

# Appendix Q - Monitoring Plan for the Andrews Management Unit and the Steens Mountain Cooperative Management and Protection Area

## A. Purpose

This monitoring plan is intended to present information to the public on current resources monitoring. Resource monitoring is critical to successful resource management, and this plan presents the why, what and how of resource monitoring for the AMU and CMPA. This plan extracts the monitoring information presented in the DRMP/DEIS and consolidates it in a format more accessible for the reader. The general priorities, correlations and evaluation mechanisms presented in this plan shall be used to effectively conduct resource monitoring with available staff and funding. In order to provide for flexibility in the event of changing resource focus or concern and the introduction of new science and methodology, the resource summaries cannot be viewed or interpreted as restrictive or all inclusive.

Following completion of the PRMP, implementation, effectiveness, and performance monitoring for the broader scale AMU/CMPA PRMP goals and objectives shall be developed in an Implementation Plan. This Plan will describe the annual monitoring methodology and priorities. It will also provide a mechanism for evaluating and reporting Plan implementation and effectiveness. This component of implementation monitoring is critical for the successful use of the proposed adaptive management strategy adopted in the PRMP, as applied at a landscape level.

This monitoring plan establishes general guidance and priorities for conducting resource monitoring in the AMU and CMPA and shall identify resource monitoring priorities by geographic areas or other considerations, dependent upon available funding. The specific benefits of the plan include the following:

- Increased efficiency in the resources monitoring program by avoiding duplication between resource programs and administrative units.
- Prioritized resource monitoring needs within individual resource programs to aid in staff assignments and budget allocation.
- Identification of priority geographic areas by resource program, established through resource needs and individual program direction.
- Improved resource management based upon applying findings from monitoring and making appropriate management adjustments.
- Identification of the correlation and interrelationships between monitoring for different resources, uses and social values.

## B. Monitoring Definition

Monitoring is the process of collecting information to evaluate the effects of management actions on identified resources. Monitoring needs are determined by the goals and objectives established in the PRMP. Monitoring could also be directed by applicable laws, regulations, policy, and other planning documents, as well as available funding (e.g., the Wilderness Act, the Steens Act, the ESA, and associated Biological Assessments and Biological Opinions, the S & Gs, the Steens Mountain Wilderness and WSR Management Plan, and WQRPs associated with the CWA). Monitoring could be implemented as a result of site specific EAs and activity level resource management plans such as AMPs or SRMA Plans. Monitoring shall be conducted at the project/activity level and watershed level to evaluate project-specific action(s) and plan level goals and objectives.

**Implementation monitoring** determines whether specifically stated goals or activities are being met. This type of monitoring involves periodic review at the activity/project level (e.g., annual allotment summaries that determine whether the activity level management actions of an AMP are being implemented). Another example would include monitoring the completion of the Steens Mountain Wilderness baseline visitor inventory in order to identify and manage effects to resources within the Wilderness. Implementation monitoring could be as simple as checking to see if a fence line was constructed to the specifications provided in an EA prepared prior to construction. Implementation monitoring at the level of this monitoring plan is directed toward site specific management goals and objectives.

**Effectiveness monitoring** is used to determine whether specific actions help to meet or make progress toward short, intermediate, and long-term objectives (i.e., are our management actions achieving or making progress toward the desired results?). An example would include determining whether riparian habitat was being maintained or improved, with regard to hydric species composition and density. Effectiveness monitoring provides for short-term resource response indicators that provide the opportunity to adjust management actions in order to meet or make progress toward long-term goals and objectives. Effectiveness monitoring is the key to successful adaptive management strategies.

**Performance monitoring** measures achievement or progress toward goals and long-term objectives, typically through the collection and analysis of effectiveness monitoring over time. As used above, the example of effectiveness monitoring of riparian habitat would be utilized as performance monitoring through the comparison of multiple years of effectiveness monitoring. This performance monitoring demonstrates that attainment or progress toward desired goals and objectives continues, while also capturing the potential cumulative effects of multiple site specific management actions. In the riparian monitoring example, performance monitoring shall be used to evaluate management within an entire drainage, combining the results of multiple effectiveness monitoring sites. Performance monitoring is also crucial to adaptive management strategies, as it can then be applied to adjusting site specific management actions or land use plan decisions to demonstrate continued attainment or progress toward long-term goals and objectives. Public and customer feedback could also be considered, where appropriate.

### **C. Roles and Responsibilities for Monitoring**

1. Resource Specialists, in consultation with specialists of other affected resources shall recommend appropriate monitoring priorities and staff assignments to the Field Manager. Resource Specialists shall track overall AMU and CMPA progress in meeting monitoring commitments for the assigned resources and geographic areas.
2. Resource Specialists responsible for specific monitoring tasks shall seek appropriate public input and participation in the monitoring implementation and/or provide feedback to public participants in those instances where interest groups or other public groups have participated in developing management strategies. Examples would include SRP holders submitting post-use reports, or livestock permittees submitting actual use reports or participating in vegetation monitoring.
3. Resource Specialists shall be responsible for analyzing and reporting monitoring data and making specific management adjustment recommendations to the Field Manager, based upon data analysis and professional judgment.
4. District Program Leads and/or Data Stewards (when applicable) shall assist and direct Resource Specialists in determining specific monitoring techniques, based on guidance from the State Office and current scientific and BLM standards.
5. AMU and CMPA Budget Representatives shall be responsible for programming appropriate funding to provide completion of programmed monitoring, within the constraints of available budget.
6. The Field Manager, in consultation with Resource Specialists, shall determine specific monitoring policy, protocols, strategies, techniques, and priorities for the AMU and CMPA, based on current funding opportunities and issue identification.
7. The Field Manager shall be responsible for determining data acceptance from outside sources.
8. The Field Manager shall make specific decisions for management adjustments necessary to achieve improved resource management.

### **D. Resources Monitoring**

Monitoring information in this plan is presented in the same resource sequence and numbering system utilized in Chapter 2 of the AMU/CMPA PRMP. These resource monitoring summaries present basic information about monitoring of individual resources at the site specific or project specific level. General priorities shall be described within the context

of a single resource or use. Interrelationships between single resource specific monitoring and other resources shall be identified, when applicable. Available evaluation and reporting mechanisms shall be identified.

