APPENDIX 2. IMPLEMENTATION, MONITORING, AND EVALUATION PROCESS

This appendix provides detail on the resource management strategy to be used in the Jack Morrow Hills Coordinated Activity Plan (JMH CAP) planning area. Appendix 3, Appendix 6, and Appendix 10 in the final Environmental Impact Statement (EIS) also provide information on resource monitoring that supports the process outlined in this appendix. Other appendices contain information on BLM procedures and guidelines and provide support information for this process.

This appendix discusses how the various surface use activities and their interactions with other planning area resources will be monitored. Examples focus on oil and gas activities because these are anticipated to have the greatest immediate impact. Data collected in the planning area will be used to measure progress toward the goals adopted for the planning area, evaluate the effectiveness of specific practices or policies, and support decision changes. Timing and sequencing of resource activities will be used where appropriate and required to attain the management vision. This appendix provides detail on the resource management strategy to be used in the JMH CAP planning area.

MANAGEMENT VISION

In general, resource management in the JMH CAP planning area will allow multiple-use activities and sustained yield while enhancing certain aspects of the area and minimizing undesirable impacts. Surface activities of many kinds are anticipated, and management direction is provided to recognize the area's ability to support big game and other wildlife. Important historical and cultural resources will be identified and managed for future study and enjoyment. Special management areas (such as Wilderness Study Areas [WSA] and Areas of Critical Environmental Concern [ACEC]) will continue to safeguard the unique values within them.

SUPPORTING RESOURCE OBJECTIVES

Objectives for individual resources are as follows:

- **Land and Water Resources Management:** To maintain or enhance land and water resources using ecological principles and science-based performance criteria.
- **Fire Management:** To use prescribed fire as a management tool to help meet multiple-use resource management goals and to provide cost-effective protection from wildland fire to life, property, and resource values.
- **Watershed Management:** To stabilize and conserve soils; increase vegetative production; maintain or improve surface and ground water quality; and protect, maintain, or improve wetlands, floodplains, and riparian areas.
- **Wild Horses Management:** To protect, maintain, and control viable, healthy herds of wild horses at appropriate management levels (AML) in the Great Divide Herd Management Area while retaining their free-roaming nature; provide adequate habitat for free-roaming wild horses through management consistent

with principles of multiple use and environmental protection; and provide opportunity for the public to view wild horses.

- **Livestock Grazing Management:** To improve forage production and ecological conditions for the benefit of livestock use while providing for other resource values.
- **Vegetation Management***:* To maintain or enhance vegetation community health, composition, and diversity to meet watershed, wild horse, wildlife, and livestock grazing resource management objectives and to provide for plant diversity (desired plant communities).
- **Wildlife Habitat Management:** To maintain, improve, or enhance the biological diversity of wildlife species while ensuring healthy ecosystems, and restore disturbed or altered habitat, with the objective of attaining desired native plant communities while providing for wildlife needs and soil stability. To the extent possible, suitable wildlife habitat and forage would be provided to support the Wyoming Game and Fish Department (WGFD) Strategic Plan population objectives.
- **Heritage Resources Management:** To expand the opportunities for scientific study and educational and interpretive uses of cultural and paleontological resources, protect and preserve important cultural and paleontological resources and/or their historic record for future generations, resolve conflicts between cultural/paleontological resources and other resource uses, and foster opportunities for Native Americans to use heritage resources.
- **Travel, Access, and Realty Management:** To manage the public lands to support the goals and objectives of other resource programs, respond to public demand for land use authorizations, and acquire administrative and public access where necessary.
- **Recreation Resources Management:** To ensure the continued availability of outdoor recreational opportunities sought by the public, while providing for other resource values; meet legal requirements for the health and safety of visitors; and reduce conflicts between recreation and other types of resource uses.
- **Mineral and Energy Resources Management:** To maintain or enhance opportunities for mineral exploration and development while providing for other resource values.
- **Visual Resources Management:** To maintain or improve scenic values and visual quality and to establish priorities for managing the visual resources in conjunction with other resource values.
- **Special Management Areas Management:** To maintain or enhance the resource values and characteristics for which the area was designated as a special management area.

Competing resource objectives will be balanced. Decisions will favor objectives that achieve the overall management vision.

GENERAL APPROACH

BLM intends to authorize, allow, and undertake public land uses consistent with this plan. In many parts of the planning area, the activities are adequately addressed by standard practices and mitigation measures. In other areas, varying degrees of uncertainty exist about effects or adequacy of mitigation. In these circumstances activities are not expressly prohibited; rather, BLM will analyze the activities through site specific analysis including National Environmental Policy Act (NEPA) analysis and public participation. Authorized actions and outcomes will be monitored.

The greatest degree of uncertainty exists where many sensitive or important resource values overlap with areas of high or intense resource use. BLM will exercise the greatest caution when considering activities in these areas. Monitoring will focus on these areas. As monitoring information is compiled and evaluated, adjustment to authorizations and allowed uses will be made.

Money, personnel, and time are not available to monitor all actions. BLM will use an Interagency Working Group to provide advice on monitoring priorities and data evaluation.

JMH CAP DECISIONS

Several ways exist for achieving the multiple-use management vision. The methodology selected implements a careful approach to the development and use of the various resources (especially oil and gas) while managing the associated impacts. Observing actual effects of surface disturbing and disruptive activities is a necessary part of the approach. Limits, targets, or thresholds presented in the final EIS may be modified as information is collected, decision effectiveness is evaluated, and needed modifications are made to associated policies or practices. It is equally possible that both less or more restrictive measures could be implemented as a result of observing the effects of the management strategy.

