Oregon/Washington Bureau of Land Management

NATIONAL SYSTEM OF PUBLIC LANDS
**U.S. DEPARTMENT OF THE INTERIOR
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
3.0	10/18/2023	Dana Baker-Allum	Reformatted document to meet Section 508 standards and match the latest data standard template. Updated architecture diagrams. Data structure change to Layers and Stand attributes tables. Converted percentage fields from decimal values to whole numbers. Added stand description appendix. Other edits too numerous to describe here.	All

Navigation

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

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Contents

1 General Information

The Forest Operations Inventory Vegetation (FOIVEG) data 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 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. Related tables provide additional vegetation information that could be used in conjunction with FOIVEG_POLY, such as site class and site index, along with summary stand metrics data commonly resulting from stand exam surveys.

The FOIVEG dataset is part of the overall Micro*Storms (M*S) dataset, which includes polygon-based vegetation classification, recording vegetation treatments both completed and proposed, and recording treatment surveys both completed and proposed. M*S is daily use, mission critical tool which support a variety of day-to-day operations in forest management by the districts and supports corporate level reporting of forest conditions.

- Dataset (Theme) Name: FOIVEG

- Dataset (Feature Class): FOIVEG_POLY, FOI_LAYERS_TBL, FOI_LAYERS_SPECIES_TBL, FOI_STAND_TBL, FOI_STAND_SPP_TBL, FOI_SNAG_TBL, FOI_SNAG_DECAY_TBL, FOI_DOWNLOG_TBL, FOI_DOWNLOG_DECAY_TBL

1.1 Roles and Responsibilities

Table 1 Roles and Responsibilities

Roles	Responsibilities
State Data Steward	The State Data Steward responsibilities include approving data standards and business rules, developing Quality Assurance/Quality Control procedures, identifying potential Privacy issues, and managing that data as a corporate resource. The State Data Steward coordinates with field office data stewards, the State Data Administrator, Geographic Information System (GIS) coordinators, and national data stewards. The State Data Steward reviews geospatial metadata for completeness and quality.
GIS Technical Lead	The GIS Technical Lead works with data stewards to convert business needs into GIS applications and derive data requirements and participates in the development of data standards. The GIS technical lead coordinates with system administrators and GIS coordinators to manage the GIS databases. The GIS technical lead works with data editors to ensure the consistency and accordance with the established data standards of data input into the enterprise Spatial Database Engine (SDE) geodatabase. The GIS technical lead provides technical assistance and advice on GIS analysis, query, and display of the dataset.
State Data Administrator	The State Data Administrator provides information management leadership, data modeling expertise, and custodianship of the state data models. The State Data Administrator ensures compliance with defined processes for development of data standards and metadata, and process consistency and completeness. The State Data Administrator is responsible for making data standards and metadata accessible to all users. The State Data Administrator coordinates with data stewards and GIS coordinators to respond to national spatial data requests.

State FOIA/Privacy Act Team Lead	The State FOIA/Privacy Act team lead assists the state data steward to identify any privacy issues related to spatial data. The State FOIA/Privacy Act team lead also provides direction and guidance on data release, fees, and classification under the appropriate Freedom of Information Act exemption.
State Records Administrator	The state records administrator classifies data under the proper records retention schedule.

1.2   FOIA Category

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

1.3   Records Retention Schedule

The DRS/GRS/BLM Combined Records Schedule, under Schedule **20/52a4** (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 signed for this dataset on 9/12/2023.

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, and Minerals.

Affected parties include the BLM Division of Forest, Rangeland, and Vegetation (WO-220) Forest Management section who are the Micro*Storms business owners.

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 - Also part of the M*S dataset, 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 - Also part of the M*S dataset, 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.
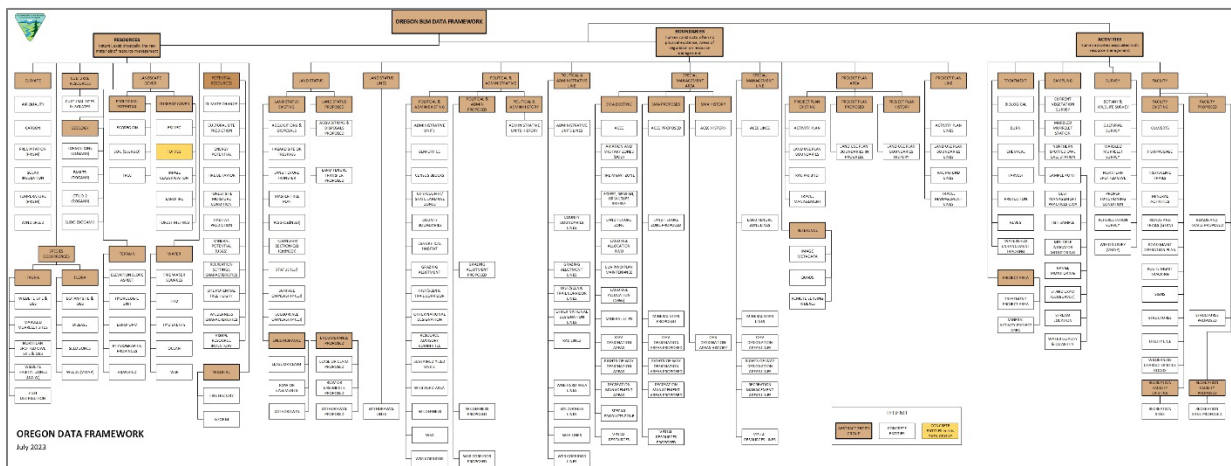
Figure 1   Oregon Data Framework Overview

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

Physical data is populated in the basic data sets. Those groups/categories above them do not contain actual data but set parameters that all data of that type must follow. See Figure 2, Data Organization Structure for a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The 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 Resource and categorized as follows:
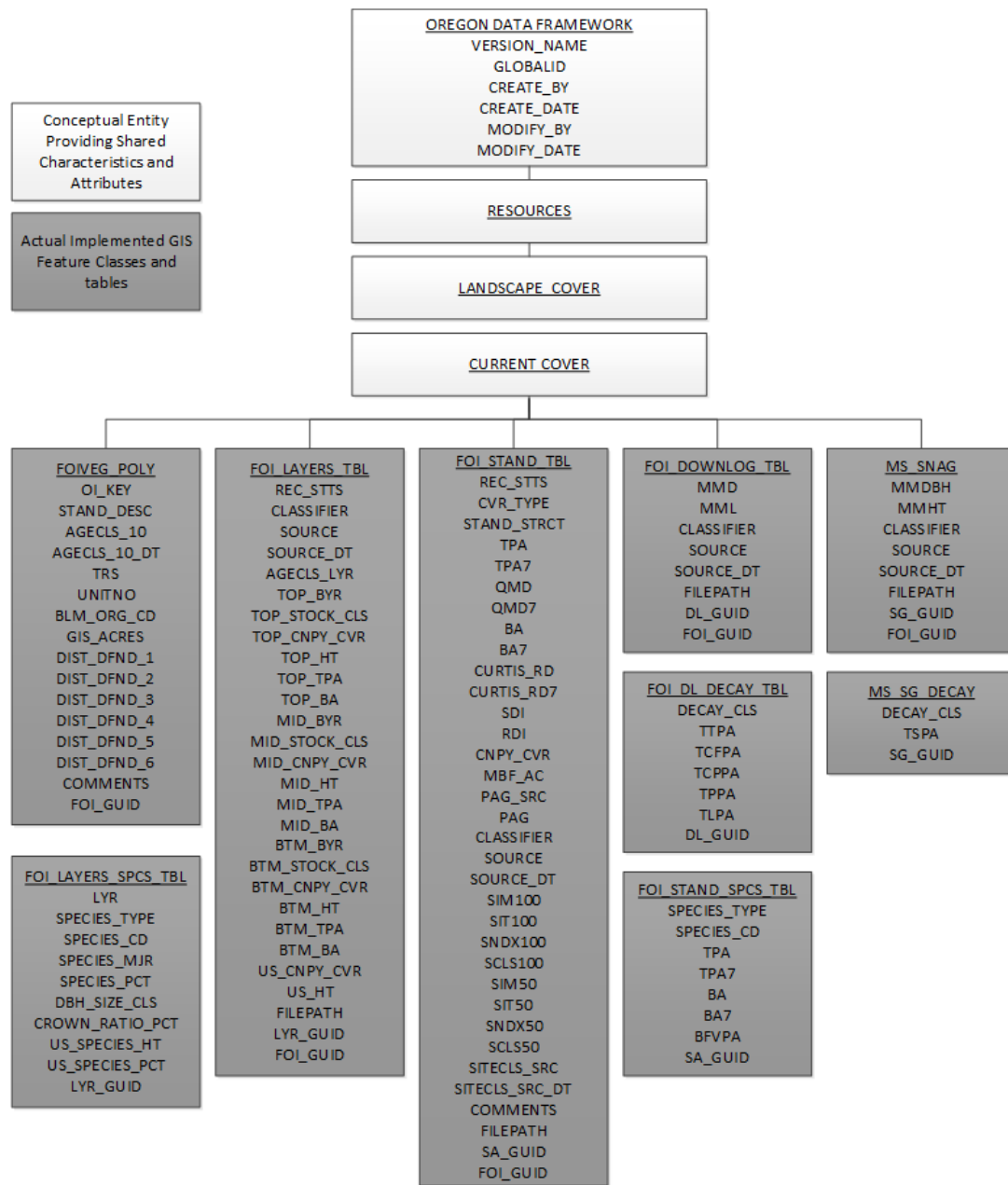
Figure 2   **Data Organization Structure**

2.5 Relationship to DOI Enterprise Architecture Data Resource Mode

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

- Data Subject Area: Geospatial

- Information Class: Location

3   Data Management Protocols

3.1   Accuracy Requirements

This dataset 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.