For some resources and uses, detailed monitoring methodology may be identified. Some resource monitoring could require statistical validity. These monitoring techniques are often labor intensive, and are only applied for specific monitoring needs. The information gained from this monitoring will typically be used in conjunction with information from other less intensive monitoring methods in order to gain an understanding of management effectiveness over a broader area. Some resources and uses only require qualitative or observational monitoring to measure management effectiveness.

## **2.2 Air Quality**

Air quality is monitored by the State of Oregon to identify and quantify the effects of all uses and activities within the state. Except for wildland fire activities and events, BLM management activities do not affect air quality to an extent that requires monitoring or mitigation.

An air quality monitoring network has been developed for Oregon that will be utilized to help quantify air quality standards. Fire prescriptions and mitigation measures shall be reviewed and records of acreages/tonnages burned shall be maintained and reported. Additional smoke management mitigation measures, including the use of smoke modeling programs (e.g., simple approach smoke estimation models), would be completed for large or long duration burns that have the potential to affect major population centers.

## **2.3 Water Resources**

Water resources monitoring is primarily designed to measure water quality attributes as an indicator of reach or watershed scale condition relative to identified beneficial uses (e.g. salmonid habitat) and standards prescribed under the CWA. Water quality monitoring is primarily in the context of performance monitoring, relying on monitoring of other resources, such as vegetation, that generally indicate an earlier response to land management activities and function as surrogate measures of water quality. The prioritization, intensity, and scale (watershed, subwatershed or reach/site) of implementation, effectiveness, and performance monitoring shall be determined through watershed or reach/site assessments, activity plans, or WQRPs.

Identification of specific riparian attributes of vegetation, hydrology/geomorphology and erosion/deposition to be monitored shall be identified through PFC assessments (USDI 1988 and 1999) and activity level planning. The relevance of vegetation management to the maintenance, restoration, or improvement of water quality and quantity will be reflected in monitoring the implementation and effectiveness of BMPs, and may include a variety of techniques to assess condition and trend.

## **2.4 Soils and Biological Crusts**

Direct monitoring of soils is not typically implemented except in the case of major erosion features, such as head-cuts or gully erosion. These features are usually monitored for movement and expansion utilizing photo points and fixed-point measurement. Other direct soil monitoring shall be conducted by research and educational entities to study the effects of western juniper encroachment and control treatments. These monitoring efforts, which measure soil attributes such as infiltration rate, are outside the scope of BLM resource monitoring.

Information on soil processes, as required by the S & Gs, is typically inferred from other monitoring information, such as vegetative cover and density, litter cover, and stream sediment loading and turbidity. It can be assumed, in the absence of measurable and observable soil erosion, and in the presence of healthy vegetative communities, that soil processes are functioning correctly.

The S & Gs identified biological soil crusts as one of at least twelve potential indicators to be used in evaluating watershed function for uplands. Biological soil crust monitoring is intended to establish the presence or absence of biological soil crusts, and where they are present, to measure the effects of long-term climatic variations, precipitation, elevation, soils and topography, and disturbance to biological soil crusts.

**2.3 Water Resources Monitoring Table\***

<b>Monitoring Method</b>	<b>Monitoring Type***</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
PFC Assessment	E, P	Qualitative assessment of riparian/stream physical function that considers hydrology, vegetation and soil/landform attributes	Habitat for T&E or Special Status aquatic species; WSR designated streams; perennial and intermittent streams within Wilderness; other perennial or intermittent streams.	Riparian-wetland vegetation, fisheries habitat, wildlife habitat, grazing management, wild horse management, recreation management, transportation management	Single base-line assessment; reassess streams at less than PFC following indication of change in identified limiting factors
Water Temperature	E, P	Quantitative measurement of daily fluctuation and 7-day average maximum of stream temperature	WQRP implementation and development; T&E salmonid habitat; Redband Trout Reserve/WSR; Special Status salmonid habitat.	Riparian vegetation, fisheries habitat, grazing management	1-3 consecutive years within a 10-year time frame, or as specified in WQRP
Stream Shade	E, P	Quantify site specific or reach average percent stream shade	WQRP implementation and development.	Riparian vegetation, fisheries habitat, grazing management	Determined through WQRP
Macroinvertebrate Sampling	E, P	Presence, composition and diversity of aquatic macroinvertebrates	303(d) listed streams.	Riparian vegetation, fisheries habitat, grazing management	Infrequent-issue specific
Stream Channel Cross-Sections	E, P	Quantify channel configuration and width-to-depth ratio	WQRP implementation and development; project specific actions that may modify stream channel configuration.	Riparian vegetation, fisheries habitat, grazing management, recreation management, transportation management	Infrequent-issue specific

\* This list of potential monitoring methods is neither all inclusive nor exclusive of new monitoring techniques or methodologies. Monitoring efforts will be implemented based upon accepted BLM technical references and accepted science research.

\*\* I = Implementation, E = Effectiveness, P = Performance

\*\*\* Those additional resources which are directly monitored as a result of water resources monitoring, or for which inferences regarding condition can be derived from water resources monitoring.

Disturbance can result from natural and BLM management-related influences. Human-caused influences are the one effect to biological soil crusts which can be correlated, either positively or negatively, to BLM's management actions. Monitoring data of biological soil crusts can be directly correlated to known activities occurring within a particular area. The effects monitored can then be translated into correlating resource condition, primarily soil stability and/or soil erosion.

Biological soil crusts monitoring is focused primarily on those distinct morphological groups of biological soil crusts that are easily identified in the field. These morphological groups are also useful because they are representative of the ecological function of the organisms (p. 6, Technical Reference (TR)-1730-2). The data gathered on these morphological groups can then be analyzed against the factors influencing the distribution of biological soil crusts, including elevation, soils and topography, disturbance, and timing of precipitation. Monitoring typically focuses on presence or absence and cover.

Initial prioritization of biological soil crusts monitoring will focus on the Pueblo-Lone Mountain Allotment. This prioritization will satisfy a series of actions required by the BLM to comply with a settlement (USDI Office of Hearing and Appeals Settlement of OR-020-97-01 and OR-020-97-02) between the BLM and the appellants Elaine Rees and Oregon Natural Desert Association (ONDA). The appellants maintained that the BLM did not consider biological soil crusts when preparing the 1995 Pueblo-Lone Mountain AMP EA. The resulting settlement provided the opportunity for the BLM to cooperate with the appellants in the development of biological soil crusts monitoring strategy for the Pueblo-Lone Mountain Allotment.

