Oregon/Washington Bureau of Land Management

Forest Operations Inventory Vegetation

Spatial Data Standard

Vintage picture of Western Oregon forest stands. Photo by Don Smurthwaite, BLM, October 1985.

Document Revisions

Revision	Date	Author	Description	Affected Pages
1.0	6/23/2015	Pam Keller, Dan Couch	Initial Release	All
1.1	03/10/17	Kyler Diershaw	Updated contact information for State Data Steward, GIS Technical Lead, State Data Administrator, State Records Administrator. Added Document Revision Table.	Section 1.1, 2.5, 2.6, 4.0, Appendix A This page
1.2	03/13/2017	Kyler Diershaw	Added automatic TOC Updated BLM_ORG_CD Updated Records Retention Schedule	TOC A.1 1.3
1.3	10/18/2018	Al Thompson	Reformat and rewrite	All
1.4	05/15/2019	Roger Mills	Add domain for OI_DDD6	
1.5	02/19/2020	Roger Mills	Add attributes for FOIVEG_PUB_POLY: STATE, TIMBER_TYPE, STOCK_CLASS.	29, 32
1.6	02/28/2020	Al Thompson	Verify format updates.	All
2.0	11/9/2021	Dana Baker-Allum, Carolina Hooper	Significant update with reformatting, updated content to show related tables as part of the dataset, updated text to show that dataset has been expanded to all BLM states, and edits to text for clarity. Updated to make it more consistent with other data standards. Updated dom_MS_Veg_Source domain	All
2.0	1/26/2022	Dana Baker-Allum	Added GLOBALID field.	Sections 4.1, 4.2, 7.18
2.0	2/23/2022	Dana Baker-Allum	Added OI_VEGRMKS to the FOIVEG Publication view.	8.2.1

Navigation

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 [Alt] + Left Arrow [←] keys to return to the original location from the target location.

Contents

1   General Information

The Forest Operations Inventory Vegetation (FOIVEG_POLY) feature class is a forest-centric classification of vegetation with polygons that cover 100% of western Oregon BLM lands and some BLM managed areas in the rest of the United States. It describes forested lands in detail and non-forest lands with broad and general classifications. It includes and uses related table data from the Micro*Storms (M*S) system to describe forest vegetation. Polygons are delineated primarily based on differences in vegetative cover, size, and age. FOIVEG_POLY attributes describe both the overall forest stand as well as the layers within that stand. Cover type and ten-year age class are part of the description of the overall forest stand. The stand description, which includes species, size class, and birth year, describes the stand but, also, the layers of forest canopies within each stand. M*S provides the tool to edit FOIVEG_POLY attributes and provides additional vegetation information that could be used in conjunction with FOIVEG_POLY. M*S provides related tables of stand attributes, such as site class and site index, along with summary stand metrics data commonly resulting from stand exam surveys.

- Dataset (Theme) Name: Forest Vegetation

- Dataset (Feature Class): FOIVEG_POLY, MS_LAYERS, MS_LYR_SPP, MS_STAND, MS_STAND_SPP, MS_SNAG, MS_SG_DECAY, MS_DOWNLOG, MS_DL_DECAY

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 district 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 Records Administrator	The State Records Administrator assists the state data steward to identify any privacy issues related to spatial data. The state records administrator also provides direction and guidance on data release and fees. The state records administrator classifies data under the proper records retention schedule and

	determines the appropriate Freedom of Information Act category.

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 **20/52a4** (Electronic Records/Geographic Information Systems), lists this theme (**Vegetation Treatment and Management**) 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

The Forest Operations Inventory Vegetation 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 no restrictions on access to this data within the BLM or external to the BLM. 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. All classifier and comments fields should be removed from external datasets.

There are no privacy issues or concerns associated with these data themes. A privacy impact assessment was submitted for this dataset on May 1, 2015. The Privacy Impact Assessment (PIA) number is 105e3720RS.

1.5   Keywords

Keywords that can be used to locate this dataset include:

- BLM Thesaurus: Forest, Vegetation
- Additional keywords: Forestry, Trees, Forest Operations Inventory, FOI, Timber Stand, Land Use Planning, Forest Regeneration, Forest Restocking, Forest Cover, Natural Resources
- ISO Thesaurus: biota

1.6   Subject Function Codes

BLM Subject Function codes used to describe this dataset include:

- 1283 - Data Administration
- 1610 - Resource Management Planning
- 5000 - Forest Management
- 9167 - Geographic Information System (GIS)

2   Dataset Overview

2.1   Usage

This dataset is the spatial corporate repository for forest vegetation on BLM lands. It is used as a comprehensive record of vegetation on public lands at the unit level or at the broad landscape level using stand type or age class distribution. The published version of this dataset contains stand summary data and stand metrics that describe the vegetation in more detail. This data comes from stand exam and field surveys, photo interpretation, and remote sensing data.

2.2   Sponsor/Affected Parties

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

Forest Vegetation is defined by and specific to the BLM and occurs on BLM Lands. No interagency data standard exists for the current version of Forest Operations Inventory Vegetation.

2.3   Relationship to Other Datasets, Databases, or Files

Forest Operations Inventory Vegetation is related to the following datasets:

- Treatments - Treatment feature classes provide a history of vegetation treatments in the current vegetation description in FOIVEG_POLY and vegetation treatments that are proposed to occur on operational units. The Treatment Local Link attribute contains the OI Key Number from FOIVEG_POLY.

- Reforestation and Forest Surveys - This dataset describes surveys associated with the vegetation of an Operations Inventory unit. It provides a list of completed and proposed surveys that help to describe the current vegetation of FOIVEG_POLY. It also provides the spatial location of stand exam surveys that provide the stand metrics in the M*S dataset. The Forest Survey Local Link attribute contains the OI Key Number from FOIVEG_POLY.

- EcoSurvey Database - The EcoSurvey dataset contains tree and vegetation data collected on a point-by-point basis during stand exam surveys. The EcoSurvey program can summarize and export, in an automated process, the stand attributes to the M*S related tables and update the Stand Description and Ten-Year Age Class of FOIVEG_POLY. This process uses the OI Key number from FOIVEG_POLY to link with data having the same OI number in the EcoSurvey database.

- Other GIS reference layers are frequently used to define FOIVEG polygons. These include: CADNSDI representing the public land survey system (PLSS) and land line (LLI) data for ownership, LiDAR, GTRN Transportation, Hydrography, and topography.

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.
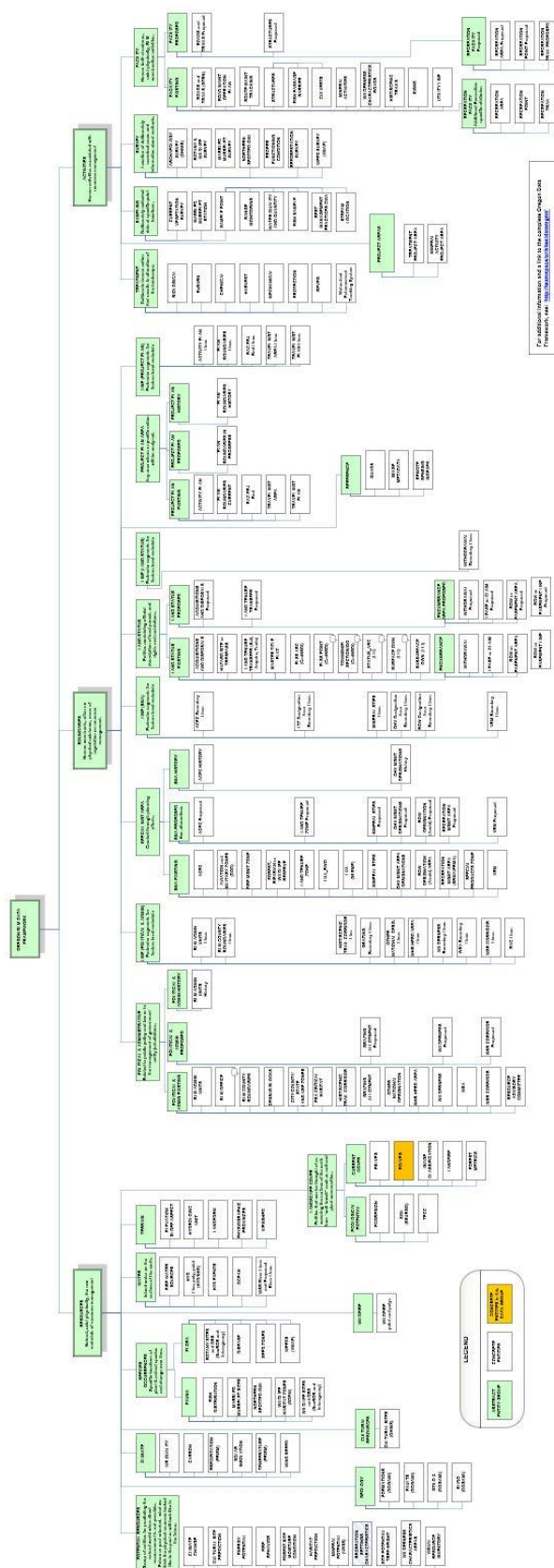
Figure 1   Oregon Data Framework Overview

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 FOIVEG 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, FOIVEG is considered a natural resource and categorized as follows:

ODF

    Resources

        Landscape Cover

            Current Cover

                FOIVEG_POLY
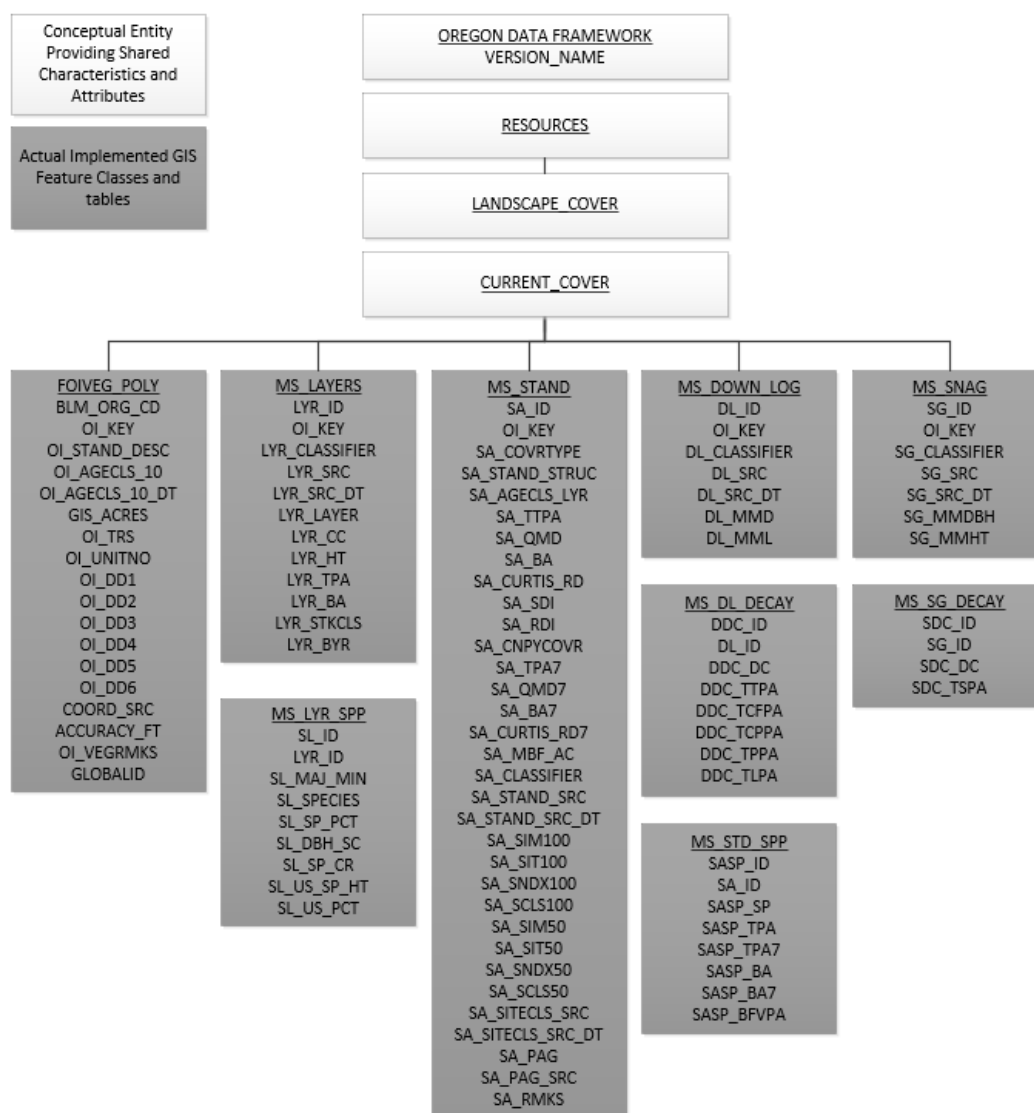
Figure 2   Data Organization Structure

2.5   Relationship to DOI Enterprise Architecture Data Resource Model

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 has a wide range of accuracies. Locational accuracy is dependent on the original classifier, or the base map used to generate the vegetation polygon, but there are many instances where this source is unknown because this polygon dataset has been managed by a variety of methods which predate the implementation of GIS. Many features were imported from the legacy data. However, more recent polygons generated in association with timber sales or updated imagery have a higher level of spatial accuracy and will have more complete information. Over time the dataset will become more accurate. A high degree of accuracy is not required for forest vegetation and, in some cases; the process of classifying vegetation does not lend itself to precise boundaries.

