BLM

Approved Land Use Plan Amendments/ Record of Decision (ROD) for Allocation of Oil Shale and Tar Sands Resources on Lands Administered by the Bureau of Land Management in Colorado, Utah, and Wyoming and Final Programmatic Environmental Impact Statement

March 2013

MISSION STATEMENT

It is the mission of the Bureau of Land Management (BLM), an agency of the Department of the Interior, to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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RECORD OF DECISION

INTRODUCTION

This Record of Decision (ROD) approves the Bureau of Land Management's (BLM's) proposal to amend 10[1] Resource Management Plans (RMP) to designate certain public lands, managed by the BLM, in Colorado, Utah, and Wyoming as available for application for leasing[2] and future exploration and development of oil shale and tar sands resources. This ROD does not address, and does not change, any decisions for the management of the public lands for other resource uses and values in the areas subject to these 10 RMPs.

The RMP amendments were described as the Proposed Plan Amendments in the November 2012 *Proposed Land Use Plan Amendments for Allocation of Oil Shale and Tar Sands Resources on Lands Administered by the Bureau of Land Management in Colorado, Utah, and Wyoming and Final Programmatic Environmental Impact Statement* (PRMP/FPEIS) (BLM 2012a). This ROD provides the background for the development of the plan amendments, describes in brief the alternatives considered, and presents the rationale for approving the proposed decisions contained in the Proposed Plan Amendments. In addition, the ROD describes the clarifications and modifications made to address protests received on the plan amendments.

The BLM's purpose and need for this planning action is to evaluate the appropriate mix of allowable uses with respect to oil shale and tar sands leasing and potential development in light of Congress's policy emphasis on these resources. Specifically, as adopted, the Proposed Plan Amendments amend the applicable RMPs to close certain specified areas in Colorado, Utah, and Wyoming currently open for application for future leasing and development of oil shale or tar sands. The BLM's focus in this planning initiative is the potential development of oil shale and tar sands as sources of energy, consistent with congressional policy as expressed in the Energy Policy Act of 2005, which required that a commercial leasing program be established for these resources.

Under the approved 2013 land use plan amendments, the BLM amends 10 land use plans in Colorado, Utah, and Wyoming to make approximately 678,000 acres available for potential

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[1] The Grand Junction Field Office RMP, the Glenwood Springs Field Office (Colorado River Valley) RMP/EIS, and the White River Field Office RMP/EIS in Colorado; the Price Field Office RMP/EIS, the Richfield Field Office RMP/EIS, the Vernal Field Office RMP/EIS and the Monticello RMP/EIS in Utah; and the Rawlins Field Office RMP/EIS, the Kemmerer Field Office RMP/EIS, and the Green River RMP/EIS in Wyoming. The decisions for oil shale and tar sands resources are contained in this ROD.

Ten land use plans are being amended; six land use plans cover areas containing only oil shale resources, two land use plans cover areas containing only tar sands resources, and two land use plans cover areas containing both oil shale and tar sands resources.

[2] The phrase "available for application for leasing" is used above, and throughout the document, rather than "available for leasing" to highlight that additional National Environmental Policy Act (NEPA) analysis will be required prior to the issuance of any lease of oil shale or tar sands resources.

development of oil shale, and approximately 132,000 acres available for development of tar sands.

This ROD provides that the areas allocated as open for future oil shale leasing are, at this time, open only to research, development, and demonstration (RD&D) leases. The BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D lease and the regulations in the *Code of Federal Regulations*, Title 43, Subpart 3926 (43 CFR Subpart 3926) for conversion to a commercial lease. The preference right acreage, if any, which would be included in the converted lease, would be specified in the RD&D lease. Similarly, while there is no formal RD&D program for tar sands, this resource is not, at present, a proven commercially viable energy source. Therefore, the BLM has determined that it is necessary to obtain more information about the environmental consequences associated with tar sands development, prior to committing to broad-scale commercial development.

The land use plan amendments remove from potential oil shale and tar sands leasing the following categories of lands within the planning area in Colorado, Utah, and Wyoming: (1) all areas that the BLM has identified as having wilderness characteristics (LWC); (2) the whole of the Adobe Town "Very Rare or Uncommon" area, as designated by the Wyoming Environmental Quality Council on April 10, 2008; (3) core or priority sage-grouse habitat, except in Wyoming, where the BLM will coordinate its approach with the policy direction in Wyoming's Executive Order (E.O.) 2011-5, which has been recognized by the U.S. Fish and Wildlife Service (USFWS) as an adequate regulatory mechanism for the conservation of Greater Sage-Grouse; (4) all Areas of Critical Environmental Concern (ACECs) and areas currently under consideration for designation as ACECs; and (5) all areas identified as excluded from commercial oil shale and tar sands leasing in Alternative C of the September 2008 Oil Shale and Tar Sands (OSTS) Programmatic EIS (BLM 2008a). In total, more than 1,340,770 acres of the planning area in Colorado, Utah, and Wyoming are excluded from oil shale leasing and development, and more than 301,100 acres in Utah are excluded from tar sands leasing and development.

If and when applications to lease are received and accepted for oil shale or tar sands resources within the acres available for leasing under this ROD, the BLM will conduct additional required analyses, including consideration of direct, indirect, and cumulative effects of the proposed development, reasonable alternatives, and possible mitigation measures. On the basis of that analysis of future lease application(s), the BLM will establish general lease stipulations and best management practices (BMPs) and amend applicable land use plans, if necessary. After a lease is authorized, actual development will require additional analysis to address the site-specific conditions of the proposed development and to develop mitigation measures as necessary.

The attached RMP Amendments to Address Land Use Allocations in Colorado, Utah, and Wyoming (Attachment — Appendix A) (also referred to as the Approved Plan Amendments) describes the specific decisions made in this ROD.

THE DECISION

Preparation of the Plan Amendments was done under the authority of the Federal Land Policy and Management Act of 1976, as amended (FLPMA) and in accordance with BLM planning

regulations (43 CFR Part 1600). The Approved Plan Amendments are consistent with the requirements of the Energy Policy Act of 2005, provide a balanced use and protection of resources, and analyze potential environmental impacts. A PEIS was prepared to analyze and provide support for the approval of these Plan Amendments in compliance with the National Environmental Policy Act (NEPA).

The Approved Plan Amendments are identical to the Proposed Plan Amendments presented in the PRMP/FEIS, although the Approved Plan Amendments include some clarifications that were added, and a few corrections (described below in the Notice of Modifications and Clarifications Made to the Approved Plan). Management decisions and guidance for public lands under the jurisdiction of the Colorado River Valley (formerly Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices are presented in the Approved Plan Amendments.

The decision is to adopt Alternative 2(b) for oil shale and Alternative 2 for tar sands and to approve the attached plan amendments as the Approved Plan Amendments for management of public lands that are administered by the BLM's Colorado River Valley (Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices as amended by the 2008 Oil Shale/Tar Sands Plan Amendment (see Attachment — Appendix A). The Approved Plan Amendments replace public land decisions regarding oil shale and tar sands resources in the following plans:

- Colorado
  - Glenwood Springs RMP (BLM 1988, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])[3,4]
  - Grand Junction RMP (BLM 1987)
  - White River RMP (BLM 1997a, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])
- Utah
  - Monticello RMP (BLM 2008g)
  - Price RMP (BLM 2008d)
  - Richfield RMP (BLM 2008h)
  - Vernal RMP (BLM 2008e)
- Wyoming
  - Green River RMP (BLM 1997b, as amended by the Jack Morrow Hills Coordinated Activity Plan [BLM 2006b])
  - Kemmerer RMP (BLM 2010)
  - Rawlins RMP (BLM 2008f)

[3] The Glenwood Springs Field Office moved to Silt, Colorado, and is now called the Colorado River Valley Field Office, although the current RMP is still titled the Glenwood Springs RMP. When the plan revision is approved, it will be called the Colorado River Valley RMP.

[4] The Glenwood Springs RMP and the White River RMP are currently undergoing revision.

What the Decision to Amend the RMPs Provides

The decision changes the existing 2008 land use allocation decisions and amends pertinent BLM RMPs to identify any areas that may be open or closed to future oil shale and tar sands leasing in these three states. The BLM specifically has allocated fewer acres of land than in the 2008 decision, excluding 320,350 acres in Colorado; 313,149 acres in Utah; and 707,275 acres in Wyoming opened in 2008 for oil shale leasing and development and 301,119 acres in Utah opened in 2008 for tar sands development. Under these approved 2013 land use plan amendments, the BLM will amend 10 land use plans in Colorado, Utah, and Wyoming to make approximately 678,000 acres available for potential development of oil shale, and approximately 132,000 acres available for development of tar sands. The oil shale allocation decisions further allow commercial development only after a technology has been proven to be viable on, for example, an RD&D lease. With the specific exceptions noted below in the discussion of Alternative 2(b), regarding the Secretary's discretion to consider issuing commercial leases directly only in some circumstances, the BLM would be able to issue a commercial lease only when a lessee satisfies the conditions of its RD&D lease and the regulations at 43 CFR Subpart 3926 for conversion to a commercial lease. The preference right area, if any, which would be included in the converted lease, would be specified in the RD&D lease.

This decision is an allocation decision only (i.e., making lands available for the potential leasing of oil shale and tar sands resources). The BLM anticipates that the eventual development of the oil shale and tar sands resources would proceed in a phased approach ─ proceeding from this allocation decision to a leasing decision and then to an operational permit approval. Prior to the leasing and development phases, additional NEPA analysis and other environmental review will be required. The BLM's review would encompass a broad range of considerations appropriate for each particular proposal whether it is in context of converting an RD&D lease to a commercial lease or in the context of approval of a specific development proposal which might include such issues as impacts on water resources, wildlife, post-abandonment land uses, air quality or greenhouse gas (GHG) emissions, including relevant energy balance considerations. This measured approach, where each step builds upon a prior step, ensures that State and local communities have the opportunity to be involved and are fully informed of the activities associated with the program. The allocation decisions leave open for the application to lease only the areas identified in Alternative 2(b) for oil shale and Alternative 2 for tar sands in the Final PEIS, as clarified and corrected in this ROD.