The agreement to cooperate with Elaine Rees and ONDA on development of a monitoring strategy for the Pueblo-Lone Mountain allotment precludes the inclusion of a specific monitoring methodology in this monitoring plan. Key BLM personnel attended a training session in February, 2002, titled Roles of Microbiotic Soil Crusts in Rangeland Health. This course presented information contained in TR-1730-2, which was incorporated into a proposed monitoring strategy and provided to the appellants in early 2004. Following agreement on the proposed strategy, monitoring in the Pueblo-Lone Mountain Allotment was implemented in the spring of 2004.

Following initiation of biological soil crusts monitoring in the Pueblo-Lone Mountain Allotment in cooperation with the appellants, biological soil crusts monitoring strategies will be expanded to other areas, based upon prioritization of identified resource conflicts and concerns. Specific monitoring methodology and monitoring intervals shall be defined in the Implementation Plan for the AMU/CPMA PRMP/FEIS.

## 2.5 Vegetation

Vegetation monitoring is designed to measure the response of vegetative communities or species to particular influences such as grazing use, fire, climate, vegetative treatments, recreation activities, and vehicle use. Monitoring provides information necessary to change management strategies defined in site specific EAs, allotment evaluations, AMPs, recreation plans, wilderness plans, and TPs. Monitoring provides feedback in order to evaluate management decisions and implementation, and provides the evaluation necessary to change management strategies to best manage natural resources.

Vegetation monitoring must be designed to correctly monitor the desired community/species, relative to the known or predicted influence to the vegetation. Areas with little or no resource use or concerns could require only minimal monitoring, such as occasional visual observation. Areas of higher use or resource concern could require more intensive monitoring, such as line-intercept transects, nested frequency plots, greenline transects or other more intensive monitoring methodology.

Vegetation monitoring usually occurs during the allotment evaluation process followed by a report. All herbicide treatments are evaluated and reported to the ODA.

### *Riparian and Wetlands*

Riparian and wetland areas are typically the first areas to be affected by uses such as grazing and recreation activities. Conversely, riparian and wetland areas often tend to be more resilient to other influences, such as fire and climatic variability. Riparian and wetland areas generally tend to respond more rapidly when management is adjusted to provide for improvement, but can degrade rapidly if management is not adjusted in a timely manner when monitoring data indicate a need for changes to management activities. Monitoring methods for riparian and wetlands may include but are not limited to: PFC assessments, greenline transects, browse transects, photo points, channel cross sections and vegetation density/composition/frequency assessments.

### *Woodlands*

Western juniper encroachment in the CMPA is the focus of most monitoring for woodlands. Monitoring is focused on density (i.e., number of trees per acre) and age class, which can be measured through visual observation or more intensive core sampling and ring counting. Other woodland types such as quaking aspen and mountain mahogany stands, are monitored for their response to western juniper control activities such as cutting and burning and other management activities and uses. These woodland types are monitored for density, age class, and recruitment.

### *Wildland Juniper Management Area*

The WJMA was established in the Steens Act for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain. As such, monitoring within the WJMA shall be designed on a site specific basis, as applicable to studies and demonstrations occurring within the designated area.

### *Rangelands*

Rangelands typically encompass shrub-grass communities, most commonly used for grazing activities. Rangelands can be slow to show response to influence from grazing management and other activities, and can also be slow to show recovery response after appropriate management changes are implemented. Monitoring methods for rangelands may include, but are not limited to, utilization studies, line-intercept transects, pace-frequency transects, Cole browse transects, nested frequency plots, photo-trend plots, climatic data, and actual use reports.

### *Noxious Weeds*

Noxious weed infestations are a serious threat to all types of vegetative communities. Monitoring is focused on identification of new infestations, spread of existing infestations, and effectiveness of treatment activities. Monitoring for new infestations is accomplished through inventories, most commonly in areas previously disturbed by fire or other disturbance causing activity, and also in areas with high resource values where early detection is critical to maintain those values. Spread of existing infestations and treatment effectiveness are often monitored simultaneously using stem counts, various estimation techniques, and/or calculations using calibrated herbicide application equipment.

## **2.6 Fish and Wildlife**

Fish habitat monitoring is primarily in the context of water quality and riparian vegetation condition, management, and monitoring. Additionally, the BLM, independently or in coordination with the ODFW and/or the USFWS, periodically assesses fish and aquatic habitat using established inventory and monitoring protocols. Management and monitoring of fish population and distribution is under the jurisdiction of the ODFW and/or the USFWS; the BLM coordinates and cooperates with these agencies relative to monitoring public lands.

Wildlife species habitats are related to other resources such as riparian/wetland areas or upland areas. Monitoring of these areas using techniques described in the grazing management, vegetation management, and water resources sections, will also give a description of the condition of habitat for wildlife species. Management and monitoring of wildlife population and distribution is under the jurisdiction of the ODFW and/or the USFWS; the BLM coordinates and cooperates with these agencies relative to monitoring public lands.

## **2.7 Special Status Species**

Special status plant and animal species monitoring is designed to assess the distribution, resource condition, and trend of species populations known or suspected to be limited in distribution, uncommon within a specific area, or potentially vulnerable to certain activities occurring on public land. Monitoring is conducted in key areas and is designed to best reflect the attribute that identified the species for a special status species category.

