

# WILDERNESS STUDY AREAS

## SPATIAL DATA STANDARD



## Wilderness Study Areas

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## 1. GENERAL INFORMATION

Dataset (Theme) Name: Wilderness Study Areas

Dataset Feature Classes: WSA\_POLY, WSA\_ARC

### 1.1 ROLES AND RESPONSIBILITIES

Roles	Responsibilities
State Data Steward	The State Data Steward, Gerald Magee, at 503-808-6086, is responsible for approving data standards and business rules, for developing Quality Assurance/Quality Control procedures, and ensuring that data is managed as a corporate resource. The State Data Steward coordinates with field office data stewards, the state data administrator, lead GIS specialist, Geographic Information System (GIS) coordinators, and with national data stewards. The State Data Steward also reviews geospatial metadata for completeness and quality.
Lead GIS Specialist	The Lead GIS Specialist, Erin Frostad, at 503-808-6524, works with data stewards to interpret business needs into GIS applications and derive data requirements and participates in the development of data standards. The lead GIS specialist coordinates with system administrators and GIS coordinators to manage the GIS databases. The lead GIS specialist 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 lead GIS specialist provides technical assistance and advice on GIS analysis, query and display of the dataset.
State Data Administrator	The acting State Data Administrator, Pamela Keller, 503-808-6009, 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 acting State Records Administrator, Janice Johnson, at 503-808-6430, assists the State Data Steward to identify any privacy issues related to spatial data. The State Records Administrator ensures that data has been classified under the proper records retention schedule and determines appropriate Freedom of Information Act category. The State Records Administrator also provides direction and guidance on data release and fees.

**Table 1 Roles and Responsibilities**

### 1.2 FOIA CATEGORY

Public

### **1.3 RECORDS RETENTION SCHEDULE**

20/52c (Geographic Information Systems) – Permanent. Cutoff at the end of the fiscal year in which the layer is created or significantly altered by the Bureau of Land Management (BLM). Transfer copy of data to National Archives and Records Administration (NARA).

### **1.4 SECURITY/ACCESS/SENSITIVITY**

The WSA set of themes do not require any additional security other than that provided by the General Support System (the hardware/software infrastructure of the Oregon/Washington (OR/WA) BLM).

This data is not sensitive and there are no restrictions on access to this data either from within the BLM or external to the BLM.

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

### **1.5 KEYWORDS**

Keywords that can be used to locate this dataset include: wilderness, wilderness study areas, WSA, NLCS, Management, Wilderness.

## **2. DATASET OVERVIEW**

### **2.1 DESCRIPTION**

This data set represents Wilderness Study Area (WSA) boundaries as inventoried in the mid-1980's and defined in the October 1991 "Wilderness Study Report". Wilderness Study Areas are essentially roadless areas under BLM jurisdiction. Wilderness Study Areas have special management restrictions and priorities. They are a one-time designation and new WSA or additions to WSA are rare.

### **2.2 USAGE**

This data set is used for depicting WSAs on maps. Polygons created from the data are used for various analytical purposes, including clipping data and calculating acreage.

### **2.3 SPONSOR/AFFECTED PARTIES**

The sponsor for this data set is the Deputy State Director, Resource Planning, Use and Protection. A WSA is defined by and specific to BLM. Matching interagency data across the landscape is not necessary. Our non-governmental partners and the general public are affected to the extent that WSA indicates management responsibility on BLM lands.

## 2.4 RELATIONSHIP TO OTHER DATASETS

Wilderness Study Areas are not officially designated wilderness, but some have been recommended for wilderness designation. When a WSA becomes wilderness, in whole or part, the polygons are removed from the WSA dataset. Offset from roads is different for wilderness boundaries than for WSA boundaries so there may be slivers that have to be accounted for. Wilderness Study Areas are also not simply lands that have been inventoried for wilderness characteristics. They are a one-time special designation of lands inventoried for wilderness characteristics in the 1980's. Both Designated Wilderness and Wilderness Characteristics Inventory datasets are described in separate data standards.

Wilderness Study Areas are part of the National Landscape Conservation System (NLCS) and fall within the national BLM data standard for NLCS. The OR/WA WSA dataset is uploaded to the national dataset upon request or data call.

## 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. The ODF divides all OR/WA resource-related data into three general categories: Activities, Resources, and 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 you get to a 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 Oregon Data Framework Overview, Figure 2 for a simplified schematic of the entire Oregon Data Model showing the overall organization and entity inheritance. For additional information about the ODF, contact:

OR/WA State Data Administrator  
Pamela Keller  
Bureau of Land Management  
P.O. Box 2965  
Portland, OR 97208

For WSA, the categories/groups that the data set is part of are:

BLM WSA Polygon:

Oregon Data Framework

Boundaries

Political & Admin

Political & Admin Existing

WSA\_POLY

BLM WSA Line:  
Oregon Data Framework  
Boundaries  
PoliticalAdministrativeSpecialManagementAreaLine  
WSA\_ARC