Map B presents three areas of relative resource value within the planning area: Area 1 (154,200 acres), Area 2 (96,000 acres), and Area 3 (215,700 acres). Areas were delineated using a “broadbrush” approach combining many factors (e.g., wildlife usage, presence of crucial habitat, plant species distribution, historic or cultural importance, and general sensitivity to the impact of surface activities). Resource sensitivity increases from Area 1 to Area 3. For example, Area 3 has the highest relative ranking; proposed surface use activities are subject to the most stringent mitigation.

The following discussion presents examples of various resource uses in the context of the implementation, monitoring, and evaluation process.

In Area 1, the suspensions on existing oil and gas leases will be lifted 3 years from the signing of the Record of Decision (ROD) or upon the signing of an approved plan of development. New leasing will be considered in Area 1 immediately following the signing of the ROD. Leasing requests will originate from industry nominations as provided for by the Mineral Leasing Act of 1920, as amended and supplemented (30 United States Code [U.S.C.] 181 et seq.). It is expected that exploration and development will occur within the term of the lease. Review of exploration, development, and leasing proposals will continue to follow the current process (Appendix 14 in the final EIS). Pipelines, power lines, roads, and other surface activities will undergo site

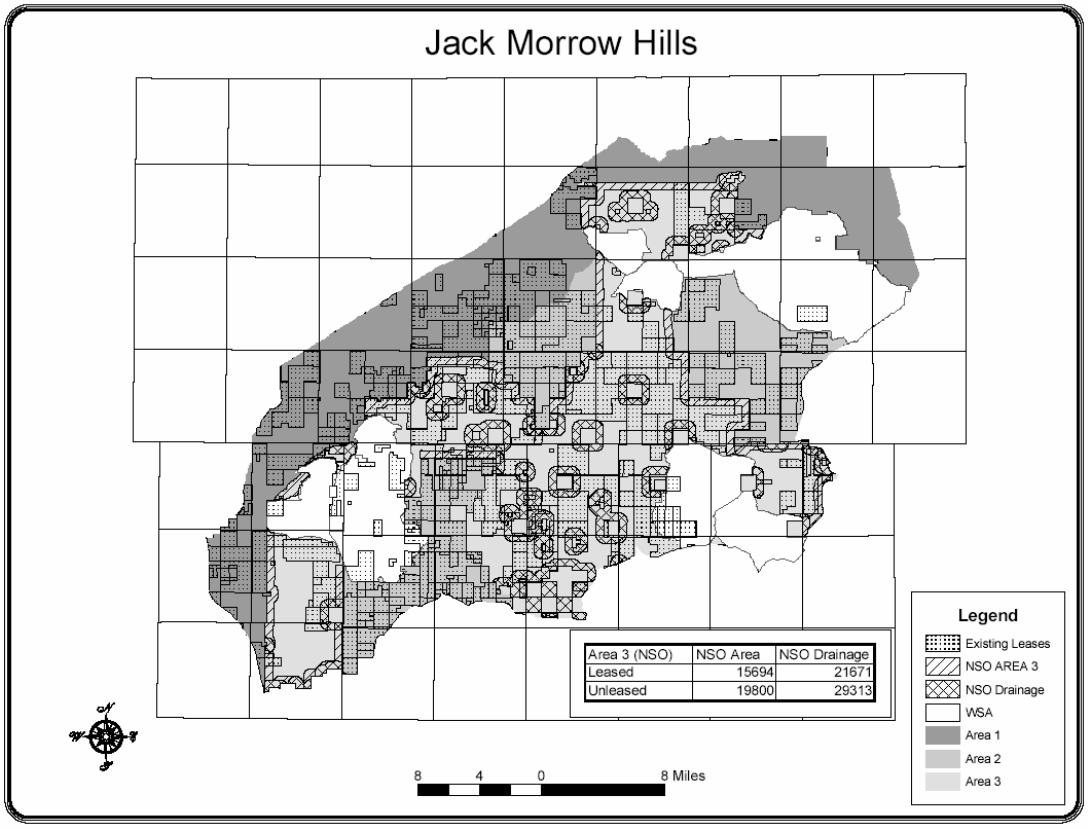
specific, NEPA, or other analysis. Other uses (such as recreation, grazing, and rangeland improvement) will employ resource-specific review processes and will also rely heavily on field data and observations for making informed decisions. Stipulations, restrictions, and modifications to proposals will be used to manage impacts of any surface disturbing or disruptive activities.

In Area 2, existing oil and gas leases will have their suspensions lifted 3 years from the signing of the ROD or upon the signing of an approved plan of development (the same as Area 1). New leasing will be considered immediately upon the signing of the ROD. BLM may request potential lessees to share data (such as reservoir data or geologic data) or plans related to the development of the potential oil and gas resource prior to leasing; sharing of this data is voluntary. The information will be used to ensure that impacts resulting from development in Area 2 area will remain within acceptable levels of impacts. Consideration of leasing may rely heavily on field data, the condition of the planning area resources as determined through monitoring of sensitive resource indicators, the understanding of the associated impacts, and other pertinent information available. Future impacts resulting from the development of the lease interest area in conjunction with other foreseeable surface uses will also be considered. Fluid mineral resource development and protection of surface resource values will be attained through lease stipulations and/or site-specific conditions of approval (COA). Because of the greater number of sensitive resource values in Area 2, authorizations for activities such as range improvements, recreation permits, rights-of-way (ROW), and well permits would include an increased number of resources and issues to analyze at the permitting stage. As with other projects in Area 1, appropriate administrative controls (such as COAs, use restrictions, and requiring mitigation measures) will be used to safeguard or support improvement of resource values.

