APPENDIX L—ACEC EVALUATIONS FOR THE PRICE RESOURCE MANAGEMENT PLAN

INTRODUCTION

Section 202(c)(3) of the Federal Land Policy and Management Act (FLPMA) requires that priority be given to the designation and protection of areas of critical environmental concern (ACEC). FLPMA Section 103 (a) defines ACECs as public lands for which special management attention is required (when such areas are developed or used or when no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems or processes or to protect life and safety from natural hazards.

CURRENTLY DESIGNATED ACECS BROUGHT FORWARD INTO THE PRICE RMP FROM THE SAN RAFAEL RMP

In its Notice of Intent (NOI) to prepare this Resource Management Plan (RMP) (*Federal Register*, Volume 66, No. 216, November 7, 2001, Notice of Intent, Environmental Impact Statement, Price Resource Management Plan, Utah), BLM identified the 13 existing ACECs created in the San Rafael RMP of 1991. The NOI explained BLM's intention to bring these ACECs forward into the Price Field Office (PFO) RMP. A scoping report was prepared in May 2002 to summarize the public and agency comments received in response to the NOI. The few comments that were received were supportive of continued management as ACECs. The *ACEC Manual* (BLM Manual 1613, September 29, 1988) states, "Normally, the relevance and importance of resource or hazards associated with an existing ACEC are reevaluated only when new information or changed circumstances or the results of monitoring establish a need."

The following discussion is a brief review of the existing ACECs created by the San Rafael RMP of 1991 and discussed in the Environmental Impact Statement (EIS). Management prescriptions and special conditions for each currently designated ACEC are described in the No Action Alternative in Chapter 2 of the Proposed RMP/Final EIS (Map 2-45).

Big Flat Tops ACEC
(This ACEC is within the Temple-Cottonwood-Dugout Wash potential ACEC)
The vegetation communities on North Big Flat Tops probably developed without the influence of grazing by domesticated animals. The area has potential for scientific study and as a comparison area for similar vegetation communities that have been grazed. The mesa top supports a little-disturbed vegetation community that would fill identified needs of Utah's growing system of natural areas.

One of the BLM Sensitive Species occurs within this ACEC—Smith wild buckwheat (*Eriogonum smithii*)—which is a potential candidate for listing as published in the *Federal Register* on September 27, 1985. The Nature Conservancy (Tuhy 1986) has recommended Research Natural Area (RNA) designation for the North Big Flat Tops area to provide a location where natural ecosystem structure and function can be studied.

Bowknot Bend ACEC
Bowknot Bend contains an isolated relict plant community that remains unaltered by human intervention or domestic livestock grazing. The area has potential for scientific study and as a comparison area for

similar vegetation communities that have been grazed. Natural history values in the area are also recognized because this area has rarely had human or domestic animal intrusion.

The Bowknot Bend area contains important relict plant communities that meet the criteria for Utah's growing system of natural areas. The vegetation of the area is predominantly herbaceous vegetation associated with blackbrush stands, noticeably different from nearby areas accessible to livestock. The ACEC designation for Bowknot Bend is to provide a location where the natural ecosystem structure and function can be studied.

Copper Globe
(This ACEC is proposed for incorporation into the newly nominated Heritage Sites ACEC)
This mine, discovered before 1900 and worked periodically up to World War II, is an example of mine workings and technologies of the early 20th century. Several drifts, some scattered equipment and structures, and one access shaft remain in an area where miners tried to develop a copper oxide ore body. Special management is needed to protect the historic remains of a copper base metal mine.

Dry Lake Archaeological District
Dry Lake Archaeological District has a multitude of apparently undisturbed single-episode lithic scatters and other site types such as lithic procurement, shelters, and campsites. It is a known location for Paleo-Indian sites, which is the rarest and oldest site type in Utah.

The area also contains the Dry Lake Meander—two large, well-expressed abandoned meanders of the Green River. The site of the meander scar indicates that abandonment must have occurred during either the Early Pleistocene or the Late Pliocene periods when the volume of water in the river was greater than it is now. Related geologic values are visible where the Summerville and Curtis Formations erode to form an escarpment, colorful promontories, and stepped terraces, especially in Curtis beds.

It is the Paleo-Indian lithic scatters that qualify this area for ACEC designation. Individually, these sites have little or no scientific value, but collectively, they are a valuable resource.

Interstate 70 Scenic Corridor ACEC
Highway I-70 across the San Rafael Swell is highly scenic. It is mapped as Scenic Quality "A" in BLM's visual resource management (VRM) inventory system. In the nation's Interstate Highway system, the scenery is unique in its combinations of deeply incised canyons, dramatic exposures of slick rock, and varied geology and grand vistas. Because of increased traffic on this route, the scenic values are becoming better known to the traveling public. Scarcity within the Colorado Plateau physiographic province makes this particular combination of scenic values an important resource that would be irreplaceable if damaged or destroyed.

Muddy Creek ACEC
The Muddy Creek area consists of several incised drainages and major canyons, colorful rolling volcanic terrain, alcoves and caves, and red stair-step mesas. Atop the canyons are large rounded knolls of arch-forming sandstone. Hondu Arch is a dominant visual feature in the central part of the area. From most viewpoints in the upper levels of the canyon system, the landscape would be classified as panoramic in that there is little impression of visual boundaries, and distant views are seldom blocked by landforms in the foreground. From within the canyon, where vertical red and gold sandstone walls dominate the views, the landscape would be classified as enclosed. The Muddy Creek area is scenic quality "A" and unique or very rare within its physiographic province.

The Tomsich Butte special emphasis area is included in the ACEC and is one of the best examples of uranium mining activities in the area. Particularly in the 1950s, this activity was nationally significant,

and these old uranium workings offer important evidence of the technology of that time and the use of the area's mineral resources.

Pictographs ACEC
(This ACEC is proposed for incorporation into the newly nominated Rock Art ACEC)
The Highway I-70 pictographs include the world-famous Black Dragon, Head of Sinbad, and Lone Warrior rock art sites. Some of the best examples of Colorado Plateau rock art are easily accessible from Highway I-70 and are increasingly visited every year. The sites' popularity has grown following mention in several publications including *The National Geographic* magazine (Smith 1980; Schaafsma 1971; and Castleton 1984).

The Rochester Creek site, located east of the City of Emery, has also received some recognition from the same publications those that mentioned the I-70 pictographs. The site is only slightly less accessible and has a management conflict resulting from increased visitor use.

San Rafael Canyon ACEC
Dominant scenic features of the subject area are spectacular vertical cliff formations, talus slopes, and deep canyons with severe erosional patterns. Diverse, vivid rock and soil coloration of varying intensities of red, brown, and buff add to the area's scenic quality. The small amount of vegetation present includes scattered pinyon-juniper, some sagebrush, grasses, and riparian vegetation and cottonwood trees along the river. The Black Box is an extremely narrow, meandering canyon cut by the San Rafael River. The near-vertical, rough-textured canyon walls are varying shades of brown and buff. Desert varnish stains the canyon walls, creating interesting color contrasts and patterns. Included in this area are Buckhorn Wash, the Wedge Overlook, Calf Canyon, and Window Blind Peak.

Special management attention is required to protect the scenic values from irreparable damage, which are important to private river runners who float the river in canoes or inner tubes and to an ever-increasing number of hikers who use the Black Box.

Scarcity of this particular combination of scenic values within the Colorado Plateau physiographic province makes this an important resource that would be irreplaceable if damaged or destroyed.