## **2.6 Relationship to the Department of the Interior Enterprise Architecture-Data Resource Model**

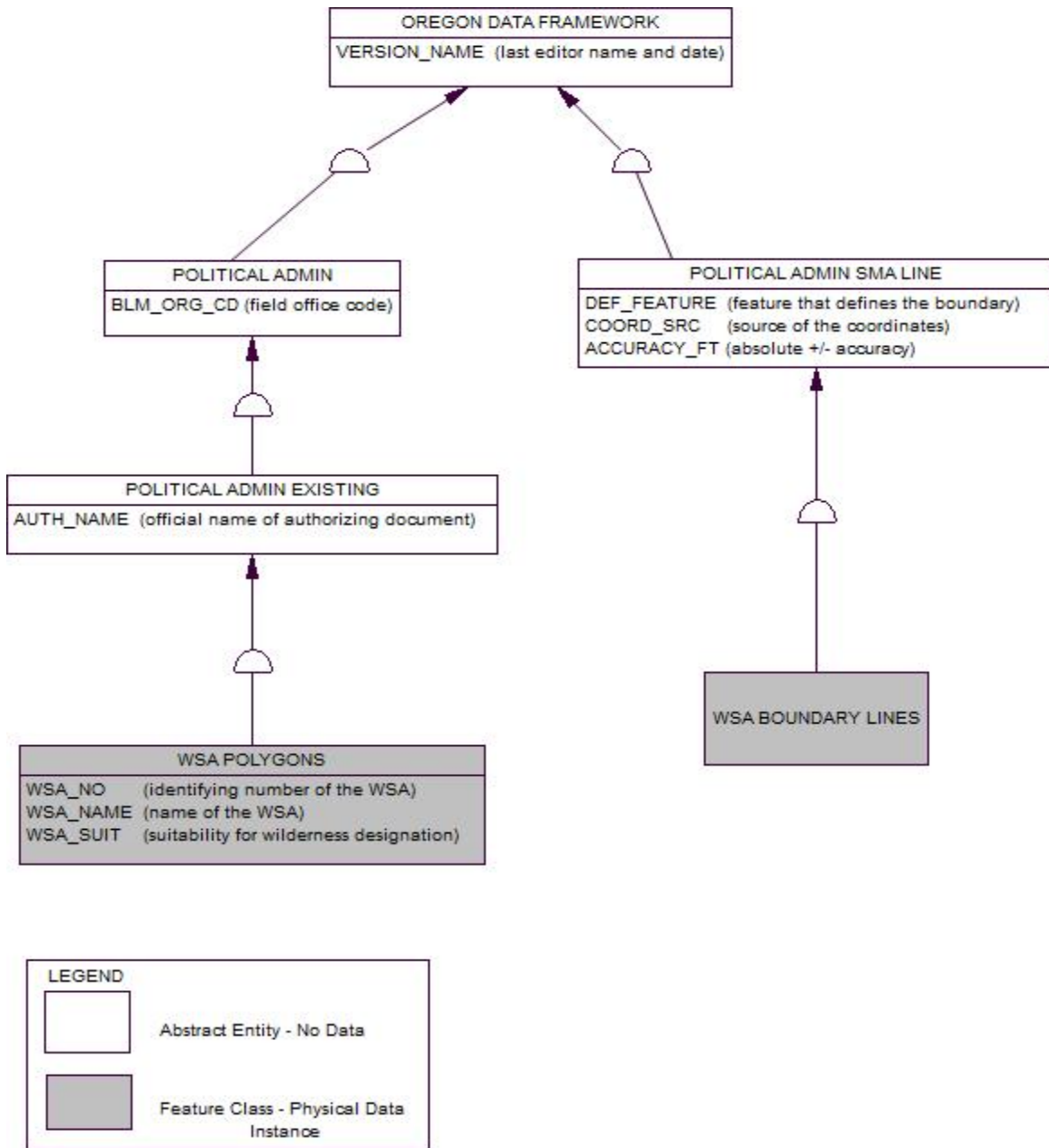
The Department of the Interior's (DOI) Enterprise Architecture contains a component called the Data Resource Model. This model addresses the concepts of Data Sharing, Data Description, and Data Context. This data standard provides information needed to address each of those areas. Data sharing is addressed 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, these are as follows:

- Data Subject Area: Recreation
- Information Class: Recreation Inventory

For a complete list of all DOI Data Subject Areas and Information Classes contact:

OR/WA State Data Administrator  
Bureau of Land Management  
P.O. Box 2965  
Portland, OR 97208

### 2.7 WILDERNESS STUDY AREAS DATA ORGANIZATION/STRUCTURE



**Figure 1 Wilderness Study Area Data Structure**



### 3. DATA MANAGEMENT PROTOCOLS

#### 3.1 ACCURACY REQUIREMENTS

A high level of positional and attribute accuracy is required for the WSA theme. Much of BLM's management hinges on accurate boundaries for their special management areas, especially WSAs. Boundary features are input and maintained with the highest level of accuracy possible short of surveying.

#### 3.2 COLLECTION, INPUT AND MAINTENANCE PROTOCOLS

WSAs were inventoried in the late 1970's and early 1980's and no broad scale re-inventory of WSAs is expected in the future. As per the Utah Wilderness Settlement Agreement (2003), no additional WSAs are expected to be designated in the future. Existing WSAs are essentially static data until Congress passes legislation designating WSAs as wilderness or releasing them from further wilderness consideration. There is no established deadline for Congressional action on wilderness recommendations.

WSA boundaries were manuscripted onto United States Geologic Survey (USGS) 7.5 minute quads. The lines were annotated with their associated source feature (e.g. "PARCEL" or "RIDGELINE"). Boundaries were captured in GIS using these reference maps and the most accurate GIS themes available: Geographic Coordinate Data Base (GCDB) for parcel segments; 24K Digital Line Graphs (DLG) for roads and streams; Digital Raster Graphic (DRG) backdrop for heads-up digitizing of contours, fences, power lines; Digital Orthophoto Quad (DOQ) backdrop for disturbances such as mines). The Wilderness Study Report (Oct. 1991, blue) was also used as a reference for boundary descriptions as well as the Oregon Wilderness Final EIS (Aug. 1989, beige) which has slightly larger scale (more detailed) maps than the 1991 report. Polygons and arcs were attributed according to the reference maps and documents, consulting with District and State Office WSA specialists as needed.

Many WSA boundaries follow road disturbance rather than road centerline. Where a road right-of-way is defined, this is used as the boundary. Most roads had no defined right-of-way and so an assumed disturbance of 10 feet from center was used. Road segments from the GIS layer were buffered in GIS to the disturbance radius and the inside buffer line used for the WSA boundary. The overall summary definition for what creates a boundary for a WSA is anything that is considered human disturbance great enough to impair wilderness quality (usually a road) or the end of BLM surface jurisdiction, whichever is encountered first. Other features such as elevation contours and streams may define the edge of a WSA, but most boundary arcs are defined by roads and ownership.

