APPENDIX 2—2003 COAL SCREENING PROCESS SUMMARY

INTRODUCTION

The Federal Coal Leasing Amendments Act of 1976 requires federal coal lands considered for leasing to be identified in a comprehensive land use plan. Most, but not all, of the federal coal lands within the current Rawlins Resource Management Plan Planning Area (RMPPA) were last evaluated in 1990 (Bureau of Land Management [BLM] 1990). However, only unleased lands were evaluated; in accordance with regulations found in 43 Code of Federal Regulations [CFR] 3461, unsuitability criteria cannot be applied to leased lands. Consequently, lands held by the coal leases in 1990 were exempt from evaluation under the coal screening process. Further, some of those previously leased federal coal lands are no longer under lease and, therefore, are eligible for evaluation at this time.

To implement competitive coal leasing under regulations contained in 43 CFR 3420, BLM established (on November 9, 1979) a number of federal coal production "regions," including the Green River–Hams Fork Region, the federal coal region in which the RMPPA is located. The region was then decertified by the Green River-Hams Fork Regional Coal Team to allow the "lease-by-application" (LBA) process for coal leasing within the region. A decision document and request for public comment were published in the *Federal Register* (December 28, 1987). Only two comments were received, both supportive of an LBA process within the region. Because of the limited industry interest in additional tracts of federal coal in the region, it was determined that leasing in the region would henceforth be administered under the LBA process, in accordance with 43 CFR 3425.

Since the federal coal lands within the RMPPA were last reviewed and evaluated in 1990, there have been changes in the lease status within the Carbon Basin coal area. At that time, the 1990 Great Divide Resource Area Resource Management Plan (RMP) was prepared; approximately 60 percent of the federal coal lands within the Carbon Basin coal area were not included in the 1990 coal screening and planning process. The remaining portions of federal coal lands were not included in the coal screening process because of the lack of interest expressed in leasing the federal coal lands in this area. Development of the leased coal was never pursued, and the subject lease (Original Carbon Basin lease) expired in 1992.

Subsequent to the 1992 lease expiration, Ark Land Company of St. Louis, Missouri (an affiliate of Arch of Wyoming, Inc., operator of the Medicine Bow and Seminoe II mines), filed an LBA with BLM (pursuant to 43 CFR 3425.1) on federal coal lands within the Carbon Basin coal area. Upon filing of the LBA, BLM conducted an Environmental Assessment (EA) for the coal planning decisions in the Carbon Basin Coal Area; the subsequent Decision Record found that 12,118 unleased acres in Carbon Basin were acceptable for further consideration for coal leasing. Following completion of the EA, BLM prepared the Carbon Basin Coal Project Environmental Impact Statement (CBCPEIS) and the subsequent Record of Decision that was completed in March 1998. As a result of these investigations and findings, the Ark Land Company obtained federal coal lease WYW 139975 (December 1, 1999), comprising 5,235.15 acres of federal coal within the Carbon Basin coal area (covering both surface and underground mining). This lease is effective for 20 years, and thereafter as long as the condition of continued operation is met. The continued operation stipulation requires the operator to produce 1 percent of the recoverable coal reserves existing on the lease by December 1, 2009, or the lease will be terminated at that time by operation of law. This approval corresponds with the requirements for leasing of land as stated in the Approved RMP.

In addition to federal coal lease WYW 139975, the Ark Land Company holds other federal coal leases associated with Arch of Wyoming, Inc.'s, Medicine Bow and Seminoe II mines, both of which are located near Hanna. Mining activity at these two mines has ceased. Reclamation of both mines is anticipated to continue until 2008.

With the termination of mining operations at the Medicine Bow and Seminoe II mines, and in the absence of development of the Carbon Basin coal area, there will soon be no active mining or ongoing development of federal coal within the RMPPA. Current indications are that there will be no additional coal leasing activity for the duration of the 20-year planning period. However, as part of the Proposed RMP/Final EIS cumulative impact analysis, development of the Carbon Basin coal lease was analyzed at levels identified in the CBCPEIS.

The objectives in managing the federal coal resource in the planning area are (1) to provide for both short- and long-range development of federal coal in an orderly and timely manner, consistent with the federal coal management program, policies, environmental integrity, national energy needs, and related demands, (2) to identify federal coal that is acceptable for further consideration for leasing, and (3) to identify appropriate mitigation for sensitive areas.