3.2   Collection, Input, and Maintenance Protocols

The primary reasons for creation of new polygons are significant changes in vegetation species composition, size, and density observed on aerial photography or other remote sensing data.. The target minimum mapping size for vegetation types is five acres. Map unique features such as ponds and rock outcrops detectable on resource photography down to as small as one acre. Similarly, timber harvest, silviculture treatments, or other disturbances which are one acre or larger that result in significant change in vegetation may also be defined as unique FOIVEG_POLY polygons.

Overlapping or multi-part polygons are not allowed. Adjust the boundaries of the surrounding polygons when creating a new vegetation polygon, so that this does not occur. In the past, FOIVEG_POLY polygons needed to be mapped to match BLM administered land boundaries, township, range and section line delineations, county boundaries, and Resource Area boundaries. However, except for staying within BLM administered lands and within district boundaries, the FOIVEG_POLY polygons can cross over these administrative lines to describe the continuity of a forest stand.

Detailed editing guidance is available in section 9 of this document.

3.3   Update Frequency and Archival Protocols

The State Data Steward and/or the Program Lead establish the policy for update frequency and completeness for the FOIVEG_POLY data. They base updates on disturbances or treatments that change the vegetation type or age class, such as fire or harvest. District resource specialists work with GIS specialists to map spatial extents of the forest vegetation. The theme is checked for spatial and attribute accuracy as data is input. Additions might be monthly or quarterly but, at least, annually. District specialists need to ensure that data in the FOIVEG_POLY theme are complimentary with associated records in the EcoSurvey application. Additional guidance is available in IB-OR-2019-004.

Data is archived annually at the end of the fiscal year.

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, Minerals and Fire 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   FOIVEG 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   Forest Vegetation Feature Dataset

4.1.1   FOIVEG_POLY Feature Class (Forest Operations Inventory Vegetation 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
BLM_ORG_CD	String	5		Yes *	dom_BLM_ORG_CD
OI_KEY	Long Integer			Yes *	
OI_STAND_DESC	String	255	UNKNOWN	Yes	
OI_AGECLS_10	Double			No	
OI_AGECLS_10_DT	String	8		No	
GIS_ACRES	Double			Yes *	
OI_TRS	String	25		No *	
OI_UNITNO	String	3		No	
OI_DD1	String	255		No	
OI_DD2	String	255		No	
OI_DD3	String	255		No	
OI_DD4	Double			No	
OI_DD5	Double			No	
OI_DD6	Double			No	
COORD_SRC	String	7		No	dom_COORD_SRC
ACCURACY_FT	Short Integer			No	
VERSION_NAME	String	50	InitialLoad	Yes *	
OI_VEGRMKS	String	2000		No	
GLOBALID	GUID			Yes *	

    *   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   Forest Vegetation Related Tables

4.2.1   MS_LAYERS (Layers 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
LYR_ID	Long Integer			Yes *	
OI_KEY	String	40		Yes *	
LYR_CLASSIFIER	String	30		Yes	
LYR_SRC	String	25		Yes	dom_MS_Veg_Source
LYR_SRC_DT	String	8		Yes	
LYR_LAYER	String	40		Yes	dom_MS_Layer
LYR_CC	Double			No	
LYR_HT	Long Integer			No	
LYR_TPA	Long Integer			No	
LYR_BA	Double			No	
LYR_STKCLS	String	20		Conditional	dom_MS_Layer_StockClass
LYR_BYR	Long Integer			Conditional	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

    *   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   MS_LYR_SPP (Layer Species 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
SL_ID	String	40		Yes *	
LYR_ID	String	40		Yes *	
SL_MAJ_MIN	String	1		No	dom_MS_TrueFalse
SL_SPECIES	Long Integer			Yes	dom_MS_Layer_Species_All, dom_MS_Layer_Species_Trees, dom_MS_Layer_Species_Understory
SL_SP_PCT	Double			Conditional	
SL_DBH_SC	Long Integer			Conditional	dom_MS_Layer_DBH_SC
SL_SP_CR	Double			No	

Attribute Name	Data Type	Length	Default Value	Required	Domain
SL_US_SP_HT	Double			No	
SL_US_PCT	Double			No	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

*   Values automatically generated

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4.2.3 MS_STAND (Stand 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
SA_ID	String	40		Yes *	
OI_KEY	Long Integer			Yes *	
SA_COVRTYPE	String	3		Yes	dom_MS_SA_CovrType
SA_STAND_SRC	String	7		Yes	dom_MS_SA_SS
SA_AGECLS_LYR	String	10		Yes	dom_MS_SA_AgeCls_Lyr
SA_TTPA	Long Integer			No	
SA_QMD	Double			No	
SA_BA	Long Integer			No	
SA_CURTIS_RD	Double			No	
SA_SDI	Long Integer			No	
SA_RDI	Double			No	
SA_CNPYCOVR	Double			No	
SA_TPA7	Long Integer			No	
SA_QMD7	Double			No	
SA_BA7	Long Integer			No	
SA_CURTIS_RD7	Double			No	
SA_MBF_AC	Double			No	
SA_CLASSIFIER	String	30		Yes	
SA_STAND_SRC	String	25		Yes	dom_MS_Veg_Source
SA_STAND_SRC_DT	String	8		Yes	
SA_SIM100	String	1		No	dom_MS_TrueFalse
SA_SIT100	String	30		No	dom_MS_SA_SIT100
SA_SNDX100	Short Integer			No	

Attribute Name	Data Type	Length	Default Value	Required	Domain
SA_SCLS100	Short Integer			No	dom_MS_SA_SiteClass
SA_SIM50	String	1		No	dom_MS_TrueFalse
SA_SIT50	String	30		No	dom_MS_SA_SIT50
SA_SNDX50	Short Integer			No	
SA_SCLS50	Short Integer			No	dom_MS_SA_SiteClass
SA_SITECLS_SRC	String	25		Conditional	dom_MS_Veg_Source
SA_SITECLS_SRC_DT	String	8		Conditional	
SA_PAG	String	10		No	dom_MS_SA_PAG
SA_PAG_SRC	String	3		No	dom_MS_SA_PAG_SRC
VERSION_NAME	String	50	InitialLoad	Yes *	
SA_RMKS	String	2000		No	
GLOBALID	GUID			Yes *	

*   Values automatically generated

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

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

4.2.4 MS_STD_SPP (Stand Species 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
SASP_ID	String	40		Yes *	
SA_ID	String	40		Yes *	
SASP_SP	Long Integer			No	dom_MS_Layer_Species_Trees
SASP_TPA	Long Integer			No	
SASP_TPA7	Long Integer			No	
SASP_BA	Long Integer			No	
SASP_BA7	Long Integer			No	
SASP_BFVPA	Long Integer			No	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

*   Values automatically generated

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

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

4.2.5 MS_DOWNLOG (Down Log 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
DL_ID	String	40		Yes *	
OI_KEY	Long Integer			Yes *	
DL_CLASSIFIER	String	30		Yes	
DL_SRC	String	25		Yes	dom_MS_Veg_Source
DL_SRC_DT	String	8		Yes	
DL_MMD	Long Integer			Yes	
DL_MML	Long Integer			Yes	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

*   Values automatically generated

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

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

4.2.6 MS_DL_DECAY (Down Log Decay 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
DDC_ID	String	40		Yes *	
DL_ID	String	40		Yes *	
DDC_DC	Long Integer			Yes	dom_MS_DecayClass
DDC_TTPA	Long Integer			No	
DDC_TCFPA	Long Integer			No	
DDC_TCPPA	Double			No	
DDC_TPPA	Long Integer			No	
DDC_TLPA	Long Integer			No	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

*   Values automatically generated

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

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

4.2.7 MS_SNAG (Snag 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
SG_ID	String	40		Yes *	
OI_KEY	Long Integer			Yes *	
SG_CLASSIFIER	String	30		Yes	
SG_SRC	String	25		Yes	dom_MS_Veg_Source
SG_SRC_DT	String	8		Yes	
SG_MMDBH	Long Integer			Yes	
SG_MMHT	Long Integer			Yes	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

    *   Values automatically generated

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

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

4.2.8 MS_SG_DECAY (Snag Decay 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
SDC_ID	String	40		Yes *	
SG_ID	String	40		Yes *	
SDC_DC	String	10		Yes	dom_MS_DecayClass
SDC_TSPA	Double			Yes	
VERSION_NAME	String	50	InitialLoad	Yes *	
GLOBALID	GUID			Yes *	

    *   Values automatically generated

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

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

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. See the metadata for this data for a more precise description of the extent.

6   Spatial Entity Characteristics

- FOIVEG_POLY (Forest Operations Inventory Vegetation Polygons)
    - Description: Instance of Current Cover group.
    - Geometry: Polygons must not overlap entirely or in part. Simple polygons, not multi-part, are used.
    - Topology: Yes
    - Integration Requirements: None

7   Attribute Characteristics and Definition (In alphabetical order)

7.1   ACCURACY_FT

Geodatabase Name	ACCURACY_FT
BLM Structured Name	Accuracy_Feet_Measure
Inheritance	Not Inherited
Alias Name	Accuracy (ft)
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	How close, in feet, the spatial GIS depiction is in relation to the actual location on the ground. There are several factors to consider in GIS error: scale and accuracy of map-based sources, accuracy of GPS equipment, and the skill level of the data manipulators. A value of "0" indicates no entry was made. This is the correct value when the COORD_SRC is another GIS theme (Digital Line Graph, Cadastral National Spatial Data Infrastructure and Digital Elevation Model) because the accuracy is determined by that theme. However, if COORD_SRC is MAP (digitized from a paper map) or GPS, a value of "0" indicates a missing value that should be filled in either with a non-zero number or "-1." A value of "-1" indicates the accuracy is unknown and no reliable estimate can be made.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 3 (for high accuracy GPS), 40 (best possible for USGS 24K topo map), 200
Data Type	Short Integer

7.2   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	FOIVEG_POLY
Definition	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. This attribute is auto populated by the M*S application.
Required/Optional	Required
Domain (Valid Values)	dom_BLM_ORG_CD

Data Type	String (5)

7.3   COORD_SRC

Geodatabase Name	COORD_SRC
BLM Structured Name	Coordinate_Source_Code
Inheritance	Not Inherited
Alias Name	Coord Src
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	The actual source of the GIS coordinates for the polylines. If the line is copied from another theme, and already has COORD_SRC, it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Optional
Domain (Valid Values)	dom_COORD_SRC
Data Type	String (7)

7.4   DDC_DC

Geodatabase Name	DDC_DC
BLM Structured Name	Down_Log_Decay_Class_Code
Inheritance	Not Inherited
Alias Name	Down Log Decay Class
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	Down Log Decay Class describes the decomposition characteristics of down logs from 1 through 5. For more information, refer to the Down Log Decay Class Diagram in Appendix D.
Required/Optional	Required
Domain (Valid Values)	dom_MS_DecayClass
Data Type	Long Integer

7.5   DDC_ID

Geodatabase Name	DDC_ID
BLM Structured Name	Down_Log_Decay_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	Unique identifier for the MS_DL_DECAY table. This field is auto populated with a GUID value by the M*S application.

Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.6 DDC_TCFPA

Geodatabase Name	DDC_TCFPA
BLM Structured Name	Total_Down_Log_Cubic_Feet_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Cubic Feet/Ac
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	For each decay class, list the stands down log total cubic feet per acre. Valid number between 0 and 50,000. However, the normal range of values is 0 to 25,000.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 614, 1810
Data Type	Long Integer

7.7 DDC_TCPPA

Geodatabase Name	DDC_TCPPA
BLM Structured Name	Total_Down_Log_Cover_Percent_Number
Inheritance	Not Inherited
Alias Name	Total % Cover/Ac
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	For each decay class, list the stands down log total percent cover. Valid number between 0 and 1.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.026, 0.015
Data Type	Double

7.8 DDC_TLPA

Geodatabase Name	DDC_TLPA
BLM Structured Name	Total_Down_Log_Length_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Length/Ac
Feature Class Use/Entity Table	MS_DL_DECAY

Definition	For each decay class, list the stands down log total length per acre. Valid number between 0 and 15,000. However, the normal range of values is 0 to 10,000.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 586, 1026
Data Type	Long Integer

7.9   DDC_TPPA

Geodatabase Name	DDC_TPPA
BLM Structured Name	Total_Down_Log_Pieces_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Pieces/Ac
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	For each decay class, list the stands down log total pieces per acre. Valid number between 0 and 1,000. However, the normal range of values is 0 to 800.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 84, 40
Data Type	Long Integer

7.10   DDC_TTPA

Geodatabase Name	DDC_TTPA
BLM Structured Name	Total_Down_Log_Tons_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Tons/Ac
Feature Class Use/Entity Table	MS_DL_DECAY
Definition	For each decay class, list the stands down log total tons per acre. Valid number between 0 and 400. However, the normal range of values is 1 to 250.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 3, 19
Data Type	Long Integer

7.11   DL_CLASSIFIER

Geodatabase Name	DL_CLASSIFIER
BLM Structured Name	Classifier_Text
Inheritance	Not Inherited

Alias Name	Classifier
Feature Class Use/Entity Table	MS_DOWNLOG
Definition	Individual responsible for the latest classification update, if known. Use "Unknown" for missing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "Joe Smith", "Mike Brown"
Data Type	String (30)

7.12 DL_ID

Geodatabase Name	DL_ID
BLM Structured Name	Down_Log_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_DOWNLOG, MS_DL_DECAY
Definition	Unique identifier for the MS_DOWNLOG table. This field is used to link records in the MS_DOWNLOG table to records in the MS_DL_DECAY table. This field is auto populated with a GUID value by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.13 DL_MMD

Geodatabase Name	DL_MMD
BLM Structured Name	Minimum_Measured_Down_Log_Diameter_Number
Inheritance	Not Inherited
Alias Name	Min Measured Diameter
Feature Class Use/Entity Table	MS_DOWNLOG
Definition	List the minimum measured intersect diameter. Valid number between 0 and 20.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 5, 8
Data Type	Long Integer

7.14 DL_MML

Geodatabase Name	DL_MML
BLM Structured Name	Minimum_Measured_Down_Log_Length_Number
Inheritance	Not Inherited
Alias Name	Min Measured Length
Feature Class Use/Entity Table	MS_DOWNLOG
Definition	List the minimum measured length. Valid number between 3 and 30.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 8, 20
Data Type	Long Integer

7.15 DL_SRC

Geodatabase Name	DL_SRC
BLM Structured Name	Down_Log_Data_Source_Code
Inheritance	Not Inherited
Alias Name	Down Log Data Source
Feature Class Use/Entity Table	MS_DOWNLOG
Definition	Description of the source data used to derive the down log attributes.
Required/Optional	Required
Domain (Valid Values)	dom_MS_Veg_Source
Data Type	String (25)

7.16 DL_SRC_DT

Geodatabase Name	DL_SRC_DT
BLM Structured Name	Down_Log_Source_Date
Inheritance	Not Inherited
Alias Name	Down Log Data Source Date
Feature Class Use/Entity Table	MS_DOWNLOG
Definition	Date of the source data used to derive the down log attributes. Dates are in the format YYYYMMDD.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "20090903", "20181004"
Data Type	String (8)

7.17 GIS_ACRES

Geodatabase Name	GIS_ACRES
BLM Structured Name	GIS_Acres_Measure
Inheritance	Not Inherited
Alias Name	GIS Acres
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	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. GIS_ACRES is calculated using the NAD 1983 Albers Equal Area project except for the following OR/WA Districts: Prineville: NAD 1983 USFS R6 Albers Coos Bay, Eugene, Lakeview, Medford, Roseburg, Salem: NAD 1983 UTM Zone 10N Burns, Spokane, Vale: NAD 1983 UTM Zone 11N
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 2.4, 46.1, 350.5
Data Type	Double

7.18 GLOBALID

Geodatabase Name	GLOBALID
BLM Structured Name	Global_Unique_Identifier
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	All feature classes and tables.
Definition	An alpha-numeric code that services 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: "{BC5B8B61-7E92-4D57-813D-2D54C3EC8658}"
Data Type	GUID

7.19 LYR_BA

Geodatabase Name	LYR_BA
BLM Structured Name	Layer_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Layer Basal Area
Feature Class Use/Entity Table	MS_LAYERS
Definition	The basal area of the layer (top, middle, or bottom) including all species for that layer.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 20, 40
Data Type	Double

7.20 LYR_BYR

Geodatabase Name	LYR_BYR
BLM Structured Name	Layer_Birth_Year_Number
Inheritance	Not Inherited
Alias Name	Layer Birth Year
Feature Class Use/Entity Table	MS_LAYERS
Definition	Estimated or average birthdate for trees in the stand layer designated for management. If the stand has multiple tree layers, an assignment is made for that portion of the stand that is going to be managed. Recorded as a four-digit year. If the LYR_LAYER value is Top, Middle, or Bottom, it is considered a tree layer. This field is required if the LYR_LAYER equals Top, Middle, or Bottom. It is not required for Understory or Non-Forested layers.
Required/Optional	Conditional
Domain (Valid Values)	No domain. Examples: 1806, 1984
Data Type	Long Integer

7.21 LYR_CC

Geodatabase Name	LYR_CC
BLM Structured Name	Layer_Percent_Cover_Number
Inheritance	Not Inherited
Alias Name	Layer % Cover
Feature Class Use/Entity Table	MS_LAYERS
Definition	Percent crown closure for a specific tree layer without resolution of canopy overlap between layers. Estimates for a particular layer never exceed 100% (1.0). Percent crown closure for the three tree layers includes both hardwoods and conifers and the resolution of crown overlap within the

	layer. For the Understory Layers, only non-tree species are included in the canopy cover estimates. Crown closure may be an ocular estimate or a measurement using a spherical densiometer, moosehorn, or other such instrument.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.05, 0.15
Data Type	Double

7.22 LYR_CLASSIFIER

Geodatabase Name	LYR_CLASSIFIER
BLM Structured Name	Classifier_Text
Inheritance	Not Inherited
Alias Name	Classifier
Feature Class Use/Entity Table	MS_LAYERS
Definition	Individual responsible for the latest classification update, if known. Use "Unknown" for missing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "Joe Smith", "Mike Brown"
Data Type	String (30)

7.23 LYR_HT

Geodatabase Name	LYR_HT
BLM Structured Name	Layer_Height_Number
Inheritance	Not Inherited
Alias Name	Layer Avg Ht
Feature Class Use/Entity Table	MS_LAYERS
Definition	Average top height of layer to the nearest foot.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 27, 104
Data Type	Long Integer

7.24 LYR_ID

Geodatabase Name	LYR_ID
BLM Structured Name	Layer_Identifier_Text
Inheritance	Not Inherited
Alias Name	None

Feature Class Use/Entity Table	MS_LAYERS, MS_LYR_SPP
Definition	Unique identifier for the MS_LAYERS table. This field is used to link records in the MS_LAYERS table to records in the MS_LYR_SPP table. This field is auto populated with a GUID value by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	Long Integer

7.25 LYR_LAYER

Geodatabase Name	LYR_LAYER
BLM Structured Name	Layer_Name_Text
Inheritance	Not Inherited
Alias Name	Layer
Feature Class Use/Entity Table	MS_LAYERS
Definition	Three potential Tree Layers (top, middle, or bottom) and one Understory Vegetation (non-tree life forms) Layer. For single layer stands, the Top layer should be recorded. For two layer stands, top and bottom layers should be recorded. For three layer stands, top, bottom, and middle should be recorded. There should never be more than one layer per type for a given classification date (e.g., two Top layers for 1/1/2021).
Required/Optional	Required
Domain (Valid Values)	dom_MS_Layer
Data Type	String (40)

7.26 LYR_SRC

Geodatabase Name	LYR_SRC
BLM Structured Name	Layer_Source_Code
Inheritance	Not Inherited
Alias Name	Layer Data Source
Feature Class Use/Entity Table	MS_LAYERS
Definition	Description of the source data used to derive the layer attributes. Describes the method by which the data was collected.
Required/Optional	Required
Domain (Valid Values)	dom_MS_Veg_Source
Data Type	String (25)

7.27 LYR_SRC_DT

Geodatabase Name	LYR_SRC_DT
BLM Structured Name	Layer_Source_Date
Inheritance	Not Inherited
Alias Name	Layer Data Source Date
Feature Class Use/Entity Table	MS_LAYERS
Definition	Date of the source data used to derive the layer attributes. Dates are in the format YYYYMMDD.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "20090903", "20181004"
Data Type	String (8)

7.28 LYR_STKCLS

Geodatabase Name	LYR_STKCLS
BLM Structured Name	Stocking_Class_Code
Inheritance	Not Inherited
Alias Name	Stocking Class
Feature Class Use/Entity Table	MS_LAYERS
Definition	Numeric classification of forest stocking density related to Layer Canopy Cover. The Entire Stand Description uses the bar stocking which is taken from the Stocking Class Lookup table that equates to this numeric value for the layer. This field is required if the LYR_LAYER equals Top, Middle, or Bottom (i.e., tree layers). It is not required for Understory or Non-Forested layers.
Required/Optional	Conditional
Domain (Valid Values)	dom_MS_Layer_StockClass
Data Type	String (20)

7.29 LYR_TPA

Geodatabase Name	LYR_TPA
BLM Structured Name	Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Layer Trees/Ac
Feature Class Use/Entity Table	MS_LAYERS
Definition	Estimated or sampled number of trees per acre in the layer.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 9, 111

Data Type	Long Integer

7.30 OI_AGECLS_10

Geodatabase Name	OI_AGECLS_10
BLM Structured Name	Ten_Year_Age_Class_Number
Inheritance	Not Inherited
Alias Name	10 Yr Age Class
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	The 10-year age class for the standard is derived from the birth year using the most recent source stand layer designated for management in the stand attributes. Stand ages 0-4 are assigned an age class of 5, stand ages 5-14 are assigned an age class of 10, stand ages 15-24 are assigned an age class of 20, and so on. If the stand description is a non-forest type, this field will be blank. Age classes are recalculated by the M*S application when the Stand Description is updated. They are also calculated for the entire dataset every year during the month of January.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 30, 100, 170
Data Type	Double

7.31 OI_AGECLS_10_DT

Geodatabase Name	OI_AGECLS_10_DT
BLM Structured Name	Ten_Year_Age_Class_Date
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	The date when the Ten-Year Age Class for the stand was last calculated. This attribute is auto populated by the M*S application or when the entire dataset is updated every year in January. Dates are in the format YYYYMMDD.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "20190215", "20200130"
Data Type	String (8)

7.32 OI_DD1

Geodatabase Name	OI_DD1
BLM Structured Name	First_District_Defined_Text

Inheritance	Not Inherited
Alias Name	DD1
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined text field controlled by District and Regional Stewards.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "SE-WOSL", " SC-Dev"
Data Type	String (255)

7.33 OI_DD2

Geodatabase Name	OI_DD2
BLM Structured Name	Second_District_Defined_Text
Inheritance	Not Inherited
Alias Name	DD2
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined text field controlled by District and Regional Stewards
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "MG_A_NDF_2_30", "MG_A_SDF_3_30"
Data Type	String (255)

7.34 OI_DD3

Geodatabase Name	OI_DD3
BLM Structured Name	Third_District_Defined_Text
Inheritance	Not Inherited
Alias Name	DD3
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined text field controlled by District and Regional Stewards
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "NRCS_HannDF", "CFI_HannDF"
Data Type	String (255)

7.35 OI_DD4

Geodatabase Name	OI_DD4
BLM Structured Name	Fourth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	DD4

Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined number field controlled by District and Regional Stewards
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 87, 105
Data Type	Double

7.36 OI_DD5

Geodatabase Name	OI_DD5
BLM Structured Name	Fifth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	DD5
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined number field controlled by District and Regional Stewards
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0, 100.1
Data Type	Double

7.37 OI_DD6

Geodatabase Name	OI_DD6
BLM Structured Name	Sixth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	DD6
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	District defined number field controlled by District and Regional Stewards
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1, 52
Data Type	Double

7.38 OI_KEY

Geodatabase Name	OI_KEY
BLM Structured Name	Operations_Inventory_Key_Number
Inheritance	Not Inherited
Alias Name	OI #
Feature Class Use/Entity Table	FOIVEG_POLY, MS_LAYERS, MS_STAND, MS_DOWNLOG, MS_SNAG

Definition	A unique number assigned to each unit as they are entered by the M*S application. This field is required and used for relating FOIVEG_POLY records to child Layer, Stand, Download, and Snag records. This attribute is auto populated by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 31771, 935304
Data Type	Long Integer

7.39 OI_STAND_DESC

Geodatabase Name	OI_STAND_DESC
BLM Structured Name	Stand_Description_Text
Inheritance	Not Inherited
Alias Name	Stand Description
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	A concatenation of the Cover Type indicating the type of forest or non-forest vegetation, with a stand description from a combination of Layer and Layer Species fields, based on the most recent layer source date. The stand description lists the major species timber types, Diameter Class, Stocking Level, and Birthyear for each of the Top/Middle/Bottom layers (if present). Use the M*S Update Stand Description tool to populate or update this field. The default value for this field is UNKNOWN.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "FCO D4D3-=1880", "FCO WF3WF4WF2D3D4=1888//WF2P1WF1NH21942"
Data Type	String (255)

7.40 OI_TRS

Geodatabase Name	OI_TRS
BLM Structured Name	Township_Range_Section_Label_Text
Inheritance	Not Inherited
Alias Name	TRS
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	Township/Range/Section label used for cartographic output or web display. If a unit covers multiple sections, the section where most of the unit is listed. This attribute is auto populated by the M*S application.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "T15S-R07W-05", "T05N-R02W-21
Data Type	String (25)

7.41 OI_UNITNO

Geodatabase Name	OI_UNITNO
BLM Structured Name	Unit_Number_Identifier
Inheritance	Not Inherited
Alias Name	Unit #
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	A value assigned by the user to each unit.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "060", "120"
Data Type	String (3)

7.42 OI_VEGRMKS

Geodatabase Name	OI_VEGRMKS
BLM Structured Name	Vegetation_Remarks_Text
Inheritance	Not Inherited
Alias Name	Stand Remarks
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	Text field for any remarks on the OI Unit.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "Imported 40 acres from OI Unit # 641428.", "Stand Exam Remarks: 231846 20S-10W-34-010 38 231844 20S-10W-27-050 10 231848 20S-10W-35-040 1 ....TOTAL 49"
Data Type	String (2000)

7.43 SA_AGECLS_LYR

Geodatabase Name	SA_AGECLS_LYR
BLM Structured Name	Stand_Ten_Year_Age_Class_Layer_Code
Inheritance	Not Inherited
Alias Name	10 Yr Age Class Layer
Feature Class Use/Entity Table	MS_STAND
Definition	Designation of the top, middle, or bottom layer or non-forest which the ten-year age class will be based. The layer designated is the dominate vegetation type which the stand is primarily being managed for. Ten-year age class is based on the birthdate of that layer and is updated annually through the M*S application. This is user specified during the Ecosurvey import process.

