

APPENDIX 17—IMPLEMENTATION, MONITORING, AND EVALUATION PROCESS

Proposed changes in the Bureau of Land Management (BLM) management direction based on the review of public comments and the incorporation of new information has resulted in reformulation of the implementation strategy for the Jack Morrow Hills Coordinated Activity Plan (JMH CAP) planning area. As a result of this review, the implementation strategy has been modified to include a more traditional monitoring and adjustment approach.

The approach to timing and sequencing of the activities in the JMH CAP has been modified to recognize valid existing rights of oil and gas lessees. Adaptive management, as it relates to timing and sequencing of the development of existing oil and gas leases, and future oil and gas leasing, has been dropped from consideration. A more traditional approach (where many of the decisions are made up front and would require plan modification to change) has been adopted in the JMH CAP. Some flexibility is maintained where possible for the other resources, and field data still plays an important role in impact analysis and in measuring progress toward the various goals. Timing and sequencing of resource activities other than oil and gas leasing and development will be used where appropriate and required to attain the management vision.

This appendix provides detail on the revised resource management strategy to be used in the JMH CAP planning area. The appendix discusses how the various surface use activities and their interactions with other planning area resources will be addressed. Greater detail is provided for oil and gas exploration and development activities because these are the most foreseeable resource use and are anticipated to have the greatest immediate impact. Data collected in the planning area will be used to support decision changes, evaluate the effectiveness of specific practices or policies, and measure progress toward the goals adopted for the planning area.

MANAGEMENT VISION

In general, resource management in the JMH CAP planning area will allow multiple use activities and sustained yield while minimizing undesirable impacts or enhancing certain identified aspects of the area. All types of surface activities are anticipated, including oil and gas exploration and development, recreational use, livestock grazing, rangeland improvement, rights-of-way, solid mineral exploration and development, and alternative energy production. In addition, the area will continue to be recognized for its 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 the planning area. The public will be kept informed of the activities, impacts, and decisions concerning the JMH CAP and will be provided opportunities for feedback and comment. Local, tribal, state, and federal governments will be involved in the realization of the vision.

SUPPORTING RESOURCE OBJECTIVES

Numerous resources will be managed in the JMH CAP planning area. Each has individual objectives that support the overall management vision. The administration of the various resources is an important component in the total JMH CAP management strategy. Properly combined, the objectives for managing the resources listed below will result in the multiple use management vision being achieved.

- **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 wildfire 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 (GDHMA) 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; restore disturbed or altered habitat, with the objective of attaining desired native plant communities, while providing for wildlife needs and soil stability; and 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.

In the case of competing resource objectives, the one providing the greatest assistance to achieving the management vision will be chosen. Attempts will be made to meet all resource objectives to the greatest extent possible to maximize the combined outcome.

GENERAL APPROACH

The vision and objectives are best achieved through adjusting to the planning area resource conditions and user demand. Many types of surface-disturbing or disruptive activities are expected throughout the planning area. Grazing, recreation, rangeland improvement, rights-of-way, and minerals extraction will be allowed as long as the activity conforms to the land-use classification. For example, WSA management will follow prescriptions established by law and regulation, and ACEC management (Chapter 2) will safeguard those values being recognized with the ACEC designation. Outside the special designation areas, use restrictions will be employed to control impacts where and when necessary. The amount of activity allowed at any specific location in the planning area naturally depends on, among other factors, the type of associated surface disturbance, activity impact on other resources, conditions in the planning area, and alignment of the activity with the resource management objectives.

The adopted approach recognizes valid rights (such as oil and gas leases) and needs (such as grazing) involving public lands as well as the need to maintain or enhance the natural values in the planning area. To this end, the planning area is divided into three regions that represent the relative importance of the contained resource values. Surface disturbing or disruptive activities will be tightly controlled where the most overlapping sensitive values are located. The planning area division allows differing policies or practices to be adopted, their effectiveness judged, and needed changes made to increase their effectiveness in achieving the resource objectives and the management vision.

Determining the effectiveness of practices or policies requires information. Therefore, data collection is part of the JMH CAP management strategy. In addition, the data is necessary to assess the condition and level of use of the various resources to allow for better decision-making. The measurements and observations will provide information for numerous tasks, including impact analysis, project or proposal evaluation, and development of the most effective mitigation measures. Data collection and its use are fully discussed below.

BLM will act in concert with state, tribal, and local governments. Though BLM remains the final decision maker on the use of public lands, the varied viewpoints represented by a diverse group of users will help to develop and maintain an appropriate management approach. Outside agencies will be called upon as necessary for their particular expertise in data analysis and resource knowledge. To aid BLM in the management of the planning area, a JMH CAP Working Group will be formed. This non-Federal Advisory Committee Act (FACA) chartered group will act in an advisory capacity and provide better access to outside sources of data or expertise. The public will also have a role in the management of the planning area. See the Communication and Participation section of this appendix for further detail on the JMH CAP Working Group and BLM plans to disseminate planning area information and use feedback.