San Rafael Reef ACEC
The San Rafael Reef area is important because of its unique vegetation and scenic values. Relict vegetation communities are found throughout the steeply dipping cuestas on the back side of the reef. Because of the terrain, only Desert bighorn sheep or wild burros graze in the area; therefore, these vegetation communities are unique because they have developed without the influence of domestic grazing.

The resistant Wingate, Kayenta, and Navajo Sandstones of the Glen Canyon group along the eastern side of the San Rafael Swell form the San Rafael Reef. These Triassic and Jurassic rocks dip steeply along the monocline but become nearly horizontal a short distance east and west of the major fold. These resistant units spectacularly express the monocline, particularly as they rise above the valley floor on the east, carved on Carmel and Entrada beds. Nearly flat-lying Entrada, Curtis, Summerville, and basal Morrison beds are exposed in mesas east of the reef. Toward the west, Chinle, Moenkopi, and Kaibab beds are exposed in the central part of the San Rafael Swell on the uplifted part of the monoclinal flexure. Softer Chinle and Moenkopi beds form some of the characteristic "wineglass" valleys. These formations have eroded to form discontinuous strike valleys between the San Rafael Reef and the upper, higher San Rafael Swell, which is carved on Lower Moenkopi, Kaibab, and older rocks.

The most outstanding visual features of San Rafael Reef are the deeply carved drainages and the sawtooth ridge of the reef itself. Rising at a near-vertical angle from the desert floor, huge upturned sandstone fins dominate the scenery for more than 12 miles. Deep-cut canyons find their way through the reef, adding character to an already unique desert scene. Few views within the reef do not involve a panoramic scene into a deeply cut canyon or an enclosed view dominated by a vertical red sandstone wall or tremendous fin.

The southeastern half of the reef is cut many times with twisted, colorful drainages, and takes on a more rolling character with large domes and mounds of slickrock rather than fins. Vertical red sand walls line the drainages, nearly meeting and forming very narrow passages.

The central and northern parts of the subject area are characterized by a checkerboard pattern of rust, tan, and orange sandstone slabs, criss-crossed by fault and fracture lines. Green vegetation dots the area, adding an element of color and variety to the texture.

Important relict vegetation communities, which have developed without the influence of domestic grazing, need special management to protect them from grazing and surface disturbance that could destroy their value as a botanical preserve and comparison area.

The degree of expression in the San Rafael Swell is extremely unusual, with well-exposed rock units of the Wingate, Kayenta, and Navajo Formations. The area includes discontinuous strike valleys and wineglass valleys, which are interesting geomorphologic features. The reef could be affected by development of tar sand or uranium and by off-highway vehicle (OHV) use. Its outstanding scenic values, visible from major tourist routes, warrant protection.

A number of threatened and endangered (T&E) plant species occur within the area of the reef. One of the truly rare plant species in Utah, *Cycladenia numilis* var. *jonesii,* occupies gypsiferous substrates of the Summerville Formation.

Segers Hole ACEC

The Segers Hole area is bordered by The Chimney on the north and east, and by the Moroni Slopes on the south and west. The area's most outstanding feature is the enclosure of Segers Hole on three sides by high sandstone cliffs, which creates a feeling of isolation for those who visit the area. The cliffs are composed of (1) a narrow band of reddish-brown Carmel Mudstone forming vertical cliffs at the top, (2) buff-colored Navajo Sandstone creating rounded convex slopes, and (3) a lower layer of Kayenta Sandstone creating gray ledges and supporting the valley floor. A basalt dike juts up vertically from the valley floor, cutting through the southern cliffs and imposing an interesting geologic contrast. Segers Hole is composed of gently rolling land with some small washes and canyons and small buff-colored, sandstone rock outcrops. The vegetation is scattered juniper with sage grass floor, creating dark green to seasonal green colors.

Adjacent scenery greatly enhances the overall impression of Segers Hole as one walks through the area. Distant views include the Boulder and Thousand Lake Mountains to the southwest, Muddy Creek and Keesle Country to the north and east, the Henry and Abajo Mountains to the southeast, and the La Sal Mountains to the east.

Special management attention is required to protect the scenic values from irreparable damage that could occur from possible mineral exploration or OHV use. Segers Hole is Scenic Quality "A" under BLM's VRM inventory and unique or very rare within its physiographic province.

Sids Mountain ACEC
The scenic quality of Sids Mountain is outstanding in terms of diversity of landforms and colors present. Landforms include rounded domes, high truncated buttes, and vertical cliffs dissected by deep canyons. The change in form and elevation is highly visible. Vivid colors range from light buff and brown sandstones to the light gray-green with dark green vegetation on the mesas and in the canyons.

The scenic values are relevant because special management attention is required to protect them from irreparable damage, and these values are important to regional and national travelers or tourists who view the area from Highway I-70 and from the developed rest and view areas along I-70, such as Ghost Rock and Eagle Canyon.

Special management attention is required to protect the scenic values from irreparable damage that could occur from possible mineral exploration or OHV use. Sids Mountain is scenic quality "A" and unique or very rare within its physiographic province.

Swaseys Cabin ACEC
(This ACEC is proposed for incorporation into the newly nominated Heritage Sites ACEC)
The Swaseys Cabin area includes several features built or used by the Swasey family. The Swasey family, foremost in the folklore of the San Rafael region, used the cabin area as part of its livestock operations. Features within the area include a cabin built in 1920; the Jackass Corral constructed in 1905; Joe's Office, a rock shelter used as a camp until the cabin was built; the Refrigerator, a cave that keeps things cool year-round; Cliff Dweller's spring; and a dry farm.

Special management is needed to preserve historic values in the Swaseys Cabin area.

Temple Mountain Historic District ACEC
(This ACEC is proposed for incorporation into the newly nominated Heritage Sites ACEC)
Temple Mountain is one of the best examples of uranium mining activities in the area. Particularly in the 1950s, this activity was nationally significant, and these old uranium workings offer important evidence of the technology of that time and the use of the area's mineral resources.

Without special management and with another mining boom, these resources could be destroyed in a matter of days. Development under a current mining claim would remove important cultural evidence of previous activities. The potential threat most likely to occur is that mine assessment or small-scale mining will destroy the values piecemeal without mitigating the effect on the area as a whole.

Special management is needed to protect the historic remains of uranium mining in the Temple Mountain area.

NOMINATED ACECS

In its NOI to Prepare the Price RMP Environmental Impact Statement (*Federal Register*, Vol. 66, No. 216, November 7, 2001), BLM invited the nomination of ACECs. Nominations for ACECs were received pursuant to the RMP scoping process.

On February 19, 2002, the Southern Utah Wilderness Alliance (SUWA) submitted ACEC nominations for Cedar Mountain (northern), Beckwith Plateau, Sids Mountain, San Rafael River, Muddy Creek, Temple-Cottonwood-Dugout Wash, Upper and Lower Price River, and the Lower Green River. SUWA submitted additional ACECs on April 24, 2003, including Green River-Desolation Canyon, Range Creek, Molen Reef, Antelope Valley-Sweetwater Reef, Mussentuchit Badlands, Cedar Mountain (southern), and

Nine Mile Canyon. SUWA submitted a final list of ACEC nominations on June 19, 2003. Included in the list were Dirty Devil Drainage, Lower Muddy Creek Drainage, Horseshoe Canyon Drainage, Quitchupah Creek, and Thousand Lakes Bench ACECs.

The Utah Statewide Archeological Society worked with BLM to identify 24 heritage, rock art, and historic uranium mining district sites to consider for inclusion as ACECs. They also identified for consideration as ACECs Nine Mile Canyon, Range Creek, and Gordon Creek.

