



Marbled Murrelet

Spatial Data Standard




Marbled murrelet on the water. Photo by R. Lowe, USFWS, 9/10/2010.



Document Revisions

Revision	Date	Author	Description	Affected Pages
1.0	5/20/2023	Dana Baker-Allum, Chelsea Waddell, Bruce Hollen	Initial Release	All
2.0	9/22/2023	Dana Baker-Allum	Reformatted document to meet Section 508 standards and match the latest data standard template. Added new fields to detections table: INTL_DIST, AUD_OVRLP. Changed field names and domain names to clarify content and meet ODF conventions. Updated architecture diagrams. Added field aliases. Add attribute rules to section 9.3. Added district defined fields.	All

Navigation

This document is easier to view if the Microsoft Word Navigation pane is displayed (View -> Navigation Pane). If viewing in PDF format, open the document in Acrobat and click the Contents button. 

This document uses hyperlinks to display additional information on topics. External links are displayed with an [underline](#).

Internal links are [blue](#) text, not underlined. After clicking on an internal link, press the Alt  + Left Arrow  keys to return to the original location from the target location.

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1 General Information

The marbled murrelet dataset represents spatial location and basic information about survey activities for marbled murrelet birds. BLM wildlife biologists and GIS specialists enter and query data that was collected by district staff or contractors. The dataset includes three feature classes and three tables to support the following data collection:

MAMU_SRV_SITE_POLY - Survey areas. These polygons record the area where the survey is conducted. A Survey Site may encompass many Stations. While not available for historic data, all Surveys with a survey date of 2016 or later must have a related Survey Site.

MAMU_STATION_PT - Survey observation stations. A station is where the observer stands when conducting a survey visit. Stations are stored as point features.

MAMU_OCC_SITE_POLY - A Marbled murrelet occupied stand refers to all forest stands, regardless of age or structure, within ¼ mile (1,320 feet) of the location of marbled murrelet behavior indicating occupancy and not separated from the location of marbled murrelet behavior indicating occupancy by more than 100 meters (328 feet) of non-forest. Occupied Sites are stored as polygon features.

MAMU_SURVEY_TBL - A survey visit represents a single morning's survey. The survey period is the 2-hour period in which a survey visit is conducted; it begins 45 minutes before official sunrise and continues for at least 75 minutes after sunrise.

MAMU_DETECT_TBL - A tabular record of the number of marbled murrelets detected, visual and audible, and their behavior. A detection represents the detection of a single bird or a group of birds, defined as the sighting or hearing of one or more birds acting in a similar manner and initially occurring at the same time. Sequential detections are distinguished by a break of five seconds or more.

MAMU_WEATHER_TBL - This table records environmental conditions as observed at the survey station at the beginning and end of the survey visit and as significant changes in the conditions occur throughout the survey visit.

- Dataset (Theme) Name: MAMU_SRV_SITE_POLY, MAMU_STATION_PT, MAMU_OCC_SITE_POLY, MAMU_SURVEY_TBL, MAMU_DETECT_TBL, MAMU_WEATHER_TBL
- Dataset (Feature Class): MAMU

1.1 Roles and Responsibilities

Table 1 Roles and Responsibilities

Roles	Responsibilities
State Data Steward	The State Data Steward responsibilities include approving data standards and business rules, developing Quality Assurance/Quality Control procedures, identifying potential Privacy issues, and managing that data as a corporate resource. The State Data Steward coordinates with field office data stewards, the State Data Administrator, Geographic Information System (GIS) coordinators, and national data stewards. The State Data Steward reviews geospatial metadata for completeness and quality.
GIS Technical Lead	The GIS Technical Lead works with data stewards to convert business needs into GIS applications and derive data requirements and participates in the development of data standards. The GIS technical lead coordinates with system administrators and GIS coordinators to manage the GIS databases. The GIS technical lead works with data editors to ensure the consistency and accordance with the established data standards of data input into the enterprise Spatial

	Database Engine (SDE) geodatabase. The GIS technical lead provides technical assistance and advice on GIS analysis, query, and display of the dataset.
State Data Administrator	The State Data Administrator provides information management leadership, data modeling expertise, and custodianship of the state data models. The State Data Administrator ensures compliance with defined processes for development of data standards and metadata, and process consistency and completeness. The State Data Administrator is responsible for making data standards and metadata accessible to all users. The State Data Administrator coordinates with data stewards and GIS coordinators to respond to national spatial data requests.
State FOIA/Privacy Act Team Lead	The State FOIA/Privacy Act team lead assists the state data steward to identify any privacy issues related to spatial data. The State FOIA/Privacy Act team lead also provides direction and guidance on data release, fees, and classification under the appropriate Freedom of Information Act exemption.
State Records Administrator	The state records administrator classifies data under the proper records retention schedule.

1.2 FOIA Category

This dataset falls under the standard Records Access Category 1(B) - BLM records that may contain protected information that must be considered for segregation prior to release. See section 8 for more information on which data are available to the public.

1.3 Records Retention Schedule

The DRS/GRS/BLM Combined Records Schedule, under Schedule **20/52a6** (Electronic Records/Geographic Information Systems), lists this theme, **Species specific information**, as one of the system-centric themes that are significant for BLM's mission that must be permanently retained.

"PERMANENT. Cutoff at the end of each Fiscal Year (FY) or when significant changes and additions have been made, before and after the change. Use BLM 20/52a. Transfer to the National Archives every three years after cutoff. Under the instruction in 36 CFR 1235.44-50 or whichever guidance is in place at the time of the transfer. Submissions are full datasets and are in addition to, not replacements of, earlier submissions."

Oregon/Washington (OR/WA) Bureau of Land Management (BLM) Guidebook for Management of Geospatial Data (v1) Section 15.2 - Corporate Data Online Archives prescribes:

Vector annual archives are retained online for 12 years. Each year, data that has reached 12 years old is copied off-line to be retained until no longer needed (determined by data stewards and program leads) with format and readability maintained in a five (5) year "tech refresh" update cycle."

1.4 Security/Access/Sensitivity

This theme does not require any additional security other than that provided by the General Support System (the hardware/software infrastructure of the OR/WA BLM).

This dataset is not sensitive and there are restrictions on access to this data. This dataset falls under the standard Records Access Category 1(B) - BLM records that may contain protected information that must be considered for segregation prior to release. However, this data is not made available on the public web.

There are no privacy issues or concerns associated with these data themes. A privacy impact assessment was

submitted for this dataset on July 22, 2016.

1.5 Keywords

Keywords that can be used to locate this dataset include:

- BLM Thesaurus: Wildlife
- Additional keywords: Fauna, Threatened & Endangered
- ISO Thesaurus: biota, environment

1.6 Subject Function Codes

BLM Subject Function codes used to describe this dataset include:

- 1283 - Data Administration
- 6500 – Wildlife Management
- 6800 – Wildlife Population Management
- 9167 - Geographic Information System (GIS)

2 Dataset Overview

2.1 Usage

This dataset is used to document BLM marbled murrelet (*Brachyramphus marmoratus*) observations, discrete locations, occupied sites, and surveys for use in NEPA analysis, ESA consultation for BLM actions, and for conservation planning strategies. This dataset can be used to track the status of the species through time (trend) and to document areas that have been surveyed and ‘cleared’ prior to BLM actions that could adversely affect the Marbled murrelet. The data set is an important resource for historic, current, and potential habitat for where this species may or may not occur within the region. Data collected and retained in the MAMU datasets follows guidelines outlined in the Pacific Seabird Group’s marbled murrelet survey protocol, and designations of management areas (i.e., occupied sites) is outlined in the Western Oregon Resource Management Plans Records of Decision. MAMU data is often requested by and shared upon request with other federal agencies and state government agencies as well as a variety of requesting non-government organizations, interested parties, and the public through various data sharing agreements.

Marbled murrelet editors include BLM Oregon & Washington wildlife biologists, technicians, and GIS staff who have received formal training on their district to use the database and conduct murrelet surveys. Districts that contribute to, and utilize this dataset, include the Northwest Oregon, Roseburg, and Coos Bay District. Data are entered into the database for all projects and monitoring as they occur on BLM lands, and annually by March 1st of each year.

2.2 Sponsor/Affected Parties

The sponsor for this data set is the Deputy State Director for the Division of Resources, Lands, and Minerals.

Affected parties include partner agencies, the Pacific Seabird Group, and the Oregon State University Nelson laboratory.

2.3 Relationship to Other Datasets, Databases, or Files

This dataset is located within the Oregon Data Framework (ODF) within the Resources section under Species Occurrences and within the Activities section under Surveys. The dataset includes several affiliations and relationships with other datasets within the Oregon Data Framework:

- Botany and Wildlife Observations and Surveys:** This dataset is often used in conjunction with the MAMU dataset to inform and document species locations in support of National Environmental Policy Act (NEPA) evaluation of proposed federal actions. Project scoping, surveys, and Endangered Species Act consultation will also use data housed in both datasets, depending on the project and scope. Occasionally, when Threatened, Endangered and Sensitive Species that are tracked in the Botany and Wildlife Observations and Surveys dataset are documented during marbled murrelet surveys, they are documented in the Botany and Wildlife Observations and Surveys dataset.
- Land Use Allocation for Resource Management Plans for Western Oregon:** Marbled murrelet occupied site polygons are used by the process that derives the LUA_RWO_POLY feature class.
- Micro*Storms:** This is inherently affiliated with the Forestry database, Micro*Storms, which includes a Vegetation Publication (forest_MicroStorms_veg_pub.gdb). Often, the Forest Operations Inventory (FOI) Vegetation Publication dataset polygons or Harvest treatment polygons are used to define survey polygons, especially on O&C lands in Western Oregon. Stand age and other stand exam data within FOI may play a role in where surveys are performed.

2.4 Data Category/Architecture Link

This data theme is a portion of the Oregon Data Framework (ODF) shown in Figure 1, Oregon Data Framework (ODF) Overview on page 9. The illustration is a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The ODF utilizes the concept of inheritance to define specific instances of data. The ODF divides all OR/WA resource-related data into three general categories:

- Activities
- Resources
- Boundaries

These general categories are broken into sub-categories that inherit spatial characteristics and attributes from their parent category. These sub-categories may be further broken into more specific groups until the basic data set cannot be further sub-divided. Those basic data sets inherit all characteristics of all groups/categories above them. The basic data sets are where physical data gets populated. Those groups/categories above them do not contain actual data but set parameters which all data of that type must follow.