Oil Shale Decisions

- Are subject to existing applicable Federal, State, and local laws and regulatory requirements, as well as established BLM policies;
- Identify the most geologically prospective oil shale areas within the planning unit;
- Designate 678,700 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance

with applicable Federal, State, and local regulations and BLM policies, including all oil shale resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation, subject to further consultation with the Ute Indian Tribe;

- Allow only the use of surface mining technologies in areas in Utah and Wyoming where the overburden is 0 to 500 ft thick;
- Require additional NEPA analysis of the environmental, social, and economic effects of reasonably foreseeable development before the issuance of leases for commercial development;
- Require additional NEPA analysis of the site-specific environmental, social, and economic effects of particular development proposals to consider site-specific and project-specific factors before the approval of project-specific development plans; and
- Require the BLM to consider and give priority to the use of land exchanges, where appropriate and feasible, to consolidate land ownership and mineral interests within the oil shale basins.

Tar Sands Decisions

- Are subject to existing applicable Federal, State, and local laws and regulatory requirements, as well as established BLM policies;
- Designate 132,220 acres of land within the Special Tar Sand Areas (STSAs) as available for application for leasing for commercial tar sands development in accordance with applicable Federal, State, and local regulations and BLM policies, including all tar sands resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation, subject to further consultation with the Ute Indian Tribe;
- Require additional NEPA analysis of the environmental, social, and economic effects of reasonably foreseeable development before the issuance of leases for commercial development;
- Require additional NEPA analysis of the site-specific environmental, social, and economic effects of particular development proposals to consider site-specific and project-specific factors before the approval of project-specific development plans; and
- Require the BLM to consider and give priority to the use of land exchanges where appropriate and feasible to consolidate land ownership and mineral interests within the STSAs.

What the Decision to Amend the RMPs Does Not Provide

The Approved Plan Amendments do not authorize the issuance of any oil shale or tar sands resources lease. The amendment of the land use plans does not authorize any ground-disturbing

activities and does not constitute an irreversible or irretrievable commitment of resources under NEPA.

- The Approved Plan Amendments do not contain decisions for minerals or resources other than oil shale and tar sands for land administered by the BLM's Colorado River Valley (formerly Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices. The Approved Plan Amendments also do not contain decisions for mineral estates for Forest Service lands located in the planning area, for lands under the jurisdiction of other Federal agencies, or for private or State-owned lands and minerals.
- The Approved Plan Amendments do not contain decisions for allocating lands for leasing STSAs in National Park Service (NPS) units. Leasing STSAs in NPS units is allowed only where mineral leasing is permitted by law and where the lands are open to mineral resource disposition in accordance with any applicable NPS Minerals Management Plan. For any leasing to occur in NPS units, the NPS Regional Director also must find that leasing within an NPS unit would not result in any significant adverse impacts on the NPS unit or any contiguous unit.
- The Approved Plan Amendments do not apply to private or State lands shown on maps included in the RMP but do apply to split estate lands where the BLM administers the mineral estate.
- The Approved Plan Amendments do not affect valid existing rights.
- In addition, many decisions are not appropriate for this level of planning and are not included in the ROD. Examples of these types of decisions include:
  - *Statutory requirements.* The decision will not change the BLM's responsibility to comply with applicable laws, or the rules, and regulations based on these statutes.
  - *National Policy.* The decision will not change BLM's obligation to conform to current or future national policy, as established by the BLM itself, the Department, the President, or Congress.
  - *Funding levels and budget allocations.* These are determined annually at the national level and are beyond the control of the field office.

OVERVIEW OF THE ALTERNATIVES CONSIDERED — OIL SHALE

The Proposed Resource Management Plan (PRMP)/PEIS study area for the oil shale resources includes the most geologically prospective resources of the Green River Formation located in the Green River, Piceance, Uinta, and Washakie Basins and encompasses approximately 3,540,000 acres of which 2,270,000 acres are federally owned.

For this planning initiative, the BLM continues to employ the standard it developed pursuant to the Energy Policy Act of 2005, which is to focus on the most geologically prospective resources, as defined by grade and thickness of the deposits. The most geologically prospective oil shale resources in Colorado and Utah have been determined by the BLM to be those deposits that yield

25 gallons (gal) of oil shale per ton of rock (gal/ton) or more and are 25 feet (ft) thick or greater. In Wyoming, where the oil shale resource is not of as high a quality as it is in Colorado and Utah, the BLM has identified as most geologically prospective oil shale resources, those deposits that yield 15 gal/ton or more of oil shale and are 15 ft thick or greater.

Figure 1 shows the four oil shale basins that were mapped based on the extent of the Green River Formation and the most geologically prospective oil shale resources within those basins.

The oil shale resources within the defined study areas are located within the jurisdiction of eight separate BLM administrative units. These units are the Colorado River Valley (formerly Glenwood Springs), Grand Junction, and White River Field Offices in Colorado; the Price and Vernal Field Offices in Utah; and the Kemmerer, Rawlins, and Rock Springs Field Offices in Wyoming. Table 1 presents the total acreage of the most geologically prospective oil shale areas.

The BLM analyzed four alternatives, including a no action alternative, in detail for allocation of oil shale (two of these include sub-alternatives). All management under any of the alternatives would comply with applicable Federal laws, rules, regulations, and policies. Alternative 1 (the No Action Alternative) would not amend the plans. Management prescriptions in existing plans are not modified under this alternative, other than to clarify that the oil shale withdrawal for Naval Oil Shale Reserves (NOSR) 1 and 3 is still in effect, and these lands are closed and not available for future opportunity to lease for the development of oil shale resources under all alternatives, including the No Action Alternative.[5] Alternatives 2(a) and 2(b), 3, and 4(a) and 4(b) described different management approaches to amending RMPs to designate certain lands as being available for application for future commercial leasing and development, and certain lands as excluded from such leasing and development. The approaches taken in Alternatives 2 through 4 are designed to ensure that future oil shale leasing and development are possible when economic and environmentally acceptable. With the exception of certain corrections as noted in the Clarifications and Modifications section below, no new areas have been allocated as open for lease application as compared to the 2008 allocations; rather, the alternatives represent differing acreage amounts to be excluded from such application. In addition, with respect to oil shale, the intent is to maintain focus on RD&D projects in order to obtain more information about possible development technologies and their environmental consequences before committing to broad-scale development. Table 2 provides the acreages for each of the four alternatives in Colorado, Utah, and Wyoming.

[5] The 2008 OSTS PEIS (BLM 2008a) did not include an analysis under NEPA of the potential environmental effects of opening these lands for future oil shale leasing; nor did it specifically state that these lands were excluded from future oil shale leasing.

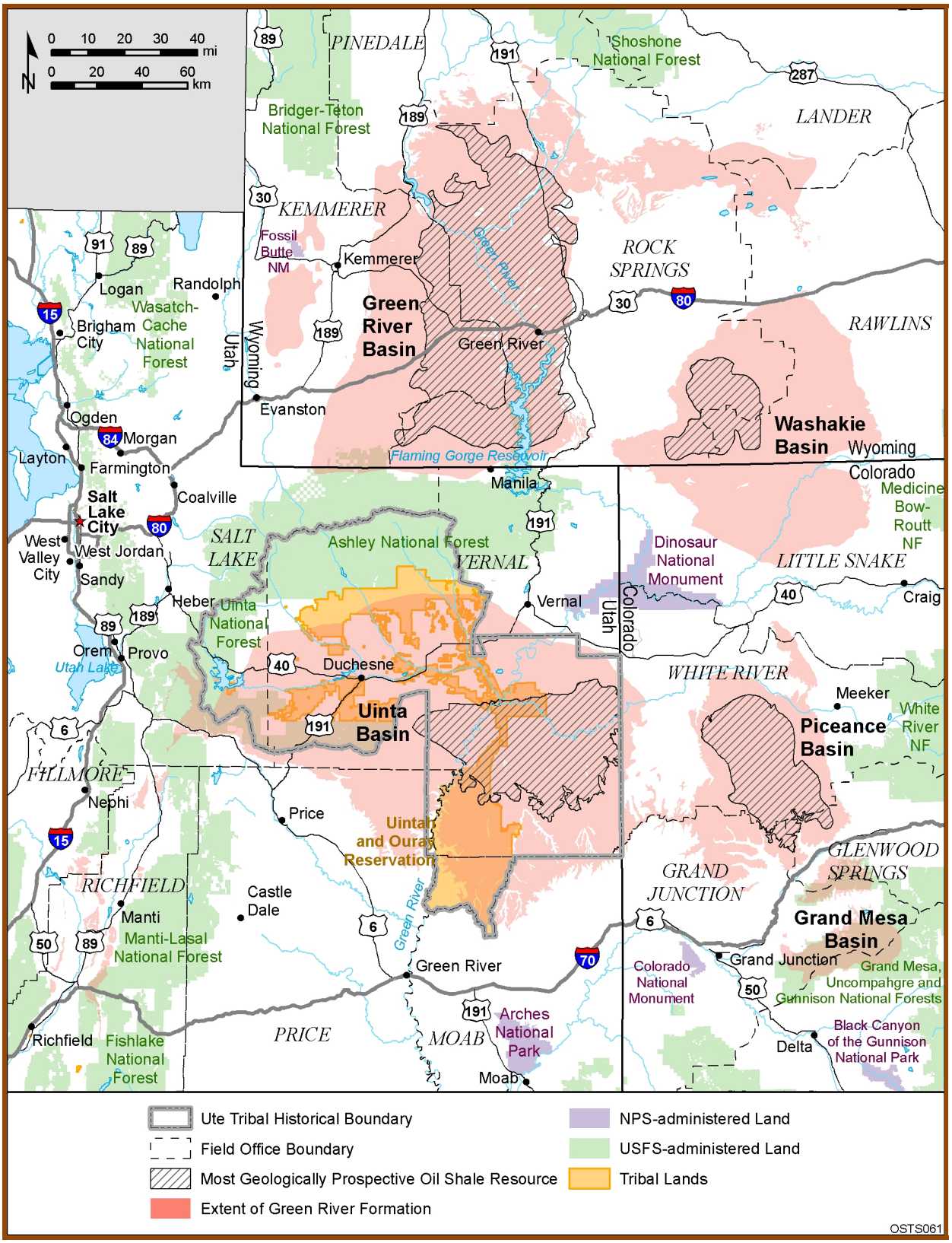

Figure 1: Most Geologically Prospective Oil Shale Resources within the Green River Formation Basins in Colorado, Utah, and Wyoming