**2.5 Vegetation Management - Monitoring Table\***

<b>Monitoring Method</b>	<b>Monitoring Type***</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
Grazing Use Supervision	I, E, P	Monitors livestock management such as: pasture moves; gathering; salt placement; herding practices; and livestock locations and seasonal movements.	I, M and C category allotments; more intensive with more resource concern.	Riparian vegetation, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly
Grazing Actual Use Data	I, E, P	Monitors actual number and timing grazing animals in an allotment and individual pastures versus permitted numbers and time, reported by permittees.	I and M category allotments.	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly
Climatic Data	E, P	Measure annual precipitation	All	All	Yearly
Vegetation Density/Composition/Frequency Monitoring	E, P	A variety of monitoring methods which inventory species abundance and distribution to assess changes in composition over time, relative to site potential.	Special status species plant populations; riparian vegetation; noxious weed infestations and treatments; other vegetation types requiring more intensive monitoring.	All vegetation, grazing management, fisheries habitat, wildlife habitat, wilderness	Infrequent-issue specific
PFC Assessment	E, P	Qualitative assessment of riparian/stream physical function that considers hydrology, vegetation and soil/landform attributes.	Habitat for T&E or special status aquatic species; WSR designated streams; perennial and intermittent streams within wilderness; other perennial or intermittent streams.	Riparian-wetland vegetation, fisheries habitat, wildlife habitat, grazing management, wild horse management, recreation management, transportation management	Single base-line assessment; reassess streams at less than PFC following indication of change in identified limiting factors
Photo Points	E, P	Visual reference for long-term comparison.	Special status species plant populations; riparian vegetation; noxious weed infestations; other vegetation types requiring more intensive monitoring.	All vegetation, grazing management, fisheries habitat, wildlife habitat, wilderness	Yearly, or less frequently dependent upon management activity

ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA  
 PROPOSED RESOURCE MANAGEMENT PLAN AND FINAL ENVIRONMENTAL IMPACT STATEMENT

<b>Monitoring Method</b>	<b>Monitoring Type**</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
Cole Browse Transect	E, P	Measures livestock utilization on key wildlife browse species, such as bitterbrush.	Critical wildlife habitat	Riparian vegetation, wildlife habitat	1 - 3 years
Other Methods as Developed/Identified	I, E, P	Measure effectiveness of vegetation management strategies in relation to other resource responses.	Dependent on desired resource response to be monitored	Dependent on desired resource response to be monitored	Dependent on desired resource response to be monitored

\* This list of potential monitoring methods is neither all inclusive nor exclusive of new monitoring techniques or methodologies. Monitoring efforts will be implemented based upon accepted BLM technical references and accepted science research.

\*\* I = Implementation, E = Effectiveness, P = Performance

\*\*\* Those additional resources which are directly monitored as a result of vegetation management monitoring, or for which inferences regarding condition can be derived from vegetation management monitoring.

Monitoring for special status plant and animal species will show the effect of management and activities on populations of special status species plants, animals and their habitats. Monitoring will provide data necessary for making determinations as to whether these plants should be listed as T&E, require further observation, or should be removed from consideration as a special status species. Monitoring of those species populations that have not been listed as T&E shall be utilized to gain management information, which will lead to conservation or recovery of those populations occurring in the Planning Area.

The established specific status categories from the highest priority to the lowest are as follows: Endangered Species, Threatened Species, Federal Candidate Species, BLM Sensitive Species, and BLM Assessment, Review and Tracking. These categories are divided between ESA listings and identified BLM concerns. T&E and Federal Candidate species are ESA categories, and the remaining categories are BLM established.

Priority monitoring shall be focused on Endangered, Threatened, Federal Candidate and BLM Sensitive Species. Monitoring efforts for special status plant species shall include establishment of permanent plots in the critical habitats to determine the trend of individual plants or populations. Examples of monitoring methods include circle plots and line transects. Both methods include photo points, as well as measurements of individual plants within the population. Monitoring is expected to continue until the species is stable and off the T&E, Federal Candidate or BLM Sensitive lists. The appropriate monitoring is conducted on a yearly basis. Monitoring efforts for special status animal species shall include PFC assessments for riparian areas, species counts, and radio telemetry tracking.

Further monitoring is conducted for BLM Assessment, Review and Tracking Species. Since these species are not known to be in imminent jeopardy, monitoring is a lower priority and occurs less frequently. Monitoring typically involves ocular reconnaissance to determine population presence, density, and visible threats to the plants, animals, or their habitats.

Monitoring data for special status plant and animal species is incorporated in management decisions for other resources and uses. These data are evaluated and reported to the ODFW and the USFWS. Management may be corrected or adjusted to facilitate improvement of special status plant and animal species, or their habitats. Most commonly, management actions which affect special status plant and animal species are related to the following: Energy and Minerals, Wild Horses and Burros, Grazing Management, Wildland Fire Management, Transportation and Roads, Lands and Realty, OHVs, and Recreation.

## **2.8 Paleontological Resources**

Paleontological resources monitoring is designed to measure the effects of natural and human-caused disturbance on paleontological resources, so that management can be implemented to prevent or minimize deterioration or degradation. Monitoring shall entail measurement, description and photo documentation of disturbed areas within localities and recording evidence of illegal collection and evacuation. These data will serve as baseline information to compare with subsequent monitoring visits. All localities within the Planning Unit would be monitored once every five years. Paleontological monitoring information is evaluated and reported in site specific project analyses.

## **2.9 Cultural Resources**

Cultural resources monitoring is designed to measure the effects of natural and human-caused disturbance on cultural resources so that management can be implemented to prevent or minimize deterioration or degradation. National Register of Historic Places listed and selected eligible sites shall be monitored once every ten years to determine baseline site condition. Monitoring all sites within the Planning Area is not practicable, due to the large number of known sites and limited budget.

### *Wilderness and Wild and Scenic Rivers*

National Register Eligible sites most susceptible to effects from recreation and livestock grazing shall be monitored once every five years. Sites susceptible to illegal looting and/or excavation shall be monitored every year. Other National Register Eligible sites shall be monitored every ten years.

Monitoring shall entail measurement, description, and photo documentation of disturbed areas within sites and recording evidence of looting and illegal excavation. These data will serve as baseline information to compare to subsequent monitoring visits.

#### *Riddle Brothers Ranch National Historic District*

The Benjamin Riddle House and associated structures shall be visited annually to assess maintenance needs. The caretaker would report any historic structure or feature maintenance needs to the Burns DO cultural resources staff. The caretaker shall monitor visitor use and act as a deterrent to illegal theft of historic and prehistoric artifacts.

Cultural resources monitoring data are reported to the Oregon State Historic Preservation Officer. These data are also evaluated and reported in site specific project analyses.

### **2.10 Native American Traditional Practices**

On-the-ground monitoring of other resource uses in identified traditional practice sites shall be developed in order to determine condition, amount of deterioration, and use of such sites. Procedures shall be developed to track consultation and to document all written, telephone, electronic, and in-person communications, with a yearly review for adequacy.

### **2.11 Visual Resources**

Visual resource monitoring is used to complete and implement mitigation measures incorporated into a proposed management action or developed through the NEPA process. Mitigation measures are developed so that VRM Class objectives for the project area are met.