Area 3 will be closed to future oil and gas leasing, with the exception of about 35,500 acres that could be considered for leasing with a No Surface Occupancy (NSO) lease stipulation. This acreage represents a distance of 1/2-mile within portions of the boundary of Area 3**.** Existing oil and gas leases in Area 3 will be handled like those located in Areas 1 and 2 (i.e., suspensions lifted 3 years from the signing of the ROD or upon the signing of an approved plan of development). No new oil and gas leasing will occur in the majority of Area 3. To the extent that laws and regulations allow, those portions of Area 3 that are closed to oil and gas leasing will remain closed to leasing of oil and gas unless BLM determines that an NSO lease is appropriate and meets management objectives. For example, an NSO lease may be offered if production on adjacent private or state lands results in a loss of federal minerals through drainage (Figure A2-1).

It is not anticipated that an NSO lease for these lands would extend farther than 1/2-mile from the boundary of the involved private or state lease. However, this may change as new information and technological advances become available.

Figure A2-1. Possible NSO Oil and Gas Leasing Areas



Because Area 3 contains a high concentration of sensitive resource values, proposals for all surface activities will be closely examined. Proposals will have to demonstrate that requests are necessary and employ best management practices (BMP). Approvals may require close consultation with BLM staff and have stringent COAs. This action may mean proposing novel methods, systems, technologies, and timing and sequencing for BLM consideration. ROW applications will be examined for necessity. Paralleling, consolidation, or rerouting may be necessary to minimize cumulative surface disturbance and to meet transportation planning objectives. Other surface use proposals and projects (e.g., rangeland improvement, grazing, access, and recreation) can expect to undergo an in-depth, comprehensive review. Field data and observations, cumulative impacts of likely and foreseeable competing uses, understanding of impacts, conditions within the planning area, and management goals will be employed during the decision making process.

Area 3 contains a special category for possible oil and gas leasing. The lands surrounding private or state oil and gas leases and those along the perimeter not bounded by a WSA or adjacent to particularly sensitive resources will be considered for leasing with an NSO stipulation. This provides opportunities (such as by the use of directional drilling) to recover oil and gas within Area 3 from locations outside the planning area or within Areas 1 and 2 without significantly impacting Area 3 resource values. Approximately 35,500 acres would be available within Area 3 for future oil and gas leasing with the NSO stipulation (based on a 1/2-mile perimeter). Approximately 15,700 acres of the perimeter area is currently leased. These existing leases are subject to a variety of stipulations and are not necessarily constrained by an NSO restriction.

Map 11 shows the existing leases and illustrates the possible effects of 1/2-mile NSO leases along the entire Area 3 and private lands perimeter.

Approval of any surface disturbing or disruptive activity anywhere in the planning area will be considered on a case-by-case basis. The analysis will consider many factors, such as type and effect of future uses, surface resource impacts and recovery, planning area condition as shown by the indicator data, scientific data, operational and environmental justification, and potential for effective impact mitigation. The proposal review process can be expected to take longer and be more intensive when sensitive values are involved.

Wherever sensitive values exist, and particularly in Areas 2 and 3, the review and approval process will consider mitigation measures commensurate with the anticipated impacts, the resource values of the area, and public comments.

For oil and gas projects, mitigation actions could include—

- Surface disturbance conditional requirements.
- Transportation planning before initiating any activity, with the objective of managing travel in areas of crucial access.
- Remote control and monitoring of fluid mineral production facilities to limit travel.
- Multiple-well pads to limit surface disturbances.
- Limiting the number of pads per section in sensitive areas.
- Use of directional drilling to minimize disturbance of sensitive areas.
- Clustering or centrally locating ancillary facilities.
- Shrub reclamation (e.g., containerized stock, transplanting) to restore, rehabilitate, or replace habitat.
- Application of geotechnical material for construction.
- Potential unitization prior to exploration and development.
- Other resource projects or proposals can expect a similar in-depth consideration of mitigation measures to safeguard the affected resource values.

Oil and gas leases that expire, terminate, or in any other way return to an “unleased” status will be considered for future leasing consistent with this plan, based on location. In other words, if an oil and gas lease expires in Area 3, the lands will not be considered for new oil and gas leasing within the life of the JMH CAP unless the lands fall into the special NSO lease categories as previously described.

BLM will consider requests for oil and gas lease suspensions on a case-by-case basis. Decisions to grant or deny such a request will be based on many factors, including current regulations and Wyoming BLM policy, conditions in the planning area, and alignment with management goals. To some degree these lease suspensions may influence the time frames for development to occur.

Because of the uncertainty associated with the oil and gas resources within the planning area, the exact timing or sequence of development of this resource is not known. The implementation strategy provides the opportunity for lessees to exercise their rights within reason and consistent with the limits imposed by the JMH CAP. The sensitive nature of portions of the planning area requires a higher level of control over surface disturbances.