The Center for Native Ecosystems and collaborators nominated the White-Tailed Prairie Dog ACEC in January 2003, which was part of its larger proposal to protect white-tailed prairie dog habitat throughout the species range in the West. The designation of ACECs was also endorsed by the Prairie Dog Conservation Team, a coalition of biologists working for state agencies on prairie dog issues.

BLM also identified Cleveland-Lloyd Dinosaur Quarry, Nine Mile Canyon, and Range Creek as areas worthy of ACEC status.

Table L-1. Summary Of Nominations

Nominated Area	County	Date(s) of Relevant & Important Evaluations	Relevant & Important Criteria?	Discussion
Antelope Valley—Sweetwater Reef	Emery	April 1, 2004	No	Nomination was based on wilderness and recreation values. These values, while important, do not meet the definition of an ACEC or the relevance criteria.
Beckwith Plateau—Middle Mountain	Emery	April 1, 2004	Yes Geologic, Natural Processes	"Beckwith Plateau" potential ACEC was brought forward in the Draft RMP/EIS in Alternatives B and C.
Cedar Mountain (northern)	Emery	April 1, 2004	No	The portion with values merged with "Cleveland-Lloyd Dinosaur Quarry" potential ACEC, and brought forward into Draft RMP/EIS in Alternatives A, B, C, and D. The rest of the nomination did not have relevant and important values.
Cedar Mountain (southern)	Emery	April 1, 2004	No	This area was nominated for scenic values and wildlife resources. High-quality scenery is certainly present within the area, but it tends to be unremarkable in a regional context. Some of the wildlife species in the nomination either do not occur or are only occasional visitors. The area is not important habitat for any of the species listed in the nomination.
Cleveland-Lloyd Dinosaur Quarry	Emery	April 1, 2004	Yes Pale-ontological	The "Cleveland-Lloyd Dinosaur Quarry" potential ACEC was considered in the Draft RMP/EIS in Alternatives A, B, C, and D. It incorporated portion of Cedar Mountain (northern) nomination.
Desolation Canyon—Green River	Emery, Carbon	April 1, 2004	Yes Scenic, Cultural,	The potential ACEC was inadvertently omitted from Draft RMP/EIS. Supplemental ACEC information provided for public comment (2006) includes considering the

Nominated Area	County	Date(s) of Relevant & Important Evaluations	Relevant & Important Criteria?	Discussion
			Ecological	"Desolation Canyon" potential ACEC in Draft RMP/EIS Alternative C.
Dirty Devil Drainage	Emery, Wayne	April 1, 2004	No	Evaluated by Richfield Field Office, with concurrence from the PFO Manager, and no resource values were identified as occurring in the PFO.
Gordon Creek	Carbon	April 1, 2004	Yes Cultural, Wildlife	Considered in the Draft RMP/EIS in Alternative C.
Horseshoe Canyon Drainage	Emery, Wayne	April 1, 2004	Yes Ecology, Vegetation, Cultural	The PFO portion of this nominated area was evaluated by the PFO and determined to meet relevance and importance criteria. It was included as part of the Lower Green River potential ACEC and was brought forward into the Draft RMP/EIS in Alternatives B and C. Portions in the Richfield Field Office were evaluated by the Richfield Field Office, and likewise were found to have values.
Lower Green River	Emery	April 1, 2004	Yes Ecology, Vegetation, Cultural	This potential ACEC was considered in the Draft RMP/EIS in Alternatives B and C.
Lower Muddy Creek Drainage	Emery, Wayne	October 14, 2004	Yes Scenic	The Richfield Field Office, with concurrence from the PFO Manager, determined relevant and important criteria exist in both the Price and Richfield Field Office areas. This potential ACEC was inadvertently omitted from Draft RMP/EIS. Supplemental ACEC information provided for public comment (2006) includes considering "Lower Muddy Creek" potential ACEC in Draft RMP/EIS Alternative C.
Molen Reef	Emery	April 1, 2004	No	Cultural portion(s) of the nominated area meeting relevant and important criteria were incorporated into the "Rock Art" potential ACEC. Remainder was found not to have relevant and important criteria.
Muddy Creek	Emery	April 1, 2004	Yes Cultural, historic, scenic	This is an existing ACEC for which the relevant and important criteria were found not to extend beyond the current boundaries.
Mussentuchit Badlands	Emery, Wayne	April 1, 2004	Yes Cultural	This potential ACEC was inadvertently omitted from Draft RMP/EIS. Supplemental ACEC information provided for public comment (2006) considers "Mussentuchit Badlands" potential ACEC in Draft RMP/EIS Alternative C.
Nine Mile Canyon	Carbon	April 1, 2004	Yes Cultural	Nominated by SUWA and Utah Statewide Archeological Society with varying boundaries. Considered in the Draft

Nominated Area	County	Date(s) of Relevant & Important Evaluations	Relevant & Important Criteria?	Discussion
				RMP/EIS in Alternatives. B, C, and D, with varying boundaries and acreages.
Price River	Emery, Carbon	April 1, 2004	No	The area was nominated for consideration of the scenic and recreational values within the Price River corridor, in addition to a historic home (on private land) and cultural resources. While these values are present, many are similar to resources found throughout the region. Further, recreation values do not meet the definition of an ACEC or the relevance criteria. However, portions of the nominated area did meet relevant and important criteria, and these have been incorporated into the Desolation Canyon and Beckwith Plateau ACECs.
Quitchupah Creek – Trough Hollow	Sevier	October 14, 2004	No	Evaluated by Richfield Field office, with concurrence from the PFO Manager, and no resource values were identified as occurring in the PFO.
Range Creek	Emery, Carbon	April 1, 2004	Yes Cultural, Natural Process	Nominated by SUWA and Utah Statewide Archeological Society with varying boundaries. Brought forward into Draft RMP/EIS in Alternatives B, C, and D with varying boundaries.
San Rafael River	Emery	April 1, 2004	Yes Scenic	San Rafael Canyon is an existing ACEC but expanded boundaries were nominated (including incorporating Dry Lake ACEC). It is considered in the Draft RMP/EIS in all alternatives, with expanded boundaries in Alternatives B and C.
Sid's Mountain	Emery	April 1, 2004	Yes Scenic	ACEC is existing but expanded boundaries were nominated. It is considered in the Draft RMP/EIS in all alternatives, with expanded boundaries in Alternative C.
Temple-Cottonwood-Dugout Wash	Emery	April 1, 2004	Yes Cultural	This potential ACEC is considered in the Draft RMP/ EIS in Alternative C.
Thousand Lakes Bench	Sevier	October 14, 2004	No	Evaluated by Richfield Field Office, with concurrence from the PFO Manager, and no resource values were identified as occurring in the PFO.
Uranium District	Emery	April 1, 2004	Yes Historic	This potential ACEC was brought forward in the Draft RMP/EIS in Alternatives C and D.
White-Tailed Prairie Dog	Emery	March 2005	Yes Wildlife habitat	This potential ACEC was inadvertently omitted from Draft RMP/EIS. Supplemental ACEC information provided for public comment (2006) includes considering the "White-Tailed Prairie Dog" potential ACEC in Draft RMP/EIS Alternative C.

REVIEW PROCESS FOR NOMINATED ACECS

Interdisciplinary Team Review
BLM specialists reviewed nominations for ACECs to determine whether they met the relevance and importance criteria as described in BLM's *ACEC Manual*. BLM completed the relevance and importance review of all nominated ACECs. Many of these were determined to have relevance and importance and were included in the range of alternatives. In some cases, the BLM review resulted in additional resource concerns or modified boundary configurations for some potential and existing ACECs based on the information provided in the nominations.