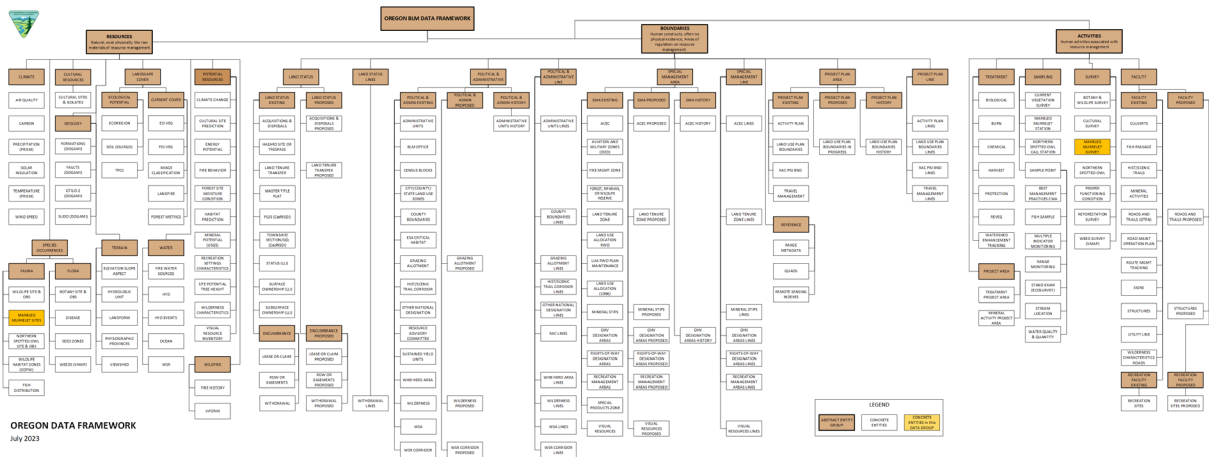


Figure 1 Oregon Data Framework Overview

For an easier to view version of the Oregon Data Framework diagram, go to:
https://gis.blm.gov/ORDownload/DataFramework/BLM_ODF_Model_Mini_Status.pdf.

Physical data is populated in the basic data sets. Those groups/categories above them do not contain actual data but set parameters that all data of that type must follow. See Figure 2, Data Organization Structure for a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The Marbled Murrelet entities are highlighted. For additional information about the ODF, contact the [State Data Administrator](#). The State Data Administrator’s contact information can be found at the following link:
<https://www.blm.gov/about/data/oregon-data-management>.

In the ODF, Marbled Murrelet is considered a Resource and Activity and categorized as follows:

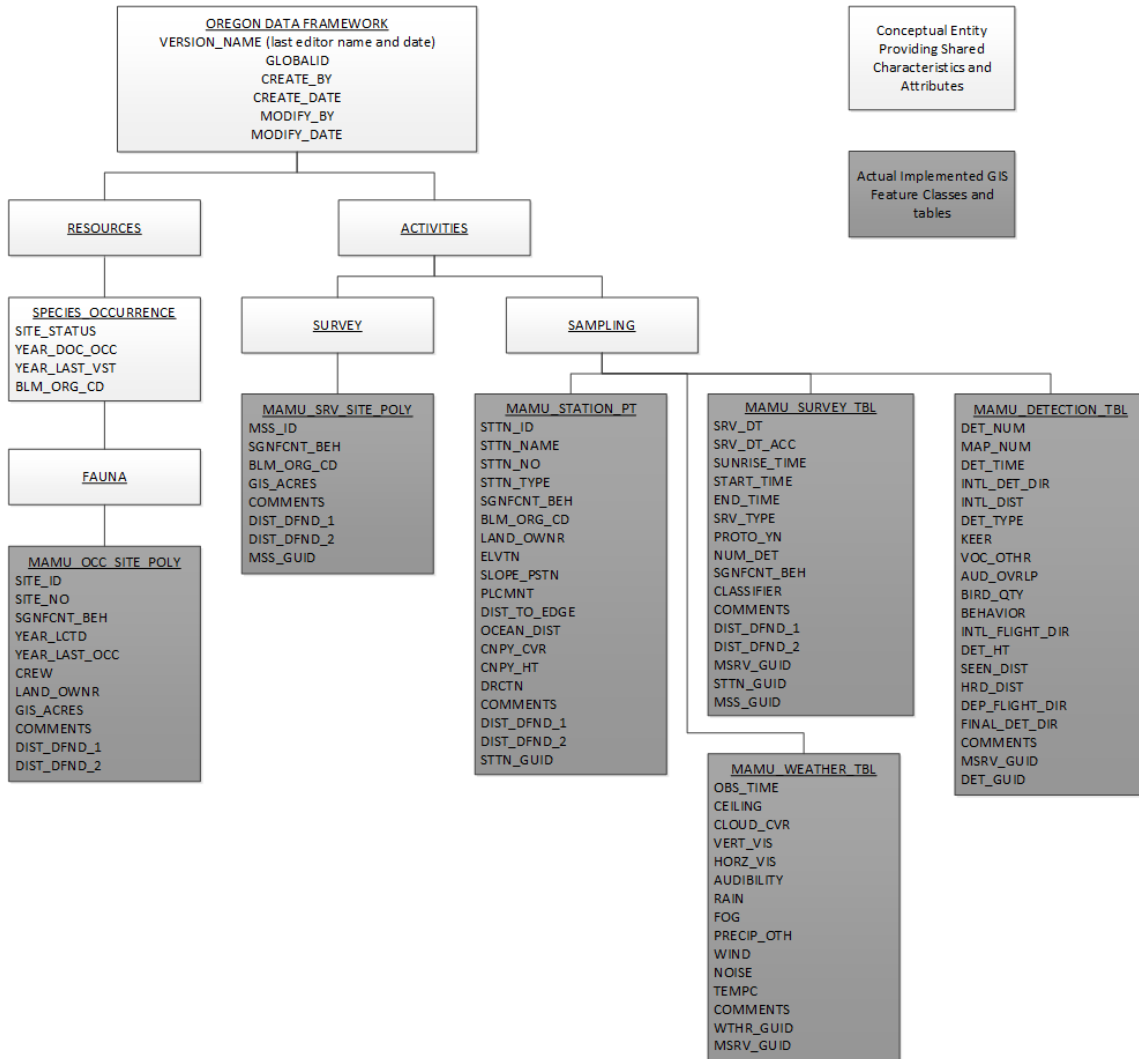


Figure 2 Data Organization Structure

2.5 Relationship to DOI Enterprise Architecture Data Resource Mode

The Department of the Interior (DOI) Enterprise Architecture contains a component called the Data Resource Model. This model addresses the concepts of data sharing, data description, and data context. This data standard provides information needed to address each of those areas. Data sharing is addressed through complete documentation and simple data structures which make sharing easier. Data description is addressed through the section on Attribute Descriptions. Data context is addressed through the data organization and structure portions of this document. In addition, the DOI Data Resource Model categorizes data by use of standardized Data Subject

Areas and Information Classes. For this data set, the Data Subject Area and Information Class are:

- Data Subject Area: Geospatial
- Information Class: Location

3 Data Management Protocols

3.1 Accuracy Requirements

This dataset requires the best possible spatial accuracy based on the tools and technologies available to document polygons, points and their associated data. The values of required attributes have an accuracy of at least 95 percent. GPS location accuracy for spatial features is usually +/- 30ft, but this GPS accuracy is often limited by site conditions (ex. canopy cover).

3.2 Collection, Input, and Maintenance Protocols

Biologists, technicians, seasonal staff, specialists, and contractors collect data using the marbled murrelet survey protocol published by the Pacific Seabird Group (<https://pacificseabirdgroup.org/>).

3.3 Update Frequency and Archival Protocols

Data is updated as needed, but at least annually. It is archived annually at the end of the fiscal year. Additionally, to maintain a current representation of data, all records collected in the previous year should be entered into the database by March 1st of the following year. An annual or 3-year Instruction Memorandum is issued that identifies and outlines this requirement.

3.4 Statewide Monitoring

The State Data Steward, assisted by the GIS Technical Lead, are responsible for checking consistency across districts for the theme. The State Data Steward is responsible for coordinating the response to national BLM and interagency data calls.

Each year, the Resource Science Data team of the BLM Division of Resources, Lands, and Minerals meets with each state data steward for every corporate geospatial theme to conduct an annual review of the data. During the annual review, geospatial staff present the state data stewards with a report detailing Quality Assurance/Quality Control (QAQC) results performed on the data. The QAQC does the following:

- Checks that all attribute values conform to the range or coded-value domains to which they are applied.
- Checks that all attributes marked as required in the data standard have values.
- Checks for duplicate features which have the same geometry and attributes.
- Checks for overlapping features if forbidden by the data standard.
- Checks for invalid geometry.
- Other checks as necessary (can be customized according to the data standard).

In addition to this report, geospatial staff conduct a qualitative needs assessment with the steward to identify any unmet needs or problems with the status of the data. At the conclusion of the review, the team records the steward's approvals of the datasets reviewed. These approvals are then added to the corporate metadata.

4 Marbled Murrelet Schema (simplified)

General Information: Attributes are listed in the order they appear in the geodatabase feature class. The order is an indication of the importance of the attribute for theme definition and use. There are no aliases unless specifically noted. The domains used in this data standard can be found in Appendix A. These are the domains at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Current domains are found on the internal OR/WA SharePoint data management page. Some of the domains used in this data standard are also available at the following web site: <https://www.blm.gov/about/data/oregon-data-management>.

For domains not listed at that site contact: [State Data Administrator](#).

