WILDERNESS INVENTORY MAINTENANCE PROCESS FOR THE LAKEVIEW RESOURCE AREA BLM

Wilderness Inventory Background

Following the passage of the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM initiated an inventory of lands with wilderness characteristics, as required under Section 603. In 1991, the BLM completed this comprehensive wilderness inventory covering the entire State of Oregon. Several public documents were prepared during the process which addressed lands within the Lakeview Resource Area of the Lakeview District. These included: an *Initial Inventory of Public Lands Obviously Lacking Wilderness Characteristics* (BLM 1979e), *Final Intensive Inventory Decisions* (BLM 1980), an *Oregon Wilderness Final Environmental Impact Statement* (BLM 1989), and a *Wilderness Study Report* containing a Record of Decision (BLM 1991).

During the wilderness inventory process described above, the BLM followed guidance published in its *Wilderness Inventory Handbook* (BLM 1978) and several subsequent policy directives (BLM 1979a; 1979b; 1979c; 1979d).

The inventory handbook defined "inventory" as a distinct phase of the wilderness review process that "involves looking at the public lands to determine and locate the existence of areas containing wilderness resources that meet the criteria established by Congress. Such areas are identified as Wilderness Study Areas". The handbook also described the "key factors of wilderness character" to consider during the inventory process as being:

a) Size - at least 5,000 contiguous roadless acres of public land must exist.
b) Naturalness - the imprint of man's work must be substantially unnoticeable.
c) An outstanding opportunity for solitude or an outstanding opportunity for primitive and unconfined type of recreation must exist.

All three criteria had to be met in order for an area to be designated as a WSA (BLM 1978). This guidance was followed during the Section 603 inventory process. A total of 14 wilderness study areas (WSAs) and 1 instant study area (ISA) covering approximately 486,873 acres and located completely or partially within the Lakeview Resource Area were designated during this process (BLM 1989; 1991). All WSAs are currently managed under the *Interim Management Policy for Lands Under Wilderness Review* (BLM 1995).

Lakeview Resource Area Resource Management Plan and Wilderness Inventory Guidance

The Lakeview Resource Area, BLM initiated a resource management planning (RMP) process in 1999. While this planning effort was underway, the Washington Office, BLM issued new guidance on wilderness inventory procedures, titled *Wilderness Inventory and Study Procedures Handbook H-6310-1* (BLM 2001a). The instruction memo instructed field offices to use the new guidance in *future* land use planning efforts while on-going planning efforts, such as the Lakeview RMP, were to follow existing state-specific guidance (BLM 2001b). Thus, the new handbook never applied specifically to the Lakeview RMP process. In addition, the handbook was rescinded in June 20, 2003 (BLM 2003b), prior to completion of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

While it is understood that natural landscapes undergo change over time in response to a variety of

natural and man-caused actions (i.e. wild and prescribed fire, climatic cycles, implementation of new rangeland improvement projects, roads, and vegetation rehabilitation projects, mining, etc), widespread or landscape-level human-caused change on BLM-administered lands typically occurs much slower than rapidly developing rural or urban areas. The mere passage of time is not, in and of itself, a significant or critical factor defining the need to update or maintain an inventory. The critical question to be answered is "what has changed since the last inventory"?

During the Lakeview RMP planning effort, the BLM ID team considered the need to update its wilderness inventory, but was not aware of any major changes to the public lands within the Lakeview Resource Area that had occurred since the inventory was completed in 1991 that would warrant a complete wilderness re-inventory or a need to update its wilderness inventory for all public lands within the planning area. For this reason, the BLM focused its wilderness inventory update efforts on newly acquired lands, as those lands had not been previously inventoried for wilderness characteristics (see Appendix J4, BLM 2001c).

Resource Data Development and Maintenance

The BLM has maintained or updated its information or datasets on resource conditions and man-made disturbances/developments in response to changes on the landscape since 1991 that are relevant to assessing the key factors of wilderness character described above. Beginning in 1996, the BLM staff started developing a digital geographic information system (GIS) database in anticipation of initiating the Lakeview RMP. The database included a large number of individual, resource-specific datasets that were used for the creation of maps, development of management alternatives, and impact analyses contained in the Draft and Final RMP/EIS documents. These datasets included:

a) Roads from the ground transportation (GTRN) and Facility Asset Management System (FAMS)
b) Fences from the grazing allotment and pasture boundaries (GRA)
c) Wilderness Study Area (WSA) boundaries
d) Big game habitat
e) Raptor habitat
f) Sagegrouse habitat and lek site locations
g) Pygmy rabbit habitat
h) Water developments (man-made reservoirs, waterholes, wells, water troughs, pipelines, and wildlife guzzlers)
i) Rangeland Improvement Project System (RIPS)
j) Utility Corridors
k) Rock pits and other mining disturbances
l) Wilderness inventory unit boundaries from 1980
m) Non-native seedings and other vegetation treatments
n) Land ownership (LLI)
o) Cattleguards and gates

Since the RMP was completed in 2003, many of the above datasets have continued to be updated and maintained to support RMP implementation. An individual metadata record has been created for each of these datasets which documents when the data was collected, how it was collected, who collected it, what kind of attributes are associated with it, what format and projection the data is

stored in, and when it was last updated. One *must* review the metadata for each dataset in order to fully understand the data. Further, this metadata is considered an integral part of the administrative record for both the road analysis and wilderness character determination processes.