VRM monitoring is typically implemented on a project specific basis. The Visual Resource Contrast Rating is the basic monitoring tool used to determine whether VRM Class objectives are being met or if additional mitigation measures need to be developed and implemented. Monitoring can include on-site inspections during and after project work. Documentation should include photographs, video, and/or written reports. To that end, it is critical that all personnel (proponents, contractors, and BLM staff) associated with the construction phase of projects understand the intent of the visual mitigation measures.

Management actions with the greatest potential to effect VRM are as follows: woodlands management; development of mineral material sources; energy and minerals exploration and development; transportation corridor development; and lands and realty ROWs and utility corridors. VRM monitoring evaluation and reporting will be presented in project/action-specific files and analyses.

### **2.12 Social and Economic Values**

Monitoring for social and economic values allows the BLM to provide information to local governments regarding inputs to the local community resulting from BLM management of public lands so that community interests and needs are properly considered.

BLM records will be used to determine the amounts of commodity uses (i.e., AUMs, tons of minerals, range products, etc.). Employment in related industries shall be monitored using public information sources. BLM budget information shall be utilized to project and ascertain expenditures for environmental quality projects and facilities development. This information will then be correlated to employment and revenue in related industries.

Recreation Management Information Systems and other site specific measures shall be used to determine visitor use levels. BLM procurement records shall be utilized to track local versus non local contracts; payroll records will be utilized to track BLM employment levels.

Information from social and economic monitoring will be used to inform future management decisions. Employment and commodities data shall be reported in annual planning updates. No other specific reporting is anticipated, unless specific available information is requested by local government entities.

### **2.13 Energy and Minerals**

For renewable energy permitting, see the Lands and Realty section.

Monitoring for locatable, leasable, and saleable energy and minerals exploration and development is designed to provide compliance with applicable laws, regulations, policy, and site specific plans. In addition, monitoring helps to provide

compatibility with other resource management objectives, and other resource uses, and helps to provide for protection of public lands.

#### *Locatable Minerals*

For locatable minerals, monitoring of activities on mining claims shall be conducted primarily to provide compliance with the 43 CFR 3802/3809/3715 regulations and site-specific plans. These regulations allow locatable minerals activities on public lands while preventing unnecessary or undue degradation; require reclamation of disturbed areas; and provide for coordination with other agencies. The 43 CFR 3809 regulations state that the BLM may inspect minerals exploration and mining operations at any time. Those regulations further establish minimum inspection frequencies for mining operations as follows: at least four times each year, the BLM shall inspect all operations that are using cyanide or other leachate, or where there is significant potential for acid rock drainage. There is no stated frequency for inspections for all other activities. According to BLM policy, activities in sensitive areas or activities with a high potential for greater than usual effects shall be inspected more often than annually.

#### *Leasable Minerals*

For leasable minerals, inspections shall be conducted primarily to provide compliance with 43 CFR 3100/3200/3500 regulations and site specific plans. Where mineral production occurs, inspections will show (1) an accurate accounting of material removed; (2) proper compensation to the federal government; and (3) protection of the environment, public health, and safety. Activities in sensitive areas or activities with a high potential for greater than usual effects shall be inspected more frequently, according to BLM policy.

#### *Saleable Minerals*

Inspections of saleable minerals operations shall be conducted primarily to determine compliance with 43 CFR 3600 regulations and site-specific plans. Where mineral production occurs, inspection will show (1) an accurate accounting of materials removed; (2) proper compensation to the federal government; (3) protection of the environment, public health, and safety; and (4) identification and resolution of saleable mineral trespass. Activities in sensitive areas or with a high potential for greater than usual effects shall be inspected more frequently, according to BLM policy.

### **2.14 Wild Horses and Burros**

Wild horse and burro monitoring is designed to measure the health and viability of wild horse and burro populations, and to measure the effects of their grazing on a variety of resources and uses, including the following: wild horse and burro habitat; vegetation; riparian habitat; water quality; Special Status Species and their habitat; wildlife habitat; wilderness; recreation; and livestock grazing operations.

Wild horse and burro monitoring falls into two distinct categories: animal/herd monitoring and resources monitoring. Animal monitoring includes animal counts, determination of animal locations and seasonal movements/use areas, annual reproduction rates, herd age structure, sex ratios, physical traits (size, color, weight, unique markings), and establishment and reassessment of herd baseline genomes. Resource monitoring includes collection of climatic data, use supervision, and actual use data. Additional vegetation condition and trend data shall be gathered in the course of monitoring for grazing management, riparian vegetation, and rangelands. Monitoring provides information necessary to determine the need for and timing of gatherings, which animals to remove, and whether to maintain or adjust AMLs.

Priorities for monitoring wild horses and burros are established by AMLs and the herd's relative status within HMAs for a given year. Those HMAs approaching or exceeding the upper limit of AMLs will receive priority for monitoring. Those HMAs which have recently been gathered and are at the low end of AMLs will receive minimal monitoring within a given year. Additional monitoring priority could be assigned if major changes occurred within a particular HMA, such as a change to available area, a change in livestock grazing use, water distribution, or some other change which could affect the resident animals. Wild horse and burro population and habitat monitoring is evaluated and reported in the allotment evaluation process and in analysis of specific gathering activities.

### **2.15 Grazing Management**

Grazing management monitoring is designed to measure the effects of grazing animals (e.g., domestic livestock, wild horses, and wildlife) on a variety of resources and uses including: vegetation; riparian habitat; water quality; threatened and endangered species; wildlife habitat; wilderness; recreation; and wild horse and burro habitat. Monitoring provides information necessary to change management strategies defined in environmental assessments, allotment evaluations, and allotment management plans. It provides the feedback loop to evaluate management decisions and implementation, and provides the evaluation necessary to change management strategies to best manage the resources.