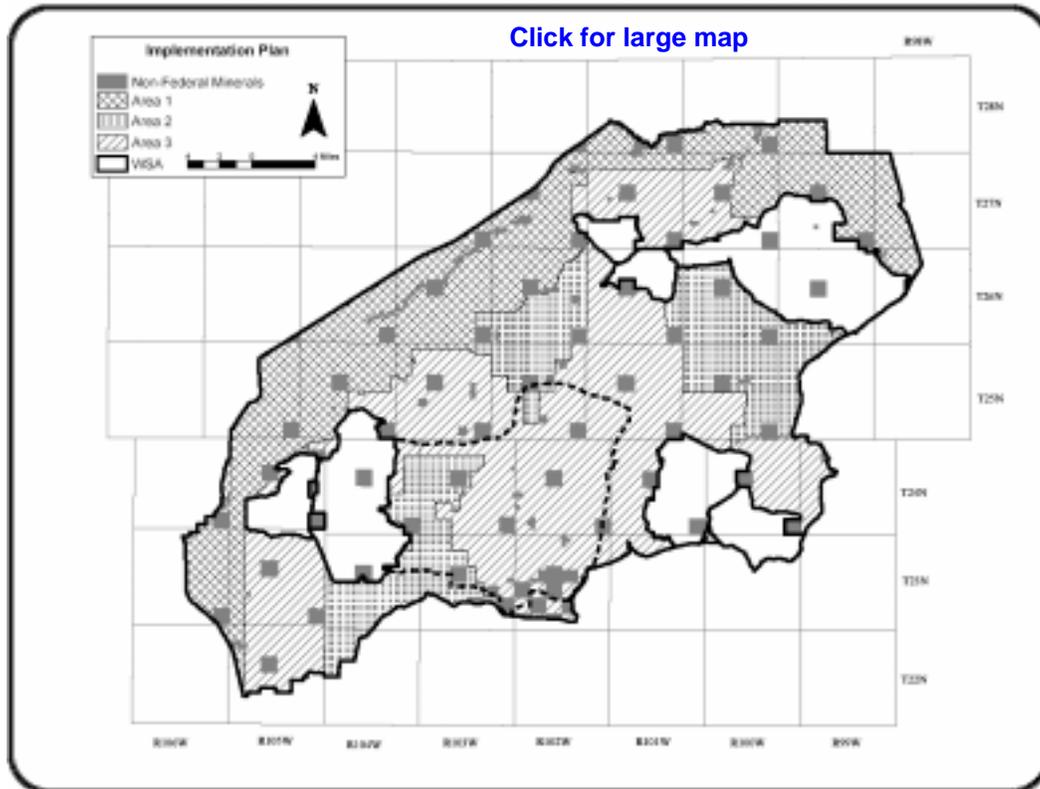
JMH CAP DECISIONS

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.

Figure A17-1 presents the three areas of relative resource value within the planning area. Area 1, Area 2, and Area 3 have been identified to guide management analysis and decisions. The distinction between the areas is a “broad-brush” approach that combines 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) into a single quantity. The area designations provide a general guide to reviewing proposed surface use activities in the planning area. For example, Area 3 has the highest relative ranking and so proposed surface use activities located here will be subject to the most stringent mitigation.

Figure A17-1. Areas of Resource Value Within Planning Area



Oil and gas, by necessity, is a special case. Because of past leasing decisions, many valid rights exist in the form of existing oil and gas leases in the planning area. The primary control BLM maintains over the development of the leased oil and gas resources is through further leasing decisions. (Other controls such as short-term lease suspension, access, APD condition-of-approval, and lease stipulations are meant to mitigate impacts, but these do not, to a large extent, control when and where exploration and development activities take place.) Decisions specific to oil and gas are designed to minimize and attempt to control the anticipated impacts in each of the three areas.

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 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 and that any resulting impacts related to exploration/development/production will be considered during the analysis of future leasing actions. Review of exploration, development, and leasing proposals will continue to use the current process (see Appendix 14 or contact the Wyoming BLM State Office for current information on permitting oil and gas activities) and will employ collected data, impact observations, and knowledge gained from similar activities in the planning area in the review process. Application of appropriate lease stipulations will be used to address any identified impact issues. Access for pipelines,

power lines, and roads, location of facilities, and other related surface activities will undergo similar scrutiny. 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 to make informed decisions. Stipulations, restrictions, and modifications to proposals will be used to manage impacts of any surface disturbing or disruptive activities.

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 signing of the ROD. BLM may require 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. The information will be used to ensure that impacts resulting from development of the Area 2 area of interest would remain within the acceptable level of impacts analyzed in this document. 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. Due to the greater number of sensitive resource values in Area 2, it is anticipated that use authorizations for activities such as range improvements, recreation permits, rights-of-way, and well permits would have 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 conditions-of-approval, use restrictions, and requiring mitigation measures) will be used to safeguard or support improvement of resource values.