Table 1: Total Size in Acres of the Green River Formation Basins, Most Geologically Prospective Oil Shale Areas, and Acres of BLM-Administered and Split Estate Lands within the Most Prospective Areas in Each State[a]

		Most Geologically Prospective Area		
State	Total Size of Basin	Most Geologically Prospective Area	Total BLM-Administered Lands	Total Split Estate Lands (Federal Minerals)[b]
Colorado Piceance Basin	1,185,700	503,300	307,200	39,900
Utah Uinta Basin[c]	2,977,900	840,600	560,900	76,800
Wyoming Green River and Washakie Basins	4,506,200	2,194,500	1,244,200	38,200
Total	8,669,800	3,538,400	2,112,300	154,900

[a] Totals may not be exact because of rounding. These estimates were derived from geographic information system (GIS) data compiled for the PEIS analyses. The GIS data may contain errors; therefore, these estimates should be considered to be only representative of the size of the oil shale resources and the distribution of BLM-administered and split estate lands.

[b] Split estate lands include areas where the Federal Government owns, and the BLM administers, the subsurface mineral rights, but the surface estate is owned by tribes, states, or private parties.

[c] The split estate lands in the Hill Creek Extension include 57,700 acres of split estate lands within the Uintah and Ouray Reservation on which the surface rights are owned by the Ute Indian Tribe.

Table 2: Alternative Comparison Table — Oil Shale

Alternative	Colorado (acres)	Utah (acres)	Wyoming (acres)	Total (acres)
1	346,600	670,600	1,000,600	2,017,800
2	26,300	360,400	292,000	678,700
3	26,900	5,100	0	32,000
4	340,100	624,200	967,500	1,931,800

Alternative 1 — No Action Alternative, Continuation of Current Management

Alternative 1 is the No Action Alternative, under which no existing land use plans would be amended. In 2008, the BLM designated a total of 2,017,714 acres[6,7] available for application for commercial oil shale leasing (Figures 2, 3, and 4 for Colorado, Utah, and Wyoming, respectively). Table 3 lists the approximate number of acres of BLM-administered lands available for application for commercial oil shale leasing under Alternative 1 by State.[8]

The lands available for lease under the 2008 land use plan amendment decisions would remain available for future leasing consideration under the No Action Alternative. These public lands include the most geologically prospective oil shale and tar sands areas administered by the BLM, including split estate lands where the Federal Government owns the mineral rights, but excluding lands that are exempted by statute, regulation, or E.O. Other exempted lands include the Mechanically Minable Trona Area (MMTA) in Wyoming; lands within incorporated towns and within city limits; historic trails; Wyoming's Monument Valley Special Management Area; Management Area 3 — the Jack Morrow Hills Planning Area in Wyoming; and community expansion areas around Rock Springs and Green River, Wyoming. Split estate lands within the Hill Creek Extension of the Uintah and Ouray Reservation would remain available for potential leasing. These lands total approximately 57,700 acres.

Under the 2008 OSTS ROD (BLM 2008b), which forms the basis for the No Action Alternative, ACECs are treated in the following manner: those ACECs that were closed for mineral development would be closed to oil shale and tar sands leasing; those ACECs open for mineral development would be open to oil shale and tar sands leasing. With respect to LWC, no specific decision was made in the 2008 ROD. Rather, as noted in the 2008 OSTS PEIS, the decision as to how to manage these areas is the responsibility of the individual BLM field offices (BLM 2008a). Field offices would apply direction from current RMPs and BLM policy in making leasing decisions for oil shale and tar sands resources on LWC utilizing the BLM NEPA and planning processes. Similarly, with respect to the management of sage-grouse habitat, the 2008 ROD made no specific decisions; rather, the 2008 Final OSTS PEIS (BLM 2008a) included a text box discussing the BLM's policies and general practices, including specific frequently used mitigation measures that might be applied to any development, as warranted by analysis at the lease and/or development stage (2008 Final OSTS PEIS, pp. 4-78 to 4-80).

More recently, the BLM has issued nationwide and state-specific guidance recommending the consideration of certain interim management practices to address the appropriate management of sage-grouse habitat in the context of land use actions, and this information is presented in a text

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[6] This amount includes the total potential RD&D lease acreage of 30,720 acres.

[7] In the 2008 OSTS PEIS, the corresponding acreages were estimated as 1,991,222 acres for oil shale and 431,224 acres for tar sands. These estimates are slightly revised here after recalibrating the geospatial data on which they are based for the current analysis.

[8] The maps and acreage estimates were constructed by applying the leasing restrictions discussed in the text to the best available geographic information system (GIS) datasets available to the BLM.