The software used for editing the FOIVEG_POLY data allows photos or documents to be related to a record in the FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, and FOI_SNAG_TBL tables. When the photos or documents are inserted, they are stored as geodatabase attachments - a special form of geodatabase data item. When the edited data is finalized as corporate data, the attachments are removed from the edit environment and relocated to a network repository. The FILEPATH field in the tables will store the location of where the attachments exist.

Additional 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 Operations Inventory 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
OI_KEY	Long Integer			Yes *	
STAND_DESC	String	255	UNKNOWN	Yes	
AGECLS_10	Short Integer			No	
AGECLS_10_DT	Date			No	
TRS	String	25		No	
UNITNO	String	3		No	
BLM_ORG_CD	String	5	OR000	Yes *	dom_BLM_ORG_CD
GIS_ACRES	Double			Yes *	
DIST_DFND_1	String	255		No	
DIST_DFND_2	String	255		No	
DIST_DFND_3	String	255		No	
DIST_DFND_4	Double			No	
DIST_DFND_5	Double			No	
DIST_DFND_6	Double			No	
COMMENTS	String	2000		No	
FOI_GUID	GUID			Yes *	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

     *   Values automatically generated

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

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

4.2 FOIVEG Standalone Tables

4.2.1 FOI_LAYERS_TBL Table (FOI 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
REC_STTS	String	8	Current	Yes	dom_FOI_REC_STTS
CLASSIFIER	String	30		Yes	
SOURCE	String	25	Unknown	Yes	dom_FOI_SOURCE
SOURCE_DT	Date		1/1/8888	Yes	
SOURCE_DT_ACC	String	7	Day	Yes	dom_DT_ACC
AGECLS_LYR	String	10	Unknown	Yes	dom_FOI_LYR
TOP_BYR	Short Integer			Conditional	dom_FOI_BIRTH_YEAR
TOP_STOCK_CLS	String	20		Conditional	dom_FOI_STOCK_CLS
TOP_CNPY_CVR	Short Integer			No	dom_PCT100
TOP_HT	Short Integer			No	dom_FOI_TREE_HT
TOP_TPA	Short Integer			No	dom_FOI_TPA
TOP_BA	Short Integer			No	dom_FOI_BA
MID_BYR	Short Integer			Conditional	dom_FOI_BIRTH_YEAR
MID_STOCK_CLS	String	20		Conditional	dom_FOI_STOCK_CLS
MID_CNPY_CVR	Short Integer			No	dom_PCT100
MID_HT	Short Integer			No	dom_FOI_TREE_HT
MID_TPA	Short Integer			No	dom_FOI_TPA
MID_BA	Short Integer			No	dom_FOI_BA
BTM_BYR	Short Integer			Conditional	dom_FOI_BIRTH_YEAR
BTM_STOCK_CLS	String	20		Conditional	dom_FOI_STOCK_CLS
BTM_CNPY_CVR	Short Integer			No	dom_PCT100
BTM_HT	Short Integer			No	dom_FOI_TREE_HT
BTM_TPA	Short Integer			No	dom_FOI_TPA
BTM_BA	Short Integer			No	dom_FOI_BA
US_CNPY_CVR	Short Integer			No	dom_PCT100
US_HT	Short Integer			No	dom_FOI_TREE_HT
FILEPATH	String	150		No	
LYR_GUID	GUID			Yes *	
FOI_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	

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

*   Values automatically generated

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4.2.2 FOI_LAYERS_SPCS_TBL Table (FOI Layers 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
LYR	String	10	Top	Yes	dom_FOI_LYR
SPECIES_TYPE	Short Integer		1	Yes	
SPECIES_CD	Text	10	XXXX	Yes	dom_FOI_SPECIES_ALL dom_FOI_SPECIES_TREE dom_FOI_SPECIES_UND
SPECIES_MJR	Text	1		No	dom_YN
SPECIES_PCT	Short Integer			No	dom_PCT100
DBH_SIZE_CLS	Short			Conditional	dom_FOI_DBH_SIZE_CLS
CROWN_RATIO_PCT	Short Integer			No	dom_PCT100
US_SPECIES_HT	Short Integer			Conditional	dom_FOI_TREE_HT
US_SPECIES_PCT	Short Integer			Conditional	dom_PCT100
LYR_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

*   Values automatically generated

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4.2.3 FOI_STAND_TBL Table (FOI Stand Attributes 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
REC_STTS	String	8	Current	Yes	dom_FOI_REC_STTS
CVR_TYPE	String	3	UNK	Yes	dom_FOI_CVR_TYPE
STAND_STRCT	String	7	Unknown	Yes	dom_FOI_STAND_STRCT
TPA	Short Integer			No	dom_FOI_TPA
TPA7	Short Integer			No	dom_FOI_TPA
QMD	Double			No	dom_FOI_QMD
QMD7	Double			No	dom_FOI_QMD
BA	Short Integer			No	dom_FOI_BA
BA7	Short Integer			No	dom_FOI_BA
CURTIS_RD	Double			No	dom_FOI_CURTIS_RD
CURTIS_RD7	Double			No	dom_FOI_CURTIS_RD
SDI	Short Integer			No	dom_FOI_SDI
RDI	Double			No	dom_FOI_RDI
CNPY_CVR	Short Integer			No	dom_PCT100
MBF_AC	Double			No	dom_FOI_MBF_AC
PAG_SRC	String	3		Conditional	dom_FOI_PAG_SRC
PAG	String	10		Conditional	dom_FOI_PAG
CLASSIFIER	String	30		Yes *	
SOURCE	String	25	Unknown	Yes	dom_FOI_SOURCE
SOURCE_DT	Date		1/1/8888	Yes	
SOURCE_DT_ACC	String	7	Day	Yes	dom_DT_ACC
SIM100	String	1		No	dom_TF
SIT100	String	30		No	dom_FOI_SIT100
SNDX100	Short Integer			No	dom_FOI_SNDX
SCLS100	Short Integer			No	dom_FOI_SITECLS
SIM50	String	1		No	dom_TF
SIT50	String	30		No	dom_FOI_SIT50
SNDX50	Short Integer			No	dom_FOI_SNDX
SCLS50	Short Integer			No	dom_FOI_SITECLS
SITECLS_SRC	String	25		Conditional	dom_FOI_SOURCE
SITECLS_SRC_DT	Date			Conditional	
COMMENTS	String	2000		No	

Attribute Name	Data Type	Length	Default Value	Required	Domain
FILEPATH	String	150		No	
SA_GUID	GUID			Yes *	
FOI_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

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4.2.4 FOI_STAND_SPCS_TBL Table (FOI 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
SPECIES_TYPE	Short Integer		1	Yes	
SPECIES_CD	Text	10	XXXX	Yes	dom_FOI_SPECIES_ALL dom_FOI_SPECIES_TREE dom_FOI_SPECIES_UND
TPA	Short Integer			No	dom_FOI_TPA
TPA7	Short Integer			No	dom_FOI_TPA
BA	Short Integer			No	dom_FOI_BA
BA7	Short Integer			No	dom_FOI_BA
BFVPA	Long Integer			No	
SA_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

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4.2.5 FOI_DOWNLOG_TBL Table (FOI 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
MMD	Short Integer			Yes	dom_FOI_MMD
MML	Short Integer			Yes	dom_FOI_MML
CLASSIFIER	String	30		Yes *	
SOURCE	String	25	Unknown	Yes	dom_FOI_SOURCE
SOURCE_DT	Date		1/1/8888	Yes	
SOURCE_DT_ACC	String	7	Day	Yes	dom_DT_ACC
FILEPATH	String	150		No	
DL_GUID	GUID			Yes *	
FOI_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

*   Values automatically generated

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

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4.2.6 FOI_DL_DECAY_TBL Table (FOI 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
DECAY_CLS	Short Integer		0	Yes	dom_DECAY_CLASS
TTPA	Short Integer			No	dom_FOI_TTPA
TCFPA	Long Integer			No	dom_FOI_TCFPA
TCPPA	Short Integer			No	dom_PCT100
TPPA	Short Integer			No	dom_FOI_TPPA
TLPA	Short Integer			No	dom_FOI_TLPA
DL_GUID	GUID			Yes	

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

*   Values automatically generated

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

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

4.2.7   FOI_SNAG_TBL Table (FOI 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
MMDBH	Short Integer			Yes	dom_FOI_MMDBH
MMHT	Short Integer			Yes	dom_FOI_MMHT
CLASSIFIER	String	30		Yes *	
SOURCE	String	25	Unknown	Yes	dom_FOI_SOURCE
SOURCE_DT	Date		1/1/8888	Yes	
SOURCE_DT_ACC	String	7	Day	Yes	dom_DT_ACC
FILEPATH	String	150		No	
SG_GUID	GUID			Yes *	
FOI_GUID	GUID			Yes	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

*   Values automatically generated

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

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

4.2.8 FOI_SNAG_DECAY_TBL Table (FOI 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
DECAY_CLS	Short Integer		0	Yes	dom_DECAY_CLASS
TSPA	Double			Yes	
SG_GUID	GUID			Yes *	
VERSION_NAME	String	50	InitialLoad	Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

| * | Values automatically generated |

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

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

4.3   FOIVEG Relationship Classes

4.3.1 rel_FOIVEG_POLY_LAYERS_TBL

Origin Table	FOIVEG_POLY
Origin Primary Key	FOI_GUID
Destination Table	FOI_LAYERS_TBL
Destination Foreign Key	FOI_GUID
Relationship Type	Simple
Labels	FOI Layers Table, FOIVEG Poly
Messages	None
Cardinality	1 to Many

4.3.2 rel_FOIVEG_POLY_STAND_TBL

Origin Table	FOIVEG_POLY
Origin Primary Key	FOI_GUID
Destination Table	FOI_STAND_TBL
Destination Foreign Key	FOI_GUID
Relationship Type	Simple

Labels	FOI Stand Attributes Table, FOIVEG Poly
Messages	None
Cardinality	1 to Many