Minor updates to WSA boundaries are allowed and fall into two main categories:

1. Updates because of improved GIS datasets:
  - a) Legal land lines (new surveys, etc). For example, GCDB is now replaced by the Cadastral National Spatial Data Infrastructure (CadNSDI) dataset, PLSS (Public Land Survey System) Points. All WSA\_ARC with DEF\_FEATURE = "SUBDIVISION" can be re-snapped to PLSS Point and COORD\_SRC changed from "GCD" to "CADNSDI".
  - b) Roads. Changes should be put into the road dataset, GTRN, first. Care must be taken that the new road existed at the time of the WSA inventory. If a road is a major realignment or if it is a trespass incursion into the WSA, the original boundary should be retained. It is also important to carefully review the reference maps and documents to determine if the road was deliberately stopped and became a "Way". This is especially important for "Cherry-Stem" roads (roads that enter the WSA and stop).
  - c) Other GIS sources such as better DEM used for contours, National Hydrography Dataset update to older DLG streams, power lines that have GPS coordinates, etc. It

- may not be necessary to update these boundary segments depending on their importance.
2. Changes to fix errors in the original GIS boundary capture. Documentation of the correct boundary source must be provided.

Note, however, that even if a change is considered “minor”, any large shift must be approved by the administering District and State Data Stewards. A former “Inholding” or adjacent land that has become BLM can only become WSA under certain circumstances and must be carefully documented.

Please see WSA\_Wilderness\_Changes.docx under OR/WA BLM Citrix directory P:\oso\WSA\_Wilderness\_Editing for more information and a complete record of changes to WSA.

### 3.3 UPDATE FREQUENCY AND ARCHIVAL PROTOCOLS

The unit of processing for the WSA theme is the full theme. Updates should be rare and fall into one of three scenarios:

1. New localized inventory (not expected). Boundaries should be manuscripted onto 7.5 minute quads using the same process as original inventory.
2. Replacement of boundary linework when more accurate GIS themes become available.
3. Congressional wilderness legislation which designates wilderness areas from WSAs, or releases WSAs from future wilderness consideration.

Because the WSA theme is relatively static data, the main quality assurance work has been completed. Any changes to the WSA theme need to be directed through the State Data Steward for approval. District WSA Stewards should make changes on a copy of the corporate WSA theme and send to the State Data Steward (who will be responsible for the actual update to the corporate theme with the assistance of the GIS Technical Lead). Regular review of the WSA theme is not needed since there will be close review at the time of any change.

It will be the responsibility of the State Data Steward to provide Oregon’s WSA theme to the Washington Office (Denver) in the proper format for inclusion in the national WSA theme.

## 4. WILDERNESS STUDY AREAS 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. Many (but not all) of the domains used in this data standard are available at the following web site: <http://www.blm.gov/or/datamanagement/index.php>

For domains not listed at that site contact:

OR/WA State Data Administrator  
Bureau of Land Management  
P.O. Box 2965  
Portland, OR 97208  
503-808-6009

#### 4.1 Wilderness\_Study\_Area Feature Dataset

##### 4.1.1 WSA\_POLY Feature Class (Wilderness Study Area Polygons)

Attribute Name	Data Type	Length	Default Value	Required?	Domain
WSA_NAME	String	50		Yes	dom_WSA_NAME
WSA_NO	String	10		Yes	dom_WSA_NO
WSA_SUIT	String	1		Yes	dom_EVAL
BLM_ORG_CD	String	5		Yes	dom_BLM_ORG_CD
AUTH_NAME	String	80		No	
GIS_ACRES	Decimal	16,6		Yes*	
VERSION_NAME	String	50	InitialLoad	Yes*	

##### 4.1.2 WSA\_ARC Feature Class (Wilderness Study Area 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 Integer			No	
VERSION_NAME	String	50	InitialLoad	Yes*	

## 5. PROJECTION AND SPATIAL EXTENT

All feature classes and feature data sets are in Geographic, North American Datum (NAD) 83. Units are decimal degrees. Spatial extent (area of coverage) includes all lands in the states of Oregon and Washington. See the metadata for this data set for more precise description of the extent. In order to maintain consistent acres reporting, WSA should be projected into Universal Transverse Mercator (UTM) in the appropriate zone for acres calculation.

## 6. SPATIAL ENTITY CHARACTERISTICS

### WILDERNESS STUDY AREA POLYGON (WSA\_POLY)

Description: Instance of Political & Admin Existing group.

Geometry: Polygons do not cover the landscape nor do they cover all BLM lands continuously. In addition, there may be islands ("donut holes") of Non-WSA surrounded by WSA.

Topology: Yes. WSA\_POLY lines are coincident with WSA\_ARC lines and together make the feature dataset, WSA.

Integration Requirements: None

### WILDERNESS STUDY AREA LINE (WSA\_ARC)

Description: Instance of Existing Political Admin SMA Line group.

Geometry: Simple, non-overlapping lines that are split between endpoints as needed.

Topology: Yes. WSA\_POLY lines are coincident with WSA\_ARC lines and together make the feature dataset, WSA.

Integration Requirements: Line segments must be coincident with the source data indicated by attributes DEF\_FEATURE and COORD\_SRC either through duplication or snapping.

## 7. ATTRIBUTE CHARACTERISTICS AND DEFINITIONS

### 7.1 ACCURACY\_FT

Geodatabase Name	ACCURACY_FT
BLM Structured Name	Accuracy_Feet_Measure
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	WSA_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), 200
Data Type	Short Integer

### 7.2 AUTH\_NAME

Geodatabase Name	AUTH_NAME
BLM Structured Name	Authority_Text
Inheritance	Inherited from entity POLITICAL and ADMIN EXISTING
Feature Class Use	WSA_POLY
Definition	The complete official name of the act/law/order/instruction that established or changes the boundary, e.g. "Steens Mountain Cooperative Management and Protection Act of 2000, Public Law 106-399". The authorizing entity and the effective date are required.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	Variable Characters (80)

**7.3 BLM\_ORG\_CD**

Geodatabase Name	BLM_ORG_CD
BLM Structured Name	Administrative_Unit_Organization_Code
Inheritance	Inherited from entity POLITICAL ADMIN
Feature Class Use	WSA_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, OR/WA BLM 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 even the state level rather than to the resource area level.
Required/Optional	Required
Domain (Valid Values)	dom_BLM_ORG_CD
Data Type	Character (5)

