

Grazing Allotments and Pastures Spatial Data Standard



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1. GENERAL INFORMATION

Dataset (Theme) Name: GRAZING ALLOTMENTS AND PASTURES (GRA)

Dataset (Feature Class): GRA_POLY, GRA_ARC, GRA_P_POLY

1.1 ROLES AND RESPONSIBILITIES

Roles	Responsibilities
State Data Steward	The State Data Steward, Robert Hopper, at 503-808-6118 is responsible for approving data standards and business rules, developing Quality Assurance/Quality Control procedures, identifying potential privacy issues and ensuring that data is 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.
Lead GIS Specialist	The Lead GIS Specialist, Paul Whitman at 541-947-6110, 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 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. This person is a resource for the editors when they have questions or when they are new to editing a particular data set. In addition, the lead GIS specialist can help answer questions about how to query and display the data set for mapping and analysis.
State Data Administrator	The acting State Data Administrator, Pamela Keller at 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 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 also provides direction and guidance on data release and fees. The State Records Administrator ensures that data has been classified under the proper records retention schedule and determines appropriate Freedom of Information Act category.

Table 1 Roles and Responsibilities

1.2 FOIA CATEGORY

Public

1.3 RECORDS RETENTION SCHEDULE(S)

20/52c (Geographic Information Systems)

TEMPORARY. Maintain until no longer needed for current business.

1.4 SECURITY/ACCESS/SENSITIVITY

The Grazing Allotments (GRA) and Pastures set of themes does not require any additional security other than that provided by the General Support System (the hardware/software infrastructure of the Oregon/Washington (OR/WA) Bureau of Land Management (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: Grazing, Allotments, Pastures, GRA.

2. DATASET OVERVIEW

2.1 DESCRIPTION

This dataset contains livestock grazing allotment and pasture boundaries with associated attributes describing some basic characteristics of the allotments and pastures. Allotments are made up of pastures. The dataset contains pasture boundary polygons, GRA_POLY, and its coincident line pair, GRA_ARC, which contains boundary definition information. The BLM allotments are tied to the 1934 Taylor Grazing Act which set up grazing districts. All BLM lands should have grazing management identified. However, some districts have considerably more rangeland and larger blocks of BLM parcels and some districts have only scattered parcels and a small or nonexistent grazing program. The ALTPAST attribute, the main attribute for GRA_POLY, accommodates these differences. This theme is associated with the Rangeland Administration System (RAS), a national database application for allotment billing.

The relationship of grazing allotments and pastures to fence lines can be confusing. The themes are not identical, but there will be a great deal of coincidence. Pastures (GRA_POLY) are areas (polygons) that keep animals in. Usually, fences (lines) are the physical spatial features that comprise these pasture boundaries, but there may be others like steep terrain or water features. These are defined by attribute DEF_FEATURE of GRA_ARC (line pair to GRA_POLY). Fence lines exist as a separate spatial feature class not described in this standard. While not necessarily identical to the lines in GRA_ARC, there will be a great deal of coincidence and the themes should be maintained together.

This dataset also contains proposed pasture polygons, GRA_P_POLY. During planning activities such as Allotment Management Plan (AMP) or Resource Management Plan (RMP) development, it may be necessary to create and analyze different proposals for allotment and pasture changes. The theme will be highly variable and should be archived with other project/plan specific data at the appropriate decision date. Approved pasture changes are incorporated into GRA_POLY and GRA_ARC.

2.2 USAGE

This dataset is used for depicting grazing allotments and pastures on maps. Pasture boundaries are dissolved to form allotment boundaries (see Layer Files section). The grazing allotment and pasture dataset is one of the most important dataset to BLM business, and it is also used in most National Environmental Policy Act planning, and other resource analysis. This is a dataset that would be used by most resource specialists, especially those involved in administration of livestock grazing programs.

2.3 SPONSOR/AFFECTED PARTIES

The sponsor for this data set is the Deputy State Director, Resource Planning, Use and Protection. Other Government agencies, private corporations, and individuals are affected by changes in grazing allotment boundaries. Matching allotment boundaries across BLM districts and states is important. The United States Forest Service also administers grazing allotments, and it is important to match across agency jurisdictions.

2.4 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 categories. These sub-categories may be further broken into more specific groups until you get to a basic dataset that cannot be further subdivided. Those basic datasets inherit all characteristics of all groups/categories above them. The basic datasets 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, 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:

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

For GRA and Pastures, the categories/groups that the dataset is part of are:

BLM GRA/Pasture Polygon:

ODF

Boundaries

Political & Admin

Political & Admin Existing

GRA_POLY

Political & Admin Proposed

GRA_P_POLY

BLM GRA/Pasture Line:

ODF

Boundaries

PoliticalAdministrativeSpecialManagementAreaLine

GRA_ARC

2.5 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 dataset, these are as follows:

Data Subject Area: Geospatial and Geography
Information Class: Spatial Dataset

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

Pamela Keller
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Bureau of Land Management
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Portland, OR 97208
503-808-6009