4.3.3 rel_FOIVEG_POLY_DOWNLOG_TBL

Origin Table	FOIVEG_POLY
Origin Primary Key	FOI_GUID
Destination Table	FOI_DOWNLOG_TBL
Destination Foreign Key	FOI_GUID
Relationship Type	Simple
Labels	FOI Down Log Table, FOIVEG Poly
Messages	None
Cardinality	1 to Many

4.3.4 rel_FOIVEG_POLY_SNAG_TBL

Origin Table	FOIVEG_POLY
Origin Primary Key	FOI_GUID
Destination Table	FOI_SNAG_TBL
Destination Foreign Key	FOI_GUID
Relationship Type	Simple
Labels	FOI Snag Table, FOIVEG Poly
Messages	None
Cardinality	1 to Many

4.3.5 rel_FOI_LAYERS_TBL_LAYERS_SPCS_TBL

Origin Table	FOI_LAYERS_TBL
Origin Primary Key	LYR_GUID
Destination Table	FOI_LAYERS_SPCS_TBL
Destination Foreign Key	LYR_GUID
Relationship Type	Simple
Labels	FOI Layers Species Table, FOI Layers Table
Messages	None
Cardinality	1 to Many

4.3.6 rel_FOI_STAND_TBL_STAND_SPCS_TBL

Origin Table	FOI_STAND_TBL
Origin Primary Key	SA_GUID
Destination Table	FOI_STAND_SPCS_TBL
Destination Foreign Key	SA _GUID
Relationship Type	Simple
Labels	FOI Stand Species Table, FOI Stand Attributes Table
Messages	None
Cardinality	1 to Many

4.3.7 rel_FOI_DOWNLOG_TBL_DL_DECAY_TBL

Origin Table	FOI_DOWNLOG_TBL
Origin Primary Key	DL_GUID
Destination Table	FOI_DL_DECAY_TBL
Destination Foreign Key	DL_GUID
Relationship Type	Simple
Labels	FOI Down Log Decay Table, FOI Down Log Table
Messages	None
Cardinality	1 to Many

4.3.8 rel_FOI_SNAG_TBL_SNAG_DECAY_TBL

Origin Table	FOIVEG_POLY
Origin Primary Key	SG_GUID
Destination Table	FOI_SNAG_TBL
Destination Foreign Key	SG_GUID
Relationship Type	Simple
Labels	FOI Snag Decay Table, FOI Snag Table
Messages	None
Cardinality	1 to Many

5   Projection and Spatial Extent

All feature classes and feature datasets are in Geographic, North American Datum 83. Units are decimal degrees. Spatial extent (area of coverage) includes all lands managed by the BLM. 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)

    o   Description: Instance of Current Cover group.

    o   Geometry: Polygons must not overlap entirely or in part. Simple polygons, not multi-part, are used.

    o   Topology: Yes

    o   Integration Requirements: None

7   Attribute Characteristics and Definition (In alphabetical order)

7.1   AGECLS_10

Geodatabase Name	AGECLS_10
BLM Structured Name	FOI_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	Short Integer

7.2   AGECLS_10_DT

Geodatabase Name	AGECLS_10_DT
BLM Structured Name	FOI_Ten_Year_Age_Class_Date
Inheritance	Not Inherited
Alias Name	10 Yr Age Class Date
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 MM/DD/YYYY.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 2/15/2019, 1/30/2020
Data Type	Date

7.3   AGECLS_LYR

Geodatabase Name	AGECLS_LYR
BLM Structured Name	FOI_Ten_Year_Age_Class_Layer_Code
Inheritance	Not Inherited

Alias Name	10 Yr Age Class Layer
Feature Class Use/Entity Table	FOI_LAYERS_TBL
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. This is user specified during the Ecosurvey import process.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_LYR
Data Type	String (10)

7.4   BA

Geodatabase Name	BA
BLM Structured Name	FOI_Stand_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Basal Area
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_BA
Data Type	Short Integer

7.5   BA7

Geodatabase Name	BA7
BLM Structured Name	FOI_Stand_Basal_Area_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Basal Area > = 7"
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_BA
Data Type	Short Integer

7.6   BFVPA

Geodatabase Name	BFVPA
BLM Structured Name	FOI_Board_Foot_Volume_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Stand Board Foot/Ac
Feature Class Use/Entity Table	FOI_STAND_SPCS_TBL
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

7.7   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 based on spatial location when the record is created. The calculated value can be overwritten if needed.
Required/Optional	Required
Domain (Valid Values)	dom_BLM_ORG_CD
Data Type	String (5)

7.8   BTM_BA

Geodatabase Name	BTM_BA
BLM Structured Name	FOI_Layer_Bottom_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Bottom Basal Area
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	The basal area per acre of the bottom layer including all species for that layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_BA
Data Type	Short Integer

7.9   BTM_BYR

Geodatabase Name	BTM_BYR
BLM Structured Name	FOI_Layer_Bottom_Birth_Year_Number
Inheritance	Not Inherited
Alias Name	Bottom Birth Year
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Estimated or average birthdate for trees in the bottom stand layer. 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 AGECLS_LYR = "Bottom" then BTM_BYR and BTM_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_BIRTH_YEAR
Data Type	Short Integer

7.10   BTM_CNPY_CVR

Geodatabase Name	BTM_CNPY_CVR
BLM Structured Name	FOI_Layer_Bottom_Percent_Cover_Number
Inheritance	Not Inherited
Alias Name	Bottom Canopy Cover %
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Percent crown closure for a bottom tree layer without resolution of canopy overlap between layers. Estimates for a particular layer never exceed 100%. Percent crown closure for the three tree layers includes both hardwoods and conifers and the resolution of crown overlap within the layer. 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)	dom_PCT100
Data Type	Short Integer

7.11 BTM_HT

Geodatabase Name	BTM_HT
BLM Structured Name	FOI_Layer_Bottom_Height_Number
Inheritance	Not Inherited
Alias Name	Bottom Avg Ht (ft)
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Average top height of the bottom layer to the nearest foot.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TREE_HT
Data Type	Short Integer

7.12 BTM_STOCK_CLS

Geodatabase Name	BTM_STOCK_CLS
BLM Structured Name	FOI_Bottom_Stocking_Class_Code
Inheritance	Not Inherited
Alias Name	Bottom Stocking Class
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Numeric classification of forest stocking density related to the bottom 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. For more information see Calculating Stand Description for Stands with Layer Data. If AGECLS_LYR = "Bottom" then BTM_BYR and BTM_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_STOCK_CLS
Data Type	String (20)

7.13 BTM_TPA

Geodatabase Name	BTM_TPA
BLM Structured Name	FOI_Bottom_Layer_Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Bottom Trees/Ac
Feature Class Use/Entity Table	FOI_LAYERS_TBL

Definition	Estimated or sampled number of trees per acre in the bottom layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TPA
Data Type	Short Integer

7.14 CLASSIFIER

Geodatabase Name	CLASSIFIER
BLM Structured Name	Classifier_Text
Inheritance	Not Inherited
Alias Name	Classifier
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL
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)

7.15 CNPY_CVR

Geodatabase Name	CNPY_CVR
BLM Structured Name	FOI_Canopy_Cover_Percent_Number
Inheritance	Not Inherited
Alias Name	Canopy Cover %
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_PCT100
Data Type	Short Integer

7.16 COMMENTS

Geodatabase Name	COMMENTS
BLM Structured Name	Comments_Text
Inheritance	Not Inherited
Alias Name	Comments

Feature Class Use/Entity Table	FOIVEG_POLY
Definition	Free text for additional information about the record.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (2000)

7.17 CREATE_BY

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

7.18 CREATE_DATE

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

7.19 CROWN_RATIO_PCT

Geodatabase Name	CROWN_RATIO_PCT
BLM Structured Name	FOI_Species_Crown_Ratio_Number
Inheritance	Not Inherited
Alias Name	Crown Ratio %
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL

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)	dom_PCT100
Data Type	Short Integer

7.20 CURTIS_RD

Geodatabase Name	CURTIS_RD
BLM Structured Name	FOI_Curtis_Relative_Density_Number
Inheritance	Not Inherited
Alias Name	Curtis Relative Density
Feature Class Use/Entity Table	FOI_STAND_TBL
Definition	A simple and convenient scale for relative stand density using the method defined by Curtis (Curtis, 1982). Calculated using the following equation: Curtis RD = BA/sqrt(QMD).
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_CURTIS_RD
Data Type	Double

7.21 CURTIS_RD7

Geodatabase Name	CURTIS_RD7
BLM Structured Name	FOI_Curtis_Relative_Density_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Curtis Relative Density > = 7"
Feature Class Use/Entity Table	FOI_STAND_TBL
Definition	Curtis Relative Density for trees greater than or equal to 7 inches DBH provided by the expression: RD7 = BA7/ sqrt(QMD7).
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_CURTIS_RD
Data Type	Double

7.22 CVR_TYPE

Geodatabase Name	CVR_TYPE
BLM Structured Name	FOI_Cover_Type_Code
Inheritance	Not Inherited
Alias Name	Cover Type

Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_CVR_TYPE
Data Type	String (3)

7.23 DBH_SIZE_CLS

Geodatabase Name	DBH_SIZE_CLS
BLM Structured Name	FOI_Diameter_Breast_Height_Size_Class_Code
Inheritance	Not Inherited
Alias Name	DBH Size Class
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL
Definition	DBH Size Class per species per layer. Average DBH size class for a Major or Minor species within a layer. If LYR = "Top", "Middle", or "Bottom", this field is required; otherwise, it is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_DBH_SIZE_CLS
Data Type	Short Integer

7.24 DECAY_CLS

Geodatabase Name	DECAY_CLS
BLM Structured Name	FOI_Decay_Class_Code
Inheritance	Not Inherited
Alias Name	Decay Class
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL, FOI_SNAG_DECAY_TBL
Definition	Describes the decomposition characteristics of dead trees or down logs. For additional descriptions of decay classes, see Snag Decay Class Diagram and Down Log Decay Class Diagram.
Required/Optional	Required
Domain (Valid Values)	dom_DECAY_CLASS
Data Type	Short Integer