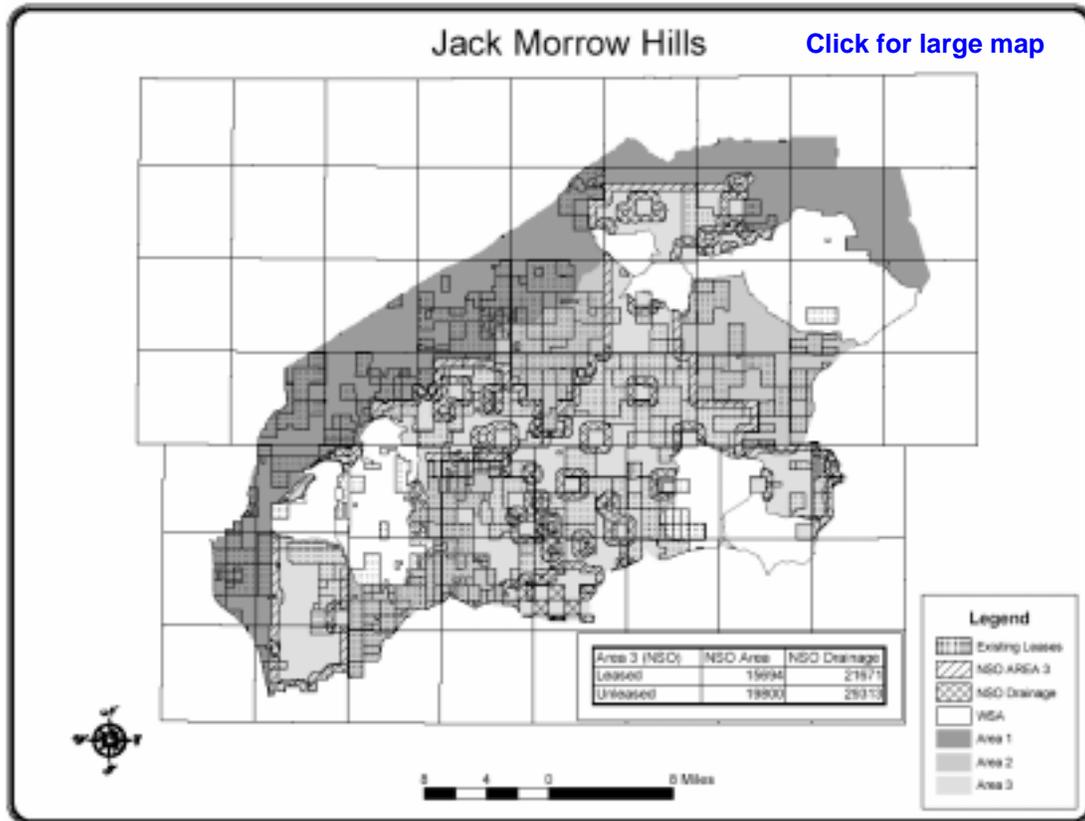
Area 3 will be closed to future oil and gas leasing, with the exception of about 35,500 acres that could be considered for leasing with a No Surface Occupancy (NSO) lease stipulation. Existing oil and gas leases in Area 3 will be handled like those located in Areas 1 and 2 (i.e., suspensions lifted 3 years from the signing of the ROD or upon the signing of an approved plan of development). As stated, 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. At this time it is not anticipated that an NSO lease for these lands would extend further than one-half mile from the boundary of the involved private or state lease. However, this may change as new information and technological advances become available.

Because Area 3 contains a high concentration of sensitive resource values, proposals for all surface activity (for oil and gas activities this is limited to the existing leases) will be closely examined. Users requiring approval are charged with showing that resource development activities will result in acceptable impacts and are needed. This action may mean proposing novel methods, systems, and technologies for BLM consideration. APDs and other use approvals may require numerous revisions and have stringent conditions-of-approval to address specific issues related to impacts. Rights-of-way 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 in Area 3 (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.

As previously discussed, 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 one-half mile perimeter). Approximately 15,694 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. Figure A17-2 shows the existing leases and illustrates the possible effects of one-half mile NSO leases along the entire Area 3 and private lands perimeter.

Figure A17-2. Possible NSO Oil and Gas Leasing Areas



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, 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, mitigation measures commensurate with the anticipated impacts, the resource values of the area, and the degree of public concern may be considered during the review and approval process. For oil and gas projects, mitigation actions could include surface disturbance conditional requirements (Table 2-2), 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 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, and 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 upon many factors, including current regulations and Wyoming BLM policy, conditions in the planning area, and alignment with management goals.