2.6 GRAZING ALLOTMENTS AND PASTURES DATA ORGANIZATION/STRUCTURE

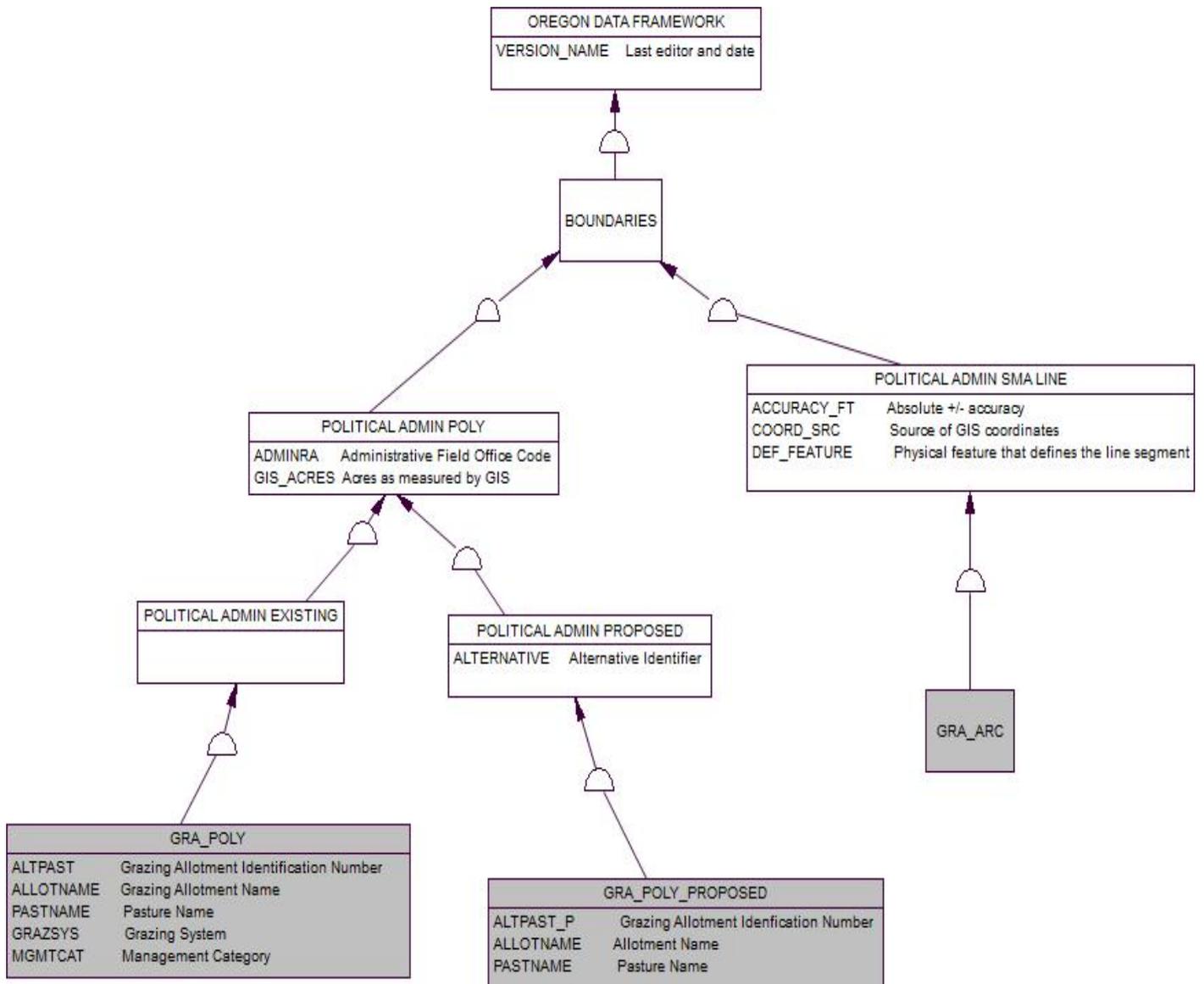


Figure 1 Data Organization Structure

3. DATA MANAGEMENT PROTOCOLS

3.1 ACCURACY REQUIREMENTS

Positional accuracy is important for the GRA theme. The COORD_SRC and ACCURACY_FT fields contain feature level accuracy information stratified by input method and absolute accuracy (how close, in +/- feet, the GIS mapped feature is to the actual ground feature). This flags the less accurate lines for replacement when possible. It is expected that Global Positioning System (GPS) will be used to more accurately locate fence lines.

3.2 COLLECTION, INPUT, AND MAINTENANCE PROTOCOLS

The District Data Steward will develop standard field data collection methods, and work with the GIS Coordinator to develop corresponding standard GIS input methods. The most common methods of allotment and pasture line capture are:

- Manuscript the lines onto United States Geological Survey quad maps and digitize
- Collect the pasture boundaries (fences) in the field with a GPS device and input the GPS coordinates into GIS
- Use orthophotos as a backdrop for on-screen digitizing
- Import Digital Line Graph (DLG) fence lines, roads, and other existing data

There are many sources for GRA lines because of the nature of pastures. A pasture is an area that keeps animals in. The boundaries of the pasture might include fences, roads, rivers, or steep terrain. It is important to know what type of boundary each GIS line segment represents so that appropriate existing data can be brought in rather than digitizing new data. The DEF_FEATURE field within the line attribute table contains this information and is the main attribute for GRA_ARC. A pervasive problem with GRA lines is the large degree of coincidence with subdivision lines. Very often, constructed fences were intended to follow ownership but, in fact, are slightly off. To avoid creating a huge number of sliver areas when the GRA theme is combined with the ownership theme, it is recommended that the district Data Steward and GIS Coordinator decide on a minimum distance under which coincidence will be forced for mapped fences. For example, if the mapped fence line is within 100 feet of the subdivision line it is intended to follow, use the subdivision line not the mapped line. If the fence line is collected by GPS, then the GPS line is used. In all three cases, DEF_FEATURE is "FENCE," but the fence line collected by GPS has COORD_SRC of "GPS," the mapped fence will be "DOQ," "DRG," or "MAP," and the online fence will be "SUBDIVISION."