7.25 DIST_DFND_1

Geodatabase Name	DIST_DFND_1
BLM Structured Name	First_District_Defined_Text
Inheritance	Not Inherited
Alias Name	District Defined 1
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)

7.26 DIST_DFND_2

Geodatabase Name	DIST_DFND_2
BLM Structured Name	Second_District_Defined_Text
Inheritance	Not Inherited
Alias Name	District Defined 2
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)

7.27 DIST_DFND_3

Geodatabase Name	DIST_DFND_3
BLM Structured Name	Third_District_Defined_Text
Inheritance	Not Inherited
Alias Name	District Defined 3
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)

7.28 DIST_DFND_4

Geodatabase Name	DIST_DFND_4
BLM Structured Name	Fourth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	District Defined 4
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

7.29 DIST_DFND_5

Geodatabase Name	DIST_DFND_5
BLM Structured Name	Fifth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	District Defined 5
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

7.30 DIST_DFND_6

Geodatabase Name	DIST_DFND_6
BLM Structured Name	Sixth_District_Defined_Number
Inheritance	Not Inherited
Alias Name	District Defined 6
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

7.31 DL_GUID

Geodatabase Name	DL_GUID
BLM Structured Name	FOI_Down_Log_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Down Log Unique Identifier
Feature Class Use/Entity Table	FOI_DOWNLOG_TBL, FOI_DL_DECAY_TBL
Definition	Unique identifier for the FOI_DOWNLOG_TBL table. This field is used to link records in the FOI_DOWNLOG_TBL table to records in the FOI_DL_DECAY_TBL table. This field is auto populated with a GUID value.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	GUID

7.32 FILEPATH

Geodatabase Name	FILEPATH
BLM Structured Name	Filename_Path_Text
Inheritance	Not Inherited
Alias Name	File Path
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL
Definition	Computer storage location for a photo file (e.g., jpg), Word document, spreadsheet, or another associated document. The value in this field serves as a hyperlink to that location and the file it opens. Could also be a directory or dataset that opens for further browsing (where multiple files are being referenced).
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (150)

7.33 FOI_GUID

Geodatabase Name	FOI_GUID
BLM Structured Name	FOI_Unique_Identifier
Inheritance	Not Inherited
Alias Name	FOI Unique Identifier
Feature Class Use/Entity Table	FOIVEG_POLY, FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL

Definition	Unique identifier for the FOIVEG_POLY feature class. This field is used to link to records in the FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, and FOI_SNAG_TBL tables. This field is auto populated with a GUID value.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	GUID

7.34 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

7.35 GLOBALID

Geodatabase Name	GLOBALID
BLM Structured Name	Global_Unique_Identifier
Inheritance	Inherited from entity ODF
Alias Name	None
Feature Class Use/Entity Table	All feature classes and tables.
Definition	An alpha-numeric code that 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

7.36 LYR

Geodatabase Name	LYR
BLM Structured Name	FOI_Layer_Code
Inheritance	Not Inherited
Alias Name	None
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL
Definition	Indicates if the layer species recorded belong to the Top, Middle, Bottom, or Understory layer.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_LYR
Data Type	String (10)

7.37 LYR_GUID

Geodatabase Name	LYR_GUID
BLM Structured Name	FOI_Layer_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Layers Unique Identifier
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_LAYERS_SPCS_TBL
Definition	Unique identifier for the FOI_LAYERS_TBL table. This field is used to link records in the FOI_LAYERS_TBL table to records in the FOI_LAYERS_SPCS_TBL table. This field is auto populated with a GUID value.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	GUID

7.38 MBF_AC

Geodatabase Name	MBF_AC
BLM Structured Name	FOI_Stand_Volume_Per_Acre_MBF_Number
Inheritance	Not Inherited
Alias Name	Volume/Ac (MBF)
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_FOI_MBF_AC
Data Type	Double

7.39 MID_BA

Geodatabase Name	MID_BA
BLM Structured Name	FOI_Layer_Middle_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Middle Basal Area
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	The basal area per acre of the middle layer including all species for that layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_BA
Data Type	Short Integer

7.40 MID_BYR

Geodatabase Name	MID_BYR
BLM Structured Name	FOI_Layer_Middle_Birth_Year_Number
Inheritance	Not Inherited
Alias Name	Middle Birth Year
Feature Class Use/Entity Table	FOI_LAYERS_TBL

Definition	Estimated or average birthdate for trees in the middle stand layer. 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 AGECLS_LYR = "Middle" then MID_BYR and MID_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_BIRTH_YEAR
Data Type	Short Integer

7.41 MID_CNPY_CVR

Geodatabase Name	MID_CNPY_CVR
BLM Structured Name	FOI_Layer_Middle_Percent_Cover_Number
Inheritance	Not Inherited
Alias Name	Middle Canopy Cover %
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Percent crown closure for the middle tree layer without resolution of canopy overlap between layers. Estimates for a particular layer never exceed 100%. Percent crown closure for the three tree layers includes both hardwoods and conifers and the resolution of crown overlap within the layer. 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)	dom_PCT100
Data Type	Short Integer

7.42 MID_HT

Geodatabase Name	MID_HEIGHT
BLM Structured Name	FOI_Layer_Middle_Height_Number
Inheritance	Not Inherited
Alias Name	Middle Avg Ht (ft)
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Average top height of the middle layer to the nearest foot.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TREE_HT
Data Type	Short Integer

7.43 MID_STOCK_CLS

Geodatabase Name	MID_STOCK_CLS
BLM Structured Name	FOI_Middle_Stocking_Class_Code
Inheritance	Not Inherited
Alias Name	Middle Stocking Class
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Numeric classification of forest stocking density related to the middle 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. For more information see Calculating Stand Description for Stands with Layer Data. If AGECLS_LYR = "Middle" then MID_BYR and MID_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_STOCK_CLS
Data Type	String (20)

7.44 MID_TPA

Geodatabase Name	MID_TPA
BLM Structured Name	FOI_Middle_Layer_Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Middle Trees/Ac
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Estimated or sampled number of trees per acre in the middle layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TPA
Data Type	Short Integer

7.45 MMD

Geodatabase Name	MMD
BLM Structured Name	FOI_Minimum_Measured_Down_Log_Diameter_Number
Inheritance	Not Inherited
Alias Name	Min Measured Diameter (in)
Feature Class Use/Entity Table	FOI_DOWNLOG_TBL
Definition	List the minimum measured intersect diameter recorded in inches.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_MMD
Data Type	Short Integer

7.46 MMDBH

Geodatabase Name	MMDBH
BLM Structured Name	FOI_Minimum_Measured_Diameter_Breast_Height_Number
Inheritance	Not Inherited
Alias Name	Min Measured DBH (in)
Feature Class Use/Entity Table	FOI_SNAG_TBL
Definition	The minimum measured diameter of the snags at breast height measured in inches. 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.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_MMDBH
Data Type	Short Integer

7.47 MMHT

Geodatabase Name	MMHT
BLM Structured Name	FOI_Minimum_Measured_Height_Number
Inheritance	Not Inherited
Alias Name	Min Measured Ht (ft)
Feature Class Use/Entity Table	FOI_SNAG_TBL
Definition	The minimum measured height for snags measured in feet. 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.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_MMHT
Data Type	Short Integer

7.48 MML

Geodatabase Name	MML
BLM Structured Name	FOI_Minimum_Measured_Down_Log_Length_Number
Inheritance	Not Inherited
Alias Name	Min Measured Length (ft)
Feature Class Use/Entity Table	FOI_DOWNLOG_TBL
Definition	List the minimum measured length.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_MML

Data Type	Short Integer

7.49 MODIFY_BY

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

7.50 MODIFY_DATE

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

7.51 OI_KEY

Geodatabase Name	OI_KEY
BLM Structured Name	FOI_Key_Number
Inheritance	Not Inherited
Alias Name	OI #
Feature Class Use/Entity Table	FOIVEG_POLY
Definition	A unique number automatically assigned to each unit as they are created.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 31771, 935304
Data Type	Long Integer

7.52 PAG

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

7.53 PAG_SRC

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

7.54 QMD

Geodatabase Name	QMD
BLM Structured Name	FOI_Quadratic_Mean_Diameter_Number
Inheritance	Not Inherited
Alias Name	QMD
Feature Class Use/Entity Table	FOI_STAND_TBL
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)
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_QMD
Data Type	Double

7.55 QMD7

Geodatabase Name	QMD7
BLM Structured Name	FOI_Quadratic_Mean_Diameter_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	QMD > = 7"
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_QMD
Data Type	Double

7.56 RDI

Geodatabase Name	RDI
BLM Structured Name	FOI_Relative_Density_Index_Number
Inheritance	Not Inherited
Alias Name	Relative Density Index
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_FOI_RDI
Data Type	Double

7.57 REC_STTS

Geodatabase Name	REC_STTS
BLM Structured Name	FOI_Record_Status_Code
Inheritance	Not Inherited
Alias Name	Record Status

Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL
Definition	Identifies if the set of layers or stand attributes are the most recent data or if they are historic. An FOIVEG_POLY may only have one related Current Layers record and one related Current Stand Attributes record.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_REC_STTS
Data Type	String (8)

7.58 SA_GUID

Geodatabase Name	SA_GUID
BLM Structured Name	FOI_Stand_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Stand Attributes Unique Identifier
Feature Class Use/Entity Table	FOI_STAND_TBL, FOI_STAND_SPCS_TBL
Definition	Unique identifier for the FOI_STAND_TBL table. This field is used to link records in the FOI_STAND_TBL table to records in the FOI_STAND_SPCS_TBL table. This field is auto populated with a GUID value.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: "{FFE30070-D02A-4143-9596-60CDCBA82AE1}"
Data Type	GUID

7.59 SCLS100

Geodatabase Name	SCLS100
BLM Structured Name	FOI_One_Hundred_Year_Site_Class_Code
Inheritance	Not Inherited
Alias Name	100 Year Site Class
Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_SITECLS
Data Type	Short Integer

7.60 SCLS50

Geodatabase Name	SCLS50
BLM Structured Name	Fifty_Year_Site_Class_Code
Inheritance	Not Inherited
Alias Name	50 Year Site Class
Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_SITECLS
Data Type	Short Integer

7.61 SDI

Geodatabase Name	SDI
BLM Structured Name	FOI_Stand_Density_Index_Number
Inheritance	Not Inherited
Alias Name	Stand Density Index
Feature Class Use/Entity Table	FOI_STAND_TBL
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).
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_SDI
Data Type	Short Integer

7.62 SG_GUID

Geodatabase Name	SG_GUID
BLM Structured Name	FOI_Snag_Unique_Identifier
Inheritance	Not Inherited
Alias Name	Snag Unique Identifier
Feature Class Use/Entity Table	FOI_SNAG_TBL, FOI_SNAG_DECAY_TBL
Definition	Unique identifier for the FOI_SNAG_TBL table. This field is used to link records in the FOI_SNAG_TBL table to records in the FOI_SNAG_DECAY_TBL table.

