated with the "Interagency classification category code designed to assess the comparative character of visible trail remnants of the NHT at the time of mapping."
NATIONAL CONSERVATION AREA							DRAFT ENTITY
National Conservation Areas are areas of public land designated by Congress to, generally, conserve, protect, and enhance certain unique and nationally important values, such as natural, cultural, scientific, recreational or scenic resources.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL DESIGNATED TRAIL SEGMENT							DRAFT ENTITY
A trail segment that is part of a Nationally Designated Trail. A trail segment can be part of more than 1 National Designation.							
		HIGH POTENTIAL ROUTE SEGMENT EXPLANATION TEXT	character	40	Yes		The text that explains Segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of the historic route.
		TRAIL SEGMENT IDENTIFIER	character	40	Yes	PK, FK	The official numeric or alpha numeric identifier for the trail segment.
		TRAIL IDENTIFIER	character	40	Yes	PK, FK	The official numeric or alpha numeric identifier for the trail.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
		HISTORIC CERTIFICATION STATUS NAME	character	15	Opt	FK	The name designating the Status of NHT certification agreement for the trail segment on nonfederal land. Valid values: certified, not certified.
		HISTORIC TRAIL CONDITION CODE	character	10	Opt	FK	The code associated with the "Interagency classification category designed to assess the comparative character of visible trail remnants of the NHT at the time of mapping."
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE CONCEPTUAL ENTITY Nationally significant designated areas with scientific, cultural, educational, ecological and other values.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE NAME	character	100	Yes		The name of a nationally significant designated area with scientific, cultural, educational, ecological and other values.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE DESIGNATION DATE	date		Yes		The date on which a national landscape conservation unit was designated as such through Congress or other authorized body.
		AUTHORIZATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LAND USE PLAN IDENTIFIER	character	12	Opt	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		PROJECT IDENTIFIER	character	12	Opt	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE NAME	character	50	Yes	PK	The name that indicates the type of the nationally significant designated area.
		ORGANIZATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE-LOCATION DRAFT ENTITY The location or locations for a National Landscape Conservation System Unit.							
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE REFERENCE DRAFT ENTITY The domain values for the type of nationally significant designated area.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM TYPE NAME	character	50	Yes	PK	The name that indicates the type of the nationally significant designated area.
NATIONAL MONUMENT DRAFT ENTITY National Monuments are areas, when designated by presidential proclamation, that protect objects of scientific or historic interest pursuant to the Antiquities Act of 1906; or, when designated by Congress, that protect, enhance, or preserve significant values and opportunities for present and future generations. National monuments typically contain unique and nationally important natural, cultural, scientific, recreational or scenic resources.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL WILD AND SCENIC RIVER DRAFT ENTITY Selected rivers in the United States preserved for possessing outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Rivers, or sections of rivers, so designated are preserved in their free-flowing condition and are not dammed or otherwise improved.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL WILD AND SCENIC RIVER STATUS DRAFT ENTITY A segment of the wild and scenic river only has one river conservation classification and status for a point in time.							
		NATIONAL WILD AND SCENIC RIVER STATUS DATE	date		Yes	PK	The date on which the river conservation classification for a segment of the wild and/or scenic river changed status.
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		WILD AND SCENIC RIVER STATUS NAME	character	15	Yes	PK, FK	The name that indicates the status of the wild and scenic river conservation classification.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
		RIVER CONSERVATION CLASSIFICATION NAME	character	15	Yes	PK	A name that indicates one of the river classifications as defined in the Wild and Scenic Rivers Act of 1968.
OUTSTANDING NATURAL AREA							DRAFT ENTITY
Outstanding Natural Areas are areas designated by Congress to preserve exceptional, rare, or unusual natural characteristics, protect wildlife habitat, and provide for the protection or enhancement of natural, educational, or scientific values.							
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
OUTSTANDINGLY REMARKABLE VALUE REFERENCE							DRAFT ENTITY
The domain values for the outstandingly remarkable value which is a unique, rare, or exemplary feature that is significant at a comparative regional or national scale.							
		OUTSTANDINGLY REMARKABLE VALUE NAME	character	30	Yes	PK	The name of the outstandingly remarkable value which is a unique, rare, or exemplary feature that is significant at a comparative regional or national scale.
RIVER CONSERVATION CLASSIFICATION REFERENCE							DRAFT ENTITY
The domain values that indicate the river classifications as defined in the Wild and Scenic Rivers Act of 1968.							
		RIVER CONSERVATION CLASSIFICATION NAME	character	15	Yes	PK	A name that indicates one of the river classifications as defined in the Wild and Scenic Rivers Act of 1968.
RIVER OUTSTANDINGLY REMARKABLE VALUE							DRAFT ENTITY
The outstandingly remarkable values that are an attribute of a wild and scenic river segment.							
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		OUTSTANDINGLY REMARKABLE VALUE NAME	character	30	Yes	PK	The name of the outstandingly remarkable value which is a unique, rare, or exemplary feature that is significant at a comparative regional or national scale.
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
TRAIL							DRAFT ENTITY
The established course in a linear route for travel for use by hikers, horseback riders, bicyclists, motorcyclists, or other sport users.							
		TRAIL IDENTIFIER	character	40	Yes	PK	The official numeric or alpha numeric identifier for the trail.
		TRAIL NAME	character	60	Opt		The name that the trail or trail segment is officially or legally known by.