The main attribute for GRA_POLY is ALTPAST, and a good understanding of the possible values is critical. The GRA theme is a wall-to-wall polygon theme. This means that every acre of ground within a district needs to have a GRA label. There are many potentially confusing terms used to describe areas not under BLM grazing management (not allocated, unallotted, excluded, custodial, etc.), and it is important to understand the choices and differences. The ALTPAST field and dependent field GRAZSYS field contain this information.

It is highly recommended that source maps be maintained for each 7.5 minute (1:24000) quad on the district. The reference maps are used to show changes to the allotment, pasture boundaries, and names over time.

Allotment boundaries are specified by Range Line Agreements (RLA) and should not be changed without amending the RLA. Interior pasture boundaries are more flexible and can be modified to reflect changes in fences or better data without formal documentation beyond theme metadata. Significant changes to pastures that are not reflected in the current Land Use Plan (LUP) should be documented with a LUP Maintenance Sheet. The GIS editors and Data Stewards need to coordinate with neighboring districts where allotments cross district lines. Possible maintenance includes:

- Replace lines with better digital versions of the pasture definitions (e.g., a fence replacing a parcel line or a fence line collected by GPS replacing a manuscripted fence)
- Pastures split or merged
- New or changed pasture or allotment boundaries
- Review of DEF_FEATURE to determine if improvement can be made (e.g., Can an “UNKNOWN” be replaced by “FENCE”).

It is also the responsibility of the Data Stewards to work with the GIS editors to ensure that any database external to the GIS (especially the RAS) be kept current and consistent with GRA.

3.3 UPDATE FREQUENCY AND ARCHIVAL PROTOCOLS

Once the GRA theme has been created for a district, it is the responsibility of the District Data Steward to ensure that the theme remains current. Bringing the theme up to a current level should take place at least once per year and probably more frequently. In addition to annual archival, GRA should be archived at RMP, AMP, and other major plan Record of Decision dates.

3.4 STATEWIDE MONITORING

The State Data Steward, in conjunction with the District Data Stewards, is responsible for reviewing the GRA theme across the states at least once per year. A key item to be reviewed is consistency between districts in attributing (e.g., The same GRAZSYS values used to mean the same thing). Additional guidance for labeling may need to be developed. Consistency in minimum pasture size is another suggested check. Exclosures can be very small. The minimum size at which they are omitted from the GRA theme and shown as a small polygon or simple point on some other theme (e.g., Treatments or Structures) is currently left up to the individual field offices. Progress toward similar levels of accuracy is another review item. Correct linkage to RAS should be tested at least annually.

4. GRAZING ALLOTMENTS AND PASTURES 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:

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

4.1 GRAZING ALLOTMENTS AND PASTURES FEATURE DATASET

4.1.1 GRA_POLY Feature Class (GRA Polygons)

Attribute Name	Data Type	Length	Default Value	Required?	Domain
ALTPAST	String	8		Yes	
ALLOTNAME	String	50		Yes	
PASTNAME	String	50		No	
GRAZSYS	String	2		Yes	dom_GRAZSYS
MGMTCAT	String	1		No	dom_MGMTCAT
ADMINRA	String	5		Yes	dom_BLM_ORG_CD
GIS_ACRES	Decimal	12,6		Yes*	
VERSION_NAME	String	50	Initial Load	Yes*	

* Values automatically generated

4.1.2 GRA_ARC (GRA 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*	

* Values automatically generated

4.2 GRA_P_POLY Stand-alone Feature Class

GRA_P_POLY (Grazing Allotment and Pasture Proposed Polygons)

Attribute Name	Data Type	Length	Default Value	Required?	Domain
ALTPAST_P	String	8		Yes	
ALTERNATIVE	String	10		No	
ALLOTNAME	String	50		Yes	
PASTNAME	String	50		No	
GIS_ACRES	Decimal	12,6		Yes*	
ADMINRA	String	5		Yes	dom_BLM_ORG_CD
VERSION_NAME	String	50	Initial Load	Yes*	

* Values automatically generated

5. PROJECTION AND SPATIAL EXTENT

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

6. SPATIAL ENTITY CHARACTERISTICS

GRAZING ALLOTMENT POLYGONS (GRA_POLY)

Description: Instance of Political and Admin Existing group.

Geometry: Non-overlapping polygons that cover the landscape.

Topology: Yes. The GRA_POLY lines are coincident with GRA_ARC lines and together make the feature dataset GRA.

Integration Requirements: None.

GRAZING ALLOTMENT LINES (GRA_ARC)

Description: Instance of Existing Political Admin Special Management Areas Line group.

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

Topology: Yes. The GRA_ARC lines are coincident with GRA_POLY lines and together make the feature dataset GRA.

Integration Requirements: The GRA_ARC lines must remain coincident with the source data indicated by attributes DEF_FEATURE and COORD_SRC either through duplication or snapping.