DATA COLLECTION

Collection and evaluation of monitoring data will make decisions better by—

- Measuring factors that indicate resource condition of the planning area.
- Improving understanding of impacts by direct observation.
- Increasing the accuracy of project analysis by employing actual data.
- Establishing thresholds, trigger points, or limits specific to the planning area.
- Measuring the progress toward management goals.
- Helping develop effective and appropriate mitigation measures.
- Providing information on the success of management practices and policies.

The following discussion presents examples of monitoring indicators and possible measurements. Actual data collection will be decided by BLM and based on recommendations of the Working Group. Resource indicators presented in Table A2-1 were developed with assistance of Cooperating Agencies. Many indicators are common to several resources.

Table A2-1. Resource Management Indicators

Resource	Indicator
Land and Water	
Water	Standards for Healthy Rangelands; surface disturbance and disruptive activity; changes in stability of dunes; roads and trails creation; road density
Wildlife	Standards for Healthy Rangelands; elk distribution; elk population; mule deer distribution; mule deer population; pronghorn distribution; pronghorn population; lek use; greater sage-grouse population; surface disturbance and disruptive activity; roads and trails creation; road density
Fire	Standards for Healthy Rangelands
Livestock Grazing	Standards for Healthy Rangelands; livestock animal unit months (AUM); surface disturbance and disruptive activity; roads and trails creation; road density
Wild Horses	Standards for Healthy Rangelands; wild horse AML; surface disturbance and disruptive activity; roads and trails creation; road density
Heritage	Heritage resources; Native American concerns; surface disturbance and disruptive activity; roads and trails creation; road density
Recreation	Recreation use; surface disturbance and disruptive activity; roads and trails creation; road density
Mineral and Alternative Energy	Oil/Gas (O/G) leased; O/G available for leasing; O/G production; locatable mineral activity; salable mineral activity; surface disturbance and disruptive activity; roads and trails creation; road density
Visual	Visual resource management (VRM) classifications; surface disturbance and disruptive activity; roads and trails creation; road density
Special Management Areas (SMA)	Any of previous indicators as they apply to the specific SMA
Travel, Access, and Realty	No specific indicators were developed because travel, access, and realty is a support function

Table A2-2 presents detailed information about the indicators presented in Table A2-1. Some of the monitoring data are already collected by BLM. Other data are available from state agencies. Management actions and surface use proposals will be analyzed using all available information. If new or additional data are not available, the result will be continuation of the decisions established in the JMH CAP with the appropriate modifications (usually minor, conservative modifications) until the data are acquired. A priority list will be developed and funding sought to acquire needed data. BLM will pursue funding from a number of sources (e.g., private endowments, private sources, permit applicants, industry, grants, shared funding, federal funding, etc.).

Table A2-2. Indicator Detail

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
Elk distribution[1]	BLM	Planning area	GIS collar study; field observations	Integrity of key habitats and migratory corridors (amount of continuous land between important habitats; travel pathways between key habitats)
Elk herd health[1]	WGFD	Herd unit area	Postseason counts; flight counts; other WGFD data	Population, health, and security of herd
Mule deer distribution[1]	WGFD	Herd unit area	Flight counts; other WGFD data; field observations	Integrity of key habitats and migratory corridors (amount of continuous land between important habitats)
Mule deer herd health[1]	WGFD	Herd unit area	Postseason counts; flight counts; other WGFD data	Population, health, and security of herd
Pronghorn distribution[1]	WGFD	Planning area	Radio collar studies; field observations	Integrity of key habitats and migratory corridors (amount of continuous land between important habitats)
Pronghorn herd health[1]	WGFD	Planning area	Preseason counts; flight counts; other WGFD data	Population, health, and security of herd
Greater sage-grouse lek use[1]	BLM; WGFD	Planning area	Field observation; lek counts	Health and security of population; reproduction opportunities
Greater sage-grouse population health[1]	BLM; WGFD	Planning area	Preseason counts; field observation	Population changes
Livestock AUMs	BLM	Planning area	Counts; actual use reports; grazing authorizations	Amount of livestock use (+/-)
Wild Horse Population	BLM	Great Divide Basin HMA	Counts	Number of wild horses (+/- AML)

Table A2-2. Indicator Detail (Continued)

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
Standards for Healthy Rangelands—Standard 1[2]	BLM	Watersheds Grazing Allotments	Remote sensing[3]; field visits	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands—Standard 2[2]	BLM	Watersheds Grazing Allotments	Remote sensing[3]; field visits; trend data collection	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands—Standard 3[2]	BLM	Watersheds Grazing Allotments	Remote sensing[3]; field visits; trend data collection	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands—Standard 4[2]	BLM	Watersheds Grazing Allotments	Field visits	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands—Standard 5[2]	BLM and State of Wyoming Department of Environ-mental Quality (DEQ)	Watersheds Grazing Allotments	Monitoring station and visual monitoring data	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands—Standard 6[2]	BLM and State of Wyoming DEQ	Watersheds Grazing Allotments	Monitoring station and visual monitoring data	Change in rangeland and watershed health (+/-)
Roads and trails creation	BLM; County	Planning area and associated hydrologic unit code (HUC) 12 watersheds	Remote sensing[3]; permits	Change in watershed health (+/-), habitat fragmentation, migratory corridor integrity (amount of continuous land between important habitats)
Road density	BLM; County	Planning area and associated HUC 12 watersheds	Remote sensing[3]	Change in watershed health (+/-), habitat fragmentation, migratory corridor integrity (amount of continuous land between important habitats)
Changes in stability of dunes	BLM	Planning area	Remote sensing[3]; field visits	Habitat loss/gain, watershed health, habitat use/fragmentation/ expansion, soil stability
O/G leased	BLM	Planning area	LR2000 database, management decisions	Leasing activity; opportunity taken for development
O/G available for leasing	BLM	Planning area	Management decisions; industry interest	Interest in leasing; opportunity for development