4.1 Marbled Murrelet Feature Classes

4.1.1 MAMU_SRV_SITE_POLY Feature Class (MAMU Survey Site Polygons)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
MSS_ID	String	50		No	
SGNFCNT_BEH	String	2		No	dom_MAMU_SGNFCNT_BEH
BLM_ORG_CD	String	5	OR000	Yes *	dom_BLM_ORG_CD
GIS_ACRES	Double		0	Yes *	
COMMENTS	String	1000		No	
DIST_DFND_1	String	255		No	
DIST_DFND_2	String	255		No	
VERSION_NAME	String	50	InitialLoad	Yes ***	
MSS_GUID	GUID			Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through tools, may appear not required in database

4.1.2 MAMU_STATION_PT Feature Class (MAMU Station Points)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
STTN_ID	String	20		Yes **	

Attribute Name	Data Type	Length	Default Value	Required	Domain
STTN_NAME	String	25		No	
STTN_NO	String	3		Yes	
STTN_TYPE	String	1		No	dom_MAMU_STTN_TYPE
SGNFCNT_BEH	String	2		No	dom_MAMU_SGNFCNT_BEH
BLM_ORG_CD	String	5	OR000	Yes *	dom_BLM_ORG_CD
LAND_OWNR	String	3	BL	Yes	dom_JURIS_CODE
ELVTN	Short			No	
SLOPE_PSTN	String	30		No	dom_SLOPE_PSTN
PLCMNT	String	1		No	dom_MAMU_PLCMNT
DIST_TO_EDGE	Short Integer			No	
OCEAN_DIST	Double			No	
CNPY_CVR	Short Integer			No	dom_MAMU_CNPY_CVR
CNPY_HT	Short Integer			No	
DRCTN	String	2000		No	
COMMENTS	String	1000		No	
DIST_DFND_1	String	255		No	
DIST_DFND_2	String	255		No	
VERSION_NAME	String	50	InitialLoad	Yes ***	
STTN_GUID	GUID			Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through tools, may appear not required in database

4.1.3 MAMU_OCC_SITE_POLY Feature Class (MAMU Occupied Site Polygons)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SITE_ID	String	50		Yes	
SITE_NO	String	5		Conditional	
SITE_STATUS	String	10	Unknown	Yes	dom_MAMU_OCC_STATUS

Attribute Name	Data Type	Length	Default Value	Required	Domain
SGNFCNT_BEH	String	2		No	dom_MAMU_SGNFCNT_BEH
YEAR_LCTD	String	4		No	
YEAR_DOC_OCC	String	4		No	
YEAR_LAST_OCC	String	4		No	
YEAR_LAST_VST	String	4		No	
CREW	String	50		No	dom_MAMU_CREW
BLM_ORG_CD	String	5	OR000	Yes *	dom_BLM_ORG_CD
LAND_OWNR	String	3	BL	Yes	dom_JURIS_CODE
GIS_ACRES	Double			Yes *	
COMMENTS	String	1000		No	
DIST_DFND_1	String	255		No	
DIST_DFND_2	String	255		No	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.2 Marbled Murrelet Standalone Tables

4.2.1 MAMU_DETECTION_TBL Table (MAMU Detection Table)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
DET_NUM	Long Integer			No	
MAP_NUM	String	2		No	
DET_TIME	String	4		No	
INTL_DET_DIR	String	2		No	dom_MAMU_DIR
INTL_DIST	Short Integer			No	
DET_TYPE	String	1		No	dom_MAMU_DET_TYPE
KEER	String	5		No	dom_MAMU_KEER

Attribute Name	Data Type	Length	Default Value	Required	Domain
VOC_OTHR	String	5		No	dom_MAMU_VOC_OTHR
AUD_OVRLP	String	1		No	dom_YN
BIRD_QTY	String	5		No	
BEHAVIOR	String	1		No	dom_MAMU_DET_BEHAVE
INTL_FLIGHT_DIR	String	2		No	dom_MAMU_DIR
DET_HT	Double			No	
SEEN_DIST	Short Integer			No	
HRD_DIST	String	1		No	dom_MAMU_HRD_DIST
DEP_FLIGHT_DIR	String	2		No	dom_MAMU_DIR
FINAL_DET_DIR	String	2		No	dom_MAMU_DIR
COMMENTS	String	1000		No	
MSRV_GUID	GUID			Yes	
DET_GUID	GUID			Yes *	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.2.2 MAMU_SURVEY_TBL Table (MAMU Survey Table)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SRV_DT	Date		1/1/8888	Yes	
SRV_DT_ACC	String	7	Day	Yes	dom_DT_ACC
SUNRISE_TIME	String	4		Yes	
START_TIME	String	4		Yes	
END_TIME	String	4		Yes	
SRV_TYPE	String	1	U	Yes	dom_MAMU_SRV_TYPE
PROTO_YN	String	1	U	Yes	dom_YN
NUM_DET	Short Integer		0	Yes	

Attribute Name	Data Type	Length	Default Value	Required	Domain
SGNFCNT_BEH	String	2	U	Yes	dom_MAMU_SGNFCNT_BEH
CLASSIFIER	String	30		Yes	
COMMENTS	String	2000		No	
DIST_DFND_1	String	255		No	
DIST_DFND_2	String	255		No	
MSRV_GUID	GUID			Yes *	
STTN_GUID	GUID			Yes	
MSS_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.2.3 MAMU_WEATHER_TBL Table (MAMU Weather Table)

For domain and default values, see [Section 7 Attribute Characteristics and Definition \(In alphabetical order\)](#) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
OBS_TIME	String	4		No	
CEILING	String	2		No	dom_MAMU_CEILING
CLOUD_CVR	String	1		No	dom_MAMU_CLOUD
VERT_VIS	String	1		No	dom_MAMU_VERTVIS
HORZ_VIS	String	1		No	dom_MAMU_HORZVIS
AUDIBILITY	String	1		No	dom_MAMU_AUDIBILITY
RAIN	String	1		No	dom_MAMU_RAIN
FOG	String	1		No	dom_MAMU_FOG
PRECIP_OTH	String	10		No	dom_MAMU_OTHER
WIND	String	1		No	dom_MAMU_WIND
NOISE	String	10		No	dom_MAMU_NOISE
TEMPC	Short Integer			No	
COMMENTS	String	1000		No	

Attribute Name	Data Type	Length	Default Value	Required	Domain
WTHR_GUID	GUID			Yes *	
MSRV_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.3 Marbled Murrelet Relationship Classes

4.3.1 rel_MAMU_STATION_PT_SURVEY_TBL

Origin Table	MAMU_STATION_PT
Origin Primary Key	STTN_GUID
Destination Table	MAMU_SURVEY_TBL
Destination Foreign Key	STTN_GUID
Relationship Type	Simple
Labels	MAMU Survey Table, MAMU Station Pt
Messages	None
Cardinality	1 to Many

4.3.2 rel_MAMU_SRV_SITE_POLY_SURVEY_TBL

Origin Table	MAMU_SRV_SITE_POLY
Origin Primary Key	MSS_GUID
Destination Table	MAMU_SURVEY_TBL
Destination Foreign Key	MSS_GUID
Relationship Type	Simple
Labels	MAMU Survey Table, MAMU Survey Site Poly
Messages	None
Cardinality	1 to Many

4.3.3 rel_MAMU_SURVEY_TBL_DETECT_TBL

Origin Table	MAMU_SURVEY_TBL
Origin Primary Key	MSRV_GUID
Destination Table	MAMU_DETECTION_TBL
Destination Foreign Key	MSRV_GUID
Relationship Type	Simple
Labels	MAMU Detection Table, MAMU Survey Table
Messages	None
Cardinality	1 to Many

4.3.4 rel_MAMU_SURVEY_TBL_WEATHER_TBL

Origin Table	MAMU_SURVEY_TBL
Origin Primary Key	MSRV_GUID
Destination Table	MAMU_WEATHER_TBL
Destination Foreign Key	MSRV_GUID
Relationship Type	Simple
Labels	MAMU Weather Table, MAMU Survey Table
Messages	None
Cardinality	1 to Many

5 Projection and Spatial Extent

All feature classes and feature datasets are in Geographic, North American Datum 83. Units are decimal degrees. Spatial extent (area of coverage) includes all lands managed by the BLM OR/WA in Western Oregon. See the metadata for this data for a more precise description of the extent.

6 Spatial Entity Characteristics

- Survey Sites (MAMU_SRV_SITE_POLY)
 - Description: A Survey Site represents a geographic area within a Survey Area. Survey Areas are divided up into smaller Survey Sites.
 - Geometry: Polygon; disjoint large areas or scattered small areas. Features may have donut holes or islands; features may overlap (stack) on each other.
 - Topology: No topology enforced.
 - Integration Requirements: None.

- Stations (MAMU_STATION_PT)
 - Description: A Station is where the observer stands when conducting a survey visit.
 - Geometry: Point; disjoint large areas or scattered small areas. Features may overlap (stack) on each other.
 - Topology: No topology enforced.
 - Integration Requirements: None.

- Occupied Sites (MAMU_OCC_SITE_POLY)
 - Description: Represents an area where murrelets have been detected.
 - Geometry: Polygon; disjoint large areas or scattered small areas. Features may have donut holes or islands; features may overlap (stack) on each other.
 - Topology: No topology enforced.
 - Integration Requirements: None.

