Appendix 1--Fundamentals of Rangeland Health

(excerpted from "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington" (1997))

The objectives of the rangeland health regulations are: "to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions; . . . and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands."

To help meet these objectives, the regulations on rangeland health identify fundamental principles providing direction to the States, Districts, and on-the-ground public land managers and users in the management and use of rangeland ecosystems.

A hierarchy, or order, of ecological function and process exists within each ecosystem. The rangeland ecosystem consists of four primary, interactive components: a physical component, a biological component, a social component, and an economic component. This perspective implies that the physical function of an ecosystem supports the biological health, diversity and productivity of that system. In turn, the interaction of the physical and biological components of the ecosystem provides the basic needs of
society and supports economic use and potential.

The Fundamentals of Rangeland Health stated in 43 CFR 4180 are:

> 1. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity and the timing and duration of flow.
>
> 2. Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
>
> 3. Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established Bureau of Land Management objectives such as meeting wildlife needs.
>
> 4. Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal candidate and other special status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health with elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the standards for rangeland health.

Appendix 2--OR/WA BLM Standards and Indicators for Rangeland Health

Standard 1 Watershed Function – Uplands

Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate and landform.

Rationale and Intent

This standard focuses on the basic physical functions of upland soils that support plant growth, the maintenance or development of plant populations and communities, and promote dependable flows of quality water from the watershed.

To achieve and sustain rangeland health, watersheds must function properly. Watersheds consist of three principle components: the uplands, riparian/wetland areas and the aquatic zone. This standard addresses the upland component of the watershed. When functioning properly, within its potential, a watershed captures, stores and safely releases the moisture associated with normal precipitation events (equal to or less than the 25 year, 5 hour event) that falls within its boundaries. Uplands make up the largest part of the watershed and are where most of the moisture received during precipitation events is captured and stored.

While all watersheds consist of similar components and processes, each is unique in its individual makeup. Each watershed displays its own pattern of landform and soil, its unique climate and weather patterns, and its own history of use and current condition. In directing management toward achieving this standard, it is essential to treat each unit of the landscape (soil, ecological site, and watershed) according to its own capability and how it fits with both smaller and larger units of the landscape.

A set of potential indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The appropriate indicators to be used in determining attainment of the standard should be drawn from the following list.

Potential Indicators

Protection of the soil surface from raindrop impact; detention of overland flow; maintenance of infiltration and permeability, and protection of the soil surface from erosion, consistent with the potential/capability of the site, as evidenced by the:

- amount and distribution of plant cover (including forest canopy cover);
- amount and distribution of plant litter;
- accumulation/incorporation of organic matter;
- amount and distribution of bare ground;
- amount and distribution of rock, stone, and gravel;
- plant composition and community structure;
- thickness and continuity of A horizon;
- character of microrelief;

- presence and integrity of biotic crusts;
- root occupancy of the soil profile;
- biological activity (plant, animal, and insect); and
- absence of accelerated erosion and overland flow.

Soil and plant conditions promote moisture storage as evidenced by:

- amount and distribution of plant cover (including forest canopy cover);
- amount and distribution of plant litter;
- plant composition and community structure; and
- accumulation/incorporation of organic matter.

Standard 2 Watershed Function - Riparian/Wetland Areas

Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Rationale and Intent

Riparian-wetland areas are grouped into two major categories: 1. lentic, or standing water systems such as lakes, ponds, seeps, bogs, and meadows; and 2. lotic, or moving water systems such as rivers, streams, and springs. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Riparian areas commonly occupy the transition zone between the uplands and surface water bodies (the aquatic zone) or permanently saturated wetlands.

Properly functioning condition of riparian and wetland areas describes the degree of physical function of these components of the watershed. Their functionality is important to water quality in the capture and retention of sediment and debris, the detention and detoxification of pollutants, and in moderating seasonal extremes of water temperature. Properly functioning riparian areas and wetlands enhance the timing and duration of streamflow through dissipation of flood energy, improved bank storage, and ground water recharge. Properly functioning condition should not be confused with the Desired Plant Community (DPC) or the Desired Future Condition (DFC) since, in most cases, it is the precursor to these levels of resource condition and is required for their attainment.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The criteria are based upon the potential (or upon the capability where potential cannot be achieved) of individual sites or land forms.

Potential Indicators

Hydrologic, vegetative, and erosional/depositional processes interact in supporting physical function, consistent with the potential or capability of the site, as evidenced by:

- frequency of floodplain/wetland inundation;
- plant composition, age class distribution, and community structure;
- root mass;
- point bars revegetating;
- streambank/shoreline stability;
- riparian area width;
- sediment deposition;
- active/stable beaver dams;
- coarse/large woody debris;
- upland watershed conditions;
- frequency/duration of soil saturation; and
- water table fluctuation.

Stream channel characteristics are appropriate for landscape position as evidenced by:

- channel width/depth ratio;
- channel sinuosity;
- gradient;
- rocks and coarse and/or large woody debris;
- overhanging banks;
- pool/riffle ratio;
- pool size and frequency; and
- stream embeddedness.

Standard 3 Watershed Function - Ecological Processes

Healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.

Rationale and Intent

This standard addresses the ecological processes of energy flow and nutrient cycling as influenced by existing and desired plant and animal communities without establishing the kinds, amounts or proportions of plant and animal community compositions. While emphasis may be on native species, an ecological site may be capable of supporting a number of different native and introduced plant and animal populations and communities while meeting this standard. This standard also addresses the hydrologic cycle which is essential for plant growth and appropriate levels of energy flow and nutrient cycling. Standards 1 and 2 address the watershed aspects of the hydrologic cycle.

With few exceptions, all life on earth is supported by the energy supplied by the sun and captured by plants in the process of photosynthesis. This energy enters the food chain when plants are consumed by insects and herbivores and passes upward through the food chain to the carnivores. Eventually, the energy reaches the decomposers and is released as the thermal output of decomposition or through

oxidation.

The ability of plants to capture sunlight energy, to grow and develop, to play a role in soil development and watershed function, to provide habitat for wildlife and to support economic uses depends on the availability of nutrients and moisture. Nutrients necessary for plant growth are made available to plants through the decomposition and metabolization of organic matter by insects, bacteria and fungi, the weathering of rocks and extraction from the atmosphere. Nutrients are transported through the soil by plant uptake, leaching and by rodent, insect and microbial activity. They follow cyclical patterns as they are used and reused by living organisms.

The ability of rangelands to supply resources and satisfy social and economic needs depends on the buildup and cycling of nutrients over time. Interrupting or slowing nutrient cycling can lead to site degradation, as these lands become increasingly deficient in the nutrients plants require.

Some plant communities, because of past use, frequent fire or other histories of extreme or continued disturbance, are incapable of meeting this standard. For example, shallow-rooted winter-annual grasses that completely dominate some sites do not fully occupy the potential rooting depth of some soils, thereby reducing nutrient cycling well below optimum levels. In addition, these plants have a relatively short growth period and thus capture less sunlight than more diverse plant communities. Plant communities like those cited in this example are considered to have crossed the threshold of recovery and often require great expense to be recovered. The cost of recovery must be weighed against the site's potential ecological/economic value in establishing treatment priorities.

The role of fire in natural ecosystems should be considered, whether it acts as a primary driver or only as one of many factors. It may play a significant role in both nutrient cycling and energy flows.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met.

Potential Indicators

Photosynthesis is effectively occurring throughout the potential growing season, consistent with the potential/capability of the site, as evidenced by plant composition and community structure.

Nutrient cycling is occurring effectively, consistent with the potential/capability of the site, as evidenced by:

- plant composition and community structure;
- accumulation, distribution, incorporation of plant litter and organic matter into the soil;
- animal community structure and composition;
- root occupancy in the soil profile; and
- biological activity including plant growth, herbivory, and rodent, insect and

- microbial activity.

Standard 4 Water Quality

Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

Rationale and Intent

The quality of the water yielded by a watershed is determined by the physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, the uses to which the land is put and the quality of the management of those uses. Standards 1, 2 and 3 contribute to attaining this standard.

States are legally required to establish water quality standards and Federal land management agencies are to comply with those standards. In mixed ownership watersheds, agencies, like any other land owners, have limited influence on the quality of the water yielded by the watershed. The actions taken by the agency will contribute to meeting State water quality standards during the period that water crosses agency administered holdings.

Potential Indicators

- Water quality meets applicable water quality standards as evidenced by:
- water temperature;
- dissolved oxygen;
- fecal coliform;
- turbidity;
- pH;
- populations of aquatic organisms; and
- effects on beneficial uses (i.e., effects of management activities on beneficial uses as defined under the Clean Water Act and State implementing regulations).

Standard 5 Native, T&E, and Locally Important Species

Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.

Rationale and Intent

Federal agencies are mandated to protect threatened and endangered species and will take appropriate action to avoid the listing of any species. This standard focuses on retaining and restoring native plant and animal (including fish) species, populations and communities (including threatened, endangered and other special status species and species of local importance). In meeting the standard, native plant communities and animal habitats would be spatially distributed across the landscape with a density and

frequency of species suitable to ensure reproductive capability and sustainability. Plant populations and communities would exhibit a range of age classes necessary to sustain recruitment and mortality fluctuations.

Potential Indicators
Essential habitat elements for species, populations and communities are present and available, consistent with the potential/capability of the landscape, as evidenced by:

- plant community composition, age class distribution, productivity;
- animal community composition, productivity;
- habitat elements;
- spatial distribution of habitat;
- habitat connectivity;
- population stability/resilience.

Appendix 3--Ecosystem Management
(SEORMP-FEIS, Chapter 3, pages 141-151)

Ecosystem management can be viewed as hierarchical and occurring at multiple levels. The basic planning levels are (1) the broad scale or regional perspective depicted by the Interior Columbia Basin Ecosystem Management Project (ICBEMP); (2) the mid scale which can be the size of a resource area or several resource areas and is the scale analyzed in the Southeast Oregon Resource Management Plan/ Environmental Impact Statement (SEORMP/EIS), and (3) the fine scale which can be the size of pastures, allotments, watersheds, subwatersheds, subbasins, or other geographic subunits and is at the level of activity plans such as allotment management plans (AMP's), habitat management plans (HMP's), Water Quality Management Plans (WQMP's), or other integrated activity plans for geographic units. At each level of planning, implementation is periodically adjusted as management is adapted to changing conditions, circumstances, and new information.

Monitoring and evaluations need to follow the same pattern, answering questions and measuring trends at the various levels. Certain issues and activities within the area can have effects at the broadest level, such as activities that affect air quality, noxious weeds, or wide-ranging species. Other issues or activities, such as forest health, western juniper encroachment, and species endemism, operate within smaller geographic areas. Still other issues or activities are mostly of local concern, such as access management and municipal watersheds. Monitoring strategies need to recognize this hierarchy and provide for data collection and evaluation at the appropriate levels.

Broad Scale
The ICBEMP scientific assessment is a regional level or broad-scale assessment. It covers public land in the RMP planning area of southeast Oregon as well as other lands in eastern Oregon, eastern Washington, Idaho, and parts of Montana. The scientific assessment was used as a context for land use and resource management analysis at lower levels of planning.

ICBEMP has developed an ecosystem analysis process to characterize human and ecological features, conditions, process, and interactions within a geographic area. A program would be developed that would allow information gathered locally to be compiled and analyzed to answer broad regional questions and use regional level assessments to better address broad-scale questions. The analysis would be intended to help estimate direct, indirect, and cumulative effects of management activities and guide the general type, location, and sequence of appropriate management activities within a regional area.

Mid Scale
The step-down from the ICBEMP scientific assessment is the SEORMP. The SEORMP is the mid-scale plan which links broad-scale scientific assessments with plan implementation at the activity level (fine-scale). It covers JRA and Malheur Resource Area (MRA) of the Vale BLM District. The proposed SEORMP/FEIS is consistent with those scientific and management philosophies developed in the ICBEMP.

The record of decision (ROD) for each resource area would include management objectives and priorities for management. Implementation of the RMP would be monitored on a continual basis to allow up-to-date response to changing conditions. Management actions arising from activity plan decisions would be evaluated to ensure consistency with SEORMP/FEIS objectives.

The SEORMP/EIS starts the step-down process by initiating (1) the collaboration and scoping process,

(2) validation of the ICBEMP scientific assessment, (3) prioritization of fine-scale areas for review or assessment and evaluation, and (4) data gap identification. This process is designed to ensure that broad-scale analysis is viewed and validated within the context of local conditions, and it ensures that local decisions are made within the context of broad-scale goals and objectives. This is accomplished by using the best available information from multiple-scale assessments to provide a comprehensive basis for sustainable ecosystem management.

Fine Scale

The step-down from PSEORMP/FEIS to the fine scale is the GMA assessment, evaluation, and planning. The GMA's (Table 3-2; Map GMA-1) that would be assessed and evaluated vary in size depending upon watersheds, issues, concerns, dependent resources, resource potentials and capabilities that are reviewed by interdisciplinary teams in each resource area in consultation with the interested public and affected land users. GMA's and their priority for assessment and evaluation were derived primarily from a combination of subbasin and allotment boundaries based on a variety of issues including the following:

- legal mandates ("Clean Water Act"[CWA], ESA, and others);
- priorities established in existing land use plans;
- resources at risk;
- potential for recovery;
- resource conflicts or controversy;
- opportunity for interagency or partnership assessments;
- field staff knowledge of the area; and
- current ongoing management.

This preliminary prioritization and scoping process was presented to and approved by the Southeast Oregon Resource Advisory Council (SEORAC) before inclusion in the SEORMP. It was also sent to the interested public, local, state and Federal agencies, and tribes for comment. Periodic validation of issues is an important part of fine-scale assessments and evaluations. The schedule for completion of GMA evaluations would be reviewed annually to determine if there have been any changes in resource issues, BLM policies, regulations, law or other concerns that would warrant a change in the priorities for each resource area. It is anticipated that management actions implemented in each GMA would be evaluated at least once every ten years by an interdisciplinary team. Based on recommendations of those evaluations, current activity plans within each GMA would be revised or rewritten as necessary to ensure consistency with RMP objectives. Work would focus on higher priority areas; however, other areas may require interim attention to address site-specific needs.

Consultation and collaboration with interested public, affected land users, other agencies, counties, Tribes, and others is an important part of the process to help identify issues and to bring together all the existing information concerning a given area. Information assembled during the assessment would be evaluated to determine appropriate management actions at the fine scale. These evaluations would be done using an ecosystem analysis process that looks at human and ecological features, conditions, processes, and interactions. The evaluation process would also involve consultation and collaboration with affected parties. It is during this time that priorities for actions regarding restoration, conservation, or other management actions would be discussed.

The end result of the GMA evaluation process would be the development of recommendations for future actions affecting the management of resources and uses in the GMA. Recommendations on management changes may be implemented through activity plans, management agreements, or direct decisions and would depend on the complexity of issues.

Appendix 4--Adaptive Management

(SEORMP-FEIS, Chapter 3, pages 149-151)

The proposed SEORMP/FEIS is based on adaptive management, which is a continuing process of planning, implementation, monitoring, and evaluation, to adjust management strategies to meet goals and objectives of ecosystem management. The concept of adaptive management uses the latest scientific information, site-specific information/data, and professional judgment to select the management strategy most likely to meet goals and objectives. The concept also acknowledges the need to manage resources under varying degrees of uncertainty as well as the need to adjust to new information. Through continually adjusting management strategies as needed, supported by monitoring or additional information, adaptive management would result in attainment of short- and long-term trend toward meeting objectives. Adaptive management provides the capability to respond quickly to monitoring data with consideration given to past season monitoring or preseason conditions. It also allows changes needed to meet long-term objectives of the RMP including direction from the "Wild and Scenic Rivers Act" (WSRA), ESA, CWA, and "Standards of Rangeland Health and Guidelines for Livestock Grazing Management" (S&G's).