GRAZING ALLOTMENT POLYGONS PROPOSED (GRA_P_POLY)

Description: Instance of Political and Admin Proposed group.

Geometry: Polygons do not cover the landscape nor do they cover all BLM lands continuously.

Topology: No.

Integration Requirements: Polygons may overlap each other and/or polygons from GRA_POLY.

7. ATTRIBUTE CHARACTERISTICS AND DEFINITIONS (In alphabetical order)

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	GRA_ARC
Definition	How close, in feet, the spatial GIS depiction is in relation to the actual location on the ground. There are several factors to consider in GIS error: scale and accuracy of map-based sources, accuracy of 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 ADMINRA

Geodatabase Name	ADMINRA
BLM Structured Name	Administrative_Resource_Area_Code
Inheritance	Inherited from Entity POLITICAL ADMIN POLY
Feature Class Use	GRA_POLY, GRA_P_POLY
Definition	The BLM state, district, and field office which has administrative responsibility for the allotment.
Required/Optional	Required
Domain (Valid Values)	dom_BLM_ORG_CD
Data Type	Characters (5)

7.3 ALLOTNAME

Geodatabase Name	ALLOTNAME
BLM Structured Name	Grazing_Allotment_Name
Inheritance	Not Inherited
Feature Class Use	GRA_POLY, GRA_P_POLY
Definition	The official name assigned to a specific allotment. All keyboard characters except special characters may be used. If ALTPAST contains "NOALC" or "OUT," then this attribute will be blank. If the allotment is a Fenced Federal Range (FFR), include FFR in the name (e.g., Pickled Butte FFR). Should be downloaded from RAS.
Required/Optional	Required
Domain (Valid Values)	No Domain
Data Type	Variable Characters (50)

7.4 ALTPAST

Geodatabase Name	ALTPAST
BLM Structured Name	Grazing Allotment Identification Number
Inheritance	Not Inherited
Feature Class Use	GRA_POLY
Definition	The polygon identifier for the allotment and pastures. It normally consists of the five-character allotment number, an underscore (_), and the two-character pasture number. All preceding blank characters must be populated with zeros. For example: allotment number 302, pasture number 2, would be input as 00302_02. This field may be used as a link to other related databases, including RAS. The ALTPAST concatenated with Administrative state (derived from BLM_ORG_CD) is unique in RAS, but, in GRA, it is possible to have more than one polygon with the same ALTPAST. In this case, RAS acres are the sum of the polygon acres. Also, not all allotments and pastures are included in RAS. There is dependence between this attribute and the GRAZSYS (Grazing Allotment System CD) attribute. Certain codes in GRAZSYS dictate the form that this (ALTPAST) attribute takes. Certain questions must be asked in order to determine the correct choice for ALTPAST. The most important is the question: Is this area within an allotment or not? This may take some research into old files to determine. Many areas assumed outside of allotments are, in fact, still officially included in an allotment. Because pastures are defined by fences, not exact ownership lines, there are many instances where slivers and small parcels of BLM are fenced in with areas outside of allotments. There are also scattered, isolated BLM parcels that are not included in allotments. The various choices for ALTPAST are described below.

	<p>Areas within Allotments:</p> <ol style="list-style-type: none"> 1. General Pastures usually contain a large percentage of public land but can have a large percentage of private land if the pasture is part of a grazing system in an AMP. This is the type of pasture present in most allotments and is always listed in RAS. All records in RAS should have corresponding polygons in GRA, but not vice versa. Because RAS is for billing, GRA will have areas not covered by RAS. Valid value: 05231_11 2. The FFR is an allotment which is mostly private but contains some public land fenced within. This area is always listed in RAS. The ALTPAST should have the standard format as for General Pastures. The GRAZSYS is Custodial. 3. Mostly Private Pastures which contain a very small percentage of public land, usually slivers of public land where fences do not follow ownership lines, are another type of areas within allotments. These pastures are included within an allotment and should (but may not) be listed in RAS. The GRAZSYS is 99. Valid value: 06010_99 4. Enclosures are areas designed and constructed with the idea of keeping livestock and sometimes wildlife out of a particular area. If they are large enough, they should have pasture numbers within allotments and be included in RAS. The GRAZSYS is EX, RX, MX, or XX. Valid value: 05231_11 <p>Areas NOT within Allotments:</p> <ol style="list-style-type: none"> 1. Not Allocated areas are closed to livestock grazing through a LUP decision or legislation. No allotment or pasture numbers would be assigned to these areas and they are not included in RAS. The GRAZ_SYS has NX. Valid value: NOALC 2. Completely private, state, United States Fish and Wildlife Service, or other lands which are not part of any allotment controlled by a BLM district and do not fall under BLM grazing management. These areas would not be within any allotment or pasture and would not be in RAS. The GRAZ_SYS is "00" (zeroes). Valid value: OUT 3. Unallotted areas are BLM lands not officially assigned to a particular livestock permit. These lands are not closed to livestock grazing and could be assigned to a permit in the future. These areas may have an allotment and/or pasture number and may be included in RAS. The GRAZSYS has Unallotted. Districts with large, non-BLM areas surrounding scattered BLM parcels may have large polygons labeled "UNALT" if there is no grazing management on these scattered BLM parcels and no <u>identified</u> fences to block off the large non-BLM blocks. Valid value: UNALT.
Required/Optional	Required
Domain (Valid Values)	No Domain
Data Type	Variable Characters (8)