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
TRAIL SEGMENT						DRAFT ENTITY	
	A section of a trail that shares all the same values for the attributes that are part of the trail segment. When a value changes, there is a new trail segment.						
		TRAIL SEGMENT IDENTIFIER	character	40	Yes	PK	The official numeric or alpha numeric identifier for the trail segment.
		TRAIL SEGMENT NAME	character	60	Opt		The name that the trail or trail segment is officially or legally known by.
		HISTORICAL SIGNIFICANCE ELIGIBILITY TYPE NAME	character	15	Yes	FK	The name that categorizes the officially recognized historic significance of the trail segment, per evaluation criteria for the National Register of Historic Places.
		SURFACE TYPE NAME	character	40	Yes	FK	The name designating predominant surface type is encountered on the road or trail segment.
		ROUTE TYPE NAME	character	5	Yes	FK	The name of The type of transportation route.
		LOCATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		ORGANIZATION IDENTIFIER	integer		Opt	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
WILD AND SCENIC RIVER SEGMENT						DRAFT ENTITY	
	A portion of the wild and scenic river that has its own specific reasons for being designated as wild and scenic.						
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
WILD AND SCENIC RIVER STATUS REFERENCE						DRAFT ENTITY	
	The domain for the values that indicate the status of the wild and scenic river conservation category.						
		WILD AND SCENIC RIVER STATUS NAME	character	15	Yes	PK	The name that indicates the status of the wild and scenic river conservation classification.
WILDERNESS						DRAFT ENTITY	
	A Wilderness is a special place where the earth and its community of life are essentially undisturbed; they retain a primeval character, without permanent improvements and generally appear to have been affected primarily by the forces of nature. In 1964, Congress established the National Wilderness Preservation System and designated the first Wilderness Areas in passing the Wilderness Act. The uniquely American idea of wilderness has become an increasingly significant tool to ensure long-term protection of natural landscapes. Wilderness protects the habitat of numerous wildlife species and serves as a biodiversity bank for many species of plants and animals. Wilderness is also a source of clean water.						