Although there is widespread support for the adaptive management principle and process, many critics lack confidence in the Bureau's ability to implement management based on this process. Thus, it is imperative that the each part of the cyclical process be implemented on schedule or as new data become available to ensure that appropriate management of public land resources is implemented. To ensure timely step-wise progression through the adaptive management process, GMA's would be used to prioritize available funding. The detail, methodology, and intensity of studies chosen for a particular area would be determined by the nature and severity of the resource conflicts present in that area. As a result, a flexible monitoring plan is required to periodically change priorities and monitoring intensity, based on significant changes that indicate a need for more information.

The following briefly describes the four parts of adaptive management:

1) *Planning/Decision*—Plan development or revision is the process which includes decision-making. It starts with issue identification and goal development. The next step is to gather information necessary to develop alternatives for management direction that address the issues and goals. The final stage of planning is to develop alternative management strategies to address issues and meet the management goals and objectives, analyze the consequences of the alternatives, and choose a management strategy and actions for implementation.

2) *Implementation*—Plan implementation is the process of putting decisions into effect. Objectives are defined as indicators used to measure progress toward attainment of goals. They address short- and long-term actions taken to meet goals and the DRFC. Unless otherwise stated, all objectives listed in the RMP are assumed to be implemented within the life of the plan.

3) *Monitoring*— Monitoring is the orderly collection, analysis, and interpretation of resource data utilized to evaluate progress in meeting management objectives. Inventories and surveys are integral parts of monitoring and would be initiated as need is defined. Information gathered in the inventory and survey process form a baseline from which trends can be measured.

Monitoring efforts provide information to: (1) determine if planned activities have been implemented; (2) detect magnitude and duration of change in conditions and trends; (3) increase understanding of cause and

effect relationships; (4) predict impacts; and (5) assess whether S&G's are being met. If monitoring studies indicate that objectives are not being met, or that progress is not being made toward meeting the S&G's, management actions would be adjusted accordingly (see Appendix Q). The specific type and location of studies instituted would be more specifically identified within individual activity plans.

Methods of monitoring are briefly identified for each program in the narrative of Chapter 3 and expanded in Appendix W, Monitoring. Monitoring methods in some programs are not expanded in the monitoring appendix since they are not key components of rangeland health assessments. At times, data pertinent to these programs are essential on a site-specific basis (e.g., cultural, mining, social/economic values) and can be a part of the evaluation based on the situation. Methodology and intensity of studies that are chosen for a particular area or scale would be determined by the nature and severity of the resource conflicts that are present.

For monitoring data to be meaningful and useful over time, there must be consistency in the kinds and manner in which data are collected. However, a need for changes in sampling may occasionally arise when problems are detected. This could be during a review of the data collected, when analyzing and interpreting the data, or when conducting an assessment or evaluation.

4) *Evaluation/Assessment*— Analysis and interpretation of inventory and monitoring data are central to identifying progress in meeting resource management objectives outlined in the RMP and activity plans. There are three aspects of evaluation/assessment. The first is evaluation of whether planned actions have been implemented. The second is evaluation of the resource-specific information/data to determine whether identified management objectives are being accomplished. The third aspect is the evaluation of plans to determine whether identified management objectives and management actions remain appropriate to public desires or if plans need to be revised or amended.

The analysis and interpretation of inventory and monitoring data are critical in the evaluation of management actions in order to determine progress in meeting resource management objectives outlined in the plan. Since management adjustments may be needed periodically, a continual feedback loop based on new information would allow for mid-course corrections at time intervals appropriate to the systems, processes, and functions analyzed.

The final stage of evaluation is the development of recommendations for changing current management actions, as needed, to meet objectives and ecosystem management goals. Adjustments should be related to implementation of activity plan objectives, standards and guidelines, and monitoring needs. Recommendations should be used to modify land use plans, if needed, thus continuing the adaptive management cycle.

Appendix 5 –Riparian / Wetland Areas and Assessment Methods

Riparian Assessment Methods

The quality of riparian productivity and diversity has been evaluated using two methods. One method, *long-term trend*, assesses riparian health conditions over two or more points in time. The second method, *Proper Functioning Condition* (PFC), assesses condition of riparian function, which is a result of interactions between geology, soil, water, and vegetation (BLM Tech. Ref. 1737-9). In general, both assessment methods address physical as well as biological attributes and their interrelationships. These attributes include the abundance, structure, and diversity of riparian vegetation and the stability of streambanks.

Proper Functioning Condition Criteria
In response to growing concern over the integrity of ecological processes in many riparian and wetland areas, the BLM Director in 1991 approved the "Riparian-Wetland Initiative for the 1990's," establishing national goals and objectives for managing riparian/wetland resources on land administered by the BLM. The initiative's goals were to restore and maintain existing riparian/wetland areas so that 75 percent or more were in proper functioning condition by 1997, and to provide the widest variety of habitat diversity for wildlife, fish, and watershed protection. Subsequently, the BLM established a definition of PFC and a methodology for its assessment. The BLM has adopted PFC assessment as a standard for evaluating riparian areas and will use it to supplement existing stream channel and riparian evaluations and assessments.

PFC can be defined separately for *lotic* and *lentic* waters, as follows:

> *Lotic waters:* running water habitat, such as rivers, streams, and springs (BLM Tech. Ref.1737-9 and -15)

Lotic riparian areas are in *proper functioning condition* when adequate vegetation, landform, or large woody debris is present to:

- dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality;
- filter sediment, capture bedload, and aid floodplain development;
- improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action;
- develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration and temperature necessary for fish production, waterfowl breeding, and other uses; and
- support greater biodiversity.

Lentic waters: standing water habitat, such as lakes, ponds, seeps, bogs, and meadows (BLM Tech.l Ref. 1737-11 and -16).

Lentic riparian/wetland areas are functioning properly when adequate vegetation, landform, or debris is present to:

- dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality;
- filter sediment and aid flood plain development;
- improve flood water retention and groundwater recharge;
- develop root masses that stabilize islands and shoreline features against cutting action;
- restrict water percolation;
- develop diverse ponding characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and
- support greater biodiversity.

Because the functioning condition of riparian/wetland areas is a result of interaction of geology, soil, water, and vegetation, the process of assessing whether or not a riparian/wetland area is functioning properly requires an interdisciplinary team, including specialists in vegetation, soils, and hydrology. The team also requires biologists because of the fish and wildlife values associated with riparian/wetland areas. Because of unique attributes of individual riparian areas, site-specific and on-site assessments are necessary.

Riparian/wetland areas are classified as *functioning-at-risk* when they are in functioning condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation. These areas are further distinguished based on whether or not they demonstrate an *upward*, *not apparent*, or *downward* trend. PFC trend (apparent trend) should not be confused with long-term trend (see "Long-term Trend Data", below). PFC trend may incorporate long-term trend data if long-term trend was established prior to the PFC assessment. If long-term trend data are not available, then the Interdisciplinary Team must decide whether evidence exists at the site suggesting a trend in riparian condition. Evidence that supports an "apparent" upward trend determination includes presence of multiple age-classes of vegetation with reproduction. An apparent downward trend determination could be made where active channel downcutting or headcutting exist. Where stream reaches do not show strong apparent trend indicators the team will usually make a *trend not apparent* decision.

Riparian/wetland areas are classified as *nonfunctioning* when they clearly are not providing adequate riparian vegetation, physical structure, or large woody debris to dissipate stream energy associated with high flows. The absence of a particular physical attribute, such as a floodplain,

is also an indicator of nonfunctioning condition.

Riparian/wetland areas will function properly long before they achieve an advanced ecological status. The range between PFC and an area's biological potential then becomes the "decision space" for social, economic, and other resource considerations. Until PFC is attained, management priorities and options focus on reaching this threshold. Areas that meet PFC will be managed to assure a continuation of this condition and possibly for advanced ecological status.

Long-term Trend Data and Methods

Resource area specialists also evaluate riparian/wetland areas on the basis of trend information gathered from field studies. Trend is determined by collecting resource information at a given location at least two different times, then evaluating any changes over time. A variety of field study methods can be used to determine trend in riparian/wetlands (Table 8, Riparian Trend Indicators), including low-level infrared and true color imagery, line intercept vegetation transects, photo points, and aquatic invertebrate samples. When conducting trend studies site-specific resource values and watershed characteristics are used to design monitoring that is appropriate for each riparian area.

Trend evaluations factor in a site's *potential natural community,* the stable biotic community that would become established on an ecological site if all successional stages were completed without human disturbance under present environmental conditions. The potential of a site can vary with the location of the riparian area within the watershed. Several information sources are used to assess site potential.

Specific regional site-guides for determining potential natural communities have not been developed for riparian/wetland areas in southeastern Oregon. However, the BLM currently uses data collected at relatively pristine riparian "reference" areas to predict the potential natural community to be expected at a given site. These reference areas include riparian exclosures that have been in place since the 1970's and 1980's in the nearby Trout Creek and Oregon Canyon Mountains. When comparing plant communities from "reference" streams to those at an assessment site, allowances must be made for differences in flow duration, elevation, aspect, gradient, parent material, and adjacent channel conditions. Specialist and interdisciplinary teams have evaluated plant community composition in several reference sites to estimate potential for assessment sites in geographically associated streams. Additional information on riparian site potentials has been obtained from stream monitoring and study sites in allotments and pastures where livestock grazing practices were adjusted to meet objectives developed for riparian/wetland restoration. For example, an upward trend for herbaceous species (grasses, forbs, sedges, and rushes) is present when an increase in herbaceous cover is observed or when plant species composition changes from early-successional toward late-successional species.

Ecological Status of Riparian Vegetation and Proper Function Condition

Ecological status is the present state of vegetation of a range site in relation to the potential natural community for that site. One of the main goals of the BLM is to have riparian/wetland areas in proper functioning condition (PFC), and an overall objective of this goal is to achieve an advanced ecological status, except where resource management objectives, including PFC,

would require an earlier successional stage. This objective would provide the widest variety of vegetation and habitat diversity for wildlife, fish, and watershed protection.

When evaluating riparian/wetland areas, ecological status should not be confused with PFC. Riparian/wetland areas must be viewed with the understanding that the riparian system is inherently dynamic and PFC can and will occur within any or all ecological stages. PFC is evaluated in terms of, and relationships to, all physical and biological functions occurring within the entire watershed, including the uplands and tributary watershed systems.

To comprehend how riparian/wetland areas operate and how management practices are implemented to ensure that an area is functioning properly, the capability and potential of a riparian/wetland area must be understood. Assessment of existing riparian vegetation condition and stream channel functionality is based upon a given riparian/wetland area's capability and potential. Here, *capability* is the highest ecological status a riparian/wetland area can attain given political, social, or economical constraints, whereas *potential* is the highest ecological status a riparian/wetland area can attain given no political, social, or economical constraints, often referred to as the potential natural community (see "Long-term Trend Data and Methods", above). Some riparian/wetland areas may be prevented from achieving their potential because of limiting factors such as human activities that alter the area's capability.

BLM depicts natural riparian/wetland areas as resources whose capability and potential is defined by the interaction of three components: (1) vegetation, (2) landform/soils, and (3) hydrology, while the functioning condition of these natural riparian/wetland areas are characterized by the interaction of these elements.

In the past, considerable effort has been expended to inventory, classify, restore, enhance, and protect riparian/wetland areas, but the effort has lacked consistency. No single classification, survey, inventory, or rating methods or systems have previously been developed to satisfy the complex interactions of healthy riparian/wetland areas. These areas are in dynamic equilibrium with streamflow forces and channel aggradation/degradation processes producing change with vegetative, geomorphic, and structural resistance. Ecological status determination of riparian/wetland vegetation does not necessarily take into account or address needed information that would be contained within aquatic habitat and stream surveys that is pertinent to the functionality of the riparian/wetland area. This is important because riparian/wetland areas will attain PFC long before they achieve an advanced ecological status.

Management of riparian/wetland areas is implemented to attain PFC as a first step to move habitat conditions of entire watersheds and/or their components that are comprised of uplands, streams, riparian/wetland areas, and lakes and ponds toward achieving terrestrial and aquatic objectives and attainment of Desired Range of Future Conditions (DRFC). Management practices such as grazing, mining, recreation, forest harvesting, and other forms of vegetation management would be designed for healthy sustainable and functional rangeland ecosystems as described in the 1997 "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington" (Appendix B).

To summarize, PFC and ecological site status are two different characteristics of

riparian/wetland systems. A site in any ecological status may be in a proper functioning condition. Riparian/wetland areas should be judged on the functions that it provides compared to functions that should be present in relation to entire watersheds. All riparian/wetland systems should not be expected to have identical physical and biological functions. Riparian/wetland health (functioning condition), an important component of watershed condition, refers to the ecological status of vegetation, the geomorphic and hydrologic development, and the degree of structural integrity exhibited by the riparian/wetland area.

Riparian Management

In the past, many riparian/wetland areas were degraded by uncontrolled uses. Any management activity that disturbs water, soil, or vegetation can potentially degrade riparian areas. Such activities include livestock grazing, road construction, timber harvest, mining, irrigation, and recreation. In addition, activities that are off-site can affect riparian areas by influencing the timing and amount of overland and subsurface flow of water and movement of soils. Some past land use practices have resulted in riparian areas that (1) have inadequate vegetation to protect streambanks from erosion; (2) lack appropriate diverse vegetation that provides habitat for riparian-dependent wildlife species; (3) contain incised channels that do not allow streams to dissipate flood energy and provide water storage; and (4) provide inadequate pools and shade for aquatic species.

Not all potentially disturbing activities are incompatible with riparian area recovery or management, and not all riparian areas are equally susceptible to degradation. For example, livestock management that adjusts the timing and amount of grazing in riparian areas allows for improvement of riparian vegetation and development of streambanks and floodplains. The application of management practices needs to address requirements for vigorous and diverse riparian vegetation. A healthy riparian community can reverse channel degradation and provide habitat for associated wildlife. In some areas where management has been changed, proactive restoration may be required to slow or reverse physical processes causing channel degradation or to initiate natural recovery of a riparian area. Restoration may include activities such as building structures for headcut stabilization or planting cottonwood or willow species when no natural source exists.

Appendix 6
How and Why BLM Terrestrial Wildlife Determinations are Made for TCGMA and Other Geographic Management Areas of Jordan Resource Area

TCGMA rangeland health Determinations for Oregon/Washington Standard 5 terrestrial wildlife habitats are made at the pasture level and based on background information found in Volume 1, Chapter 2, pp 66-90, Proposed SEORMP FEIS and ROD Appendix F.

Big Sagebrush Upland Determinations
Wyoming, basin, and mountain big sagebrush habitat Determinations for Standard 5 are based on two important plant community attributes; (1) shrub canopy capability to support sagebrush dependent species and (2) understory plant composition. Both of these habitat elements offer forage, cover, structure, and habitat security for wildlife.