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 any surface disturbances. As stated throughout this section, projects and proposals within the planning area will be considered based on, among other factors, current and future surface uses, condition of the planning area, industry initiative in addressing impacts, effectiveness of mitigation measures, and management goals. Data will be used to evaluate and support the decisions, and increase impact understanding, prediction and mitigation.

DATA COLLECTION

Monitoring of the planning area is necessary for the implementation strategy. The constantly changing resource conditions create a challenge to management. Field data and observations will help make decisions better by—

1. Measuring factors that indicate the condition of the planning area.
2. Increasing understanding of impacts by direct observation.
3. Increasing the effectiveness of project analysis by employing actual data.
4. Aiding establishment of thresholds, trigger-points or limits specifically for the planning area.
5. Evaluating the progress toward management goals.
6. Helping develop effective and appropriate mitigation measures.
7. Providing information on the success of management practices and policies.

Early in the development of the JMH CAP, a long list of indicators was developed with the aid of the Cooperating Agencies. These were culled into a manageable number by considering data source, usefulness, quality, and quantity. The effort resulted in the resource indicators presented in Table A17-1. Note that numerous resources have common indicators, resulting from the complex, interrelated nature of the planning area. Effects of surface usage overlap and combine making it challenging to identify reactions (advantageous and disadvantageous) that merit attention to either correct a problem or benefit from an opportunity.

Table A17-1. 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; 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 AUMs; 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	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 A17-2 presents more detailed information about the indicators presented in Table A17-1. From this table it is seen that BLM routinely gathers much of the desired indicator data as part of its normal monitoring and oversight duties. If additional BLM monies or manpower are required to support the developed monitoring plan, other solutions will be sought before resorting to a budgetary resolution. If it is impossible to gather all the indicator data as scheduled, a priority list will be developed and resources assigned accordingly. Management actions and surface use proposals will be analyzed using all available information.

The result of inadequate support for the monitoring strategy will be continuation of the decisions resulting from the JMH CAP assumptions with only minor, conservative modifications.

The JMH CAP management strategy also depends on data collected by other agencies. This reliance reduces the need for BLM resources (money and manpower) to monitor the effects of surface activities in the planning area. However, there is no guarantee that the quality, quantity, and availability of data will exist for the life of the JMH CAP. Already, reviews of the non-BLM information have revealed problems with a few of the statistics, methods of collection, and collection frequency. These and other issues require resolution as the monitoring strategy is implemented, but do not present insurmountable problems.

Table A17-2. Indicator Detail

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
Elk distribution¹	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 health¹	WGFD	Herd unit area	Post-season counts; flight counts; other WGFD data	Population, health and security of herd
Mule deer distribution¹	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 health¹	WGFD	Herd unit area	Post-season counts; flight counts; other WGFD data	Population, health, and security of herd
Pronghorn distribution¹	WGFD	Planning area	Radio collar studies; field observations	Integrity of key habitats and migratory corridors (amount of continuous land between important habitats)
Pronghorn herd health¹	WGFD	Planning area	Preseason counts; flight counts; other WGFD data	Population, health, and security of herd
Sage-grouse lek use¹	BLM; WGFD	Planning area	Field observation; lek counts	Health and security of population; reproduction opportunities
Sage-grouse population health¹	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)
Standards for Healthy Rangelands— Standard #1²	BLM	Watersheds Grazing Allotments	Remote sensing ³ ; field visits	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands — Standard #2²	BLM	Watersheds Grazing Allotments	Remote sensing ³ ; field visits; trend data collection	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands — Standard #3²	BLM	Watersheds Grazing Allotments	Remote sensing ³ ; field visits; trend data collection	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands — Standard #4²	BLM	Watersheds Grazing Allotments	Field visits	Change in rangeland and watershed health (+/-)

Table A17-2. Indicator Detail (Continued)

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
Standards for Healthy Rangelands — Standard #5²	BLM and State of Wyoming Department of Environmental Quality (DEQ)	Watersheds Grazing Allotments	Monitoring station and visual monitoring data	Change in rangeland and watershed health (+/-)
Standards for Healthy Rangelands — Standard #6²	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 ² ; permits	Change watershed health (+/-), habitat fragmentation, migratory corridor integrity (amount of continuous land between important habitats)
Road density	BLM; County	Planning area and associated HUC12	Remote sensing ³	Change watershed health (+/-), habitat fragmentation, migratory corridor integrity (amount of continuous land between important habitats)
Changes in stability of dunes	BLM	Planning area	Remote sensing ² ; 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
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

Table A17-2. Indicator Detail (Continued)

Indicator	Source of Information	Measurement Location	Methodology/ Data Source	Information Indicator Provides
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, Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management. ³ Remote sensing data includes aerial and satellite imagery. 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.				

Because of the complexity of the situation, other information may be required to complement that collected in the field. There are many public sources of data and analyses, including professional journals, publications, and research reports. These are not listed in the table but it is understood the "Source of Information" column is not all inclusive. Awareness of supplemental measures and their sources is the responsibility of the involved resource specialists.