Entity Name	Entity Definition	Attribute Name	Type	Size	Requi-red?	Key*	Attribute Definition
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
WILDERNESS STUDY AREA							DRAFT ENTITY
	The Federal Land Policy and Management Act of 1976 directed the Bureau to inventory and study its roadless areas for wilderness characteristics. To be designated as a Wilderness Study Area, an area had to have the following characteristics: Size - roadless areas of at least 5,000 acres of public lands or of a manageable size; Naturalness - generally appears to have been affected primarily by the forces of nature; Opportunities - provides outstanding opportunities for solitude or primitive and unconfined types of recreation. In addition, Wilderness Study Areas often have special qualities such as ecological, geological, educational, historical, scientific and scenic values.						
		NATIONAL LANDSCAPE CONSERVATION SYSTEM PLACE IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		WILDERNESS STUDY AREA RECOMMENDATION NAME	character	20	Yes	FK	The domain values that indicate the BLM recommendation on wilderness suitability.
WILDERNESS STUDY AREA RECOMMENDATION REFERENCE							DRAFT ENTITY
	The domain values that indicate the BLM recommendation on wilderness suitability.						
		WILDERNESS STUDY AREA RECOMMENDATION NAME	character	20	Yes	PK	The domain values that indicate the BLM recommendation on wilderness suitability,

The following entities shown on the logical data model are not part of this standard but are here for informational purposes.

