Cooperative Monitoring Planning

The following examples should be considered when developing a monitoring plan with the grazing permittee or lessee. Cooperative monitoring plans should be considered dynamic documents, and should be reviewed and modified as necessary, when new information is available, or data needs change. (Caution should be considered when modifying long-term monitoring planning when legacy data exist and trend data value is reliant on re-reading existing monitoring sites.) Where Allotment Management Plans (AMPs), or other landscape-level management plans are used, consider augmenting these documents with joint cooperative monitoring planning.

A. Management Objectives

Clearly identify environmental assessment decisions, land use plans and/or other management plans, watershed or landscape management objectives and desired plant or animal habitat objectives to be used as a basis for selecting which rangeland attributes to be monitored. Updated sagebrush species' habitat objectives should also be identified. Allotments may be used or aggregated if size approximates a watershed level.

For grazing units with fully processed term permits, the environmental assessment and Records of Decision(s) will list or reference applicant-committed measures, special rangeland monitoring requirements, vegetation objectives, wildlife monitoring requirements, riparian and stream objectives, archaeological site livestock protection monitoring, and other resources involved with livestock grazing.

Agree on the appropriate interpretation and use of cooperative monitoring data and results, and review applicable BLM quality, and data standards ahead of time with all cooperators and agencies. Review and agree on joint calibration of estimated data and qualitative data definitions, adjusted for local conditions and species.

B. Background Monitoring Compilation

1. Compile and review data and summaries available from prior inventories and monitoring. Review of Ecological Site Descriptions (ESDs), state and transition models, county soil survey descriptions, and other local GIS base-layer vegetation information (The following examples should not be considered all-inclusive).

    A. For short-term monitoring, consider utilizing data sources such as local climate-related records, actual-use/season of use stocking records, utilization surveys, previous photo-point records, ocular estimate stubble height data and other sources of information collected from methods using state Rangeland Monitoring Guides and/or livestock association Resource Monitoring Guides. Additional resources include, but are not limited to BLM Technical Reference 4400-22 Actual Use Studies, and Interagency Technical Reference 1734-3 Utilization Studies and Residual Measurements.

B. For more in-depth qualitative assessments or long-term quantitative monitoring consider data sources such as the Proper Functioning Condition (PFC) Assessment, Inventory and Monitoring (AIM) data, summary sheets from Interpreting Indicators of Rangeland Health (IIRH), Multiple Indicator Monitoring (MIM) data, BLM core indicator data, soils information and summaries, range site trend, cover, or other range site trend data. Additional long term monitoring should be coordinated with AIM data stewardship. More information is available at: http://aim.landscapetoolbox.org/

C. For long or short-term monitoring, consider gathering fire occurrence mapping and metadata, vegetation treatment information, state habitat data (especially vegetation mapping), climate-related records, actual-use/season of use stocking records, utilization surveys, and photography. Additional cooperative monitoring data needs can be identified to meet management objectives, desired plant community objectives, and other considerations such as water quality, noxious weed and invasive species presence, or special status species habitat condition.

Monitoring Attributes & Protocols

1. Describe and agree on location(s), timing, attributes to be measured, protocols and tools to be used. All parties should agree on whether the data will be used for long or short-term monitoring, adjustments during the season of use, or both, if appropriate.

2. Cooperative short-term monitoring should include measuring and assessing indicators or attributes appropriate for evaluating the pasture/allotment/watershed or landscape-level management objectives. These can include repeat or new measurements recorded by photography, utilization estimates or residual measurements (stubble height), vegetation structure (height, pattern), age class distribution of plant species, vegetation production and/or vigor, erosion indicators, ground cover, vegetative species composition, and other relevant indicators.

3. Monitoring data should be collected in a manner that is repeatable and as quantitative as practical. Photography should be clearly labeled and include at least one photo that includes distinctive horizon features and coordinates, if possible, for repeatability.

4. Where available, Ecological Site Descriptions (ESD) should be the basis for interpreting and extrapolating long-term trend data and monitoring results, and for conducting rangeland inventories. In the absence of ESDs, M. Pellant et. al. 2005 describes a process to identify existing ecological sites and ESDs that may be suitable for the soil, moisture, aspect, and slope of the site in question. If no suitable ESDs are available, the above reference also describes a process for developing a Reference Sheet that can serve as a baseline ecological description.)

5. Long term monitoring should consider the long-term trends of specific rangeland

indicators within the area of interest, and whether they are at or trending toward the desired condition given the potential of the area, e.g., the trend of perennial bunchgrasses, forb diversity, or annual grass cover. Long term monitoring can also inform departure from the desired condition based on the ecological site potential if sufficient monitoring sites are present for the area being assessed and these are supplemented with professional judgement and other information provided through cooperative monitoring with the permittees or other stakeholders.

Data Evaluation

1. All parties involved in cooperative monitoring should receive copies of field data, results and summaries. Consider follow-up sessions to further monitor, evaluate and discuss data findings, as appropriate.

2. No single attribute or point-in-time measurements are adequate to be used as stand-alone information for trend monitoring or consideration of obtainment/non-obtainment of rangeland objectives.