New Information

In April 2005, the Oregon Natural Desert Association (ONDA) provided the BLM with an inventory report containing numerous proposed new wilderness areas, based on information their staff or members had collected in 2004 (ONDA 2005). The document also contained maps, photos, and photo logs. ONDA submitted two supplemental sets of digital photos and photo logs in 2007 regarding two specific wilderness proposals.

Current Wilderness Inventory Guidance

The WO IM No. 2003-275, change 1 (BLM 2003d) and *Land Use Planning Handbook H-1601-1* (BLM 2005) describe the current policy on how the BLM is to address new citizen wilderness inventory information and provide some criteria to use when reviewing new information during the land use planning process. In addition, the Oregon/Washington State Office, BLM has issued draft guidance on how to maintain its wilderness inventory under Section 201 of FLPMA (BLM 2007).

Road Inventory Maintenance

Since roads form the majority of wilderness inventory unit boundaries, it is important to understand how the BLM's road and transportation network data was originally created and how it continues to be maintained on an on-going basis. Currently, the Lakeview Resource Area has about 2,500 miles of roads identified for active management within its transportation plan network. Another 2,500 miles of roads, trails, and other routes are estimated to exist that are not contained within the transportation plan (BLM 2003a).

Transportation system planning data (ie. road number, road name, road class, number of lanes, surface type, surface condition, etc.) were originally gathered by the BLM from field survey work. Road attribute data were originally entered into the Facility Information Management Systems (FIMS) database in the early-1990's. Road linework was originally captured in GIS from 7.5 minute topographical maps by the U.S. Geological Survey (USGS). The USGS digitized road lines from these maps and made the data available to other federal agencies in Oregon beginning in the mid-1990's.

In 1999, the Oregon/Washington State Office, BLM GIS staff took a copy of the USGS digital road dataset for Oregon and added a series of additional attributes to create a new corporate, state-wide GIS theme called ground transportation (GTRN). In 2001, the GTRN theme for the Lakeview Resource Area was updated with road numbers from existing transportation plan maps. Other attribute fields were subsequently populated by linking directly to the FIMS database (using the road number as the link field) and copying over other attribute values from FIMS.

Since 2001, the BLM has been updating its road datasets at multiple levels. In 2003, at the national level, the FIMS transportation data was moved into a new database called the Facility Asset Management System (FAMS) which contains data on all of BLM's facilities.

In 2005, the Oregon/Washington State Office BLM updated the majority of the road linework and attributes within GTRN for Lake and Harney Counties as part of the "Oregon All Roads" project which was funded by the State of Oregon. This update was based on newer digital ortho photography. However, this effort relied on the field office to verify the accuracy of the updates.

At about the same time, the Lakeview Resource Area, BLM initiated a comprehensive update of the GTRN data layer. This update process compared existing road lines within GTRN with recent (1994, 2000, 2003, and 2005) rectified digital orthophoto quads (DOQs) of the Lakeview Resource Area. The DOQs and the road linework were viewed on a computer screen using GIS software technology. BLM staff digitized many potential new road lines using the DOQs as a backdrop and a "heads-up" digitizing process. BLM staff also noted locations where existing road lines were not visible on the DOQ. The BLM then created field maps and went to the field to verify the presence, surface type, and overall condition of each route. In addition, the field inventory was used to document the presence or absence of evidence of past mechanical maintenance or improvements. Photos were taken in various locations to supplement the photos provided by ONDA. The field inventory results were recorded on field maps or, in some cases, were collected using global positioning system (GPS) technology. This field data (both linework and attributes) were then used to update the GTRN dataset. As of summer 2008, approximately 60% of the GTRN dataset has been updated for the Lakeview Resource Area.

The Washington Office has also commissioned a condition assessment study for all roads in the transportation system (ie. FAMS database) with a maintenance Level of 3, 4, or 5. Between 2005 and 2007, approximately 60% of these roads in the Lakeview Resource Area had detailed condition assessments completed in the field and the results entered into the FAMS database. This updated FAMS attribute data has been automatically linked to the lines stored in GTRN on a weekly basis.