Circumstances may arise that 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 A17-3 contains information on the measures used for the resource indicators. Of particular interest is the column listing preliminary performance standards (see the columns under "Measure and Trigger"). These numbers are based on the resource specialist's best understanding and data available at present. Most, if not

all, are educated assumptions that the JMH CAP management strategy intends to test and refine through observation and analysis of the indicator data. However, until completion of this task, the triggers provided in Table A17-3 will be used to guide management decisions. The upper and/or lower values are limitations that are not intended to be violated. Action will be taken before an indicator reaches a trigger point since operating outside these bounds indicates a failure of the management strategy. In such a case, it may be necessary to review the JMH CAP to determine if immediate action is required to correct the situation. It is a goal of the strategy to manage the planning area within a set of appropriate limits. Again, the values shown in Table A17-3 are a “first cut” at triggers that might be later refined to better fit the planning area.

Table A17-3. Measurement Detail

Indicator	Measure and Trigger	Trigger		Unit	Frequency
		Lower ¹	Upper ¹		
Elk distribution	Animal distribution	2	2	Location	Minimum of 4 times daily for first year (3/03–3/04); additional funding to be pursued for life of plan
	Habitat use		-15%	Acres	
	Movement	2	2	Location	
Elk herd health	Total	2	-15%	Number Calves/100 Cows	At a minimum biennially; additional funding to be pursued to increase frequency to yearly
	Calf/cow ratio	2	40		
Mule deer distribution	Animal distribution	2	2	Location	Dependent on securing sufficient funding for GPS collaring
	Habitat use		-15%	Acres	
	Movement	2	2	Location	
Mule deer herd health	Total	2	-15%	Number Fawns/100 does	At a minimum biennially; additional funding to be pursued annually
	Fawn/doe ratio	2	60		
Pronghorn distribution	Animal distribution	2	2	Location	Dependent on securing sufficient funding for radio collaring
	Habitat use		-15%	Acres	
	Movement	2	2	Location	
Pronghorn herd health	Total	2	-15%	Number Fawns/100 does	At a minimum biennially; additional funding to be pursued annually
	Fawn/doe ratio	2	70		
Sage-grouse lek use	Presence/absence	2	2	Males on leks	Annually
	Population trend			Wing barrels	
	Active/inactive			Number	
Sage-grouse population health	Bird distribution	2	2	Location	Annually
	Habitat use		-15%	Acres	
	Movement	2	2	Location	
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 #1³	Refer to BLM TR-1730 and TR-1734 Series ⁴				On a continuing basis

Table A17-3. Measurement Detail (Continued)

Indicator	Measure and Trigger		Unit	Frequency	
Standards for Healthy Rangelands—Standard #2³	Refer to BLM TR-1730, TR-1734, and TR-1737 Series ⁴			On a continuing basis	
Standards for Healthy Rangelands—Standard #3³	Refer to BLM TR-1730 and TR-1734 Series ⁴			On a continuing basis	
Standards for Healthy Rangelands—Standard #4³	Refer to BLM TR-1730 and TR-1734 Series ⁴			On a continuing basis	
Standards for Healthy Rangelands—Standard #5³	Refer to BLM TR-1730 and TR-1734 Series ⁴			As needed on site-specific basis	
Standards for Healthy Rangelands—Standard #6³	Refer to BLM TR-1730 and TR-1734 Series ⁴			As needed on site-specific basis	
Roads and trails creation		Lower ¹	Upper ¹		Annually
	Location	5	5		
	Miles of new road				
	Miles of new trail				
	Miles of improved road				
	Number of roads				
	Number of trails				
Type of roads					
Road density	Location	5	5		Annually
	Number of roads				
	Acreage of roads reclaimed				
	Number of trails				
	Acreage of trails reclaimed				
Changes in stability of dunes	Acreage of dunes	-244	1,218	Acres in open play area	Annually
	Boundary	5	5		
O/G leased	Acres leased	5	5		Ongoing basis; annually
	Acres of suspended leases				
O/G available for leasing	Acres open to leasing	5	5		Ongoing basis; annually
O/G production	Number of wells		175 / 40 ⁶	Wells Number	Ongoing basis
	Number of APDs approved		175 / 40 ⁶		
	MMCF or BBLS production		5		

Table A17-3. Measurement Detail (Continued)

Indicator	Measure and Trigger		Unit	Frequency
Locatable mineral activity	Acreage withdrawn	5	5	Ongoing basis
	Number of mining claims			
	Acres available for location			
Salable mineral activity	Acreage open	5	5	Ongoing basis
	Number of active operations			
Surface disturbance and disruptive activity	Visual indicators of surface disturbance and reclamation success	5	5	Annually
	Levels and location of activity			
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	5	5	On a continuing basis reported annually
	Type of use			
	Periods of use			
Heritage Resources	Prehistoric and/or historic resource number	8	8	Per project; on a continuing basis
	Kind/type			
	Density			
Native American Concerns	Respected places, TCP or sacred site number	8	8	Per project; on a continuing basis
	Kind/type			
	Density			

¹Preliminary 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.