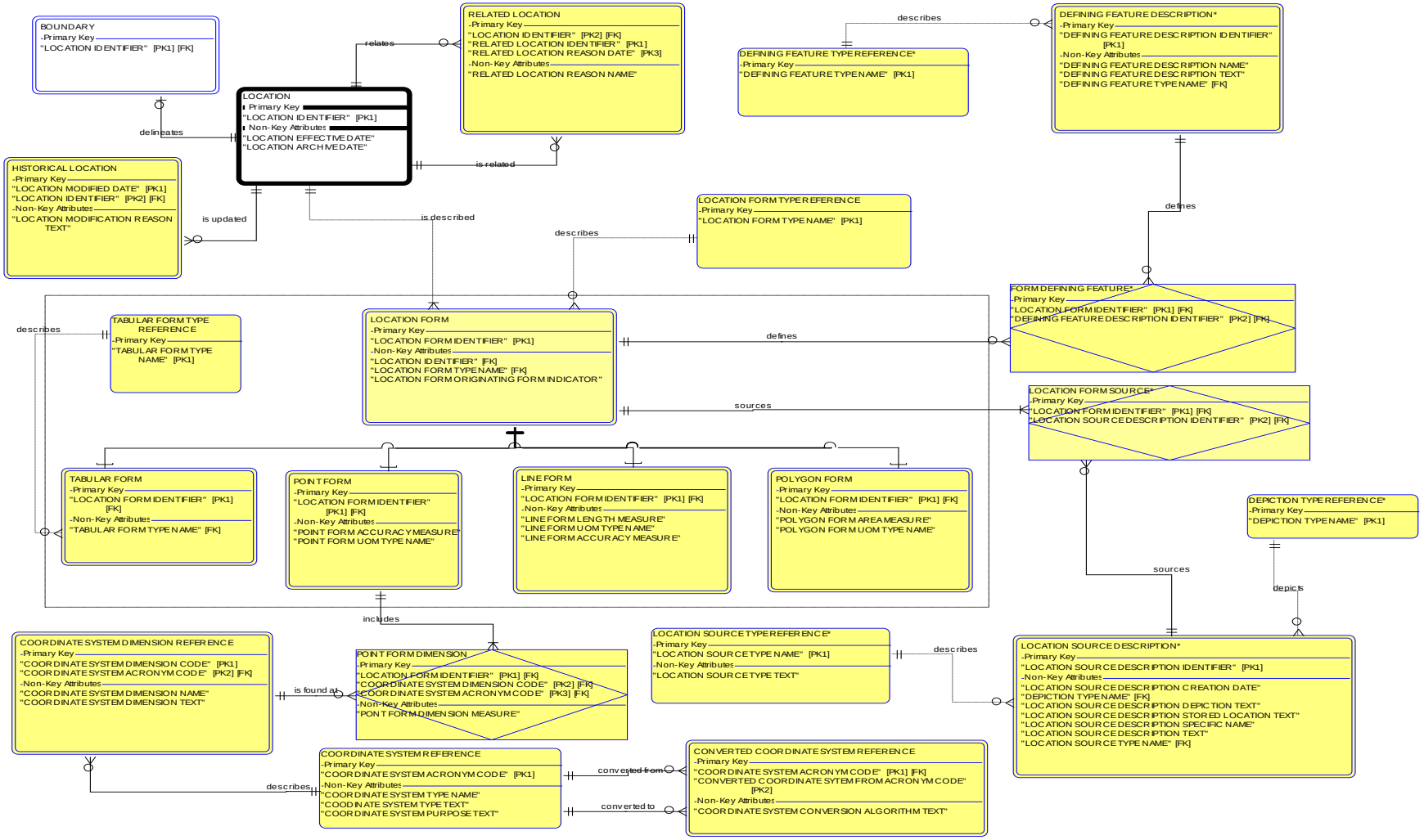
Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key*	Definition
AUTHORIZATION							CONCEPTUAL ENTITY
	Documentation of a management decision allowing a request, application or proposal and/or granting the right to use, enjoy, remove, or occupy the land, resources, or real property.						
		AUTHORIZATION IDENTIFIER	integer		Yes	PK	The unique system generated number that identifies a single occurrence of the entity.
		AUTHORIZATION TYPE NAME	character	10	Yes		
		PARTY IDENTIFIER	integer		Yes	FK	The unique system generated number that identifies a single occurrence of the entity
CASE							CONCEPTUAL ENTITY
	The group of official documents that record the facts, or actions taken, on a specific application, such as an oil and gas lease, exchange, airport lease, easement acquisition, etc. (CMR)						
		CASE FILE NUMBER	character	17	Yes		The number that refers to the serialized case file number of the group of official documents that record the facts, or actions taken, on a specific application, such as an oil and gas lease, exchange, airport lease, easement acquisition, etc.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key*	Definition
		AUTHORIZATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
GOVERNMENT ORGANIZATION							DRAFT ENTITY
	A type of organization that is a governmental unit, at any level of the government.						
		ORGANIZATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
FACILITY							CONCEPTUAL ENTITY
	The various man-made structures (human-constructed assets) along the trail. This includes, but is not limited to buildings, bridges, towers, dams, culverts, tunnels, benches, picnic tables, fences, retaining walls, restrooms, information facilities, trashcans, steps, etc.						
		FACILITY IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
NATIONAL HYDROGRAPHY LOCATION							DRAFT ENTITY
	A location within the National Hydrography Dataset (NHD) which is a comprehensive set of digital spatial data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities.						
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
LAND RELATED PROJECT							DRAFT ENTITY
	A type of project that is related to work that is planned and implemented on BLM land. This includes Land Use Plans and Land Activity (Implementation) Projects.						
		LAND RELATED PROJECT DECISION DATE	date		Opt		The date on which the decision is signed by the person who has approval authority for the decisions.
		LAND RELATED PROJECT DECISION SIGNER NAME	character	100	Opt		The name of the person who signs the decisions, agreeing that the decisions can be adopted.
		PROJECT IDENTIFIER	character	12	Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		NEPA IDENTIFIER	character	10	Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
LAND USE PLAN PROJECT							DRAFT ENTITY
	A project that documents the guidance for the management of surface public lands and subsurface mineral estate within a defined geographic area. A Land Use Plan is a set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan-level decisions developed through the planning process outline in 43 CFR 1600, regardless of the scale at which the decisions were developed. (Land Use Planning Manual)						
		LAND USE PLAN PROJECT IDENTIFIER	character	10	Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		PROJECT IDENTIFIER	character	12	Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		PLANNING EFFORT TYPE NAME	character	10	Yes	FK	The name of the type of planning effort that is being conducted, depending on the requirements for the plan. Domain: new, revision, amendment.
		PLAN PRIORITY CATEGORY NAME	character	20	Yes	FK	A name that designates the priority category of a plan. Valid values: none, time sensitive, NLCS, energy, other.
LOCATION							DRAFT ENTITY
	A defined place that requires a way to locate it by some means.						