However, at present, BLM will only complete the coal screening process through Step 2 (Application of Coal Unsuitability Criteria). This means that BLM will identify lands with coal development potential as "acceptable" or "unsuitable," but will not proceed to complete the multiple use conflicts analysis or surface owner consultation steps of the screening process until receiving an LBA (43 CFR 3420.1-4 [e] [3] and [4]). If an LBA is filed with BLM, then BLM will perform the remaining two steps of the coal screening process and amend the land use plan to incorporate the decisions for the portions of land that are considered acceptable for leasing.

CONSULTATION AND COORDINATION

On February 25, 2003, BLM published a Notice of Intent to revise the Great Divide RMP and called for coal and other resource information. The data call requested coal resource data and/or other information relative to determining interest in potential coal development within the RMPPA. No comments were received as a result of this data call. In particular, no comments or statements of interest were received from the coal industry (potential lessees).

During March 2003, BLM conducted a series of scoping meetings to encourage participation in the RMP planning process and, again, to seek resource data and other information useful to the planning process within the RMPPA.

Comments were received from the U.S. Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department (WGFD) as required under the consultation requirement of the coal unsuitability criteria found at 43 CFR 3461.

AREA DESCRIPTION

All areas underlain by coal resources in the RMPPA were reviewed for coal leasing and development potential. The areas with greatest potential were in the Hanna coal field, which lies in the eastern portion of the Green River-Hams Fork coal region, and the Green River Basin, lying in the central portion of this region (USDI, BLM 1990 and 2003; Glass and Roberts 1979). The indicated area(s) comprise a total of seven individual federal coal development potential areas (CDPA) underlain by an estimated

2,630,800,000 tons of federal coal. This coal contains an average of 10,420 British Thermal Units of energy per pound (BTU/lb) and has an average sulfur content of 0.63 percent.

Only the areas containing federally owned coal within the identified coal development potential areas were reviewed and evaluated. Any consideration for possible development of federally owned coal outside of these categories will be reviewed as future demand and need is indicated. Existing federal coal leases, as previously discussed, are not appropriate for review; however, existing federal coal leases were taken into account in the reasonably foreseeable coal development scenarios and in the impact analyses conducted for the Rawlins RMP EIS.

Current active coal leases in the RMPPA are owned by Arch of Wyoming, Inc. These leases comprise the Medicine Bow mine (leases WYW-82736, WYW-72989, and WYW-58095) and the Seminoe II mine (leases WYC-033800, WYW-045728, and WYW-049338). No coal is being mined from these leases. Sales are from stockpiled coal resources, and the only current activity on the leases consists of reclamation. No new coal mining activity is projected from these leases.

Presumably, Arch of Wyoming, Inc. would develop the Carbon Basin Coal Project in conjunction with the conclusion of operations at its Medicine Bow and Seminoe II mines. While Ark Land Company holds a valid, existing lease within the Carbon Basin area of the RMPPA, the possibility remains that under current and anticipated market conditions, the lessee may not actively pursue development of the lease within the projected 20-year planning period. This, in combination with the apparently limited mine life remaining at the Medicine Bow and Seminoe II mines, and the indicated general lack of other industry interest in further coal leasing within the RMPPA, suggests that the coal development potential within the RMPPA is marginal, at best, over the applicable 20-year planning period.

COAL SCREENING/PLANNING PROCEDURES

The Federal Coal Management Program established four major steps to identify areas of federal coal that are acceptable for further leasing consideration under the process listed in 43 CFR 3420.1-4(e)(1-4). The four steps are (1) identification of areas with coal development potential, (2) application of the unsuitability criteria, (3) evaluation of other multiple use conflicts, and (4) surface owner consultation.

Application of the latter three coal screening steps (as further described below) results in (a) identifying areas that are acceptable for further leasing consideration in each of these three steps, and (b) identifying areas that are unsuitable (Step 2), unacceptable (Step 3), or unavailable (Step 4) for further leasing consideration. Those federal coal areas that pass through the screening process are determined to be acceptable for further consideration for leasing. Collectively, these steps are called the "Coal Screening Process" (43 CFR 3420.1-4 [e] [1-4]) and are applied to the federal coal review area(s).

The following is a description of the steps of the coal screening process and how they were applied to the federal CDPAs. Please note, however, that for the Carbon Basin Coal Project, the screening process was completed only through the second step for this RMP. Multiple-use conflicts analysis and surface owner consultation steps were deferred until an LBA is filed or industry begins expressing an interest in developing coal resources in the planning area.

Step 1—Identification of Coal Development Potential

All areas of known and assumed federal coal with development potential for both surface and subsurface mining are identified using geological and economic data.

Step 2—Application of Coal Unsuitability Criteria

As required by 43 CFR 3461, the 20 coal unsuitability criteria are applied to all known and assumed federal CDPAs. The 1976 Federal Coal Leasing Amendments Act and the 1977 Surface Mining Control and Reclamation Act (SMCRA) are the legal authorities for applying the unsuitability criteria.