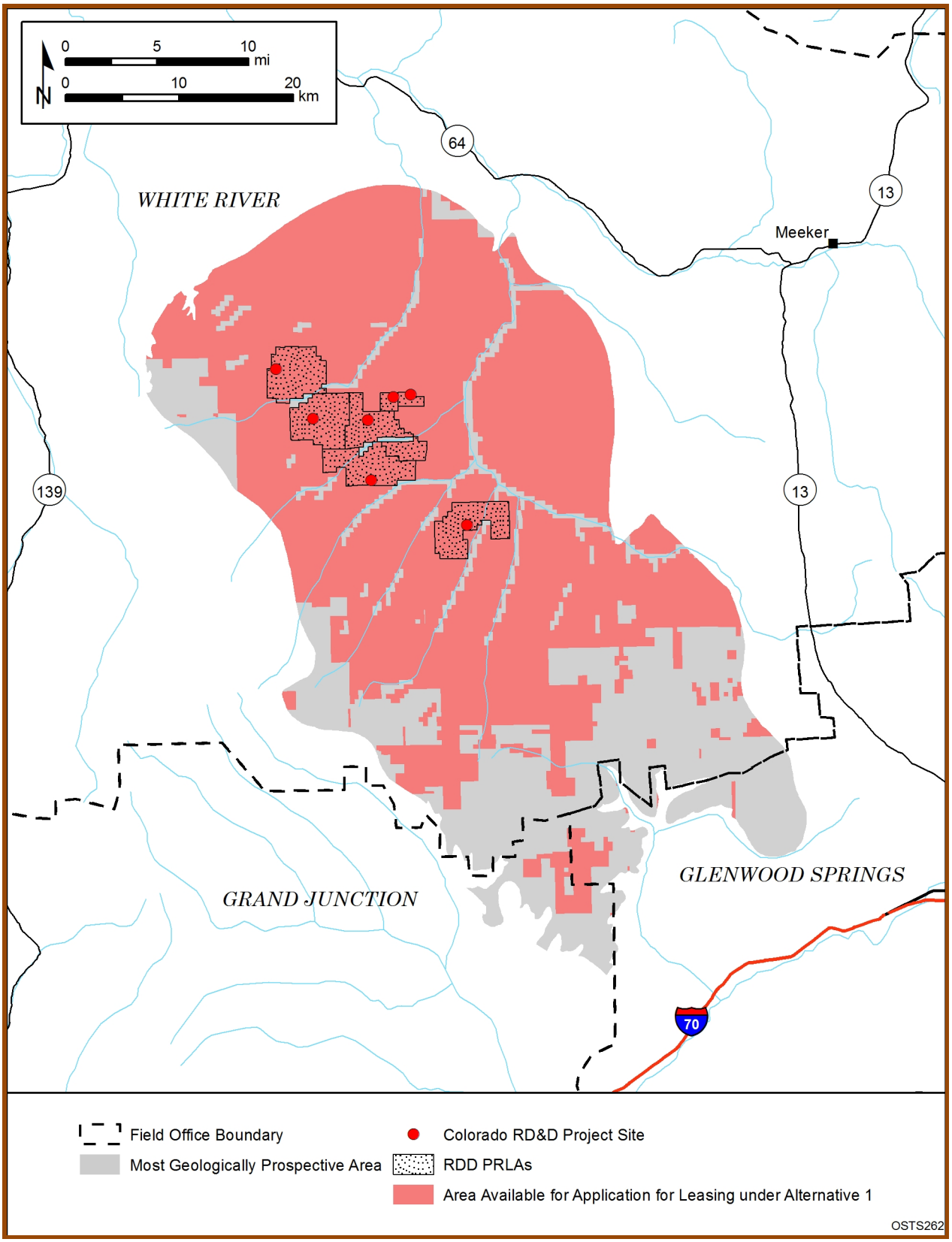

Figure 2: Lands Available for Oil Shale Leasing under Alternative 1 in Colorado

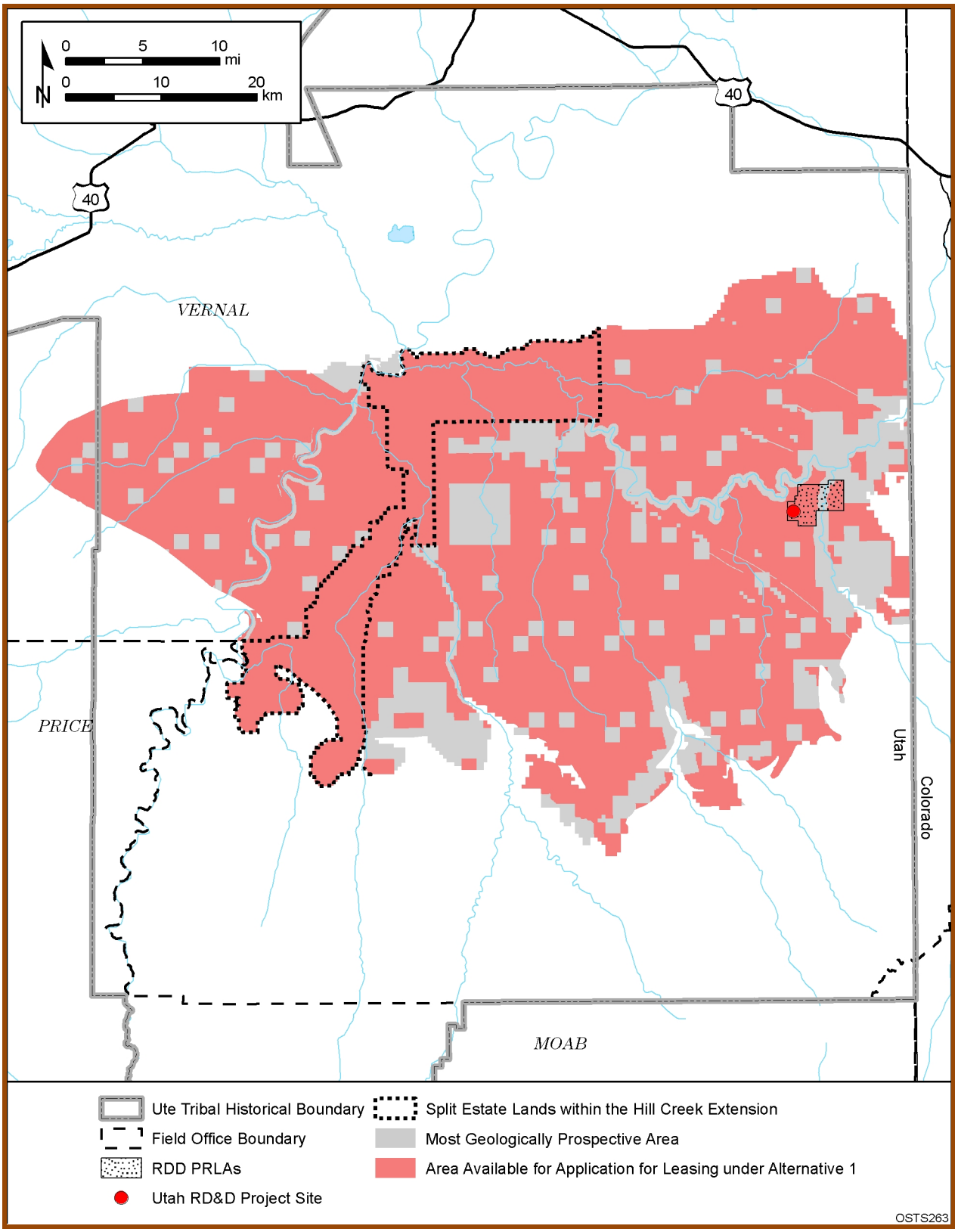

Figure 3: Lands Available for Oil Shale Leasing under Alternative 1 in Utah

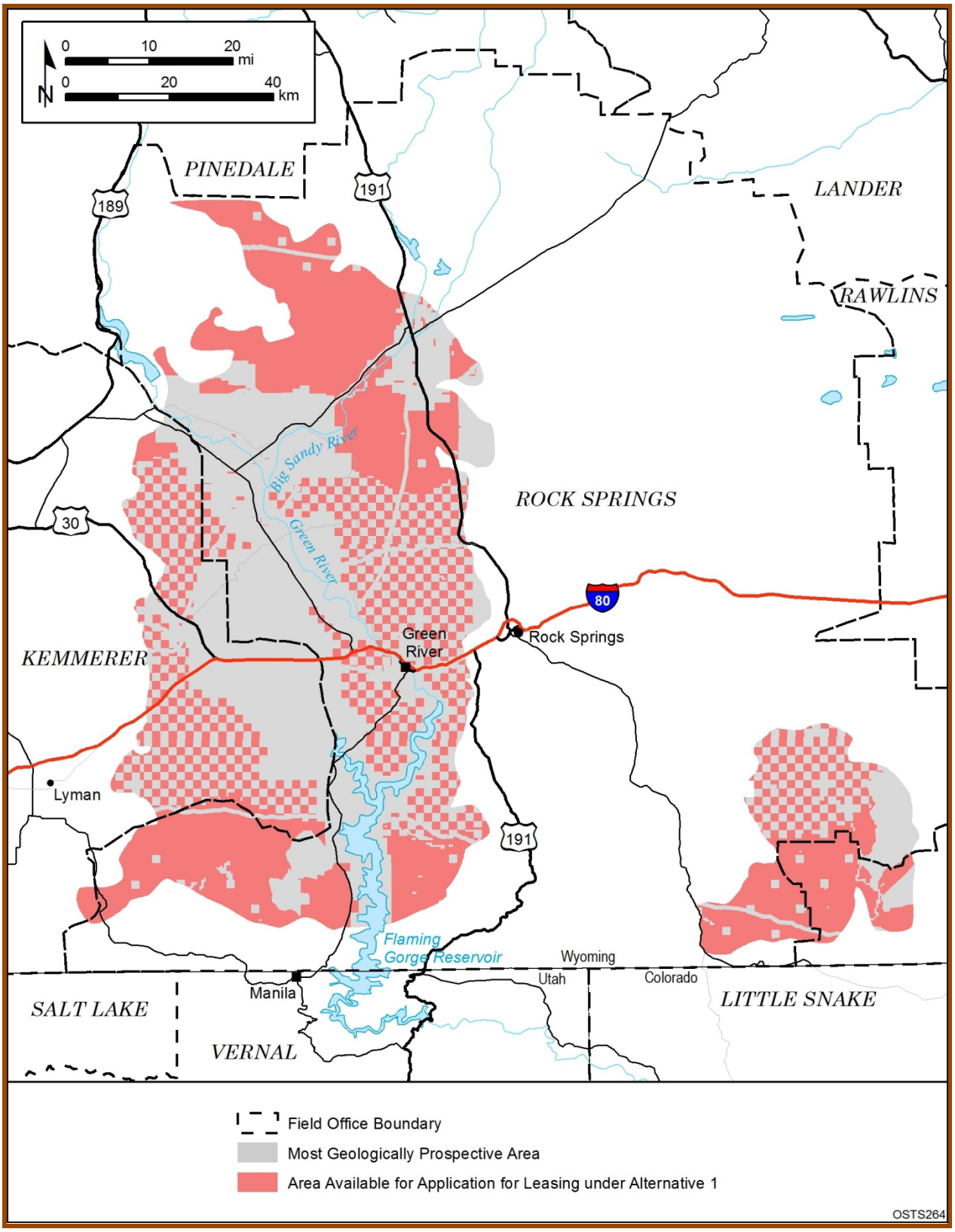

Figure 4: Lands Available for Oil Shale Leasing under Alternative 1 in Wyoming

Table 3: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Oil Shale Development under Alternative 1[a]

State	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Colorado[b]	307,136	39,473	346,609
Utah[c]	594,958	75,600	670,558
Wyoming	992,824	7,750	1,000,574
Total for Alternative 1	1,894,918	122,823	2,017,741

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS.

[b] Alternative 1 acreage is reduced by 13,308 acres compared to that in the 2008 OSTS PEIS due to removal of lands in NOSR 1 and NOSR 3 in Colorado. See Section 2.3.3 of the 2012 Final OSTS PEIS for further explanation.

[c] The split estate lands in Utah include 57,700 acres of split estate lands within the Hill Creek Extension of the Uintah and Ouray Reservation on which the surface rights are owned by the Ute Indian Tribe.

box on pages 4-128 through 4-130 in Section 4.8.1 of the 2012 Final OSTS PEIS (BLM 2012a). Under the No Action Alternative, field offices would need to incorporate protective measures in any authorizations, as warranted by ecological conditions, and on the basis of environmental analysis. As such, it is likely that not all the areas that are currently classified as open for application for potential future leasing under this alternative would be leased or developed. In addition, commercial leases for surface mining projects would be allowed only on those lands in Utah and Wyoming where the overburden is 0 to 500 ft thick. In Utah, under Alternative 1, lands available for application for leasing for surface mining projects total about 85,640 acres in the Vernal RMP planning area. In Wyoming, under Alternative 1, these lands total about 248,000 acres in the Green River RMP planning area.

Lands within the designated Multi-mineral Zone in the White River Field Office area, Colorado, would be made available for commercial lease only if the applicant can demonstrate that it would use technologies that allow recovery of oil shale resources without preventing the recovery of, or otherwise destroying, other minerals (e.g., nahcolite and dawsonite).

Under all allocation alternatives, NEPA analysis would be conducted prior to lease issuance. Any information collected as part of the scoping or lease application process would be used to form the basis of the NEPA analysis. During that NEPA review, the BLM would identify and establish appropriate lease stipulations to mitigate anticipated impacts.

In addition, the subsequent approval of project-specific plans of development would require NEPA review to (1) consider site-specific and project-specific factors and (2) identify and

require appropriate mitigation measures, as needed, to control impacts beyond those established in the lease stipulations. The NEPA review for the plan of development may be incorporated into the NEPA review conducted for the lease application, at BLM's discretion, if adequate operational data are provided by the applicant(s).

