



**Visual Resource Inventory
DATA STANDARD REPORT**

August 16, 2010

Version 1.2

**United States Department of the Interior
Bureau of Land Management
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 Department of the Interior 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 the Bureau of Land Management (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.

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INTRODUCTION

Description of Standard

This data standard includes information needed for inventorying for visual values on BLM-managed public lands according to policy direction found in Manual 8400 and related Handbook 8410-1 in determining the visual resource inventory (VRI). Current policy requires that every acre of BLM land be inventoried for visual values and be assigned one of four VRI classes (Class I, II, III, or IV). Class I is reserved for those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as national wilderness areas, the wild section of national wild and scenic rivers, and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape. VRI consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on a matrix combination of these three factors, BLM-administered lands are placed into one of three visual resource inventory classes (VRI II-IV). These inventory classes represent the relative value of the visual resources, with classes I and II being the most valued, Class III representing a moderate value, and Class IV being of lesser visual value. The inventory classes provide the basis for considering visual values in the resource management planning (RMP) process and constitute the current state of visual resource values as part of the affected environment sections of environmental analyses.

Affected Groups

Visual Resource National, State, District and Field Office leads and any group, program, or organization that is involved with surface disturbance activities or visual altering activities, including Land Use Planners, Realty Specialists, Recreation Planners, Natural Resource Specialists, Landscape Architects, Cultural Resource Specialists, Fluid Minerals and Renewable Energy.

Sponsor

WO-250, Recreation and Visitor Services

DATA STEWARD / CONTACT INFORMATION

Office	Role	Name	Contact Information
OC-520	BLM Business Data Steward (Visual Resources)	Karla Rogers	knrogers@blm.gov 303-236-6354
WO-250	Lead Landscape Architect (Visual Resources)	John McCarty	John_McCarty@blm.gov 202-912-7284

DATA SET CHARACTERISTICS

Overall Security: Identify security level	Public	
Who has create, read, update, and/or delete privileges	GIS Specialists with the approval of Visual Resource leads	
Data Collection & Maintenance Protocols: data collection and maintenance procedures that would apply	a) Accuracy Requirements: what level is required?	Spatial accuracy will be 1:24K if possible, but 1:00K at a minimum. The accuracy will be included as an attribute within the feature level metadata: ACCURACY MEASUREMENT IN FEET
	b) Collection & Input Protocols: what are approved methods? For Geospatial Data the information relating to collection datum and projection should be included in this section.	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 it is documented with metadata and is consistent with the basic procedures outlined in Handbook 8410-1. BLM has not yet migrated enough of its existing data stores to any specific format to eliminate any methods for digital data collection.
	c) Update Procedures: On what basis are updates completed (e.g. township basis, case file basis); how often; by when?	Updates will occur as needed and as changes to the landscape or public sensitivities to visual resource values occur.
Data Quality: measures that will be applied to the data	a) Transaction level data quality: how will the review of data quality take place during data entry	Review will occur at the field office, district and state office upon data entry.
	b) Monitoring level data quality: what systematic review of data quality will take place and how will it be done?	On an annual basis, the data steward will review state office compliance with the standard and policy, including any reports as appropriate, which will be published as needed.
Relationship to Other Standards: Identify any other data standards (or applications) that are related; these can include national, state, local, or other agencies/organizations.	Land Use Planning Decision and Analysis Areas; National Landscape Conservation System; state byways; trails; Areas of Critical Environmental Concern; Visual Resource Management and Contrast Rating Process.	