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key*	Definition
		LOCATION ARCHIVE DATE	date		Yes		The date which is the calendar year, month, and day when the position of the Location is considered no longer valid but has historical value.
		LOCATION EFFECTIVE DATE	date		Yes		The date which is the calendar year, month, and day when the position of the Location was produced.
		LOCATION IDENTIFIER	integer		Yes	PK	The unique system generated number that identifies a single occurrence of the entity.
MEMORANDUM OF UNDERSTANDING							CONCEPTUAL ENTITY
A legal instrument that reflects a relationship between the Federal Government and a non-Federal entity for the purpose of confirming mutual assistance activities in which no obligation or exchange of Federal funds, products, or services is involved.							
		AUTHORIZATION IDENTIFIER	integer		Yes	PK, FK	The unique system generated number that identifies a single occurrence of the entity.
RELATED LOCATION							DRAFT ENTITY
A valid relationship between two LOCATIONs for a specific reason.							
		RELATED LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity. The first location that has a relationship with another location.
		RELATED LOCATION REASON NAME	character	40	Yes		The name that indicates the reason why two locations are related. Possible values: multi-part polygon, polygon lines, overlapping polygons.
		RELATED LOCATION REASON DATE	date		Yes	PK	The date when two locations became related for the reason stated.
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
TRAIL DESIGNATION TYPE REFERENCE							DRAFT ENTITY
The domain values for the type of designation given to a piece of land related to a trail.							
		TRAIL DESIGNATION TYPE NAME	character	20	Yes	PK	The name that describes the type of designation given to a piece of land. If Designated National Trail, values are scenic or historic.

Location Logical Data Model

Data Model that provides information on standard attributes for feature level metadata. It is ***not part of this data standard*** *and does not need to be reviewed for the data standard, merely provides more information and relationships.*



Legend: See Appendix C

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Key *	Definition
BOUNDARY	The edge of a location that demarks the change from one location to another location.						DRAFT ENTITY
		LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
CONVERTED COORDINATE SYSTEM REFERENCE	The domain of values for the algorithm used to convert from one coordinate system to another.						DRAFT ENTITY
		COORDINATE SYSTEM CONVERSION ALGORITHM TEXT	character	60	Yes		The text that contains the algorithm used to convert from one coordinate system to another.
		COORDINATE SYSTEM ACRONYM CODE	character	10	Yes	PK, FK	The code that is considered the acronym for the coordinate system type.
		CONVERTED COORDINATE SYSTEM FROM ACRONYM CODE	character	10	Yes	PK	The code for the coordinate system that is being converted from (to another coordinate system).
COORDINATE SYSTEM DIMENSION REFERENCE	The dimensions that are part of given coordinate system type.						DRAFT ENTITY
		COORDINATE SYSTEM DIMENSION TEXT	character	100	Yes		The text that further describes the dimension for a given coordinate system type.
		COORDINATE SYSTEM DIMENSION CODE	character	10	Yes	PK	The code that is used to designate a dimension for a coordinate system type.
		COORDINATE SYSTEM DIMENSION NAME	character	10	Yes		The name associated with a code that is used to designate a dimension for a coordinate system type.
		COORDINATE SYSTEM ACRONYM CODE	character	10	Yes	PK, FK	The code that is considered the acronym for the coordinate system type.
COORDINATE SYSTEM REFERENCE	A reference framework consisting of a set of points, lines and/or surfaces; including a set of rules used to define the positions of points in space in either two or three dimensions.						DRAFT ENTITY
		COODINATE SYSTEM TYPE TEXT	character	100	Yes		The text that describes the particular coordinate system type.
		COORDINATE SYSTEM TYPE NAME	character	40	Yes		The name given to a particular coordinate system type.
		COORDINATE SYSTEM ACRONYM CODE	character	10	Yes	PK	The code that is considered the acronym for the coordinate system type.
		COORDINATE SYSTEM PURPOSE TEXT	character	100	Yes		The text that describes the purpose or purposes of a given coordinate system type.
DEFINING FEATURE DESCRIPTION	The values associated with second level of detail that can be used to define / create the location, based on the Defining Feature Type Name. There is not a finite set of values for this.						APPROVED ENTITY: BLM
		DEFINING FEATURE DESCRIPTION NAME	character	40	Opt		The name that identifies a more specific description of the feature from which the arcs are derived to create polygon boundaries. This information further describes the physical or mapping feature that makes up the polygon boundary.
		DEFINING FEATURE DESCRIPTION TEXT	character	200	Yes		The text that provides further details on the Defining Feature Description.