7.5 ALTPAST_P

Geodatabase Name	ALTPAST_P
BLM Structured Name	Grazing Allotment Identification Number
Inheritance	Not inherited
Feature Class Use	GRA_P_POLY
Definition	The proposed allotment and pasture number. It normally consists of the five-character allotment number, an underscore (_), and the two-character pasture number. All preceding blank characters must be populated with zeroes. For example: allotment no. 302, pasture no. 2, would be input as 00302_02. This field may be used as a link to other related databases, including RAS. The proposed pasture might be a “special case” such as unallotted, not allocated, fenced Federal range, or a “99” pasture. Certain questions must be asked in order to determine the correct choice for ALTPAST. Most important is the question: Is the area proposed to be within an allotment or not? This may take some research into old files to determine. Many areas assumed outside of allotments are, in fact, still officially included in an allotment. Because pastures are defined by fences, not exact ownership lines, there are many instances where slivers and small parcels of BLM lands are fenced in with areas outside of allotments. There are also scattered, isolated BLM parcels that are not included in allotments. See the ALTPAST attribute for a more complete description of the choices.
Required/Optional	Required
Domain (Valid Values)	No Domain
Data Type	Variable Characters (8)

7.6 ALTERNATIVE

Geodatabase Name	ALTERNATIVE
BLM Structured Name	Alternative_Text
Inheritance	Inherited from entity POLITICAL ADMIN PROPOSED
Feature Class Use	GRA_P_POLY
Definition	Identifier for the alternative during the planning process (e.g., A, B, C, D, E). Free choice values for different plans, can be concatenated when same polygon applies to multiple alternatives (BCD, ACD, etc.).
Required/Optional	Optional
Domain (Valid Values)	No Domain
Data Type	Variable Characters (10)

7.7 COORD_SRC

Geodatabase Name	COORD_SRC
BLM Structured Name	Coordinate_Source_Code
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use	GRA_ARC
Definition	The actual source of the GIS coordinates for the line segments. 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)

7.8 DEF_FEATURE

Geodatabase Name	DEF_FEATURE
BLM Structured Name	Defining_Feature_Code
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use	GRA_ARC
Definition	<p>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.</p> <p>Allotments and Pastures may be legally <u>described</u> by Township/Range and sections. It is important to know the legal description. However, it is not sufficient just to know the legal description because pastures are, in fact, <u>defined</u> by the physical features that keep livestock in or out. Legal Land Lines are used only if there is no physically confining feature and the pasture needs to be closed.</p> <p>If fences are not yet digitally captured, it may be necessary to use ownership and section lines, or roads or streams as legally described, but these should be replaced when the fence is captured. If it is known that a particular pasture boundary segment is a fence, then the GRA_ARC attribute DEF_FEATURE should be set to "FENCE" even if the line temporarily used to depict it is a parcel line.</p> <p>The GRA lines depicting pasture boundaries usually represent or are related to fences, rims, water, roads, and subdivisions (sections or ownership) which may be found on other themes. It is important to know</p>

	<p>as precisely as possible what defines a pasture boundary. If the boundary is described as a stream, then the question, “Which side of the stream?” determines which pasture includes the water. Often a pasture boundary will follow the middle of a stream or road, in which case the appropriate segment from the GIS transportation or hydrography theme is copied. If the boundary is defined as one side or the other, then the transportation or hydrography segment can be buffered, and the appropriate buffer line used or an offset line can be digitized.</p> <p>In summary, the following hierarchy is used for creating GRA lines and attributing DEF_FEATURE:</p> <ol style="list-style-type: none"> 1. FENCE, always use fence lines first, if possible 2. RIM, LAKE, STREAM_LBANK, STREAM_RBANK, STREAM 3. ROAD, ROAD_OFFSET 4. SUBDIVISION 5. POINT-TO-POINT 6. UNKNOWN
Required/Optional	Required
Domain (Valid Values)	dom_DEF_FEATURE
Data Type	Variable Characters (25)

7.9 GIS_ACRES

Geodatabase Name	GIS_ACRES									
BLM Structured Name	GIS_Acres_Measure									
Inheritance	Inherited from entity POLITICAL ADMIN									
Feature Class Use	GRA_POLY, GRA_P_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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">District indicated by BLM_ORG_CD:</th> <th style="text-align: left;">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 calculated when replicated to publication database)
Domain (Valid Values)	No domain
Data Type	Decimal (12,6)

7.10 GRAZSYS

Geodatabase Name	GRAZSYS
BLM Structured Name	Grazing_Allotment_System_Code
Inheritance	Not inherited
Feature Class Use	GRA_POLY
Definition	Primary grazing management system within the pasture. Code containing "X" (XX, EX, RX, MX, NX) indicates BLM lands with no livestock grazing.
Required/Optional	Required
Domain (Valid Values)	dom_GRAZSYS
Data Type	Character (2)

7.11 MGMTCAT

Geodatabase Name	MGMTCAT
BLM Structured Name	Grazing_Allotment_Management_Category_Code
Inheritance	Not inherited
Feature Class Use	GRA_POLY
Definition	Range condition assessment categories as defined in the Rangeland Program Summary (RPS).
Required/Optional	Optional
Domain (Valid Values)	dom_MGMTCAT
Data Type	Character (1)

