



SITE POTENTIAL TREE HEIGHT SPATIAL DATA STANDARD



A tree lies in the Little North Santiam River, having fallen in from the adjacent riparian forest.

DOCUMENT REVISIONS

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1. GENERAL INFORMATION

Dataset (Theme) Name: Site Potential Tree Height (SPTH)

Datasets (Feature Classes): SPTH_POLY, SPTH_ARC

1.1 ROLES AND RESPONSIBILITIES

Roles	
State Data Steward(s)	The State Data Steward is responsible for approving data standards and business rules, developing quality assurance/control procedures, identifying potential privacy issues, and ensuring data are managed 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, 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 make sure data is being input into the enterprise Spatial Database Engine (SDE) database consistently and in accordance with the established data standard. 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 that defined processes for development of data standards and metadata are followed, and that they are consistent and complete. The state data administrator is responsible for making data standards and metadata accessible to all users. The state data administrator also coordinates with data stewards and GIS coordinators to respond to national spatial data requests.
State Records Administrator	The State Records Administrator assists the state data steward to identify any privacy issues related to spatial data. The state records administrator also provides direction and guidance on data release and fees. The state records administrator also ensures that data has been classified under the proper records retention schedule and determines appropriate Freedom of Information Act category.

Table 1. Role and Responsibilities

Current personnel assigned these Roles, can be found at the following link:

<https://www.blm.gov/site-page/ore-gon-data-management>

1.2 FOIA CATEGORY

Public

1.3 RECORDS RETENTION SCHEDULE

The DRS/GRS/BLM Combined Records Schedule under Schedule 20/52a3 (Electronic Records/Geographic Information Systems) lists Range Monitoring 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 SPTH_POLY feature class does not require any additional security other than what is 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, either from within the BLM or external to the BLM. This dataset falls under the standard Records Access Category 1A-Public Data.

There are or no privacy issues or concerns associated with these data themes.

1.5 KEYWORDS

Keywords that can be used to locate this dataset include the following:

- BLM Thesaurus: Forestry, Land Use Planning, Soils, Vegetation
- Additional keywords: 2016 Northwestern and Coastal Oregon Resource Management Plan, 2016 Southwestern Oregon Resource Management Plan, Riparian Reserves, Land Use Allocations

1.6 SUBJECT FUNCTION CODES

BLM Subject Function codes that can be used to describe this dataset include the following:

- 1283 - Data Administration
- 1737 - Riparian-Wetland Area Management

- 2050 - Lands Activity Plans
- 2440 - Criteria for Classification
- 9167 - Geographic Information System (GIS)

2. DATASET OVERVIEW

2.1 DESCRIPTION

The SPTH_POLY dataset represents spatial location and basic information about the average maximum height of the tallest dominant trees (200 years or older) for a given site class in Western Oregon. Site potential tree heights generally range from 140 feet to 240 feet, depending on site productivity. This dataset is used to determine the extent of riparian reserve land use allocations around streams and rivers managed under one of the two 2016 RMPs for Western Oregon. For perennial or fish-bearing streams, the extent is one site potential tree height distance on either side of the stream from the ordinary high water line or from the outer edge of the channel migration zone for low-gradient alluvial shifting channels, whichever is greatest. For intermittent and non-fish-bearing streams in Class I and Class II sub-watersheds, the extent is one site potential tree height distance from the ordinary high water line on either side of the stream. Descriptions of the riparian reserve classes are located in the Northwestern and Coastal Oregon ROD/RMP (pages 70-74) and Southwestern Oregon ROD/RMP (pages 82-87). The six western Oregon BLM districts provided site potential tree height values in 2006. These values were used in the analysis for both the 2008 Western Oregon Plan Revision analysis and the 2016 Resource Management Plans for Western Oregon.

The SPTH_ARC are coincident with the edge of the SPTH_POLY and holds the feature-level metadata information of what source was used to define the edges of the polygons. All polygon edges should have an arc representation.

2.2 USAGE

This dataset is used for land use planning and as an analytical model input.

2.3 SPONSOR/AFFECTED PARTIES

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

2.4 RELATIONSHIP TO OTHER DATASETS, DATABASES or FILES

There are no relationships to other datasets at this time.