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

7.63 SIM100

Geodatabase Name	SIM100
BLM Structured Name	FOI_One_Hundred_Year_Site_Class_Measured_Text
Inheritance	Not Inherited
Alias Name	100 Site Index Measured?
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_TF
Data Type	String (1)

7.64 SIM50

Geodatabase Name	SIM50
BLM Structured Name	Fifty_Year_Site_Class_Measured_Code
Inheritance	Not Inherited
Alias Name	50 Site Index Measured?
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_TF
Data Type	String (1)

7.65 SIT100

Geodatabase Name	SIT100
BLM Structured Name	FOI_One_Hundred_Year_Site_Index_Table_Code
Inheritance	Not Inherited
Alias Name	100 Year Site Table
Feature Class Use/Entity Table	FOI_STAND_TBL

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_FOI_SIT100
Data Type	String (30)

7.66 SIT50

Geodatabase Name	SIT50
BLM Structured Name	FOI_Fifty_Year_Site_Index_Table_Code
Inheritance	Not Inherited
Alias Name	50 Year Site Table
Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_SIT50
Data Type	String (30)

7.67 SITECLS_SRC

Geodatabase Name	SITECLS_SRC
BLM Structured Name	FOI_Stand_Site_Class_Source_Code
Inheritance	Not Inherited
Alias Name	Site Class Source
Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_SOURCE
Data Type	String (25)

7.68 SITECLS_SRC_DT

Geodatabase Name	SITECLS_SRC_DT
BLM Structured Name	FOI_Stand_Site_Class_Source_Date
Inheritance	Not Inherited
Alias Name	Site Class Source Date

Feature Class Use/Entity Table	FOI_STAND_TBL
Definition	Date of the source data used to derive the stand site class attributes. Dates are in the format MM/DD/YYYY.
Required/Optional	Conditional
Domain (Valid Values)	No domain. Examples: "9/3/2009", "10/4/2018"
Data Type	Date

7.69 SNDX100

Geodatabase Name	SNDX100
BLM Structured Name	FOI_One_Hundred_Year_Site_Index_Number
Inheritance	Not Inherited
Alias Name	100 Year Site Index
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_SNDX
Data Type	Short Integer

7.70 SNDX50

Geodatabase Name	SNDX50
BLM Structured Name	FOI_Fifty_Year_Site_Index_Number
Inheritance	Not Inherited
Alias Name	50 Year Site Index
Feature Class Use/Entity Table	FOI_STAND_TBL
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.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_SNDX
Data Type	Short Integer

7.71 SOURCE

Geodatabase Name	SOURCE
BLM Structured Name	FOI_Source_Code
Inheritance	Not Inherited
Alias Name	Source, Stand Source
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL
Definition	Description of the source data describing the method by attribute data was collected.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_SOURCE
Data Type	String (25)

7.72 SOURCE_DT

Geodatabase Name	SOURCE_DT
BLM Structured Name	FOI_Source_Date
Inheritance	Not Inherited
Alias Name	Source Date, Stand Data Source Date
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL
Definition	Date of the source data used to derive the attributes. Dates are in the format MM/DD/YYYY.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "9/3/2009", "10/4/2018"
Data Type	Date

7.73 SOURCE_DT_ACC

Geodatabase Name	SOURCE_DT_ACC
BLM Structured Name	FOI_Source_Date_Accuracy_Code
Inheritance	Not Inherited
Alias Name	Date Accuracy
Feature Class Use/Entity Table	FOI_LAYERS_TBL, FOI_STAND_TBL, FOI_DOWNLOG_TBL, FOI_SNAG_TBL
Definition	Describes the accuracy of the ACQ_DSP_DT date field. The default value for this field is "Day."
Required/Optional	Required
Domain (Valid Values)	dom_DT_ACC
Data Type	String (7)

7.74 SPECIES_CD

Geodatabase Name	SPECIES_CD
BLM Structured Name	FOI_Species_Code
Inheritance	Not Inherited
Alias Name	Species Code
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL, FOI_STAND_SPCS_TBL
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. A subset of the species list appears depending on the value selected in the corresponding SPECIES_TYPE field. The default value for this field is XXXX - Needs Data. However, edit versions may not be submitted if this species is used. It is only meant as a temporary code while data is entered.
Required/Optional	Required
Domain (Valid Values)	dom_FOI_SPECIES_ALL dom_FOI_SPECIES_TREE (if SPECIES_TYPE = 1 - Tree) dom_FOI_SPECIES_UND (if SPECIES_TYPE = 2 - Understory)
Data Type	String (10)

7.75 SPECIES_MJR

Geodatabase Name	SPECIES_MJR
BLM Structured Name	FOI_Major_Species_Code
Inheritance	Not Inherited
Alias Name	Major Species
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL
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_YN
Data Type	String (1)

7.76 SPECIES_PCT

Geodatabase Name	SPECIES_PCT
BLM Structured Name	FOI_Major_Species_Percent_Number
Inheritance	Not Inherited
Alias Name	Major Species %
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL
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)	dom_PCT100
Data Type	Short Integer

7.77 SPECIES_TYPE

Geodatabase Name	SPECIES_TYPE
BLM Structured Name	FOI_Species_Type_Code
Inheritance	Not Inherited
Alias Name	Species Type
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL, FOI_STAND_SPCS_TBL
Definition	Subtype field that controls the species subset list displayed in the corresponding SPECIES_CD field. 1 = Tree (species) 2 = Understory (species)
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	Short Integer

7.78 STAND_DESC

Geodatabase Name	STAND_DESC
BLM Structured Name	FOI_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).

	The default value for this field is UNKNOWN.
	For more information on how stand description is calculated see Stand Description Calculation Process.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: "FCO D4D3-=1880", "FCO WF3WF4WF2D3D4=1888//WF2P1WF1NH21942"
Data Type	String (255)

7.79 STAND_STRCT

Geodatabase Name	STAND_STRCT
BLM Structured Name	FOI_Stand_Structure_Code
Inheritance	Not Inherited
Alias Name	Stand Structure
Feature Class Use/Entity Table	FOI_STAND_TBL
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_FOI_STAND_STRCT
Data Type	String (7)

7.80 TCFPA

Geodatabase Name	TCFPA
BLM Structured Name	FOI_Total_Down_Log_Cubic_Feet_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Cubic Feet/Ac
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL
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)	dom_FOI_TCFPA
Data Type	Long Integer

7.81 TCPPA

Geodatabase Name	TCPPA
BLM Structured Name	FOI_Total_Down_Log_Cover_Percent_Number
Inheritance	Not Inherited

Alias Name	Total % Cover/Ac
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL
Definition	For each decay class, list the stands down log total percent cover.
Required/Optional	Optional
Domain (Valid Values)	dom_PCT100
Data Type	Short Integer

7.82 TLPA

Geodatabase Name	TLPA
BLM Structured Name	FOI_Total_Down_Log_Length_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Length/Ac
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL
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)	dom_FOI_TLPA
Data Type	Short Integer

7.83 TOP_BA

Geodatabase Name	TOP _BA
BLM Structured Name	FOI_Layer_Top_Basal_Area_Number
Inheritance	Not Inherited
Alias Name	Top Basal Area
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	The basal area per acre of the top layer including all species for that layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_BA
Data Type	Short Integer

7.84 TOP_BYR

Geodatabase Name	TOP_BYR
BLM Structured Name	FOI_Layer_Top_Birth_Year_Number
Inheritance	Not Inherited
Alias Name	Top Birth Year

Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Estimated or average birthdate for trees in the top stand layer. 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 AGECLS_LYR = "Top" then TOP_BYR and TOP_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_BIRTH_YEAR
Data Type	Short Integer

7.85 TOP_CNPY_CVR

Geodatabase Name	TOP_CNPY_CVR
BLM Structured Name	FOI_Layer_Top_Percent_Cover_Number
Inheritance	Not Inherited
Alias Name	Top Canopy Cover %
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Percent crown closure for the top tree layer without resolution of canopy overlap between layers. Estimates for a particular layer never exceed 100%. Percent crown closure for the three tree layers includes both hardwoods and conifers and the resolution of crown overlap within the layer. 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)	dom_PCT100
Data Type	Short Integer

7.86 TOP_HT

Geodatabase Name	TOP_HT
BLM Structured Name	FOI_Layer_Top_Height_Number
Inheritance	Not Inherited
Alias Name	Top Avg Ht (ft)
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Average top height of the top layer to the nearest foot.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TREE_HT
Data Type	Short Integer

7.87 TOP_STOCK_CLS

Geodatabase Name	TOP_STOCK_CLS
BLM Structured Name	FOI_Top_Stocking_Class_Code
Inheritance	Not Inherited
Alias Name	Top Stocking Class
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Numeric classification of forest stocking density related to the top 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. For more information see Calculating Stand Description for Stands with Layer Data. If AGECLS_LYR = "Top" then TOP_BYR and TOP_STOCK_CLS are required, otherwise this field is optional.
Required/Optional	Conditional
Domain (Valid Values)	dom_FOI_STOCK_CLS
Data Type	String (20)