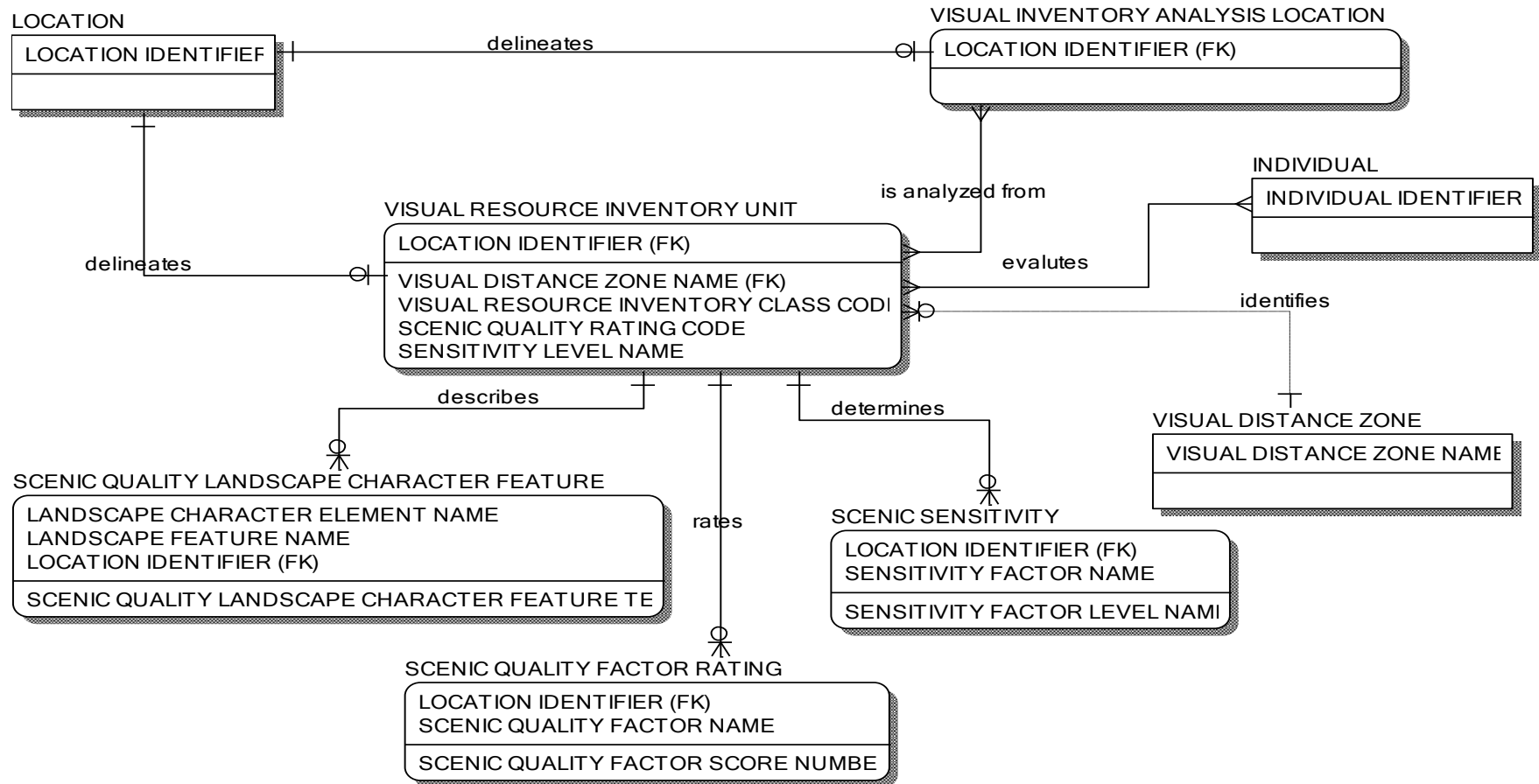
DATA MODEL CHARACTERISTICS

Each data standard is to be supported by a data model which includes entities and relationships between entities.

- a) **Conceptual Data Model** – a high-level data model that presents the basic concepts that are included in a logical data model.
- b) **Logical Data Model** – a detailed, graphical depiction of logical data showing entities (tables) and how they relate to each other.
- c) **Entity Descriptions:** places, persons, things, or concepts described in the data set (aka tables).

Notes: Data Element Names (aka fields) - must adhere to WO IM-2004-60, Attachment 3: Data Element Naming Conventions

Visual Resource Inventory Conceptual Data Model



Legend: See Appendix C

Legend: See Appendix C

This lists all VRI entities and attributes (in alphabetic order) in the logical data model shown above.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
FINAL VISUAL RESOURCE INVENTORY CLASS REFERENCE		DRAFT ENTITY					
The combination of visual quality, sensitivity and distance zone that identifies the Visual Resource Inventory Class.							
	FINAL VISUAL RESOURCE INVENTORY CLASS IDENTIFIER	integer		Yes	PK		The unique system generated number that identifies a single occurrence of the entity.
	SCENIC QUALITY RATING CODE	character	1	Yes	FK		The code for the scenic quality rating for the Visual Resource Inventory.
	VISUAL RESOURCE INVENTORY CLASS CODE	character	3	Yes	FK		The code for the category that is assigned to a BLM administered area based on its scenic quality, sensitivity and visual distance zone.
	FINAL VISUAL RESOURCE INVENTORY CLASS TEXT	character	100	Yes			The text that describes additional information needed to decide the class assigned to an area.
	VISUAL DISTANCE ZONE CODE	character	3	Yes	FK		The code for the landscape distance zone based on relative visibility from travel routes or observation points.
	VISUAL SENSITIVITY LEVEL NAME	character	10	Yes	FK		The name associated with the level of concern the public has for scenic quality.
LANDSCAPE CHARACTER REFERENCE		DRAFT ENTITY					
The domain of values for elements that describe the character elements of the landscape in visual resources.							
	LANDSCAPE CHARACTER ELEMENT NAME	character	10	Yes	PK		The name of the character element of the landscape that is being evaluated.
	LANDSCAPE CHARACTER ELEMENT TEXT	character	100	Yes			The text that describes the landscape character element.
LANDSCAPE FEATURE REFERENCE		DRAFT ENTITY					
The domain values for the landscape features used to evaluate quality.							
	LANDSCAPE FEATURE NAME	character	20	Yes	PK		The name associated with the landscape feature that is being evaluated.
	LANDSCAPE FEATURE TEXT	character	100	Yes			The text that describes the landscape feature name.
OBSERVATION POINT REPRESENTATION REFERENCE		DRAFT ENTITY					