In other cases, much of the same nominated areas were included within different potential boundaries or boundaries of existing ACECs, those delineated internally, and those presented in the nominations. BLM then made determinations to either include or exclude areas within the final boundary determination or analyze different boundary options in the range of alternatives. In some cases, nominated ACECs were found not to have relevance and importance and were not carried forward.

Relevance and Importance Criteria
To be considered for designation as an ACEC, an area must meet the requirements of relevance and importance as described in the Code of Federal Regulations (43 CFR 1610.7.2). The definitions for relevance and importance are as follows:

Relevance

An area is considered relevant if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (for example, rare or sensitive archaeological resources and religious or cultural resources important to Native American Indians).

2. A fish and wildlife resource (for example, habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).

3. A natural process or system (for example, endangered, sensitive, or threatened plant species; rare, endemic, or relict plants or plant communities; and rare geologic features).

4. A natural hazard (for example, areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action could meet the relevance criteria if it is determined through the resource management planning process that it has become part of the natural process.

Importance

The value, resource, system, process, or hazard described above must have substantial significance to satisfy the importance criteria, which generally means it is characterized by one or more of the following:

1. Has more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared with any similar resource.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to change.

3. Has been recognized as warranting protection to satisfy national priority concerns or to carry out FLPMA mandates.

4. Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.

5. Poses a significant threat to human life and safety or to property.

Protection and Prevention of Irreparable Damage
On August 27, 1980, BLM promulgated final ACEC guidelines (45 *Federal Register* 57318), which were later used to develop regulations and specific policy. These guidelines clarify the purpose of ACECs and clearly define what is meant by "protect and prevent irreparable damage."

The guidelines clarify that ACECs are special places within the public lands. Section 2 states, "In addition to establishing in law such basic protective management policies that apply to all the public lands, Congress has said that 'management of national resource lands [public lands] is to include giving special attention to the protection of ACECs, for the purpose of ensuring that the most environmentally important and fragile lands will be given early attention and protection' (Senate Report 94-583, on FLPMA). Thus, the ACEC process is to be used to provide whatever special management is required to protect those environmental resources that are most important; i.e., those resources that make certain specific areas special places, endowed by nature or man with characteristics that set them apart. In addition, the ACEC process is to be used to protect human life and property from natural hazards."

Further, the guidelines define the term "protect" as follows: "To defend or guard against damage or loss to the important environmental resources of a potential or designated ACEC. This includes damage that can be restored over time and that which is irreparable." Thus, BLM is to consider the potential for both reparable and irreparable damage when protecting important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems through ACEC designation.

NOMINATED ACECS FOUND TO HAVE RELEVANCE AND IMPORTANCE—POTENTIAL ACECS BEING CONSIDERED IN THE PRICE RMP

Of the ACECs nominated, 15 were determined to meet the relevance and importance criteria and are considered as ACECs with optional sizes in at least one alternative in the Proposed RMP/Final EIS. These ACECs, with their maximum potential sizes, are discussed in the paragraphs below.

The existing Sid's Mountain and San Rafael Canyon ACECs were nominated for expansion, and areas within these expanded boundaries were found to meet relevance and importance criteria. The expansion of these two ACECs was considered in Alternative C in the Proposed RMP/Final EIS. The existing Muddy Creek ACEC was nominated for expansion, and BLM found that the additional nominated area did not meet relevance and importance criteria.

Beckwith Plateau ACEC
Relevance: The potential ACEC contains significant features that meet the relevance criterion, including (1) the isolation of the plateau as a topographic feature separated by two rivers and 1,000-foot vertical cliffs, (2) surface exposed formations that record the eastward crowding of the Mancos seaway, (3) visible coal seams, and (4) excellent expression of erosional features of the book cliffs, such as castellated and buttressed upper slopes with complex badlands below.

The nominated area borders the Green River and the Price River. As one of the largest tributaries of the Green River, the Price River could provide spring spawning habitat for the following endangered fish:

- Colorado pikeminnow, *Ptychocheilus lucius*
- Humpback chub, *Gila cypha*
- Bonytail chub, *Gila elegans*
- Razorback sucker, *Xyrauchen texanus.*

The Green River is also an important migratory corridor for waterfowl, shorebirds, raptors, and neotropical migratory birds. The Green River is one of the few north-south rivers, thus it provides a source of water for many hundreds of miles, creating truly a migratory corridor for birds.

The nominated area includes potential habitat for endangered, threatened, or sensitive species including—

- Bald eagle, *Haliaetus leucocephalus*; federally threatened
- Long-billed curlew, *Numenius americanus*; BLM Sensitive
- Burrowing owl, *Athene cunicularia*; BLM Sensitive
- Western red bat, *Lasiurus blossevillii*; BLM Sensitive
- Townsend's big-eared bat, *Plecotus townsendii*; BLM Sensitive
- Ferruginous hawk, *Buteo regalis*; BLM Sensitive.

Habitat for Rocky Mountain bighorn sheep occurs within the nominated area. The nominated area also includes and is surrounded by crucial- and high-value habitat for elk and mule deer. Limited populations of bighorn sheep, elk, and mule deer occur within the nominated area.

Sensitive plants may include the following:

- Yellow blanketflower, *Gaillardia flava* (Emery and Grand counties, endemic)
- Jones indigo-bush, *Psorothamnus polydenius* var. *jonesii;* BLM Sensitive (eastern Emery County, endemic)
- Horse Canyon stickleaf, *Mentselia multicaulis* var. *librina*; BLM Sensitive (Carbon and Emery counties, endemic)
- Hole-in-the-Rock prairie-clover, *Dalea flavescens* var. *epica;* BLM Sensitive (eastern Garfield, Kane, and southwestern San Juan counties, endemic).

Riparian areas: The nominated area borders several miles of the Price River and the Green River and contains riparian plant communities.

Importance: The potential ACEC possesses a nationally important characteristic as a primitive outdoor classroom displaying the processes leading to the formation of coal in a classic regressive coastal sequence.

The nominated area borders several miles of the Price River and the Green River and contains riparian plant communities. These naturally functioning riparian systems could provide important habitat for endangered, threatened, and sensitive animal species. The area encompasses a large ecosystem that contains several ecological processes that occur in a relatively undisturbed, natural environment. These ecological processes include photosynthesis, energy flow, nutrient cycling, water movement, natural disturbance, and succession. These processes are fundamental to the functioning of ecological systems. The ecosystems within the Beckwith Plateau have high ecological integrity and can continue to express the evolutionary and biogeographic processes that gave rise to the current biota. They also have the species composition, diversity, and functional organization that would be expected from natural habitats

of the region and are resilient to environmental change and disturbance occurring within their natural range of variability.

The sensitive species habitat, including the riparian areas, occurring within the proposed area is fragile, irreplaceable, and vulnerable to change.

Lower Green River ACEC
(Incorporates nominated Horseshoe Canyon ACEC.)
Relevance: The potential ACEC incorporates all or portions of the existing Bowknot Bend ACEC, which contains a relict plant community, significant natural history values, and the Dry Lake Archaeological District ACEC containing Paleo-Indian sites that are the rarest site type in Utah. The potential ACEC also includes several large and dominant side drainages of Three Canyon, Keg Spring Canyon, and Horseshoe Canyon. Much of the potential ACEC corridor is surrounded and overlapped by existing Wilderness Study Areas (WSA).

The nominated area borders roughly 75 miles of the Green River and contains riparian plant communities. The area also includes portions of Three Canyon, Keg Spring Canyon, and Horseshoe Canyon, which contain riparian plant communities.