²No 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.

³Each 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, Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management.

⁴Available at <http://www.blm.gov/nstc/library/techref.htm>.

⁵Data 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.

⁶The first number indicates total deep wells and the second is the number of coal bed gas wells.

⁷Refer to Proposed JHM CAP column in Table 4-1.

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

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.

Besides collecting indicator data, BLM is responsible for summarizing and analyzing all the information and observations; including that gathered by other agencies. The assistance of the JMH working group and outside agencies might be called upon to help with proper interpretation or with particularly difficult analyses. Most resource areas listed in Table A17-1 have guidelines for the collection and analysis activities developed specifically for those resources. However for resource areas that do not have data standards and the need for such is recognized, guidelines will be developed. Following standards in the collection and analysis of field data promotes confidence in the resulting decisions or actions.

JMH CAP MANAGEMENT PROCESS

The process described in this section drives the decisions concerning resource use in the planning area. All proposals or projects that result in surface disturbance or disruption will be affected.

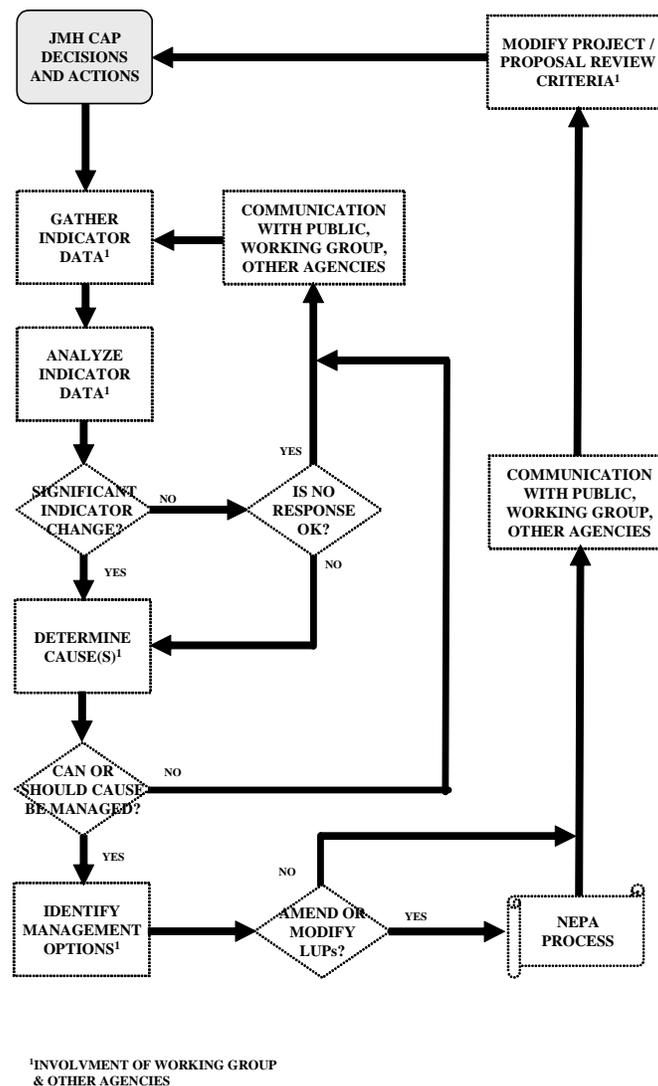
The following key elements are adopted for the planning area:

- Employing field data and observations in the evaluation of projects and proposals
- Considering the condition of all resources (as shown by the indicators) before allowing further surface disturbing or disruptive activity
- Improving understanding and ability to predict impacts associated with the uses of the various resources in the planning area
- Allowing judicious testing of assumptions, practices, policies, and mitigation measures.
- Applying best management practices, mitigation and conditions of approval developed through the monitoring and evaluation process to use authorizations.

Figure A17-3 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 A17-3 provides the detail needed to understand and work within the process.

The JMH CAP management process begins with the implementation of the initial management decisions previously described. In general, these decisions extend the suspensions on existing oil and gas leases in the planning area for 3 years unless an operation plan is approved before then, immediately opens Areas 1 and 2 to consideration of new oil and gas leasing, and closes Area 3 to further oil and gas leasing except as provided for by specific criteria. Wherever sensitive values exist, and particularly in Areas 2 and 3, other 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 A17-3. JMH CAP Management Process



The next box down represents the collection of the indicator data. Detail on the collection of indicator data was previously discussed and shown in Tables A17-2 and A17-3. Note again that there may be modifications to the indicators as a result of data analysis and experience gained from managing the various resources.