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
The domain of values that represent whether or not the observation was stationary or how the observer was moving along a line.							
		OBSERVATION POINT REPRESENTATION NAME	character	10	Yes	PK	The name that represents whether or not the observation was stationary or how the observer was moving along a line.
SCENIC QUALITY CHARACTER FEATURE						DRAFT ENTITY	
Information about specific attributes that further describe the scenic quality landscape feature and character element being considered.							
		SCENIC QUALITY CHARACTER FEATURE LANDSCAPE TEXT	character	255	Yes		The text that describes additional comments about the scenic quality character associated with the feature.
		LANDSCAPE CHARACTER ELEMENT NAME	character	10	Yes	PK, FK	The name of the character element of the landscape that is being evaluated.
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		LANDSCAPE FEATURE NAME	character	20	Yes	PK, FK	The name associated with the landscape feature that is being evaluated.
SCENIC QUALITY FACTOR CRITERIA REFERENCE						DRAFT ENTITY	
The domain value for numbers that can be assigned to an area for scenic quality based on the description associated with the number.							
		SCENIC QUALITY FACTOR CRITERIA NUMBER	tiny integer	1	Yes	PK	The number that could be assigned to the scenic quality if the description of the quality criteria matches. This could be given a plus/minus of 1 score off of this number.
		SCENIC QUALITY FACTOR CRITERIA TEXT	character	200	Yes		The text that describes the criteria associated with the number that could be assigned to the scenic quality if the description of the quality criteria matches.
		SCENIC QUALITY FACTOR NAME	character	30	Yes	PK, FK	The name that indicates the factor that is considered for determining the scenic quality.
SCENIC QUALITY FACTOR REFERENCE						DRAFT ENTITY	
The domain for the factors that are considered for determining the scenic quality.							
		SCENIC QUALITY FACTOR NAME	character	30	Yes	PK	The name that indicates the factor that is considered for determining the scenic quality.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		SCENIC QUALITY FACTOR TEXT	character	300	Yes		The text that explains the factor that is considered for determining the scenic quality.
SCENIC QUALITY LOCATION							DRAFT ENTITY
A location being inventoried that considers the following factors, such as physiographic characteristics, similar visual patterns, texture, color, variety and areas which have a similar impact from cultural modifications.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		SCENIC QUALITY LOCATION NARRATIVE TEXT	character	510	Yes		The text that describes the general character of the landscape as it relates to the immediate surroundings and to similar landscape features within the physiographic province.
SCENIC QUALITY OBSERVATION POINT							DRAFT ENTITY
The point that is used to make observations about a scenic quality rating unit.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		SCENIC QUALITY OBSERVATION POINT TIME	time		Opt		The time at which an individual does an observation standing at a point or moving along a line for scenic quality.
		SCENIC QUALITY OBSERVATION POINT COMMENTS TEXT	character	255	Opt		The text that describes the specific location used for the observation or rating the unit.
		OBSERVATION POINT REPRESENTATION NAME	character	10	Opt	FK	The name that represents whether or not the observation was stationary or how the observer was moving along a line.
		SCENIC QUALITY OBSERVATION POINT RELATIVE ELEVATION MEASURE	decimal		Yes		The measure of the average distance between the surface and the position from which the viewing takes place.
SCENIC QUALITY RATING REFERENCE							DRAFT ENTITY
The domain of codes for the scenic quality rating for the Visual Resource Inventory.							