The Green River provides spring spawning habitat for the following endangered fish:

- Colorado pikeminnow, *Ptychocheilus lucius*
- Humpback chub, *Gila cypha*
- Bonytail chub, *Gila elegans*
- Razorback sucker, *Xyrauchen texanus.*

The area also provides habitat for several BLM Sensitive Species including the ferruginous hawk, peregrine falcon, and the Townsend's big-eared bat.

The potential ACEC includes high-value yearlong habitat for pronghorn and Desert bighorn sheep.

The following BLM Sensitive Plant Species may occur within the nominated area:

- Jones indigo-bush, *Psorothamnus polydenius* var. *jonesii;* BLM Sensitive (eastern Emery County, endemic)
- Hole-in-the-Rock prairie-clover, *Dalea flavescens* var. *epica;* BLM Sensitive (eastern Garfield, Kane, and southwestern San Juan counties, endemic).

The Green River is also an important migratory corridor for waterfowl, shorebirds, raptors, and neotropical migratory birds.

The Green River corridor and associated side canyons contain cultural and historic resources. Paleo-Indian, archaic, and Fremont sites are found throughout the area.

The cultural resources of the area show the prehistoric exploitation of this desert ecological setting in a relatively undisturbed context. Some extremely rare and important site types are present within this potential ACEC that need to be protected in a preserved state.

This area is also nominated for its scenic values. The scenery is Class "A" as defined by BLM's VRM inventory method. The viewer is struck by stark contrasts—dramatic, barren cliffs of Wingate Sandstone

guard a lush, narrow riparian zone and sweeping, undulant curves of river nestled 1,000 feet below the surrounding countryside.

Importance: The Lower Green River and its canyons are more than locally significant for scenic and wildlife values. The exemplary integrity of the river system should be protected. The riparian areas and wetlands provide an oasis of rare and lush vegetation and water in an otherwise arid environment. The corridors created along the river are not only essential to the survival of all of the species of the region, but also provide habitats for a large number of Special Status Species. The Lower Green River also contains archaeological site types that are rare, fragile, and difficult to understand on smaller scales than the potential ACEC.

Range Creek ACEC

Relevance: The proposed area supports a natural system and is considered an outdoor classroom. It includes numerous pictograph and petroglyph panels and prehistoric habitation sites throughout Range Creek Canyon and its side canyons. The area is possibly the most pristine and extensive untouched archaeological site in the American West today. These cultural resources are some of the most intact and well-preserved sites in the United States.

Defined by simple stone circles and cliff-side granaries, the sites are subtle and unspectacular and offer a rare opportunity to better understand people living in the prehistoric arid west. The unexpectedly large number of sites and their pristine condition provide unprecedented opportunities for research into the prehistoric behavior of Fremont farmer-foragers in the context of a well-defined environmental universe. The sites reflect human exploitation of a wide variety of ecological settings. In this respect, Range Creek Canyon offers unique opportunities for research, public outreach, and education and preservation initiatives.

Range Creek and its associated riparian areas and the surrounding canyons and ridges provide habitat for black bear, Rocky Mountain bighorn sheep, elk, and mule deer. The area also provides potential habitats for BLM Special Status Species, including—

- Bald eagle, *Haliaetus leucocephalus;* federally threatened
- Long-billed curlew, *Numenius americanus;* BLM Sensitive
- Burrowing owl, *Athene cunicularia;* BLM Sensitive
- Western red bat, *Lasiurus blossevillii;* BLM Sensitive
- Townsend's big-eared bat, *Plecotus townsendii;* BLM Sensitive
- Ferruginous hawk, *Buteo regalis;* BLM Sensitive
- Spotted bat, *Euderma maculatum;* BLM Sensitive.

The nominated area encompasses roughly 20 miles of Range Creek, which contains riparian plant communities. Because of its pristine qualities, the portion of Range Creek within the potential ACEC is potential habitat for the reintroduction of the native Colorado River cutthroat trout and is being considered as such by the Utah Division of Wildlife Resources.

The potential ACEC also includes the following:

- Yellow blanketflower, *Gaillardia flava* (Emery and Grand counties, endemic)
- Repand twinpod, *Physaria acutifolia* var. *purpurea* (Carbon, Emery, eastern Sevier, Duchesne, Grand, Uintah, Utah, and Wasatch counties, endemic)
- Coal-cliffs sweetvetch, *Hedysarum occidentale* var. *canone* (Duchesne, Carbon and Emery counties, endemic).

Importance: Range Creek has nationally significant, outstanding cultural resources. It holds hundreds if not thousands of Fremont archaeological sites. This is the most complete collection of pristine Fremont sites known to exist.

The potential Range Creek ACEC includes the unique and ecologically significant wetlands and creek system, numerous distinct geologic formations, and exceptional wildlife habitat.

The crucial habitat that exists within the potential ACEC provides protection for numerous wildlife species and is found unique to the area. The riparian area in the upper portion of Range Creek within the Range Creek ACEC is classified as properly functioning. This riparian area is sensitive, exemplary, and vulnerable to change.

The extraordinary Range Creek riparian system and its undeveloped crucial wildlife habitat, outstanding cultural resources, significant wildlife populations, and rugged canyon and ridges are of national importance as a model of functioning ecosystem and natural process.

This naturally functioning riparian system provides important habitat for endangered, threatened, and sensitive animal species. The Range Creek area encompasses a large ecosystem that contains several ecological processes that occur in a relatively undisturbed, natural environment. These ecological processes include photosynthesis, energy flow, nutrient cycling, water movement, natural disturbance, and succession. These processes are fundamental to the functioning of ecological systems. The ecosystems within the Range Creek drainage have high ecological integrity and can continue to express the evolutionary and biogeographic processes that gave rise to the current biota. These ecosystems also have a species composition, diversity, and functional organization that would be expected from natural habitats of the region and are resilient to environmental change and disturbance occurring within their natural range of variability.

Nine Mile Canyon ACEC
(This ACEC is contiguous along its northern boundary with the Vernal Field Office's existing Nine Mile Canyon ACEC.)
Relevance: The potential ACEC possesses a significant and high density of historic, cultural, and archaeological sites joined together in several overlapping historical landscapes, including Nine Mile Canyon and tributaries from the streambed to the top of the plateau. Manmade modifications define and illustrate settlement patterns, especially of the Fremont and historic settlement cultures. Cultural modifications of the canyon include fields, farms, ditches, corrals, fences, roads, and telegraph poles throughout the canyon bottom. Prehistoric villages are located on finger ridges projecting out into the canyon. Ruins of pit houses, cliff houses, granaries, cists, hand and toe holds, jump trails, ramps between ledges, and rock art, including petroglyphs, pictographs, and historic inscriptions, dot the canyon walls from bottom to top. "Forts," lookouts, and defensive habitation sites are located on high pinnacles near the top of the canyon. Rockshelters, rock cairns, and campsites are located around the canyon rim.

Nine Mile Canyon is known to contain the country's highest concentration of rock art panels, remnants of the prehistoric Archaic, Fremont, and Ute cultures. About 80 percent of the known sites are rock art. Rock art, the most well-known feature type in Nine Mile Canyon, loses most of its significance to native cultures and interpretation when separated from it context. The rock structural remains of Fremont homes, granaries, and "forts" are more visible in Nine Mile Canyon than almost anywhere in the Fremont cultural area.

The area also contains many relics of the post-Civil War era when the canyon was the site of a major freight line built and maintained by the U.S. Army, including the famous Buffalo Soldier Unit from Fort Duchesne and Fort Douglas. Nine Mile Canyon was one of the first settlements of historic times in

eastern Utah. Because of the vast cultural and historical resources throughout the canyon, the area is eligible for the National Register of Historic Places (NRHP). Many of the characteristics are historically significant at the national level.