7.88 TOP_TPA

Geodatabase Name	TOP_TPA
BLM Structured Name	FOI_Top_Layer_Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Top Trees/Ac
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Estimated or sampled number of trees per acre in the top layer.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TPA
Data Type	Short Integer

7.89 TPA

Geodatabase Name	TPA
BLM Structured Name	FOI_Total_Trees_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Trees/Ac
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_FOI_TPA
Data Type	Short Integer

7.90 TPA7

Geodatabase Name	TPA7
BLM Structured Name	FOI_Total_Trees_Per_Acre_Greater_Than_Seven_Inches_Number
Inheritance	Not Inherited
Alias Name	Total Trees/Ac > = 7"
Feature Class Use/Entity Table	FOI_STAND_TBL
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)	dom_FOI_TPA
Data Type	Short Integer

7.91 TPPA

Geodatabase Name	TPPA
BLM Structured Name	FOI_Total_Down_Log_Pieces_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Pieces/Ac
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL
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)	dom_FOI_TPPA
Data Type	Short Integer

7.92 TRS

Geodatabase Name	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.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: "T15S-R07W-05", "T05N-R02W-21
Data Type	String (25)

7.93 TSPA

Geodatabase Name	TSPA
BLM Structured Name	FOI_Total_Snags_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Snags/Ac
Feature Class Use/Entity Table	FOI_SNAG_DECAY_TBL
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

7.94 TTPA

Geodatabase Name	TTPA
BLM Structured Name	FOI_Total_Down_Log_Tons_Per_Acre_Number
Inheritance	Not Inherited
Alias Name	Total Tons/Ac
Feature Class Use/Entity Table	FOI_DL_DECAY_TBL
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)	dom_FOI_TTPA
Data Type	Short Integer

7.95 UNITNO

Geodatabase Name	OI_UNITNO
BLM Structured Name	FOI_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)

7.96 US_HT

Geodatabase Name	US_HT
BLM Structured Name	FOI_Layer_Understory_Height_Number
Inheritance	Not Inherited
Alias Name	Understory Avg Ht (ft)
Feature Class Use/Entity Table	FOI_LAYERS_TBL
Definition	Average top height of the understory layer to the nearest foot. Species less than a foot in height should be assigned a height of zero.
Required/Optional	Optional
Domain (Valid Values)	dom_FOI_TREE_HT
Data Type	Short Integer

7.97 US_SPECIES_PCT

Geodatabase Name	US_SPECIES_PCT
BLM Structured Name	FOI_Understory_Species_Percent_Number
Inheritance	Not Inherited
Alias Name	Understory Species %
Feature Class Use/Entity Table	FOI_LAYERS_SPCS_TBL
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)	dom_PCT100
Data Type	Short Integer

7.98 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.

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, FILEPATH, 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. The following tables are published as-is (except for the changes mentioned above):

- FOI_LAYERS_TBL

- FOI_LAYERS_SPCS_TBL

- FOI_STAND_TBL

- FOI_STAND_SPCS_TBL

- FOI_DOWNLOG_TBL

- FOI_DL_DECAY_TBL

- FOI_SNAG_TBL

- FOI_SNAG_DECAY_TBL

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

Publication Attribute	Source
OI_KEY	FOIVEG_POLY.OI_KEY
CLASSIFIER	FOI_STAND_TBL.CLASSIFIER for the most recent Stand Attributes record.
CVR_TYPE	FOI_STAND_TBL.CVR_TYPE for the most recent Stand Attributes record.
STAND_STRCT	FOI_STAND_TBL.STAND_STRCT for the most recent Stand Attributes record.
STAND_DESC	FOIVEG_POLY.STAND_DESC
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."
AGECLS_10	FOIVEG_POLY.OI_AGECLS_10
AGECLS_LYR	FOI_LAYERS_TBL.AGECLS_LYR
TOP_STOCK_CLS	FOI_LAYERS_TBL.TOP_STOCK_CLS
TOP_BYR	FOI_LAYERS_TBL.TOP_BYR
MID_STOCK_CLS	FOI_LAYERS_TBL.MID_STOCK_CLS
MID_BYR	FOI_LAYERS_TBL.MID_BYR
BTM_STOCK_CLS	FOI_LAYERS_TBL.BTM_STOCK_CLS
BTM_BYR	FOI_LAYERS_TBL.BTM_BYR
LYR_SOURCE	FOI_LAYERS_TBL.SOURCE for the designated Age Class Layer from the current FOI_LAYERS_TBL record.
LYR_SOURCE_DT	FOI_LAYERS_TBL.SOURCE_DT for the designated Age Class Layer from the current FOI_LAYERS_TBL record.
TTPA	FOI_STAND_TBL.TPA from the current FOI_STAND_TBL record.
QMD	FOI_STAND_TBL.QMD from the current FOI_STAND_TBL record.
BA	FOI_STAND_TBL.BA from the current FOI_STAND_TBL record.
CURTIS_RD	FOI_STAND_TBL.CURTIS_RD from the current FOI_STAND_TBL record.
SDI	FOI_STAND_TBL.SDI from the current FOI_STAND_TBL record.
CNPY_CVR	FOI_STAND_TBL.CNPY_CVR from the current FOI_STAND_TBL record.
TPA7	FOI_STAND_TBL.TPA7 from the current FOI_STAND_TBL record.
QMD7	FOI_STAND_TBL.QMD7 from the current FOI_STAND_TBL record.
BA7	FOI_STAND_TBL.BA7 from the current FOI_STAND_TBL record.
CURTIS_RD7	FOI_STAND_TBL.CURTIS_RD7 from the current FOI_STAND_TBL record.
MBF_AC	FOI_STAND_TBL.MBF_AC from the current FOI_STAND_TBL record.
STAND_SOURCE	FOI_STAND_TBL.SOURCE from the current FOI_STAND_TBL record.

Publication Attribute	Source
STAND_SOURCE_DT	FOI_STAND_TBL.SOURCE_DT from the current FOI_STAND_TBL record.
SCLS100	FOI_STAND_TBL.SCLS100 from the current FOI_STAND_TBL record.
SCLS50	FOI_STAND_TBL.SCLS50 from the current FOI_STAND_TBL record.
SITECLS_SRC	FOI_STAND_TBL.SITECLS_SRC from the current FOI_STAND_TBL record.
SITECLS_SRC_DT	FOI_STAND_TBL.SITECLS_SRC_DT from the current FOI_STAND_TBL record.
PAG	FOI_STAND_TBL.PAG from the current FOI_STAND_TBL record.
PAG_SRC	FOI_STAND_TBL.PAG_SRC from the current FOI_STAND_TBL 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. 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.
COMMENTS	FOIVEG_POLY.COMMENTS Text field for any remarks on the OI Unit.

8.3   Layer Files

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

9   Editing Procedures

9.1   Managing Overlap

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.

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

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

Snapping considerations. Where line segments with different COORD_SRC meet, the most accurate or important (in terms of legal boundary representation) are kept unaltered, and other lines snapped to them. In general, the hierarchy of importance is PLSS (CadNSDI points/lines) first, with DLG or 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 MM/DD/YYYY format. If an attribute has a domain, check for invalid values. The values must be exact.

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

9.3   Theme Specific Guidance

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

Use Micro*Storms tool for calculating Stand Description and 10 year age class for new or modified records.

9.3.1 Calculation Data Rules

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

FOIVEG_POLY:

- Fill FOI_GUID with a new GUID value on create.
- Calculate BLM_ORG_CD on create.
- Calculate GIS_ACRES on create or modify.
- Calculate OI_KEY from database sequence on create.
- Calculate TRS (Township, Range, Section) on create or modify. Based on polygon spatial location. If there is more than one TRS intersected with the polygon, use the one with the most overlap.

FOI_LAYERS_TBL:

- Fill LYR_GUID with a new GUID value on create.
- If empty, fill CLASSIFIER with the Active Directory name of the editor on create.
- If empty, fill SOURCE_DT with the current date on create.

FOI_STAND_TBL:

- Fill SA_GUID with a new GUID value on create.
- If empty, fill CLASSIFIER with the Active Directory name of the editor on create.
- If empty, fill SOURCE_DT with the current date on create.
- If CVR_TYPE is FCO, FMX, FHD, the allowable STAND_STRCT values are Even or Uneven.
- If CVR_TYPE is changed to any of the non-forested types (NA, NB, NG, NH, NO, NR, NU, or NW) and STAND_STRCT is null, set STAND_STRCT = NF.

FOI_DOWNLOG_TBL:

- Fill DL_GUID with a new GUID value on create.
- If empty, fill CLASSIFIER with the Active Directory name of the editor on create.
- If empty, fill SOURCE_DT with the current date on create.

FOI_SNAG_TBL:

- Fill FOI_GUID with a new GUID value on create.
- If empty, fill CLASSIFIER with the Active Directory name of the editor on create.
- If empty, fill SOURCE_DT with the current date on create.

9.3.2 Constraint Data Rules

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

FOIVEG_POLY:

- An FOIVEG_POLY may only have one related Current Layers record. It should be the most recently collected data.

- An FOIVEG_POLY may only have one related Current Stand Attributes record. It should be the most recently collected data.

FOI_LAYERS_TBL:

- If AGECLS_LYR = "Top" then TOP_BYR and TOP_STOCK_CLS are required.

- If AGECLS_LYR = "Middle" then MID_BYR and MID_STOCK_CLS are required.

- If AGECLS_LYR = "Bottom" then BTM_BYR and BTM_STOCK_CLS are required.

- If AGECLS_LYR = "Unknown" then the birth year and stocking class fields are not required.

FOI_LAYERS_SPCS_TBL:

- If LYR = "Top", "Middle", or "Bottom", DBH_SIZE_CLS is required.