Required/Optional	Required
Domain (Valid Values)	dom_MS_SA_AgeCls_Lyr
Data Type	String (10)

7.44 SA_BA

Geodatabase Name	SA_BA
BLM Structured Name	Stand_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Basal Area
Feature Class Use/Entity Table	MS_STAND
Definition	The sum of basal area per acre for all tree species of all layers. EcoSurvey stand exam calculations include live conifer and hardwood trees with a diameter at breast height. Valid values range from 0 to 999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 133, 229
Data Type	Long Integer

7.45 SA_BA7

Geodatabase Name	SA_BA7
BLM Structured Name	Stand_Basal_Area_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Basal Area > = 7"
Feature Class Use/Entity Table	MS_STAND
Definition	Stand Basal Area of trees greater than or equal to 7 inches - The total basal area per acre for all tree species in all layers with a DBH greater than or equal to 7 inches which may be 0 if no trees exist in that category. EcoSurvey stand exam calculations include all live conifer and hardwood trees. Valid values range from 0 to 999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 120, 133
Data Type	Long Integer

7.46 SA_CLASSIFIER

Geodatabase Name	SA_CLASSIFIER
BLM Structured Name	Classifier_Text
Inheritance	Not Inherited
Alias Name	Classifier

Feature Class Use/Entity Table	MS_STAND
Definition	Individual responsible for the latest stand attributes update, if known. Use "Unknown" for missing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "Joe Smith", "Mike Brown"
Data Type	String (30)

7.47 SA_CNPYCOVR

Geodatabase Name	SA_CNPYCOVR
BLM Structured Name	Canopy_Cover_Percent_Number
Inheritance	Not Inherited
Alias Name	Canopy Cover %
Feature Class Use/Entity Table	MS_STAND
Definition	List the stand canopy cover resolved for overlap. The value is expressed as a percent. Records imported from EcoSurvey stand exam calculations use live trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height. Valid values range from 0.01 to 1.0.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.46, 0.58
Data Type	Double

7.48 SA_COVRTYPE

Geodatabase Name	SA_COVRTYPE
BLM Structured Name	Cover_Type_Code
Inheritance	Not Inherited
Alias Name	Cover Type
Feature Class Use/Entity Table	MS_STAND
Definition	Broad classification of the stand to distinguish forested from non-forested conditions. Forested types are further described for the dominate forest cover type ‑ conifers, hardwoods, or mixed. If the area is currently not in a forested type (recently harvested) but is capable of being forested, then it is described as Forested ‑ currently nonstocked. Non forested types not capable of growing a forest are further described ‑ water, marsh, and rock for examples.
Required/Optional	Required
Domain (Valid Values)	dom_MS_SA_CovrType
Data Type	String (3)

7.49 SA_CURTIS_RD

Geodatabase Name	SA_CURTIS_RD
BLM Structured Name	Curtis_Relative_Density_Number
Inheritance	Not Inherited
Alias Name	Curtis Relative Density
Feature Class Use/Entity Table	MS_STAND
Definition	A simple and convenient scale for relative stand density using the method defined by Curtis (Curtis, 1982). Valid values range from 0 to 1.5. Calculated using the following equation: Curtis RD = BA/sqrt(QMD).
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.011 , 0.39
Data Type	Double

7.50 SA_CURTIS_RD7

Geodatabase Name	SA_CURTIS_RD7
BLM Structured Name	Curtis_Relative_Density_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Curtis Relative Density > = 7"
Feature Class Use/Entity Table	MS_STAND
Definition	Curtis Relative Density for trees greater than or equal to 7 inches DBH provided by the expression: RD7 = BA7/ sqrt(QMD7). Valid values range from 0 to 1.5.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.01, 0.0124
Data Type	Double

7.51 SA_ID

Geodatabase Name	SA_ID
BLM Structured Name	Stand_Attributes_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_STAND, MS_STAND_SPP
Definition	Unique identifier for the MS_STAND table. This field is used to link records in the MS_STAND table to records in the MS_STD_SPP table. This field is auto populated with a GUID value by the M*S application.

Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.52 SA_MBF_AC

Geodatabase Name	SA_MBF_AC
BLM Structured Name	Stand_Volume_Per_Acre_MBF_Number
Inheritance	Not Inherited
Alias Name	Volume/Ac (MBF)
Feature Class Use/Entity Table	MS_STAND
Definition	Volume per Acre (MBF) - Green Conifer MBF per Acre. Volume Per Acre (MBF) - Enter the live conifer & hardwood net volume per acre in thousands of board feet. Historically, this field was labeled Mature Green Conifer MBF Per Acre and it was filled in with a variety of volume values. Currently, the value for this field is described as live conifer and hardwood net volume per acre expressed in thousands of board feet. EcoSurvey stand exam calculations use live conifer and hardwood trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height. However, the user can specify lower diameter limits during the import phase the lower diameter. Valid values between .1 and 400. However, the normal range of values between .1 and 250.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.1, 0.4
Data Type	Double

7.53 SA_PAG

Geodatabase Name	SA_PAG
BLM Structured Name	Stand_Plant_Association_Group_Code
Inheritance	Not Inherited
Alias Name	Plant Association
Feature Class Use/Entity Table	MS_STAND
Definition	Plant association based on key vegetative species.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_PAG
Data Type	String (10)

7.54 SA_PAG_SRC

Geodatabase Name	SA_PAG_SRC
BLM Structured Name	Stand_Plant_Association_Group_Source_Code
Inheritance	Not Inherited
Alias Name	Plant Assoc. Source
Feature Class Use/Entity Table	MS_STAND
Definition	The source used to determine the Plant Association Group.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_PAG_SRC
Data Type	String (3)

7.55 SA_QMD

Geodatabase Name	SA_QMD
BLM Structured Name	Quadratic_Mean_Diameter_Number
Inheritance	Not Inherited
Alias Name	QMD
Feature Class Use/Entity Table	MS_STAND
Definition	The diameter of average basal area per tree. In other words, QMD is the diameter of the tree of average basal area. The value is expressed in inches. QMD = sqrt(BA / TPA / 0.005454154) Valid values range from 0.1 to 99.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.1, 15.5
Data Type	Double

7.56 SA_QMD7

Geodatabase Name	SA_QMD7
BLM Structured Name	Quadratic_Mean_Diameter_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	QMD > = 7"
Feature Class Use/Entity Table	MS_STAND
Definition	The diameter of average basal area per tree for trees greater than seven inches. QMD = sqrt(BA7 / TPA7 / 0.005454154). Data imported from EcoSurvey stand exams include all live trees. Valid values range from 0.1 to 99.
Required/Optional	Optional

Domain (Valid Values)	No domain. Examples: 6.5, 24.39
Data Type	Double

7.57 SA_RDI

Geodatabase Name	SA_RDI
BLM Structured Name	Relative_Density_Index_Number
Inheritance	Not Inherited
Alias Name	Relative Density Index
Feature Class Use/Entity Table	MS_STAND
Definition	The ratio of the Stand Density Index divided by the maximum Stand Density Index for a species. For individual tree species: RDI = SDI / MaxSDI. A stratum may contain more than one tree species so there is no one Max SDI for a stratum. Therefore, the stratum total Max SDI is calculated using the proportion of each species' MaxSDI relative to the proportion of that species basal area in the stratum. Stratum Max SDI = Sum (TreeBA / StratumBa * TreeMaxSDI) Stratum RDI = Stratum SDI / StratumMaxSDI. EcoSurvey stand exam calculations use live trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height. The value is expressed as a decimal ranging from 0.01 to 1.5.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.09, 0.67
Data Type	Double

7.58 SA_RMKS

Geodatabase Name	SA_RMKS
BLM Structured Name	Stand_Remarks_Text
Inheritance	Not Inherited
Alias Name	Stand Remarks
Feature Class Use/Entity Table	MS_STAND
Definition	A place to record if there is something unique about the stand attributes or the way they were determined.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: " Imported Stand Attributes record from the Forest Survey Software Program on 4/18/2006 .", " Stocked DF stand including 16% >30" DBH and 2% BM"
Data Type	String (2000)

7.59 SA_SCLS100

Geodatabase Name	SA_SCLS100
BLM Structured Name	One_Hundred_Year_Site_Class_Code
Inheritance	Not Inherited
Alias Name	100 Yr Site Class
Feature Class Use/Entity Table	MS_STAND
Definition	Average 100 year site class. Some site index tables do not include site class therefore site class may be blank. The EcoSurvey stand exam program calculates site class for individual trees identified as site trees if they have both a height and breast height age. These individual tree site indexes are then averaged to produce site class for the stand.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_SiteClass
Data Type	Short Integer

7.60 SA_SCLS50

Geodatabase Name	SA_SCLS50
BLM Structured Name	Fifty_Year_Site_Class_Code
Inheritance	Not Inherited
Alias Name	50 Yr Site Class
Feature Class Use/Entity Table	MS_STAND
Definition	Average 50 year site class. Some site index tables do not include site class therefore site class may be blank. The EcoSurvey stand exam program calculates site class for individual trees identified as site trees if they have both a height and breast height age. These individual tree site indexes are then averaged to produce site class for the stand.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_SiteClass
Data Type	Short Integer

7.61 SA_SDI

Geodatabase Name	SA_SDI
BLM Structured Name	Stand_Density_Index_Number
Inheritance	Not Inherited
Alias Name	Stand Density Index
Feature Class Use/Entity Table	MS_STAND
Definition	An index that expresses relative stand density in terms of the relationship of the number of trees per acre to stand quadratic mean diameter. The value is expressed in number of trees per acre. SDI = TPA * (QMD/10)1.605

	EcoSurvey stand exam calculations use live trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height (Reineke, 1933). Values range from 1 to 999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1, 35
Data Type	Long Integer

7.62 SA_SIM100

Geodatabase Name	SA_SIM100
BLM Structured Name	One_Hundred_Year_Site_Class_Measured_Text
Inheritance	Not Inherited
Alias Name	100 Site Index Measured?
Feature Class Use/Entity Table	MS_STAND
Definition	A true or false field to indicate if the 100-year site index was measured as opposed to estimated.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: T, F
Data Type	String (1)

7.63 SA_SIM50

Geodatabase Name	SA_SIM50
BLM Structured Name	Fifty_Year_Site_Class_Measured_Code
Inheritance	Not Inherited
Alias Name	50 Site Index Measured?
Feature Class Use/Entity Table	MS_STAND
Definition	A true or false field to indicate if the 50-year site index was measured as opposed to estimated.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: T, F
Data Type	String (1)

7.64 SA_SIT100

Geodatabase Name	SA_SIT100
BLM Structured Name	One_Hundred_Year_Site_Index_Table_Code
Inheritance	Not Inherited

Alias Name	100 Yr Site Table
Feature Class Use/Entity Table	MS_STAND
Definition	Enter the 100-year site index table used to estimate or measure the site index. Site tree selection rules for the site table selected should be followed when measuring site index.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_SIT100
Data Type	String (30)

7.65 SA_SIT50

Geodatabase Name	SA_SIT50
BLM Structured Name	Fifty_Year_Site_Index_Table_Code
Inheritance	Not Inherited
Alias Name	50 Yr Site Table
Feature Class Use/Entity Table	MS_STAND
Definition	Enter the 50-year site index table used to estimate or measure the site index. Site tree selection rules for the site table selected should be followed when measuring site index.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_SA_SIT50
Data Type	String (30)