7.12 PASTNAME

Geodatabase Name	PASTNAME
BLM Structured Name	Grazing_Allotment_Pasture_Name
Inheritance	Not inherited
Feature Class Use	GRA_POLY, GRA_P_POLY
Definition	The name of a specific pasture in an allotment. Allow all keyboard characters except special characters. Should be downloaded from RAS.
Required/Optional	Optional

Domain (Valid Values)	No Domain
Data Type	Variable Characters (50)

7.13 VERSION_NAME

Geodatabase Name	VERSION_NAME
BLM Structured Name	Geodatabase_Version_Text
Inheritance	Inherited from Entity ODF. 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.
Feature Class Use	GRA_POLY, GRA_P_POLY, GRA_ARC
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 Example: sfrazier.GRA-121211-111034
Required/Optional	Required
Domain (Valid Values)	No Domain
Data Type	Variable Character (50)

8. ASSOCIATED FILES OR DATABASES

The national database, RAS, is closely associated with this dataset. A download from RAS is acquired on an annual basis (at a minimum) and made available for use with the spatial data. The RAS provides attribute information related to grazing preference (amount of grazing authorized in the allotment), permit expiration date, preference code (section 3 or section 15), and a few other, related data items.

The ALTPAST concatenated with ADMINST is unique in RAS. However, there may be more than one polygon in GRA with the same ALTPAST. Also, not all allotments and pastures are included in RAS.

Periodically, a download is obtained from the national RAS database and loaded as two tables into the Spatial Database Engine (SDE). This will occur annually in the winter. It may occur more frequently at the request of a district and after major edits to GRA. All OR/WA allotments will be extracted. The specific RAS fields will vary but at a minimum, will include:

Table 1 (RAS Pasture table, name it RAS_PASTURE_yyyymmdd):
 Allotment number and name
 Pasture number and name
 Management status
 Office code

Table 2 (RAS Authorization table, name it RAS_AUTH_yyyymmdd):
 Allotment number
 Active Animal Unit Month (AUMs)
 Plan implemented date
 Permit expiration date
 Preference code (section 3 - permit or section 15 - lease)
 Range Specialist name (may be in Undefined Field #1)

The **ALTPAST** link field is added to the RAS Pasture table by concatenating Allotment number and Pasture number. The RAS Pasture table can then be joined to GRA, and used for checking the corresponding attributes (ALLOTNAME, PASTNAME, MGMTCAT and ADMINRA) and making the necessary corrections to either GRA or RAS.

The RAS Authorization table has additional attributes, not found in GRA that have meaning at the allotment level. There may be one or many authorizations (permit/permitees) per allotment, each with a different permit expiration date, and Grazing Animal Unit Month (AUMs). An integer field, TOTAL_ALLOT_AUMS, is added to the table, and filled with the sum of the individual permit AUMs per allotment. When GRA is dissolved to form Allotments (see below), the RAS Authorization table can be related to Allotments and/or the single field TOTAL_ALLOT_AUMS can be joined.

9. LAYER FILES (PUBLICATION VIEWS)

A publication dataset is provided that dissolves the pasture boundaries to provide a dataset of only allotment boundaries. This is provided as a stand-alone feature class (GRA_ALLOTMENT_POLY) within SDE and will be automatically refreshed during the OSODBA GRA version check-in process. The creation of this layer will follow these steps:

A. Perform the following definition query on GRA_POLY:

ALTPAST not equal "OUT"
 not equal "NOALC"
 not equal "UNALT"
 not equal "NULL" or "" (Blank)

B. Create ALLOTNUM attribute from first five characters of ALTPAST, and PASTNUM from the last two characters of ALTPAST, then

C. dissolve on **ALLOTNUM**, then

D. join back the attributes of GRA_POLY using **ALLOTNUM**, then

E. drop attributes that are not relevant to allotments: (ALTPAST, PASTNAME, PASTNUM, GRAZSYS).

Two layer files will be automatically created from GRA and refreshed after major edits. These will be available to the districts.

A. **Pastures.lyr**: GRA_POLY symbolized with thin dashed line and containing all attributes. It has a definition query of:

ALTPAST not equal "OUT"
 not equal "NOALC"
 not equal "UNALT"
 not contain "_99"
 not equal "NULL", or "" (Blank)

B. **Allotments.lyr**: GRA_ALLOTMENT_POLY symbolized with a thicker, solid line for display on top of Pastures.lyr. Relate to RAS Authorization table using allotment Layer files will be created through scripts that can be automatically executed.

10. EDITING PROCEDURES

Use the orsovctr RAS_PASTURE table for the comparison and reconciliation of GRA and RAS. The editor should make two joins, one from RAS_PASTURE to GRA_POLY and one from GRA_POLY to RAS_PASTURE. Join on ALTPAST and "Keep all records."

The first join indicates all the pasture records in RAS that are not in GRA_POLY (select gra_poly.ALTPAST IS NULL). Anything in RAS should be in GRA.

The second join indicates all the pastures in GRA_POLY that are not in RAS (select RAS_PASTURE_20100504.ALTPAST IS NULL). Not all GRA polys are appropriate for inclusion in RAS, but they should be checked.

To correct GRA and/or RAS errors, the entire allotment and the range files (including the official RLA) must be reviewed with the Range Specialist. A "missing" pasture may, in fact, be there just with a different name. Pasture names and numbers might have been swapped or reused.