Under all allocation action alternatives, the BLM would require that the operator conduct any development in compliance with existing applicable Federal, State, and local regulatory requirements and established BLM policies. This compliance would include, as appropriate, obtaining and complying with all required permits (e.g., air, water, and waste management) as required by regulatory agencies; and operating within the permit constraints. In addition, the operator would have to conduct any commercial development consistent with any constraints that emerged from the BLM's completion of consultation, as appropriate, with the USFWS under Section 7 of the Endangered Species Act (ESA) in connection with authorization of any leasing/development project(s), and its completion of consultation with State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Officers, and other consulting parties under Section 106 of the National Historic Preservation Act of 1966 (NHPA) (Public Law [P.L.] 89-665) in connection with authorization of any leasing/development project(s). The operator would have to conduct any commercial development in compliance with any other relevant and applicable requirements as well. Compliance-related conditions would be developed on a project-by-project basis during site-specific analyses.

In all four allocation alternatives, new RD&D leases could be issued in any areas opened to commercial oil shale leasing. For reasons described in greater detail below, new RD&D projects are likely to precede commercial oil shale leasing. Impacts from new RD&D projects are anticipated to be qualitatively similar but smaller in scale than those of commercial projects, at least until any RD&D lease might be converted to a commercial oil shale lease and expanded to include the associated PRLA acreage. Additional NEPA analysis would be required prior to issuance of any RD&D lease and prior to conversion of an RD&D lease to a commercial oil shale lease and expansion into a Preference Right Lease Area (PRLA).

Under the terms of the eight existing RD&D leases, the BLM has committed to grant commercial leases to the RD&D lessees for lands within the PRLAs, provided that all terms and conditions of the RD&D leases are met. As a result, under all of the alternatives, all lands within the PRLAs would be available for issuance of commercial leases to the current RD&D lessees, subject to lease requirements.

Seven of the eight BLM-issued RD&D leases are located in Colorado and are also shown in Figure 2. The eighth BLM RD&D lease and its associated PRLA are located in Utah (see Figure 3).

Each of the six "first-round" RD&D leases includes an initial lease area of approximately 160 acres and an additional associated PRLA of approximately 4,960 acres that could be developed if the RD&D lease terms are met. Each of the two approved second-round RD&D[9]

[9] A third RD&D lease was nominated as part of the second round of solicitations of interest in RD&D by the BLM. The BLM cancelled this nomination in December 2012, because the applicant failed to comply with requirements in the request for nominations to commence under NEPA.

leases includes an initial lease area of approximately 160 acres and an additional associated PRLA of approximately 480 acres that could be developed if the RD&D lease terms are met.

The eight existing RD&D leases contain terms that allow development of the original leases and could allow development of the associated PRLAs, totaling approximately 32,000 acres. For purposes of analysis and comparison, under Alternative 1, it is assumed that each of the leases could reach commercial production utilizing the technologies being tested on the leases and may utilize the whole PRLA. Where the RD&D leases overlay lands classified for open pit (surface), underground, or multi-mineral development, it is assumed that only the technologies being tested on the individual leases will be utilized in the development. Under this alternative, if an individual RD&D lease holder relinquishes its lease, the area could be leased to another operator consistent with the existing management decisions.

The terms of these eight leases include, among other items, a requirement for additional NEPA compliance before conversion to a commercial lease, which would include the PRLA acreage. The Oil Shale and Tar Sands PEIS/ROD does not represent fulfillment of this requirement. In order for commercial leasing and/or development of the associated PRLA to take place under any of the alternatives in this PEIS, additional NEPA compliance would need to be conducted.

Rationale for Non-Selection: Alternative 1 was not selected as the Proposed Plan Amendment. Development of oil shale and tar sands resources are relatively new programs. The BLM recognizes the potential importance of oil shale resources to the country, as well as the need for reliable, sustainable domestic oil-based energy resources.. However, because development of oil shale resources, at this time, mainly consists of untested technology with potential long-term impacts on communities and the environment, the BLM has decided against leaving open large amounts of public land for future oil shale leasing and development prior to a meaningful evaluation of the results of the RD&D leases and development on non-Federal lands. The BLM has determined that in view of the other uses and resources on these lands, a higher priority should be given to protection of core and priority sage-grouse habitat, lands identified by the BLM as having wilderness characteristics, ACECs, the Adobe Town "Very Rare or Uncommon" area, and other wildlife resources. FLPMA Section 103(c) charges the Secretary to manage the public lands and their various resource uses so that they are utilized in the combination that best meets the needs of the American people; providing sufficient latitude to conform to changing needs and conditions and providing a combination of balanced and diverse resource use that takes into account the long-term needs of future generations for renewable and nonrenewable resources, with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return. In addition, decreasing the amount of acreage available for future leasing and development significantly reduces the potential impacts from such development on water resources, fragile soils, and known archaeological sites in the areas that are not included.

The BLM developed three programmatic land allocation action alternatives in addition to the No Action Alternative. Under each allocation action alternative, eight land use plans would be amended to (1) identify the most geologically prospective oil shale resources within each planning unit, (2) designate lands within these most geologically prospective areas as available or not available for application for commercial oil shale and tar sands leasing, and (3) identify any technology restrictions. The following decisions from the 2008 OSTS PEIS ROD are carried forward into each of these allocation action alternatives: the requirement for future NEPA, ESA, and other applicable analyses and consultation activities to occur prior to any decision to lease and/or develop oil shale and tar sands resources; and the specific decision that the BLM will consider and give priority to the use of land exchanges to facilitate commercial oil shale development pursuant to Section 369(n) of the Energy Policy Act of 2005.

The plans that would be amended under these three alternatives are the following:

Colorado:

- Glenwood Springs RMP (BLM 1988, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])
- Grand Junction RMP (BLM 1987)
- White River RMP (BLM 1997a, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])

Utah:

- Price Field Office RMP (BLM 2008d)
- Vernal RMP (BLM 2008e)

Wyoming:

- Green River RMP (BLM 1997b, as amended by the Jack Morrow Hills Coordinated Activity Plan [BLM 2006b])
- Kemmerer RMP (BLM 2010)
- Rawlins RMP (BLM 2008f)

In all three allocation action alternatives, the BLM recognized that the eight existing RD&D leases contain terms and conditions that could allow commercial development of the original leases and the associated PRLAs totaling 32,000 acres. For purposes of analysis and comparison, under all three allocation action alternatives, it is assumed that each of the leases could reach commercial production utilizing the technologies being tested on the leases, and using up to the entire leased area. If an initial RD&D lease holder relinquishes its lease, different acreages within the existing RD&D and PRLAs would be available for future leasing under each action alternative as described in the discussion below.

As in 2008, the BLM has determined that certain lands within the most geologically prospective oil shale resource areas should be excluded from commercial leasing, under all alternatives, to comply with existing laws and regulations, E.O.s, certain land use plan designations, and other

administrative designations or withdrawals. As a result, commercial leasing is excluded from areas that are part of the BLM-administered National Landscape Conservation System (NLCS), including designated Wilderness Areas, Wilderness Study Areas (WSA), National Monuments, National Conservation Areas (NCA), Wild and Scenic Rivers (WSR), National Historic Landmarks, and National Historic and Scenic Trails; existing ACECs that are currently closed to mineral development; and lands within incorporated town and city limits. Also excluded are the NOSR 1 and 3 lands that were erroneously identified as open under the 2008 OSTS PEIS (BLM 2008a). This withdrawal is still in effect on NOSR 1 and 3, and these lands are closed and not available for future opportunity to lease for the development of oil shale resources under all alternatives, including the No Action Alternative.

Additional areas would be closed and would not be available for future opportunity to lease for commercial development of oil shale resources under all action alternatives. These additional areas are listed in Chapter 2 of the FPEIS in Section 2.3.3, pages 2-32 through 2-34.

As shown in Figure 5, the areas within the most geologically prospective oil shale areas where the overburden is 0 to 500 ft thick are limited to part of the Uinta Basin in Utah and parts of the Green River and Washakie Basins in Wyoming.

The BLM has limited its evaluation of the impacts of surface mining to those areas within the most geologically prospective oil shale areas where the overburden ranges in thickness from 0 to 500 ft. This limitation is based, in large part, on the assumption that 500 ft is about the maximum amount of overburden where surface mining can occur economically, using today's technologies.

In Utah, about 133,194 acres of land within the most geologically prospective oil shale area have an overburden thickness of 0 to 500 ft; all of these lands fall within the former Book Cliffs RMP planning area, as revised by the 2008 Vernal Field Office RMP/EIS ROD (BLM 2008e). In Wyoming, the corresponding area includes about 380,220 acres within the Green River RMP planning area.

Within the most geologically prospective oil shale area defined in the Piceance Basin in Colorado, the areas where the overburden is 0 to 500 ft thick are very limited, and it would be difficult to configure a lease tract that would be commercially sustainable for surface mining.[10] In the Proposed Plan Amendment, land is made available for application for lease for surface mining only in Utah and Wyoming in those areas shown in Figure 5.

With the exception noted in the socioeconomic analysis in the PRMP/FEIS regarding potential impacts on land values that may result from these allocation decisions, the action alternatives presented (mere allocations for planning purposes) would not result in any impacts on the environment or socioeconomic setting of the area under consideration.

[10] The areas within the most geologically prospective oil shale areas where the overburden is 0 to 500 ft thick were mapped on the basis of a variety of sources of information. In Colorado, the area was defined on the basis of data published in Donnell (1987). In Utah, the area was mapped based on data provided by the Utah Geological Survey (Tabet 2007). In Wyoming, the area was mapped on the basis of data provided by Wiig (2006 a,b).