**7.4 COORD\_SRC**

Geodatabase Name	COORD_SRC
BLM Structured Name	Coordinate_Source_Code
Inheritance	Inherited from POLITICAL ADMIN SMA LINE
Feature Class Use	WSA_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	Variable Characters (7)

**7.5 DEF\_FEATURE**

Geodatabase Name	DEF_FEATURE
BLM Structured Name	Defining_Feature_Code
Inheritance	Inherited from POLITICAL ADMIN SMA LINE
Feature Class Use	WSA_ARC
Definition	The physical or legal feature that defines the boundary according to the legal boundary description. In general the lowest level defining feature, but it depends on how the boundary segment is actually defined. For example, SUBDIVISION rather than COUNTY unless the boundary segment is specifically defined as following the COUNTY boundary. If the line is copied from another theme and already has DEF_FEATURE it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Required
Domain (Valid Values)	dom_DEF_FEATURE
Data Type	Variable Characters (25)

**7.6 GIS\_ACRES**

Geodatabase Name	GIS_ACRES								
BLM Structured Name	GIS_Acres_Measure								
Inheritance	Not Inherited								
Feature Class Use	WSA_POLY								
Definition	<p>GIS_ACRES is calculated when the submitted polygon is approved for incorporation into the dataset. The standard spatial reference of Geographic (NAD 1983) cannot be used for calculating acres so the features are projected to one of three projections as determined by the BLM_ORG_CD of the record. These three 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:</p> $\text{GIS\_ACRES} = \text{SHAPE.AREA} * 0.0002471044$ <table border="1" data-bbox="548 1507 1516 1738"> <thead> <tr> <th>District indicated by BLM_ORG_CD:</th> <th>ESRI Projection used:</th> </tr> </thead> <tbody> <tr> <td>Prineville</td> <td>NAD 1983 USFS R6 Albers</td> </tr> <tr> <td>Coos Bay, Eugene, Lakeview, Medford, Roseburg, Salem</td> <td>NAD 1983 UTM Zone 10N</td> </tr> <tr> <td>Burns, Spokane, Vale</td> <td>NAD 1983 UTM Zone 11N</td> </tr> </tbody> </table>	District indicated by BLM_ORG_CD:	ESRI Projection used:	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
District indicated by BLM_ORG_CD:	ESRI Projection used:								
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 (automatically generated)								
Domain (Valid Values)	No domain								
Data Type	Decimal (16,6)								

**7.6 VERSION\_NAME**

Geodatabase Name	VERSION_NAME
BLM Structured Name	Geodatabase_Version_Text
Inheritance	OREGON DATA FRAMEWORK
Feature Class Use	All Feature Classes
Definition	<p>Only appears in the transactional (edit) version. Public version (which is also the version used internally for mapping or analysis) does not contain this attribute.</p> <p>Used in Feature Classes:  XX_POLY  XX_ARC</p> <p><u>Definition</u>  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.  Note: This attribute only appears in the edit (transactional) version of the data.</p>
Required/Optional	Required (automatically generated)
Domain (Valid Values)	No domain. Example: sfrazier.WSA-121210-111034
Data Type	Variable Characters (50)

**7.7 WSA\_NO**

Geodatabase Name	WSA_NO
BLM Structured Name	Wilderness_Study_Area_Number
Inheritance	Not inherited
Feature Class Use	WSA_POLY
Definition	<p>A unique identifier for each WSA. These identifiers are unique within each BLM administrative state. This attribute also provides information about areas within a WSA that are not part of the WSA for some reason. Possible reason may include roads that have been excluded (cherry-stemmed), private lands, other lands that do not exhibit wilderness characteristics.</p>
Required/Optional	Required
Domain (Valid Values)	dom_WSA_NO



Data Type	Variable Characters (10)
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### 7.8 WSA\_NAME

Geodatabase Name	WSA_NAME
BLM Structured Name	Wilderness_Study_Area_Name
Inheritance	Not inherited
Feature Class Use	WSA_POLY
Definition	The name used to identify the WSA. Non-WSA islands are not attributed with a name, but private and State inholdings are labeled with "inholding".
Required/Optional	Required
Domain (Valid Values)	dom_WSA_NAME
Data Type	Variable Characters (50)

### 7.9 WSA\_SUIT

Geodatabase Name	WSA_SUIT
BLM Structured Name	Wilderness_Suitability_Code
Inheritance	Not inherited
Feature Class Use	WSA_POLY
Definition	Identifies whether the WSA is recommended suitable for wilderness designation.
Required/Optional	Required
Domain (Valid Values)	dom_EVAL
Data Type	Character (1)

## 8. ASSOCIATED FILES OR DATABASES

None.

## 9. LAYER FILES (PUBLICATION VIEWS)

Layer files will be created through scripts that can be automatically executed. Layer files do not require storage and maintenance of additional data and can be deleted and recreated at any time. Layer files (since they are derivative products) are not master corporate data (they can be easily rebuilt if necessary). Layer files may be added in the future without documenting them in this document.

## 10. EDITING PROCEDURES

### 10.1 MANAGING OVERLAP

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

POLY/ARC feature dataset means there is a polygon feature class plus an arc feature class that represents the perimeter of the polygon, and which must be kept coincident with the polyline.

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

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

1. Overlapping Polygons where polygons are part of a POLY/ARC feature dataset . Topology rules apply only to the POLY/ARC relationship (Polylines in the POLY feature class covered by arcs in the ARC feature class and vice versa; Arcs must not have dangles, intersect, self-overlap or overlap adjacent arcs). The AVY\_PLAN dataset allows any number of plans or projects to overlap; a new PLANID creates a new polygon. For all other POLY/ARC feature datasets, overlap is only allowed if there is a dataset for proposed entities, for example proposed ACEC (ACEC\_P

POLY/ARC dataset) or wilderness (WLD\_P POLY/ARC dataset).