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		SCENIC QUALITY RATING CODE	character	1	Yes	PK	The code for the scenic quality rating for the visual resource inventory.
		SCENIC QUALITY RATING TEXT	character	300	Yes		The text that describes the code for the scenic quality rating for the visual resource inventory.
		SCENIC QUALITY RATING HIGH NUMBER	decimal		Yes		The higher number of the range associated with the scenic quality rating code.
		SCENIC QUALITY RATING LOW NUMBER	decimal		Yes		The lower number of the range associated with the scenic quality rating code.
SCENIC QUALITY RATING UNIT		DRAFT ENTITY					
The unit being inventoried that considers the following factors, such as physiographic characteristics, similar visual patterns, texture, color, variety and areas which have a similar impact from cultural modifications. A unit's factor scores are based on the scores for the observation points.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		SCENIC QUALITY RATING EXPLANATION TEXT	character	255	Yes		The text that explains the rating and score that is given to a scenic quality rating unit.
		SCENIC QUALITY RATING CODE	character	1	Yes	FK	The code for the scenic quality rating for the visual resource inventory.
SCENIC QUALITY UNIT FACTOR SCORE		DRAFT ENTITY					
The score that is assigned to a Scenic Quality Factor for a Scenic Quality Unit.							
		SCENIC QUALITY UNIT FACTOR SCORE NUMBER	decimal		Yes		The number which is the score that is given to a scenic quality factor for the scenic quality unit. Scores can be assigned at 0.5 increments.
		SCENIC QUALITY UNIT FACTOR SCORE EXPLANATION TEXT	character	255	Opt		The text that explains the score that is given to a scenic quality factor for the scenic quality unit.
		SCENIC QUALITY FACTOR NAME	character	30	Yes	PK, FK	The name that indicates the factor that is considered for determining the scenic quality.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
SENSITIVITY LEVEL REFERENCE LOCATION							DRAFT ENTITY
The point or line from which sensitivity is analyzed to help determine the sensitivity level rating unit.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
SENSITIVITY LEVEL RATING UNIT							DRAFT ENTITY
The unit being inventoried that considers the factors related to public sensitivity.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL SENSITIVITY LEVEL EXPLANATION TEXT	character	255	Opt		The text that explains the level that is given to a visual sensitivity unit.
		VISUAL SENSITIVITY LEVEL NAME	character	10	Yes	FK	The name associated with the level of concern the public has for scenic quality.
VISUAL DISTANCE ZONE							DRAFT ENTITY
The zone that shares the same specific visual distance zone characteristic.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
VISUAL DISTANCE ZONE LOCATION							DRAFT ENTITY
The location being analyzed to determine the visual distance zone.							
		VISUAL DISTANCE ZONE CODE	character	3	Yes	FK	The code for the landscape distance zone based on relative visibility from travel routes or observation points.
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL DISTANCE ZONE LOCATION DETERMINATION	character	255	Yes		The text that describes the methods and or processes used to determine the area of the distance zone.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		TEXT					
		VISUAL DISTANCE ZONE LOCATION NARRATIVE TEXT	character	255	Opt		The text describing additional information about the distance zone. Comments could include information about the natural or built environment that affects the distance zone, any visual obstructions, or other conditions.
VISUAL DISTANCE ZONE REFERENCE LOCATION							DRAFT ENTITY
The point or line from which the distance zone is analyzed and the visual distance zone is determined.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
VISUAL DISTANCE ZONE REFERENCE							DRAFT ENTITY
The domain for the landscape distance zones based on relative visibility from travel routes or observation points.							
		VISUAL DISTANCE ZONE NAME	character	25	Yes		The name for the landscape distance zone based on relative visibility from travel routes or observation points.
		VISUAL DISTANCE ZONE TEXT	character	200	Yes		The text that describes the landscape distance zone based on relative visibility from travel routes or observation points.
		VISUAL DISTANCE ZONE CODE	character	3	Yes	PK	The code for the landscape distance zone based on relative visibility from travel routes or observation points.
VISUAL RESOURCE INVENTORY CLASS AREA							DRAFT ENTITY
The area given a Visual Resource Classification based on analysis for its visual resource qualities, sensitivities and distance zones.							
		LOCATION IDENTIFIER	integer		Yes		The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL RESOURCE INVENTORY CLASS CODE	character	3	Yes	FK	The code for the category that is assigned to a BLM administered area based on its scenic quality, sensitivity and visual distance zone.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		VISUAL RESOURCE INVENTORY CLASS AREA DATE	date		Yes		The date on which the inventory class was assigned to an area based on the scenic quality, sensitivity and distance zone.
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
VISUAL RESOURCE INVENTORY CLASS REFERENCE							DRAFT ENTITY
The domain values for the category that is assigned to a BLM administered area based on its scenic quality, sensitivity and visual distance zone.							
		VISUAL RESOURCE INVENTORY CLASS TEXT	character	200	Yes		The text that describes the class that is assigned to a BLM administered area based on its scenic quality, sensitivity and visual distance zone.
		VISUAL RESOURCE INVENTORY CLASS CODE	character	3	Yes	PK	The code for the category that is assigned to a BLM administered area based on its scenic quality, sensitivity and visual distance zone.
VISUAL RESOURCE INVENTORY LOCATION							DRAFT ENTITY
The location that delineates an area that is used to conduct visual resource inventory evaluations or assign an inventory classification.							
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL RESOURCE INVENTORY LOCATION TYPE NAME	character	20	Yes	PK	The name that indicates the type of visual inventory location.
		VISUAL RESOURCE INVENTORY LOCATION DATE	date		Yes		The date on which a visual resource inventory location is assigned a value based on the type of inventory location it is.
		VISUAL RESOURCE INVENTORY LOCATION PROCESS TEXT	character	255	Yes		The text that describes the processes and or methodology used to conduct the analysis from one or more observation points.
		LOCATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		ORGANIZATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
VISUAL RESOURCE INVENTORY LOCATION EVALUATOR							DRAFT ENTITY
The person or persons who evaluate the visual resource inventory.							
		INDIVIDUAL IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
VISUAL SENSITIVITY FACTOR LEVEL REFERENCE							DRAFT ENTITY
The guidance for which level to assign to a visual sensitivity factor.							
		VISUAL SENSITIVITY FACTOR LEVEL GUIDANCE TEXT	character	200	Yes		The text that describes the guidelines that can be used when assigning a sensitivity level to a sensitivity factor.
		VISUAL SENSITIVITY FACTOR NAME	character	20	Yes	PK, FK	The name associated with the type of sensitivity or concern factor that the public may have for an area and its visual quality.
		VISUAL SENSITIVITY LEVEL NAME	character	10	Yes	PK, FK	The name associated with the level of concern the public has for scenic quality.
VISUAL SENSITIVITY FACTOR REFERENCE							DRAFT ENTITY
The domain for the indicators for the sensitivity or concern that the public may have for an area and its visual quality.							
		VISUAL SENSITIVITY FACTOR TEXT	character	200	Yes		The text that describes the type of sensitivity or concern factor that the public may have for an area and its visual quality.
		VISUAL SENSITIVITY FACTOR NAME	character	20	Yes	PK	The name associated with the type of sensitivity or concern factor that the public may have for an area and its visual quality.
VISUAL SENSITIVITY LOCATION							DRAFT ENTITY
A location being inventoried that considers the factors related to public sensitivity.							