The most productive and desirable big sagebrush wildlife habitats are comprised of mid to late maturity shrub stands with a complex herbaceous understory comprised of native forbs and grasses (consistent with range site capabilities). However, it is important to recognize that even sagebrush communities with relatively weak native understories will continue to support a number of important wildlife life history requirements. This is because in spite of less than optimal understory conditions, shrublands as defined in the ROD (classes 3,4, and 5) still provide important habitat elements; forage, structure, and cover used for wildlife security, escape, and thermal relief.

This is not to say that BLM desires to attain weakened sagebrush understory conditions. What it does mean, however, is that given the option, a weakened shrub community is preferable to shrub steppe habitats with little or no shrub cover. That contrast is a fundamental premise for shrubland management for wildlife under the SEORMP ROD.

This premise is a highly relevant management issue because Vale BLM is actively pursuing a land treatment program to introduce prescribed fire, control invasive plants, and supply a grass forage base for livestock permittees. And each of these actions can potentially impact wildlife habitat values when they result in loss or disturbance to sagebrush cover. In other words, as BLM pursues these legitimate land treatment and resource management goals, there is risk that such action can further aggravate chronic shrub habitat fragmentation problems for sagebrush steppe wildlife.

By paying close attention to the cumulative impacts of fire and land treatments at multiple spatial scales BLM may substantially avoid the cumulative and unintended consequences of land treatment actions. The way BLM has stated it will accomplish this task has been outlined in the SEORMP ROD, Appendix F.

Why is there so much emphasis in the ROD centered on big sagebrush types?

Big sagebrush habitat management was an important scoping issue in the land use plan and EIS. Big sagebrush range sites are the most abundant habitat type in Malheur County but they have also been subjected to a long history of land treatment actions related to livestock grazing, weed treatment, and fire management activities. Proper management of land treatment and fire related activities in this large habitat matrix has much to do with the ability of wildlife to survive on public land in Malheur County.

Grasslands and shrublands are identified with quantified data and field estimates
The canopy cover values (classes) that separate grasslands from shrublands have been defined with quantitative measures shown on pages F-7 through F-10 of the ROD. Classes 1 and 2 are collectively considered "grasslands" and classes 3, 4, or 5 are collectively considered "shrublands".

The five canopy cover classes are;

- class 1 - 0% sagebrush shrub cover
- class 2 - traces to 5% sagebrush shrub cover
- class 3 - >5% to 15% sagebrush shrub cover
- class 4 - >15% to 25% sagebrush shrub cover)
- class 5 - >25% sagebrush shrub cover

Big sagebrush habitat wildlife suitability Determinations are made on the basis of how much grassland and shrub-land habitat occurs within pastures and how it is distributed spatially. Thus BLM uses pasture level Determinations as building blocks to describe grassland and shrubland distributions within Geographic Management Areas and the Jordan Resource Area as a whole. In doing so, BLM may then determine if land use plan objectives for rangeland vegetation and wildlife are being met. This is done in conjunction with the Standards and Guides Assessment process so that wildlife considerations and management direction is built in to an important BLM program.

Grassland and Shrubland Proportions are an Important Rangeland Indicator
BLM employs this assessment method because from a wildlife habitat standpoint the proportion and arrangement of grassland and shrub-land communities on public land gives a strong indication of how well an area can support sagebrush dependent wildlife. This landscape oriented snapshot of resource conditions speaks directly to OR/WA Standard 5 indicators including ***spatial distribution of habitat***" and ***habitat connectivity*** (page 14, OR/WA Standards and Guides).

Once the existing upland habitat patterns and proportions have been revealed in an Assessment, BLM is then able to conclude in an Evaluation whether SEORMP terrestrial wildlife objectives are being achieved at various scales starting at the pasture and on up to the GMA and Resource Area as a whole.

Managing for target communities of wildlife
One of the important purposes in taking this tack is to help BLM manage very extensive

tracts of sagebrush for the benefit of target communities of wildlife as opposed to single species. Individual species habitat requirements are factored into this process and they cannot be ignored. However, the desired management outcome on public land is focused on a specific ***target community of wildlife*** referred to herein as ***species of management importance***.

Although sage-grouse have high priority for management in this strategy, sagebrush management objectives apply even when sage-grouse are not present. The land use plan direction for this community-based approach to management is found in ROD page 51, Proposed SEORMP FEIS Volume 1, page 161 Rangeland Vegetation Objective 2, and page 167 Wildlife Objective 2.

BLM has published a Technical Note on this management style
The approach and rationale for this assessment method are explained more fully in BLM Technical Note 417 – *Assessing Big Sagebrush at Multiple Spatial Scales (2005).* Information developed through this type of analysis at multiple scales provides additional context that is beneficial in understanding how plans and projects can be developed that meet multiple management objectives, including reducing risks to sensitive or unique resources. This landscape management principle has been well articulated in the *Interior Columbia Basin ecosystem Management Plan* science documents and the *Northwest Forest Plan.* Both of these important Pacific Northwest documents influenced the processes and approach included in the SEORMP.

Why has BLM taken a grassland and shrubland approach to wildlife habitat management?
Jordan Resource Area occupies a very large land base of about 2,587,300 total public land acres (ROD page 4). It is simply not possible or practical to obtain an ongoing, comprehensive inventory of terrestrial wildlife populations and habitat over such a vast area. Thus, managing wildlife habitat suitability in a way tied to grassland and shrub-land associations is a meaningful, measurable, and reasonable management strategy. Further, this approach has already been revealed and analyzed in a final EIS so it carries the full authority of an approved and current land use plan.

The assessment process and "outcome based" nature of prescriptive management that flows from this approach is relatively straightforward and can be understood by BLM permittees and the interested public alike. Clearly, rangeland science and wildlife habitat management really involves much more than simple contrasts of grasslands and shrublands. But the science is often so technical, subject to interpretation, and poorly understood by the general public that it often has limited value in terms of crafting and explaining practical management objectives for wildlife. Grasslands and shrub-lands as defined can be recognized in the field and their distributions can be monitored fairly accurately over time using standard interagency monitoring methods.

Simply stated, grassland habitat and shrub-land habitat can be expected to support very

different suites of terrestrial wildlife due to inherent habitat preferences and life history requirements. And this is precisely why a grassland and shrubland screening process was included in the SEORMP ROD and applicable for doing S&Gs work.

Sagebrush is truly a keystone plant for wildlife in southeastern Oregon. The fact is, when sagebrush shrub cover is removed repeatedly and/or over a sufficiently large area, the composition of resident wildlife communities will change dramatically and often in an adverse manner. That is why the ROD specifies a Desired Range of Future Conditions (DRFC) that considers and protects wildlife shrub values while allowing some opportunity for land treatment options.

Excluding upland meadows, grassland habitats in Jordan Resource Area are always indicative of range sites that have been impacted by disturbance from wildfire or various BLM initiated land treatments.

Land treatment is a contentious BLM action and thresholds of disturbance identified in the ROD help the agency practice adaptive management over time
There is no question that prescribed fire and land treatments have long been a controversial wildlife habitat issue on public lands. And in the absence of some defined and understandable grassland disturbance threshold to help BLM negotiate multiple use decisions, management can and will proceed in an uncertain and contentious climate.

In other words, without some understandable disturbance thresholds tied to more than one scale there can be no clear answer to the question of how much and what kind of treatment disturbance is acceptable (according to a land use plan). The SEORMP provides an answer to these kinds of questions. Adaptive land management in sagebrush steppe without a disturbance threshold will be left to a series of local and independently determined land treatment actions that will likely fail to meet the intent of the ROD or help BLM attain the Desired Range of Future Conditions (DRFC) supported in the SEORMP.

Record of Decision and the DRFC
What is the DRFC and where is it found in the land use plan? And how does the DRFC apply in big sagebrush habitats?

The DRFC for the Southeastern Oregon RMP is defined by three different ROD elements that link together and provide the basis for multiple scale management. It is important to note that the Rangeland Vegetation and Wildlife Habitat objectives in the ROD are consistent with one another regarding the DRFC; they are not independent from one another. They were proposed and analyzed that way intentionally in the FEIS.

The ROD elements are as follows:

- A qualitative and general narrative that “paints a picture” of rangelands and the

multiple use values they should provide (ROD pages 24-27).

- A minimum amount of shrub-land and a maximum amount of grassland for each Resource Area (ROD page *x).* Note on this page that different grassland outcomes were analyzed in the FEIS and a specific decision has been made by BLM.
- Desired Amounts and Arrangements of Sagebrush Habitats within grazing allotment pastures and Geographic Management Areas (ROD page F-5 to F-6).

Maximum Allowable Grassland Thresholds for Jordan Resource Area
The maximum allowable amount of grassland permitted for Jordan Resource Area is an amount ≤ 30% of the land base capable of supporting Wyoming, basin, or mountain big sagebrush. Since about 1,923,695 acres of Jordan Resource Area is comprised of big sagebrush types, 30% of this figure is roughly 577,000 acres. (See Technical Note 417, pages 13-14)

The remaining 1.35 million acres of Jordan Resource Area big sagebrush types should then be comprised of various shrub-land communities. (Note that if and when a new Ecological Site Inventory is completed, these total acre figures may be adjusted to reflect more accurate big sagebrush habitat information.

GMA grassland thresholds
Each Jordan Resource Area GMA is slightly different in its landscape character. They are not all expected to provide identical locations and amounts of shrubland habitat for wildlife. The allowable grassland acreage is generally variable and dependent on the localized impacts from wildfires and other disturbances as described on ROD page F-6.

The best available data indicates the following ***maximum GMA grassland thresholds*** are appropriate and consistent with the 70% figure shown on page *x* of the ROD:

GMA Name	**Estimated Total Acres of GMA**	**Maximum Allowable Grassland Threshold in Big Sagebrush Habitats**	**Minimum Shrubland Threshold in Big Sagebrush Habitats**
Louse Canyon	528,900	≤ 15 %	≥ 85%
****Trout Creek***	***531,300***	***≤ 15 %***	**≥ 85%**
Saddle Butte	184,200	≤55 %	≥ 45%
Jackies Butte	218,300	≤ 65 %	≥ 35%
Soldier Creek	251,600	≤ 25 %	≥ 75%
Rattlesnake	211,200	≤ 15 %	≥ 85%
Cow Creek	251,700	≤ 70 %	≥ 30%
Barren Valley	440,600	≤ 20 %	≥ 80%

* Includes custodial allotment acres and public land in Nevada that were not included in

SEORMP tables

Resource Area and GMA grassland thresholds are a regulatory mechanism for management of greater sage-grouse and other species at risk
Resource Area and GMA grassland thresholds together are therefore important mid-scale regulatory mechanisms sensitive to cumulative effects impacts of fire and land treatment common in Malheur County, Oregon. And when these two mid-scale factors are combined with fine scale pasture level Determinations for seedings or native rangeland, practical landscape-level stewardship and cumulative effects analysis tied to a FEIS is possible.

Louse Canyon GMA has been fully evaluated and the grassland threshold shown above is now part of a final BLM decision. Saddle Butte GMA and all those listed below it in the table above have not yet been evaluated so their thresholds are proposed at this point and may be subject to some slight change based on Assessment findings. Nevertheless, it is important to note that the Jordan Resource Area total grassland threshold of $\leq$ 30% will remain unchanged until such time as a new EIS is written or a plan update has been completed. The ROD grassland threshold for Jordan Resource Area is therefore a controlling factor for what is or is not allowable in GMAs and pastures.

Oregon's conservation strategy for sage-grouse and the US Fish and Wildlife Service's PECE policy
The regulatory mechanism described in this Appendix demands that BLM maintain current fire and land treatment impact area records over time so that adaptive management consistent with the land use plan can be applied. This long term management approach will coincidently allow BLM to accomplish two important tasks;

- Stay consistent with ODFW's conservation plan for greater sage-grouse and other sagebrush dependent wildlife (Hagen 2005) because the Oregon state pan prescribes a management underpinning similar to the SEORMP in terms of grassland and shrub-land conditions.

- Provide the US Fish and Wildlife Service with quantifiable and spatially explicit habitat parameters that can demonstrate achievement of important plant community objectives. In other words, it can be used by the FWS to evaluate if BLM sagebrush habitat conservation actions for sage-grouse are actually being attained and if the BLM is meeting its stated land use plan obligations. When a future status review for potential sage-grouse listing occurs, FWS must evaluate agency plans and performance according to their own Policy for the Evaluation of Conservation Efforts (commonly referred to as the Services' PECE Policy).

Finally and as a conclusion to this appendix, BLM understands very clearly that numerous factors impact and fragment public land habitat for important species such as sage-grouse. However, factors diminishing the suitability of sage-grouse habitat including powerlines, fences, grazing, population cycles, weather, highways and so forth

will all become moot points if and when the fundamental habitat necessary to support the species, e.g. shrubland habitats, disappear over a large enough.

TABLE A – S&GS DETERMINATION SUMMARY BY STANDARD

15 MILE COMMUNITY, MCCORMICK, MCDERMITT, ZIMMERMAN, WHITEHORSE BUTTE, ALBISU-ALCORTA, BARREN VALLEY, CAMPBELL, AND TENMILE GRAZING ALLOTMENTS

GMA	Grazing Allotment	Pasture	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
Trout Creek	15 Mile Community	Angel Canyon Native	Meeting	Not Meeting*	Meeting	Not Meeting*	Meeting (T) Not Meeting (R)*
		Angel Canyon Seeding	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		Basque Seeding East	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		Basque Seeding West	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		Blue Mountain	Meeting	NA	Meeting	Meeting	Meeting
		Buckbrush	Meeting	NA	Meeting	Meeting	Meeting
		Buckbrush Seeding	Meeting	NA	Meeting	Meeting	Meeting
		[2] Burro Seeding	Meeting	Not Meeting	Not Meeting	Meeting	Not Meeting (T) Not Meeting (R)
		Cascade Brush Control	Meeting	Not Meeting	Not Meeting	Meeting	Not Meeting (T)
		[1] Dry Creek	Meeting	NA	Meeting	Meeting	Meeting
		Dry Farm South	Meeting	Not Meeting*	Meeting	Not Meeting*	Meeting (T) Not Meeting (R)*
		[2] Etchart Seeding	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		Frenchie North	Meeting	NA	Meeting	Meeting	Meeting
		Green Ponds	Meeting	Not Meeting	Meeting	Not Meeting*	Not Meeting (R)*
		Jaca Seeding	Meeting	Not Meeting	Meeting	Meeting	Not Meeting (T) Not Meeting (R)
		Jackson Creek North	Meeting	Not Meeting*	Not Meeting	Not Meeting*	Not Meeting (T) Not Meeting (R)*
		Jackson Creek South	Meeting	Not Meeting*	Not Meeting	Not Meeting*	Meeting (T) Meeting (R)
		Jug Spring	Meeting	Meeting	Meeting	Meeting	Meeting
		Luscher	Meeting	Meeting	Meeting	Meeting	Meeting
		[2] McDermitt Seeding East	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		[2] McDermitt Seeding West	Not Meeting	NA	Not Meeting	Not Meeting	Not Meeting (T)
		Oregon Canyon Brush Control	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		Oregon Canyon Sdg East	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		Oregon Canyon Sdg West	Meeting	NA	Not Meeting*	Meeting	Meeting (T)*
		Overshoe Seeding North	Meeting	NA	Not Meeting*	Meeting	Not Meeting (T)*
		Overshoe Seeding South	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		Pronghorn	Not Meeting	NA	Not Meeting	Not Meeting	Not Meeting (T)
		Schoolhouse Seeding East	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		Schoolhouse Seeding West	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		Sheep Corral Brush Control.	Meeting	NA	Meeting	Meeting	Meeting
		Summit North	Meeting	NA	Meeting	Meeting	Meeting
		Summit South	Meeting	NA	Meeting	Meeting	Meeting