2. Overlapping Polygons where polygons are a stand-alone feature class.

No topology rules.

a) Species Occurrence Group: These are distinct sites defined by species and time. A different species creates a new polygon which may overlap another site in whole or part. A change in time (new visit date) will create a new polygon if it is desired that the old spatial extent and date is retained (as historic). Additionally, for wildlife, a different season/type of use (e.g., winter range vs. spring breeding) will create new polygon that may overlap others. Examples: WEEDS\_POLY, GB\_FLORA\_SITE.

b) Survey Group: Within each feature class a new survey is created only for a new date. This group might also include proposed surveys in separate feature classes. Examples: GB\_SURVEY, Archeological Survey (CULT\_SURV).

c) Treatment Activity Group: Within each feature class (BURN, HARV, MECH, CHEM, BIO, REVEG, PROT), an overlapping treatment area is created only for a new date, and sometimes for a different method (if it is not possible to SPLIT the treatment area by method and it is important to capture more than one method applied to the same area on the same day). This group also includes proposed treatments which could overlap existing treatments and have additional overlap created by different treatment alternatives.

d) Recreation Site Polygons (RECSITE\_POLY): An overlapping site polygon is created only for different name, type or development level.

e) Land Status Encumbrances Group: A new, possibly overlapping polygon is created for a new casefile number even if it is the same area. Examples: easement/ROW areas (ESMTROW\_POLY) and land acquisitions/disposals (ACQ\_DSP\_POLY).

3. Overlapping Arcs where arcs are a stand-alone feature class.

No topology rules.

Examples: easement/ROW lines (ESMTROW\_ARC) a new, possibly overlapping arc is created for a new casefile number; structures (STRCT\_ARC) a new, possibly overlapping arc is created for a different name, type, RIPS number or construction date.

#### 4. Overlapping Points.

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

## 10.2 EDITING QUALITY CONTROL

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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 linework.
7. Check tolerances. In general, set Cluster Tolerance as small as possible. This is 0.000000009 Degree (0.000007 degree is approximately 1 meter).
8. Snapping considerations. Where line segments with different COORD\_SRC meet, the most accurate or important (in terms of legal boundary representation) are kept unaltered, and other lines snapped to them. In general, the hierarchy of importance is PLSS

(CadNSDI points/lines) first, with DLG or SOURCE next, then DEM, and MAP last. When snapping to the data indicated in COORD\_SRC (as opposed to duplicating with copy/paste), be sure there are exactly 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.

### 10.3 VERTICAL INTEGRATION

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

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

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

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

When arcs are copied from one boundary dataset to another, DEF\_FEATURE may need to be changed. For example, a Resource Area Boundary (RAB) polylines might be defined as “SUBDIVISION”, but when it is copied to Plan Area Boundary (PLANBDY) the plan boundary is defined by Resource Area and DEF\_FEATURE should be changed to “BLM\_ADMIN”. It is important that boundary lines copied from other themes NOT be merged, even though the attributes are all the same. The splits in the original source theme should be retained in order to retain exact coincidence and facilitate future updates.

### 10.4 THEME SPECIFIC GUIDANCE

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



## 12. ABBREVIATIONS AND ACRONYMS USED IN THIS STANDARD

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

Abbreviations	Descriptions
BLM	Bureau of Land Management
CADNSDI	Cadastral National Spatial Data Infrastructure
DEM	Digital Elevation Model
DLG	Digital Line Graphs
FOIA	Freedom of Information Act
GCD	Geographic Coordinate Database
GIS	Geographic Information System
GNIS	Geographic Names Information System
GTRN	Ground Transportation (OR/WA GIS road dataset)
IDP	Interdisciplinary
NAD	North American Datum
NARA	National Archives and Records Administration
NLCS	National Landscape Conservation System
ODF	Oregon Data Framework
OR/WA	Oregon / Washington
RMP	Resource Management Plan
SDE	Spatial Data Engine
SMA	Special Management Area
WSA	Wilderness Study Area

**Table 2 Abbreviations/Acronyms Used**

## APPENDIX A DOMAINS (VALID VALUES)

The domains listed below are those that were in effect at the time the data standard was approved and may not be current. Contact the State Data Administrator for current lists:

OR/WA State Data Administrator  
 Bureau of Land Management  
 P.O. Box 2965  
 Portland, OR 97208  
 503-808-6009

Note that domain CODE, as seen in the geodatabase, is added to the DESCRIPTION.

### A.1 BLM\_ORG\_CD

CA000	California BLM
CAN01	Northern California District Office
CAN02	Alturas Field Office
CAN03	Arcata Field Office
CAN06	Redding Field Office
CAN07	Surprise Field Office
ID000	Idaho BLM
IDB00	Boise District Office
IDB01	Four Rivers Field Office
IDB03	Owyhee Field Office
IDC00	Coeur d Alene District Office
IDC01	Coeur d Alene Field Office
IDC02	Cottonwood Field Office
NV000	Nevada BLM
NVE00	Elko District Office
NVE02	Tuscarora Field Office
NVW00	Winnemucca District Office
NVW01	Humboldt River Field Office
OR000	Oregon/Washington BLM
ORB00	Burns District Office
ORB05	Three Rivers Field Office
ORB06	Andrews Field Office
ORC00	Coos Bay District Office



ORC03	Umpqua Field Office
ORC04	Myrtlewood Field Office
ORE00	Eugene District Office
ORE05	Siuslaw Field Office
ORE06	Upper Willamette Field Office
ORL00	Lakeview District Office
ORL04	Klamath Falls Field Office
ORL05	Lakeview Field Office
ORM00	Medford District Office
ORM05	Butte Falls Field Office
ORM06	Ashland Field Office
ORM07	Grants Pass Field Office
ORM08	Glendale Field Office
ORP00	Prineville District Office
ORP04	Central Oregon Field Office
ORP06	Deschutes Field Office
ORR00	Roseburg District Office
ORR04	Swiftwater Field Office
ORR05	South River Field Office
ORS00	Salem District Office
ORS04	Cascades Field Office
ORS05	Marys Peak Field Office
ORS06	Tillamook Field Office
ORV00	Vale District Office
ORV04	Malheur Field Office
ORV05	Baker Field Office
ORV06	Jordan Field Office
ORW00	Spokane District Office
ORW02	Wenatchee Field Office
ORW03	Border Field Office