2.5 DATA CATEGORY/ARCHITECTURE LINK

These data themes are a portion of the Oregon Data Framework (ODF). The ODF utilizes the concept of inheritance to define specific instances of data. All OR/WA resource-related data are divided 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 that 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 that all data of that type must follow). See the ODF Overview (Figure 2) for a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The **SPTH_POLY** entities are highlighted below. 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/site-page/oregon-data-management>

In the ODF, SPTH_POLY is considered a resource and categorized as follows:

ODF

Resources

Potential Resources

SPTH_POLY

ODF

Boundaries

Political Admin SMA Line

SPTH_ARC

Figure 1 provides a graphic representation of the entities and hierarchical relationships.

2.6 RELATIONSHIP TO THE DEPARTMENT OF THE INTERIOR ENTERPRISE ARCHITECTURE - DATA RESOURCE MODEL

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

- Data Subject Area: Geospatial
- Information Class: Location

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2.7 SPTH DATA ORGANIZATION / STRUCTURE

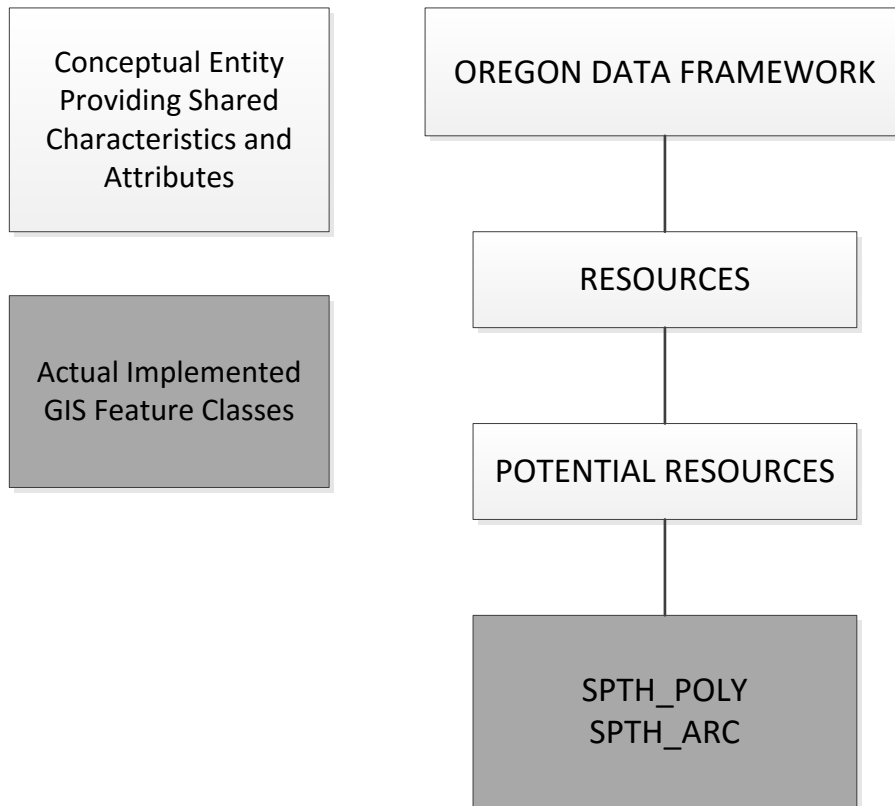


Figure 1. Data Organization Structure

3. DATA MANAGEMENT PROTOCOLS

3.1 ACCURACY REQUIREMENTS

The Site Potential Tree Height data has a wide range of accuracies. Locational accuracy is dependent on the original input data used to derive the dataset.

3.2 COLLECTION, INPUT, AND MAINTENANCE PROTOCOLS

This data set is static and will not be updated. Collection, input, and maintenance protocols are not required.

3.3 UPDATE FREQUENCY AND ARCHIVAL PROTOCOLS

This data set is not regularly updated. 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, is responsible for checking theme consistencies across districts.

The state data steward is responsible for coordinating the response to national BLM and interagency data calls for the data. State Office GIS technical leads will work with the state data stewards to appropriately select and compile the data from the relevant theme.