**2.14 Wild Horses and Burros Monitoring Table\***

<b>Monitoring Method</b>	<b>Monitoring Type**</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
<b>Focus: Animal</b>					
Animal Census	E, P	Animal numbers, animal locations and seasonal movement/use areas, sex ratios, annual reproduction rates, physical traits.	HMA's approaching or exceeding AML	Riparian habitat, upland vegetation	1- 5 years
Visual Observations	E, P	Animal numbers, animal location and seasonal movement/use areas, sex ratios, annual reproduction rates, physical traits.	HMA's approaching or exceeding AML; BLM staff presence in area	Riparian habitat, water quality, upland vegetation, wildlife habitat, wilderness, visitor use	When present and as needed
Gate Cuts	E, P	Sex ratios, annual reproduction rates. physical traits, herd genome.	At gather	None	At gather
Genetic Testing	E, P	Herd baseline genome.	At gather	None	At gather
<b>Focus: Resource</b>					
Utilization	E, P	Forage availability and utilization, conflicts with livestock use, habitat condition, animal location and seasonal movement/ use areas.	HMA's approaching AML; I category livestock allotments with HMA's	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly, or less frequently
Visual Observations	E, P	Animal numbers, animal location and seasonal movement/use areas, sex ratios, annual reproduction rates; physical traits, habitat condition, water availability.	HMA's approaching AML; BLM staff presence in the area	Riparian habitat, water quality, upland vegetation, wildlife habitat, wilderness, visitor use	When present and as needed
Use Supervision	I, E, P	Monitors livestock management such as: pasture moves; gathering; salt placement; herding practices; and livestock locations and seasonal movements.	I, M and C category allotments with HMA's; more intensive with more resource concern	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness, livestock management	Yearly
Actual Use Data	I, E, P	Monitors actual number and timing grazing animals in an allotment and individual pastures versus permitted numbers and time; reported by permittees.	I and M category allotments with HMA's	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness, livestock grazing management	Yearly

\* This list of potential monitoring methods is neither all inclusive nor exclusive of new monitoring techniques or methodologies. Monitoring efforts will be implemented based upon accepted BLM technical references and accepted science research.

\*\* I = Implementation, E = Effectiveness, P = Performance

\*\*\* Those additional resources which are directly monitored as a result of wild horse and burro monitoring, or for which inferences regarding condition can be derived from wild horse and burro monitoring.

**2.15 Grazing Management - Monitoring Table\***

<b>Monitoring Method</b>	<b>Monitoring Type***</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
Use Supervision	I, E, P	Monitors livestock management such as: pasture moves; gathering; salt placement; herding practices; and livestock locations and seasonal movements.	I, M and C category allotments; more intensive with more resource concern	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly
Actual Use Data	I, E, P	Monitors actual number and timing grazing animals in an allotment and individual pastures versus permitted numbers and time; reported by permittees.	I and M category allotments	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly
Utilization	I, E, P	Measures forage utilization by grazing animals, either as an ocular estimate or as a quantitative measurement.	I and M category allotments	Riparian habitat, water quality, fisheries habitat, wildlife habitat, upland vegetation, wilderness	Yearly, or less frequently
Photo-Trend Plots	E, P	Measures vegetation cover and frequency through photo documentation and trend plot analysis.	I and M category allotments	Wildlife habitat, upland vegetation, wilderness	5 to 7 year intervals
Nested Frequency	P	Measures vegetation presence and frequency through nested plot analysis.	I category allotments	Wildlife habitat, upland vegetation, wilderness	5 to 10 year intervals
Climatic Data	E, P	Measures annual precipitation.	All	All	Yearly
Line-Intercept Transects	E, P	Measures vegetative composition and cover; often used to measure vegetation response after fire .	I and M category allotments	Wildlife habitat, upland vegetation, wilderness	3 to 5 year intervals, if indicated for management
Pace Frequency Transects	E, P	Measures vegetative composition and frequency.	I category allotments	Wildlife habitat, upland vegetation, wilderness	5 to 7 year intervals, if indicated for management
PFC Assessment	E, P	Qualitative assessment of riparian/stream physical function that considers hydrology, vegetation and soil/landform attributes.	Habitat for T&E or Special Status aquatic species; WSR designated streams; perennial and intermittent streams within wilderness; other perennial or intermittent streams	Riparian-wetland vegetation, fisheries habitat, wildlife habitat, grazing management, wild horse management, recreation management, transportation management	Single base-line assessment; reassess streams at less than PFC following indication of change in identified limiting factors
Greenline Transects	E, P	Measures riparian vegetative composition and cover.	I category allotments; stream segments of concern	Riparian vegetation, water quality, fisheries habitat, wildlife habitat	As indicated for management

<b>Monitoring Method</b>	<b>Monitoring Type***</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
Cole Browse Transect	E, P	Measures livestock utilization on key wildlife browse species, such as bitterbrush.	Critical wildlife habitat	Riparian vegetation, wildlife habitat	1 - 3 years
Other Methods as Developed/Identified	I, E, P	Measures effectiveness of grazing management strategies in relation to other resource responses.	Dependent on desired resource response to be monitored	Dependent on desired resource response to be monitored	Dependent on desired resource response to be monitored

\* This list of potential monitoring methods is neither all inclusive nor exclusive of new monitoring techniques or methodologies. Monitoring efforts will be implemented based upon accepted BLM technical references and accepted science research.

\*\* I = Implementation, E = Effectiveness, P = Performance

\*\*\* Those additional resources that are directly monitored as a result of grazing management monitoring, or for which inferences regarding condition can be derived from grazing management monitoring.

Improper grazing management can adversely affect natural resources and other public land uses, primarily through effects to vegetation, soils and water. These effects may be a result of improper timing, stocking rate, or livestock distribution. Proper grazing management can be utilized to enhance natural resources and other public land uses.

Grazing management monitoring typically focuses on livestock management and vegetation response. Livestock management can be monitored through use supervision, actual use reporting, and photo documentation. Vegetation is monitored through a variety of assessment and quantitative methods.

Grazing management monitoring is prioritized according to allotment category, as follows:

**I Category:** The “improve” category identifies allotments with management and/or resource concerns. These allotments receive priority for implementation, effectiveness, and performance monitoring.

**M Category:** The “manage” category identifies allotments with low or no management and/or resource concerns. These allotments receive lower priority for monitoring, and are targeted for effectiveness and performance monitoring, unless monitoring data indicate the need for a change to management strategy.

**C Category:** The “custodial” category identifies allotments with a very low ratio of public land to private land, and low resource values. These allotments are lowest priority for monitoring efforts, and receive minimal effectiveness and performance monitoring.

“T” category allotments are further prioritized for monitoring based on resources present. The most common resources considered for monitoring prioritization are riparian habitat, water quality, unique plant communities, wildlife habitat, and threatened or endangered species. Within the CMPA, monitoring is also prioritized for the effects of grazing management on wilderness.