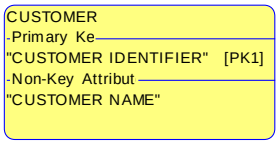
Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Key *	Definition
		DEFINING FEATURE DESCRIPTION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		DEFINING FEATURE TYPE NAME	character	30	Yes		The name that identifies the high-level category for the actual physical or mapping characteristics (features) from which the arcs are derived.
DEFINING FEATURE TYPE REFERENCE							APPROVED ENTITY: BLM
A domain for the description of the characteristic (feature) constructed from a geographic feature that was used to create the location boundary.							
		DEFINING FEATURE TYPE NAME	character	30	Yes	PK	The name that identifies the high-level category for the actual physical or mapping characteristics (features) from which the arcs are derived.
DEPICTION TYPE REFERENCE							APPROVED ENTITY: BLM
The domain of values for the way a location is depicted either in scale or resolution.							
		DEPICTION TYPE NAME	character	10	Yes	PK	The name that designates the detail with which the location is depicted, either in resolution or scale.
FORM DEFINING FEATURE							APPROVED ENTITY: BLM
The defining features associated with a specific location form.							
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		DEFINING FEATURE DESCRIPTION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
HISTORICAL LOCATION							DRAFT ENTITY
The date and reason why a location's information has changed. Business Rule: this is for administrative changes, not necessarily for corrections to data.							
		LOCATION MODIFICATION REASON TEXT	character	200	Yes		The text which is the explanation for why data about a location has changed for administrative reasons.
		LOCATION MODIFIED DATE	date		Yes	PK	The date which is the calendar year, month, and day when the position of the Location was last modified.
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
LINE FORM							DRAFT ENTITY
A series of connected, co-ordinate points forming a simple linear feature. It is used to represent rivers, and roads, or to form the boundary of polygons. (GIS dictionary) Note: In our current physical environment this includes all types of straight and curved lines including ones that intersect.							
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LINE FORM LENGTH MEASURE	decimal		Yes		The measure of the length of the line described in the Line Form UOM Type Name.
		LINE FORM UOM TYPE NAME	character	20	Yes		The domain value associated with the Unit of Measure used for the Line Form Length Measure.
		LINE FORM ACCURACY MEASURE	decimal		Yes		The measure that describes how close, in Line Form UOM Type Name the actual location is to the spatial depiction.
LOCATION							DRAFT ENTITY
A defined place that requires a way to locate it by some means. Note: Entities linked to Location have the potential for a geospatial aspect.							