Data analysis is the next step shown in the figure. This can be exceedingly complex because of the data type, quantity, and quality. After the data is collected, comparison is made to the existing limits, the JMH CAP assumptions, or as a last resort, the resource specialist expectations. Summary values (such as average or standard deviation) and trends are developed at this stage.

Following the arrows, 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 a positive, negative, or no (zero) change in the indicator data. Any of these states are considered important when evaluating the effectiveness of land use decisions or when developing or testing limits.

The first question concerns the magnitude or significance of an apparent change and is illustrated as the diamond labeled “Significant Indicator Change?” Data almost always contains some noise or collection errors and so requires some filtering. Use of the limits provided in Table A17-3 or their later replacements aids in the determination of significance. Knowing how close a current reading is to a trigger or threshold makes it easier to determine if a 1-unit change is a cause for concern. The experience of the resource specialist, statistical tools, input from the working group, previously collected data, and the developed or accepted limits are all used to successfully identify a significant change in an indicator. It is anticipated that in the beginning a “better safe than sorry” approach will prevail resulting in classification of most indicator changes as significant. However, as the data from the planning area increases, experience will winnow out those changes not deserving of further consideration.

The second related question is in response to the determination that an observed change in data is not significant; in other words essentially no change was measured. (This step appears in Figure A17-3 as a diamond directly to the right of the one just discussed). 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 arrow. (This box labeled “Communication with Public, Working Group, Other Agencies” is discussed later).

The next step in the process (the box labeled “Determine Cause(s)” in Figure A17-3) is entered by the need to identify the cause of a significant positive or negative change, or an unexpected “zero” response in the resource indicator data. This first involves the consideration of the validity of the data and its analysis, and only later attempts to identify the cause of an indicator data change. Validity should always be of the utmost concern. Confidence in all aspects of data collection and analysis is essential. Possible problems that may arise 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 helps 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. The difficulty arises from the complex interrelationships within the planning area. Table A17-1 reveals there are few indicators unique to a single resource or a particular surface use. Therefore, a change in the collected data could be the result of a single factor, a combination of activities, or even an unanticipated agent. Hypotheses will have to be developed, tested, and discarded based on the accumulated evidence. A team approach may be appropriated to distribute the undoubtedly large workload and to allow a diversity of interpretations to be considered.

There may be cases, especially early in the term of the JMH CAP, where a definitive identification of a cause or causes is not achieved. Insufficient time may have elapsed to accumulate supporting data or a lack of experience with certain land uses activities are possible reasons. Under such conditions it is necessary to provide a way for the process to continue. It is reasonable to conclude that the cause behind the change cannot be identified and move the process to the next step, the diamond in Figure A17-1 labeled “Can or Should Cause Be Managed?” In the specific situation in which the cause could not be determined, the answer to this question is normally “No” and the process proceeds to the communications step (see below for the circumstances under which the answer might be “Yes”).

The failure to identify a cause for a recognized indicator response is not a trivial matter, and every effort will be made to avoid this outcome. This decision would have to be defensible based on the data and the cumulative experience within the planning area. Possible options to correct or prevent reoccurrence should be

considered before carrying this conclusion forward. Modification of the indicator list, changes to the data collection and analysis procedures, or other actions may be necessary to address the problem (at which point the question posed in the “Can or Should Cause Be Managed?” triangle is “Yes” as these actions require changes in the management strategy). Further, cases where causes are not initially identified should be revisited periodically so as to not allow correctable conditions to persist or opportunities to go unrealized (in actual practice, reexamination of data from the planning area will be a continuing effort to gain the maximum benefit from the expended effort).

When the cause or causes of an indicator change are identified, the process moves to an important decision that is represented by the diamond labeled “Can or Should Cause Be Managed?” Specifically, the question involves whether it is possible or desirable to manage the cause in a way that improves, maintains, or corrects the observed results as measured by the indicators. In some situations, it may be impossible for BLM to affect the cause. This determination is made by BLM with the collaboration of the working group. If BLM decides against reacting to an identified response in the indicator data, the process finishes with a communications step where the data and conclusions are made available to interested parties.

The decision to react to an indicator change requires identification of the available options. This step is shown in Figure A17-3 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 Land Use Plan?” diamond in Figure A17-3 is directed toward the decisions developed in the previous step. The question identifies those alternatives that are outside the scope of the JMH CAP. If the action was analyzed as part of the JMH CAP, BLM management has the option of immediately implementing the proposed response without further analysis. On the other hand, those decisions outside the scope of the JMH CAP, and considered to be the best response to an identified situation, will require additional action before implementation.

The conclusion that some or all of the desired solutions are not part of the JMH CAP analysis will add significantly to the process. National Environmental Policy Act of 1969 (NEPA) planning regulations are employed to insure adequate consideration of impacts, alternatives, and diverse views. The process allows for public input on significant alterations or modifications to the JMH CAP. It may require significant time and effort for a desired decision that falls outside the analyzed options to be adopted. However, if considered the best response for the situation, the effort will be expended to allow proper management of the planning area. Interim actions (within the scope of the JMH CAP) may be taken to address pressing situations. It is hoped that many of the actions supporting the management goals have been analyzed in the JMH CAP and amending or modifying the plan will seldom be necessary.