4. SPTH SCHEMA (simplified)

General Information: Attributes are listed in the order in which they appear in the geodatabase feature class. The order is indicative 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 the Appendix. These are the domains at the time the data standard was approved. Domains can be changed without a reissue 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/site-page/oregon-data-management>

For domains not listed at that site, contact the [State Data Administrator](#). The State Data Administrator’s contact information can be found at the following link:

<https://www.blm.gov/site-page/oregon-data-management>

4.1 SPTH_POLY Feature Class (Site Potential Tree Height Polygons)

Attribute Name	Data				
SPTH_FT	Long	NA		Yes	
MEAN_SLOPE_DEG	Double	NA		Yes	
SLOPE_ADJ_SPTH_FT	Long	NA		Yes	

*Values automatically generated

4.2 SPTH_ARC Feature Class (Site Potential Tree Height Lines)

Attribute Name	Data Type	Length	Default Value	Required?	Domain
DEF_FEATURE	String	25		Yes	dom_DEF_FEATURE
COORD_SRC	String	7		Yes	dom_COORD_SRC
ACCURACY_FT	Short	NA		No	

5. PROJECTION AND SPATIAL EXTENT

All feature classes and feature datasets are in Geographic, North American Datum 83. Units are decimal degrees. The spatial extent (area of coverage) of SPTH_POLY and SPTH_ARC includes all lands within the boundaries of the 2016 Northwestern & Coastal Oregon and Southwestern Oregon RMPs. Bordered on the North by Latitude 46.27 on the South by Latitude 41.98, on the East by Longitude -120.72 and on the West by Longitude -124.71.

6. SPATIAL ENTITY CHARACTERISTICS

6.1 SPTH_POLY

Description: Instance of Potential Resources within the Resources group.

Geometry: Simple (i.e., not multi-part) polygons.

Integration Requirements: Line segments must be coincident with the source data indicated by the attributes DEF_FEATURE and COORD_SRC, either through duplication or snapping.

Topology:

- SPTH_POLY features must not overlap
- SPTH_POLY feature boundaries must be covered by SPTH_ARC

6.2 SPTH_ARC

Description: Instance of Potential Resources within the Resources group.

Geometry: Polylines

Integration Requirements: Line segments must be coincident with the source data indicated by the attributes DEF_FEATURE and COORD_SRC either through duplication or snapping.

Topology:

- SPTH_ARC features must not overlap
- SPTH_ARC features must not intersect
- SPTH_ARC features must not have dangles
- SPTH_ARC features must not self-overlap
- SPTH_ARC features must not self-intersect

7. ATTRIBUTE CHARACTERISTICS AND DEFINITION (In alphabetical order)

7.1 ACCURACY_FT

Geodatabase Name	ACCURACY_FT
BLM Structured Name	Accuracy_Feet_Measure
Alias Name	

Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use/Entity Table	SPTH_ARC
Definition	How close, in feet, the spatial GIS depiction is to the actual location on the ground. There are several factors to consider in GIS error: scale and accuracy of map-based sources, accuracy of Global Positioning System (GPS) equipment, and the skill level of the data manipulators. A value of "0" indicates no entry was made. This is the correct value when the COORD_SRC is another GIS theme (Digital Line Graph, Cadastral National Spatial Data Infrastructure and Digital Elevation Model (DEM)) because the accuracy is determined by that theme. However, if COORD_SRC is MAP (digitized from a paper map) or GPS, a value of "0" indicates a missing value that should be filled in either with a non-zero number or "-1." A value of "-1" indicates that the accuracy is unknown and no reliable estimate can be made.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 3 (for high accuracy GPS), 40 (best possible for United States Geological Survey (USGS) 24K topo map)

7.2 COORD_SRC

Geodatabase Name	COORD_SRC
BLM Structured Name	Coordinate_Source_Code
Alias Name	
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use/Entity Table	SPTH_ARC
Definition	The actual source of the GIS coordinates for the polylines. If the line is copied from another theme and already has COORD_SRC, it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Required
Domain (Valid Values)	dom_COORD_SRC
Data Type	String (25)

7.3 DEF_FEATURE

Geodatabase Name	DEF_FEATURE
BLM Structured Name	Defining_Feature_Code
Alias Name	
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use/Entity Table	SPTH_ARC
Definition	Physical features or administrative lines that define an official boundary.
Required/Optional	Required
Domain (Valid Values)	dom_DEF_FEATURE
Data Type	String (25)

7.4 MEAN_SLOPE

Geodatabase Name	MEAN_SLOPE_DEG
BLM Structured Name	Mean_Slope_Degrees_Measure
Alias Name	
Inheritance	Not inherited
Feature Class Use/Entity Table	SPTH_POLY
Definition	The mean slope (degrees) within 250 feet of BLM-administered lands by 12-digit hydrologic unit (sub-watershed) using a 10-meter digital elevation model.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	Double