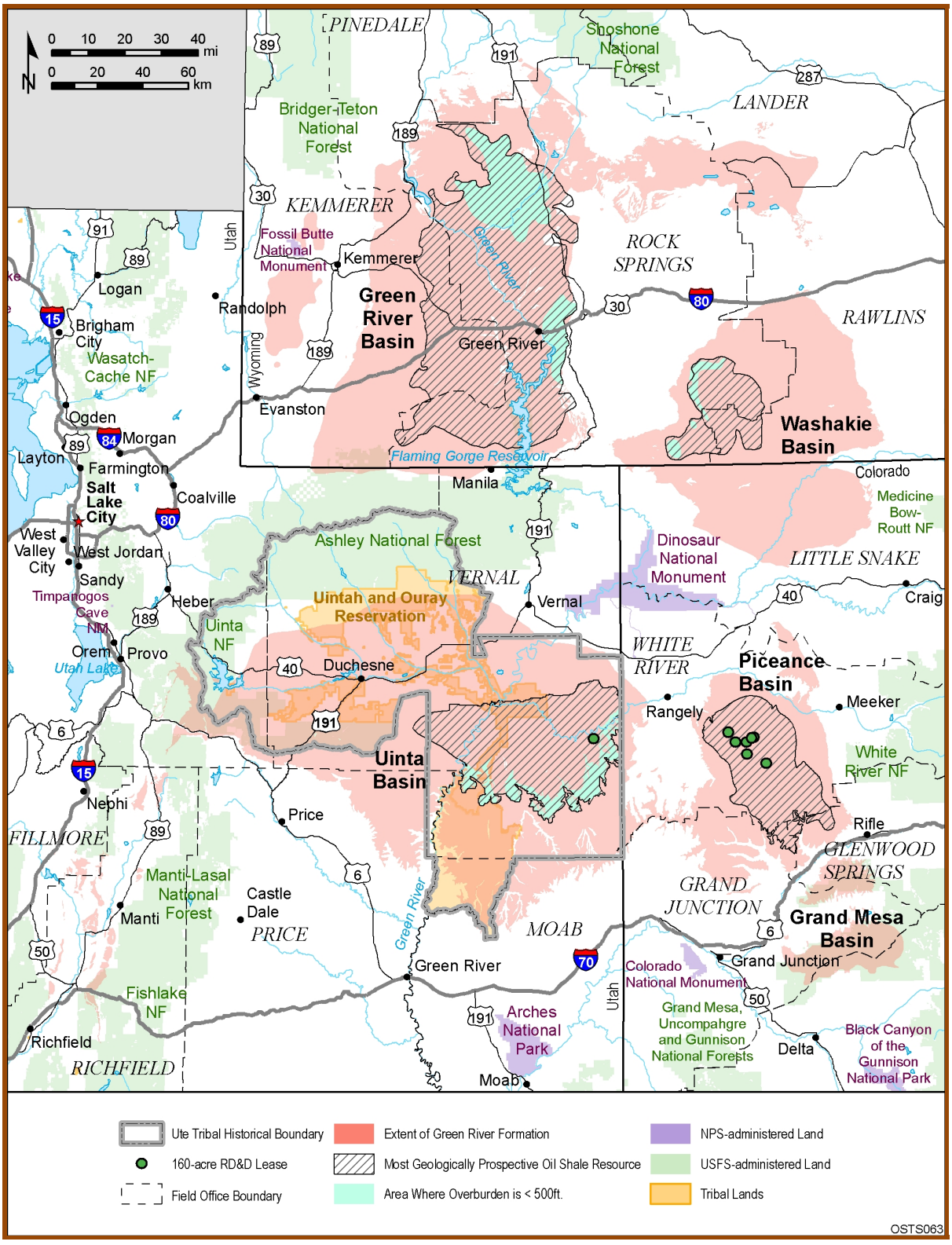

Figure 5: **Green River Formation Basins in Colorado, Utah, and Wyoming: the Most Geologically Prospective Oil Shale Resources; the Areas Where the Overburden above the Oil Shale Resources Is ≤500 ft; and Locations of the Six RD&D Projects**

The following sections describe the programmatic alternatives. The sections identify the additional leasing exclusions that the BLM has identified for each alternative and the proposed land use plan amendments. The specific land use plan amendments are discussed in greater detail in Attachment — Appendix A.

Alternative 2(a) and Alternative 2(b) as Presented in the Oil Shale Proposed Amendments/FEIS

Alternatives 2(a) and 2(b) are essentially the same alternative, except that Alternative 2(b) is a "RD&D First" version of Alternative 2(a). Under this alternative, the lands open for future leasing consideration would be the same as those in Alternative 2(a), but only for RD&D leases. The BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D lease and the regulations at 43 CFR Part 3926 for conversion to a commercial lease. The preference right area, if any, which would be included in the converted lease, would be specified in the RD&D lease.

Alternative 2(b) was identified as the BLM's Preferred Alternative in the Draft RMP/EIS. As a result of public comment, internal review, and cooperating agency coordination on the Draft RMP/EIS, Alternative 2(b) was clarified and slightly modified to become the Proposed Plan and analyzed in the Final EIS. With minor adjustments and clarifications, described below in the Notice of Modifications and Clarifications Made to the Approved Plan section, it has been selected, in this ROD, as the Approved Plan Amendments (see Appendix A).

Under this ROD approving the Plan Amendments, eight land use plans in Colorado, Utah, and Wyoming are amended to designate 678,700 acres[11] as available for application for commercial oil shale leasing. The public lands that are available for application for lease in the Plan Amendments (Alternative 2(b)) are shown in Figures 6, 7, and 8, for Colorado, Utah, and Wyoming, respectively.

The environmental impacts of Alternative 2(b) would be analytically indistinguishable from those of Alternative 2(a). Only the method of obtaining a lease would be different. Accordingly, the analysis in this PEIS of Alternative 2 applies fully and equally to both alternatives (a) and (b). To the extent there may be differences in environmental consequences between Alternative 2(a) and 2(b), these would be related to the timing of the commencement of impacts, as well as, possibly, length of disturbance. However, these issues are best addressed in the lease and/or project-specific analysis.

[11] This amount does not include approximately 22,000 acres of potential RD&D lease acreage in Colorado and about 2,200 acres in Utah that lie outside of the Alternative 2 (b) footprint and that are potentially available under existing RD&D lease agreements, but would be closed should the RD&D leases be relinquished. (See the Final PEIS Section 2.2.3-1.)