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key *	Definition
		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL SENSITIVITY LOCATION NARRATIVE TEXT	character	255	Yes		The text that describes the general character of the landscape as it relates to sensitivity.

VISUAL SENSITIVITY UNIT FACTOR LEVEL DRAFT ENTITY
The score that is assigned to a Visual Sensitivity Unit for the factor.

		VISUAL RESOURCE INVENTORY LOCATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		VISUAL SENSITIVITY FACTOR NAME	character	20	Yes	PK, FK	The name associated with the type of sensitivity or concern factor that the public may have for an area and its visual quality.
		VISUAL SENSITIVITY UNIT FACTOR LEVEL JUSTIFICATION TEXT	character	255	Yes		The text that provides the rationale for why a sensitivity level was assigned to a specific factor.
		VISUAL SENSITIVITY LEVEL NAME	character	10	Yes	FK	The name associated with the level of concern the public has for scenic quality.

VISUAL SENSITIVITY LEVEL REFERENCE DRAFT ENTITY
The domain values for the level of concern the public has for scenic quality.

		VISUAL SENSITIVITY LEVEL NAME	character	10	Yes	PK	The name associated with the level of concern the public has for scenic quality.
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*Key (PK: Primary Key) (FK: Foreign Key which is PK of related entity) (PK, FK: Foreign Key part of PK)

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
BLM ORGANIZATION UNIT							DRAFT ENTITY
An organizational unit within BLM, where some units have distinct jurisdictional responsibility for all activities in a geographic area. The formal grouping of positions into designated units and the assignment of functions and responsibilities to those units.							