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Key *	Definition
		LOCATION ARCHIVE DATE	date		Opt		The date which is the calendar year, month, and day when the position of the Location is considered no longer valid but has historical value.
		LOCATION EFFECTIVE DATE	date		Yes		The date which is the calendar year, month, and day when the position of the Location was produced.
		LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
LOCATION FORM							DRAFT ENTITY
	The form in which the location is described such as the description, shape, or appearance of the location.						
		LOCATION FORM IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LOCATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LOCATION FORM TYPE NAME	character	10	Yes	FK	The type of form in which the location is described or appears. point, line, polygon, tabular
		LOCATION FORM ORIGINATING FORM INDICATOR	character	3	Yes		The value that indicates if this is the way in which the location was first drawn/described. (yes, no)
LOCATION FORM SOURCE							APPROVED ENTITY: BLM
	The actual origin of the location sources that were used to create a specific location form.						
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LOCATION SOURCE DESCRIPTION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
LOCATION FORM TYPE REFERENCE							DRAFT ENTITY
	The domain for the type of form in which the location is described or appears whether in words, numbers of features (point line, polygon). This has been called feature in geospatial communities.						
		LOCATION FORM TYPE NAME	character	10	Yes	PK	The type of form in which the location is described or appears. point, line, polygon, tabular
LOCATION SOURCE DESCRIPTION							APPROVED ENTITY: BLM
	The values that provide a second level of detail about the location (coordinate) source origin. Note: there is not a finite set of these values.						
		LOCATION SOURCE DESCRIPTION CREATION DATE	date		Yes		The date on which the location source was originally created. This could just be a year (ccyy).
		LOCATION SOURCE DESCRIPTION STORED LOCATION TEXT	character	100	Yes		The text that provides the additional description of where the coordinate source can be found
		LOCATION SOURCE DESCRIPTION DEPICTION TEXT	character	20	Yes		The text that describes the actual resolution or scale in which the location is depicted. Examples for Resolution: 1 meter, 10 feet. Examples for Scale: 1 in 10,000, 1 in 100. This does not have a domain or list of valid values.
		DEPICTION TYPE NAME	character	10	Yes	FK	The name that designates the detail with which the location is depicted, either in resolution or scale.
		LOCATION SOURCE DESCRIPTION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Key *	Definition
		LOCATION SOURCE DESCRIPTION TEXT	character	200	Yes		The text that provides further details on the Location (coordinate) Source Description.
		LOCATION SOURCE DESCRIPTION SPECIFIC NAME	character	40	Opt		The name that identifies a more specific description of the location (coordinate source).
		LOCATION SOURCE TYPE NAME	character	40	Yes	FK	The name that identifies the general category for the origin of the location coordinate, representing a compilation of the state adopted source codes. The domain contains those values that would most likely be used in the determination of source codes for the data set.
LOCATION SOURCE TYPE REFERENCE The domain for the types of sources for the original location description / form.							APPROVED ENTITY: BLM
		LOCATION SOURCE TYPE NAME	character	40	Yes	PK	The name that identifies the general category for the origin of the location coordinate, representing a compilation of the state adopted source codes. The domain contains those values that would most likely be used in the determination of source codes for the data set.
		LOCATION SOURCE TYPE TEXT	character	100	Yes		The text that describes the Location Source Type.
POINT FORM A zero-dimensional abstraction of an object, with its location specified by a set of coordinates. (GIS dictionary)							DRAFT ENTITY
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		POINT FORM ACCURACY MEASURE	decimal		Yes		The measure that describes how close the spatial depiction of the point is to the actual location.
		POINT FORM UOM TYPE NAME	character	20	Yes		The name of the domain value associated with the Unit of Measure used for the Point Form Accuracy Measure.
POINT FORM DIMENSION The measure associated with each dimension of a Coordinate System.							DRAFT ENTITY
		PONT FORM DIMENSION MEASURE	decimal		Yes		The measure that is associated with a specific coordinate system dimension.
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		COORDINATE SYSTEM DIMENSION CODE	character	10	Yes	PK, FK	The code that is used to designate a dimension for a coordinate system type.
		COORDINATE SYSTEM ACRONYM CODE	character	10	Yes	PK, FK	The code that is considered the acronym for the coordinate system type.
POLYGON FORM An area bounded by a closed line. It is used to describe spatial elements, such as administrative and political boundaries and areas of homogeneous land use and soil types. (GIS dictionary). Note: In our physical environment, this includes all types of polygons, including ones that overlap.							DRAFT ENTITY
		LOCATION FORM IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		POLYGON FORM UOM TYPE NAME	character	20	Yes		The name of the domain value associated with the Unit of Measure used for the Polygon Form Length Measure.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd ?	Key *	Definition
		POLYGON FORM AREA MEASURE	decimal		Yes		The area of the polygon described in the Polygon Form UOM Type Name.
RELATED LOCATION A valid relationship between two LOCATIONs for a specific reason.							DRAFT ENTITY
		RELATED LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity. The first location that has a relationship with another location.
		RELATED LOCATION REASON NAME	character	40	Yes		The name that indicates the reason why two locations are related. Possible values: multi-part polygon, polygon lines, overlapping polygons.
		RELATED LOCATION REASON DATE	date		Yes	PK	The date when two locations became related for the reason stated.
		LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
TABULAR FORM Descriptive information about a location, usually alphanumeric. This can be a single name or a combination of attributes that make up an address.							DRAFT ENTITY
		LOCATION FORM IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		TABULAR FORM TYPE NAME	character	20	Yes	FK	The name of the sub-category of the location form type which is true for tabular or alphanumeric descriptions of a location.
TABULAR FORM TYPE REFERENCE The domain for the type of tabular form that is being used to describe the location.							DRAFT ENTITY
		TABULAR FORM TYPE NAME	character	20	Yes	PK	The name of the sub-category of the location form type which is true for tabular or alphanumeric descriptions of a location.
						***Key**	**(PK: Primary Key) (FK: Foreign Key which is PK of related entity) (PK, FK: Foreign Key part of PK)**