These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, etc. The purpose of this step is to identify areas with key features of environmental sensitivity that would make them unsuitable for surface coal mining, or for underground coal mining where the surface is impacted.

Step 3—Multiple-Use Conflict Evaluation

This step is a review of those federal coal lands that remain acceptable after applying the coal unsuitability criteria. It involves consideration of other multiple-use values (i.e., not directly concerned with the unsuitability criteria) and identifying any areas that would be unacceptable (in addition to those identified as unsuitable) for surface or subsurface coal mining or for surface operations and impacts associated with coal mining. The multiple land use decisions (43 CFR 3420.1-4 [e] [3]) place particular emphasis on protecting air and water quality; wetlands, riparian areas, and sole-source aquifers; and the federal lands, which, if leased, would adversely impact units of the National Park system, the National Wildlife Refuge system, the National System of Trails, and the National Wild and Scenic Rivers (WSR) system.

Step 4—Surface Owner Consultation

Section 714 (d) of the SMCRA and 43 CFR 3420.1-4(e)(4) require BLM to consult with qualified owners of split estate lands (i.e., private surface ownership over federally owned coal) when surface mining of the federal coal is being considered. This step does not apply to areas where only subsurface mining methods are concerned.

In this consultation process, qualified surface owners are asked to express their preference for or against surface mining of the federal coal under their private lands. An individual surface owner or significant numbers of these surface owners expressing a preference against surface mining could result in identifying some of these split estate lands as unacceptable for leasing and development of the federal coal. In such cases, these areas can still be considered for possible leasing beyond this land use planning stage. This is possible because the actual commitment of surface owner consent or refusal to consent does not occur until later in the coal inventory planning process, or in final processing of an individual coal lease application, prior to offering a lease for the federal coal involved.

HOW THE PROCEDURES ARE APPLIED

To help clarify the coal screening process conducted in the planning area, three categories of coal and land/mineral ownership relationships are identified: (1) federal coal lease areas, (2) areas where federally owned land surface overlies federally owned coal, and (3) areas where private and state owned land surface overlies federally owned coal. The federal coal areas are those areas containing coal with development potential to be considered for new federal coal leasing for either surface or subsurface mining methods, modifications to existing leases, emergency leasing, and exchanges.

The following procedures are in accordance with the Mineral Leasing Act of 1920, the Federal Coal Leasing Amendments Act of 1976, the Federal Land Policy and Management Act of 1976, the Federal Coal Management Program adopted by the Secretary of the Interior in June 1979 (and modified by a secretarial decision issued in January 1986), and all related federal regulations.

Findings

The following is a summary of the findings and related recommendations resulting from conducting the coal screening process. All indicated acreages and tonnages are approximate. Additional documentation and background information (including Step 1 of the process documentations, maps of coal areas, and areas of coal with development potential) explaining in detail how the procedures were used and the findings derived are available for public review at the BLM Rawlins District office.

Step 1—Identification of Coal Development Potential

Areas of federal coal with development potential for both surface and subsurface mining were identified using geological and economic data submitted by coal companies, published sources, and interpretations of available geological data from other sources.

Table A2-1: RMPPA Development Potential Coal, lists the approximate federal acreage and coal tonnage, number of mineable seams, and average coal quality characteristics (on a Proximate Analysis basis) for each of the CDPAs.

Table A2-1. RMPPA Development Potential Coal

Name of CDPA	Fed. Acres	Fed. Coal (thousand of tons)	Mineable Seams	Average Proximate Analysis			
				BTU/lb	% Moisture	% Ash	% Sulfur
Atlantic Rim	3,840	91,000	4	10,471	13.56	5.15	0.92
Carbon Basin	12,120	210,000	2	11,302	10.85	10.94	0.59
China Butte	6,240	125,000	4	8,438	25.01	7.18	0.39
Hanna Basin	30,040	2,081,000	9	10,487	11.47	9.44	0.65
Indian Springs	2,560	35,800	3	9,626	14.75	8.24	0.33
North Indian Springs	3,840	25,000	3	9,015	17.14	7.69	0.46
Red Rim	9,720	31,000	5	8,931	20.97	7.58	0.33
Total	**68,360**	**2,598,800**	**–**	**10,420**	**12.34**	**9.27**	**0.63**

Note: Coal quality and quantity data (mineable seams) for the Carbon Basin, Hanna Basin, Indian Springs, and North Indian Springs CDPAs are representative of depths ranging from the surface to 3,000 feet below ground surface. Data for the Atlantic Rim, China Butte, and Red Rim CDPAs are for surface-mineable depth coal only.