GMA	Grazing Allotment	Pasture	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
Trout Creek	15 Mile Community	Twelve Mile Seeding	Meeting	Not Meeting	Not Meeting	Not Meeting	Not Meeting (R)
		[1] V Pasture	Meeting	Meeting	Meeting	Meeting	Meeting
		[1] Whitehorse	Meeting	Meeting	Meeting	Meeting	Meeting
Trout Creek	Campbell	[2] Lucky 7 FFR	Meeting	Meeting	Not Meeting	Meeting	Not Meeting (T)
Trout Creek	McCormick	[1] Sheepline Brush Control	Meeting	Meeting	Meeting	Meeting	Meeting
		Payne Creek	Meeting	Not Meeting*	Meeting	Not Meeting*	Not Meeting (R)*
		Indian Creek	Meeting	Meeting	Meeting	Meeting	Meeting
		Cash Canyon	Meeting	Meeting	Meeting	Meeting	Meeting
		Deafenbaugh Riparian	Meeting	Meeting	Not Meeting	Meeting	Not Meeting (T) Meeting (R)
		Bretz Seeding	Meeting	NA	Meeting	Meeting	Meeting
		[2] Flat Top Seeding	Meeting	Meeting	Not Meeting	Meeting	Not Meeting (T)
Trout Creek	McDermitt Creek	McDermitt Creek *(NV)*	Not Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
Trout Creek	Zimmerman	Dry Creek	Meeting	Meeting	Meeting	Meeting	Meeting
		Disaster Peak Seeding North	Meeting	Meeting	Meeting	Meeting	Meeting
		Disaster Peak Seeding South	Meeting	Meeting	Meeting	Meeting	Meeting
		Disaster Peak Native *(NV)*	Meeting	Meeting	Meeting	Meeting	Meeting
		Homestead FFR	Meeting	Meeting	Meeting	Meeting	Meeting
		Homestead *(NV)*	Meeting	Meeting	Meeting	Meeting	Meeting
		Long Ridge *(NV)*	Meeting	Meeting	Meeting	Meeting	Meeting
		Mine Creek Seeding	Meeting	Meeting	Meeting	Meeting	Meeting
		Payne Creek Seeding	Meeting	Meeting	Meeting	Meeting	Meeting
		Pinky	Meeting	Meeting	Meeting	Meeting	Not Meeting (R)
		Riser *(NV)*	Meeting	No Data - NV	Meeting	No Data - NV	Meeting
		Turner	Meeting	Meeting	Meeting	Meeting	Meeting
Trout Creek	Whitehorse Butte	Buckskin Seeding	Not Meeting*	NA	Not Meeting*	Not Meeting*	Not Meeting (T)*
		Fifteen Mile	Meeting	Meeting	Meeting	Meeting	Meeting
		Fish Creek Seeding North	Meeting	Not Meeting*	Not Meeting	Not Meeting*	Not Meeting (T) Not Meeting (R)*
		Fish Creek Seeding South	Meeting	Not Meeting*	Not Meeting	Not Meeting*	Not Meeting (T) Not Meeting (R)*
		Frenchie South	Meeting	Not Meeting*	Meeting	Not Meeting*	Meeting (T) Not Meeting (R)*
		Red Mountain North	Meeting	Not Meeting*	Meeting	Not Meeting*	Meeting (T) Not Meeting (R)*
		Red Mountain South	Meeting	Meeting	Meeting	Meeting	Meeting
		Whitehorse Seeding	Not Meeting*	NA	Not Meeting*	Not Meeting*	Not Meeting (T)*

GMA	Grazing Allotment	Pasture	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
Trout Creek	Whitehorse Butte	Willow Butte Seeding	Not Meeting*	Not Meeting*	Not Meeting*	Not Meeting*	Not Meeting (R)*
		Willow Creek	Meeting	Meeting	Meeting	Meeting	Meeting
Barren Valley	Barren Valley	The Gap	Meeting	NA	Meeting	Meeting	Meeting
		Three Man Butte Well	Meeting	NA	Meeting	Meeting	Meeting
		12 Mile Ridge	Meeting	NA	Meeting	Meeting	Meeting
Rattlesnake	Albisu/Alcorta	[2] Andy Fife	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
		The Breaks	Meeting	Meeting	Meeting	Meeting	Meeting
		[2] Lazy T Upper	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
	Albisu/Alcorta	[2] Lazy T Lower	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)
Rattlesnake	Ten Mile Seeding	[2] Ten Mile Seeding	Meeting	NA	Not Meeting	Meeting	Not Meeting (T)

LEGEND

[1] Pastures where BLM has already issued a final EA decision to introduce prescribed fire in mountain big sagebrush communities. See EA OR-030-00-008.

[2] Pastures where BLM has already issued a final EA decision authorizing land treatments to reduce invasive annual plants and fire fuels. See EA OR-030-99-099.

Pastures that failed to meet Standards related to livestock grazing are highlighted in gray and are denoted with a *. Under Standard 5, T* denotes a terrestrial habitat failure and R* denotes a riparian or aquatic habitat failure.

Pastures that did not meet Standards failed because of other factors described briefly in Table B of this Evaluation.

TABLE B – * FACTORS CONTRIBUTING TO S&GS FAILURE BY ALLOTMENT AND PASTURE WITHIN THE EVALUATION AREA

15 MILE COMMUNITY, MCCORMICK, MCDERMITT, ZIMMERMAN, WHITEHORSE BUTTE, ALBISU-ALCORTA, BARREN VALLEY, CAMPBELL, AND TENMILE GRAZING ALLOTMENTS

Note : Upland and riparian factor column abbreviations are explained on the second page of this table.

Grazing Allotment	Pasture Name	Upland Factors	Riparian/Wetland and Water Quality Factor(s)
15 Mile Community #01201	Angel Canyon Native		R2
	Angel Canyon Seeding	T2, T4, T6	
	Basque Seeding East	T1, T2, T4, T6	
	Basque Seeding West	T1, T2, T6	
	Burro Seeding	T3	
	Cascade Brush Control	T2	
	Dry Farm South		R2
	Etchart Seeding	T1, T2, T5, T6	
	Frenchie North	T2, T6	
	Green Ponds		R1
	Jaca Seeding	T2, T4, T6	R3
	Jackson Creek North	T2	R2
	Jackson Creek South	T2, T4	R6
	McDermitt Seeding East	T1, T2, T3, T6	
	McDermitt Seeding West	T2, T6	
	Oregon Canyon BC	T2	
	Oregon Canyon Sdg East	T3, T4, T6	
	Oregon Canyon Sdg West	T1, T2, T6	
	Overshoe Seeding North	T1, T2, T5, T6	
	Overshoe Seeding South	T5	
	Pronghorn	T1, T6	
	Schoolhouse Seeding East	T1, T2, T4, T5, T6	
	Schoolhouse Seeding West	T1, T2, T4, T5, T6	
	Twelve Mile Seeding	T2, T6	R5
McCormick #01202	Payne Creek		R2
	Cash Canyon		R7
	Deafenbaugh Rip	T2	
	Bretz Seeding		R7
	Flat Top Seeding	T2, T4, T6	
McDermitt Creek #01205	McDermitt Creek	T2	
Zimmerman #01203	Pinky	T1	
Whitehorse Butte #01206	Willow Butte Seeding	T1	
	Buckskin Seeding	T1, T5, T6	
	Fish Creek Seeding N	T3, T4	R2
	Fish Creek Seeding S	T3, T4	R2
	Frenchie South	T1, T2	
	Red Mountain North	T2	R8
	Red Mountain South	T2,	
	Whitehorse Seeding	T1, T6	
Barren Valley 10801	The Gap	T2	
	Three Man Butte Well	T2	
	12 Mile Ridge	T2	
Albisu/Alcorta 01304	Andy Fife	T2	
	Lazy T Upper	T2, T3	
	Lazy T Lower	T2, T3	
Campbell #11306	Lucky 7 FFR	T2, T3, T6	
Ten Mile #01308	Ten Mile Seeding	T2, T3, T6	

**** FACTORS LEGEND***

Upland (Terrestrial) Factors

T1 – Monitoring studies indicate loss or weakened key perennial grasses (livestock forage species) such as bluebunch wheatgrass, bottlebrush squirrel-tail, Thurber's needlegrass, or crested wheatgrass. Note that if upland trend plots were never established in a pasture or if established trend plots could not be relocated and re-read, BLM concluded it did not have sufficient hard evidence to associate livestock grazing use alone with a decline in rangeland health. More than 40% of the pastures evaluated by BLM did not have upland trend plots needed to determine vegetative trend during the Assessment.

T2 - Invasive annual plants including cheatgrass, bur buttercup, Russian thistle, clasping pepper-weed, tumble mustard, and others occupy a substantial part of a pasture and ecological processes have been significantly altered.

T3 - The geographic extent of grassland habitat (native or introduced grasses) has significantly altered ecological processes.and wildlife habitat values. Functional / structural plant groups are either missing or substantially departed from what is expected. Shrub-based wildlife habitat values are missing including forage, structure, secure travel corridors, hiding cover, thermal shelter, and landbird nesting sites. Local rangeland conditions represent a threat to the long-term persistence of sagebrush dependent species of management importance.

T4 – Gray rabbitbrush is prevalent due to past disturbance.

T5 – Weak native forb composition and abundance.

T6 – The cumulative impacts of disturbance factors including drought, livestock grazing, jackrabbit use, and defoliator insects have all lead to an overall decline in rangeland vigor and productivity. Determination of which factor is most influential cannot be made with available resource information. Locations where these complex interactions have occurred are typically below 5,000 feet elevation where climatic conditions and soil capability are naturally limiting.

Riparian and Wetland factors

R1 – Monitoring studies have indicated a downward trend or weaker than expected recovery of riparian habitat.

R2 – Poor quality stream or meadow conditions were observed during the assessment but no monitoring studies have been established to determine trend and causal factors.

R3 – Impaired riparian function due to dewatering by a privately held water right.

R4 – Landform naturally limits riparian capability and function.

R5 – Past hydrologic events such as stream down-cutting continue to impair and influence riparian function.

R6 – Existing roads or gulleys are impairing riparian function.

R7 – Mine effluent may be degrading water quality (Bretz Mine).

R8 – Wild horse yearlong grazing impacts on riparian areas.

TABLE C – PROPOSED RANGELAND DEVELOPMENT PROJECTS

TROUT CREEK GEOGRAPHIC MANAGEMENT AREA ALLOTMENTS. ALBISU -ALCORTA ALLOTMENT, TENMILE ALLOTMENT, AND BARREN VALLEY ALLOTMENT

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	Angel Canyon Native	New east/west division fences to form separate use areas for Lucky 7, Cleto Maguira and David Etchart. Located within Oregon Canyon WSA.	ACN # 1, 2. and 3 Approximately one to two miles.	X				2,5, 4
15 Mile Community	Angel Canyon Native	New east/west division fences that would result in Cleto Maguira and Lucky 7 running in common on the south end and Dave Etchart running alone on the north end. . Located within Oregon Canyon WSA.	ACN # 1 and 2 only			X		2,5,4
15 Mile Community	Angel Canyon Seeding	New pipeline to supplement water flow in Angel Canyon Pipeline. Water source located on private land.	ACS #1 1 ½ miles	X		X	X	2
15 Mile Community	Angel Canyon Seeding	Brushbeat part of Angel canyon Seeding to enhance livestock forage / crested wheatgrass seeding.	Treat 50% of pasture	X				2
15 Mile Community	Basque Seeding East	Brush-beat to enhance livestock forage / crested wheatgrass seeding	BSE #1 Treat 1,035 acres (50% treatment of 2,069 acre pasture)	X		X		4
15 Mile Community	Basque Seeding West	Brush-beat to enhance livestock forage / crested wheatgrass seeding	BSW #1 Treat 920 acres (50% treatment of 1,840 acre pasture)	X		X		4
15 Mile Community	Blue Mountain	New fence to carve out proposed 3 Man Butte West pasture for Barren Valley Allotment	BM #1 3 miles	X		X		1,3

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	Blue Mountain	New fence to prevent cattle drift to the south in Blue Mountain Pasture	BM #2 2 miles	X		X		1,3
15 Mile Community	Blue Mountain	Convert temporary electric fence to permanent 3 strand barbed wire	BM #3 5 miles	X		X		1,3
15 Mile Community	Blue Mountain	New gap fence to prevent cattle drift	BM #4 ½ mile	X		X		1,3
15 Mile Community	Blue Mountain	New division fence to separate Treetop Ranches from Dave Etchart	BM #5 3 miles	X		X	X	1,3
15 Mile Community	Blue Mountain	New pipeline (part of new Dry Farm Pipeline)	TT #1 ½ mile	X		X		3
15 Mile Community	Blue Mountain	New livestock trough for TT #1	1 livestock water trough	X		X		3
15 Mile Community	Blue Mountain	3C pipeline extension	TT #2 4 miles	X				3
15 Mile Community	Blue Mountain	Troughs for 3C pipeline extension (TT #2)	4 troughs	X				3
15 Mile Community	Blue Mountain	Install Treetop Ranch sign along highway 95	1 new sign	X	X	X	X	3
15 Mile Community	Buckbrush	New pipeline extension	B #1 1 mile of Pipeline extension from adjoining pasture	**X**		**X**	**X**	2
15 Mile Community	Buckbrush	New livestock trough for B #1 pipeline extension	B #2 1 new livestock trough	**X**		**X**	**X**	**2**
15 Mile Community	Buckbrush Seeding	Brushbeat and re-seed crested wheat to restore livestock forage base	BBS #1 Treat 1,000 acres out of a 2,700 acre pasture (700 acres are a black greasewood type)	X		X	X	2

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	Dry Creek **	Prescribed fire in mountain big sagebrush	DC #1 Not to exceed 3,300 to 4,400 total burned acres among Sheepline BC, Dry Creek, Whitehorse, and V Pastures	X	X	X	X	2
15 Mile Community	Dry Farm South	New pipeline with a water source on private land. This pipeline would connect to an existing pipeline.	TT #1 2 miles	X		X		3
15 Mile Community	Dry Farm South	New trough for Dry Farm pipeline	1livestock water trough	X		X		3
15 Mile Community	Etchart Seeding **	Brush-beat and reseed with non-native perennial grass to suppress invasives and reduce fire fuels (WUI Project)	ES #1 Treat 600 acres (see GIS shapefile)	X	X	X	X	4
15 Mile Community	Jaca Seeding	New pipeline	JS #1 2 ½ miles	X		X	X	2
15 Mile Community	Jaca Seeding	Pipeline extension	JS #2 1 mile	X		X	X	2
15 Mile Community	Jaca Seeding	New reservoir to feed livestock water pipeline	JS #3 1 reservoir	X		X	X	2
15 Mile Community	Jaca Seeding	Brushbeat part of Jaca Seeding to enhance livestock forage / crested wheatgrass seeding.	Treat 50% of pasture	X				
15 Mile Community	Jackson Creek North	Jackson Creek Pipeline Extension ½ mile east of Highway 95.	TT #3 3 miles	X		X		3
15 Mile Community	Jackson Creek North	New livestock troughs for TT #3 pipeline extension. Located within ONDA proposed WSA.	2 troughs	X		X		3