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key*	Definition
		ORGANIZATION IDENTIFIER	integer		Yes	PK, FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		BLM ORGANIZATION UNIT APPROVAL DATE	date		Yes		The date on which the BLM Washington Office or Assistant Secretary, Land and Minerals Management approved or concurred with the change to the organization unit number, name and/or administrative unit boundaries.
		BLM ORGANIZATION UNIT PARENT IDENTIFIER	character	10	Opt		The identifier for the administrative unit that has responsibility for other units. For example, the Administrative Office is responsible for the Administrative State Office, which is responsible for District Offices. District Offices are responsible for Field Offices.
		BLM ORGANIZATION CODE	character	11	Yes	FK	The code that indicates the formal grouping of positions into designated units and the assignment of functions and responsibilities to those units based on the DOI FBMS structure.
INDIVIDUAL							DRAFT ENTITY
An Individual who is involved with, or has a relationship with the government or service provided by the government,							
		PARTY IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		INDIVIDUAL IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
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.							
		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.
NATIONAL LANDSCAPE CONSERVATION PLACE							CONCEPTUAL ENTITY
BLM's premier designated areas with scientific, cultural, educational, ecological and other values.							
		LOCATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Required?	Key*	Definition
		NATIONAL CONSERVATION PLACE NAME	character	50	Yes		The name of a premier designated area with scientific, cultural, educational, ecological and other values.
		NATIONAL CONSERVATION PLACE TYPE NAME	character	30	Yes	FK	The name of the type of the BLM's premier designated areas. Currently there are 10 types of these places.
		ORGANIZATION IDENTIFIER	integer		Yes		The designed primary key that will uniquely identify a single occurrence of the entity.
		PROJECT IDENTIFIER	character	12	Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		NATIONAL CONSERVATION PLACE IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
		ORGANIZATION IDENTIFIER	integer		Yes	FK	The designed primary key that will uniquely identify a single occurrence of the entity.
		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	Yes	FK	The designed primary key that will uniquely identify 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.

BUSINESS RULES

Rules under which data is used and modified. (See WO-IM 2003 247, Attachment 1: Business Rules Collection.)

1. Modifying VRI Class Assignments

Once, the visual resource inventory boundary is delineated with an assigned inventory class, the class and boundary can only be changed through the visual resource inventory process, as described in Handbook 8410-1. Updates to one or more of the three layers of visual resource inventory data (scenic quality, sensitivity, distance zones) can be done independently, provided the process is consistent to current policy direction. For instance, updates to the spatial boundaries and respective ratings for visual sensitivity may occur without requiring a complete re-inventory of scenic quality and distance zones. However, changes to the resulting visual resource inventory class polygons must be documented and all interim data products maintained, including the previous sensitivity ratings and boundaries.

Business Rule Source and Description

Guidance

Type of Business Rule

Current Implementation

Guideline

Manual

2. Inventory Classes are not the same as Management Classes

Inventories are informational in nature only and do not constitute a management class. Any inventory data should be labeled as informational only when shared or distributed.

Business Rule Source and Description

Technical Reference

Type of Business Rule

Current Implementation

Guideline

Manual

3. Visual Resource Inventories used as Baseline for NEPA Analysis

Inventory needs to serve as a baseline for NEPA analysis.

Business Rule Source and Description

Technical Reference

Type of Business Rule

Current Implementation

Guideline

Manual

4. Conduct VRI on all Lands within Administrative Boundary Regardless of Land Status

Inventories should be conducted regardless of land status within the administrative boundary, in order to facilitate an all inclusive inventory allowing for the landscape to be looked at holistically and to facilitate analysis for connected actions. Only Visual Resource Inventory information on BLM lands will be released to the public. There may be exceptions for some land statuses (such as military lands, Forest Service lands, or large blocks of private lands that are contiguous such as a city).	
Business Rule Source and Description	
Technical Reference	
Type of Business Rule	Current Implementation
Guideline	Manual

5. VRI Quality Attributes and Features

The description of an attribute and feature for scenic quality must be entered for each attribute feature in the SCENIC QUALITY ATTRIBUTE FEATURE LANDSCAPE TEXT. If the feature attribute does not exist, then the term ‘not present’ is entered into the text data element. “Not applicable” and “unknown” are not considered valid responses to the SCENIC QUALITY ATTRIBUTE FEATURE LANDSCAPE TEXT.	
Business Rule Source and Description	
Visual Resource Handbook	
Type of Business Rule	Current Implementation
Guideline	Manual

6. Smallest Area to Assign a VRI Class

When the Visual Resource Inventory Classification is being derived, if an area is less than 100 acres with a different class than areas next to it, assign the same inventory class as one of the areas next to it. An exception is if the area that is less than 200 acres has distinctive visual qualities.	
Business Rule Source and Description	
Visual Resource Handbook	
Type of Business Rule	Current Implementation
Guideline	Manual

7. Documenting the Inventory Process

All processes that were used in determining the inventory classes must be documented. All input and intermediate data products must be maintained.	
Business Rule Source and Description	
Visual Resource Handbook	
Type of Business Rule	Current Implementation
Guideline	Manual

OTHER MATERIAL

Other supporting material that aids in the understanding or use of the data standard

Visual Resource Inventory Data Standard Proposal
Visual Resource Inventory Implementation Guidelines

DOMAINS SPECIFIC TO THIS STANDARD

Domain values specific to this standard are documented in Domains Specific to Visual Resource Inventory, Version 1.2, dated July 30, 2010.