**A.2 COORD\_SRC**

CADNSDI	CADNSDI-Lines from or snapped to the CADNSDI dataset
CFF	CFF-Lines duplicated or buffered from Cartographic Feature Files (USFS)
DEM	DEM-Digital Elevation Model (30m or better accuracy) used for creation of contours
DIS	DIS-Lines generated to connect discontinuous features
DLG	DLG-Lines duplicated or buffered from (24K scale accuracy) USGS Digital Line Graphs
DOQ	DOQ-Screen digitized linework over Digital Orthoquad backdrop
DRG	DRG-Screen digitized linework over Digital Raster Graphic backdrop
GCD	GCD-Lines snapped to Geographic Coordinate Database Points
GPS	GPS-Lines obtained from a Global Positioning System device
IMG	IMG-Linework derived from interpretation of satellite or other non-photographic imagery
MAP	MAP-Digitized linework from hardcopy map
MTP	MTP-Lines duplicated from Digital Master Title Plat
SOURCEL	SOURCEL-Source Layer from BLM GIS
SRV	SRV-Survey methods were used to create the linework (e.g. COGO)
TIGER	TIGER-Tiger Data
TRS	TRS-Coordinates only given as a legal description (township, range, section)
UNK	UNK-Unknown coordinate source
WOD	WOD-WODDB Photogrammetric

**A.3 DEF\_FEATURE**

ADMIN_REC_SITE	ADMIN_REC_SITE – Administrative or Recreation facility or site boundary
BLM_ADMIN	BLM_ADMIN–Bureau of Land Management administrative boundary
CLOSURE	CLOSURE–Closure extension. Used to close small gaps
COAST_3MILE	COAST_3MILE–Separating coastal water from territorial sea at 3-mile
COUNTY	COUNTY–County boundary
ELEVATION	ELEVATION–Line of common elevation
FENCE	FENCE–Boundary defined by a Fence line regardless of whether it forms part of a grazing unit
FOREST_SERVICE_ADMIN	FOREST_SERVICE_ADMIN–Forest Service administrative boundaries
GRAZING_BOUNDARY	GRAZING_BOUNDARY–Boundary defined as a pasture or other administrative grazing boundary (regardless of whether it is fenced or follows a subdivision or other legal boundary)
HU	HU–Hydrologic unit divide
JETTY	JETTY–Jetty

JURISDICTION	JURISDICTION—Surface jurisdiction boundary (e.g. boundary defined as BLM ownership regardless of subdivision)
LAVA	LAVA—Edge of lava flow
LEVEE	LEVEE—Dike or levee
MARSH	MARSH—Edge of Marsh, wetland, swamp, or bog boundary
MINERAL_DISTURBANCE	MINERAL_DISTURBANCE—Edge of quarry, mine, gravel stockpile or other mineral surface disturbance area
NLCS_BOUNDARY	NLCS_BOUNDARY—Wilderness, Wild and Scenic River, Historic District or other NLCS designation boundary
OTHER	OTHER – Known boundary not represented by other domain options
PARKING_AREA	PARKING_AREA—Motorized vehicle parking area
POINT-TO-POINT	POINT-TO-POINT—Boundary defined by a straight line segment between two points
POWERLINE	POWERLINE—Power transmission line or buffer offset
RIDGE	RIDGE—Ridge
RIGHT-OF-WAY	RIGHT-OF-WAY—A legal right of way forms boundary
RIM	RIM—Line generally follows a natural topographic barrier
ROAD	ROAD—Routes managed for use by low or high-clearance (4WD) vehicles, but not ATV
ROAD_OFFSET	ROAD_OFFSET—Boundary is offset from a road (not a consistent buffer)
SHORELINE	SHORELINE—Lake, pond, reservoir, bay or ocean shoreline or meander line
STREAM_LBANK	STREAM_LBANK—Downstream left stream bank
STREAM_RBANK	STREAM_RBANK—Downstream right stream bank
SUBDIVISION	SUBDIVISION—Public Land Survey System derived aliquot (1/2s, 1/4s) parts and lots define the legal boundary
TRAIL	TRAIL—Routes managed for human-powered, stock or off-highway vehicle forms of travel
UNKNOWN	UNKNOWN—Defining feature is unknown
VEGETATION	VEGETATION—Boundary is defined as a seeding boundary or other relatively permanent vegetation change
WATERCOURSE	WATERCOURSE—Stream, river, ditch, canal or drainage centerline
WATERCOURSE_OFFSET	WATERCOURSE_OFFSET—Boundary is offset from a stream (not necessarily a consistent buffer)

#### A.4 EVAL

N	N - No The unit does not meet criteria
U	U - Unknown Criteria was not evaluated
X	X - Not Applicable The unit was not evaluated because it was not applicable

Y	Y - Yes The unit meets criteria
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**A.5 WSA\_NAME**

Abert Rim WSA	Abert Rim WSA
Aldrich Mountain WSA	Aldrich Mountain WSA
Alvord Desert WSA	Alvord Desert WSA
Badlands WSA	Badlands WSA
Basque Hills WSA	Basque Hills WSA
Beaver Dam Creek WSA	Beaver Dam Creek WSA
Blitzen River WSA	Blitzen River WSA
Blue Canyon WSA	Blue Canyon WSA
Bowden Hills WSA	Bowden Hills WSA
Bridge Creek WSA	Bridge Creek WSA
Camp Creek WSA	Camp Creek WSA
Castle Rock WSA	Castle Rock WSA
Cedar Mountain WSA	Cedar Mountain WSA
Chopaka Mountain WSA	Chopaka Mountain WSA
Clarks Butte WSA	Clarks Butte WSA
Cottonwood Creek WSA	Cottonwood Creek WSA
Cougar Well WSA	Cougar Well WSA
Deschutes Canyon WSA	Deschutes Canyon WSA
Abert Rim WSA	Abert Rim WSA
Aldrich Mountain WSA	Aldrich Mountain WSA
Alvord Desert WSA	Alvord Desert WSA
Badlands WSA	Badlands WSA
Basque Hills WSA	Basque Hills WSA
Beaver Dam Creek WSA	Beaver Dam Creek WSA
Blitzen River WSA	Blitzen River WSA
Blue Canyon WSA	Blue Canyon WSA
Bowden Hills WSA	Bowden Hills WSA
Bridge Creek WSA	Bridge Creek WSA
Camp Creek WSA	Camp Creek WSA
Castle Rock WSA	Castle Rock WSA
Cedar Mountain WSA	Cedar Mountain WSA
Chopaka Mountain WSA	Chopaka Mountain WSA
Clarks Butte WSA	Clarks Butte WSA
Cottonwood Creek WSA	Cottonwood Creek WSA