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	Jackson Creek North	New Willow Springs Pipeline. Located within ONDA proposed WSA.	TT #4 ¾ mile	X				3
15 Mile Community	Jackson Creek North	New livestock trough for TT #4 pipeline. Located within ONDA proposed WSA.	1 trough	X				3
15 Mile Community	Jackson Creek North	Dawson Reservoir Pipeline Extension. Located within ONDA proposed WSA.	TT #5 3 miles	X				3
15 Mile Community	Jackson Creek North	New livestock troughs for Dawson Reservoir Pipeline Extension, TT #5. Located within ONDA proposed WSA.	4 troughs	X				3
15 Mile Community	Jackson Creek North	Pipeline reconstruction in an existing pipeline	TT #6 1 mile of reconstruction					3
15 Mile Community	Jackson Creek North	New livestock trough in holding pen near NE corner of Cascade Brush Control Pasture. Located near but outside of ONDA proposed WSA.	JCN #1 1 trough	X		X		3
15 Mile Community	Jackson Creek North	New livestock trough beside existing Cascade Spring riparian exclosure	CSE #1 1 trough	X		X		3
15 Mile Community	Jackson Creek North	New livestock trough beside existing Slickear Spring riparian exclosure	SES #1 1 trough	X		X		3
15 Mile Community	Jackson North Pasture	New division fence. Jackson Creek North pasture. Located on edge but outside of ONDA proposed WSA.	JCN #2 6.5 miles	X		X		3
15 Mile Community	McDermitt Seeding West	New pipeline	MSW #1 2 miles	X		X	X	2

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	McDermitt Seeding West	Pipeline extension	MSW #2 1 mile	X		X	X	2
15 Mile Community	McDermitt Seeding West	New livestock water troughs for MSW #1 and MSW #2	3 livestock water troughs	X				2
15 Mile Community	McDermitt Seeding West	New division fence to carve out an individual use pasture for Cleto Maguira.	MSW #3 1 mile	X		X		5
15 Mile Community	McDermitt Sdg West **	Brush-beat and reseed with non-native perennial grass to suppress invasives and reduce fire fuels (WUI Project)	MSW #4 Treat approximately 3,700 acres (50% of a 7,569 acre pasture, see GIS shapefile)	X	X	X	X	2
15 Mile Community	McDermitt Seeding West	New pipeline extension into McDermitt Seeding West	MSW #5 1 mile of pipeline extension	X		X	X	2
15 Mile Community	McDermitt Seeding West	New livestock water trough for project MSW #5	1 new livestock water trough	X		X	X	2
15 Mile Community	Pronghorn	Pipeline extension from Basque Seeding west	P #1 ½ mile	X		X		4
15 Mile Community	Pronghorn	New livestock water trough	P #2 1 livestock water trough	X		X		4
15 Mile Community	V	New division fence (located within Fifteenmile Creek or Oregon Canyon WSAs depending on exact location)	V #1 5-6 miles	X				3,4
15 Mile Community	V **	Prescribed fire in mountain big sagebrush	V #2 Not to exceed 3,300 to 4,400 total burned acres among Sheepline BC, Dry Creek, Whitehorse, and V Pastures	X	X	X	X	3,4

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
15 Mile Community	Whitehorse	Prescribed fire in mountain big sagebrush	W #1 Not to exceed 3,300 to 4,400 total burned acres among Sheepline BC, Dry Creek, Whitehorse, and V Pastures	X	X	X	X	2
McCormick	Bretz Seeding	Brush-beat to enhance livestock forage	BS #1 1,530 acres (50% of 3,061 acre pasture)	X				8
McCormick	Deafenbaugh Riparian	New pipeline from private water source. Located within BLM WSA.	McC #2 ½ mile	X				8
McCormick	Deafenbaugh Riparian	New livestock water trough for McC #2. Located within BLM WSA.	1 trough	X				8
McCormick	Indian Creek Pasture	Rehab rock-hound disturbance	RH #1 1 acre	X	X	X	X	8
McCormick	Flattop Seeding **	Brush-beat and reseed with non-native perennial grass to suppress invasives and reduce fire fuels ((WUI Project)	FS #1 Treat 325 acres (see GIS shapefile)	X	X	X	X	8
McCormick	Mitchell Field (private)	New spring development on permittee private land that would feed McC #2 and supplement Angel Canyon Pipeline flow	MF #1 1 new spring development on private land	X		X		8
McCormick	Payne Creek	New livestock water pipeline from Mine Creek to Cherokee Ridge. Located within BLM WSA.	McC #1 1 mile	X				8
McCormick	Payne Creek	Realign pasture boundary fence to remove Payne Creek in Payne Creek Pasture of McCormick Allotment. A new segment of Payne Creek would then be within Zimmerman Allotment	PC #1 ¾ mile	X		X	X	8

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
McCormick	Payne Creek	Remove existing north boundary fence of Payne Creek Seeding pasture	PC #3 ¼ mile	X		X	X	8
McCormick	Payne Creek	New spring development (Mahogany Spring) for McC #1 pipeline.	PC #2 1 spring development	X				8
McCormick	Payne Creek	New livestock water trough for McC #1 pipeline. Located within BLM WSA.	1 livestock water trough	X				8
McCormick	Sheepline Brush Control Pasture	Convert existing temporary electric fence to permanent barbed wire fence. Located partially within BLM WSA.	SBC #1 1.5 miles	X		X	X	8
McCormick	Sheepline Riparian Excl	Realign existing exclosure fence boundary. Located within BLM WSA.	SBC #2 ½ mile	X				8
Albisu/Alcorta	Andy Fife	Remove existing 30,000 gallon water tank from Andy Fife Pipeline. Located within ONDA proposed WSA.	AF #1 1 water tank removal	X		X	X	9
Albisu/Alcorta	Andy Fife **	Burn cheatgrass dominated areas and reseed with native perennial grass o suppress invasives and reduce fire fuels (WUI Project) Located within ONDA proposed WSA.	AF #2 Treat up to 1,400 acres	X	X	X	X	9
Albisu/Alcorta	Breaks Pasture	New division fence. Located within ONDA proposed WSA.	TB #1 4 miles	X				9
Albisu/Alcorta	Breaks Pasture	New livestock reservoir on Shearing Corral Creek. Located within ONDA proposed WSA.	AA #1 1 reservoir	X				9
Albisu/Alcorta	Upper Lazy T	New livestock reservoir on Dry Creek.	AA#2 1 new reservoir	X				9

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
Albisu/Alcorta	Upper Lazy T **	Burn cheatgrass dominated areas and reseed with native perennial grass to suppress invasives and reduce fire fuels (WUI Project)	ULT #1 Treat up to 1,400 acres	X	X	X	X	9
Albisu/Alcorta	Lower Lazy T	Pipeline extension into southern end of Lower lazy T	AA #3 1 mile	X		X	X	9
Albisu/Alcorta	Lower Lazy T	New livestock trough at the end of AA #3 pipeline extension	AA #4 1 new trough	X		X	X	9
Albisu/Alcorta	Lower lazy T	New large livestock trough beside an existing water trough.	AA #4 1 large livestock trough	X		X		9
Albisu/Alcorta	Lower Lazy T **	Burn cheatgrass dominated areas and reseed to native perennial grass to suppress invasives and reduce fire fuels (WUI Project)	LLT #1 Treat up to 1,400 acres	X	X	X	X	9
Tenmile Seeding	Tenmile Seeding **	Burn and reseed with non-native perennial grass to suppress invasives and reduce fire fuels (WUI Project)	TS #1 Treat up to 1,700 acres.	X	X	X	X	10
Whitehorse Butte Allotment #01206	Red Mountain North	Corridor fence Willow Creek to protect LCT habitat and install water gap for wild horse and livestock use	RMN #1 2 miles	X	X	X		7
Whitehorse Butte Allotment	Red Mountain North	Red Mountain North drift fence. Near but not within ONDA proposed WSA	RMN #2 ¼ mile	X	X	X		7
Whitehorse Butte Allotment	Fish Creek Seedings	Remove division fence between Fish Creek Seeding North and South	FCS #1 4 miles	X		X	X	7
Whitehorse Butte Allotment	Willow Butte Seeding	Remove northern boundary fence and include existing seeding in Red Mountain South Pasture	WBS #1 4 miles	X		X	X	7
Whitehorse Butte Allotment	Red Mountain South and Willow Pastures	Remove several riparian exclosure fences	XCL #1 To be determined	X	X	X	X	7

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
Whitehorse Butte Allotment	15 Mile	Reduce size of some water gaps created by exclosures	GAP #1 Install ½ mile fence	X	X	X	X	7
Zimmerman Allotment #01203	Disaster Peak Native	Fence extension to be built in Nevada to stop cattle drift. Located within BLM WSA.	Z #1 ¼ mile	X		X		6
Zimmerman Allotment	Disaster Peak Native	New reservoir to capture sediment & arrest erosion	Z #2 1reservoir	X		X		6
Zimmerman Allotment	Riser	New reservoir to capture sediment & arrest erosion	Z #3 1 reservoir	X		X		6
Zimmerman Allotment	Pinky	New livestock water reservoir	Z #4 1reservoir	X		X		6
Zimmerman Allotment	Long Ridge	New spring development	Z #5 1 spring development	X		X		6
Zimmerman Allotment	Long Ridge	New short pipeline from project Z #5.	Z #6 One tenth of a mile	X		X		6
Zimmerman Allotment	Long Ridge	New livestock water trough on pipeline Z #6	1 livestock water trough	X		X		6
Barren Valley	The Gap	New division fence	TG #1 3 miles	X		X		1
Barren Valley	The Gap	New livestock reservoir	TG #2 1 new reservoir	X		X		1
Barren Valley	The Gap	New well	TG #3 1 new well	X		X		1
All allotments below 5,000 feet	All pastures below 5,000 feet	Plant adapted native or non-native perennials along road burms and other highly disturbed areas	As needed	X		X	X	All
All allotments above 5,000 feet	All pastures above 5,000 feet	Plant native perennials along road burms and other highly disturbed areas to reduce incidence of invasive plants.	As needed	X		X	X	All

Grazing Allotment	Pasture	Project Type / Notes	Project Name / Units	Alternative 1 Proposed Projects	Alternative 2 Projects Proposed	Alternative 3 Projects Proposed	Alternative 4 Projects	# Livestock Permittee
Selected allotments below 5,000 feet elevation	Selected areas within pastures	Apply 2-4d or other approved compounds to control rabbitbrush when the pesticide injunction is lifted in Oregon.	Etchart and Flattop Seedings only.	X		X	X	4,5

Table D Legend

X - Indicates BLM Approval of projects by alternative.

- Livestock permittees associated with projects are as follows; (1) – Richard Yturriondobeitia, (2) – Lucky 7 Ranch, (3) – Treetop Ranches, (4) – David Etchart, (5) – Cleto Maguira, (6) – Zimmerman Ranch, (7) – Whitehorse Ranch, (8) – GJ Livestock, (9) – Alcorta Ranch, (10) currently unallocated to any one permittee.

****** - Projects already approved in existing EAs but not yet completed. See EA OR-030-99-099 and OR-030-00-008. These EAs address Wildland -Urban Interface (WUI) treatments or application of prescribed fire in mountain big sagebrush communities.

TABLE D – TERRESTRIAL AND AQUATIC VERTEBRATES FOUND WITHIN TCGMA

COMMON NAME	STATUS	SCIENTIFIC NAME
BIRDS		
* mallard		Anas platyrynchos
* blue-winged teal		Anas discors
green-winged teal		Anas crecca
turkey vulture		Cathartes aura
coopers hawk		Accipiter cooperi
* northern goshawk	BLM Sensitive	Accipiter gentilis
sharp-shinned hawk		Accipiter striatus
* golden eagle	MBTA	Aquila chrysaetos
red-tailed hawk		Buteo jamaicensis
swainson's hawk	MBTA	Buteo swainsoni
* northern harrier		Circus cyaneus
* prairie falcon	MBTA	Falco mexicanus
american kestrel		Falco sparverius
osprey		Pandion haliaetus
chukar partridge		Alectoris chukar
* California quail		Callipepla californica
* greater sage-grouse	BLM Sensitive, ICBEMP	Centrocercus urophasianus
great blue heron		Ardea herodias
black-crowned night heron		Nycticorax nycticorax
* greater sandhill crane		Grus canadensis
american coot		Fulica americana
sora		Porzana carolina
virginia rail		Rallus limicola
killdeer		Charadrius vociferous
willet		Catoptrophorus semipalmatus
common snipe		Gallinago gallinago
* long billed curlew	MBTA	Numenius americanus
greater yellowlegs		Tringa melanoleuca
mourning dove		Zenaida macroura
short-eared owl		Asio flammeus
long-eared owl		Asio otus
* burrowing owl	MBTA	Athene cunicularia
great horned owl		Bubo virginianus
western screech owl		Otus kennicotii
common nighthawk		Chordeiles minor
common poor-will		Phalaenoptilus nuttalli
broad-tailed hummingbird		Selasphorus platycercus
belted kingfisher		Ceryle alcyon
northern flicker		Colaptes auratus
* Lewis' woodpecker	MBTA	Melanerpes lewis
downy woodpecker		Picoides pubescens
hairy woodpecker		Picoides villosus

COMMON NAME	STATUS	SCIENTIFIC NAME
dusky flycatcher		Empidonax oberholseri
* gray flycatcher		Empidonax wrightii
western wood-peewee		Contopus sordidulus
Say's phoebe		Sayornis saya
western kingbird		Tyrranus verticalis
horned lark	ICBEMP	Eremophila alpestris
cliff swallow		Hirundo pyrrhonota
barn swallow		Hirundo rustica
northern rough-winged swallow		Stelgidopteryx serripennis
tree swallow		Tachycineta bicolor
violet-green swallow		Tachycineta thalassina
black billed magpie		Pica pica
American crow		Corvus brachyrhynchos
common raven		Corvus corax
mountain chickadee		Parus gambeli
bushtit		Psaltriparus minimus
canyon wren		Catherpes mexicanus
* marsh wren		Cistothorus palustris
* rock wren		Salpinctes obsoletus
house wren		Trtoglodytes aedon
northern mockingbird		Mimus ployglottos
* sage thrasher	ICBEMP	Oreoscoptes montanus
* mountain bluebird		Sialia currucoides
western bluebird		Sialia mexicana
American robin		Turdus migratorius
* loggerhead shrike	MBTA, ICBEMP	Lanius ludovicianus
warbling vireo		Vireo gilvus
* black-throated gray warbler		Dendroica nigrescens
yellow warbler		Dendroica petechia
Virginia's warbler (hypothetical)	MBTA	Vermivora virginiae
yellow-breasted chat		Icteria virens
Macgillivray's warbler		Oporornis tolmei
orange-crowned warbler		Vermivora celata
tennesee warbler		Vermivora peregrina
lazuli bunting		Passerina amoena
* green-tailed towhee		Pipilo chlorurus
rufous-sided towhee		Pipilo erythrophthalamus
sage sparrow	MBTA, ICBEMP	Amphispiza belli
lark sparrow		Chondestes grammacus
song sparrow		Melospiza melodia
savannah sparrow		Passeruculus sandwichensis
fox sparrow		Passerella iliaca
vesper sparrow		Pooecetes gramineus
* Brewer's sparrow	MBTA, ICBEMP	Spizella breweri
chipping sparrow		Spizella passerina
white-crowned sparrow		Zonotrichia leucophrys
* black-throated sparrow	ICBEMP	Amphispiza bilineata
dark-eyed junco		Junco hyemalis