Step 2—Application of Coal Unsuitability Criteria

Introduction

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to all areas identified as having coal development potential in Step 1 of the coal screening process. These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, etc. The purpose of this step is to identify areas with key features of environmental sensitivity that would make them unsuitable or require exceptions or exemptions to a criterion for surface coal mining or for surface impacts associated with coal mining. In addition, consultation with federal and state agencies such as the USFWS and/or the state wildlife agency is required in the determination of coal unsuitability. For this project, the USFWS and the WGFD were contacted at the appropriate points in the evaluation process.

Findings

Application of the coal unsuitability criteria resulted in a determination that approximately 5,020 acres (containing an estimated 70.1 million tons of surface mineable federal coal) were unsuitable for surface coal mining. This reflects six of the seven identified CDPAs; the North Indian Springs CDPA had no unsuitable areas. Table A2-2, RMPPA Unsuitable Coal Areas and Affected Tonnage, provides a summary (by category) of the approximate acreages and estimated affected coal tonnage as determined by the coal unsuitability analysis.

Table A2-2. RMPPA Unsuitable Coal Areas and Affected Tonnage

Unsuitable Criterion	Acres	Tons
#2—Rights-of-way (ROW) and Easements	470	299,000
#15—Habitat for State High-interest Wildlife and Plants	4,520	69,770,000
#16—Riverine, Coastal, and Special Floodplains	30	0
Total	**5,020**	**70,069,000**

It should be noted that the Carbon Basin floodplain development potential and unsuitability determination is going through a reevaluation process. The detailed screening process performed in 1998 for the Carbon Basin was carried forward in the Approved RMP in support of the coal actions identified for the Carbon Basin.

Some specific requirements are not known before the application is filed, and therefore BLM may deem additional assessment necessary. These requirements include some associated with criterion 9 (mitigation requirements as part of exception to the criterion), which discusses critical habitat for listed threatened or endangered plant and animal species, and with criteria 11–15 (bald or golden eagles [nest or buffer zone around the nesting areas, roost and concentration areas], falcon cliff nesting sites and buffer zone areas of the nest, migratory bird species, habitat for resident species of fish, and wildlife and plants of high interest to the state and that are essential to preserve the habitat). In addition, specific requirements for criterion 16 (unsuitability of floodplain areas and alluvial valley floors for mining because of the potential loss of life or property) and criterion 19 (interruption to farming activities) may require additional assessments. These requirements are part of mitigation measures, which are exceptions to the criterion.

Findings are presented in the individual CDPA Status Summaries Section. In addition, detailed discussion of the individual unsuitability criteria analyses is provided below. Note: The application of the Coal Unsuitability criterion will be reevaluated and updated once a lease application is received.

Individual CDPA Status Summaries

- **Atlantic Rim:** No unsuitable lands were identified within the Atlantic Rim CDPA for criteria 1–14 and 16–20. Approximately 1,390 acres (19,578,000 tons) were determined to be unsuitable for coal mining and surface disturbance associated with coal mining under criterion 15, Habitat for State High-Interest Wildlife and Plants, as associated with the Muddy Creek watershed and the presence of BLM sensitive fishes. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19, as discussed above.

- **Carbon Basin:** No "unsuitable" lands were identified within the Carbon Basin CDPA for criteria numbers 1–15 and 17–20. Approximately 30 acres (no affected mineable coal tonnage) were determined to be "unsuitable" for coal mining and surface disturbance associated with coal mining under criterion 16, Riverine, Coastal, and Special Floodplains, as associated with floodplain areas of the Medicine Bow River. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19.

- **China Butte:** No unsuitable lands were identified within the China Butte CDPA for criteria 1–14 and 16–20. Approximately 3,130 acres (50,192,000 tons) were determined to be unsuitable for coal mining and surface disturbance associated with coal mining under criterion 15, Habitat for State High-Interest Wildlife and Plants, as associated with the Muddy Creek watershed and the presence of BLM sensitive fishes. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19 as discussed above.

- **Hanna Basin:** No unsuitable lands were identified within the Hanna Basin CDPA for criteria 1 and 3–20. Approximately 440 acres (107,000 tons) were determined to be unsuitable for coal mining and surface disturbance associated with coal mining under criterion 2, ROW and Easements, as associated with Highway 30/287 and Union Pacific Railroad (U.P.R.R.) ROWs. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19, as discussed above.