- LYR may not equal "Unknown."

- If SPECIES_MJR = "Y", then SPECIES_PCT is required.

- If SPECIES_MJR = "N", then SPECIES_PCT must be null.

- Edit version cannot be submitted if SPECIES_CD = "'XXXX - Needs Data."

FOI_STAND_TBL:

- Stand TPA must be greater than or equal to TPA7.

- Stand QMD must be less than or equal to QMD7.

- Stand BA must be less than or equal to BA7.

- If any of the following fields are not null, SITECLS_SRC and SITECLS_SRC_DT is required: SCLS100, SCLS50, SIM100, SIM50, SIT100, SIT50, SNDX100, SNDX50.

FOI_STAND_SPCS_TBL:

- Edit version cannot be submitted if SPECIES_CD = "'XXXX - Needs Data."

10   Abbreviations and Acronyms

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

Table 2   Abbreviations/Acronyms Used

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

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 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_DECAY_CLASS

Decay Class. Code to describe the decomposition characteristics of snags or coarse woody debris. For additional descriptions of decay classes, see Snag Decay Class Diagram and Down Log Decay Class Diagram.

Code	Description
0	0 - Live tree
1	1 - Minimal decay; bark & limbs present
2	2 - Some decay; bark & limbs mostly present
3	3 - Advancing decay, bark & limbs mostly absent, bole intact
4	4 - Decayed, bark & limbs mostly absent, softening bole
5	5 - Well-decayed, soft snag/log

A.3   dom_DT_ACC

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

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

A.4   dom_FOI_BA

FOI Range Basal Area. Range domain where the allowable values are 0 to 999.

A.5   dom_FOI_BIRTH_YEAR

FOI Range Birth Year. Range domain where the allowable values are 1200 to 2100.

A.6 dom_FOI_CURTIS_RD

FOI Range Curtis Relative Density. Range domain where the allowable values are 0 to 1.5.

A.7 dom_FOI_CVR_TYPE

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.8 dom_FOI_DBH_SIZE_CLS

Layer DBH Size Class Code. 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.9 dom_FOI_LYR

FOI Layer Code. Indicates the layer of the tree canopy.

Code	Description
Top	Top
Middle	Middle
Bottom	Bottom
Unknown	Unknown

A.10 dom_FOI_MBF_AC

FOI Range MBF per acre. Range domain where the allowable values are 0.1 to 400.

A.11 dom_FOI_MMD

FOI Range MMD. Range domain where the allowable values are 0 to 20.

A.12 dom_FOI_MMDBH

FOI Range Min Measured DBH. Range domain where the allowable values are 1 to 99.

A.13 dom_FOI_MMHT

FOI Range Min Measured Height. Range domain where the allowable values are 7 to 30.

A.14 dom_FOI_MML

FOI Range MML. Range domain where the allowable values are 3 to 30.

A.15 dom_FOI_PAG

Plant Association Code. Plant association based on key vegetative species. This is a lengthy domain. For the full list of values go to: https://gis.blm.gov/ORDownload/Domains/dom_FOI_PAG.xlsx.

A.16 dom_FOI_PAG_SRC

Plant Association Source Code. The source of the plant association 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

Code	Value
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.
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

Code	Value
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
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.17 dom_FOI_QMD

FOI Range QMD. Range domain where the allowable values are 0.1 to 99.

A.18 dom_FOI_RDI

FOI Range RDI. Range domain where the allowable values are 0.01 to 1.5.

A.19 dom_FOI_REC_STTS

FOI Record Status Code. Layer status indicates if the layer or stand attributes record is the most current or is historic data.

Code	Description
Current	Current - the most recent set of attributes
Historic	Historic

A.20 dom_FOI_SDI

FOI Range SDI. Range domain where the allowable values are 1 to 999.

A.21 dom_FOI_SIT100

FOI Stand 100 Year Site Table Code. 100-year site index table used to estimate or measure the site index.

Code	Description
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

Code	Description
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.22 dom_FOI_SIT50

FOI Stand 50 Year Site Table. 50-year site index table used to estimate or measure the site index.

Code	Description
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.23 dom_FOI_SITECLS

FOI Stand Site Class Code. Average 100-year or 50-year site class.

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

A.24 dom_FOI_SNDX

FOI Range Site Index. Range domain where the allowable values are 1 to 250.

A.25 dom_FOI_SOURCE

FOI Vegetation Source Code. Description of the source data describing the method by attribute data was collected.

Code	Description
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
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-NonEcosurvey	Stand Exam-NonEcosurvey - Survey data from stand exam (not using Ecosurvey)
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)
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

A.26 dom_FOI_SPECIES_ALL

FOI All Tree and Understory Species Code.

This is a lengthy domain. For the full list of values go to:
https://gis.blm.gov/ORDownload/Domains/dom_FOI_SPECIES_ALL.xlsx

A.27 dom_FOI_SPECIES_TREE

FOI Tree Species Code.

This is a lengthy domain. For the full list of values go to:
https://gis.blm.gov/ORDownload/Domains/dom_FOI_SPECIES_TREE.xlsx

A.28 dom_FOI_SPECIES_UND

FOI Understory Species Code.

This is a lengthy domain. For the full list of values go to:

https://gis.blm.gov/ORDownload/Domains/dom_FOI_SPECIES_UND.xlsx

A.29 dom_FOI_STAND_STRCT

FOI Stand Structure Code. The degree of uniformity of the stand canopy structure across the Operations Inventory unit polygon, Even or Uneven Aged.

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

A.30 dom_FOI_STOCK_CLS

FOI Stocking Class Code. Numeric classification of forest stocking density related to the layer canopy cover.

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

A.31 dom_FOI_TCFPA

FOI Range Total Cubic Feet per acre. Range domain where the allowable values are 0 to 50000.

A.32 dom_FOI_TLPA

FOI Range Total Length per acre. Range domain where the allowable values are 0 to 15000.

A.33 dom_FOI_TPA

FOI Range Trees per acre. Range domain where the allowable values are 0 to 9999.

A.34 dom_FOI_TPPA

FOI Range Total Pieces per acre. Range domain where the allowable values are 0 to 1000.

A.35 dom_FOI_TREE_HT

FOI Range Tree Height Feet. Range domain where the allowable values are 0 to 300.

A.36 dom_FOI_TTPA

FOI Range Total Tons per acre. Range domain where the allowable values are 0 to 400.

A.37 dom_PCT100

Percentage (0-100) Range Domain. Range domain where the allowable values are whole numbers 0 to 100.

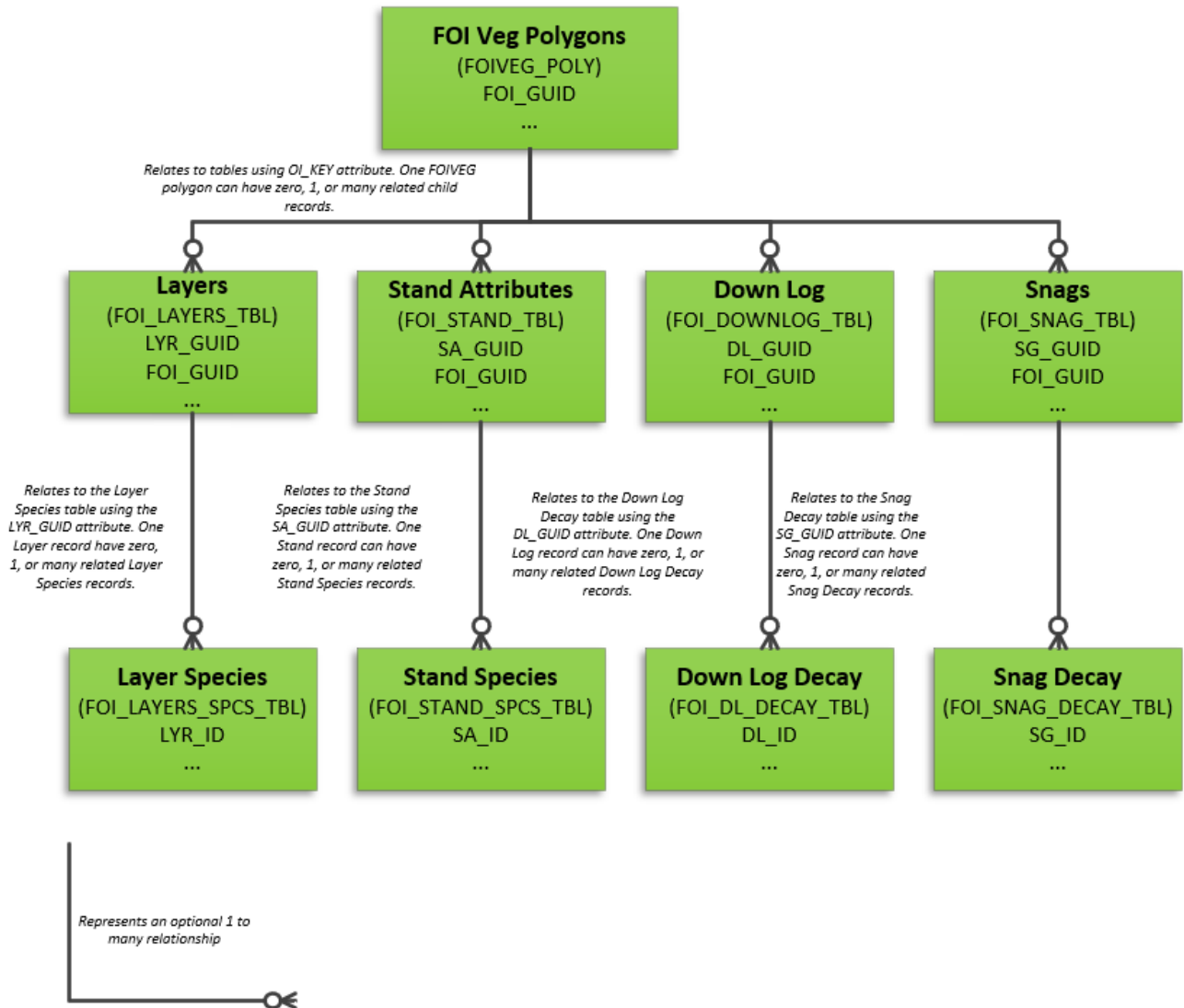# A.38 dom_TF

True/False Flag. True/False flag.