7.66 SA_SITECLS_SRC

Geodatabase Name	SA_SITECLS_SRC
BLM Structured Name	Stand_Site_Class_Source_Code
Inheritance	Not Inherited
Alias Name	Site Class Source
Feature Class Use/Entity Table	MS_STAND
Definition	Description of the source data describing the method by which the stand site class attributes were collected.
Required/Optional	Conditional
Domain (Valid Values)	dom_MS_Veg_Source
Data Type	String (25)

7.67 SA_SITECLS_SRC_DT

Geodatabase Name	SA_SITECLS_SRC_DT

BLM Structured Name	Stand_Site_Class_Source_Date
Inheritance	Not Inherited
Alias Name	Site Class Source Date
Feature Class Use/Entity Table	MS_STAND
Definition	Date of the source data used to derive the stand site class attributes. Dates are in the format YYYYMMDD.
Required/Optional	Conditional
Domain (Valid Values)	No domain. Examples: "20090903", "20181004"
Data Type	String (8)

7.68 SA_SNDX100

Geodatabase Name	SA_SNDX100
BLM Structured Name	One_Hundred_Year_Site_Index_Number
Inheritance	Not Inherited
Alias Name	100 Yr Site Index
Feature Class Use/Entity Table	MS_STAND
Definition	Data imported from the EcoSurvey stand exam program calculates site index for individual trees identified as site trees if they have both a height and breast height age. Breast height age is then converted to total age if required by the site index table selected. These individual tree site indexes are then averaged to produce site index for the stand. Valid values range between 1 and 250.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 50, 180
Data Type	Short Integer

7.69 SA_SNDX50

Geodatabase Name	SA_SNDX50
BLM Structured Name	Fifty_Year_Site_Index_Number
Inheritance	Not Inherited
Alias Name	50 Yr Site Index
Feature Class Use/Entity Table	MS_STAND
Definition	Data imported from the EcoSurvey stand exam program calculates site index for individual trees identified as site trees if they have both a height and breast height age. Breast height age is then converted to total age if required by the site index table selected. These individual tree site indexes are then averaged to produce site index for the stand. Valid values range between 1 and 250.
Required/Optional	Optional

Domain (Valid Values)	No domain. Examples: 40, 114
Data Type	Short Integer

7.70 SA_STAND_SRC

Geodatabase Name	SA_STAND_SRC
BLM Structured Name	Stand_Attributes_Source_Code
Inheritance	Not Inherited
Alias Name	Stand Data Source
Feature Class Use/Entity Table	MS_STAND
Definition	Description of the source data describing the method by which the stand attributes data was collected.
Required/Optional	Required
Domain (Valid Values)	dom_MS_Veg_Source
Data Type	String (25)

7.71 SA_STAND_SRC_DT

Geodatabase Name	SA_STAND_SRC_DT
BLM Structured Name	Stand_Attributes_Source_Date
Inheritance	Not Inherited
Alias Name	Stand Data Source Date
Feature Class Use/Entity Table	MS_STAND
Definition	Date of the source data used to derive the stand attributes. Dates are in the format YYYYMMDD.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "20090903", "20181004"
Data Type	String (8)

7.72 SA_STAND_STRUC

Geodatabase Name	SA_STAND_STRUC
BLM Structured Name	Stand_Structure_Code
Inheritance	Not Inherited
Alias Name	Stand Structure
Feature Class Use/Entity Table	MS_STAND
Definition	The degree of uniformity of the stand canopy structure across the Operations Inventory unit polygon, Even or Uneven Aged. NF applies to Non-Forest and Unknown applies to unclassified stands.

Required/Optional	Required
Domain (Valid Values)	dom_MS_SA_SS
Data Type	String (7)

7.73 SA_TPA7

Geodatabase Name	SA_TPA7
BLM Structured Name	Total_Trees_Per_Acre_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Total Trees/Ac > = 7"
Feature Class Use/Entity Table	MS_STAND
Definition	Stand-level Trees per Acre metric for trees greater than or equal to 7 inches diameter at breast height (DBH) - with a value from 0 to 9999. However, the normal range of values is between 1 and 1000. EcoSurvey stand exam calculations includes all live trees with a DBH greater than or equal to 7 inches.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1, 92
Data Type	Long Integer

7.74 SA_TTPA

Geodatabase Name	SA_TTPA
BLM Structured Name	Total_Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Trees/Ac
Feature Class Use/Entity Table	MS_STAND
Definition	The stand total live seedling, sapling, and merchantable trees per acre. Values range from 0 to 9999. However, the normal range of values is between 1 and 1000.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 153, 672
Data Type	Long Integer

7.75 SASP_BA

Geodatabase Name	SASP_BA
BLM Structured Name	Basal_Area_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Basal Area/Ac

Feature Class Use/Entity Table	MS_STD_SPP
Definition	The basal area per acre for each tree species in all layers. For each species, EcoSurvey Stand exam calculations use live conifer & hardwood trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height. Values range from 1 to 999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 92, 212
Data Type	Long Integer

7.76 SASP_BA7

Geodatabase Name	SASP_BA7
BLM Structured Name	Basal_Area_Per_Acre_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Basal Area/Ac >=7"
Feature Class Use/Entity Table	MS_STD_SPP
Definition	The stand-level basal area per acre for each tree species with a DBH greater than or equal to 7 inches. For each conifer and hardwood species, EcoSurvey stand exam calculations include all live trees for all stand layers combined. Values range from 1 to 999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 2, 110
Data Type	Long Integer

7.77 SASP_BFVPA

Geodatabase Name	SASP_BFVPA
BLM Structured Name	Board_Foot_Volume_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Stand Board Foot/Ac
Feature Class Use/Entity Table	MS_STD_SPP
Definition	The net board foot volume per acre for each species in thousands of board feet. EcoSurvey Stand exam calculations use live conifer & hardwood trees only, saplings and merchantable trees are included. Saplings are trees with a diameter at breast height. Volume calculations require a tree to have a five-inch top at 16 feet.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1482, 7142
Data Type	Long Integer

7.78 SASP_ID

Geodatabase Name	SASP_ID
BLM Structured Name	Stand_Attributes_Species_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_STD_SPP
Definition	Unique identifier for the MS_STD_SPP table. This field is auto populated with a GUID value by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.79 SASP_SP

Geodatabase Name	SASP_SP
BLM Structured Name	Tree_Species_Code
Inheritance	Not Inherited
Alias Name	Tree Species
Feature Class Use/Entity Table	MS_STD_SPP
Definition	A code indicating the species of the tree. Species are derived from the U. S. Department of Agriculture's Natural Resource Conservation Service National Plants Database.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_Layer_Species_Trees
Data Type	Long Integer

7.80 SASP_TPA

Geodatabase Name	SASP_TPA
BLM Structured Name	Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Trees/Ac
Feature Class Use/Entity Table	MS_STD_SPP
Definition	The number of trees per acre for the designated species. For each conifer and hardwood species, EcoSurvey stand exam calculations include all live seedlings, saplings, and merchantable trees. Values range from 0 to 9999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 2, 158

Data Type	Long Integer

7.81 SASP_TPA7

Geodatabase Name	SASP_TPA7
BLM Structured Name	Trees_Per_Acre_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Trees/Ac >=7"
Feature Class Use/Entity Table	MS_STD_SPP
Definition	The number of trees per acre with a DBH greater than seven inches for the designated species. For each conifer and hardwood species, EcoSurvey stand exam calculations include all live seedlings, saplings, and merchantable trees. Values range from 0 to 9999.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 3, 132
Data Type	Long Integer

7.82 SDC_DC

Geodatabase Name	SDC_DC
BLM Structured Name	Snag_Decay_Class_Code
Inheritance	Not Inherited
Alias Name	Snag Decay Class
Feature Class Use/Entity Table	MS_SG_DECAY
Definition	Snag Decay Class describes the decomposition characteristics of dead trees. For more information, refer to the Snag Decay Class Diagram in Appendix C.
Required/Optional	Required
Domain (Valid Values)	dom_MS_DecayClass
Data Type	String (10)

7.83 SDC_ID

Geodatabase Name	SDC_ID
BLM Structured Name	Snag_Decay_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_SG_DECAY
Definition	Unique identifier for the MS_SG_DECAY table. This field is auto populated with a GUID value by the M*S application.

Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.84 SDC_TSPA

Geodatabase Name	SDC_TSPA
BLM Structured Name	Total_Snags_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Snags/Ac
Feature Class Use/Entity Table	MS_SG_DECAY
Definition	The number of snags per acre for each decay class.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 2, 30
Data Type	Double

7.85 SG_CLASSIFIER

Geodatabase Name	SG_CLASSIFIER
BLM Structured Name	Classifier_Text
Inheritance	Not Inherited
Alias Name	Classifier
Feature Class Use/Entity Table	MS_SNAG
Definition	Individual responsible for the latest snag attributes update, if known. Use "Unknown" for missing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "Joe Smith", "Mike Brown"
Data Type	String (30)

7.86 SG_ID

Geodatabase Name	SG_ID
BLM Structured Name	Snag_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_SNAG, MS_SG_DECAY
Definition	Unique identifier for the MS_SNAG table. This field is used to link records in the MS_SNAG table to records in the MS_SG_DECAY table.

	This field is auto populated with a GUID value by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.87 SG_MMDBH

Geodatabase Name	SG_MMDBH
BLM Structured Name	Minimum_Measured_Diameter_Breast_Height_Number
Inheritance	Not Inherited
Alias Name	Min Measured DBH
Feature Class Use/Entity Table	MS_SNAG
Definition	The minimum measured diameter of the snags at breast height. The EcoSurvey stand exam program allows the user to define the minimum measured snag diameter (DBH) for data collection purposes. The calculation for the number of snags per acre by decay class include only snags that meet this minimum. Values range between 1 and 99.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 7, 16
Data Type	Long Integer

7.88 SG_MMHT

Geodatabase Name	SG_MMHT
BLM Structured Name	Minimum_Measured_Height_Number
Inheritance	Not Inherited
Alias Name	Min Measured Ht
Feature Class Use/Entity Table	MS_SNAG
Definition	The minimum measured height for snags. The EcoSurvey stand exam program allows the user to define the minimum measured snag height for data collection purposes. The calculation for the number of snags per acre by decay class include only snags that meet this minimum. Values range between 7 and 30.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 8, 20
Data Type	Long Integer

7.89 SG_SRC

Geodatabase Name	SG_SRC

BLM Structured Name	Snag_Source_Code
Inheritance	Not Inherited
Alias Name	Snag Data Source
Feature Class Use/Entity Table	MS_SNAG
Definition	Description of the source data used to derive the snag attributes.
Required/Optional	Required
Domain (Valid Values)	dom_MS_Veg_Source
Data Type	String (25)

7.90 SG_SRC_DT

Geodatabase Name	SG_SRC_DT
BLM Structured Name	Snag_Source_Date
Inheritance	Not Inherited
Alias Name	Snag Data Source Date
Feature Class Use/Entity Table	MS_SNAG
Definition	Date of the source data used to derive the snag attributes. Dates are in the format YYYYMMDD.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "20090903", "20181004"
Data Type	String (8)

7.91 SL_DBH_SC

Geodatabase Name	SL_DBH_SC
BLM Structured Name	Diameter_Breast_Height_Size_Class_Code
Inheritance	Not Inherited
Alias Name	DBH Size Class
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	DBH Size Class per species per layer. Average DBH size class for a Major or Minor species within a layer. Required entry for tree layers.
Required/Optional	Conditional
Domain (Valid Values)	dom_MS_Layer_DBH_SC
Data Type	Long Integer

7.92 SL_ID

Geodatabase Name	SL_ID

BLM Structured Name	Layer_Species_Identifier_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	Unique identifier for the MS_LYR_SPP table. This field is auto populated with a GUID value by the M*S application.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	String (40)

7.93 SL_MAJ_MIN

Geodatabase Name	SL_MAJ_MIN
BLM Structured Name	Major_Species_Code
Inheritance	Not Inherited
Alias Name	Major Species?
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	Indicates if the tree species is a major species. Major tree species are those which make up at least 5% canopy cover within one of the three tree layers. Within a layer, the sum of all the tree species identified as Major species must total to 100%. Minor tree species are those observed, and which make up less than 5% canopy cover within a layer. Understory species are not identified as Major or Minor species.
Required/Optional	Optional
Domain (Valid Values)	dom_MS_TrueFalse
Data Type	String (1)

7.94 SL_SP_CR

Geodatabase Name	SL_SP_CR
BLM Structured Name	Species_Crown_Ratio_Number
Inheritance	Not Inherited
Alias Name	Species Crown Ratio %
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	For a Major or Minor tree species within a particular layer, the average percent of tree boles that supports live foliage.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.6, 0.45
Data Type	Double

7.95 SL_SP_PCT

Geodatabase Name	SL_SP_PCT
BLM Structured Name	Major_Species_Percent_Number
Inheritance	Not Inherited
Alias Name	% Of Major Species
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	The percent of layer canopy cover by species. The sum of all major tree species within a layer must total 100%. Any species with a percent less than 20% will not show up in the stand description. Required entry for major tree species.
Required/Optional	Conditional
Domain (Valid Values)	No domain. Examples: 0.12, 0.52, 1
Data Type	Double