Table A2-2. Indicator Detail (Continued)

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
O/G production	BLM; Wyoming Oil & Gas Conservation Commission (WOGCC)	Planning area	LR2000; WOGCC database	Lease activity (+/-); resource potential
Locatable mineral activity	BLM	Planning area	LR 2000 database	Opportunity for locatable mineral activity; interest in locatable minerals
Salable mineral activity	BLM	Planning area	Permits; LR 2000	Opportunity for salable mineral activity; interest in salable minerals
Surface disturbance and disruptive activity	BLM	Planning area	Remote sensing[3]; field visits; traffic counts; permits	Change in erosion potential, habitat fragmentation/integrity, migratory corridor integrity (amount of continuous land between important habitats), soil stability, watershed health
VRM Classifications	BLM	Planning area	BLM VRM handbook; mitigation	Change in visual quality (+/-)
Recreation use	BLM; WGFD	Planning area	Surveys; traffic/visitor counts; field visits; public comment; ROS	Amount of visitors, activity and type of use, location of use (when, where)
Heritage Resources	BLM; Activity Proponents	Planning area	Cultural Resource Inventory; public comment	Whether any unusual or unanticipated resources are located compared to known data about planning area
Native American Concerns	BLM; Native American sources; Activity Proponents	Planning area	Native American consultation; public comment	Whether any unusual or unanticipated resources are located compared to known data about planning area

[1]Weather severity indicators will be used in the analysis of data collected on wildlife populations and health.

[2]Each of the six rangeland standards contains specific indicators (USDI, Bureau of Land Management, Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming, August 12, 1997). See Appendix 10 in the final EIS.

[3]Remote sensing data includes aerial and satellite imagery.

Note: Consideration will be given to those occurrences outside BLM's control, such as environment (weather, drought), outside agency jurisdiction and laws, socioeconomics (politics, local economics, level of interest), topography and lay of the land, location of heritage resources (site-specific), location of mineral resources, and technology.

Other sources of information, such as professional journals, publications, and research reports will be used as appropriate.

Circumstances may arise which prompt a review of an indicator. Such actions as extensively seeking data outside the chosen sources could suggest a problem. Adding, removing, or modifying the resource indicators could address deficiencies or opportunities discovered later. Developing technologies or a better understanding of

actual resource interactions may also result in changes to indicator composition or their measures. Evaluating the validity of data and its continued usefulness is part of the management strategy.

Table A2-3 contains examples of data standards and thresholds for resource indicators. Upper and lower indicator limits are based on current available information. BLM will validate these in coordination with specialists, including Working Group specialists. Approaching an upper or lower value will help establish priorities and key BLM with the Working Group to consider the cause(s) and determine if plan decisions play a role in the change.

Table A2-3. Measurement Detail

Indicator	Measure and Trigger			Unit	Frequency
		Lower[1]	Upper[1]		
Elk distribution	Animal distribution Habitat use Movement	[2] [2]	[2] -15% [2]	Location Acres Location	Minimum of 4 times daily for the first year
Elk herd health	Total Calf/cow ratio	[2] [2]	-15% 40	Number Calves/100 Cows	At a minimum biennially
Mule deer distribution	Animal distribution Habitat use Movement	[2] [2]	[2] -15% [2]	Location Acres Location	Dependent on securing sufficient funding for GPS collaring
Mule deer herd health	Total Fawn/doe ratio	[2] [2]	-15% 60	Number Fawns/100 does	At a minimum biennially
Pronghorn distribution	Animal distribution Habitat use Movement	[2] [2]	[2] -15% [2]	Location Acres Location	Dependent on securing sufficient funding for radio collaring
Pronghorn herd health	Total Fawn/doe ratio	[2] [2]	-15% 70	Number Fawns/100 does	At a minimum biennially
		Lower[1]	Upper[1]		
Greater sage-grouse lek use	Presence/absence Population trend Active/inactive	[2]	[2]	Males on leks Wing barrels Number	Annually
Greater sage-grouse population health	Bird distribution Habitat use Movement	[2] [2]	[2] -15% [2]	Location Acres Location	Annually
Livestock Animal Unit Months (AUM)	AUMs used		26,830	AUM	Annually
Wild Horse Population	Total population	415	600	Animals	Biennially
Standards for Healthy Rangelands—Standard 1[3]	Refer to BLM TR-1730 and TR-1734 Series[4]				On a continuing basis