All roads that are part of the official transportation plan have been entered into the FAMS and GTRN datasets. Those routes that are currently not part of the transportation plan are contained only in the GTRN dataset.

Wilderness Inventory or Evaluation Process

In conducting the current wilderness evaluation, the Lakeview Resource Area, BLM followed the existing draft guidance for maintaining its wilderness inventory (BLM 2007). An inter-disciplinary (ID) team reviewed the resource data described above to determine if additional data inventory or update was needed prior to conducting each individual wilderness evaluation. If data updates were determined to be necessary, they were completed prior to completing the evaluation. In addition, the ID team reviewed the existing wilderness inventory information contained in the BLM's wilderness inventory files, previously published inventory findings (BLM 1979e; 1980), ONDA's wilderness information (document, maps, photos, and photo logs), and collected additional information where needed. In many instances, BLM staff took additional photos of field conditions to supplement the photos provided by ONDA.

Unit Boundary Determination Process

At the beginning of the evaluation process for a given area, the ID team identified routes within and outside of the evaluation area that, based upon field knowledge and professional opinion, they believed would likely meet wilderness road criteria. A route analysis was conducted for

each of these routes. This analysis is documented in both meeting notes and road analysis forms contained in the wilderness evaluation files. Most of the routes determined to be roads through this process are part of BLM's current transportation system identified within the FAMS and GTRN databases. This means they have a specific purpose, an assigned road number, an assigned maintenance level, and a condition class rating.

Historically, most of the routes in the Lakeview Resource Area (whether in the transportation plan or not) were originally created, at a minimum, by mechanically blading or grading to remove existing vegetation and push large rocks off to the side of the route. Many of these existing routes were created specifically to access areas where range improvement projects (ie. fences, waterholes, wells, pipelines, etc.) were subsequently constructed. This resulted in the creation of a relatively straight, vegetation-free, natural surface with small berms along portions of these roads. In some locations, roads were constructed to a higher standard and have additional features such as drainage ditches, culverts, and distinct side cuts traversing up hillsides. The exact creation date for many of these roads is not known, but is frequently tied to the construction date of range improvement projects in the area. Construction dates for range improvements are stored separately in the BLM's Rangeland Improvement Project System (RIPS) database.

Maintenance records for most routes in the resource area do not exist prior to 1990. It is likely that most routes have had only minor maintenance (i.e. spot rocking), have not needed maintenance, or have simply not been maintained for other reasons since the time they were originally constructed. As a result, some constructed routes have some herbaceous and/or short, shrubby vegetation growing in the route median. The presence of this vegetation does not, in and of itself, indicate a lack of use or otherwise make the route impassable to vehicles.

Some routes in the resource area have been created solely by vehicles driving off-road and creating "two-tracks" where the vehicles have crushed the vegetation in the wheel tracks, but relatively tall vegetation remains in the median. It can be very difficult to tell a "two-track" from a route that was originally constructed and has not recently been maintained based solely on the presence of vegetation in the median.

For this reason, the BLM ID team documented the presence or absence of mechanical construction (paving, blading, gravel, roadside berms, and cut and fill), improvements (culverts, stream crossings, bridges, gates, cattleguards, drainage features, and barriers), and recent maintenance on the road analysis forms based on recent field visits or professional knowledge of the route. Some of these features are documented in the photos taken along a given route.

Many of the interior routes not identified as boundary roads may have also been mechanically improved or maintained at some point in the past and may be maintained in the future as needed. Most are in a useable condition by two-wheeled drive high clearance vehicles, but during the field review, relatively regular use was not as evident and other supporting information about their use was not identified in the field or in the ID-team meetings, so they were not identified as boundary roads.

Routes that were determined to meet the wilderness inventory definition of a road were used, along with developed rights-of-way associated with utility lines/corridors and major highways, and non-federal ownership boundaries, to define the boundaries for units that were subsequently evaluated for wilderness characteristics by the ID team.

Wilderness Character Evaluation

Following the determination of unit boundaries described in the preceding section, the ID team then evaluated a given unit to determine if the area met all of the wilderness character criteria of:

a) Size - at least 5,000 contiguous roadless acres of public land.
b) Naturalness - the imprint of man's work must be substantially unnoticeable.
c) An outstanding opportunity for solitude or an outstanding opportunity for primitive and unconfined type of recreation must exist.

All three criteria have to be met in order for an area to have wilderness character (BLM 2007). If an area is determined to meet all of the criteria, then supplemental values were also documented.

This evaluation for each unit is documented in both ID team meeting notes and in individual wilderness character writeups (Forms 1 and 2) prepared for each unit. This documentation is contained in the wilderness inventory files.

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