COMMON NAME	STATUS	SCIENTIFIC NAME
brewer's blackbird		Euphagus cyanocephalus
red-winged blackbird		Aegalius phoenicus
* Bullock's oriole		Icterius galbula
brown-headed cowbird		Molothrus ater
western meadowlark	ICBEMP	Sturnella neglecta
yellow-headed blackbird		Xanthocephalus xanthocephalus
house sparrow		Passer domesticus
Cassin's finch		Carpodacus cassinii
FISHES		
*Lahontan cutthroat trout	Federal Threatened	Oncorhynchus clarki henshawi
*Tahoe sucker	Bureau Assessment	Catostomus tahoensis
mountain sucker		Catostomus platyrhyncus
*Lahontan redside shiner	Bureau Assessment	Richardsonius egregius
Speckled dace		Rhinichthys osculus
brown trout	Nonnative	Salmo trutta
rainbow trout	Nonnative	Oncorhynchus mykiss
brook trout	Nonnative	Salvelinus fontinalis
AMPHIBIANS		
Pacific treefrog		Pseudacris regilla
Great Basin spadefoot toad		Scaphiophus intermontanus
REPTILES		
desert collared lizard		Crotaphytus bicinctores
* long nosed leopard lizard		Gambelia wislizenii
short horned lizard		Phrynosoma douglassi
* desert horned lizard		Phrynosoma platyrhinos
sagebrush lizard		Sceloporus graciosus
western fence lizard		Sceloporus occidentalis
side-blotched lizard		Uta stansburiana
western whiptail		Cnemidophorus tigris
rubber boa		Charina bottae
yellow-bellied racer		Coluber constrictor
striped whipsnake		Masticophis taeniatus
gopher snake		Pituophis catenifer
wandering garter snake		Thamnophis elegans vagrans
common garter snake		Thamnophis sirtalis
great basin rattlesnake		Crotalis lutosus
MAMMALS		
* pronghorn		Antilocapra americana
* California bighorn sheep	Trophy Big Game, BLM Sensitive	Ovis canadensis
* mule deer	Trophy Big Game	Odocoileus hemionus
		Canis latrans
* coyote		

COMMON NAME	STATUS	SCIENTIFIC NAME
	Oregon	
* kit fox	Threatened	Vulpes macrotis
cougar		Felis concolor
striped skunk		Mephitis mephitis
long-tailed weasel		Mustela frenata
mink		Mustela vison
badger		Taxidea taxus
raccoon		Procyon lotor
* black-tailed jackrabbit		Lepus californicus
	ICBEMP, BLM	
* pygmy rabbit	Sensitive	Brachylagus idahoensis
* mountain cottontail		Sylvilagus nuttalli
beaver		Castor canadensis
* sagebrush vole		Lagurus curtatus
long-tailed vole		Microtus longicaudis
montane vole		Microtus montanus
desert woodrat		Neotoma lepida
northern grasshopper mouse		Onochomys leucogaster
deer mouse		Peromyscus maniculatus
western harvest mouse		Rheithrodontomys megalotis
porcupine		Erethizon dorsatum
northern pocket gopher		Thomomys talpoides
ord kangaroo rat		Dipodomys ordi
Great Basin pocket mouse		Perognathus parvus
* white-tailed antelope groundsquirrel		Ammerspomophilus leucurus
* least chipmunk		Eutamias minimus
* yellow-bellied marmot		Marmota flaviventris
belding groundsquirrel		Spermophilus beldingi
golden mantled groundsquirrel		Spermophilus lateralis
townsend groundsquirrel		Spermophilus townsendi
western jumping mouse		Zapus princeps

Species of management Importance within TCGMA are denoted with *

MBTA = Migratory birds with some management emphasis under President Clinton January 10, 2001 Executive Order 13186 (Migratory Bird Treaty Act)

ICBEMP = Species associated with shrub steppe habitats that have declined substantially in the Interior Columbia Basin area since historical times

Trophy Big game = Oregon Department of Fish and Wildlife manages the species as a trophy animal with limited hunter harvest

BLM Sensitive = Vertebrates that warrant management attention under Oregon/Washington BLM policy for Special Status Species

Table E – Special Status Plants within the Evaluation Area

Special Status Plant Species	Common Name	BLM Status*
Eriogonum prociduum	prostrate buckwheat	BS
Allenrolfea occidentalis	iodine bush	BA
Astragalus calycosus	King's rattleweed	BA
Caulanthus major var. *nevadensis*	slender wild cabbage	BA
Cympopterus ibapenbsis	Ibapah wavewing	BA
Hymenoxys cooperi var. *canescens*	Cooper's goldenflower	BA
Oxytropis sericea var. *sericea*	white locoweed	BA
Symphoricarpos longiflorus	long-flowered snowberry	BA
Astragalus platytropis	broad-keeled milkvetch	BT
Artemisia arbuscula ssp. *longicaulis*	Lahontan little sagebrush	BT
Caulanthus crassicaulis	thick-stemmed wild cabbage	BT
Hackelia patens var. *patens*	spreading stickseed	BT

Table F - Upland Trend Data for Key Forage Species* by Allotment and Pasture
100 Foot Line Intercept Study Results by Year

McCormick Allotment		
Bretz Seeding		
Year	% Cover	Key Species
1979	3.72	AGCR
1982	5.89	AGCR
1985	4.45	AGCR
1986	2.27	AGCR
1993	4.65	AGCR
1997	2.85	AGCR
2003	1.59	AGCR
Cash Canyon		
Year	% Cover	Key Species
1979	.46	STTH
1982	.16	STTH
1986	.15	STTH
1993	1.10	STTH
1997	.45	STTH
2004	.26	STTH
Defenbaugh		
Year	% Cover	Key Species
NO DATA		
Flattop Seeding		
Year	% Cover	Key Species
1986	3.56	AGCR
Indian Creek		
Year	% Cover	Key Species
1982	.61	STTH
1985	.34	STTH
1986	.47	STTH
1993	.80	STTH
1997	.55	STTH
2003	.13	STTH
Payne Creek		
Year	% Cover	Key Species
1986	.51	STTH

Sheepline B.C.		
Year	% Cover	Key Species
1982	.15	FEID
1993	1.3	FEID
1997	1.6	FEID
2002	3.88	STCO
Zimmerman Allotment		
Disaster Peak Native		
Year	% Cover	Key Species
NO DATA		
Disaster Peak Seeding North		
Year	% Cover	Key Species
NO DATA		
Disaster Peak Seeding South		
Year	% Cover	Key Species
NO DATA		
Dry Creek		
Year	% Cover	Key Species
NO DATA		
Homestead		
Year	% Cover	Key Species
1987	.30	SIHY
Long Ridge		
Year	% Cover	Key Species
NO DATA		
Mine Creek Seeding		
Year	% Cover	Key Species
NO DATA		
Payne Creek Seeding		
Year	% Cover	Key Species
NO DATA		
Pinky		
Year	% Cover	Key Species
1987	.15	SIHY
1994	2.0	STTH

2004	.62	STTH
Riser		
Year	% Cover	Key Species
1987	1.85	STTH
1994	.90	STTH
2004	2.12	STTH
Turner		
Year	% Cover	Key Species
1987	.80	SIHY
1994	1.25	SIHY
2004	.70	SIHY
Whitehorse Butte Allotment		
Buckskin Seeding		
Year	% Cover	Key Species
1979	2.5	AGCR
1982	2.75	AGCR
1995	5.9	AGCR
2004	.88	AGCR
Fifteenmile		
Year	% Cover	Key Species
1979	.21	AGSP
	.59	FEID
1995	1.8	AGSP
	3.1	FEID
2004	.99	AGSP
	1.39	FEID
Fish Creek Seeding North		
Year	% Cover	Key Species
NO DATA		
Fish Creek Seeding South		
Year	% Cover	Key Species
NO DATA		
Frenchie South		
Year	% Cover	Key Species
1979	.24	SIHY
1982	.10	SIHY

Red Mountain North		
Year	% Cover	Key Species
NO DATA		
Red Mountain South		
Year	% Cover	Key Species
1979	.12	SIHY
1982	.15	SIHY
1995	0.0	SIHY
2004	0.0	SIHY
Whitehorse Seeding		
Site #1		
Year	% Cover	Key Species
1979	3.19	AGCR
1982	3.10	AGCR
1995	5.3	AGCR
2004	.91	AGCR
Site #2		
Year	% Cover	Key Species
1979	5.36	AGCR
1982	3.75	AGCR
1995	2.7	AGCR
2004	.49	AGCR
Willow Butte Seeding		
Year	% Cover	Key Species
1979	1.52	AGCR
1982	.10	AGCR
1995	0.0	AGCR
	.15	SIHY
2004	.26	AGCR
	.06	SIHY
Willow Creek		
Site #1		
Year	% Cover	Key Species
1989	2.3	SIHY
	1.2	AGSP
1995	2.4	SIHY
	3.2	AGSP
2004	.78	SIHY
	2.37	AGSP

Site #2		
Year	% Cover	Key Species
1979	.38	FEID
1982	.40	FEID
1995	.40	FEID
2004	.16	SIHY
15 Mile Allotment		
Angel Canyon Native		
Year	% Cover	Key Species
NO DATA		
Angel Canyon Seeding		
Year	% Cover	Key Species
1979	2.22	AGCR
1986	5.89	AGCR
1991	5.2	AGCR
Basque Seeding East		
Site #1		
Year	% Cover	Key Species
1979	2.97	AGCR
1986	2.30	AGCR
1991	1.13	AGCR
2003	.52	AGCR
Site #2		
Year	% Cover	Key Species
1979	2.2	AGCR
1986	1.05	AGCR
1991	1.44	AGCR
2003	.24	AGCR
Basque Seeding West		
Year	% Cover	Key Species
1991	3.15	AGCR
2003	1.95	AGCR
Blue Mountain		
Year	% Cover	Key Species
1979	.73	AGSP
1986	.76	AGSP
1991	.62	AGSP
2003	.58	AGSP

Buckbrush		
Year	% Cover	Key Species
NO DATA		
Buckbrush Seeding		
Year	% Cover	Key Species
1991	3.65	AGCR
2003	1.75	AGCR
Burro Seeding		
Year	% Cover	Key Species
1991	1.8	AGCR
2003	3.82	AGCR
Brush Field		
Year	% Cover	Key Species
NO DATA		
Cascade Brush Control		
Year	% Cover	Key Species
1979	1.15	AGSP
1986	3.79	AGSP
1991	.41	AGSP
2003	.59	AGSP
Dry Creek		
Year	% Cover	Key Species
1979	.47	FEID
1982	.90	FEID
1991	2.24	FEID
2004	2.77	FEID
Dry Farm South		
Year	% Cover	Key Species
NO DATA		
Etchart Seeding		
Year	% Cover	Key Species
1991	2.3	AGCR
2003	.01	AGCR
Frenchie North		
Year	% Cover	Key Species
NO DATA		

Green Ponds		
Year	% Cover	Key Species
1979	.85	FEID
1986	.61	FEID
1991	.66	FEID
2002	4.37	FEID
Jaca Seeding		
Year	% Cover	Key Species
1991	2.4	AGCR
Jackson Creek North		
Site #1		
Year	% Cover	Key Species
1979	1.47	AGSP
1986	.51	AGSP
1991	.80	AGSP
Jackson Creek South		
Year	% Cover	Key Species
NO DATA		
Jug Spring		
Year	% Cover	Key Species
1979	.91	FEID
1986	2.30	FEID
1991	1.34	FEID
2004	2.95	FEID
McDermitt Seeding West		
Site #1		
Year	% Cover	Key Species
1979	.13	AGCR
1982	0.0	AGCR
Site #2		
Year	% Cover	Key Species
1979	.13	AGCR
1982	.17	AGCR
2003	.74	AGCR

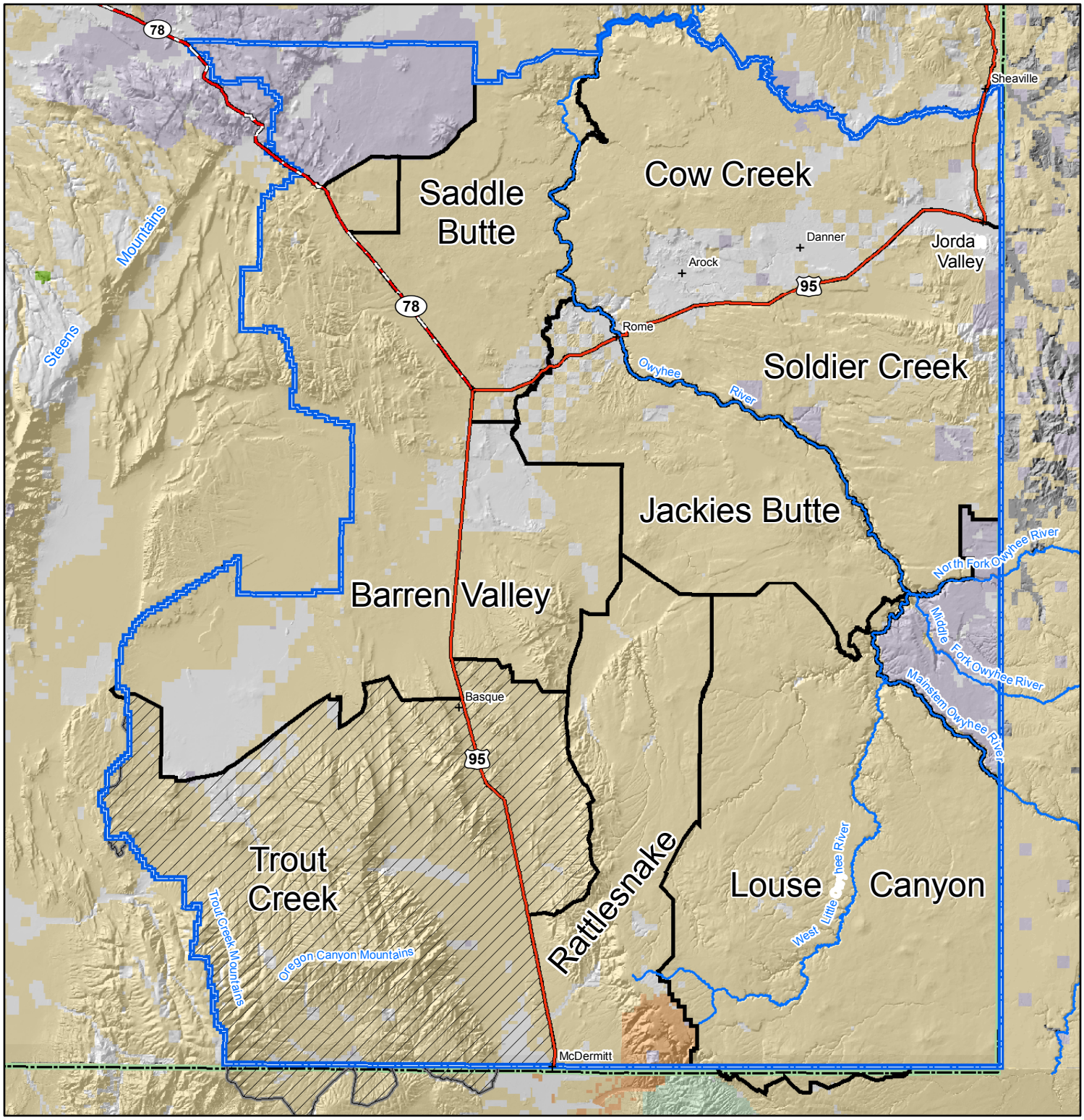
McDermitt Seeding East		
Year	% Cover	Key Species
1991	2.55	AGCR
2003	.08	AGCR
Oregon Canyon Brush Control		
Year	% Cover	Key Species
NO DATA		
Oregon Canyon Seeding East		
Year	% Cover	Key Species
NO DATA		
Oregon Canyon Seeding West		
Year	% Cover	Key Species
1991	2.35	AGCR
2003	1.36	AGCR
Overshoe Seeding South		
Year	% Cover	Key Species
1979	4.45	AGCR
1982	2.99	AGCR
1991	2.05	AGCR
2003	3.84	AGCR
Overshoe Seeding North		
Year	% Cover	Key Species
1991	2.65	AGCR
Pronghorn		
Site #1		
Year	% Cover	Key Species
1979	.39	SIHY
1986	.75	SIHY
1991	.45	SIHY
2003	.27	SIHY
Site #2		
Year	% Cover	Key Species
1979	5.84	EULA
2003	1.31	EULA
Schoolhouse Seeding East		
Year	% Cover	Key Species