7.96 SL_SPECIES

Geodatabase Name	SL_SPECIES
BLM Structured Name	Layer_Species_Code
Inheritance	Not Inherited
Alias Name	Tree Species or Plant Species
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	Tree or understory (non-tree) species code for the species layer. Species are derived from the U. S. Department of Agriculture's Natural Resource Conservation Service National Plants Database. This field has three domains associated with it. One for all species, one for tree species, and one for understory species.
Required/Optional	Required
Domain (Valid Values)	dom_MS_Layer_Species_Alldom_MS_Layer_Species_Treesdom_MS_Layer_Species_Understory
Data Type	Long Integer

7.97 SL_US_PCT

Geodatabase Name	SL_US_PCT
BLM Structured Name	Understory_Species_Percent_Number
Inheritance	Not Inherited
Alias Name	Understory Species %
Feature Class Use/Entity Table	MS_LYR_SPP

Definition	Average percent cover of an understory species. 5-percent increments are usually sufficient for treatment-related target species. However, entries can be made to the nearest 1-percent. Use 1% to designate trace amounts.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0.02, 0.15
Data Type	Double

7.98 SL_US_SP_HT

Geodatabase Name	SL_US_SP_HT
BLM Structured Name	Understory_Species_Height_Number
Inheritance	Not Inherited
Alias Name	Understory Species Ht
Feature Class Use/Entity Table	MS_LYR_SPP
Definition	The average height of an understory species to the nearest foot. Species less than a foot in height should be assigned a height of zero.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 0, 5, 12
Data Type	Double

7.99 VERSION_NAME

Geodatabase Name	VERSION_NAME
BLM Structured Name	Geodatabase_Version_Text
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	FOIVEG_POLY, MS_LAYERS, MS_LYR_SPP, MS_STAND, MS_STD_SPP, MS_DOWNLOG, MS_DL_DECAY, MS_SNAG, MS_SG_DECAY
Definition	Name of the corporate geodatabase version previously used to edit the record. InitialLoad = feature has not been edited in ArcSDE. 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. 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.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "WDOVE.MS-121415-14825"
Data Type	String (50)

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.

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.

8.2   Specific to This Dataset

A publication dataset is provided that is designed to meet the requirements below. All VERSION_NAME fields will be dropped from publication data. All CLASSIFIER and COMMENTS fields will be dropped in the dataset published to the public web.

The publication dataset includes one feature class (FOIVEG_PUB_POLY) and eight related tables (MS_LAYER_PUB, MS_LYR_SPP_PUB, MS_STAND_PUB, MS_STD_SPP_PUB, MS_DOWNLOG_PUB, MS_DL_DECAY_PUB, MS_SNAG_PUB, and MS_SG_DECAY_PUB). See the sections below for descriptive information on the schema modifications of the public feature class and each table including the source of data, transformation, and query parameters.

8.2.1   FOIVEG_PUB_POLY

Many of the attributes in the publication represent the data in the designated Age Class Layer record and the most recent Stand Attributes record.

Table 2 FOI Vegetation Publication Dataset Attributes

Publication Attribute	Source
BLM_ORG_CD	FOIVEG_POLY.BLM_ORG_CD
STATE	The BLM state office where the record occurs. Derived from FOIVEG_POLY.BLM_ORG_CD
DISTRICT	The name of the BLM district where the record occurs. Derived from FOIVEG_POLY.BLM_ORG_CD
FIELD_OFFICE	The name of the field office where the record occurs. Derived from FOIVEG_POLY.BLM_ORG_CD
OI_KEY	FOIVEG_POLY.OI_KEY
CLASSIFIER	MS_STAND.SA_CLASSIFIER for the most recent Stand Attributes record.
COVRTYPE	MS_STAND.SA_COVRTYPE for the most recent Stand Attributes record.
STAND_DESC	FOIVEG_POLY.STAND_DESC
STAND_STRUC	MS_STAND.SA_STAND_STRUC for the most recent Stand Attributes record.

Publication Attribute	Source
TIMBER_TYPE	For the designated age class layer, the major forest species, and their size classes. This attribute is derived from the Layer and Layer Species tables. There should only be one species and diameter class per Timber Type, and they are listed in order abundance and separated by a single space. Example: "D5 WF4 D3."
STOCK_CLASS	MS_LAYERS.LYR_STKCLS for the designated Age Class Layer.
AGECLS_BYR	MS_LAYERS.LYR_BYR for the designated Age Class Layer.
AGECLS_10	FOIVEG_POLY.OI_AGECLS_10
LYR_SRC	MS_LAYERS.LYR_SRC for the designated Age Class Layer.
LYR_SRC_DT	MS_LAYERS.LYR_SRC_DT for the designated Age Class Layer.
TTPA	MS_STAND.SA_TTPA for the most recent Stand Attributes record.
QMD	MS_STAND.SA_QMD for the most recent Stand Attributes record.
BA	MS_STAND.SA_BA for the most recent Stand Attributes record.
CURTIS_RD	MS_STAND.SA_CURTIS_RD for the most recent Stand Attributes record.
SDI	MS_STAND.SA_SDI for the most recent Stand Attributes record.
CANOPYCOV	MS_STAND.SA_CNPYCOVR for the most recent Stand Attributes record.
TPA7	MS_STAND.SA_TPA7 for the most recent Stand Attributes record.
QMD7	MS_STAND.SA_QMD7 for the most recent Stand Attributes record.
BA7	MS_STAND.SA_BA7 for the most recent Stand Attributes record.
CURTIS_RD7	MS_STAND.SA_CURTIS_RD7 for the most recent Stand Attributes record.
MBF_AC	MS_STAND.SA_MBF_AC for the most recent Stand Attributes record.
STAND_SRC	MS_STAND.SA_STAND_SRC for the most recent Stand Attributes record.
STAND_SRC_DT	MS_STAND.SA_STAND_SRC_DT for the most recent Stand Attributes record.
SCLS100	MS_STAND.SA_SCLS100 for the most recent Stand Attributes record.
SCLS50	MS_STAND.SA_SCLS50 for the most recent Stand Attributes record.
SITECLS_SRC	MS_STAND.SA_SITECLS_SRC for the most recent Stand Attributes record.
SITECLS_SRC_DT	MS_STAND.SA_SITECLS_SRC_DT for the most recent Stand Attributes record.
PAG	MS_STAND.SA_PAG for the most recent Stand Attributes record.
PAG_SRC	MS_STAND.SA_PAG_SRC for the most recent Stand Attributes record.
GIS_ACRES	FOIVEG_POLY.GIS_ACRES
GIS_RDAC	GIS Road Acres are calculated based on a 22.5 foot (45' total) buffer on the GTRN feature classes intersected from the FOIVEG unit GIS_ACRES to derive the GIS Road Acres. The buffer omits full decommission (FD) or obliterated (OB) roads.
GIS_NONFORESTAC	GIS Non-Forest Acres are calculated based on the intersected sum non-forested acres within the FOIVEG unit apart from the buffered road acres.

Publication Attribute	Source
	The FOIVEG unit without the road acres is intersected with the polygons classified as withdrawn in the TPC_POLY feature class.
GIS_FORESTAC	GIS Forest Acres equals GIS_ACRES minus GIS_RDAC minus GIS_NONFORESTAC.
GIS_FORESTNOAC	GIS Forested and Non-Forest Acres equals GIS_ACRES minus GIS_RDAC.
OI_VEGRMKS	Text field for any remarks on the OI Unit.

8.2.2 MS_LAYERS_PUB

The MS_LAYERS_PUB publication table matches the MS_LAYERS table with the following exceptions:

- VERSION_NAME field is dropped.

- A second date field LYR_SRC_DT2 is added that displays the string date value in LYR_SRC_DT as date format MM/DD/YYYY.

- Layer Percent Cover (LYR_CC) is multiplied by 100 to display a whole number percent value.

8.2.3 MS_LYR_SPP_PUB

The MS_LYR_SPP_PUB publication table matches the MS_LYR_SPP table with the following exceptions:

- VERSION_NAME field is dropped.

- Major Species % (SL_SP_PCT) is multiplied by 100 to display a whole number percent value.

- Species Crown Ratio (SL_SP_CR) is multiplied by 100 to display a whole number percent value.

- Understory Species % (SL_US_PCT) is multiplied by 100 to display a whole number percent value.

8.2.4 MS_STAND_PUB

The MS_STAND_PUB publication table matches the MS_STAND table with the following exceptions:

- VERSION_NAME field is dropped.

- A date field SA_STAND_SRC_DT2 is added that displays the string date value in SA_STAND_SRC_DT as date format MM/DD/YYYY.

- A date field SA_SITECLS_SRC_DT2 is added that displays the string date value in SA_SITECLS_SRC_DT as date format MM/DD/YYYY.

- Curtis Relative Density (SA_CURTIS_RD) is multiplied by 100 to display a whole number percent value.

- Canopy Cover (SA_CNPYCOVR) is multiplied by 100 to display a whole number percent value.

- Curtis Relative Density > = 7" (SA_CURTIS_RD7) is multiplied by 100 to display a whole number percent value.

8.2.5 MS_STD_SPP_PUB

The MS_STD_SPP_PUB publication table matches the MS_STD_SPP table with the following exceptions:

- VERSION_NAME field is dropped.

8.2.6 MS_DOWNLOG_PUB

The MS_DOWNLOG_PUB publication table matches the MS_DOWNLOG table with the following exceptions:

- VERSION_NAME field is dropped.

- A second date field DL_SRC_DT2 is added that displays the string date value in DL_SRC_DT is date format MM/DD/YYYY.

8.2.7 MS_DL_DECAY_PUB

The MS_DL_DECAY_PUB publication table matches the MS_DL_DECAY table with the following exceptions:

- VERSION_NAME field is dropped.

8.2.8 MS_SNAG_PUB

The MS_SNAG_PUB publication table matches the MS_SNAG table with the following exceptions:

- VERSION_NAME field is dropped.

- A second date field SG_SRC_DT2 is added that displays the string date value in SG_SRC_DT is date format MM/DD/YYYY.

8.2.9 MS_SG_DECAY_PUB

The MS_SG_DECAY_PUB publication table matches the MS_SG_DECAY table with the following exceptions:

- VERSION_NAME field is dropped.

9   Editing Procedures

9.1   Managing Overlap

Within the FOIVEG_POLY feature class, overlapping polygons are not allowed. There cannot be more than one feature in the feature class that occupies the same space.

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.

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.

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.

Check tolerances. In general, set Cluster Tolerance as small as possible. This is 0.000000009 Degree (0.000007 degree is approximately 1 meter).

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 SOURCEL 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 YYYYMMDD, YYYYMM or 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   Vertical Integration

In the ODF, the need for vertical integration is confined to, and characteristic of, the "Boundaries" group of themes. Boundaries polygons have perimeters that are defined by other features and are *required* to stay that way. Activities and Resources polygon perimeters are "self-defining." For example, a road, ownership, or watershed line might be used to build a prescribed burn unit, but the unit perimeter is *defined* by the actual burned area.

Boundaries polylines (arcs) have attributes DEF_FEATURE and COORD_SRC which provide the information needed for vertical integration. When the GIS feature class indicated by COORD_SRC changes, the arc might need to be re-snapped.

Many boundaries are defined largely by legal land lines and therefore should be snapped to Cadastral NSDI PLSS Points. Theoretically, whenever PLSS Points are updated, all polylines with COORD_SRC = "CADNSDI" (or "GCD") should be re-snapped, but not all themes have the same need or priority. Sub-groups of ODF Boundaries provide a prioritization with the "Land Status" group being the highest priority, followed by the "Political and Administrative" group then the "Special Management Area" group.

Vertical Integration to updated legal land lines is accomplished simply by re-snapping vertices to PLSS Points and is not difficult if the polylines have vertices that coincide with PLSS points. Datasets can be updated independently of each other and partially, as time permits.

When arcs are copied from one boundary dataset to another, DEF_FEATURE may need to be changed. For example, an Administrative Unit Office (ADMU_OFC_POLY) polyline might be defined as "SUBDIVISION", but when it is copied to Plan Area Boundary (PLANBDY) the plan boundary is defined by Resource Area and DEF_FEATURE should be changed to "BLM_ADMIN". It is important that boundary lines copied from other themes NOT be merged, even though the attributes are all the same. The splits in the original source theme should be retained to retain exact coincidence and facilitate future updates.

9.4   Theme Specific Guidance

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

9.4.1 General Guidance for Spatial and Attribute Changes

The FOIVEG is a set of polygons that describe classified forest vegetation, as well as the ability to operate within the unit for treatments and/or harvest. Maintaining this dual definition worked well during the years when Western Oregon BLM forest stands under the O&C Act were managed for even aged, sustained yields. With the movement toward forest management for habitat development in the last 20 years, this dual definition becomes increasingly difficult to sustain.