7 Attribute Characteristics and Definition (In alphabetical order)

7.1 AUD_OVRLP

Geodatabase Name	AUD_OVRLP
BLM Structured Name	Example_Text
Inheritance	Not Inherited
Alias Name	Auditory Overlapping
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Indicates if there are overlapping sounds.
Required/Optional	Optional
Domain (Valid Values)	dom_YN
Data Type	String (1)

7.2 AUDIBILITY

Geodatabase Name	AUDIBILITY
BLM Structured Name	Weather_Audibility_Environment_Code
Inheritance	Not Inherited
Alias Name	Audibility to 200m
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	From the survey station, note whether audibility is unimpaired within a 200 m (656 ft) radius.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_AUDIBILITY
Data Type	String (1)

7.3 BEHAVIOR

Geodatabase Name	BEHAVIOR
BLM Structured Name	Detection_Behavior_Code
Inheritance	Not Inherited
Alias Name	Behavior
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Records the behavior type of the bird(s).
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DET_BEHAVE
Data Type	String (1)

7.4 BIRD_QTY

Geodatabase Name	BIRD_QTY
BLM Structured Name	Detection_Bird_Quantity_Text
Inheritance	Not Inherited
Alias Name	# of Birds
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Number of birds detected. Value "U" can be used for unknown value.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 3, U
Data Type	String (5)

7.5 BLM_ORG_CD

Geodatabase Name	BLM_ORG_CD
BLM Structured Name	Administrative_Unit_Organization_Code
Inheritance	Not Inherited
Alias Name	BLM Org Code
Feature Class Use/Entity Table	MAMU_SRV_SITE, MAMU_STATION_PT
Definition	<p>A combination of the BLM administrative state and field office which has administrative responsibility for the spatial entity. This includes which office covers the entity for planning purposes and which office is the lead for GIS edits. Another agency or individual may have the physical management responsibility for the on-the-ground entity. This field applies particularly when a spatial entity crosses resource area or district boundaries, and the administrative responsibility is assigned to one or the other rather than splitting the spatial unit. Similarly, BLM OR/WA may have administrative responsibility over some area that is physically located in Nevada, Idaho, and California and vice versa. When appropriate, the office can be identified only to the district or state level rather than to the resource area level.</p> <p>This attribute is auto populated based on spatial location when the record is created. The calculated value can be overwritten if needed.</p>
Required/Optional	Required
Domain (Valid Values)	dom_BLM_ORG_CD
Data Type	String (5)

7.6 CEILING

Geodatabase Name	CEILING
BLM Structured Name	Weather_Vertical_Ceiling_Code
Inheritance	Not Inherited
Alias Name	Ceiling

Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	The height of the primary cloud/fog layer relative to the canopy of the survey site as viewed from the station.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_CEILING
Data Type	String (2)

7.7 CLASSIFIER

Geodatabase Name	CLASSIFIER
BLM Structured Name	Classifier_Name
Inheritance	Not Inherited
Alias Name	Observer
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	The observer initials or name.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	String (30)

7.8 CLOUD_CVR

Geodatabase Name	CLOUD_CVR
BLM Structured Name	Weather_Cloud_Percent_Category_Code
Inheritance	Not Inherited
Alias Name	Cloud Cover
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	The class code that best describes the amount of overhead cloud cover visible from the station. This is an ocular estimate.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_CLOUD
Data Type	String (1)

7.9 CNPY_CVR

Geodatabase Name	CNPY_CVR
BLM Structured Name	Station_Canopy_Cover_Code
Inheritance	Not Inherited
Alias Name	Canopy Cover
Feature Class Use/Entity Table	MAMU_STATION_PT

Definition	The canopy cover class code that best describes overhead canopy cover at the survey station. Codes: 1=0-25%, 2=26-50%, 3=51-75%, 4=76-100%. This can be derived as an ocular estimate of the area immediately adjacent (approx. 25 m radius) to the survey station, or an actual measurement using a densitometer or other device. Determined at the time the station is established.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_CNPY_CVR
Data Type	Short Integer

7.10 CNPY_HT

Geodatabase Name	CNPY_HT
BLM Structured Name	Station_Canopy_Height_Number
Inheritance	Not Inherited
Alias Name	Canopy Height (m)
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	This field is defined as the maximum height of the forest stand being surveyed from this station.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 53, 70
Data Type	Short Integer

7.11 COMMENTS

Geodatabase Name	COMMENTS
BLM Structured Name	Comments_Text
Inheritance	Not Inherited
Alias Name	Comments
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_STATION_PT, MAMU_OCC_SITE_POLY, MAMU_DETECTION_TBL, MAMU_SURVEY_TBL, MAMU_WEATHER_TBL
Definition	Free text for additional information about the record.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (1000) or String (2000). Length varies by data object.

7.12 CREATE_BY

Geodatabase Name	CREATE_BY
BLM Structured Name	Record_Created_By_Text
Inheritance	Inherited from entity ODF

Alias Name	Created By
Feature Class Use/Entity Table	All feature classes and tables
Definition	The BLM login ID of the person who entered the data. The default value for this field is UNK. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: jdoe, msmith
Data Type	String (50)

7.13 CREATE_DATE

Geodatabase Name	CREATE_DATE
BLM Structured Name	Record_Created_Date
Inheritance	Inherited from entity ODF
Alias Name	Created Date
Feature Class Use/Entity Table	All feature classes and tables
Definition	The date the record was entered. The default value for this field is 1/1/8888. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1/5/1999, 10/15/2021
Data Type	Date

7.14 CREW

Geodatabase Name	CREW
BLM Structured Name	Occupied_Site_Crew_Located_Site_Text
Inheritance	Not Inherited
Alias Name	Crew
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	Field to identify the crew or agency that found the site occupied.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_CREW
Data Type	String (50)

7.15 DEP_FLIGHT_DIR

Geodatabase Name	DEP_FLIGHT_DIR
BLM Structured Name	Detection_Final_Departing_Direction_Code
Inheritance	Not Inherited
Alias Name	Depart Flight Direction

Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The direction the murrelet was last detected heading, i.e., the direction the bird was traveling when last detected.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DIR
Data Type	String (2)

7.16 DET_GUID

Geodatabase Name	DET_GUID
BLM Structured Name	Detection_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Detection Unique Identifier
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	This attribute is a primary key, unique GUID identifier assigned to records as they are entered. This key is used for the various table relationships.
Required/Optional	Required
Domain (Valid Values)	No domain.
Data Type	GUID

7.17 DET_HT

Geodatabase Name	DET_HT
BLM Structured Name	Detection_Height_Above_Canopy_Number
Inheritance	Not Inherited
Alias Name	Bird Height Seen
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The height of birds above canopy estimated based on bird location relative to the height of the forest canopy, i.e., the tallest trees observable from the survey station. The height of the tallest observable tree is equivalent to a unit of 1.0 canopy height. If a bird was seen flying halfway beneath the height of the tallest observable tree, the bird height is 0.5 canopy heights. A bird seen flying over the canopy at one quarter the height of the tallest tree observed is at 1.25 canopy heights.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.5, 1.2
Data Type	Double

7.18 DET_NUM

Geodatabase Name	DET_NUM
BLM Structured Name	Detection_Number
Inheritance	Not Inherited
Alias Name	Detection #
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The sequential number of an individual detection during a survey visit. Useful for connecting the database record to the detection on a hard copy visit form. This field corresponds to the Detection # field on the data sheet.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 2, 48
Data Type	Long Integer

7.19 DET_TIME

Geodatabase Name	DET_TIME
BLM Structured Name	Detection_Time_Text
Inheritance	Not Inherited
Alias Name	Time
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The 24-hour time when a murrelet detection occurred.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: "0601", "0544"
Data Type	String (4)

7.20 DET_TYPE

Geodatabase Name	DET_TYPE
BLM Structured Name	Detection_Type_Code
Inheritance	Not Inherited
Alias Name	Type
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Describes how the bird was detected.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DET_TYPE
Data Type	String (1)

7.21 DIST_DFND_1

Geodatabase Name	DIST_DFND_1
BLM Structured Name	First_District_Defined_Field_Text
Inheritance	Not Inherited
Alias Name	District Defined 1
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_STATION_PT, MAMU_OCC_SITE_POLY, MAMU_SURVEY_TBL
Definition	A district defined text field with a length of 255 characters. The District Data Steward will manage these fields as they choose. However, coordination between Districts is desirable if similar information is collected and entered.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (255)

7.22 DIST_DFND_2

Geodatabase Name	DIST_DFND_2
BLM Structured Name	Second_District_Defined_Field_Text
Inheritance	Not Inherited
Alias Name	District Defined 2
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_STATION_PT, MAMU_OCC_SITE_POLY, MAMU_SURVEY_TBL
Definition	A district defined text field with a length of 255 characters. The District Data Steward will manage these fields as they choose. However, coordination between Districts is desirable if similar information is collected and entered.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (255)

7.23 DIST_TO_EDGE

Geodatabase Name	DIST_TO_EDGE
BLM Structured Name	Station_Distance_to_Survey_Site_Edge_Meters_Number
Inheritance	Not Inherited
Alias Name	Dist to Edge (m)
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Indicates distance from the survey station to the survey site boundary. Stations are generally located <50 meters from the edge of the survey site boundary.

Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 20, 91
Data Type	Short Integer

7.24 DRCTN

Geodatabase Name	DRCTN
BLM Structured Name	Station_Directions_Text
Inheritance	Not Inherited
Alias Name	Directions
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Comments on how to find the station.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: "1.) Take hwy 42 to Myrtle Point and turn Left after Safeway onto MP/Sitkum Co. Rd. 2.) Go 3.8 mi and turn right onto Weekly Creek Rd. 3.) Go 5.9 mi (jeep mileage) to intersection w/-31.3 rd and stay Left. 4.) Go 0.4 mi to trailhead on Left. TRAVEL TIME: 1 hr HIKE TIME: 10 min"
Data Type	String (2000)

7.25 ELVTN

Geodatabase Name	ELVTN
BLM Structured Name	Station_Elevation_Number
Inheritance	Not Inherited
Alias Name	Elevation (m)
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Elevation of the station, in meters above mean sea level.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 240, 500
Data Type	Short Integer

7.26 END_TIME

Geodatabase Name	END_TIME
BLM Structured Name	Survey_End_Time_Text
Inheritance	Not Inherited
Alias Name	End Time
Feature Class Use/Entity Table	MAMU_SURVEY_TBL

Definition	Actual time survey visit is completed using 24-hour time. A morning visit generally ends 75 minutes after official sunrise; more time is added depending on whether murrelet detections occur at the end of a visit and/or if overcast conditions with rain and fog are present at the end of the standard survey period.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "0709", "0642"
Data Type	String (4)

7.27 FINAL_DET_DIR

Geodatabase Name	FINAL_DET_DIR
BLM Structured Name	Detection_Final_Direction_Code
Inheritance	Not Inherited
Alias Name	Final Detection Direction
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The final direction the murrelet was detected relative to the observer.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DIR
Data Type	String (2)