NO DATA		
Schoolhouse Seeding West		
Year	% Cover	Key Species
NO DATA		
Sheep Corral Brush Control		
Year	% Cover	Key Species
1991	2.61	AGSP
2003	.62	AGSP
Summit South		
Year	% Cover	Key Species
1991	.80	AGSP
2003	1.62	AGSP
Summit North		
Year	% Cover	Key Species
1991	.95	AGSP
Twelve Mile Seeding		
Year	% Cover	Key Species
1979	4.52	AGCR
1986	3.87	AGCR
1991	3.15	AGCR
2003	1.29	AGCR
Site #2		
Year	% Cover	Key Species
1979	2.43	AGCR
1982	2.85	AGCR
1991	1.3	AGCR
2003	.23	AGCR
V Pasture		
Site #1		
Year	% Cover	Key Species
1979	.72	FEID
1982	.95	FEID
1991	1.45	FEID
2004	2.88	FEID

Site #2		
Year	% Cover	Key Species
1979	.09	STTH
1991	.11	STTH
2004	1.35	STTH
Site #3		
Year	% Cover	Key Species
1987	.65	SIHY
2004	1.72	SIHY
Whitehorse		
Year	% Cover	Key Species
1991	.91	Stipa
2004	1.6	Stipa
Ten Mile Seeding		
Ten Mile Seeding		
Year	% Cover	Key Species
	4.9	AGCR
1990	3.1	AGCR
2004	3.89	AGCR
Albisu-Alcorta		
Andy Fife		
Site #1		
Year	% Cover	Key Species
1979	1.32	SIHY
1982	2.07	SIHY
1985	1.6	SIHY
1986	.70	SIHY
1991	1.25	SIHY
Site #2		
Year	% Cover	Key Species
1979	5.44	SIHY
The Breaks		
Year	% Cover	Key Species
1986	2.15	SIHY
1991	1.4	SIHY

Lazy T		
Year	% Cover	Key Species
1979	2.76	SIHY
1982	.93	SIHY
1986	.80	SIHY
1991	.30	SIHY

*** Key Grass Species**
AGCR = crested wheatgrass
AGSP = bluebunch wheatgrass
STTH = Thurbers needlegrass
SIHY = squirrel-tail
FEID = Idaho fescue
EULA = winterfat



Legend

- Geographic Management Areas
- Jordan Resource Area
- State of Oregon Boundary
- US Highways
- State Highways

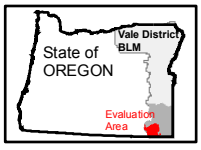
Land Status

- Bureau of Land Management
- Bureau of Reclamation
- Forest Service
- Private
- State
- Fish and Wildlife
- Bureau of Indian Affairs
- Other Federal

0 3 6 12 18 24 Miles

0 4.5 9 18 27 Kilometers

N W E S



Map 1 - Land Status and Geographic Management Area Boundaries

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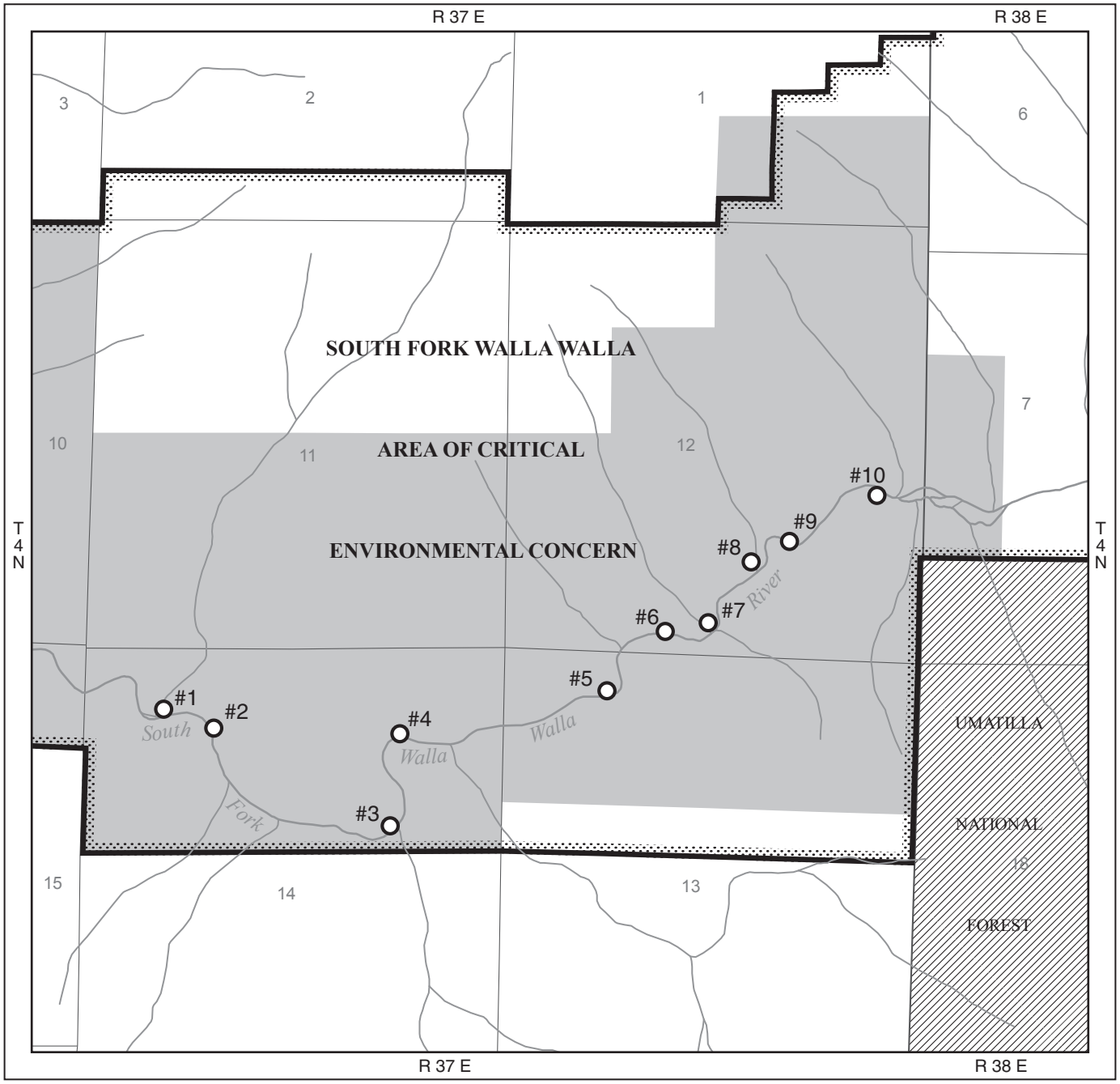
Bureau of Land Management

Vale District
Jordan Resource Area
June, 2006

Rangeland Health Evaluation

Map 2: All Existing Stream Crossings



LEGEND

- Stream Crossing
- Area of Critical Environmental Concern
- **Administered Land**
  - Bureau of Land Management
  - U.S. Forest Service
  - Private or Other

N
W E
S

0.25 0 0.25 0.5Miles

0.25 0 0.25 0.5 Kilometers

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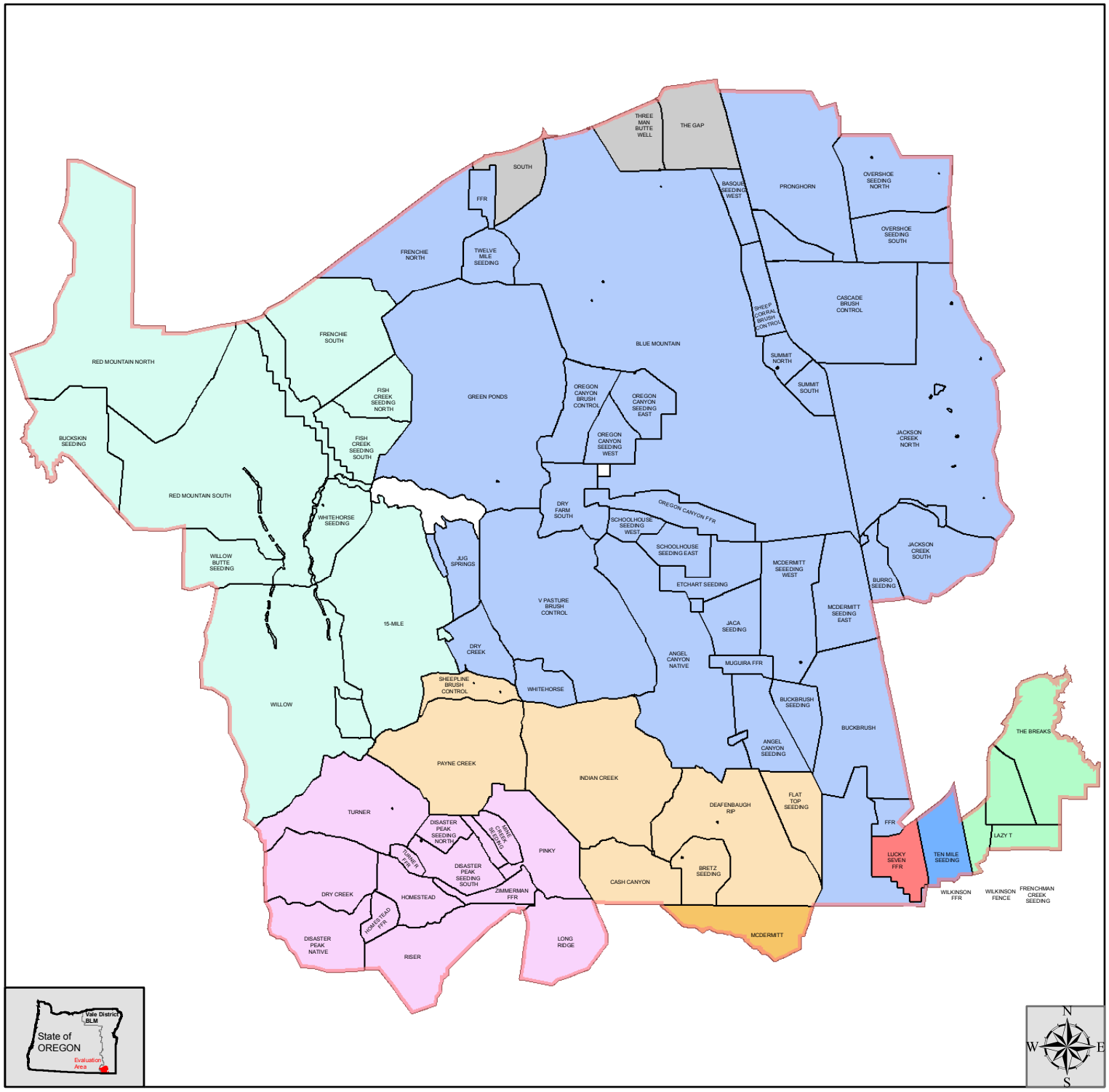
VALE DISTRICT
South Fork Walla Walla
Land Owner Access
Environmental Assessment
2006



Map 3
BLM Grazing Allotments and Pastures

Legend

Pasture Boundaries

Grazing Allotments

- 15-MILE COMMUNITY
- ALBISU-ALCORTA
- BARREN VALLEY
- CAMPBELL
- LOUSE CANYON COMMUNITY
- MC CORMICK
- MCDERMITT
- TEN MILE
- WHITEHORSE BUTTE
- ZIMMERMAN

0 3 6 12 18 Kilometers

4 2 0 4 8 Miles

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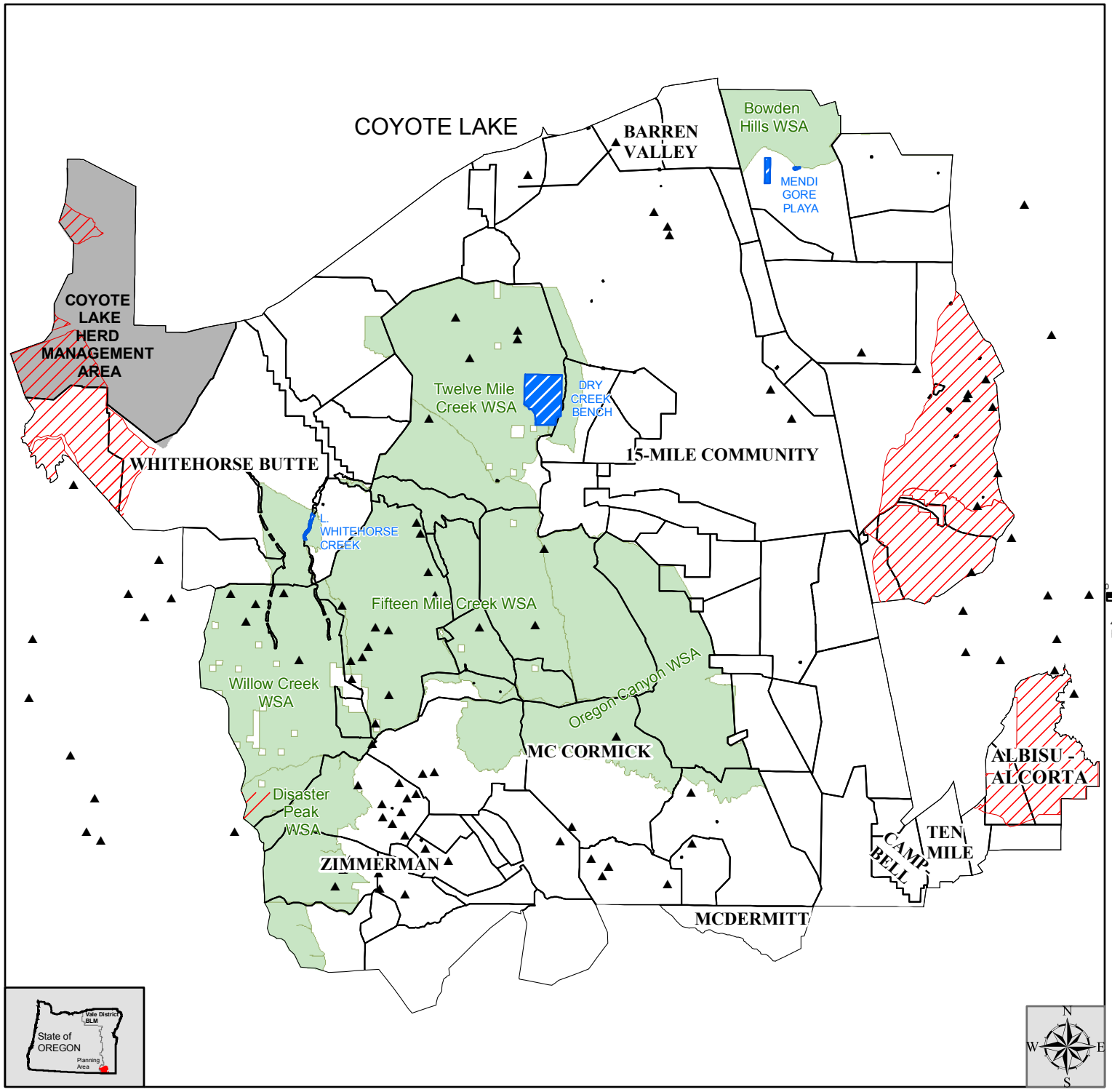
Vale District
Jordan Resource Area