Grazing management monitoring is evaluated and reported through the allotment evaluation process, analyses specific to gathering wild horses and burros, Section 7 consultation on T&E species, and in annual planning updates.

## **2.16 Wildland Fire Management**

Wildland fire monitoring is designed to provide safety for personnel involved in fire operations and achievement of resource management objectives, both for burning activities and rehabilitation activities. Monitoring completed after fires are suppressed will determine whether management strategies and suppression activities met safety standards and resource management objectives.

Monitoring studies are encouraged on all emergency fire rehabilitation projects to determine whether rehabilitation objectives are being met. Monitoring shall be carried out on all projects that employ new techniques, seed mixes, or other rehabilitation methods. Emergency fire rehabilitation funds may be used to fund monitoring studies for up to three growing seasons following fire control. This monitoring typically measures vegetative attributes, utilizing monitoring methods identified in the grazing management section. Soil monitoring may also be implemented, if there is a high potential for soil erosion or concerns regarding biological soil crusts. Noxious weed inventories are typically implemented in burned areas, as fire disturbance often provides opportunities for establishment of new noxious weed infestations.

Monitoring of fuel loads, vegetation conditions, and other ecological parameters shall be used to determine the appropriate course of action for prescribed fires, fuels reduction treatments, and fire management in case of natural ignitions. Monitoring results shall be used to determine whether the strategy or specific treatment that was implemented meets resource objectives.

## **2.17 Lands and Realty**

Monitoring of land tenure is designed to track land adjustments over time so that the objectives of the land use plan are being met; to determine the cumulative effects on land and tax bases; and to provide land tenure information to Congress, proponents, and the public. Land tenure is typically monitored by maintaining spreadsheets, databases, and maps showing past and planned ownership changes and proposals. This information is typically updated as land tenure projects are completed. Newly acquired lands would be incorporated into ongoing resource monitoring procedures on adjacent or comparable lands.

Monitoring of realty related land uses, including those for renewable energy development and military activities, shall be undertaken to provide compliance with requirements for mitigation, restoration of the lands, and other terms and conditions of the authorizing document. Monitoring of these types of activities typically involves inspection and photo documentation of the site. If deficiencies are noted during the inspection, the proponent is notified and corrective measures taken until compliance is achieved. Long-term land uses are frequently inspected during the initial construction phase. Once in operation, these land uses are inspected less frequently, concentrating monitoring efforts during periods of reconstruction, major maintenance, or land restoration activity. Development in sensitive areas, or activities with a high potential for greater than usual effects, would be inspected more frequently than those in less sensitive areas or those having less effect potential.

## **2.18 Transportation and Roads**

Monitoring of transportation and roads is designed to measure the frequency of motorized vehicles on roads and routes, and the effects that motorized travel has on other uses within the area. Transportation and road monitoring measures the effects to natural resources as a result of vehicular use, either on existing roads and routes or as a result of unauthorized cross country travel. Monitoring also measures the level and need for road and route maintenance and the effectiveness of road and route closure efforts.

Monitoring of transportation and roads is critical to protecting the integrity of the landscape within the Planning Area from undue effects as a result of road degradation, unauthorized off-road travel, or unauthorized vehicular travel in wilderness and WSAs. Road/route degradation can result in unacceptable vegetation effects and soil erosion, which affects soil stability, soil movement, and biological soil crusts. This in turn can affect wildlife and fisheries habitat, special status species, water quality, wilderness characteristics, visual resources, and the quality of visitor experiences.

Transportation and road monitoring will primarily be focused on the Steens Mountain Wilderness to aid management and protection of wilderness characteristics, and on the safety of routes open to the public. Further focus for monitoring efforts will occur within the CMPA to provide for the purposes and objectives of the Steens Act. Less intensive transportation and road monitoring will occur in the AMU, and will primarily be focused within WSAs to protect their Wilderness characteristics for potential future inclusion in the wilderness system.

Road/route conditions and natural resource effects will determine whether monitoring methods are appropriate as to type and frequency. Method and/or frequency will be adjusted if effects indicate that desired goals and objectives are not being achieved.

Evaluation and reporting of transportation monitoring shall be consistent with the Wilderness and WSRs Plan. Other evaluation and reporting shall be completed as necessary to inform future decisions for the AMU and public health and safety.

## **2.19 Off-Highway Vehicles**

OHV monitoring is designed to evaluate compliance with OHV designations, especially the closed and limited designations. OHV monitoring measures the area, extent, and severity of intrusions. Monitoring of OHV designations is directly related to the Wilderness motor vehicle intrusion monitoring.

There is no formal OHV monitoring plan or protocol at this time. The National Management Strategy for Motorized Off-Highway Vehicles on Public Lands provides for the OHV Strategy Action Team to provide national guidelines to be used in developing local OHV monitoring plans. When these guidelines are developed, a plan or plans will need to be written for OHV management in the CMPA and AMU. The monitoring plan shall include the type of data and amount of funding needed to effectively monitor OHV use and its effect on public land resources.

In the interim, OHV monitoring typically consists of field observations en route to or from other work assignments, as part of WSA surveillance, or as part of Wilderness boundary monitoring. Law enforcement is notified, if needed, when a major intrusion is observed.

**2.18 Transportation and Roads Monitoring\***

<b>Monitoring Method</b>	<b>Monitoring Type**</b>	<b>Monitoring Measurement</b>	<b>Prioritization Criteria</b>	<b>Related Resources Measured***</b>	<b>Monitoring Interval</b>
Visual Observation	I, E, P	Road/route condition; erosion; detection of off road travel; maintenance levels and needs; effectiveness of closures.	Safety; wilderness; WSA	Soils, BSEs, wilderness, WSA, upland and riparian vegetation, visitor use	Varied as to prioritization and use levels
Photo Points	I, E, P	Maintenance level is remaining consistent within Wilderness; road crossings effects in riparian areas; road closure effectiveness; erosion.	Wilderness; WSA; riparian habitat	Soils, BSEs, wilderness, WSA, upland and riparian vegetation	1 - 3 year intervals, or more frequently in wilderness
Road Counters	I, E, P	Travel frequency on a particular road or route.	Wilderness; WSA; CMPA; AMU	Visitor use	As needed
Visitor Satisfaction Surveys	I, E, P	Measures visitor satisfaction regarding permitted vehicle use within Wilderness.	Wilderness	Wilderness	Varied as to prioritization and use levels
Use Reports	E, P	Motorized vehicular use in Wilderness by authorized private land inholders and livestock permittees.	Wilderness	Wilderness	Yearly

\* This list of potential monitoring methods is neither all inclusive nor exclusive of new monitoring techniques or methodologies. Monitoring efforts will be implemented based upon accepted BLM technical references and accepted science research.