APPENDIX C: READING A LOGICAL DATA MODEL

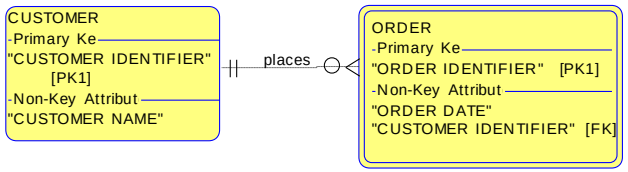


ENTITY

- *The noun or object on something of relevance to the business*
- *Shown as a box, with the name (singular in capital letters at the top, example below: ORDER)*

ATTRIBUTES

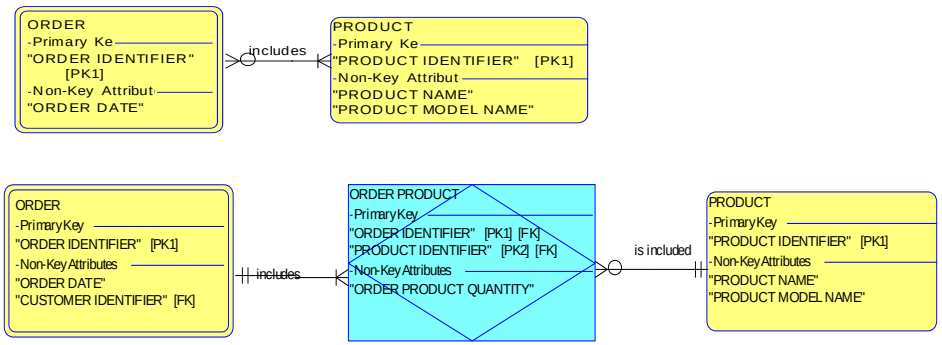
- *The adjective which is the data or information about an entity; describes an entity (ORDER NUMBER, ORDER DATE)*
- *Has **only one** valid value for an occurrence of an entity at any given time; The same value of an attribute may describe more than one entity occurrence*
- *PK = Primary Key – uniquely identifies an occurrence of an entity (one customer may have same name as another customer, so CUSTOMER IDENTIFIER is unique for a customer)*
- *FK = Foreign Key – the primary key of the parent entity is a Foreign key in the child entity*
- *The Word Identifier indicates that this will be a designed key, its format is not known, but the modeling tool required a format and size. The actual content and size of the identifier will be determined during design.*



The line includes optionality (minimum occurrences, inner symbol) and cardinality (maximum occurrences, symbol next to entity) | = one 0 = zero < or > = many

RELATIONSHIP

- *The verb which shows an association between entities and represents business rules*
- *Represented by a line between two entities with active verb or verb phase (all small letters)*
- *Reading : Left to right (A CUSTOMER places zero to many ORDERs) and right to left (An ORDER is placed by one and only one CUSTOMER)*
- *Because a Customer can have many Orders, the Customer is considered the Parent Entity and the Order is considered the Child Entity). So the way you read it is normally from the Parent Entity to the Child Entity*



Many to Many:

- *In a logical data model, many to many relationships are resolved. In the example to the left an ORDER includes one to many PRODUCTs and a PRODUCT can be in zero or many ORDERs.*

Associative Entity:

- resolves the many to many
- with the diamond symbol