- **Indian Springs:** No unsuitable lands were identified within the Indian Springs CDPA for criteria 1 and 3–20. Approximately 20 acres (no affected mineable coal tonnage) were determined to be unsuitable for coal mining and surface disturbance associated with coal mining under criterion 2, ROWs and Easements, as associated with Interstate 80 ROWs. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19, as discussed above.

- **North Indian Springs:** No unsuitable lands were identified within the North Indian Springs CDPA. However, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19, as discussed above.

- **Red Rim:** No unsuitable lands were identified within the Red Rim CDPA for criteria 1 and 3–20. Approximately 10 acres (192,000 tons) were determined to be unsuitable for coal mining and surface disturbance associated with coal mining under criterion 2, ROWs and Easements, as associated with U.P.R.R. ROWs. In addition, further evaluation and/or mitigation requirements are or may be associated with criteria 9, 11–16, and 19, as discussed above.

Individual Criteria Analyses

Criterion 1—Federal Land Systems and Federal Lands in Communities

No areas within the identified CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *The identified CDPAs do not include any federal lands in the following land systems or categories: National Park system, National Wildlife Refuge system, National System of Trails, National Wilderness Preservation systems, National Wild and Scenic Rivers (WSR) system, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and/or federal lands in incorporated cities, towns, and villages.*

Criterion 2—ROWs and Easement

Certain locations within the Hanna Basin, Indian Springs, and Red Rim CDPAs (Table A2-3) were determined to be unsuitable for coal mining and related surface operations and impacts because of the existence of ROWs and/or easements**.**

Table A2-3. Unsuitable Locations for Coal Mining Because of the Existence of ROWs

Coal Development Potential Area	Unsuitable Location(s)	Acres	Coal (tons)
Hanna Basin	Hwy 30/287 ROW	230	88,000
Hanna Basin	U.P.R.R. ROW	210	19,000
Indian Springs	Interstate 80 ROW	20	0
Red Rim	U.P.R.R. ROW	10	192,000
Totals		**470**	**299,000**

No areas within the Atlantic Rim, Carbon Basin, China Butte, or North Indian Springs CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *After applying the exceptions to this criterion, the federal coal lands along Highway 30/287 as well as those along the U.P.R.R. ROWs (within the Hanna Basin and Red Rim CDPAs) and the coal lands along the Interstate 80 ROWs (within the Indian Springs CDPA) remain unsuitable. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process, during processing of individual coal lease applications, or in mining and reclamation plan developments. There are no identified ROWs or easement conflicts within the Atlantic Rim, Carbon Basin, China Butte, or North Indian Springs CDPAs.*

Criterion 3—Buffer Zones for ROWs, Communities, and Buildings

No unsuitable areas were identified with respect to buffer zones for ROWs, communities, and buildings within the CDPAs; however, location-specific unsuitable areas that meet the following criteria may evolve under any proposed coal development scenario(s).

It was determined that a 100-foot buffer zone around cemeteries and a 300-foot buffer zone around occupied dwellings, public buildings, schools, churches, community or institutional buildings, or public

parks would be considered unsuitable for coal mining and related surface operations and impacts. This would apply only to the extent such features are identified as being present in any proposed coal development scenario(s) and, as such, no determination as to affected acreage or tonnage has been attempted in this coal screening process.

> ***Rationale:*** *Buffer areas for ROWs are unnecessary because ROWs generally have sufficient area to contain their functions. In addition, if a ROW can be relocated, a buffer would not be necessary.*
>
> *There are no known occupied dwellings, cemeteries, schools, churches, community or institutional buildings, or public parks on BLM-administered public land surface in the CDPAs. However, there may be some of these structures and facilities on split estate lands (i.e., private/state surface over federal coal), and on nonfederal lands that may be located within 100 to 300 feet of adjacent federal coal lands. Thus, it was determined that a 100-foot buffer zone around cemeteries and a 300-foot buffer zone around occupied dwellings, public buildings, schools, churches, community or institutional buildings, or public parks would be considered "unsuitable" for coal leasing and related surface operations and impacts. Should any conflicts arise, it would be the responsibility of the lease applicant to show that conflicts between mining and the buffer zone would be adequately addressed and mitigated.*
>
> *Because the numbers and locations of these structures and facilities and the effect they may have on the development of federal coal vary and are unpredictable, it is not possible to make a reasonable estimate of acreage and coal tonnage that may be affected. These situations will be addressed on a case-by-case basis in the course of processing coal lease applications.*

Criterion 4—Wilderness Study Areas

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *There are no wilderness study areas within the identified federal CDPAs.*

Criterion 5—Scenic Areas

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *There are no Class I visual resource areas designated within the identified federal CDPAs.*

Criterion 6—Lands Used for Scientific Study

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *There are no scientific study areas under permit within the identified federal CDPAs.*