10.1 RULES AND PROCEDURES FOR SPATIAL FEATURE EDITING

A. The GRA dataset has rules to be followed during spatial feature editing, which are described below. The GRA is a feature dataset with two feature classes, GRA_POLY and GRA_ARC that must be edited together. The arcs and polylines (poly perimeters) must be coincident.

B. Create arcs in GRA_ARC first. This can only occur if the boundaries have been defined.

C. Multi-part arcs are not allowed. Arcs that have tiny gaps or overlaps (not visible unless zoomed in), create multi-part lines. Finding and eliminating multi-part lines is difficult, avoid creating them to begin with. One tip is to delete very short arcs and extend the adjacent one (snapping) rather than merge.

D. Do not “unsplit” or merge arcs unless you are sure the attributes are identical. Attributes may change even if there is no intersection with another arc.

E. Check arcs for vertices that are too close together. This is a common problem with GPS sources. Simplify arcs (one meter is generally acceptable).

F. Snap to vertex or end, not edge. Common themes to snap to are fences and GCD points.

G. To prevent unintentional gaps between polygons, cluster tolerance must be as small as possible (0.000007 degrees). Check for tiny, sliver gaps between adjacent polygons.

H. Here are three acceptable methods for updating pasture arcs to new fence locations:

1. If the change is small, simply use the Topology Edit Tool cursor to move vertices for both polygons at once. Use Ctrl N to select a shared node and move. Set snapping to vertex and end of the fence shapefile or feature class.

2. If the change is large, or the new fence creates a new pasture *and* the pastures are relatively small, edit GRA_ARC to bring in the new fence and modify the existing fence so that they are cleanly split and snapped to each other (no gaps or overlaps). Delete all the polys that are touched by the modified arcs. Select all the arcs needed to re-create the pasture polys and use Construct Features on the topology toolbar.

3. If the pastures are large, selecting all the relevant arcs and constructing new polys can be difficult, so consider other methods like Cut Polygon or Zipper task.

I. Multi-part polygons are not allowed.

J. Pasture changes must be input into RAS at the same time as GRA.

K. Interior pasture boundaries can be changed with the approval of the Range Specialist. If, however, the pasture boundary also forms the allotment boundary, changes must have a signed RLA modification.

L. Significant changes to pastures that are not reflected in the current LUP should be documented with a LUP Maintenance Sheet.

10.2 RULES AND PROCEDURES FOR ATTRIBUTE EDITING

There are rules to be followed during attribute editing, which are described below.

A. The most important GRA_ARC attribute is DEF_FEATURE. Please review the Attribute Characteristics and Definitions section.

B. The most important GRA_POLY attribute is ALTPAST. Please review the Attribute Characteristics and Definitions section.

C. Allotment and Pasture names and numbers must match RAS exactly:

1. All caps. Required by RAS.
2. For Fenced Federal Range. The RAS has no naming conventions, but try to be consistent within your district. Put FFR in the name (e.g., "PICKLED BUTTE FFR").
3. Check spelling and make corrections in RAS and/or GRA.
4. Check for leading or trailing blanks. An easy way to see this is to "Select by Attributes" and "Get Unique Values;" there will be multiple entries for the same pasture/allotment name. For example, "WEST FORK #1" and "WEST FORK #1 " (trailing blank).
5. Avoid special characters in names (parentheses, period, comma, question mark, slash, quote, and asterisk). Dashes are allowed but no space before or after, e.g., "DUGOUT-BRIDGE GULCH." The pound sign is allowed with a space before but not after, e.g., "WEST FORK #1." This is preferred to "NUMBER" or "NO."
6. No "00" Pastures. If an allotment is not subdivided into pastures, the entire allotment is pasture "01."
7. Do not swap or reuse pasture names and numbers, if you can avoid it. It is preferable to leave a gap in the numbering sequence than to use an old number on a new pasture.
8. Check for the letter "O" when it should be zero.

D. Dependencies between ALTPAST, Names, Numbers, GRAZSYS, MGMTCAT:

1. If ALTPAST contains "NOALC" or "OUT," then ALLOTNAME should be blank.
2. The ALLOTNUM and PASTNUM are derived from ALTPAST. If ALTPAST contains a non-number (OUT, UNALT, NOALC), then ALLOTNUM will be identical and PASTNUM will be blank.
3. If FFR, then GRAZSYS is CU and name has FFR suffix.
4. If ALTPAST is a regular pasture (e.g., 05210_09), then GRAZSYS can be anything, except UA, NX, 00, 99.
5. If ALTPAST is UNALT, then GRAZSYS is UA, and vice versa.
6. If ALTPAST is NOALC, then GRAZSYS is NX, and vice versa.
7. If ALTPAST is OUT, then GRAZSYS is 00, and vice versa.
8. If ALTPAST has "xxxxx_99," then GRAZSYS and PASTNUM are 99, and vice versa.

The last 4 cases for ALTPAST (plus ALTPAST null or blank) are removed for creation of the Pastures.lyr and before uploading to the national database.

10.3 OTHER QUALITY CONTROLS

The following are other data quality checks to perform:

- Check ADMINRA. This is an important attribute for the creation of accurate Resource Area and district layer files.
- Check for duplicate ALTPAST. Multi-part polys are not allowed, therefore, it is potentially possible to have the same ALTPAST on more than one polygon. Duplicates should be checked. A Different PASTNAME should have a different PASTNUM.
- Check for duplicate ALLOTNAME with different ALLOTNUM and fix in GRA (and RAS, if needed).
- Check for duplicate PASTNAME. While it is potentially possible to have the same PASTNAME on more than one polygon, it should be checked. Avoid using the same PASTNAME/PASTNUM in different allotments.