Cougar Well WSA	Cougar Well WSA
Deschutes Canyon WSA	Deschutes Canyon WSA
Abert Rim WSA	Abert Rim WSA
Aldrich Mountain WSA	Aldrich Mountain WSA
Alvord Desert WSA	Alvord Desert WSA
Badlands WSA	Badlands WSA
Basque Hills WSA	Basque Hills WSA
Beaver Dam Creek WSA	Beaver Dam Creek WSA
Blitzen River WSA	Blitzen River WSA
Blue Canyon WSA	Blue Canyon WSA
Bowden Hills WSA	Bowden Hills WSA
Bridge Creek WSA	Bridge Creek WSA
Camp Creek WSA	Camp Creek WSA
Castle Rock WSA	Castle Rock WSA
Cedar Mountain WSA	Cedar Mountain WSA
Chopaka Mountain WSA	Chopaka Mountain WSA
Clarks Butte WSA	Clarks Butte WSA
Cottonwood Creek WSA	Cottonwood Creek WSA
Cougar Well WSA	Cougar Well WSA
Deschutes Canyon WSA	Deschutes Canyon WSA
Abert Rim WSA	Abert Rim WSA
Aldrich Mountain WSA	Aldrich Mountain WSA
Alvord Desert WSA	Alvord Desert WSA
Badlands WSA	Badlands WSA
Basque Hills WSA	Basque Hills WSA
Beaver Dam Creek WSA	Beaver Dam Creek WSA
Blitzen River WSA	Blitzen River WSA
Blue Canyon WSA	Blue Canyon WSA
Bowden Hills WSA	Bowden Hills WSA
Bridge Creek WSA	Bridge Creek WSA
Camp Creek WSA	Camp Creek WSA
Castle Rock WSA	Castle Rock WSA
Cedar Mountain WSA	Cedar Mountain WSA
Chopaka Mountain WSA	Chopaka Mountain WSA
Clarks Butte WSA	Clarks Butte WSA
Cottonwood Creek WSA	Cottonwood Creek WSA

Cougar Well WSA	Cougar Well WSA
Deschutes Canyon WSA	Deschutes Canyon WSA
Abert Rim WSA	Abert Rim WSA
Aldrich Mountain WSA	Aldrich Mountain WSA
Alvord Desert WSA	Alvord Desert WSA
Badlands WSA	Badlands WSA
Basque Hills WSA	Basque Hills WSA
Beaver Dam Creek WSA	Beaver Dam Creek WSA
Blitzen River WSA	Blitzen River WSA
Blue Canyon WSA	Blue Canyon WSA
Bowden Hills WSA	Bowden Hills WSA
Bridge Creek WSA	Bridge Creek WSA
Camp Creek WSA	Camp Creek WSA
Castle Rock WSA	Castle Rock WSA
Cedar Mountain WSA	Cedar Mountain WSA
Chopaka Mountain WSA	Chopaka Mountain WSA
Clarks Butte WSA	Clarks Butte WSA
Cottonwood Creek WSA	Cottonwood Creek WSA
Cougar Well WSA	Cougar Well WSA
Deschutes Canyon WSA	Deschutes Canyon WSA
Deschutes Canyon WSA - FS	Deschutes Canyon WSA - FS
Deschutes Canyon-Steelhead Falls WSA	Deschutes Canyon-Steelhead Falls WSA
Devils Garden Lava Bed WSA	Devils Garden Lava Bed WSA
Diablo Mountain WSA	Diablo Mountain WSA
Disaster Peak WSA	Disaster Peak WSA
Dry Creek Buttes WSA	Dry Creek Buttes WSA
Dry Creek WSA	Dry Creek WSA
East Alvord WSA	East Alvord WSA
Fifteenmile Creek WSA	Fifteenmile Creek WSA
Fish Creek Rim WSA	Fish Creek Rim WSA
Four Craters Lava Bed WSA	Four Craters Lava Bed WSA
Gerry Mountain WSA	Gerry Mountain WSA
Gold Creek WSA	Gold Creek WSA
Guano Creek WSA	Guano Creek WSA
Hampton Butte WSA	Hampton Butte WSA
Hawk Mountain WSA	Hawk Mountain WSA

Heath Lake WSA	Heath Lake WSA
High Steens WSA	High Steens WSA
Home Creek WSA	Home Creek WSA
Homestead WSA	Homestead WSA
Honeycombs WSA	Honeycombs WSA
inholding	inholding
Jordan Craters WSA	Jordan Craters WSA
Lookout Butte WSA	Lookout Butte WSA
Lost Forest ISA	Lost Forest ISA
Lower John Day WSA	Lower John Day WSA
Lower Owyhee Canyon WSA	Lower Owyhee Canyon WSA
Lower Stonehouse WSA	Lower Stonehouse WSA
Mahogany Ridge WSA	Mahogany Ridge WSA
Malheur River-Bluebucket WSA	Malheur-Bluebucket WSA
McGraw Creek WSA	McGraw Creek WSA
Mountain Lakes WSA	Mountain Lakes WSA
North Fork WSA	North Fork WSA
North Fork WSA - FS	North Fork WSA - FS
North Pole Ridge WSA	North Pole Ridge WSA
NV-Disaster Peak WSA	NV-Disaster Peak WSA
Oregon Canyon WSA	Oregon Canyon WSA
Orejana Canyon WSA	Orejana Canyon WSA
Owyhee Breaks WSA	Owyhee Breaks WSA
Owyhee River Canyon WSA	Owyhee River Canyon WSA
Palomino Hills WSA	Palomino Hills WSA
Pats Cabin WSA	Pats Cabin WSA
Pueblo Mountains WSA	Pueblo Mountains WSA
Red Mountain WSA	Red Mountain WSA
Rincon WSA	Rincon WSA
Saddle Butte WSA	Saddle Butte WSA
Sage Hen Hills WSA	Sage Hen Hills WSA
Sand Dunes WSA	Sand Dunes WSA
Sand Dunes WSA/Lost Forest ISA	Sand Dunes WSA/Lost Forest ISA
Sand Hollow WSA	Sand Hollow WSA
Sheep Mountain WSA	Sheep Mountain WSA
Sheepshead Mountains WSA	Sheepshead Mountains WSA