7.28 FOG

Geodatabase Name	FOG
BLM Structured Name	Weather_Fog_Condition_Code
Inheritance	Not Inherited
Alias Name	Fog
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Indicates fog intensity at the survey site as observed from the station.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_FOG
Data Type	String (1)

7.29 GIS_ACRES

Geodatabase Name	GIS_ACRES
BLM Structured Name	GIS_Acres_Measure
Inheritance	Not Inherited
Alias Name	GIS Acres
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_OCC_SITE_POLY

Definition	<p>GIS_ACRES is calculated when the submitted polygon is approved for incorporation into the dataset. The standard spatial reference of Geographic (NAD 1983) cannot be used for calculating acres, so the features are projected as determined by the BLM_ORG_CD of the record. These projections all utilize linear units of meters, so the ESRI Geodatabase-controlled field SHAPE.AREA can be used to convert to acres with the factor based on the U.S. Survey Foot: $GIS_ACRES = SHAPE.AREA * 0.0002471044$.</p> <p>GIS_ACRES is calculated using the NAD 1983 Albers Equal Area project except for the following OR/WA Districts:</p> <p>Prineville: NAD 1983 USFS R6 Albers</p> <p>Coos Bay, Eugene, Lakeview, Medford, Roseburg, Salem: NAD 1983 UTM Zone 10N</p> <p>Burns, Spokane, Vale: NAD 1983 UTM Zone 11N</p>
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 2.4, 46.1, 350.5
Data Type	Double

7.30 GLOBALID

Geodatabase Name	GLOBALID
BLM Structured Name	Global_Unique_Identifier
Inheritance	Inherited from entity ODF
Alias Name	None
Feature Class Use/Entity Table	All feature classes and tables
Definition	An alpha-numeric code that serves as the universal and unique identifier for each feature within the feature class or table of a geodatabase. Software generated value. A field of type UUID (Universal Unique Identifier) in which values are automatically assigned by the geodatabase when a row is created. This field is not editable and is automatically populated when it is added for existing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: {4747B796-44B4-4628-B069-2D496422E59F}
Data Type	GUID

7.31 HORZ_VIS

Geodatabase Name	HOR_VIS
BLM Structured Name	Weather_Horizontal_Visibility_Code
Inheritance	Not Inherited
Alias Name	Horizontal Visibility to 100m
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	From the survey station, note whether horizontal visibility is unimpaired within 100 m (328 ft).

Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_HORZVIS
Data Type	String (1)

7.32 HRD_DIST

Geodatabase Name	HRD_DIST
BLM Structured Name	Detection_Heard_Only_Distance_Code
Inheritance	Not Inherited
Alias Name	Closest Distance to Birds Heard
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Estimates how far birds are without having the distance. Used for auditory observations only.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_HRD_DIST
Data Type	String (1)

7.33 INTL_DET_DIR

Geodatabase Name	INTL_DET_DIR
BLM Structured Name	Detection_Initial_Direction_Code
Inheritance	Not Inherited
Alias Name	Initial Direction
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Initial direction detected (from observer). Record the direction where the murrelet is first detected relative to the observer.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DIR
Data Type	String (2)

7.34 INTL_DIST

Geodatabase Name	INTL_DIST
BLM Structured Name	Detection_Initial_Distance_Measure
Inheritance	Not Inherited
Alias Name	Initial Distance to Birds Seen (m)
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Initial distance (from observer) to bird observed. Recorded in meters.
Required/Optional	Optional

Domain (Valid Values)	No domain
Data Type	Short Integer

7.35 INTL_FLIGHT_DIR

Geodatabase Name	INTL_FLIGHT_DIR
BLM Structured Name	Detection_Initial_Flight_Direction_Code
Inheritance	Not Inherited
Alias Name	Initial Flight Direction
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	This is the direction that the murrelets are seen heading when initially detected, i.e., the direction the birds are traveling when first detected.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_DIR
Data Type	String (2)

7.36 KEER

Geodatabase Name	KEER
BLM Structured Name	Detection_Keer_Code
Inheritance	Not Inherited
Alias Name	Keer
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The number of keers, groans, and alternate calls heard. When more than 5 calls are heard in the same detection, record M for multiple.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_KEER
Data Type	String (5)

7.37 LAND_OWNR

Geodatabase Name	LAND_OWNR
BLM Structured Name	Land_Owner_Code
Inheritance	Not Inherited
Alias Name	Landowner
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	The landowner or agency administering the land at the nest site, core area, or point used to designate the site or site alternate. This is the ownership at the actual point and may be different from the BLM Administrative Unit (BLM_ORG_CD). The default value for this field is BL (Bureau of Land Management).

Required/Optional	Required
Domain (Valid Values)	dom_JURIS_CODE
Data Type	String (3)

7.38 MAP_NUM

Geodatabase Name	MAP_NUM
BLM Structured Name	Detection_Map_Number_Text
Inheritance	Not Inherited
Alias Name	Map #
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Refers to the page number of the hard copy field form.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 1, 2, 3
Data Type	String (2)

7.39 MODIFY_BY

Geodatabase Name	MODIFY_BY
BLM Structured Name	Record_Last_Modified_By_Text
Inheritance	Inherited from entity ODF
Alias Name	Modified By
Feature Class Use/Entity Table	All feature classes and tables
Definition	The BLM login ID of the person who last edited the data. The default value for this field is UNK. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: jdoe, msmith
Data Type	String (50)

7.40 MODIFY_DATE

Geodatabase Name	MODIFY_DATE
BLM Structured Name	Record_Last_Modified_Date
Inheritance	Inherited from entity ODF
Alias Name	Modified Date
Feature Class Use/Entity Table	All feature classes and tables
Definition	The date the record was last edited. The default value for this field is 1/1/8888. This field is auto populated during editing.
Required/Optional	Optional

Domain (Valid Values)	No domain. Examples: 1/5/1999, 10/15/2021
Data Type	Date

7.41 MSR_V_GUID

Geodatabase Name	MSRV_GUID
BLM Structured Name	MAMU_Survey_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Survey Unique Identifier
Feature Class Use/Entity Table	MAMU_SURVEY_TBL, MAMU_DETECTION_TBL, MAMU_WEATHER_TBL
Definition	This attribute is a primary key, unique GUID identifier assigned to records as they are entered. This key is used for the various table relationships. This is a foreign key field in the Detection and Weather tables.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	GUID

7.42 MSS_GUID

Geodatabase Name	MSS_GUID
BLM Structured Name	MAMU_Survey_Site_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Survey Site Unique Identifier
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_SURVEY_TBL
Definition	This attribute is a primary key, unique GUID identifier assigned to records as they are entered. This key is used for the various table relationships. This is a foreign key field in the Survey table.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	GUID

7.43 MSS_ID

Geodatabase Name	MSS_ID
BLM Structured Name	Survey_Site_Identifier_Text
Inheritance	Not Inherited
Alias Name	Survey Site ID
Feature Class Use/Entity Table	MAMU_SRV_SITE
Definition	Identifier for the Survey Site.

Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "Camas Heights CT Adj CH-TATE", "EDSON REGEN 2009 I"
Data Type	String (50)

7.44 NOISE

Geodatabase Name	NOISE
BLM Structured Name	Weather_Noise_Environment_Code
Inheritance	Not Inherited
Alias Name	Noise
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Record the appropriate code to indicate conditions that affect ability to hear clearly within a 200m radius.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_NOISE
Data Type	String (10)

7.45 NUM_DET

Geodatabase Name	NUM_DET
BLM Structured Name	Survey_Number_of_Detections_Number
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	The total number of murrelet detections recorded during a survey visit.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 17, 0, 1
Data Type	Short Integer

7.46 OBS_TIME

Geodatabase Name	OBS_TIME
BLM Structured Name	Detection_Observation_Time_Text
Inheritance	Not Inherited
Alias Name	Time
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The 24-hour time when a murrelet detection occurred.
Required/Optional	Optional

Domain (Valid Values)	No Domain. Examples: “0601”, “0544”
Data Type	String (4)

7.47 OCEAN_DIST

Geodatabase Name	OCEAN_DIST
BLM Structured Name	Station_Distance_to_Ocean_Number
Inheritance	Not Inherited
Alias Name	Dist to Ocean (mi)
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	This is the shortest straight-line distance from the station to the Pacific Ocean, measured to the nearest mile.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 27, 44
Data Type	Double

7.48 PLCMNT

Geodatabase Name	PLCMNT
BLM Structured Name	Station_Placement_Code
Inheritance	Not Inherited
Alias Name	Placement
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Indicates if the station is inside or outside the survey site. Stations on the survey site boundary are considered inside.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_PLCMNT
Data Type	String (1)

7.49 PRECIP_OTH

Geodatabase Name	PRECIP_OTH
BLM Structured Name	Weather_Other_Precipitation_Code
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Indicates other weather conditions at the survey site as observed from the station.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_OTHER

Data Type	String (10)
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7.50 PROTO_YN

Geodatabase Name	PROTO_YN
BLM Structured Name	Survey_Protocol_Flag_Code
Inheritance	Not Inherited
Alias Name	Protocol Met?
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	Indicates if the survey was conducted following the guidelines of the Pacific Seabird Group protocol.
Required/Optional	Required
Domain (Valid Values)	dom_YN
Data Type	String (1)

7.51 RAIN

Geodatabase Name	RAIN
BLM Structured Name	Weather_Rain_Condition_Code
Inheritance	Not Inherited
Alias Name	Rain
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Indicates precipitation (rain) intensity at the survey site as observed from the station.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_RAIN
Data Type	String (1)

7.52 SEEN_DIST

Geodatabase Name	SEEN_DIST
BLM Structured Name	Detection_Closest_Seen_Distance_Number
Inheritance	Not Inherited
Alias Name	Closest Dist to Birds (m)
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	The closest horizontal distance from the observer to the murrelet(s). A bird flying directly overhead is equivalent to a horizontal distance of zero. Recorded in meters.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0, 10, 100, 150

Data Type	Short Integer
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7.53 SGNFCNT_BEH

Geodatabase Name	SGNFCNT_BEH
BLM Structured Name	Significant_Behavior_Code
Inheritance	Not Inherited
Alias Name	Significant Behavior
Feature Class Use/Entity Table	MAMU_SRV_SITE_POLY, MAMU_STATION_PT, MAMU_OCC_SITE_POLY, MAMU_SURVEY_TBL
Definition	Records the most biologically significant behavior observed.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_SGNFCNT_BEH
Data Type	String (2)

7.54 SITE_ID

Geodatabase Name	SITE_ID
BLM Structured Name	Occupied_Site_Identifying_Name_Text
Inheritance	Not Inherited
Alias Name	Site ID/Name
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	Site Name.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: "ELK BIG RIDGE A", "LINDSEY RIDGE 18NH"
Data Type	String (50)

7.55 SITE_NO

Geodatabase Name	SITE_NO
BLM Structured Name	Occupied_Site_Master_Site_Number_Text
Inheritance	Not Inherited
Alias Name	Site Number (MSNO)
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	A district assigned unique identifier. Each identifier begins with a letter representing the district (C – Coos Bay, R – Roseburg, E – South Northwest Oregon (formerly Eugene District), S – North Northwest Oregon (formerly Salem District). Each district keeps a running list of unique numbers and when a new site is identified they assign the next available number. SITE_NO (MSNO) is required for Occupied Sites.