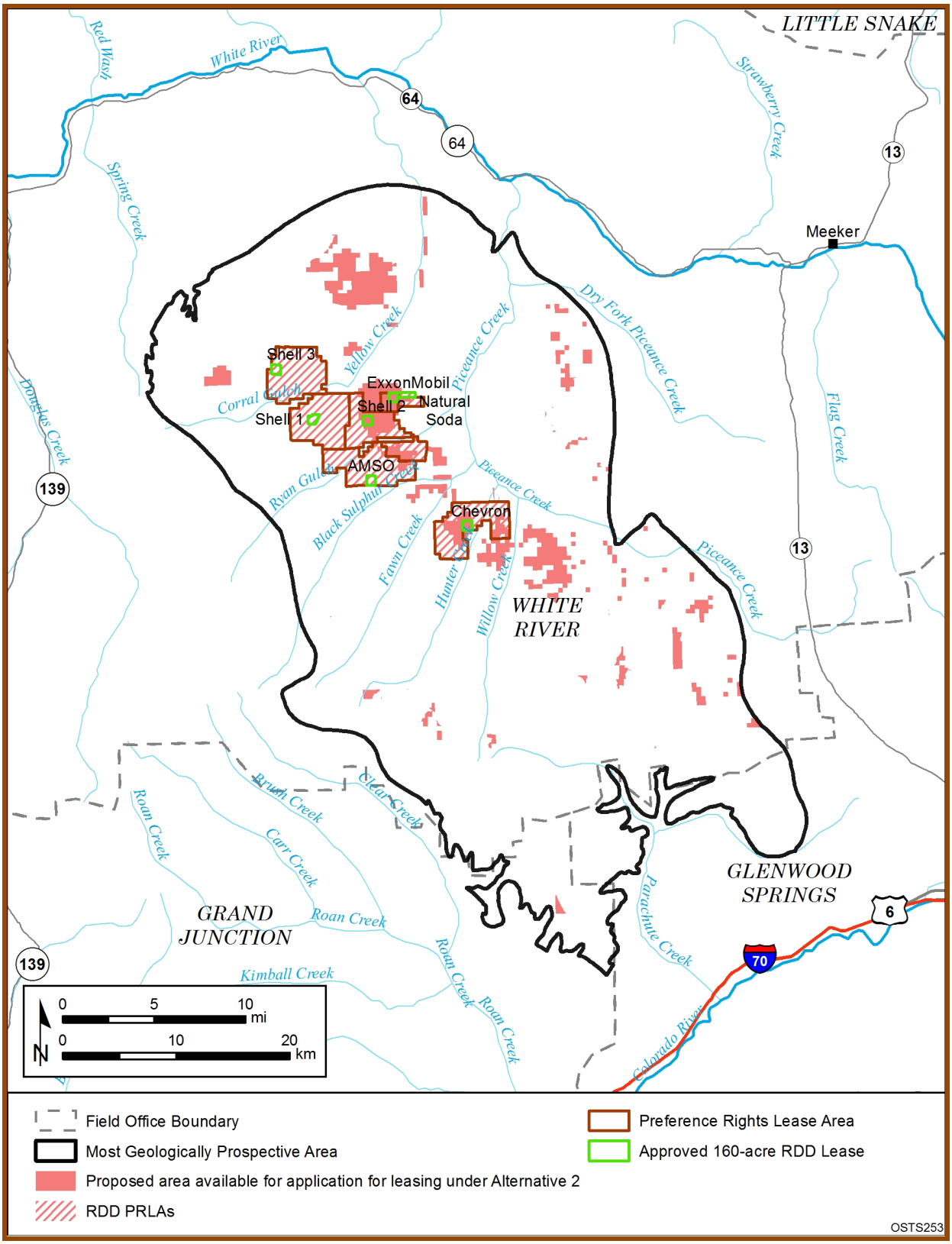

Figure 6: Lands Available for Application for Oil Shale Leasing in Colorado

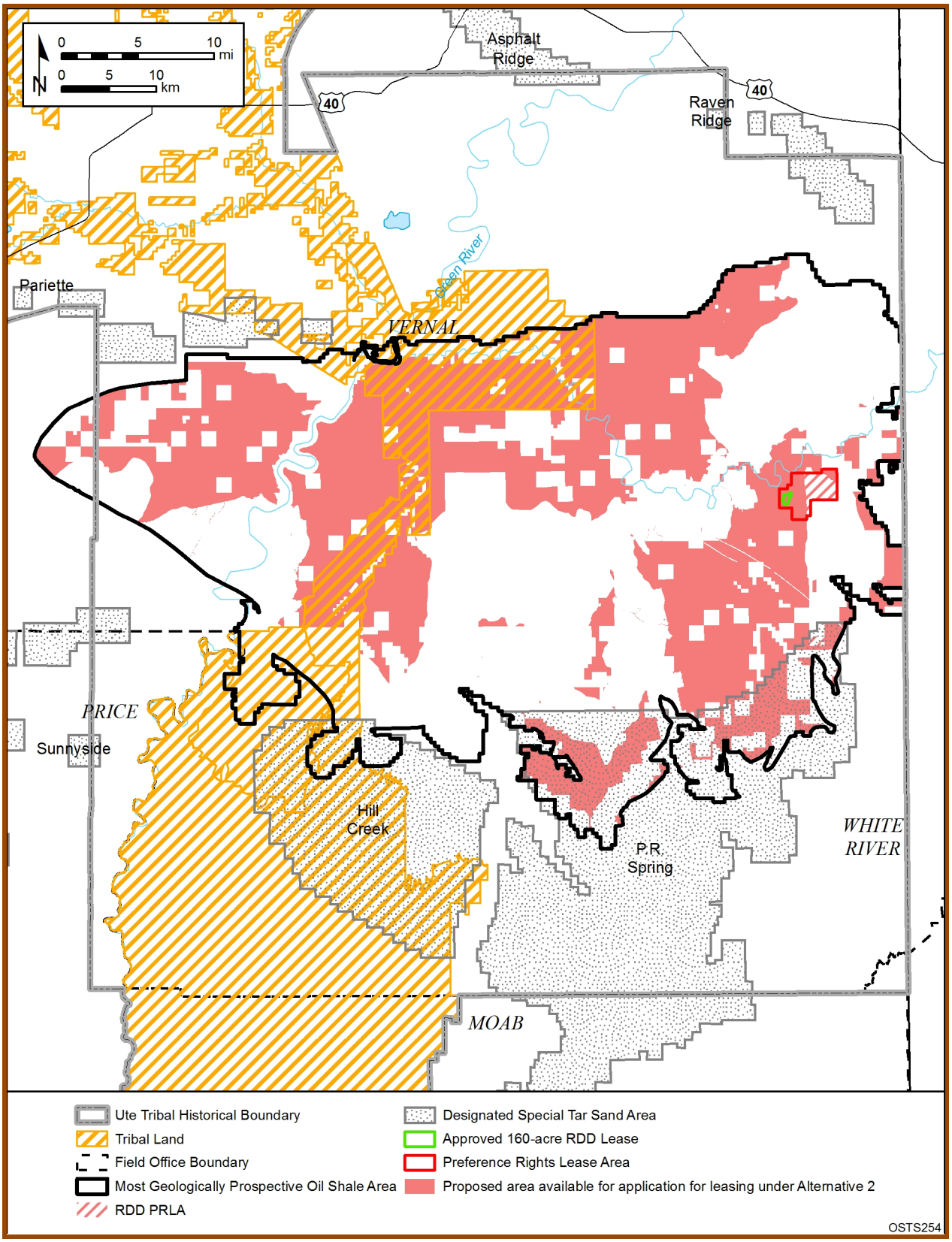

Figure 7: Lands Available for Application for Oil Shale Leasing in Utah

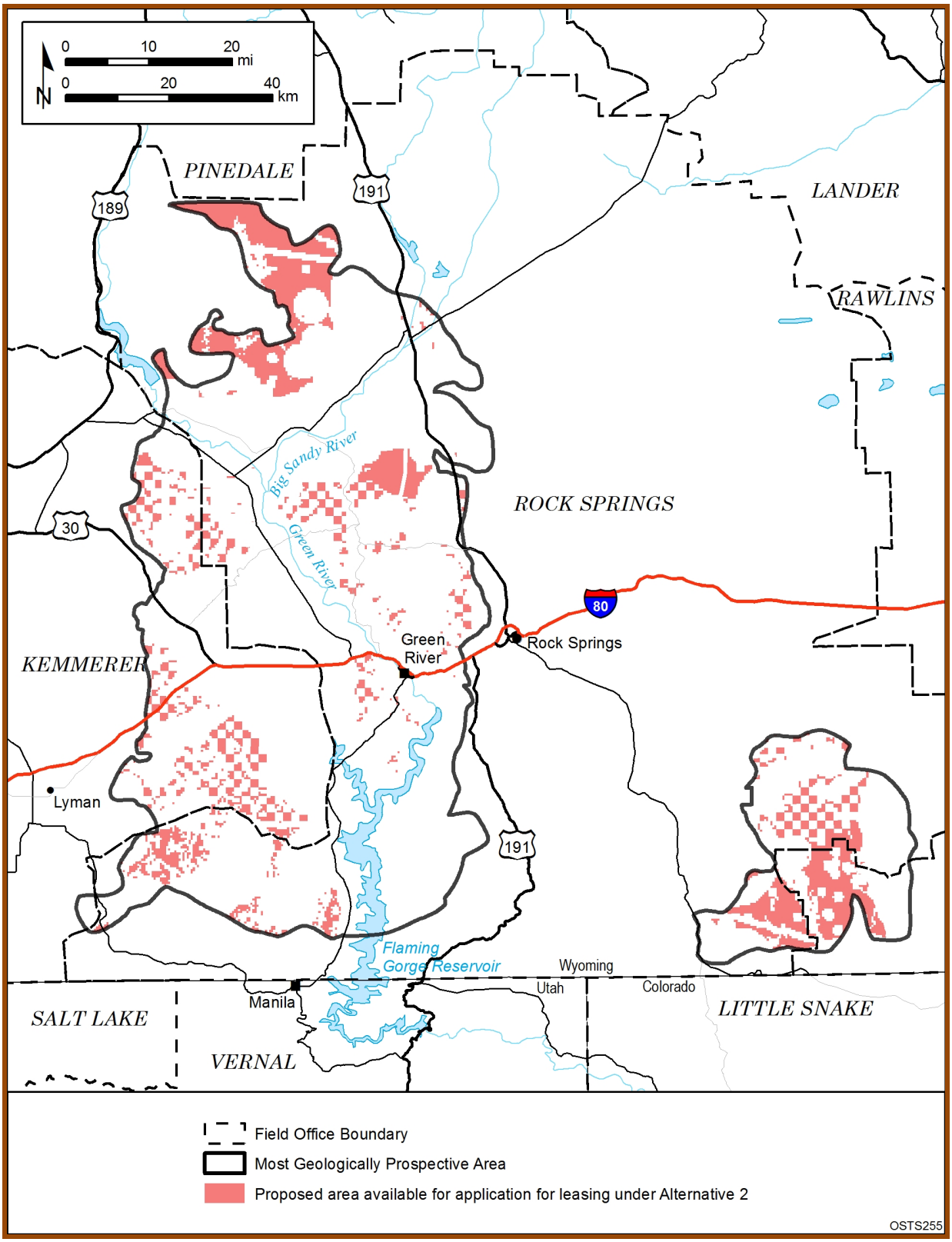

Figure 8: Lands Available for Application for Oil Shale Leasing in Wyoming

The benefits of Alternative 2(b) would include facilitating a robust RD&D program. It would also avoid allowing a few companies to tie up large areas with speculative commercial leases. Thus it would promote access by innovative companies to the Federal oil shale resource for RD&D.

In the event that a commercially viable technology is demonstrated and becomes widely available in the near future, it is possible that Alternative 2(b) could result in delaying commercial leasing on Federal lands. If that possibility, however speculative at the present, were to occur, the pertinent RMPs could be amended contemporaneously with review of proposed commercial leases. The oil shale leasing and management regulations at 43 CFR Part 3900 would not be affected by the selection of any alternative analyzed in this PEIS and thus would remain available for future decisions concerning commercial leasing.

In the areas open under Alternative 2(b), the Secretary may issue a commercial lease to an entity that has succeeded in converting an RD&D lease to a commercial lease (or who holds the license to a technology that has converted from an RD&D lease to a commercial lease) for a tract on other lands open under Alternative 2(b). In these circumstances, the commercial lessee would not have to begin with another RD&D lease on the new leasehold. In addition, the Secretary may issue a commercial lease on the lands open under Alternative 2(b) where the potential commercial lessee intends to employ technology that has proved commercially viable on non-Federal lands in the study area (i.e., in the Green River formation basins in Colorado, Utah, and Wyoming) and that the Secretary determines to be environmentally acceptable.

In addition to the areas excluded in Alternatives 1 through 4, Alternatives 2(a) and 2(b) would exclude from commercial oil shale leasing the following categories or groups of categories of public lands and/or their resource values that may warrant protection from potential oil shale leasing and development:

1. All areas that the BLM has identified as a result of inventories conducted during this planning process as LWC;
2. The whole of the Adobe Town "Very Rare or Uncommon" area as designated by the Wyoming Environmental Quality Council on April 10, 2008 (180,910 acres total; 167,517 acres of public land, of which 10,920 acres are already a BLM WSA);
3. Core or priority sage-grouse habitat, as defined by such guidance as the BLM or the U.S. Department of the Interior (DOI) may issue, except in Wyoming;
4. All ACECs located within the areas analyzed in the September 2008 OSTS Final PEIS (76,666 acres in existing ACECs in the 2008 OSTS PEIS plus additional ACEC acreages as a result of Utah and Wyoming planning efforts recently completed),[12] in current ACECs, and in areas that are currently under consideration for designation as ACECs (i.e., an ACEC "Relevance and Importance Criteria" Report has been

[12] This would only include those ACECs that were formally designated in those plans. ACECs that were proposed, but not formally designated in the applicable plans undergoing revision/amendment at that time would not be considered for closure.

completed, and the plan revision process is underway in the applicable planning area); and

5. All areas identified as excluded from commercial oil shale and tar sands leasing in Alternative C of the September 2008 OSTS PEIS (Alternative C made 830,296 acres available for potential commercial oil shale leasing and 229,038 acres available for potential commercial tar sands leasing), with the exception of about 4,700 acres of formerly proposed WSR segments in 2008 that have since been determined not to be suitable, and as such, will be open for leasing.