The potential ACEC provides wildlife habitat for the mule deer, elk, black bear, mountain lion, Rocky Mountain bighorn sheep, fox, yellow-bellied marmot, beaver, side-blotched lizard, wild turkey, and raptors, including the golden eagle, prairie falcon, red-tailed hawk, American kestrel, and Cooper's hawk. The abundance and variety of wildlife contribute to the visual and landscape values and demonstrate the ecological importance of the canyon.

Nine Mile Creek supports red shiner, speckled dace, roundtail chub, razorback sucker, flannelmouth sucker, Colorado pikeminnow, bluehead sucker, and bonytail chub.

This ACEC nomination also contains habitat for known occurrences of several Special Status Species plants, including—

- Shrubby reed-mustard, *Schoenocrambe suffrutescens;* federally endangered
- Uinta Basin hookless cactus, *Sclerocactus glaucus;* federally threatened
- Graham's beardtongue, *Penstemon grahamii;* federally proposed
- Barneby's columbine (Oil Shale Columbine), *Aquilegia barnebyi*; (Duchesne and Uintah counties, Uinta Basin, endemic)
- Gate Canyon buckwheat, *Eriogonum hylophilum*; (Duchesne County, endemic)
- Mt. Bartle's buckwheat, *Eriogonum brevicaule* var. *promiscuum*; (Carbon County, endemic).

The nominated area encompasses roughly 40 miles of Nine Mile Creek, which contains riparian plant communities. The area also includes portions of the Green River, Minnie Maude Creek, Argyle Creek, Big Sulphur Canyon, Cow Canyon, Sheep Canyon, Harmon Canyon, Dry Canyon, Stone Cabin Draw, Cold Spring Draw, and Cottonwood Canyon, which contain riparian plant communities.

Importance: This area holds international significance for prehistoric archaeological resources and national significance for cultural and historic resources. It is eligible for the NRHP. It is unique for its historic and prehistoric resources, which are easily accessible to the public and can be visited and viewed within their natural landscape context.

Segments of Nine Mile Creek, Cow Canyon, Sheep Canyon, Big Sulphur Canyon, Dry Canyon, Stone Cabin Draw, and Cottonwood Canyon riparian areas within the Nine Mile Canyon ACEC are classified as functioning at-risk or non-functioning. These riparian areas are cause for concern because they are sensitive, exemplary, and vulnerable to change.

Gordon Creek ACEC

Relevance: Gordon Creek District is a very significant archeological and historic resource. Two agricultural communities have occupied the area—a prehistoric Fremont cultural occupation about 1,000 years ago and an historic pioneer occupation about 100 years ago. Although this situation existed elsewhere, the early abandonment of the historic occupation and a natural closure of the area have left sites relatively undisturbed and provide an opportunity to study the similarity and differences of the two cultural responses to the same area.

Importance: Although there are many other places where the Fremont and Historic peoples farmed the same area, Gordon Creek is unique. In most places the Historic activities turned into modern activities that have damaged or destroyed the Fremont and Historic sites. It is now the only known area where such

study can take place. The area has great local importance because it is the site of some of the earliest white settlements in Carbon County.

The district's cultural resources are fragile and have become more vulnerable and threatened. Oil and gas development is expanding on surrounding areas. OHV use and developing trails are new intrusions to the area. Mineral development and OHV use is making the area more accessible. BLM projects to reduce brush and tree cover have also allowed for increased access to the site.

Heritage Sites ACEC (Seven Sites)
(Includes the existing Swaseys Cabin, Copper Globe, and Temple Mountain ACECs.)
Relevance: This ACEC includes several sites associated with the early historic uses on the public lands in Emery County, including Wilsonville, Shepherds End, Smith Cabin, Hunt Cabin, Copper Globe, Temple Mountain, and Swaseys Cabin. A National Heritage Conservation Area has been proposed for the San Rafael area, and these sites represent that part of this heritage located on public lands. Wilsonville Ghost Town was the site of the first post office in Castle Valley. Shepherds End is the location of and monument to Emery County's contribution to the sheep man versus cowboy conflict. Smith Cabin, Hunt Cabin, and Swaseys Cabin are examples of attempted homesteading on public lands. Copper Globe is a copper mine discovered before 1900 and worked periodically up to World War II. It is an example of mining technologies of the early 20th century. Temple Mountain is an area of uranium mining that has been subject to mine reclamation to remove safety hazards, but many features were left visually intact so they can be used to tell the story of uranium mining.

Importance: As sites within a proposed National Heritage Conservation Area, these represent historic uses of public land in the West.

These sites have recently become more fragile and threatened. Visitors not knowing the significance of these sites have been improperly using them (e.g., removing artifacts, removing wood from buildings for firewood, and creating OHV trails through sites).

Uranium Mining Districts ACEC (Four Sites)
Relevance: These sites include Tidwell Draw, Hidden Splendor, Susan B, and Lucky Strike Mining Districts. This ACEC includes several significant mining sites associated with the development of uranium as part of U.S. efforts during the escalation of the Cold War during the 1950s. These sites have remains of the habitations of the miners showing the non-mining parts of their lives, and the remains of mining efforts demonstrating the technology of the era.

Importance: The sites are part of a national effort—the development of uranium as a deterrent in the Cold War. The history of these sites can be retrieved only through studies of the resources on the ground along with oral histories. Tidwell Draw mining district, although lacking the dramatic scenery and romance of the other districts, produced the greatest economic gain and was the last to remain in production.

Rock Art ACEC (13 Sites)
(Includes the existing Pictographs ACEC.)
Relevance: This ACEC includes Black Dragon Canyon, Head of Sinbad, Lone Warrior, Rochester/Muddy Petroglyphs, Big Hole, Cottonwood Wash, Wild Horse, Sand Cove, Dry Wash, Short Canyon, North Salt Wash, Molen Seep, and Kings Crown.

These sites are currently threatened by a conflict between the public use of rock art and the destruction of the scientific potential of the associated archaeological sites.

Importance: These sites are some of the best examples of prehistoric rock art on the Colorado Plateau. Many are world-famous and are being visited more every year. Their popularity has grown following mention in several publications, including *The National Geographic* (Smith 1980; Schaafsma1971; Castleton 1984) and after being identified as part of the San Rafael National Heritage Area.

Cleveland-Lloyd Dinosaur Quarry ACEC
Relevance: The Cleveland-Lloyd bone deposit is the densest concentration of Jurassic dinosaur bones in the world. It is also the world's largest collection of bones of a large meat-eating dinosaur (*Allosaurus fragilis*) yet found. Eighteen scientific papers published in the last 10 years have been written about the place, and it still remains unsuccessfully explained. This potential ACEC includes the Cleveland-Lloyd deposit and adjacent lands. The adjacent lands have a minimum of 15 dinosaur track sites containing at least 35 dinosaur tracks. Since 1992 when one was first discovered, new tracks have been discovered on almost an annual basis. These adjacent lands also have a minimum of 32 sites where dinosaur bones are visible at the surface, at least one-third of which are easily identifiable as fossilized bone.

Importance: The Cleveland-Lloyd deposit itself is one of a kind, unique in the world. It is still not understood how it came to be and continues to receive attention from research paleontologists. Because of the deposit, the area around it also receives a lot of attention from scientists and the interested public across the nation and around the world. The Cleveland-Lloyd deposit and adjacent lands represent an exceptional opportunity for scientific and educational use of fossils to educate the interested public in fossiliferrous and geologic matters.

Special management attention is required to protect known and undiscovered paleontological resources in the potential ACEC. Guided tours into the adjacent lands by BLM staff at Cleveland-Lloyd are commonly given to those interested in learning more about dinosaurs and geology. The tours must be staff-guided because many of the fossils are exposed at the surface and are fragile. Also, experience at other public sites has demonstrated that publishing a map with vertebrate fossil locations allowing for self-guided tours results in an increase in unauthorized, illegal collection of fossils.