Required/Optional	Conditional
Domain (Valid Values)	No domain.
Data Type	String (5)

7.56 SITE_STATUS

Geodatabase Name	SITE_STATUS
BLM Structured Name	Occupied_Site_Status_Code
Inheritance	Not Inherited
Alias Name	Site Status
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	Site Status Code.
Required/Optional	Required
Domain (Valid Values)	dom_MAMU_OCC_STATUS
Data Type	String (1)

7.57 SLOPE_PSTN

Geodatabase Name	SLOPE_PSTN
BLM Structured Name	Slope_Position_Code
Inheritance	Not Inherited
Alias Name	Slope Position
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Code that best describes the stations position on slope. To determine position on slope, use a topographic map to identify the ridgetop and valley bottom elevation at 90 degrees (perpendicular) from the contour where the station is located. Then subtract the lower value from the higher and divide by 3 to determine the position based on the station's elevation.
Required/Optional	Optional
Domain (Valid Values)	dom_SLOPE_PSTN
Data Type	String (30)

7.58 SRV_DT

Geodatabase Name	SRV_DT
BLM Structured Name	Survey_Date
Inheritance	Not Inherited
Alias Name	Survey Date
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	Date survey is conducted.

Required/Optional	Required
Domain (Valid Values)	No domain. Examples: “6/15/1995”, “7/7/2009”
Data Type	Date

7.59 SRV_DT_ACC

Geodatabase Name	SRV_DT_ACC
BLM Structured Name	Survey_Date_Accuracy_Code
Inheritance	Not Inherited
Alias Name	Date Accuracy
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	Describes the accuracy of the survey date.
Required/Optional	Optional
Domain (Valid Values)	dom_DT_ACC
Data Type	String (7)

7.60 SRV_TYPE

Geodatabase Name	SRV_TYPE
BLM Structured Name	Survey_Type_Code
Inheritance	Not Inherited
Alias Name	Survey Type
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	Type of survey.
Required/Optional	Required
Domain (Valid Values)	dom_MAMU_SRV_TYPE
Data Type	String (1)

7.61 START_TIME

Geodatabase Name	START_TIME
BLM Structured Name	Survey_Begin_Time_Text
Inheritance	Not Inherited
Alias Name	Begin Time
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	Actual time survey visit started using 24-hour time. A morning visit should begin at least 45 minutes before official sunrise.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: “0442”, “0512”

Data Type	String (4)
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7.62 STTN_GUID

Geodatabase Name	STTN_GUID
BLM Structured Name	Station_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Station Unique Identifier
Feature Class Use/Entity Table	MAMU_STATION_PT, MAMU_SURVEY_TBL
Definition	This attribute is a primary key, unique GUID identifier assigned to records as they are entered. This key is used for the various table relationships. This is a foreign key field in the Survey table.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	GUID

7.63 STTN_ID

Geodatabase Name	STTN_ID
BLM Structured Name	Station_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Built from the Township, Range, Section, and Station Number codes. Official identifier for the station and must remain unique.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "0280S-0110W-34.03", "0280S-0110W-23.07"
Data Type	String (17)

7.64 STTN_NAME

Geodatabase Name	STTN_NAME
BLM Structured Name	Station_Name_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Name used to identify the station.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Example: "TWIN JOHNSON RDG"
Data Type	String (25)

7.65 STTN_NO

Geodatabase Name	STTN_NO
BLM Structured Name	Station_Number_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Sequentially numbered digits to identify the individual stations within a public land survey section.
Required/Optional	Required
Domain (Valid Values)	No Domain. Examples: "07", "18"
Data Type	String (3)

7.66 STTN_TYPE

Geodatabase Name	STTN_TYPE
BLM Structured Name	Station_Type
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_STATION_PT
Definition	Station code used to classify the type of surveys done from this station for all surveys.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_STTN_TYPE
Data Type	String (1)

7.67 SUNRISE_TIME

Geodatabase Name	SUNRISE_TIME
BLM Structured Name	Survey_Sunrise_Time_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_SURVEY_TBL
Definition	The official sunrise time using 24-hour time derived from the U.S. Naval Observatory, with location of sunrise to be determined by the district MAMU data steward.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "0548", "0601"
Data Type	String (4)

7.68 TEMPC

Geodatabase Name	TEMPC
BLM Structured Name	Weather_Observation_Temperature_Celsius_Number
Inheritance	Not Inherited
Alias Name	Temperature (C)
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Temperature in Celsius.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 9, 8
Data Type	Short Integer

7.69 VERSION_NAME

Geodatabase Name	VERSION_NAME
BLM Structured Name	Geodatabase_Version_Text
Inheritance	Inherited from entity ODF
Alias Name	Version Name
Feature Class Use/Entity Table	All feature classes and tables
Definition	<p>Only appears in the transactional (edit) version. Public version (which is also the version used internally for mapping or analysis) does not contain this attribute.</p> <p>Name of the corporate geodatabase version previously used to edit the record.</p> <p>InitialLoad = feature has not been edited in ArcSDE.</p> <p>Format: username.XXX-mmddyy-hhmmss = version name of last edit (hours might be a single digit; leading zeros are trimmed for hours only). XXX=theme abbreviation.</p>
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (50)

7.70 VERT_VIS

Geodatabase Name	VERT_VIS
BLM Structured Name	Weather_Vertical_Visibility_Code
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	From the survey station, note whether vertical visibility is unimpaired to 2 canopy heights.

Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_VERTVIS
Data Type	String (1)

7.71 VOC_OTHR

Geodatabase Name	VOC_OTHR
BLM Structured Name	Detection_Additional_Audio_Detections_Code
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_DETECTION_TBL
Definition	Additional Audio Detections.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_VOC_OTHR
Data Type	String (5)

7.72 WIND

Geodatabase Name	WIND
BLM Structured Name	Weather_Wind_Speed_Code
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	Record the wind speed based on the Beaufort Wind Scale. Observe the effects of wind conditions on trees and vegetation visible at ground level at the station and record the appropriate code.
Required/Optional	Optional
Domain (Valid Values)	dom_MAMU_WIND
Data Type	String (1)

7.73 WTHR_GUID

Geodatabase Name	WTHR_GUID
BLM Structured Name	Weather_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Weather Unique Identifier
Feature Class Use/Entity Table	MAMU_WEATHER_TBL
Definition	This attribute is a primary key, unique GUID identifier assigned to records as they are entered. This key is used for the various table relationships.
Required/Optional	Required

Domain (Valid Values)	No domain.
Data Type	GUID

7.74 YEAR_DOC_OCC

Geodatabase Name	YEAR_DOC_OCC
BLM Structured Name	Occupied_Site_Year_Site_Documented_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	The year the site was first documented as occupied.
Required/Optional	Optional
Domain (Valid Values)	No Domain. Examples: 1993, 2016
Data Type	String (4)

7.75 YEAR_LAST_OCC

Geodatabase Name	YEAR_LAST_OCC
BLM Structured Name	Occupied_Site_Year_Last_Occupancy_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	The latest year the site has occupied status.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "2012", "2004"
Data Type	String (4)

7.76 YEAR_LAST_VST

Geodatabase Name	YEAR_LAST_VST
BLM Structured Name	Occupied_Site_Year_Last_Visited_Text
Inheritance	Inherited from Entity Species Occurrence
Alias Name	None
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	The year the site was last visited.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "2018", "2009"
Data Type	String (4)

7.77 YEAR_LCTD

Geodatabase Name	YEAR_LCTD
BLM Structured Name	Occupied_Site_Year_First_Located_Text
Inheritance	Inherited from Entity Species Occurrence
Alias Name	None
Feature Class Use/Entity Table	MAMU_OCC_SITE_POLY
Definition	The year the Site was first surveyed/located.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "1998", "2001"
Data Type	String (4)

8 Publication Views

8.1 General

Master corporate feature classes/datasets maintained in the edit database (currently ORSOEDIT) are “published” to the user database (currently ORSOVCTR) in several ways:

- Copied completely with no changes (replicated).
- Copied with no changes except to omit one or more feature classes from a feature dataset.
- Minor changes made (e.g., clip, dissolve, union with ownership) to make the data easier to use. Feature classes that have been changed are indicated by “PUB” in their name. They are created through scripts that can be automatically executed and are easily rebuilt from the master (ORSOEDIT) data whenever necessary.

8.2 Specific to This Dataset

This dataset is not published to the public web.

An internal publication dataset is provided that replicates the data as-is with the modifications listed below. All VERSION_NAME and editor tracking fields will be dropped from publication data.

MAMU_STATION_PT:

Add the following fields to the Station Point publication dataset:

UTM_X_NAD83	Generate UTM X coordinate from site point using UTM Zone 10 projection, NAD83.
UTM_Y_NAD83	Generate UTM Y coordinate from site point using UTM Zone 10 projection, NAD83.

8.3 Layer Files

Layer files are not new data requiring storage and maintenance but point to existing data. They have appropriate selection and symbolization for correct use and display of the data. They provide the guidance for data published on the web. Layer files are created by simple, documented processes, and can be deleted and recreated at any time.