Indicator	Measure and Trigger			Unit	Frequency
Standards for Healthy Rangelands—Standard 2[3]	Refer to BLM TR-1730, TR-1734, and TR-1737 Series[4]				On a continuing basis
Standards for Healthy Rangelands—Standard 3[3]	Refer to BLM TR-1730 and TR-1734 Series[4]				On a continuing basis
Standards for Healthy Rangelands—Standard 4[3]	Refer to BLM TR-1730 and TR-1734 Series[4]				On a continuing basis
Standards for Healthy Rangelands—Standard 5[3]	Refer to BLM TR-1730 and TR-1734 Series[4]				As needed on site-specific basis
Standards for Healthy Rangelands—Standard 6[3]	Refer to BLM TR-1730 and TR-1734 Series[4]				As needed on site-specific basis
Roads and trails creation	Location Miles of new road Miles of new trail Miles of improved road Number of roads Number of trails Type of roads	[5]	[5]		Annually
		Lower[1]	Upper[1]		
Road density	Location Number of roads Acreage of roads reclaimed Number of trails Acreage of tails reclaimed	[5]	[5]		Annually
Changes in stability of dunes	Acreage of dunes Boundary	-244 [5]	1,218 [5]	Acres in open play area	Annually
O/G leased	Acres leased Acres of suspended leases	[5]	[5]	Acres	Ongoing basis; annually
O/G available for leasing	Acres open to leasing	[5]	[5]	Acres	Ongoing basis; annually
O/G production	Number of wells Number of APDs approved MMCF or BBLS production		175/40[6] 175/40[6] [5]	Wells Number	Ongoing basis
Locatable mineral activity	Acreage withdrawn Number of mining claims Acres available for location	[5]	[5]	Acres Number	Ongoing basis

Indicator	Measure and Trigger			Unit	Frequency
Salable mineral activity	Acreage open Number of active operations	[5]	[5]	Acres Number	Ongoing basis
Surface disturbance and disruptive activity	Visual indicators of surface disturbance and reclamation success Levels and location of activity	[5]	[5]		Annually
VRM Classifications	Acreage of classification		0% 10% 30%	Class I ac.[7] Class II ac. [7] Class III ac.[7]	Annually
Recreation use	Number and location of users and vehicles Type of use Periods of use	[5]	[5]	Number	On a continuing basis, reported annually
		Lower[1]	Upper[1]		
Heritage Resources	Prehistoric and/or historic resource number Kind/type Density	[8]	[8]		Per project; on a continuing basis
Native American Concerns	Respected places, TCP or sacred site number Kind/type Density	[8]	[8]		Per project; on a continuing basis

[1]Preliminiary estimates. Lower and upper values will be validated using data collected in the planning area. Revision of the numbers shown in the table is possible.

[2]No quantitative measure is currently applicable. The experience of the resource specialist is used in determining if the related observations are within acceptable bounds until numbers can be confidently assigned to the upper and lower bounds.

[3]Each of the six rangeland standards contains specific indicators (USDI, Bureau of Land Management, Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming, August 12, 1997). See Appendix 10 in the final EIS.

[4]Available at http://www.blm.gov/nstc/library/techref.htm.

[5]Data from these indicators do not alone trigger an action but are required in determining the cause behind changes in other indicators that might require action.

[6]The first number indicates total deep wells and the second is the number of coalbed gas wells.

[7]Refer to Table 12.

[8]Every discovery of cultural or historical importance causes a reevaluation of the surface use in the area of the discovery.

Note: Consideration will be given to those occurrences outside BLM's control, such as environment (weather, drought), outside agency jurisdiction/laws, socioeconomics (politics, local economics, level of interest), topography/lay of the land, location of heritage resources (site-specific), location of mineral resources, and technology.

BLM will coordinate data collection, analysis, and summaries with Working Group members.

JMH CAP MANAGEMENT PROCESS

The process described in this section outlines a potential structure for the implementation, monitoring, and evaluation process.

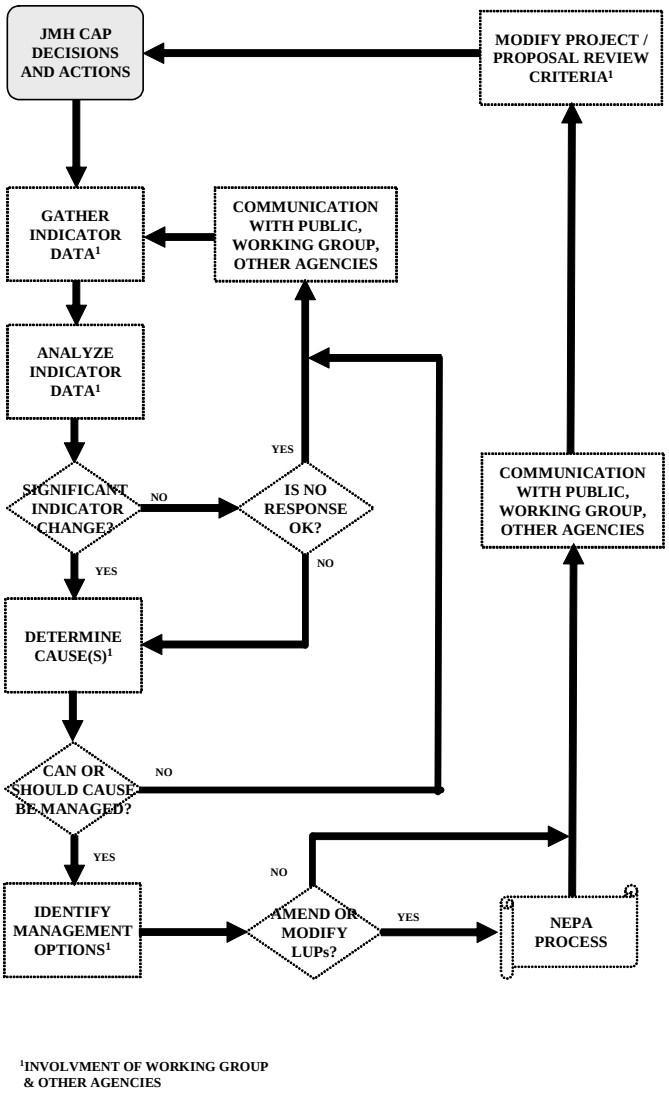
The following guidelines will be used in the implementation, monitoring, and evaluation process:

- Employ available field data and observations in the evaluation of projects and proposals.
- Consider the condition of all resources (as shown by the indicators) before allowing further surface disturbing or disruptive activity.
- Use best projections of impacts associated with the uses of the various resources in the planning area.
- Allow judicious testing of assumptions, practices, policies, and mitigation measures.
- Apply BMPs, mitigation, and COAs developed through the monitoring and evaluation process to use authorizations.

Figure A2-2 presents a flowchart illustrating the general JMH CAP management process. It is designed to take advantage of the elements listed above while conforming to relevant laws and regulations. The following discussion of the elements in Figure A2-2 provides the detail needed to understand and work within the process.

The JMH CAP implementation, monitoring, and evaluation process begins with the adoption of JMH CAP decisions. Where sensitive values exist, and particularly in Areas 2 and 3, surface use activities will be evaluated based on the anticipated impacts and the resource values of the area during the review and approval process. All resulting actions, decisions, or changes in the analysis and decisions on projects or proposals published in the final EIS and ROD become part of the aggregate that makes up the “JMH CAP Decisions and Actions” box shown in the top left corner of the figure.

Figure A2-2. JMH CAP Management Process



The next box down represents the collection of the indicator data. The type and detail of data collection is presented in Table A2-2 and Table A2-3. There may be modifications to the indicators as a result of Working Group input, data analysis, and experience gained from managing the various resources.

Data analysis is the next step shown in the figure. After the data are collected, comparison is made to the existing limits, the JMH CAP assumptions, and other information. Summary values (such as average or standard deviation) and trends are developed at this stage.

The process continues by addressing two related questions. These are illustrated as the diamonds labeled “Significant Indicator Change?” and “Is No Response OK?” The questions direct the data analysis effort when there is either a change (positive or negative) or no change (zero change) in the indicator data.

The first question, illustrated as the diamond labeled “Significant Indicator Change?”, concerns the magnitude or significance of an apparent change. Changes in indicator

values will be compared to threshold values and magnitude of change. A large change or approaching a threshold will be evaluated for significance. Cause of the change will also be considered to ensure the change is a result of authorized or allowed public land uses and not unrelated environmental factors or nonpublic land activities.

The second related question, illustrated by the “Is No Response OK?” diamond, is in response to the determination that an observed change in data is not significant; in other words, essentially no change was measured. A “zero” or no response might be useful in evaluating the success or failure of a management practice. For example, a decision is made to adopt a mitigation measure to benefit a resource but the indicator data continues to show no change. This could indicate a problem with the policy that should be further explored and, if necessary, corrected. Therefore, if a no change condition is encountered, the acceptability of this result is considered. If the lack of response in an indicator is acceptable, the process moves to the information-sharing step, as shown by the up arrow from the diamond. (The box labeled “Communication with Public, Working Group, Other Agencies” is discussed later.) The next step in the process (the box labeled “Determine Cause(s)” seeks to identify the cause of a significant positive or negative change, or an unexpected “zero” response in the resource indicator data. This first involves consideration of the validity of the data and its analysis, and only later attempts to identify the cause of an indicator data change. Possible data errors are misinterpretation, poor measurement methodology, or errors in the selection of a particular indicator. Discovering faulty information and addressing indicator problems early in the process help avoid ineffectual decisions and wasted time.

Once assured that the data response is genuine, the effort turns to identifying the reason behind the new observations or the identified trends. This important task may require technical and investigative skills. A change to the indicators could be the result of a single factor, a combination of activities, or even an unanticipated agent. Hypotheses will be developed, tested, and evaluated based on the accumulated evidence. A team approach may be used to consider all potential aspects.

The question “Can or Should Cause Be Managed?” addresses two situations. First, although a change is measured (and a cause may even be identified), it may be premature to take action. Ecological systems are subject to cycles. An effect occurring in one part of the cycle may have an entirely different effect in another part. It may be appropriate to wait and determine if the effect continues and represents a trend. Second, multiple effects may cause a variety of responses. It may be appropriate to collect more data or refine the data collection to eliminate potential causes.

The decision to react to an indicator change requires identification of the available options. This step is shown in the figure as the box labeled “Identify Management Options.” The development of responses to a manageable situation is expected to involve (to varying degrees) BLM resource specialists; BLM management; outside local, state, and federal agencies; and the JMH CAP Working Group. The task involves identifying and evaluating possible changes in land use or in project/proposal review procedures. Potential actions could include changing stipulations, reducing or increasing certain activity levels, allowing new uses, modifying objectives or measures, or adopting new evaluation criteria. The result is a list of possible modifications or actions that focuses on an identified condition, need, or opportunity.