Criterion 7—Places Included in the National Register of Historic Places

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *There are no places within the identified federal CDPAs that are included in the National Register of Historic Places (NRHP).*

Criterion 8—National Natural Landmarks

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *There are no designated National Natural Landmarks within the identified federal CDPAs.*

Criterion 9—Federally Listed Endangered Species Habitat

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *No areas were determined to be unsuitable; however, potential habitat areas for threatened and endangered species have not yet been searched to determine whether or not threatened and endangered species are present within the identified federal CDPAs. The necessary searches and consultation with USFWS would be conducted during any coal activity planning.*

Criterion 10—State-Listed Endangered Species Habitat

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *This criterion is not applicable because the State of Wyoming recognizes the federal list of endangered species and has no separate list of its own.*

Criterion 11—Bald and Golden Eagle Nest Sites

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *It was determined that the federal CDPAs would be acceptable for coal development with the provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.*
>
> *The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, and reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation measures may include, but are not limited to, seasonal operations in buffer zones around occupied nests, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off- or onsite habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.*

Criterion 12—Bald and Golden Eagle Roosts

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *It was determined that the federal CDPAs would be acceptable for coal development with the provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.*
>
> *The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, and reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation measures may include, but are not limited to, seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term habitat protection.*

Criterion 13—Falcon Cliff Nesting Sites

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *It was determined that the federal CDPAs would be acceptable for coal development with the provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.*
>
> *The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, and reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation measures may include, but are not limited to, seasonal operations in buffer zones around occupied nests, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off- or onsite habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.*

Criterion 14—Migratory Bird Habitat

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

> ***Rationale:*** *It was determined that the federal CDPAs would be acceptable for coal development with the provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.*
>
> *The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, and reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation measures may include, but are not limited to, seasonal operations in buffer zones around occupied nests and other important habitat areas, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the*

USFWS), off- or onsite habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Criterion 15—Habitat for State High-interest Wildlife and Plants

Those coal areas situated within the Muddy Creek watershed (occupying portions of the Atlantic Rim and China Butte CDPAs) were determined to be unsuitable for coal mining and related surface operations and impacts because of the presence of BLM sensitive fish species and habitat (Table A2-4).

Table A2-4. Unsuitable Locations for Coal Mining Because of BLM Sensitive Fish Species and Habitat

Name of Area	Unsuitable Area(s)	Acres	Coal (Tons)
Atlantic Rim	Portions of T18N; R90W	1,390	19,578,000
China Butte	Portions of T17–18N; R91W	3,130	50,192,000
Totals		**4,520**	**69,770,000**

No areas within the Carbon Basin, Hanna Basin, Indian Springs, North Indian Springs, or Red Rim CDPAs were determined to be unsuitable under this criterion; however, certain habitat areas within these, as well as the remaining CDPAs, would be subject to mitigation requirements as discussed in the Other Habitat Areas section.

Rationale: *Those portions of the Atlantic Rim and China Butte CDPAs that are within the Muddy Creek watershed are unsuitable for coal development because of conflicts with BLM sensitive fishes including the Colorado River cutthroat trout, round tail chub, flannelmouth sucker, and bluehead sucker. The Muddy Creek watershed represents the only remaining watershed in Wyoming where the four species can still be found, as confirmed by recent surveys conducted by the WGFD, University of Wyoming, and BLM. Coal development would impact the conservation of these four types of fishes. First, the extraction of coal within the Muddy Creek watershed would degrade the water quality of Muddy Creek and disrupt hydrologic processes that maintain suitable fish habitat. Second, the habitat could be directly removed by mining coal within the floodplain of Muddy Creek. For these two reasons, it has been determined that the Muddy Creek watershed is unsuitable for coal development.*

Other Habitat Areas Suitable for Leasing but Subject to Mitigation Requirements

Other habitat areas within the CDPAs that were determined to be suitable for coal leasing and related surface operations and impacts, but subject to special restrictions and/or mitigation requirements, are identified below.

The primary habitat considerations associated with the CDPAs are elk, deer, and antelope crucial winter or yearlong ranges, and sage-grouse leks and nesting areas. It is anticipated that mitigative measures can be combined with appropriate mining methods to temper the impacts of mining. Therefore, these areas were determined to be suitable for coal development with certain stipulated methods of leasing and mitigation requirements under a concept of long-range leasing and development.

- **Atlantic Rim:** Approximately 3,030 acres of crucial winter and yearlong elk winter range and deer and antelope crucial winter range areas.