Code	Description
T	True
F	False

A.39 dom_YN

Yes/No Flag. Yes/No flag.

Code	Description
Y	Yes
N	No
U	Unknown

B   FOIVEG Data Structure Relationships

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

E   Stand Description Calculation Process

E.1   Calculating Stand Description for Forested Stands with Layer Data

The following process is used to calculate the FOI Stand Description for forested stand records with related Layers and Layers Species data (where CVR_TYPE = FCO, FMX, FHD, or FNS) and there **is** related Layers data.

- Use the data in the related Layers record where REC_STTS = Current. There should only be one current record that is the most recent data.

- Concatenate the Layers and Layers Species data using the following format:

  (Top layer Species1)(DBH Class)(top layer Species2)(DBH Class) {etc. for all species designated as Major}(Top layer Stocking Class)(Top layer Birth Year)[/] (Middle layer Species1)(DBH Class)(Middle layer Species2)(DBH Class) {etc. for all species designated as Major}(Middle layer Stocking Class)(Middle layer Birth Year)[/](Bottom layer Species1)(DBH Class)(Bottom layer Species2)(DBH Class) {etc. for all species designated as Major}(Bottom layer Stocking Class)(Bottom layer Birth Year)

- The TOP_STOCK_CLS, MID_STOCK_CLS, and BTM_STOCK_CLS values should be translated to the following symbols:

        Non-Stocked: <no value>

        Poorly Stocked: **-**

        Medium Stocked: **=**

        Well Stocked: **-=**

- Examples:

        D4H4-=1900   One layer stand with both Douglas-fir (D) and western hemlock (H), both with a DBH size class of 4, well stocked, with a birth year of 1900.

        RA3-=1900/D2-1950   A two-layer stand. The top layer consists of red alder (RA) with a DBH size class of 4, well stocked, with a birth year of 1900. The bottom layer is Douglas-fir (D) with a DBH size class of 2, poorly stocked, with a birth year of 1950.

        D4-1900/D2M2=1950/H1=2004   A three-layer stand. The top layer consists of Douglas-fir (D) with a DBH size class of 4, poorly stocked, with a birth year of 1900. The middle layer consists of Douglas-fir (D) and bigleaf maple (M), both with a DBH size class of 2, medium stocked, with a birth year of 1950. The bottom layer consists of western hemlock (H), with a DBH size class of 1, medium stocked, with a birth year of 2004.

E.2   Calculating Stand Description for Forested Uneven Aged Stands without Layer Data

The following process is used to calculate the FOI Stand Description for forested stand records with related Layers and Layers Species data (where CVR_TYPE = FCO, FMX, FHD, or FNS) and there is no related Layers data.

- Use the data in the related Stand Attributes record where REC_STTS = Current. There should only be one current record that is the most recent data.

- Concatenate the Stand Attributes and Stand Species data using the following format. Only species with basal area greater than 20% should be included. Species to be sorted in descending order by basal area.

- Examples:

        FCO 13.2 QMD P 60 WF 50   Forest Conifer (FCO) stand with Quadratic Mean Diameter of 13.2. Major species of the stand are ponderosa pine (P) with a basal area of 60 and white fir

(WF) with a basal area of 50.

FCO 17.9 QMD D 96 RC 80 M 40 GF 24 RA 24   Forest Conifer (FCO) stand with Quadratic Mean Diameter of 17.9. Major species of the stand are Douglas-fir (D) with a basal area of 96, western red cedar (RC) with a basal area of 80, bigleaf maple (M) with a basal area of 40, grand fir (GF) with a basal area of 24, and red alder (RA) with a basal area of 24.

E.3   Calculating Stand Description for Non-Forested Stands or No Data

If there is a related Stand Attributes record but no Layers, Layers Species, or Stand Species data, Fill FOIVEG STAND_DESC with the Stand Attributes CVR_TYPE value.

If there is no related Stand Attributes or Layers data, fill the STAND_DESC with "UNKNOWN."

E.4   Species Short Codes Used in Stand Descriptions

The USDA Plants Symbol species identifier is too long to use for the derived stand description. The following is a crosswalk between the species code recorded in FOI Species domains and the shorter codes used for stand descriptions.

Species Code	Species Common (Accepted) Name	Stand Description Short Code
CHNO	Alaska cedar	YC
JUDE2	alligator juniper	AJ
ULAM	American elm	ELM
MALUS	apple	AP
ALOB2	Arizona alder	AL
HEAR22	Arizona cypress	AC
ARAR2	Arizona madrone	AMA
PIMOF	Arizona pinyon pine	API
QUAR	Arizona white oak	AWO
POBA2	balsam poplar	BO
PSMA	bigcone Douglas-fir	BD
ACMA3	bigleaf maple	M
PIMU	Bishop pine	BP
PREM	bitter cherry	CH
POBAT	black cottonwood	BC
PIMA	black spruce	BU
QUDO	blue oak	BLO
PIPU	blue spruce	BLS
PIDI3	border pinyon	BDP
ACNE2	boxelder	BE
PIBR	Brewers spruce	BS
ABBR	bristlecone fir	BF

Species Code	Species Common (Accepted) Name	Stand Description Short Code
PIAR	bristlecone pine	BR
QUMA2	bur oak	BUO
QUKE	California black oak	CO
AECA	California buckeye	BUC
PISA2	California foothill pine	GYP
JUCA7	California juniper	CJ
UMCA	California laurel	MY
QUAG	California live oak	LO
TOCA	California nutmeg	CT
ABMA	California red fir	CF
PLRA	California sycamore	CS
QUCH2	canyon live oak	CL
Z_C	Cedars As A Type Group	C
PILE	Chihuahuan pine	CHP
QUMU	chinquapin oak	CHO
JUCO6	common juniper	JU
ABLAA	corkbark fir	CKF
POPUL	cottonwood	CA
PICO3	Coulter pine	CP
CUPRE	cypress	CY
PSME	Douglas-fir	D
QUEM	Emory oak	EMO
QUEN	Engelmann oak	EO
PIEN	Engelmann spruce	ES
EUCAL	eucalyptus	E
PIBA	foxtail pine	FP
POFR2	Fremont cottonwood	FC
QUGA	Gambel oak	GO
CHCH7	giant chinquapin	GC
SEGI2	giant sequoia	GS
ABGR	grand fir	GF
QUGR3	gray oak	GRO
PILO	Great Basin bristlecone pine	GP
FRPE	green ash	GA
Z_HD	Hardwoods As A Type Group	HD
CRATA	hawthorn	NW

Species Code	Species Common (Accepted) Name	Stand Description Short Code
CADE27	incense cedar	IC
QUWI2	interior live oak	IO
PIJE	Jeffrey pine	JP
Z_JU	Juniper Type	JUN
PIAT	knobcone pine	KP
PIFL2	limber pine	LM
PICO	lodgepole pine	LP
QUOB	Mexican blue oak	MO
HEBA5	Modoc cypress	MC
HEMA22	Monterey cypress	CYP
PIRA2	Monterey pine	MP
TSME	mountain hemlock	MH
POAN3	narrowleaf cottonwood	NC
QURU4	netleaf oak	NO
ABPR	noble fir	NF
Z_NH	Non-commercial Hardwoods	NH
Z_OM	Oak Madrone Type	OM
Z_OAK	Oak Type	OK
JUMO	Oneseed juniper	OJ
FRLA	Oregon ash	OA
QUGA4	Oregon white oak	WO
CONU4	Pacific dogwood	PD
ARME	Pacific madrone	MA
ABAM	Pacific silver fir	A
TABR2	Pacific yew	PY
BEPAP	paper birch	B
BEPA	paper birch	BI
PINUS	pine	SA
Z_PY	Pinyon Pine Type	PIY
Z_PIJU	Pinyon-Juniper Type	PIJU
PODEM	plains cottonwood	PLC
PIPO	ponderosa pine	P
Z_PJ	Ponderosa-Jeffrey Pine Group	PJ
CHLA	Port Orford cedar	PC
POTR5	quaking aspen	QA
ALRU2	red alder	RA

Species Code	Species Common (Accepted) Name	Stand Description Short Code
JUCO11	redberry juniper	RDJ
SESE3	redwood	RY
BENE4	resin birch	RB
JUSC2	Rocky Mountain juniper	RJ
CUSA3	Sargent's cypress	SC
SASC	Scoulers Willow	SW
ABSH	Shasta red fir	SF
QUHY	silverleaf oak	SO
PIMO	singleleaf pinyon	PI
PISI	Sitka spruce	S
PIST3	southwestern white pine	SWP
ABLA	Subalpine Fir	AF
ABLAL	Subalpine Fir	AFL
LALY	subalpine larch	SL
PILA	sugar pine	SP
NODE3	tanoak	TO
EUGL	Tasmanian bluegum	EU
Z_FM	True Fir Mountain Hemlock Type	FM
PIED	twoneedle pinyon	TPI
JUOS	Utah juniper	UJ
QULO	valley oak	CW
FRVE2	velvet ash	VA
JUGLA	walnut	WN
PIPOW2	Washoe pine	WAP
BEOC2	water birch	WBI
TSHE	western hemlock	H
JUOC	western juniper	J
LAOC	western larch	WL
THPL	western redcedar	RC
PIMO3	western white pine	WP
ALRH2	white alder	WA
ABCO	white fir	WF
Z_WG	White Fir-Grand Fir Type	WG
Z_P	White Pine As A Type Group	W
PIGL	white spruce	WS
PIAL	whitebark pine	WB

Species Code	Species Common (Accepted) Name	Stand Description Short Code
SALIX	willow	WI