7.5 SLOPE_ADJ_SPTH_FT

Geodatabase Name	SLOPE_ADJ_SPTH_FT
BLM Structured Name	Slope_Adjusted_Site_Potential_Tree_Height_Feet_Measure
Alias Name	
Inheritance	Not inherited
Feature Class Use/Entity Table	SPTH_POLY
Definition	The site potential tree height (feet) adjusted for slope. Calculated using the python function "int((!SPTH_FT! * math.cos(math.radians(!MEAN_SLOPE!))) + 0.5)".
Required/Optional	Required
Domain (Valid Values)	No domain; Null values represent watersheds that have no BLM ownership.
Data Type	Long

7.6 SPTH_FT

Geodatabase Name	SPTH_FT
BLM Structured Name	Site_Potential_Tree_Height_Feet_Measure
Alias Name	
Inheritance	Not inherited
Feature Class Use/Entity Table	SPTH_POLY
Definition	Average SPTH value within a defined area (see DEF_FEATURE) provided by the six western Oregon BLM districts in 2006.
Required/Optional	Required
Domain (Valid Values)	No domain; Null values represent watersheds that have no BLM ownership.
Data Type	Long

8. LAYER FILES (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) in order to make the data easier to use. These “Publication feature classes” are indicated by “PUB” in their name. They are created through scripts that can be automatically executed and are easily rebuilt from the master (ORSOEDIT) data whenever necessary.

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

8.2 SPECIFIC TO THIS DATASET

Data is published and provided to the public by creating a copy with no changes.

There are no layer files or publication views known at the time the data standard was written.

9. EDITING PROCEDURES

SPTH_POLY and SPTH_ARC should not be edited except when revisions are necessary to vertically integrate all or part of a polygon’s boundary with a change in one of the defining feature datasets.

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11. ABBREVIATIONS AND ACRONYMS USED

(Does not include abbreviations/acronyms used as codes for particular data attributes or domain values)

Abbreviations	Descriptions
ARC	GIS line feature
BLM	Bureau of Land Management, U.S. Department of the Interior
DOI	Department of the Interior
FOIA	Freedom of Information Act
GIS	Geographic Information System
GRS	General Records Schedule
NAD	North American Datum
POLY	GIS polygon feature
PUB	Publication
ODF	Oregon Data Framework
OR/WA	Oregon/Washington BLM Administrative State
SDE	Spatial Database Engine
SPTH	Site Potential Tree Height
WEB	Worldwide Web (internet)
ARC	GIS line feature
BLM	Bureau of Land Management, U.S. Department of the Interior
DOI	Department of the Interior
FOIA	Freedom of Information Act
GIS	Geographic Information System
GRS	General Records Schedule
NAD	North American Datum
POLY	GIS polygon feature

Table 2. Abbreviations/Acronyms Used

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APPENDIX: DOMAINS (VALID VALUES)

These are the domains at the time the data standard was approved. Domains can be changed without a reissue 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/site-page/oregon-data-management>

For domains not listed at that site, contact the [State Data Administrator](#) for current lists. The State Data Administrator's contact information can be found at: <https://www.blm.gov/site-page/oregon-data-management>

A.1 dom_COORD_SRC

Coordinate Source Code. The source of the geographic coordinates (lines, points, polygons). The following values are valid for this data standard. The full list of domain values can be found at <https://www.blm.gov/site-page/oregon-data-management>.

Code	Description
DIS	DIS - Lines generated to connect discontinuous features
SOURCEL	SOURCEL - Coordinates duplicated from a BLM GIS source layer
TRS	TRS - Coordinates only given as a legal description (township, range, section)
UNK	UNK - Unknown coordinate source

A.2 dom_DEF_FEATURE

Defining Feature Code. Physical features or administrative lines that define an official boundary. The following values are valid for this data standard. The full list of domain values can be found at <https://www.blm.gov/site-page/oregon-data-management>.

Code	Description
BLM_ADMIN	BLM_ADMIN - Bureau of Land Management administrative boundary
ELEVATION	ELEVATION - Line of common elevation
HU	HU - Hydrologic unit divide
OTHER	OTHER - Known boundary not represented by other domain options
POINT-TO-POINT	POINT-TO-POINT - Boundary defined by a straight line segment between two points
SHORELINE	SHORELINE - Lake, pond, reservoir, bay or ocean shoreline or meander line
SOIL	SOIL - Boundary between two soil types
SUBDIVISION	SUBDIVISION - Public Land Survey System derived aliquot (1/2s, 1/4s) parts and lots
UNKNOWN	UNKNOWN - Unknown Defining feature is unknown