- **Carbon Basin:** Various areas identified as deer and antelope crucial winter range and grouse lek and nesting areas.
- **China Butte:** Various areas identified as deer and antelope crucial winter range and grouse lek and nesting areas.
- **Hanna Basin:** Various areas identified as deer and antelope crucial winter range and grouse lek and nesting areas.
- **Indian Springs:** Approximately 2,520 acres of pronghorn crucial winter range.
- **North Indian Springs:** Approximately 2,570 acres of pronghorn crucial winter range.
- **Red Rim:** Approval of any federal mining plan in the Red Rim CDPA must include a condition that restricts from development the pronghorn winter range located within the south portion of the area, until reclamation of pronghorn winter habitat in the north portion of the area has been demonstrated to be successful. It was determined that these CDPAs would be suitable for coal development with a provision that any federal coal lease issued in the respective area(s) would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species and habitats involved. The requirement (or stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, and reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM and the appropriate state agencies. Mitigation may include, but is not limited to, seasonal operations in some areas, off- or onsite habitat improvement or development, special reclamation measures (e.g., habitat recovery), timing and sequencing of mining or other appropriate measures for long-term nest or habitat protection, seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.
- **Deer and Antelope Crucial Winter Range Considerations:** With respect to deer and antelope crucial winter range, mitigative measures would be combined with appropriate mining methods to temper the impacts of mining in these areas under a concept of maintaining a long-term balance between habitat and coal development. If all or a significant part of the crucial winter range for one or more big game species were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herd. However, in considering the exceptions to the criterion, BLM determined that there will not be significant long-term impacts on the species being protected under certain mining method stipulations (i.e., habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between undisturbed areas and those areas disturbed by mining.
- **Elk Winter and Yearlong Range Considerations:** With respect to elk winter and yearlong range, the federal CDPAs will be subject to mitigation and reclamation measures for the protection of wintering and yearlong resident elk. Any proposal by the lessee to conduct mining operations or construct mining-related surface facilities within the federal CDPAs will be subject to stipulations for specific placement, design, and type of facilities; management of elk forage; and restrictions on the level of mining and human activity. These stipulations and restrictions will be developed in consultation with WGFD and in conference with the USFWS, the Wyoming Wildlife Federation, and the National Wildlife Federation. In particular, the primary habitat consideration within the Atlantic Rim CDPA is crucial winter and yearlong range for elk. The elk rely on a total yearlong range of 784,000 acres, of which about 327,000 acres are winter range and about 131,000 acres (17 percent of the total range) are crucial habitat. Approximately 3,030 federal acres of this crucial habitat lie within the Atlantic Rim CDPA. The area will be subject to

mitigation and reclamation measures for the protection of wintering and yearlong resident elk. Any proposal to conduct mining operations or construct mining-related surface facilities within the Atlantic Rim CDPA will be subject to stipulations for specific placement, design, and type of facilities; management of elk forage; and restrictions on the level of mining and human activity. These stipulations and restrictions will be developed in consultation with WGFD and in conference with the USFWS, the Wyoming Wildlife Federation, and the National Wildlife Federation.

- **Grouse Lek and Nesting Area Considerations:** With respect to grouse breeding (leks) and nesting, it was determined that grouse habitat areas are acceptable for coal leasing with mitigation requirements for habitat improvement, development, and reclamation. Exploration activities and ancillary facilities would be allowed, provided (1) the surface disturbing activities related to exploration and ancillary facility development avoid any lek and areas within a ¼-mile distance around any lek, if possible, and where not possible, intensive mitigation would be applied; (2) permanent and high-profile structures, such as buildings, overhead power lines, other types of ancillary facilities, etc., were prohibited within a ¼-mile distance from any lek area; (3) during the grouse mating season, surface uses and activities would be prohibited between the hours of 6:00 p.m. and 9:00 a.m. within a ¼-mile distance from the leks; (4) surface disturbance in the nesting area within a 2-mile radius of a lek were limited to only actual mining activity and other activities were subject to seasonal limitations; and (5) it were attempted to relocate lek and nesting complexes that are disturbed or destroyed by coal mining (relocation efforts are to be coordinated with BLM, WGFD, and other appropriate state agencies).

Criterion 16—Riverine, Coastal, and Special Floodplains

Certain floodplain areas associated with the Medicine Bow River that are present within the Carbon Basin CDPA were determined in 1988 to be "unsuitable" for coal leasing and related surface operations and impacts (however, no mineable coal was determined to be present) (Table A2-5).