Though public and cooperators participation and communication is an integral part of the NEPA process, Figure A17-3 shows that a communications step is entered after the plan is modified or amended, or after a decision is made to take an JHM 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 Figure A17-3 to be discussed represents the tie between the illustrated process and the resource and case specific review or approval processes. Labeled “Modify Project/Proposal Review Criteria” and located in the top right-hand corner of Figure A17-3, 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 A17-3 are the procedures that relate to specific resource projects, proposals, or applications. APD, rangeland improvement, rights-of-way, 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.

Besides being able to better evaluate land use projects, there are other equally valuable uses for the indicator data such as refining thresholds, triggers, or performance standards. There are a number of well established standards that the JMH CAP relies on such as the Standards for Healthy Rangelands. Many other standards have yet to be developed and are expressed in the planning document as a “first cut” or an assumption. These will require verification or refinement before being widely adopted. Note that the only way to determine the reaction to resource usage is to allow such usage and observe the results. This may mean that some land use decisions will be made for testing purposes.

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 A17-3 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 would not be chartered under the Federal Advisory Committee Act (FACA). Membership would necessarily be restricted to full-time or permanent part-time officers of a governmental agency or elected officers of state, local, or tribal governments. The inclusion of the term “elected” means some of the members represent a constituency. These members provide a point of contact (POC) for the public. A more detailed discussion of participation and communication is presented in the next section. However, in all cases, BLM is the final decision maker involving federal surface or minerals, and this strategy does not affect that responsibility.

COMMUNICATION AND PARTICIPATION

BLM has a long standing policy to encourage the public to “participate” or involve themselves in the agency’s day-to-day activities. The implemented JMH CAP management strategy encourages and rewards this level of interest. Comments, suggestions, concerns, and issues may be provided or raised at any time. Involvement of the public, industry, 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 A17-3, the decision evaluation process has numerous 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 Web sites. A limited number of hard copies of this material will also be maintained at the Rock Springs Field Office to accommodate those without Internet access. Confidentiality will be observed where appropriate, but the idea is to maintain up-to-date, publicly accessible information on the management of the planning area.

Meetings are seen as a necessary and valuable component of the management strategy. These provide an excellent opportunity for BLM and public interaction, and are planned semiannually for the first 3 years. As a kickoff, an informational meeting will be held within 2 months following signing of the JMH CAP ROD. It will focus on the management approach and how it will work in the planning area. Following meetings will mainly concern information dissemination. A “town hall” format will be used to allow interested individuals to express opinions or concerns about the planning area. BLM, however, will not request or take input during these forums on pending actions or decisions in compliance with FACA. Other avenues are open for the public to more directly affect management of the planning area such as through the NEPA process (if invoked) or the JMH CAP Working Group. A record of the informational meetings will be generated for review and archiving.

With access to the Internet almost universal, BLM will expand its use of this medium to communicate and inform. Already in existence is a link on RSFO home page to JMH CAP. The information carried here will expand to include location and time of the public informational meetings, records of past meetings, use proposals, relevant resource information, changes or new management decisions, changes in resource monitoring, special notices, working group news, and general interest stories. An e-mail contact specifically for questions or comments concerning the JMH CAP planning area will be employed as an additional POC with BLM.

Information will continue to be made available through traditional routes (e.g., special mailings, radio interviews, and newspaper articles) as appropriate or required by policy or procedure. The Rock Springs Field Office will maintain public files on JMH CAP that contain the same information available via the Internet.

The most important way the public has to participate in the management of the planning area is through the JMH CAP Working Group. Certain members of the working group represent constituents and so directly represent the public. It is anticipated these 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 (that meet the restrictions) may be added later if the group so desires:

- 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 the local and county governments in Sweetwater County
- One representative from the local and county governments in Sublette County

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

As previously stated, the non-FACA status means that all members of the JMH CAP Working Group must be full-time or permanent part-time officers of a governmental agency or elected officers of state, local, or tribal governments. Conservation districts in Wyoming meet this definition.

The exact role of the working group will have to be defined by the group itself. Developing its charter would be the main order of business at the first meeting. At a minimum, the working group would provide a 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. Certain group members (e.g., representatives from the three counties) provide avenues for direct public participation in the management of the planning area.

It will likely take several months and numerous meetings to formalize the JMH CAP Working Group depending on the commitment of the members. From the Powder River Basin Working Group experience, it is expected to take between 1 and 2 years before the group will be operational. However, the formation of the JMH CAP Working Group will not delay implementation of the described JMH CAP decisions or implementation of the monitoring plan.