Desolation Canyon ACEC
(A portion of the original nomination has been removed from this potential ACEC and stands alone as the potential Range Creek ACEC. This ACEC is contiguous on its northern boundary with the Nine Mile Canyon ACEC and Vernal Field Office's Lower Green River ACEC.)
Relevance: Desolation Canyon is nominated for its scenic, cultural, and ecological values. The scenery of the area is Class "A" under the BLM's VRM inventory system. The viewshed is of a natural, unaltered landscape with dramatic topography, varied vegetative composition, and water features.

The canyon contains a series of cultural and historic features. Thousands of rock art, habitation, and food storage sites are found throughout the canyon. Although Fremont sites are the most prolific, archaic through Ute sites are found. The landscape of the canyon is a historic feature. It is the least changed landscape of all the Green and Colorado River segments explored by John Wesley Powell in 1869. It also contains historic structures and artifacts from the homestead era representing isolated wilderness settlement rather than Utah's typical village settlement patterns. It is also closely associated with western outlaw history. The potential ACEC contains part of the Desolation Canyon National Historic Landmark. It also has many sites listed on or eligible for the NRHP.

Desolation Canyon is a migratory corridor for a great many migratory birds and a nesting area for waterfowl and shorebirds. It contains terrestrial habitats that range from desert to subalpine in more than 5,000 feet of vertical relief. It is also a wintering ground for bald eagle and year-round habitat for Rocky Mountain bighorn sheep. There are at least four nesting pairs of peregrine falcons in the canyon. The river is a source of water and habitat for most of the species in the region.

The nominated area includes potential habitat for endangered, threatened, or sensitive species including—

- Southwestern willow flycatcher, *Empidonax trailli extimus*; federally endangered
- Humpback chub, *Gila cypha*; federally endangered
- Razorback sucker, *Xyrauchen texanus*; federally endangered
- Colorado pikeminnow, *Ptychocheilus lucius;* federally endangered
- Bonytail chub, *Gila elegans;* federally endangered
- Bald eagle, *Haliaetus leucocephalus*; federally threatened
- Mexican spotted owl, *Strix occidentalis lucida;* federally threatened
- Long-billed curlew, *Numenius americanus*; BLM Sensitive
- Burrowing owl, *Athene cunicularia*; BLM Sensitive
- Western red bat, *Lasiurus blossevillii*; BLM Sensitive
- Townsend's big-eared bat, *Plecotus townsendii*; BLM Sensitive
- Ferruginous hawk, *Buteo regalis*; BLM Sensitive
- Spotted bat, *Euderma maculatum;* BLM Sensitive
- Roundtail chub, *Gila robusta*; BLM Sensitive
- Flannelmouth sucker, *Catostomus latipinnis*; BLM Sensitive
- Bluehead sucker, *Catostomus discobulus*; BLM Sensitive
- Greater sage-grouse, *Centrocercus urophasianus*; BLM Sensitive.

The potential ACEC also contains:

- Uinta Basin hookless cactus, *Sclerocactus glaucus;* federally threatened
- Graham's beardtongue, *Penstemon grahamii;* federally proposed
- Jones indigo-bush, *Psorothamnus polydenius* var. *jonesii;* BLM Sensitive
- Yellow blanketflower, *Gaillardia flava;* (Emery and Grand counties, endemic).

The nominated area encompasses roughly 80 miles of the Green River and contains riparian plant communities. The area also includes portions of Jack Creek, Flat Canyon, Rock Creek, Trail Canyon, Three Canyon, Range Creek, and the Price River, which contain riparian plant communities.

Importance: Desolation Canyon is Utah's deepest canyon. It is nationally and internationally known and significant for all its diverse values. The resources of Desolation Canyon are fragile and vulnerable to change. The potential ACEC is the northern most designated "Critical" habitat for the Mexican spotted owl. The Green River is one of the few north-south rivers, thus it provides a source of water for many hundreds of miles creating truly a migratory corridor for birds.

Mussentuchit Badlands ACEC

Relevance: The area contains significant geologic features, including igneous lava dikes and other volcanic intrusions. The Mussentuchit Badlands offer a wealth of fossils, including dinosaur, invertebrate, and plant fossils. The area also contains extensive lithic scatter sites, indicating use by past cultures. A deposit of red, white, and gray variegated chert directly overlain with a thick layer of basalt once covered much of the area. As these badlands have been dissected by erosion, the chert beds have been exposed. The prehistoric quarrying areas are important for the study of local prehistoric economies, and the stone material is distinctive enough to be studied as part of regional trading systems. Lack of vegetation in the area makes these resources very visible and vulnerable.

Importance: The igneous lava dikes or fins are unique within the Colorado Plateau region of Utah. The fossil resources are gaining in appreciation and attention from research institutions on a national basis. The archaeological sites represent an exceptional opportunity for scientific study of prehistoric regional trade. These chert beds were an important regional resource. Quarrying and processing the material took

place on site, and the chert was traded over a wide area. The quarry sites are unique in that they provide a unique opportunity to study the chert trade over wide areas, and they are not closely associated with habitation and foraging areas and are in a relatively inhospitable area.

White-Tailed Prairie Dog ACEC

Relevance: The Castle Valley Complex provides habitat for the white-tailed prairie dog, a BLM Utah Sensitive Species. The dog towns create a habitat feature for other sensitive species, such as the burrowing owl, long-billed curlew, and the black-footed ferret. On November 9, 2004, the U.S. Fish and Wildlife Service (USFWS) reviewed a petition to list the white-tailed prairie dog under the Endangered Species Act and concluded the petition did not contain substantial scientific data to warrant the petitioned action.

Importance: It is more than locally significant. The Castle Valley complex is more than 5,000 acres. The other white-tailed prairie dog towns and complexes in the PFO are smaller. On November 9, 2004, the USFWS concluded that white-tailed prairie dogs are found across the western half of Wyoming, western Colorado, the eastern portion of Utah, and a small portion of southern Montana. The largest remaining complexes or groups, occupying more than 5,000 acres each, are primarily found in Wyoming. Based on the most recent inventories of white-tailed prairie dog colonies, there are 10 relatively large white-tailed prairie dog complexes remaining in North America (each occupying more than 5,000 acres). An estimated 55 percent of white-tailed prairie dog habitat is found on BLM-administered lands. Black-footed ferrets are not known to be present in the Castle Valley complex.

Horseshoe Canyon ACEC

This nomination was incorporated into the Lower Green River ACEC under Alternatives B and C.

Relevance: The nominated area contains riparian areas and wetlands that provide an oasis of rare and lush vegetation and water in an otherwise arid environment. Drawn to this environment was the enigmatic culture that produced the haunting Barrier Canyon style of rock art. Horseshoe Canyon is also known as Barrier Canyon, the type locality for this cultural site type.

Importance: The riparian areas and wetlands within Horseshoe Canyon provide crucial habitat for wildlife and neotropical birds.

The existence of water in Horseshoe Canyon is derived from natural processes. Water percolates through the various geologic substrates until it encounters the Carmel formation. This geologic formation is less permeable and tends to move water laterally. The combination of hydrologic, geologic, and botanical processes creates the stunning hanging gardens found in Horseshoe Canyon.

The cultural resources of the area show the prehistoric exploitation of this desert ecological setting in a relatively undisturbed context (especially of those peoples who produced the Barrier Canyon rock art in the Horseshoe Canyon extension of Canyonlands National Park). This rock art, if removed from its cultural context, makes it almost meaningless for interpretation of past peoples and connections with the present.