Slocum Creek WSA	Slocum Creek WSA
Soda Mountain WSA	Soda Mountain WSA
South Fork Donner Und Blitzen WSA	South Fork Donner Und Blitzen WSA
South Fork WSA	South Fork WSA
Spaulding WSA	Spaulding WSA
Sperry Creek WSA	Sperry Creek WSA
Spring Basin WSA	Spring Basin WSA
Squaw Ridge Lava Bed WSA	Squaw Ridge Lava Bed WSA
Stonehouse WSA	Stonehouse WSA
Strawberry Mountain-Indian Creek WSA	Strawberry Mountain-Indian Creek WSA
Strawberry Mountain-Pine Creek WSA	Strawberry Mountain-Pine Creek WSA
Strawberry Mountain-Sheep Gulch WSA	Strawberry Mountain-Sheep Gulch WSA
Sutton Mountain WSA	Sutton Mountain WSA
Table Mountain WSA	Table Mountain WSA
Thirtymile WSA	Thirtymile WSA
Twelvemile Creek WSA	Twelvemile Creek WSA
Upper Leslie Gulch WSA	Upper Leslie Gulch WSA
Upper West Little Owyhee WSA	Upper West Little Owyhee WSA
West Peak WSA	West Peak WSA
Wild Horse Basin WSA	Wild Horse Basin WSA
Wildcat Canyon WSA	Wildcat Canyon WSA
WILDERNESS-HELLS CYN	WILDERNESS-HELLS CYN
Willow Creek WSA	Willow Creek WSA
Winter Range WSA	Winter Range WSA
Abert Rim	Abert Rim
Aldrich Mountain	Aldrich Mountain
Alvord Desert	Alvord Desert
Badlands	Badlands
Basque Hills	Basque Hills
Beaver Dam Creek	Beaver Dam Creek
Blitzen River	Blitzen River
Blue Canyon	Blue Canyon
Bowden Hills	Bowden Hills
Bridge Creek	Bridge Creek

Camp Creek	Camp Creek
Castle Rock	Castle Rock
Cedar Mountain	Cedar Mountain
Chopaka Mountain	Chopaka Mountain
Clarks Butte	Clarks Butte
Cottonwood Creek	Cottonwood Creek
Cougar Well	Cougar Well
Deschutes Canyon - FS	Deschutes Canyon - FS
Devil Garden Lava Bed	Devil Garden Lava Bed
Diablo Mountain	Diablo Mountain
Disaster Peak	Disaster Peak
Dry Creek	Dry Creek
Dry Creek Buttes	Dry Creek Buttes
East Alvord	East Alvord

#### A.6 WSA\_NO

1-101	Abert Rim
11-1	Mountain Lakes
1-117	Fish Creek Rim
11-17	Soda Mountain
1-132	Guano Creek
1-139	Spaulding
1-146A	Hawk Mountain
1-146B	Sage Hen Hills
1-2	Devils Garden Lava Bed
1-22	Four Craters Lava Bed
1-24	Lost Forest ISA
1-24	Sand Dunes
1-3	Squaw Ridge Lava Bed
13-2	Chopaka Mountain
1-58	Diablo Mountain
1-78	Orejana Canyon
2-103	Aldrich Mountain
2-14	Malheur-Bluebucket

2-23L	Stonehouse
2-23M	Lower Stonehouse
2-72C	Sheepshead Mountains
2-72D	Wildcat Canyon
2-72F	Heath Lake
2-72I	Table Mountain
2-72J	West Peak
2-73A	East Alvord
2-73H	Winter Range
2-74	Alvord Desert
2-77	Mahogany Ridge
2-78	Red Mountain
2-81	Pueblo Mountains
2-82	Rincon
2-84	Basque Hills
2-85F	High Steens
2-85G	S.Fk Donner Blitzen
2-85H	Home Creek
2-86E	Blitzen River
2-87	Bridge Creek
2-98A	Strawberry Mountains
2-98C	Strawberry Mountains
2-98D	Strawberry Mountains
3-110	Lower Owyhee Canyon
3-111	Saddle Butte
3-114	Palomino Hills
3-118	Bowden Hills
3-120	Clarks Butte
3-128	Jordan Craters
3-152	Willow Creek
3-153	Disaster Peak
3-156	Fifteen Mile Creek
3-157	Oregon Canyon
3-162	Twelve Mile Creek
3-173	Upper W. Little Owyhee
3-18	Castle Rock

3-194	Lookout Butte
3-195	Owyhee Canyon
3-27	Beaver Dam Creek
3-31	Camp Creek
3-32	Cottonwood Creek
3-33	Gold Creek
3-35	Sperry Creek
3-53	Dry Creek
3-56	Dry Creek Buttes
3-59	Owyhee Breaks
3-73	Blue Canyon
3-74	Cedar Mountain
3-74	Upper Leslie Gulch
3-75	Slocum Creek
3-77A	Honeycombs
3-77B	Wild Horse Basin
5-1	Thirtymile
5-14	Steelhead Falls
5-21	Badlands
5-31	North Fork
5-33	South Fork
5-34	Sand Hollow
5-35	Gerry Mountain
5-42	Hampton Butte
5-43	Cougar Well
5-6	Lower John Day
5-8	North Pole Ridge
5-84	Sutton Mountain
5-85	Pats Cabin
5-9	Spring Basin
6-1	Mcgraw Creek
6-2	Homestead
6-3	Sheep Mountain
FS5-31	North Fork - Forest Service WSA that BLM has an interest in
FS6321	Deschutes Canyon - Forest Service WSA that BLM has an interest in
Inholding	Inholding - Private inholding islands surrounded by WSA

Out	Out - Non-WSA islands within WSA polygons and that are not completely private.
Roadout	Roadout - Cherry-stemmed road buffers, not in WSA, but surrounded by WSA.