For the revised FOIVEG feature class, as of May 2015, based on a silviculture group decision from BLM OR/WA district representatives, this dual definition will still be maintained. However, the following edit guide will take a hierarchical approach with the primary focus on classifying forest vegetation and the secondary focus on operations. The forest vegetation focus allows forest stand polygons of similar vegetation to be aggregated for modeling, as well as analysis of habitat development. At the District level, FOI-VEG can be a derived feature class based on a composite overlay of vegetation characteristics and operations-based polygons, but a corporate layer must be maintained to provide a basic unit of inventory and modeling consistent with the hierarchical factors of delineation listed here. Use the following hierarchical guide when making spatial and attribute edits.

9.4.2 Factors to Guide Spatial and Attribute Edits

- Distinguishable, like kind forest vegetation is the primary delineation factor for polygons.
    - Use stand exam stand descriptions (species mix, size class, density, stand age, height, and structure) as a gauge to delineate differences for lumping or splitting FOIVEG polygons.
    - Use LiDAR (if available) for forest stand major average height differences and densities.
    - Use the latest most accurate digital orthoquad imagery for significant changes in vegetative

species composition, size, and density.

- o Since most managed stands since the 1970's maintained good planting dates, use these birthdates, and associated spatial areas for delineations.

- o Use previous treatments within portions of a unit, such as PCT, to consider splitting or combining.

- o Forest stand polygons can cross different section lines within BLM ownership but must stay within the district administrative unit.

- Take into consideration the historic and future operational treatment unit for decisions to lump or split polygons.

- Target minimum mapping feature for vegetation type at about 5 acres.

- Unique non-forest features such as ponds, rock outcrops, meadows etc. may be mapped to a minimum of 1 acre.

- Using these acreage guidelines, delineate non-forest, non-suitable woodland vegetation types, and/or withdrawals that may exist in the corporate special habitats or TPCC geodatabases.

9.4.3 GIS Reference Layers

Other GIS reference layers are frequently used to define FOI-VEG polygons. Accuracy of these defining features in GIS is of varying quality. The spatial accuracy for any individual FOI-VEG polygon is relative to the accuracy and the quality of reference feature classes. As updates of the FOI-VEG are performed, the following order of GIS reference layers are given as a guide for defining polygon boundaries:

- CADNSDI representing the public land survey system (PLSS) and land line (LLI) data for ownership. PLSSPoint data contains an estimate of locational reliability.

- LiDAR, where available, for major average forest stand height differences, within-stand heterogeneity of tree height, and stand density.

- The latest, most accurate digital orthoquad (DOQ) imagery, one meter or better resolution.

- Transportation themes

- GPS and/or traverse derived features

- Topography and hydrography

- Stand exam spatial location data

9.4.4 Data Quality Checks

In addition to common data checks as invalid geometry, null values in required fields, and invalid values in domain-controlled fields, the following checks are performed when edit versions are submitted for reconciling and posting to the corporate SDE default version.

FOIVEG_POLY:

- "Field OI Stand Description is required" - The FOI Veg Stand Description is a required attribute. This field must be populated using the Update Stand Description button on the Micro*Storms FOI Veg attribute editor form.

- "GIS_ACRES are required" - The GIS_ACRES field must be greater than 0.

MS_LAYERS:

- "% cover invalid value" - The Layers % cover value must be between 0 and 1.

- "Basal area values out of range" - The Layer basal area values must be between 0 and 999.

- "Layer height value out of range" - The Layer height must be between 1 and 300.

- "Layer needs a valid birth year" - Layer birth year must be between 1200 and 2100.

- "Trees per acre invalid value" - The Layer trees per acre (LYR_TPA) must be a positive number between 0 and 9,999.

MS_STAND:

- "Basal area value not in range" - The Stand basal area value must be between 1 and 999.

- "Basal area > 7" value not in range" - The Stand field SA_BA7 needs a value between 0 and 999.

- "Canopy cover out of range" - The Stand canopy cover must be between 0.01 and 1.

- "Curtis relative density value not in range" - The Stand values in SA_CURTIS_RD must be between 0 and 150. (Note: this data is stored in the table as values 0-1.5)

- "Curtis relative density > 7" value not in range" - The Stand values in SA_CURTIS_RD7 must be between 0 and 150. (Note: this data is stored in the table as values 0-1.5).

- "Invalid relative density index" - The Stand SA_RDI must be between 0.01 and 1.5.

- "Invalid stand density index" - The Stand SA_SDI must be between 1 and 999.

- "Quadratic mean diameter value not in range" - The Stand SA_QMD field must contain a value between 0.1 and 99

- "Quadratic mean diameter > 7" value not in range" - The Stand SA_QMD7 field must contain a value between 6.5 and 99

- "Total trees per acre is required" - The Stand field SA_TTPA must contain a value between 1 and 9,999

- "Total trees per acre > 7" is required" - The Stand field SA_TTPA must contain a value between 0 and 9,999

- "Volume (MBF)/acre out of range" - The values in the Stand field SA_MBF_AC must be between 1 and 400.

MS_SNAG:

- "Minimum measured DBH is required" - The Snag minimum measured DBH must be entered as a value from 0 to 20.

- "Minimum measured height is required" - The Snag minimum measured height must be entered as a value from 7 to 30.

MS_DOWNLOG:

- "Minimum measured DBH is required" - The Downed Log field DL_MMD must contain a minimum measured DBH value from 0 to 20.

- "Minimum measured length is required" - The Downed Log field DL_MML must contain a minimum measured length value from 3 to 30.

10   Abbreviations and Acronyms

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

Table 3   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
M*S	Micro*Storms
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

11   References

Curtis, Robert O. (1982). A Simple Index of Stand Density for Douglas-fir. Forest Sci., Vol. 28, No. 1, 1982, pp. 92-94.

Reineke, L.H. 1933. Perfecting a stand density index for even-aged forests. Journal of Agricultural Research 46(7):627-638.

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_COORD_SRC

Coordinate Source Code. The source of the geographic coordinates (lines, points, polygons).

Code	Value
CADNSDI	CADNSDI - Coordinates from or snapped to the CadNSDI dataset. CADNSDI is the cadastral national spatial data infrastructure publication data set for rectangular and non-rectangular public land survey system (PLSS) data.
CFF	CFF - Lines duplicated or buffered from Cartographic Feature Files (USFS)
DEM	DEM - Digital Elevation Model (30 m or better accuracy) used for creation of contours
DIS	DIS - Lines generated to connect discontinuous features
DLG	DLG - Lines duplicated or buffered from (24K scale accuracy) USGS Digital Line Graphs
DOQ	DOQ - Screen digitized linework over Digital Orthoquad backdrop
DRG	DRG - Screen digitized linework over Digital Raster Graphic backdrop
GCD	GCD - Lines snapped to Geographic Coordinate Database Points
GPS	GPS - Lines obtained from a Global Positioning System device
IMG	IMG - Linework derived from interpretation of satellite or other non-photographic imagery
LiDAR	LiDAR - LiDAR points, lines, or polygons generated through interpretation or analysis. Features containing points, lines, or polygons generated through interpretation or analysis of LiDAR point clouds, LiDAR-derived surfaces, and photos.
MAP	MAP - Digitized linework from paper map
MTP	MTP - Lines duplicated from Digital Master Title Plat
SOURCEL	SOURCEL - Source Layer from BLM GIS
SRV	SRV - Survey methods were used to create the linework (e.g., COGO)
TIGER	TIGER - Tiger Data
TRS	TRS - Coordinates only given as a legal description (township, range, section)
UNK	UNK - Unknown coordinate source
WOD	WOD - WODDB Photogrammetric

A.3 dom_MS_Layer_DBH_SC

Layer DBH Size Class. The layer Diameter at Breast Height size class code.

Code	Value
1	1 - 0 - 4.9
2	2 - 5 - 9.9
3	3 - 10 - 19.9
4	4 - 20 - 29.9
5	5 - 30 - 39.9
6	6 - 40 - 49.9
7	7 - 50+
8	8 - No Data

A.4 dom_MS_DecayClass

Decay Class code. Describes the decomposition characteristics of dead trees.

Code	Value
0	0
1	1
2	2
3	3
4	4
5	5

A.5 dom_MS_Layer

Layer Name Code. The name of the forest stand layer.

Code	Value
Bottom	Bottom
Middle	Middle
Non-Forest	Non-Forest
Top	Top
Understory	Understory

A.6 dom_MS_Layer_Species_All

Layer Species Code. List of all tree and understory species. This domain is not listed due to its length. Some examples are listed below. The complete list of species is stored in the Micro*Storms MS_PLANT_LKUP table.

Code	Value
1	ABAM - Pacific silver fir

Code	Value
309	VASC - grouse whortleberry

A.7 dom_MS_Layer_Species_Trees

Layer Tree Species Code. A subset of the Layer Species domain that only includes tree species. For space considerations, this list is not included in this document. Some examples are listed below. The complete list of species is stored in the Micro*Storms MS_PLANT_LKUP table.

Code	Value
231	PSME - Douglas-fir
238	QUAG - California live oak

A.8 dom_MS_Layer_Species_Understory

Layer Understory Species Code. A subset of the Layer Species domain that only includes understory (non-tree) species. For space considerations, this list is not included in this document. Some examples are listed below. The complete list of species is stored in the Micro*Storms MS_PLANT_LKUP table.

Code	Value
820	PRTR4 - roughfruit fairybells
314	VIOR - darkwoods violet

A.9 dom_MS_Layer_StockClass

Layer Stocking Class Code. Numeric classification of forest stocking density.

Code	Value
Non-Stocked	< 10% Non-Stocked
Poorly Stocked	10-39% Poorly Stocked
Med Stocked	40-69% Medium Stocked
Well Stocked	70-100% Well Stocked
No Data	No Data

A.10 dom_MS_SA_AgeCls_Lyr

Age Class Layer Code. The stand ten-year age class layer code.

Code	Value
Bottom	Bottom
Middle	Middle
Non-Forest	Non-Forest
Top	Top
Understory	Understory

A.11 dom_MS_SA_CovrType

Stand Cover Type Code. Broad classification of the stand to distinguish forested from non-forested conditions.

Code	Value
FCO	FCO - Forest Conifer generally forest stand contains 65% or more conifer.
FHD	FHD - Forest Hardwoods generally forest stand contains 65% or more hardwoods.
FMX	FMX - Forest Mixed generally forest stand contains between 35 and 65% conifer and the rest hardwoods.
FNS	FNS - Forest currently non-stocked with plans to plant.
NA	NA - Non-forest - Agriculture/Range
NB	NB - Non-forest - Brush
NG	NG - Non-forest - Natural Grass
NH	NH - Non-forest - Roads/Maintenance Facility
NO	NO - Non-forest - Cultural Development
NR	NR - Non-forest - Rock Outcrop
NU	NU - Non-forest - Utility Corridor
NW	NW - Non-forest - Water/Marsh
UNK	UNK - Cover type is unknown.

A.12 dom_MS_SA_PAG

Plant Association Code. Plant association based on key vegetative species. This domain is not listed due to its length. Some examples are listed below.

Code	Value
012380-SW	012380-SW - PSME
DC0811	DC0811 - PSME-PIPO/TODI
WLXX	WLXX - LAKE/POND/IMPOUND/Nonmoving

A.13 dom_MS_SA_PAG_SRC

Plant Association Source Code.

Code	Value
CID	CID - Combined: Forest Habitat Types of Central Idaho, USDA FS GTR INT-114; Coniferous Forest Habitat Types of Northern Utah, USDA/FS GTR INT-170, Coniferous Forest Habitat Types of Central and Southern Ut
COL	COL - Forested Plant Associations of the Colville National Forest; PNW-GTR-360; October 1995
COM	COM - Some combination of references 504, 513, 514, and 515.
CSS	CSS - A classification of Upper Montane Forests in the Central and Southern Sierras of California. Zone 5. General Technical Report R5-ECOL-TP-003.