Table A2-5. Unsuitable Locations for Coal Mining in Certain Floodplains of the Medicine Bow River

Area	Unsuitable Location	Acres	Coal (Tons)
Carbon Basin	Portions of Sec. 12; T20N; R80W	30	0

No areas were determined to be unsuitable under this criterion in the Atlantic Rim, China Butte, Hanna Basin, Indian Springs, North Indian Springs, or Red Rim CDPAs because there are no proven riverine, coastal, or special floodplains within these areas, until an LBA is filed and analyzed, and coal screening process is completed and proven otherwise.

There are riparian and wetland habitat areas mapped within each of the CDPAs; however, because no official delineation of the 100-year floodplain has been completed in the CDPAs, the riparian and wetland habitat areas will be further evaluated and the 100-year floodplain determined when addressing potential coal leasing (on a case-by-case basis). These areas should be evaluated prior to allowing any disturbance from surface mining.

> ***Rationale:*** *With the exception of the small areas of the Medicine Bow River floodplain within the Carbon Basin coal development potential area, it was determined that the other floodplain areas (inclusive of the Separation Creek floodplain within the Red Rim CDPA and the Fillmore Creek floodplain within the China Butte CDPA) can generally be mined in such a manner that all or certain stipulated methods of coal mining can be*

undertaken without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of such stipulations or lease requirements may include, but are not limited to, relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined land reclamation.

Criterion 17—Municipal Watersheds

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

Rationale: *No municipal watersheds have yet been identified within the federal CDPAs, until an LBA is filed and analyzed, and the coal screening process is completed and proven otherwise.*

Criterion 18—National Resource Waters

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

Rationale: *No National Resource Waters (Class 1 waters including the ¼-mile buffers) within the identified federal CDPAs have been identified by the State of Wyoming in its water quality management plan. However, it should be noted that the Hanna Basin CDPA is located upstream of National Resource Waters, specifically along the North Platte River and below Seminoe Reservoir.*

Criterion 19—Alluvial Valley Floors

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion, until an LBA is filed and analyzed, and the coal screening process is completed and proven otherwise.

Rationale: *No alluvial valley floors have been identified by the State of Wyoming within the identified federal CDPAs. The State of Wyoming usually identifies alluvial valley floor areas and mitigative measures during the mine plan approval and mine permitting stage. The CDPAs remain acceptable for further leasing consideration subject to the condition that in potential alluvial valley floors, or in other areas near them, where coal mining could interrupt or intercept water flow to farming areas along the drainages, mining will be permitted only with mitigative measures that are made a part of an approved mine plan.*

Criterion 20—Unsuitability Criterion Proposed by a State or by an Indian Tribe

No areas within the identified federal CDPAs were determined to be unsuitable under this criterion.

Rationale: *Neither the State of Wyoming nor any Indian tribes have proposed any unsuitability criteria to the Secretary of the Interior. Until an LBA is filed and analyzed, and the coal screening process is completed and proven otherwise, the above statement is true.*

Step 3—Multiple-Use Conflicts

Procedurally, in this step of the coal screening process, those lands that are determined to be suitable for further coal leasing consideration after applying the unsuitability criteria would be further evaluated. This

evaluation would involve consideration of potential conflicts of coal development with other multiple-use values (i.e., values not only or directly concerned with the unsuitability criteria) and identification of any additional areas that would be considered unacceptable for coal mining or related surface operations and impacts. The evaluation of other multiple-use conflicts typically involves a somewhat complicated procedure of sequentially analyzing and developing the various coal management scenarios.

As stated before, the coal screening procedures consist of four steps—identification of coal development potential, application of coal unsuitability, multiple-use conflict evaluation, and surface owner consultation. Based on the completion of unsuitability, Step 2 of this process, no additional areas over and above the areas determined unsuitable during the 1998 EA were identified for the Carbon Basin areas. As a result, the Carbon Basin coal decision has identified 12,120 acres (federal acreage) and 210 million tons of coal as acceptable for further consideration for leasing. This scenario is still valid and is reflected in the Approved RMP management actions.

It has been determined from Step 2 of the process that there is minimal likelihood for actual coal development to occur within the RMPPA and the applicable 20-year planning period. It was also determined that Step 3 of the coal screening process would not be carried out until an LBA is filed and analyzed. Therefore, the areas determined acceptable through Step 2 of the coal screening process will be the areas available for consideration for coal mining by the industry.

Step 4—Surface Owner Consultation

It has been determined from Step 2 of the process that there is minimal likelihood for actual coal leasing and development within the RMPPA and the applicable 20-year planning period. It was also determined that Step 4 of the coal screening process would not be carried out until a LBA is filed and analyzed. Therefore, the areas determined "acceptable" through Step 2 of the coal screening process will be the areas available for consideration for coal mining by the industry.

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