12. ABBREVIATIONS AND ACRONYMS USED IN THIS STANDARD

Abbreviations/acronyms used as codes for particular data attributes are not included.

Abbreviations	Descriptions
AMP	Allotment Management Plan
BLM	Bureau of Land Management
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
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
RA	Resource Area
RAS	Rangeland Administration System
RMP	Resource Management Plan
RPS	Range Program Summary
SDE	Spatial Data Engine
SMA	Special Management Areas
USFS	United States Forest Service

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:

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

A.1 BLM_ORG_CD (<http://www.blm.gov/or/datamanagement/index.php>)

OR000	OR000–Oregon/Washington BLM
ORB00	ORB00–Burns District Office
ORB05	ORB05–Three Rivers Field Office
ORB06	ORB06–Andrews Field Office
ORC00	ORC00–Coos Bay District Office
ORC03	ORC03–Umpqua Field Office
ORC04	ORC04–Myrtlewood Field Office
ORE00	ORE00–Eugene District Office
ORE05	ORE05–Siuslaw Field Office
ORE06	ORE06–Upper Willamette Field Office
ORL00	ORL00–Lakeview District Office
ORL04	ORL04–Klamath Falls Field Office
ORL05	ORL05–Lakeview Field Office
ORM00	ORM00–Medford District Office
ORM05	ORM05–Butte Falls Field Office
ORM06	ORM06–Ashland Field Office
ORM07	ORM07–Grants Pass Field Office
ORM08	ORM08–Glendale Field Office
ORP00	ORP00–Prineville District Office
ORP04	ORP04–Central Oregon Field Office
ORP06	ORP06–Deschutes Field Office
ORR00	ORR00–Roseburg District Office
ORR04	ORR04–Swiftwater Field Office
ORR05	ORR05–South River Field Office
ORS00	ORS00–Salem District Office
ORS04	ORS04–Cascades Field Office
ORS05	ORS05–Marys Peak Field Office
ORS06	ORS06–Tillamook Field Office
ORV00	ORV00–Vale District Office
ORV04	ORV04–Malheur Field Office
ORV05	ORV05–Baker Field Office
ORV06	ORV06–Jordan Field Office
ORW00	ORW00–Spokane District Office
ORW02	ORW02–Wenatchee Field Office
ORW03	ORW03–Border Field Office

A.2 COORD_SRC (<http://www.blm.gov/or/datamanagement/index.php>)

Choices relevant to GRA are highlighted.

CADNSDI	CADNSDI - Coordinates 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.

A.3 DEF_FEATURE (<http://www.blm.gov/or/datamanagement/index.php>)

Choices relevant to GRA are highlighted.

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
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 All Terrain Vehicles
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

A.4 GRAZSYS (<http://www.blm.gov/or/datamanagement/index.php>)

WO	WO - Winter Only use annually with no use extending into other seasons.
SP	SP - Early spring use annually with no use extending into other seasons.
SS	SS - Use throughout the critical growing season (Spring/Summer) annually.
SL	SL - Season Long. Use throughout the growing season (spring, summer, fall).
YL	YL - Year Long. Use throughout the entire year (spring, summer, fall, winter).
SD	SD - Early Spring/Deferred. Early spring and after seed-ripe use annually.
DF	DF – Deferred. Delay of livestock grazing on an area for an adequate period of time to provide for plant reproduction, establishment of new plants, or restoration of vigor of existing plants.
DR	Deferred Rotation: Any grazing system which provides for a systematic rotation of the deferment among pastures.
RR	RR - Rest/Rotation. At least one year of rest from livestock grazing is scheduled within the rotation.
RE	RE - Reservoir Enclosure. Grazed reservoir enclosure, fenced to allow livestock access from more than one pasture.
XX	XX – Exclosure. An area fenced to exclude livestock grazing for non-specified reasons.
RX	RX - Riparian Exclosure. Areas adjacent to water that are fenced to exclude livestock grazing.
EX	EX - Experimental Exclosure. Study or experimental plot excluded from livestock grazing.
MX	MX - Management Exclosure. Area excluded from livestock grazing to protect other resource values such as recreation sites, wildlife guzzlers, wells, disposal sites, or otherwise not suitable for grazing.
UA	UA - Unallotted. Small areas of BLM not currently assigned to an allotment.
NX	NX - Not Allocated. Area is closed to livestock grazing either through a land use plan or by legislation.
CU	CU - Custodial. Areas where the grazing system is not defined and resource values are protected, such as Fenced Federal Range (FFR).
UN	UN - Unknown. Grazing system is unknown (Default value).
00	00 - (zeroes) Out. Area with no BLM land or otherwise not part of the allotment system.
99	99 - Mostly private area with small slivers of BLM land (not currently managed) within an allotment.
FA	FA - Grazing use occurs in the fall months after most plants have reached seed ripe and have stored carbohydrate reserves.
FW	FW - Grazing use occurs in the fall and winter months when plants are dormant .

A.5 MGMTCAT

I	I: Improve current unsatisfactory resource(s) condition
M	M: Maintain current satisfactory resource(s) condition
C	C: Custodial Allotment – manage “custodially” while protecting existing resource values