APPENDIX A: DATA CATEGORIES

How this standard fit into/support the Bureau Enterprise Architecture.

What DOI Subject Areas and Information Classes does this standard cover?

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.

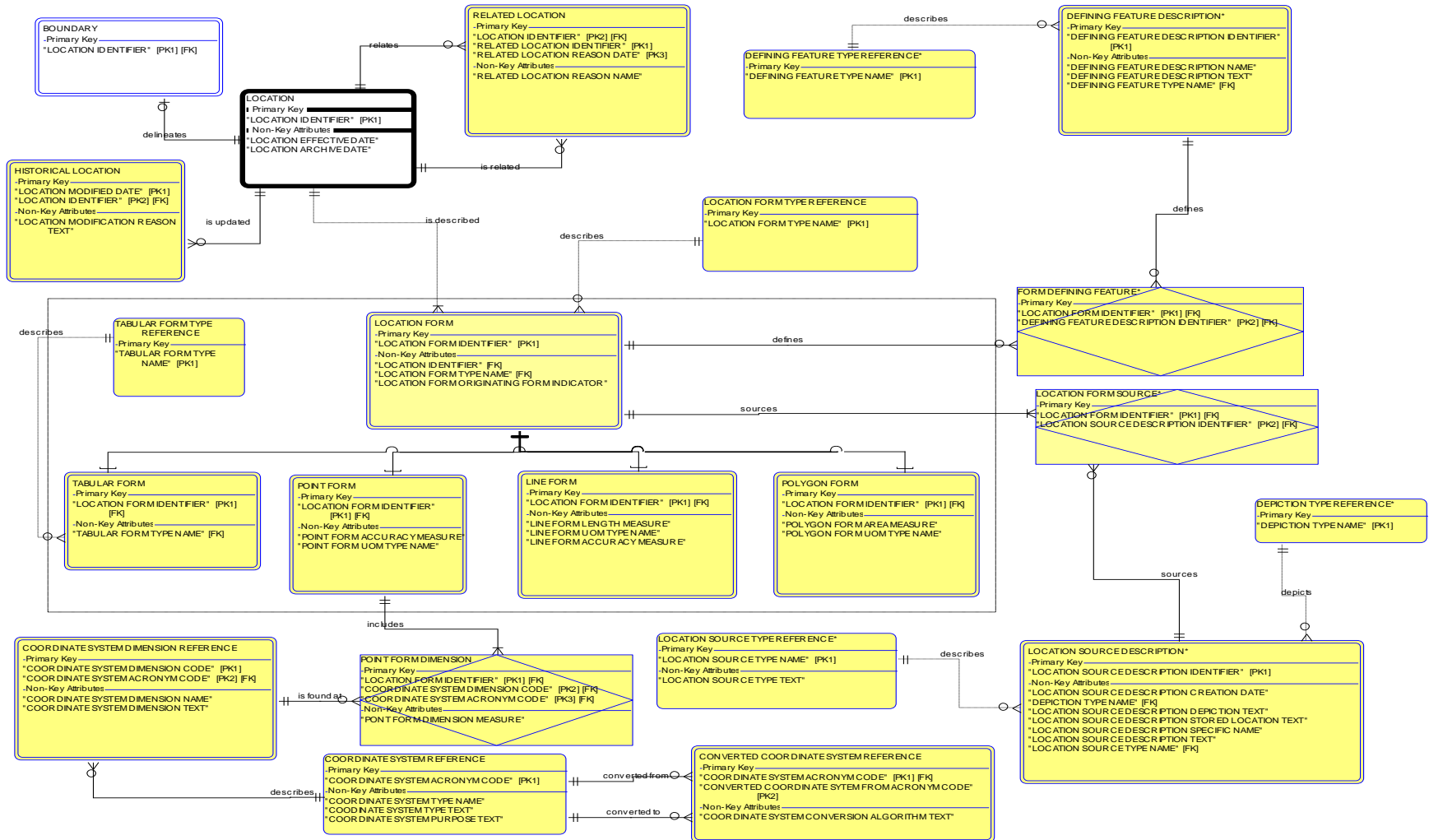
For the full list of the approved Subject Areas and their Information Classes, please see