\*\* I = Implementation, E = Effectiveness, P = Performance

\*\*\* Those additional resources that are directly monitored as a result of transportation/road monitoring, or for which inferences regarding condition can be derived from transportation/road monitoring.

## 2.20 Recreation

### *Special Recreation Permit Monitoring*

SRP monitoring is designed to provide compliance by permittees with the SRP terms and conditions, stipulations, and operating plans. Monitoring is also designed to provide certainty that commercial operations and organized groups have the required permit. Law enforcement personnel take a proactive role in contacting potential permittees in the field and providing information on the need for SRPs, and the process of obtaining a permit. SRPs are monitored so that appropriate resource protection objectives are being met during the course of permitted recreational activities, and to aid in developing a rapport between the BLM and SRP holders. This rapport helps to bring noncompliant users into the permit system.

The type and methods for monitoring SRPs varies greatly by type of permit and the related activities. Resource effects, actual use, and compliance is monitored, utilizing techniques such as site visits, campsite inventories, patrol logs, videos and photos, and post-use reports. The amount and type of monitoring needs to be commensurate with the resource values as risk, the permittee's past performance record, and other factors such as whether permitted use occurs inside or outside wilderness. Monitoring is documented on the SRP Monitoring Form and is placed in the appropriate SRP file. Monitoring results are discussed with permittees on a yearly basis.

Monitoring data provide the opportunity to assess whether the authorized use is the correct fit for the area and to check effects on the resource and other users. If monitoring indicates that unacceptable resource effects are occurring, management can be adjusted through adjustments to a SRP, permit stipulations, or operating plan.

### *Recreation Site Monitoring*

Recreation site monitoring is designed to obtain visitor use information and levels. This information is used in recreation planning for recreation sites and to evaluate visitor satisfaction. The goal of monitoring is to provide data on the types and numbers of recreation activities.

Data on party size, length-of-stay, and geographic origin of visitors are gathered from campground fee envelopes. Additional information on activities, types of vehicles, party size, season of use, and existing potential resource concerns are observed and recorded during site visits. Road counters are also used in various locations within the CMPA and the AMU. They are checked and read monthly when they are accessible. These counters provide information on seasonal use trends and estimated use numbers. Observations on use areas, activities, types of vehicles, and resource concerns are also recorded when the counters are read. Additional recreational information is gathered at trail registers.

The information gathered is used to calculate estimated recreation use for entry into the Recreation Management Information System. Data from this system will be used in preparing the CMPA comprehensive recreation plan, Recreation Area Management Plans, and Recreation Project Plans.

## 2.21 Areas of Critical Environmental Concern

Monitoring of ACECs is designed to measure uses and activities on the relevant and important characteristics associated with any particular ACEC. Some ACECs are also designated as RNAs, and monitoring is designed to measure the effects of management and uses on the natural features and ecosystem conditions which warrant a RNA designation.

ACECs are identified under Section 103(a) of the FLPMA as areas where special management attention is required to protect and prevent irreparable damage to important values, resources, systems or processes, or to protect life and safety from natural hazards. The BLM shall protect special places and provide for visitor health and safety.

Monitoring for ACECs and RNAs is divided into two categories: visual observation and trend indicators. Baseline sampling has been established in some ACECs to document trends and conditions of relevant and important characteristics. Highest priority for monitoring efforts will be assigned to monitoring that measures potential changes from uses such as livestock grazing and recreation activity. If the visual monitoring indicates that a potential problem were occurring, permanent plots could be established to help identify potential causes, and to provide information for necessary changes in management.

Visual monitoring of key elements has been established for each of the relevant and important characteristics of the Alvord Desert ACEC and the following ten RNAs/ACECs: East Kiger Plateau, Little Blitzen, Little Wildhorse Lake,

Long Draw, Mickey Basin, Pueblo Foothills, Rooster Comb, South Fork Willow Creek, Tum Tum Lake, and Big Alvord Creek. Visual monitoring shall determine if outside forces are affecting the key elements of the natural area (e.g., recreation use, grazing use, etc). Photo points shall be established in key areas if visual monitoring indicates the need.

Trend monitoring shall be conducted to assess the effect of grazing animals on populations of specific plant species within the Long Draw RNA/ACEC, Pueblo Foothills RNA/ACEC and the Mickey Basin RNA/ACEC. Permanent plots have been established to monitor the condition and assess the trend of the key species. Photo points and measurements are taken in the Long Draw and Pueblo Foothills RNA/ACECs each year. The belt transect established in the Mickey Basin RNA/ACEC is read every five years.

## **2.22 Wilderness**

Wilderness monitoring is discussed at length in the Steens Mountain Wilderness and WSRs Plan (Appendix U).

## **2.23 Wilderness Study Areas**

WSA monitoring is designed to measure the effects of various activities within WSAs in order to preserve wilderness values in the WSAs.. The goal is to prevent impairment of an area's suitability for preservation as wilderness.

Monitoring is includes on-the-ground surveillance, conducted at a minimum of once per month during the months the area is accessible to the public. Surveillance can be initiated more frequently if potential use activities or resource conflicts indicate the need for such. Monitoring data are collected through the use of patrol logs, surveillance reports, BLM personnel diaries, and photographs.

Unauthorized uses and facilities may be assertively prevented by using such measures as law enforcement patrols, cooperative agreements with local law enforcement agencies, surveillance by volunteers, posting signs at key access points, notifying various user and commodity groups of WSA locations, and regular project compliance visits to monitor actions authorized within WSAs.

Monthly monitoring reports are maintained at the Burns DO. Information from these reports are used to make future management decisions, during allotment evaluation efforts, and in other site-specific planning documents.

## **2.24 Wild and Scenic Rivers**

Wild and Scenic River monitoring is discussed at length in the Wilderness and WSRs Plan (Appendix U).

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