Lower Muddy Creek ACEC

Relevance: The landscape within the potential Lower Muddy Creek ACEC contains vibrant multiple colored visuals intermingled with badland topography. These scenic values are of exceptional quality and the area is Class A scenery. Because of its proximity to Goblin State Park, some of the rare "goblin" rock structures can also be found. The southeast quarter area also contains high-value habitat for pronghorn. Three threatened, endangered, or sensitive plants occur within the area—Wright fishhook cactus, Psoralea globemallow, and Heil's Beavertail.

Importance: The scenery attracts people from outside the area and is therefore more than locally significant. There are documented occurrences of the three threatened, endangered, or sensitive plants with at least one endemic in Emery County.

Temple-Cottonwood-Dugout
(This potential ACEC incorporates the existing Big Flat Tops ACEC.)
Relevance: The area encompasses the Big Flat Tops ACEC's relevant and important values for relict vegetation. The prevailing winds of the area carry sands into the entrenched Cottonwood wash complex. Buried within the sands are ancient cultural sites from the early to middle archaic, 5,000 to 10,000 years before present.

Importance: The large assemblage of undisturbed archaic sites makes this area highly significant.

NOMINATED ACECS WITH RELEVANT AND IMPORTANT VALUES INCORPORATED INTO OTHER POTENTIAL ACECS

The following nominated ACECs were found to contain relevant and important values; however, these values were limited in geographic extent and did not support all the acreage nominated. In these cases, the relevant and important values were incorporated into one of the potential ACECs.

Cedar Mountain North
This area was nominated for cultural, historic, and scenic values and wildlife and sensitive species. BLM found these values were present but very similar to those found throughout the region. BLM did find some relevant and important paleontological values within the nominated ACEC. These values are protected within the potential Cleveland-Lloyd Dinosaur Quarry ACEC. Therefore, the remaining area was found not to meet relevance and importance criteria.

Price River
The nominated Price River ACEC is divided into the Upper and Lower Price River, separated by US 6. The area was nominated for historic, cultural, scenic, geologic, fish and wildlife, and riparian values within the Price River corridor. In the Upper Price River these resources are present, but they are similar to resources found throughout the region and are thus not significant. In the Lower Price River these resources are present and much of the area overlays the nominated Desolation Canyon and Beckwith Plateau ACECs. The areas outside the Desolation Canyon and Beckwith Plateau Potential ACECs were found not to meet relevance and importance criteria.

Molen Reef
This area was nominated for cultural resources and wildlife resources. Relevant and important cultural resources are contained within this nominated ACEC, which were incorporated into the potential Rock Art ACEC. The wildlife values of the area are similar to those found throughout the region and in surrounding areas. Therefore, the remaining area was found not to meet relevance and importance criteria.

NOMINATED ACECS FOUND TO LACK RELEVANCE AND IMPORTANCE

Thousand Lake Bench
This area was nominated for scenic, cultural, wildlife, plants, ecologic, riparian, geologic and natural systems values. The majority of the nominated ACEC is within the Richfield Field Office, which is currently revising its land use plans. As part of the Richfield planning effort, the Richfield Field Office evaluated the nominated ACEC and found that it contains relevant and important criteria. They are

cultural, bald eagle, last chance townsendia, Wright's fishhook cactus, and riparian. However, the Richfield evaluation, with the concurrence of the PFO Manager, determined that none of these relevant and important criteria extends into the PFO. The Richfield Field Office will be carrying the portion of the area with relevance and importance criteria forward in its planning process, and the PFO will drop its portion from any further consideration.

Dirty Devil Drainage
This area was nominated for scenic, cultural, wildlife, natural processes, plant, and geologic values. The majority of the nominated ACEC is within the Richfield Field Office, which is currently revising its land use plans. As part of the Richfield planning effort, the Richfield Field Office evaluated the nominated ACEC and found that it contains relevant and important criteria. They are scenic, cultural, paleontological (dinosaur tracks), crucial Desert Bighorn sheep habitat, three endangered, threatened, or sensitive plants, and riparian resources. However, the Richfield evaluation, with the concurrence of the PFO, Manager determined that none of these relevant and important criteria extends into the Price Field Office. Richfield will be carrying the portion of the area with relevant and important criteria forward in their planning process, and the PFO will drop its portion from any further consideration.

Quitchupah Creek
This area was nominated for scenic, cultural, wildlife, ecological/riparian, and geologic values. The majority of the nominated ACEC is within the Richfield Field Office, which is currently revising its land use plans. As part of the Richfield planning effort they evaluated the nominated ACEC and found that it contains R&I criteria. They are cultural, bald eagle, Creutzfeldt flower, last chance townsendia, and riparian values. However, the Richfield evaluation with the concurrence of the Price Field Office Manager determined that none of these relevant and important values extends into the PFO. The Richfield Field Office will be carrying the portion of the area with relevance and importance criteria forward in its planning process, and the PFO will drop its portion from any further consideration.

Cedar Mountain South
This area was nominated for scenic values and wildlife resources. High-quality scenery is certainly present within the area, but it tends to be unremarkable in a regional context. Some of the wildlife species in the nomination either do not occur or are only occasional visitors. The area is not important habitat for any of the species listed in the nomination.

Antelope Valley-Sweetwater Reef
This nomination was based on wilderness and recreation values. These values, although important, do not meet the definition of an ACEC or the relevance criteria.

Table L-2 identifies the threat potential to existing and potential ACECs.

Table L-2. Existing and Potential ACECs and Threat Potential Identified

Threat Potential / Existing or Potential ACEC	Damage to Subsurface Cultural or Paleontological Resources	Habitat Loss or Habitat Fragmentation or Loss of Habitat Integrity	Damage to Scenic Quality	Alteration of Ecological Processes: Changes to Ecosystem Components or Introduction of Non-native Species	Increased Human Access and Disturbance, Including Possible Resource Depredation or Damage to Surface Artifacts	Natural or Cultural Landscape Fragmentation or Loss of Integrity
Big Flat Tops		X		X	X	
Bowknot Bend		X	X	X	X	
Copper Globe					X	X
Dry Lake Archaeological District	X				X	X
Interstate 70			X		X	
Muddy Creek			X		X	X
Pictographs	X				X	X
San Rafael Canyon			X		X	
San Rafael Reef		X	X	X		X
Segers Hole			X			
Sids Mountain			X			
Swaseys Cabin					X	X
Temple Mountain Historic District					X	X
Beckwith Plateau		X	X	X	X	X
Lower Green River		X	X	X	X	X
Range Creek	X	X		X	X	X
Nine Mile Canyon	X			X	X	X
Gordon Creek	X				X	X

Threat Potential / Existing or Potential ACEC	Damage to Subsurface Cultural or Paleontolo-gical Resources	Habitat Loss or Habitat Fragmenta-tion or Loss of Habitat Integrity	Damage to Scenic Quality	Alteration of Ecological Processes: Changes to Ecosystem Components or Introduction of Non-native Species	Increased Human Access and Disturbance, Including Possible Resource Depredation or Damage to Surface Artifacts	Natural or Cultural Landscape Fragmentation or Loss of Integrity
Heritage Sites					X	X
Uranium Mining District					X	X
Rock Art	X				X	X
Cleveland-Lloyd Dinosaur Quarry	X				X	
Desolation Canyon		X	X	X	X	X
Mussentuchit Badlands	X				X	X
White-Tailed Prairie Dog		X		X	X	
Lower Muddy Creek		X	X	X	X	X
Temple-Cottonwood-Dugout	X				X	X

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