June, 2006

Rangeland Health Evaluation

Trout Creek Geographic Management Area and Adjoining Allotments



Map 4 - Special Management Areas and Greater Sage-grouse Leks

Legend

- Greater Sage Grouse Leks
- Herd Management Areas
- Areas of Critical Environmental Concern
- BLM Wilderness Study Areas
- ONDA Proposed WSA Additions
- Pasture Boundaries

0 3 6 12 18 Kilometers

4 2 0 4 8 Miles

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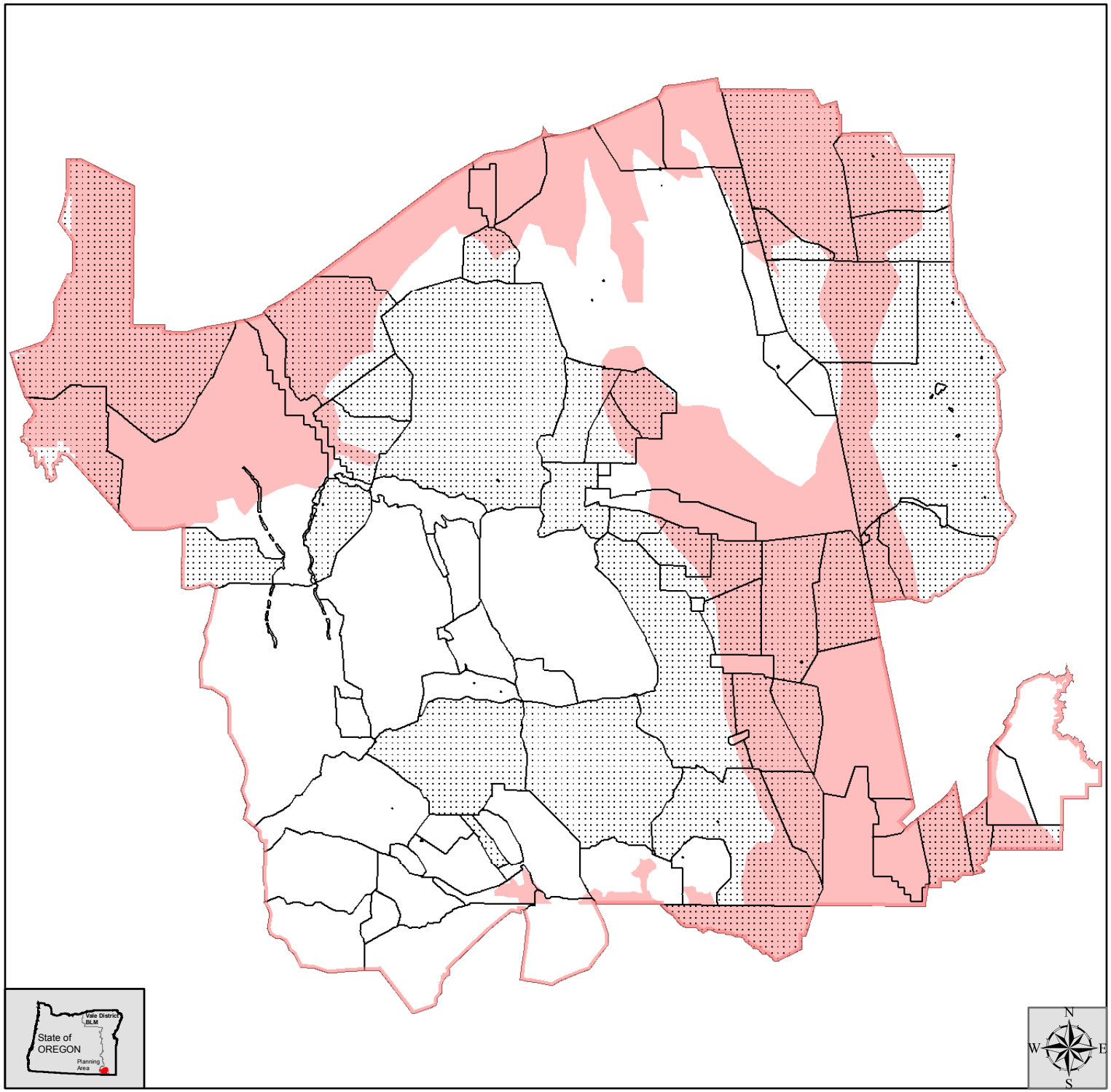
Vale District

Jordan Resource Area

June, 2006

Rangeland Health Evaluation Area
Trout Creek Geographic Management Area and Adjoining Allotments



Map 5
Resilient Rangelands, Rangelands at Risk Due to Invasive Plants and Pastures of Concern

Legend

- Pastures of Concern

Rangeland Resilience

- Rangelands at Risk
- Resilient Rangelands
- Pasture Boundaries
- Evaluation Area

0 3 6 12 18 Kilometers

4 2 0 4 8 Miles

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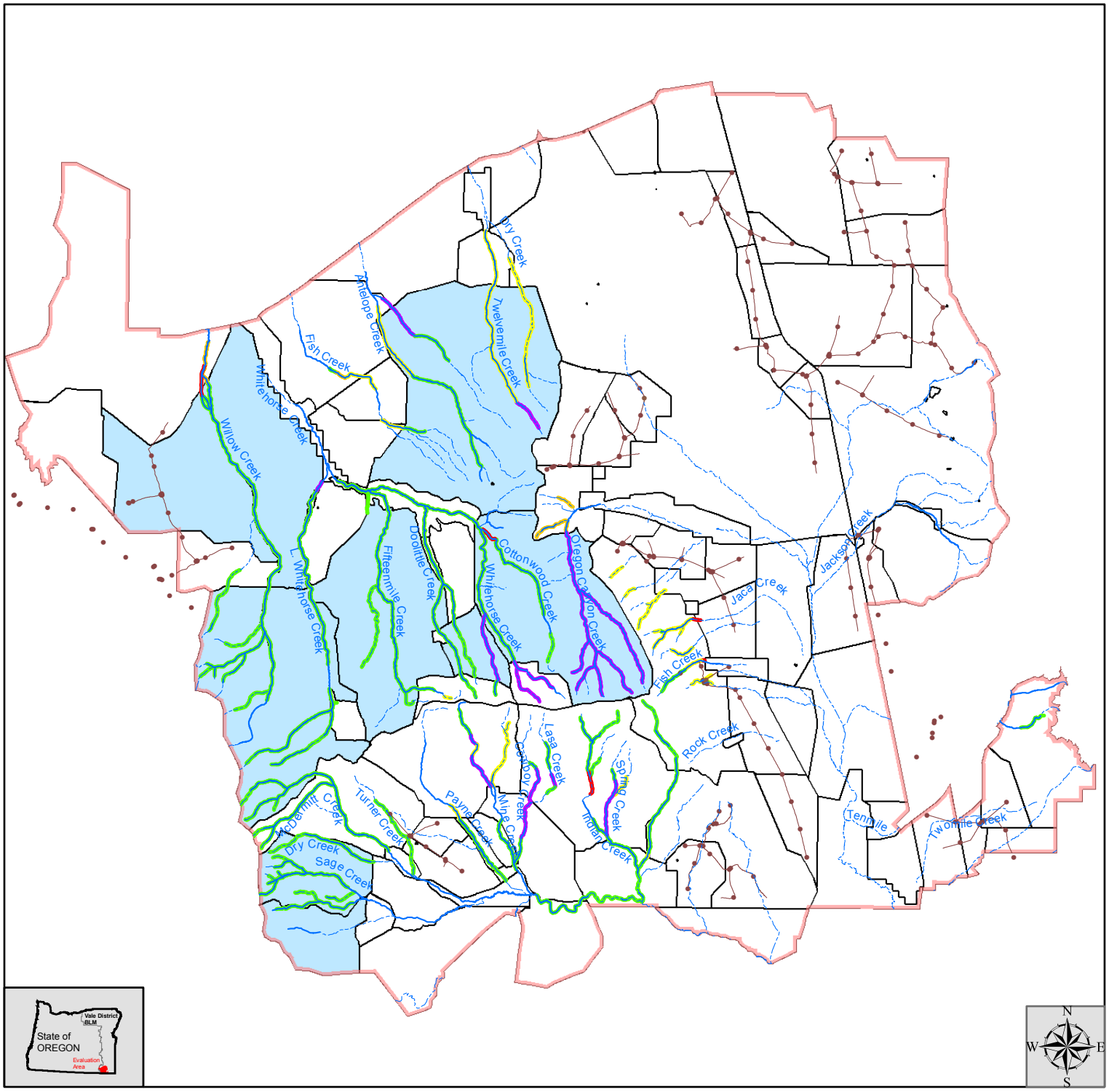
Jordan Resource Area

June, 2006

Rangeland Health Evaluation

Trout Creek Geographic Management Area and Adjoining Allotments



Map 6 - Stream Network, PFC Reach Calls, and Pastures Supporting Lahontan Cutthroat Trout

Legend

- LCT
- Pasture Boundaries

Main Streams

- Continuous Perennial
- Continuous Seasonal
- Pipelines
- Evaluation Area

Streams - PFC Categories

- PFC
- FARU
- FARN
- FARD
- NF

Abbreviations

LCT - Pastures Supporting Lahontan Cutthroat Trout

PFC - Proper Functioning Condition
FARU - Functioning at Risk
FARN - Functioning at Risk, No Trend
FARD - Functioning at Risk, Downward Trend
NF - Not Functioning

0 3 6 12 18 Kilometers

4 2 0 4 8 Miles

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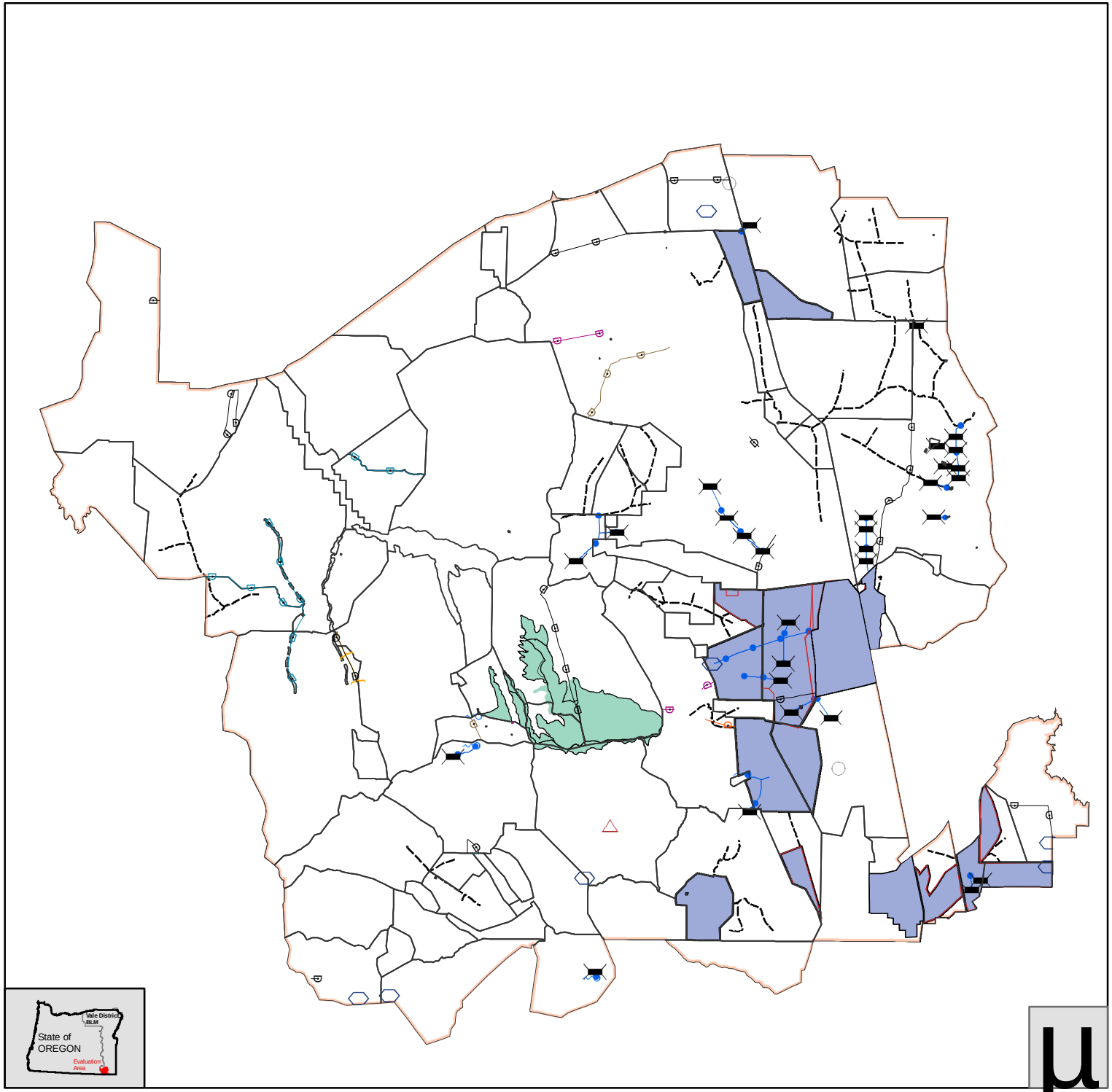
Rangeland Health Evaluation

Trout Creek Geographic Management Area and Adjoining Allotments



Map 7
Alternative 1
Proposed Rangeland Developments

Legend

Proposed Points

- Reservoir
- Rockhound Pit Rehab
- Spring
- Trough
- Well
- Fire Fuels Project
- Proposed Pipeline
- Proposed Land Treatment
- Pasture Boundaries
- Evaluation Area
- Prescribed Burn

Fenceline Project

- Eliminate/Dismantle
- Maintenance Project
- New Project - Planned for current year
- Proposed Project - Out Years
- Temporary Project

0 2.5 5 10 15 Kilometers

2.5 1.25 0 2.5 5 Miles

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June, 2006

Rangeland Health Evaluation

Trout Creek Geographic Management Area and Adjoining Allotments