9 Editing Procedures

9.1 Managing Overlap (General Guidance)

“Overlap” means there are potentially more than one feature in the same feature class that occupies the same space (“stacked” polygons). Depending on the query, acres will be double counted.

In this discussion, an area entity may consist of more than one polygon, and a line entity may consist of more than one arc. They would have multiple records in the spatial table (with identical attributes). Multi-part features are not allowed. Multi-part features are easily created inadvertently and not always easy to identify. If they are not consciously and consistently avoided, feature classes will end up with a mixture of single and multi-part features. Multi-part features can be more difficult to edit, query, and select, along with impacting overall performance.

Overlap is only allowed in the ODF in limited and controlled scenarios. In each case, the “cause” of the overlap (the attribute changes that “kick off” a new feature which may overlap an existing feature) is carefully defined and controlled. In other words, in feature classes that permit overlap for a change in spatial extent, there is always a new feature created which may overlap an existing feature, but in addition there are certain attribute(s) that will result in a new feature even if there is no spatial change. The feature classes (and the one feature dataset) that allow overlap, and the attributes that lead to a new, possibly overlapping feature, are described below.

9.1.1 Overlapping Points.

Generally, these are allowed and do not cause a problem since points have no spatial extent. However, it is easy to inadvertently create more than one point making it important to search for and delete duplicates.

9.2 Editing Quality Control

Duplicate features. Checking for undesired duplicates is critical. Polygons or arcs that are 100% duplicate are easily found by searching for identical attributes along with identical Shape_Area and/or Shape_Length. Searching for partially overlapping arcs or polygons is harder, and each case must be inspected to determine if the overlap is desired or not.

To avoid overlapping polygons on the same area, polygons from different input themes are incorporated with the Union spatial overlay tool, not copied.

Union rather than Intersect is used to prevent unintended data loss.

Gap and overlap slivers. These can be hard to find if there are no topology rules. A temporary map topology can be created to find overlap slivers. Gap slivers can be found by constructing polygons from all arcs and checking polygons with very small area.

Buffer and dissolve considerations. Where polygons are created with the buffer tool, the correct option must be selected. The default option is “None,” which means overlap will be retained. Sometimes the overlap should be dissolved, and the option changed to “All.” Lines resulting from buffer have vertices too close together, especially around the end curves. They should be generalized to thin the vertices. If the dissolve tool is used on polygons or arcs, the “Create multipart features” should be unchecked.

GPS considerations. GPS linework is often messy and should always be checked and cleaned up as necessary. Often vertices need to be thinned (generalize) especially at line ends. Multi-part polygons are sometimes inadvertently created when GPS files with vertices too close together or crossing lines or spikes are brought into ArcGIS. Tiny, unwanted polygons are created but are “hidden” because they are in a multi-part.

Be careful when merging lines. Multi-part lines will be created if there are tiny unintentional (unknown) gaps, and it can be difficult to find these unless the multi-parts are exploded.

Null geometry. Check any features that have 0 or very small Shape_Area or Shape_Length. If a feature has 0 geometry and you can’t zoom to it, it is probably an inadvertently created “Null” feature and should be deleted. Very small features may also be unintended, resulting from messy line work.

Snapping considerations. Where line segments with different COORD_SRC meet, the most accurate or important (in terms of legal boundary representation) are kept unaltered, and other lines snapped to them. In general, the hierarchy of importance is PLSS (CadNSDI points/lines) first, with DLG or SOURCE next, then DEM, and MAP last. When snapping to the data indicated in COORD_SRC (as opposed to duplicating with copy/paste), be sure there are the same number of vertices in the target, and source theme arcs. When the DEF_FEATURE is "SUBDIVISION," snap the line segment to PLSS points, and make sure there are the same number of vertices in the line as PLSS points.

Check that all date fields contain valid dates in MM/DD/YYYY format. If an attribute has a domain, check for invalid values. The values must be exact.

Check for capitalization and spacing differences in attribute values that should be the same. Check for leading or trailing blanks what will make a different value even if it looks identical.

9.3 Theme Specific Guidance

There is much in the data standard that addresses editing and provides guidance especially in the Data Management Protocols (Section 3).

9.3.1 Calculation Data Rules

The following are a list of calculation rules that occur during editing. Calculation rules are used to automatically populate attributes in a field. These are in addition to the default values defined in Sections 4 and 7.

ALL FEATURE CLASSES AND TABLES

- *_GUID Fields - the unique identifier fields are autopopulated with a GUID/UUID value on record create.

MAMU_DETECTION_TBL:

- DET_TIME (Detection Time) must be entered in 24 hour format (0000, 1200).

MAMU_SURVEY_TBL:

- START_TIME (Survey Start Time) must be entered in 24 hour format (0000, 1200).
- END_TIME (Survey End Time) must be entered in 24 hour format (0000, 1200).
- SUNRISE_TIME (Sunrise End Time) must be entered in 24 hour format (0000, 1200).
- START_TIME must be less than END_TIME.

9.3.2 Constraint Data Rules

The following are a list of data constraint rules that are enforced during editing. Constraint rules specify allowable combinations of values between two or more fields in a record. They are used to ensure that specific conditions are met.

MAMU_OCC_SITE_POLY:

- SITE_NO (MSNO) is required for Occupied Sites (SITE_STATUS = "Occupied").

10 Abbreviations and Acronyms

Does not include abbreviations/acronyms used as codes for data attributes or domain values.

Table 2 Abbreviations/Acronyms Used

Abbreviations	Descriptions
ARC	GIS line feature
BLM	Bureau of Land Management, U.S. Department of the Interior
CADNSDI	Cadastral National Spatial Data Infrastructure
DEM	Digital Elevation Model
DLG	Digital Line Graphs
FOIA	Freedom of Information Act
FOIVEG	Forest Operations Inventory
GIS	Geographic Information System
GNIS	Geographic Names Information System
GPS	Global Positioning System
GTRN	Ground Transportation GIS dataset
IDP	Interdisciplinary
NAD	North American Datum
NARA	National Archives and Records Administration
NEPA	National Environmental Policy Act
ODF	Oregon Data Framework
OR/WA	Oregon/Washington BLM Administrative State
POLY	GIS polygon feature
PUB	Publication
RMP	Resource Management Plan
USFS	United States Forest Service, U.S. Department of Agriculture
USGS	United States Geological Survey, U.S. Department of the Interior
SDE	Spatial Database Engine
WEB	Worldwide Web (internet)
WODDB	Western Oregon Digital Database

A Domains (Valid Values)

These are the domains at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Current domains are found on the internal OR/WA SharePoint data management page. Some of the domains used in this data standard are also available at the following web site:

<http://www.blm.gov/or/datamanagement/index.php>

For domains not listed at that site contact: contact the [State Data Administrator](#).

A.1 dom_BLM_ORG_CD

Administrative Unit Organization Code. Standard BLM organization codes generated from the national list. This is a subset of OR/WA administrative offices and those in other states that border.

This is a lengthy domain used by multiple datasets. For the full list of values go to:

https://gis.blm.gov/ORDownload/Domains/dom_BLM_ORG_CODE.xls

A.2 dom_DT_ACC

Date Accuracy Code. Describes the accuracy of a date field.

Code	Description
Day	Day - Only the exact day, month, and year is known.
Month	Month - Only the exact month and year is known.
Year	Year - Only the exact year is known.
Unknown	Unknown - The accuracy of the date is unknown

A.3 dom_JURIS_CODE

Jurisdiction Organization Code. Management entity that has administrative responsibilities or jurisdiction for a geographic location.

Code	Description
BL	BL - Bureau of Land Management
BP	BP - Bonneville Power Administration
BR	BR - Bureau of Reclamation
CE	CE - Corps of Engineers
CG	CG - U.S. Coast Guard
DA	DA - U.S. Dept. of Agriculture (Except the Forest Service)
DD	DD - U.S. Dept. of Defense (Except the Corps of Engineers)
FA	FA - Federal Aviation Administration
FC	FC - Federal Energy Regulatory Commission
FS	FS - U.S. Forest Service
FW	FW - U.S. Fish and Wildlife Service
GS	GS - U.S. Geological Survey

Code	Description
GSA	GSA - General Services Administration
IA	IA - Bureau of Indian Affairs and Tribal Units
LG	LG - Local Government
NP	NP - National Park Service
PV	PV - Private Lands
PVI	PVI - Private, Industrial
PVN	PVN - Private, NonIndustrial
PVU	PVU - Private, Urban
SDT	SDT - State Transportation Department
ST	ST - State Managed Lands
STF	STF - State Forests
STL	STL - State Division of Lands
STP	STP - State Parks
STW	STW - State Wildlife Refuges
UN	UN - Undetermined

A.4 dom_MAMU_AUDIBILITY

Marbled Murrelet Weather Audibility Environment Code. From the survey station, note whether audibility is unimpaired within a 200 m (656 ft) radius.

Code	Description
N	N - Audibility is impaired within a 200m radius.
Y	Y - Audibility is unimpaired within a 200m radius.

A.5 dom_MAMU_CEILING

Marbled Murrelet Weather Vertical Ceiling Code. The height of the primary cloud/fog layer relative to the canopy of the survey site as viewed from the station.

Code	Description
HI	HI - > 2.0 canopy height
LO	LO - < 1.25 canopy height
MD	MD - > 1.25 to < 2.0 canopy height
U	U - Unknown; cannot see adequately to describe due to station placement
UL	UL - Unlimited (clear)

A.6 dom_MAMU_CLOUD

Marbled Murrelet Weather Cloud Percent Category Code. Class code to describe the amount of overhead cloud cover visible from the station. This is an ocular estimate.

Code	Description
0	0 - 0% (clear sky; no cloud cover)
1	1 - about 33% of sky covered
2	2 - about 66% of sky covered
3	3 - 100% of sky covered
U	U - Unknown; cannot see adequately to describe conditions due to station placement

A.7 dom_MAMU_CNPY_CVR

Marbled Murrelet Station Canopy Cover Code. Code that best describes the overhead canopy cover at the survey station.