Code	Value
EPA	EPA - Ecological Guide to Eastside Plant Associations; Northeastern California: Modoc, Lassen, Klamath, Shasta-Trinity, Plumas, and Tahoe National Forests. 1994
GSM	GSM - Grassland and Shrubland Habitat Types of Western Montana; USDA/FS Gen.Tech.Rep. INT-66
MCE	MCE - Westside Mixed Conifer Ecosystems - Plumas, Lassen, and Tahoe National Forests; Zone 4
MCP	MCP - Ecological Guide to Mixed Conifer Plant Associations. Northern Sierra Nevada and Southern Cascades: Lassen, Plumas, Tahoe, and El Dorado National Forests. R5-ECOL-TP-001.
MON	MON - Combined list from Forest Habitat Types of Montana; Gen.Tech.Rep. INT-34 and Forest Habitat Types of Northern Idaho: A Second Approximation; USDA/FS Gen.Tech.Rep. INT-236
NF	NF - Pacific Northwest ecoclass codes for seral and potential natural communities. Gen. Tech. Rep. PNW-GTR-418
NOC	NOC - Field Guide to the Forested Plant Associations of the Northern Oregon Coast Range, R6-NR-ECOL-TP-03-02, 2002
NWO	NWO - Field Guide to the Forested Plant Associations of the West Central Cascades, R6-NR-ECOL-TP-02-02, 2001
ODN	ODN - Oregon Dunes Plant Associations, R6-NR-Ecol-TP-09-98, 1998
OEC	OEC - Forested Plant Associations of the Oregon East Cascades. USDA FS 2007 by Michael Simpson. R6-NR-ECOL-TP-03-2007. http://ecoshare.info/2009/12/16/forested-plant-associations-of-the-oregon-east-cascades/
PA2	PA2 - Plant Associations of Region Two: Potential Plant Communities of Wyoming, South Dakota, Nebraska, Colorado, and Kansas; Edition 4
PA3	PA3 - Plant Associations of Arizona and New Mexico, ed. 3, 7/1997. Vol 1: Forests, Vol 2: Woodlands (an update of the USDA Forest Serv SW Region Habitat Typing Guides. 9/1996, rev 7/1997. Contract R3-95-27)
POC	POC - A Field Guide to Port Orford Cedar Plant Associations in Northwest California; USDA Forest Service Report R5-ECOL-TP-002
RPA	RPA - Resource Planning Act
RPC	RPC - Field Guide to Riparian Plant Communities in Northwestern Oregon. USDA Forest Service, Pacific Northwest Region. Technical Paper R6-NR-ECOL-TP-01-05, 2005
SCC	SCC - Ecological Guide to Southern California Chaparral Plant Series. Transverse and Pennisular Ranges; Angeles, Cleveland, and San. Bernardino National Forests. USDA Forest Service Report R5-ECOL-TP-005.
SCO	SCO - Plant Associations of South Chiloquin and Klamath Ranger Districts, Winema National Forest. R6 Ecol 79-005. USDA, Forest Service, Pacific Northwest Region
SNC	SNC - A Field Guide to Serpentine Plant Associations and Sensitive Plants in Northwestern California; USDA Forest Service Report R5-ECOL-TP-006.
SRM	SRM - Society for Range Management
SWO	SWO - Field Guide to the Forested Plant Associations of Southwestern Oregon, R6-NR-ECOL-TP-17-96, 1996
TAN	TAN - A Field Guide to the Tanoak and the Douglas-fir Plant Associations in Northwestern California, R5-ECOL-TP-96, 1996
TRI	TRI - Ecological Type Classification for California: Mixed Conifer of the Trinity Ultramafic Sheet; Zone 3

Code	Value
USC	USC - Forest Cover Types of the United States and Canada. SAF (1980)
WAI	WAI - Forest Vegetation of Eastern Washington and Northern Idaho. Tech Bull. 60. Pullman, WA; Washington State University; Daubenmire, R., and Jean B. Daubenmire. 1968
WEN	WEN - Field Guide for Forested Plant Associations of the Wenatchee National Forest; PNW-GTR-359

A.14 dom_MS_SA_SIT100

Site 100-year Index Table Code. The 100-year site index table used to estimate or measure the site index.

Code	Value
Douglas-fir - Curtis	Douglas-fir - Curtis - Curtis, Herman, Demars, 1974 Forest Sci. 20(4):307-316
Douglas-fir - McArdle	Douglas-fir - McArdle - McArdle, Meyer, Bruce rev. 1961 Technical Bulletin 201
Mountain Hemlock	Mountain Hemlock - Means 1988 OSU Fir Report Vol. 10 No. 1
Noble Fir	Noble Fir - Herman, Curtis, Demars 1978 PNW-243
Ponderosa Pine - Barrett	Ponderosa Pine - Barrett - Barrett 1978 PNW-232
Ponderosa Pine - Meyer	Ponderosa Pine - Meyer - Meyer 1961 USDA Technical Bulletin 630
Sitka Spruce	Sitka Spruce
Sitka Spruce/With Hemlock	Sitka Spruce/With Hemlock - Meyer 1937 PNW-544
Western Hemlock	Western Hemlock - Barnes 1962 USDA Technical Bulletin 1273
Western Red Cedar	Western Red Cedar - Barnes 1962 PNW Technical Bulletin 1273
No Site Index Required	No Site Index Required - For non-forest areas

A.15 dom_MS_SA_SIT50

Site 50-year Index Table Code. The 50-year site index table used to estimate or measure the site index.

Code	Value
Douglas-fir - Hann	Douglas-fir - Hann - Hann, Scrivani 1987 OSU Forest res Lab. Bulletin 59
Douglas-fir - King	Douglas-fir - King - King 1966 Weyerhauser Forest Paper No. 8
Lodgepole	Lodgepole - Dahms, W.G. 1964, Gross and net yield tables of lodgepole pine. PNW-8, 14 pages.
Ponderosa Pine - Hann	Ponderosa Pine - Hann - Hann, Scrivani 1987 OSU Forest res Lab. Bulletin 59
Red Alder	Red Alder - Harrington, Curtis 1986 PNW Res Paper 358
Red fir	Red fir - Schumacher 1928 UC Ag Exp Sta Bulletin 456
Western White Pine	Western White Pine - Haig 1932 USDA FS Technical Bulletin 323
White fir - California	White fir - California - Schumacher 1926 UC Ag Exp Sta Bulletin 407
White/Grand Fir, E. OR	White/Grand Fir, E. OR - Cochran 1979 PNW Res Paper 252
No Site Index Required	No Site Index Required - For non-forest areas

A.16 dom_MS_SA_SiteClass

Site Class Index Code.   Average 100 or 50 year site class.

Code	Value
1	1
2	2
3	3
4	4
5	5
6	6
7	7

A.17 dom_MS_SA_SS

Stand Structure Code.   The degree of uniformity of the stand canopy structure.

Code	Value
Even	Even - Even Aged Stand
NF	NF - Non-Forest
Uneven	Uneven - Uneven Aged Stand
Unknown	Unknown - Legacy data was blank for this field

A.18 dom_MS_TrueFalse

True False Code.   A generic domain used for fields that require a positive or negative response.

Code	Value
T	T - True
F	F - False

A.19 dom_MS_Veg_Source

Vegetation Source Code.   Description of the source data used to derive the attributes.

Code	Value
Aerial Exam	Aerial Exam - Survey data from helicopter or fixed wing aircraft
CVS Plot	CVS Plot - Survey data from Current Vegetation Survey plot
FIA Plot	FIA Plot - Survey data from Forest Inventory and Analysis plot
Forest Modeled Growth	Forest Modeled Growth - Stand metrics that came from survey data grown through a forest growth model such as Forest Vegetation Simulator (FVS)
LiDAR	LiDAR - Survey summary results from Light Detection and Ranging interpolated data

Code	Value
MicroStorms	MicroStorms - MicroStorms (for legacy M*S data only, not a valid choice for new data)
Photo Interpretation	Photo Interpretation - Survey data from photo interpretation
Stand Exam-EcoSurvey	Stand Exam - EcoSurvey - EcoSurvey generated stand exam data. (Tree data for each plot coordinate are found in the corporate EcoSurvey database.)
Stand Exam	Stand Exam - Stand Exam (for legacy M*S data only, not a valid choice for new data)
Stand Exam-NonEcosurvey	Stand Exam-NonEcosurvey - Survey data from stand exam (not using Ecosurvey)
Stocking Survey-EcoSurvey	Stocking Survey-EcoSurvey - EcoSurvey generated stocking survey trees per acre summary data.
Stocking Survey-Other	Stocking Survey-Other - Stocking survey plot summary data not using EcoSurvey.
Unknown	Unknown - Survey data source unknown (not a valid choice for new data)
Walk through Exam	Walk through Exam - Survey data interpreted from a walk through the forest

B   FOIVEG Data Structure Relationships

The following diagram provides an overview of the relationships between data objects in the FOI Vegetation dataset.
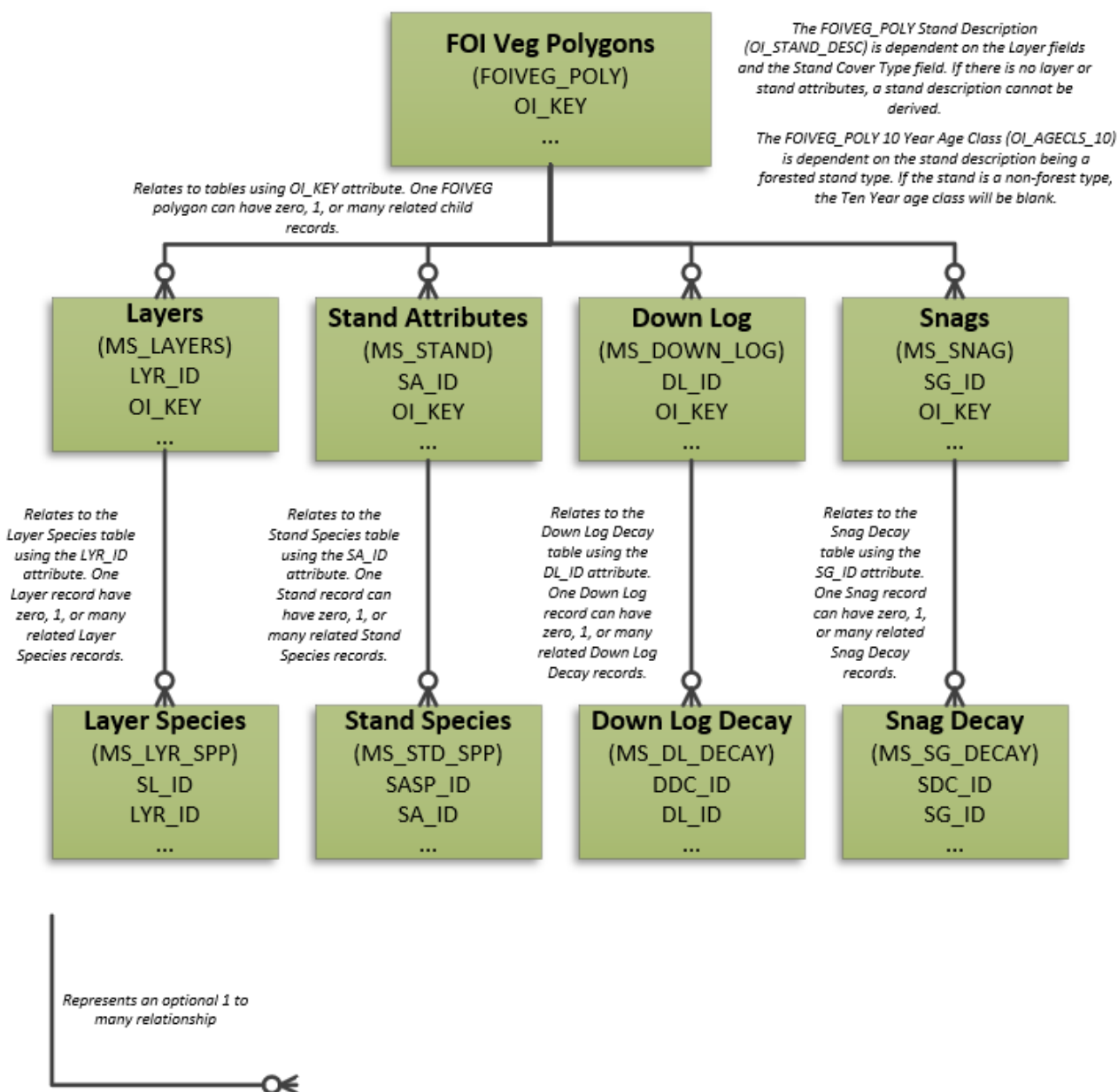
Figure 3 Overview of the Forest Operations Inventory Vegetation Data Structure

C   Snag Decay Class Diagram

Table 4 Snag Decay Class

Description	1	2	3	4	5
Code	1	2	3	4	5
Decay Class					
Bark	Tight, intact	50% loose or missing	75% missing	75% missing	75% missing
Decay	Minor	None to advanced	Entity stage of decay to advanced	Entity stage of decay to advanced	To crumbly
Sapwood Decay	None to early stage of decay	None to early stage of decay	None to 25% decay	25% + decay	50% + advanced decay
Limbs	Mostly present	Small limbs	Few remain	Few remain	Absent
Top Breakage	May be present	May be present	1/3 may be missing	1/3 to ½ missing	½ + missing
Bole Form	Intact	Intact	Mostly intact	Loosing form, soft	Form mostly intact

D   Down Log Decay Class Diagram

Table 5 Down Log Decay Class

Description	1	2	3	4	5
Code	1	2	3	4	5
Decay Class	1	2	3	4	5
Bark	Intact	Intact	Trace	Absent	Absent
Twigs < 1.18in	Present	Absent	Absent	Absent	Absent
Texture	Intact	Intact to partly soft	Hard. Large pieces	Small, soft blocky pieces	Soft powdery
Shape	Round	Round	Round	Round to oval	Oval
Color of wood	Original	Original	Original to faded	Light brown to faded brown or DF may be red brown	Faded to light yellow or gray DF may be red brown to dark brown.
Portion of log on ground	Log elevated on support points	Log elevated on support points but sagging slightly	Log is sagging near ground	All of log on ground	All of log on ground with greater than 50% above ground