The “Amend or Modify LUP [Land Use Plan]?” diamond in the figure results from decisions developed in the previous step. If minor modifications are warranted, the

changes are made within the context of the plan. If changes outside the scope of plan analysis or decisions or significant changes to allocations are warranted, the plan may have to be amended. Amendments involve NEPA analysis and public participation opportunities.

Though public and cooperator participation and communication is an integral part of the NEPA process, Figure A2-2 shows that a communications step is entered before the plan is modified or amended, or after a decision is made to take a JMH CAP allowable action. This is indicative of the importance placed on continued involvement of the public; the JMH CAP Working Group; and interested local, state, and federal agencies. A section on the subject of communication and participation is presented later in the appendix.

The final box in the figure (upper right corner) represents the tie between the illustrated process and the resource and case-specific review or approval processes. Labeled "Modify Project/Proposal Review Criteria," the step is the implementation of the decision derived from the reaction to changes in the indicator data. These include such changes as revising thresholds, realigning goals, revising land use restrictions, and restructuring mitigation.

Not explicitly shown in Figure A2-2 are the procedures that relate to specific resource projects, proposals, or applications. Applications for Permit to Drill (APD), rangeland improvement, ROWs, and the other possible surface uses have established review and approval processes. Though tailored for the resource, all project or proposal considerations will share a common element: deliberations will take into account field observations, experience gained from observing the planning area, and the management vision. This recognizes the value of the monitoring effort by using the indicator data to predict and evaluate impacts, and employing field-tested mitigation actions.

As described earlier, use or development of the resources in the planning area will be allowed from the beginning. Data on the impacts of surface disturbing or disruptive activities will be collected and compared with expectations, desired outcomes, or standards. The ultimate goal of the comparison is to determine the effectiveness of current management practices, policies, and prescriptions, and make necessary changes to foster continued success, improve observed results, or further understanding. In cases in which performance standards are still essentially assumptions, the observations are initially critiqued using the values in Table A2-3 as guidelines. As data and experience increase, these may be refined into the more traditional definition of "standard" or "threshold." In addition, the ongoing evaluation of data validity and usefulness is performed to maintain the effectiveness of monitoring resource conditions within the planning area.

Successfully developing performance standards or evaluating conditions within the planning area requires the combined effort of BLM and outside resource specialists. Other governmental agencies may have the expertise and information that enhances BLM ability to perform this task. In addition, the public has a role to play in the process. To help manage the diverse involvement, a JMH CAP Working Group will be formed. This group would not be chartered under the Federal Advisory Committee Act (FACA). Membership would be restricted to employees or officers of a governmental agency or elected officers of state, local, or tribal governments. A more detailed discussion of participation and communication is presented in the next section. However in all cases,

BLM is the final decisionmaker involving federal surface or minerals; this strategy does not affect that responsibility.

COMMUNICATION AND PARTICIPATION

BLM has a longstanding policy to encourage the public to participate in the agency's day-to-day activities. The JMH CAP implementation, monitoring, and evaluation process supports public participation. Comments, suggestions, concerns, and issues may be provided or raised at any time. Involvement of the public, stakeholders, state, tribal, and local governments, and other agencies will aid in the development of successful management actions tuned to the planning area.

Communication and outreach will make use of traditional and electronic means of sharing information and gathering input. As shown in Figure A2-2, the decision evaluation process has critical public information steps. Such items as updates to the indicator database, management decisions, applications for land use, and decisions related to the JMH CAP will be available from links on the BLM Wyoming State Office and Rock Springs Field Office websites. Hard copies of this material will also be maintained at the Rock Springs Field Office to accommodate those without Internet access.

Meetings are a valuable component of the management strategy. These provide an excellent opportunity for BLM and public interaction and are planned semiannually as needed, for the first 3 years. As a kickoff, an informational meeting will be held within 3 months following signing of the JMH CAP ROD. The meeting will focus on the management approach and how it will work in the planning area. Subsequent meetings will mainly be concerned with information dissemination. A "town hall" format will be used to allow interested individuals to express opinions or concerns about the planning area. A record of the informational meetings will be made.

The public can also participate in the management of the planning area through the JMH CAP Working Group. It is anticipated that group members will express the views of the public and act in their interest, thus involving citizens in the management process.

The JMH CAP Working Group is involved in many facets of the management strategy, including data collection and analysis, development of management practices, and input on land use proposals. Through regular meetings, the Working Group can consider numerous topics affecting the planning area, including mutual goals, policy coordination, resource conditions, pending actions or decisions, and opportunities for further cooperation. The Working Group will also act to monitor BLM adherence to the management strategy and suggest remedies.

The following is a preliminary membership list for the JMH CAP Working Group. Other participants may be added later:

- One representative from each state agency, selected by the Wyoming Governor's office
- Three representatives from the BLM Rock Springs Field Office
- One representative from each of the three conservation districts
- One representative from both the local and county governments in Sweetwater County

- One representative from both the local and county governments in Sublette County
- One representative from both the local and county governments in Fremont County
- One representative from each Native American tribe.

The exact role of the Working Group will be defined by the group itself. Developing its charter will be the main order of business at the first meeting. At a minimum, the Working Group would provide a point of contact (POC) with state and local agencies (e.g., WGFD) that can help analyze and interpret the data collected in the planning area, develop or evaluate proposed performance standards, and provide specific input to planning decisions.