Code	Description
1	1 - 0-25%
2	2 - 26-50%
3	3 - 51-75%
4	4 - 76-100%

A.8 dom_MAMU_CREW

Marbled Murrelet Location Crew Code. Identifies the crew or agency that found the site occupied.

Code	Description
BEC	BEC - Becker Ecoforestry
BLM	BLM - Bureau of Land Management
BPA	BPA - Bonneville Power Administration
JRE	JRE - Jared Reeves Enterprises
MRB	MRB - Mad River Biologists
NBS	NBS - USGS-National Biological Survey/Patrick Jodice
NCASI	NCASI - National Council for Air and Stream Improvement, Inc.
OSU	OSU - Oregon State University
PCGP	PCGP - Pacific Connector Gas Pipeline
TEC	TEC - Turnstone Environmental Consultants
VARJ	VARJ - Varoujean Research Study

A.9 dom_MAMU_DET_BEHAVE

Marbled Murrelet Detection Behavior Code. Used for recording the behavior type of the birds.

Code	Description
B	B - Circle At or Below Canopy (<1.0)
C	C - Circle Over Canopy
F	F - Flight Over Canopy
L	L - Seen Landing in or Departing From a Tree
N	N - (Retired) Near observer, but not flying within or over immediate canopy
S	S - Stationary Calling (fixed-point multiple calls <100m)
T	T - Fly-Through At or Below Canopy (<1.0)
U	U - Unknown (Audio Detection)

A.10 dom_MAMU_DET_TYPE

Marbled Murrelet Detection Type Code. Type of detection code.

Code	Description
B	B - Both seen and heard
H	H - Heard vocalizations only
S	S - Seen, with no vocalizations
T	T - Talled/Summarized Detection Info
U	U - Unknown

A.11 dom_MAMU_DIR

Marbled Murrelet Direction Code. Used for recording the direction birds were observed.

Code	Description
E	E - East
N	N - North
NE	NE - Northeast
NW	NW - Northwest
O	O - Overhead
S	S - South
SE	SE - Southeast
SW	SW - Southwest
U	U - Unknown
W	W - West

A.12 dom_MAMU_FOG

Marbled Murrelet Weather Fog Condition Code. Indicates fog intensity at the survey site as observed from the station. This domain is sorted in order of hierarchy or prominence.

Code	Description
H	H - Heavy (dense fog)
L	L - Light (translucent haze, thin fog)
M	M - Moderate (obscuring fog)
N	N - None

A.13 dom_MAMU_HORZVIS

Marbled Murrelet Weather Horizontal Visibility Status Code. From the survey station, note whether horizontal visibility is unimpaired within 100 m (328 ft).

Code	Description
H	H - Heavy (dense fog)
L	L - Light (translucent haze, thin fog)
M	M - Moderate (obscuring fog)

A.14 dom_MAMU_HRD_DIST

Marbled Murrelet Detection Heard Only Distance Code. Estimates how far birds are without having a visual distance. Codes are sorted in logical order.

Code	Description
F	F - Faint >150m
M	M - Moderate >50-150m
L	L - Loud 0-50m

A.15 dom_MAMU_KEER

Marbled Murrelet Detection Keer Code. The number of Keers, Groans, and Alternate calls heard. When more than 5 calls are heard in the same detection, record M for multiple.

Code	Description
G1	G1 - Groan/alternate call (1)
G2	G2 - Groan/alternate calls (2)
G3	G3 - Groan/alternate call (3)
G4	G4 - Groan/alternate call (4)
G5	G5 - Groan/alternate call (5)
GM	GM - Groan/alternate call (Multiple)

Code	Description
K1	K1 - Keer call (1)
K2	K2 - Keer calls (2)
K3	K3 - Keer calls (3)
K4	K4 - Keer calls (4)
K5	K5 - Keer calls (5)
KG2	KG2 - Keer call, Groan/alternate call (2)
KG3	KG3 - Keer calls, Groan/alternate calls (3)
KG4	KG4 - Keer calls, Groan/alternate calls (4)
KG5	KG5 - Keer calls, Groan/alternate calls (5)
KGM	KGM - Keer calls, Groan/alternate calls (Multiple)
KM	KM - Keer calls (Multiple)
KO2	KO2 - Keer call, Whistle or Soft Que call (2)
KO3	KO3 - Keer calls, Whistle or Soft Que calls (3)
KO4	KO4 - Keer calls, Whistle or Soft Que calls (4)
KO5	KO5 - Keer calls, Whistle or Soft Que calls (5)
KOM	KOM - Keer calls, Whistle or Soft Que calls (Multiple)
O1	O1 - Whistle or Soft Que Calls (1)
O2	O2 - Whistle or Soft Que Calls (2)
O3	O3 - Whistle or Soft Que Calls (3)
O4	O4 - Whistle or Soft Que Calls (4)
O5	O5 - Whistle or Soft Que Calls (5)
OM	OM - Whistle or Soft Que Calls (Multiple)

A.16 dom_MAMU_NOISE

Marbled Murrelet Weather Noise Environment Code. Record the appropriate code to indicate code conditions that affect ability to hear clearly within a 200m radius.

Code	Description
A	A - Airplane
B	B - Bird song/calls
C	C - Creek or other water drainage
M	M - Machinery (logging, mining, road construction, etc.)
N	N - None
O	O - Other
P	P - Precipitation (rain/hail)
T	T - Tree drip

Code	Description
V	V - Vehicle (trucks, cars, etc.)
W	W - Wind

A.17 dom_MAMU_OCC_STATUS

Marbled Murrelet Site Occupancy Status Code. Description of code

Code	Description
Presence	Presence - Presence Detections only
Occupied	Occupied - Occupied Behavior documented
Unknown	Unknown

A.18 dom_MAMU_OTHER

Marbled Murrelet Other Weather Code. Indicates other weather conditions at the survey site as observed from the station.

Code	Description
HH	HH - Intense Hail
HL	HL - Light Hail
HM	HM - Obscuring hail
N	N - None
SH	SH - Intense snow storms, Blizzard
SL	SL - Snow flurry
SM	SM - Obscuring snows

A.19 dom_MAMU_PLCMNT

Marbled Murrelet Station Placement Code. Indicates if the station is inside or outside the survey site.

Code	Description
E	E - Edge (50 meters or less from the edge and can be in or out of the stand).
I	I - Inside
O	O - Outside

A.20 dom_MAMU_RAIN

Marbled Murrelet Weather Rain Condition Code. Indicates rain intensity at the survey site as observed from the station.

Code	Description
H	H - Heavy (intense rain)
L	L - Light (mist, drizzle, soft rain)
M	M = Moderate (obscuring rain)
N	N - None

A.21 dom_MAMU_SGNFCNT_BEH

Marbled Murrelet Significant Behavior Code. Used to record the most biologically significant behavior. Codes are ordered from least significant to most significant.

Code	Description
N	N - No Murrelets
P	P - Presence
6B	6B - Circling Above Another Stand
6A	6A - Circling Above Stand
5B	5B - Beh. B in Non-Habitat
5A	5A - Beh. B in Habitat
4	4 - Stationary Calling
3	3 - Landing
2	2 - Chick/Egg
1	1 - Nest
U	U - Unknown. Data entry needs to be completed before submitting edit version.

A.22 dom_MAMU_SRV_TYPE

Marbled Murrelet Survey Type Code. Describes the type of survey being performed. This domain is sorted in order of common usage.

Code	Description
I	I - Intensive Survey
M	M - Monitoring
N	N - Nesting Survey
C	C - Incidental Observation
D	D - Radar Detection Survey
G	G - General Survey
O	O - Other kind of survey
T	T - Tree Climbing
U	U - Unknown
V	V - Radar Validation Survey

A.23 dom_MAMU_STTN_TYPE

Marbled Murrelet Station Type Code. Station code used to classify the type of surveys done from this station for all surveys. This domain is sorted in order of common usage.

Code	Description
G	G - General Surveys Only
I	I - Intensive Surveys Only
B	B - Both General Surveys and Intensive Surveys
N	N - Nest Monitoring Surveys
A	A - All Surveys
U	U - Unknown (Historic Surveys or Incidental Observations)

A.24 dom_MAMU_VERTVIS

Marbled Murrelet Weather Vertical Visibility Code. From the survey station, note whether vertical visibility is unimpaired to two canopy heights.

Code	Description
N	N - No
U	U - Unknown; cannot see adequately to describe conditions due to station placement
Y	Y - Yes

A.25 dom_MAMU_VOC_OTHR

Marbled Murrelet Detection Additional Audio Detection Code. Used for recording additional audio detections.

Code	Description
J	J - Jet sounds
JW	JW - Jet sounds, wingbeats
OTH	OTH - Other, describe in detection notes
W	W - Wingbeats
Y	Y - Overlapping calls heard
YJ	YJ - Overlapping calls, Jet sounds
YJW	YJW - Overlapping calls, Jet sounds, wingbeats
YW	YW - Overlapping calls, wingbeats

A.26 dom_MAMU_WIND

Marbled Murrelet Weather Wind Speed Code. Record the wind speed based on the Beaufort Wind Scale. Observe the effects of wind conditions on trees and vegetation visible at ground level at the station and record the appropriate code.

Code	Description
0	0 - <1 mph, calm
1	1 - 1-3 mph, leaves barely move
2	2 - 4-7 mph, leaves rustle and small twigs move
3	3 - 8-12 mph, leaves and small twigs in constant motion
4	4 - 13-18 mph, small branches move
5	5 - 19-24 mph, large branches and small trees start to sway
6	6 - 25-31 mph, large branches in constant motion
7	7 - 32-38 mph, whole trees move
8	8 - 39-46 mph, twigs and small branches break

A.27 dom_SLOPE_PSTN

Slope Position Code. Describes the location on the slope.

Code	Description
Bottom of Drainage	Bottom of Drainage
Large Flat Bench	Large Flat Bench
Lower 1/3 of Slope	Lower 1/3 of Slope
Middle 1/3	Middle 1/3
Well defined ridge top	Well defined ridge top
Upper 1/3	Upper 1/3

A.28 dom_YN

Yes/No Flag. Yes/No flag.

Code	Description
Y	Yes
N	No
U	Unknown