http://web.blm.gov/data_mgt/guidelines/DOI_SubjectArea_InfoClass.doc

Geospatial and Geography (Subject Area)	<i>Information about data that includes a terrestrial coordinate system or geographic reference. This includes geospatial data sets, mapping, imagery, coverage's, elevations, and features.</i>
<ul style="list-style-type: none"> Map (Information Class) 	<i>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.</i>
<ul style="list-style-type: none"> Spatial Data Set (Information Class) 	<i>A collection of spatial data and its related descriptive data, organized for efficient storage and retrieval. A simple data set might be a single file with many records, each of which references the same set of fields. A more robust spatial data set includes data about the spatial locations and shapes of geographic features, recorded as points, lines, areas, pixels, grid cells, or TIN (Triangulated Irregular Network) sample points, as well as their attributes.</i>
Natural and Cultural Resource (Subject Area)	<i>Information about the natural and ecological resources, cultural resources, cultural resources, archaeological, and paleontology resources, and national heritage resources of the nation.</i>
<ul style="list-style-type: none"> Cultural Resource (Information Class) 	<i>Information about those fragile and nonrenewable remains of human activities, occupation, and endeavors as reflected in sites, buildings, structures, or objects, including works of art, architecture, and engineering.</i>
Recreation (Subject Area)	<i>Information about the Department's role in providing recreation and tourism opportunities in the United States, including reservations of recreation sites, reporting of recreational activities and amenities, and descriptions of recreational inventories and availability. Includes information about management of national parks, monuments, and tourist attractions.</i>
<ul style="list-style-type: none"> Recreation Activity (Information Class) 	<i>Information about recreational opportunities involving activities available at or near items in the Recreation Inventory. Information related to the maintenance and operations of recreational interests that take place on Departmental Lands and resources including boating, camping, fishing, hiking, backpacking, hunting and winter sports.</i>

APPENDIX B: LOCATION

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							DRAFT ENTITY
The edge of a location that demarks the change from one location to another location.							
		LOCATION IDENTIFIER	integer		Yes	PK	The designed primary key that will uniquely identify a single occurrence of the entity.
CONVERTED COORDINATE SYSTEM REFERENCE							DRAFT ENTITY
The domain of values for the algorithm used to convert from one coordinate system to another.							
		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							DRAFT ENTITY
The dimensions that are part of given coordinate system type.							
		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							DRAFT ENTITY
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.							
		COORDINATE 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*							APPROVED ENTITY: BLM
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.							
		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.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd?	Key*	Definition
		DEFINING FEATURE DESCRIPTION TEXT	character	200	Yes		The text that provides further details on the Defining Feature Description.
		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 intersection.							
		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 Line Form UOM Type Name units.
		LINE FORM UOM TYPE NAME	character	20	Yes		The domain value associated with the Unit of Measure used for the Line Form Length Measure.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd?	Key*	Definition
		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.							
		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

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd?	Key*	Definition
		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.
		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*							APPROVED ENTITY: BLM
The domain for the types of sources for the original location description / form.							
		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							DRAFT ENTITY
A zero-dimensional abstraction of an object, with its location specified by a set of coordinates. (GIS dictionary)							
		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							DRAFT ENTITY
The measure associated with each dimension of a Coordinate System.							
		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.

Entity Name	Entity Description	Logical Data Element Name	Type	Size	Req'd?	Key*	Definition
POLYGON FORM							DRAFT ENTITY
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.							
		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.
		POLYGON FORM AREA MEASURE	decimal		Yes		The area of the polygon described in Polygon Form UOM Type Name units.
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.
TABULAR FORM							DRAFT ENTITY
Descriptive information about a location, usually alphanumeric. This can be a single name or a combination of attributes that make up an address.							
		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							DRAFT ENTITY
The domain for the type of tabular form that is being used to describe the location.							
		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

<p>CUSTOMER -Primary Ke "CUSTOMER IDENTIFIER" [PK1] -Non-Key Attribut "CUSTOMER NAME"</p>	<p>ENTITY</p> <ul style="list-style-type: none"> The noun or object on something of relevance to the business. If the name of the entity includes an *(asterisk) it indicates that the entity is a BLM approved entity as part of a prior standard. Shown as a box, with the name (singular in capital letters at the top, example below: ORDER) <p>ATTRIBUTES</p> <ul style="list-style-type: none"> 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.
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	<p>RELATIONSHIP</p> <ul style="list-style-type: none"> 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
<p>The line includes optionality (minimum occurrences, inner symbol) and cardinality (maximum occurrences, symbol next to entity)</p> <p> = one 0 = zero < or > = many</p>	

	<p>Many to Many:</p> <ul style="list-style-type: none"> 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.
	<p>Associative Entity:</p> <ul style="list-style-type: none"> resolves the many to many with the diamond symbol