For the Plan Amendment, as in the Final PEIS, for Wyoming, the Greater Sage-Grouse core and priority habitat is coordinated with the policy direction in Wyoming's E.O. 2011-5, which has been recognized by the USFWS as an adequate regulatory mechanism for the conservation of Greater Sage-Grouse and has been adopted by the BLM Wyoming State Office. Wyoming E.O. 2011-5 does not generally preclude mineral development; rather, it establishes conditions designed to maintain and enhance Greater Sage-Grouse habitat (e.g., mitigation measures).

All oil shale resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation are open for potential leasing and development, subject to further consultation with the Ute Indian Tribe. These lands total 57,700 acres.

It is important to note that unlike the States of Colorado and Wyoming (in conjunction with the BLM), the State of Utah has not yet completed the process of identifying core or priority sage-grouse habitat. The information available from Utah is the map of occupied habitat, and this map was used in the development of the alternatives in the Draft PEIS, specifically the Preferred Alternative, Alternative 2(b), under which all such lands are excluded from oil shale/tar sands leasing and development. This map was updated by the State of Utah in March 2012, but still shows occupied habitat.

By letters dated December 18 and 28, 2012, Utah requested that for those sage-grouse planning efforts expected to be completed in 2014, under the BLM's National Greater Sage-Grouse Planning Strategy, the BLM use the maps of occupied habitat to serve as Preliminary General Habitat (PGH), and that the BLM adopt the sage-grouse habitat identified within the Sage-Grouse Management Areas identified in Utah's newly submitted Utah Conservation Plan for Greater Sage-Grouse as Preliminary Priority Habitat (PPH). By letter dated January 9, 2013, received from Utah during plan consistency review, Utah requested that the BLM rely on this Conservation Plan, along with the direction regarding PGH and PPH in the December 18 letter for this oil shale/tar sands planning initiative as well. However, until the USFWS and the BLM complete review of Utah's Conservation Plan in accordance with the BLM National Greater Sage-Grouse Planning Strategy, the State's occupied habitat map represents the best source of information regarding sage-grouse habitat. Therefore, although the occupied habitat map almost certainly represents a larger area than will eventually be designated by the State of Utah as core or priority habitat, the Plan Amendment relies on Utah's occupied habitat map as a proxy for core or priority sage-grouse habitat.

The BLM recognized in the PEIS that this ROD would likely be inconsistent with the ultimate results of the State process in Utah regarding sage-grouse habitat protection. As explained in the

PEIS, plans may be amended in the future to make changes in allocation decisions, if appropriate.

With respect to the "RD&D First" provision of the Plan Amendment, in the areas open for oil shale leasing and development under Alternative 2(b), the Secretary may issue a commercial lease to an entity that has succeeded in converting an RD&D lease to commercial lease (or that holds the license to a technology that has converted from RD&D to commercial lease) for a tract on other lands open under Alternative 2(b). In these circumstances, such commercial lessee would not have to begin with another RD&D lease on the new leasehold.

The Secretary may issue a commercial oil shale lease on the lands open under the Plan Amendment, where the potential commercial lessee intends to employ technology that has proved commercially viable on non-Federal lands in the study area (i.e., in the identified areas of the Green River formation basins in Colorado, Utah, and Wyoming) and that the Secretary determines to be environmentally acceptable.

In the event that a commercially viable technology is demonstrated and becomes widely available in the near future, it is possible that Alternative 2(b) could result in delaying commercial leasing on Federal lands. If that possibility were to occur, the pertinent RMPs could be amended contemporaneously with review of proposed commercial leases.

Table 4 lists the approximate number of acres of BLM-administered lands available for application for commercial leasing under the Proposed Plan Amendment by State.

Under the terms of the existing RD&D leases, the BLM has a commitment to grant commercial leases to the RD&D lessees within the original 160-acre lease, as well as its PRLA, provided the terms and conditions of the RD&D leases are met. As a result, under all of the alternatives, all lands within the PRLAs would be available for issuance of commercial leases to the current RD&D lessees, subject to lease requirements. Under the Proposed Plan Amendments, if an existing RD&D leaseholder relinquishes its lease, only the area within the Alternative 2(b) footprint (see Figures 6 and 7) would be available for consideration for future leasing. Included in these RD&D leases are two second-round RD&D leases signed by the Colorado State Office in November, effective December 1, 2012. The approved leases were awarded to ExxonMobil Exploration Company and Natural Soda Holdings, Inc., each of whom submitted proposals for the in situ development of oil shale on adjacent 160-acre parcels in Rio Blanco County near Meeker, Colorado. Like the other areas that are available for potential oil shale leasing, these areas open under the Proposed Plan, as approved in this ROD are open to "RD&D First" only.[13]

In addition, particularly in Colorado, a large portion of the lands available for application for leasing is composed of relatively small, isolated tracts of land. This factor could result in limiting the amount of commercial oil shale development to some level below that which might be realized under the Proposed Plan Amendments (Alternative 2(b)).

[13] As noted above, a third RD&D lease was nominated as part of the second round of solicitations of interest in RD&D by the BLM. This nomination was dropped by the BLM in December 2012, due to the applicant's failure to move forward with the application process.

Table 4: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Oil Shale Development under Alternative 2[a]

State	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Colorado	22,500	3,800	26,300
Utah	296,000	64,400	360,400
Wyoming	289,900	2,100	292,000
Total for Alternative 2	608,400	70,300	678,700

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses.

Rationale for Selection: Alternative 2(b) for oil shale was selected as the Proposed Plan Amendment based on (1) its consistency with the requirements of the Energy Policy Act of 2005, (2) its balanced use and protection of resources, (3) the Final PEIS's analysis of potential environmental impacts, and (4) the comments and recommendations from some cooperating agencies and the public.

Alternative 2(b) is structured to be consistent with the congressional mandate of the Energy Policy Act to emphasize the "most geologically prospective lands in Colorado, Utah and Wyoming" as available for application for leasing. Alternative 2(b), therefore, makes available portions of the acreage most geologically prospective for oil shale (based on grade and thickness of the oil shale deposits) of the Green River Formation located in the Piceance, Uinta, Green River, and Washakie Basins of Colorado, Utah, and Wyoming, while still maintaining a focus on RD&D projects. This allows the BLM to obtain more information about technological and environmental consequences before committing to broad-scale commercial development.

Alternative 2(b) provides the decisionmaker with the discretion to balance the oil shale use and protection of resources on the public lands during subsequent site-specific NEPA analysis. This balanced approach is consistent with FLPMA principles of "multiple use" and "sustained yield." The requirement to perform future NEPA analyses and to comply with other environmental laws allows the decisionmaker to optimize the recovery of energy resources, to establish appropriate lease stipulations to mitigate anticipated impacts, or to fully protect a resource or resource value by choosing not to offer an area for lease at any particular time. Even if some technologies may not allow mining of some tracts to proceed without unacceptable impacts on other resource values, Alternative 2(b) would allow the agency the opportunity to choose to offer leases when a technology is proposed that can be used compatibly with the resource values in question, and that has been shown to be commercially viable, and about whose environmental consequences the BLM will have more information to consider. This alternative supports the BLM's focus on learning from the RD&D program and encourages the development of a viable and sustainable commercial oil shale leasing program, while ensuring that any impacts on sensitive resources or resource values are mitigated to any commercial development. It is also consistent with the

planning decisions for other mineral resources for these parcels which authorize leasing subject to restrictive conditions, rather than preclude leasing altogether.

Alternative 3 — Oil Shale Research Lands Focus (RD&D with PRLA Only)

The Research Lands Focus Alternative was developed in response to several comments that were received during the public scoping process that suggested that the BLM should not move forward to establish commercial leasing programs for oil shale or tar sands development on public lands. The variety of concerns cited as reasons for not establishing commercial programs included (1) the sensitivity of specific resources within the three-state study area, such as LWC, visual resources, ecological resources, and cultural resources; (2) the lack of definitive information about the technologies that will be employed in commercial operations; (3) the need for the nation to focus on alternative sources of energy, such as renewable resources; and (4) in the case of oil shale, the potential recurrence of adverse socioeconomic impacts resulting from a possible boom or bust cycle of development. Under this Alternative, eight land use plans would be amended such that public lands for commercial leasing would be available only where there were existing RD&D leases at the time this ROD for the 2012 Final OSTS PEIS is signed. The eight current RD&D leases contain terms and conditions that could allow commercial development of the original leases and the associated PRLA totaling 32,000 acres.

While the November 2012, PRMP/FPEIS showed the lands subject to the six existing RD&D leases and the three pending RD&D leases as open, so as not to pre-judge the outcome of the lease application process, as of December 28, 2012, the third applicant for the second round of RD&D leases, Aurasource, Inc., had not developed a cost reimbursement agreement or given the BLM any definitive timeframe as to when it would start this project. Therefore, the BLM has stopped considering this project for a future RD&D lease. The case file for this project has been closed.

Lands that would properly be included under Alternative 3, the seven current RD&D oil shale leases with PRLA lands in Colorado and the eighth RD&D lease with PRLA land in Utah, are shown in Figures 9 and Figure 10, respectively.

Under Alternative 3, if the eight existing RD&D lessees relinquish their leases, those lands, including the PRLA acreage, would nevertheless remain available for application for future leasing. Additional NEPA analysis may be required if the technology and associated surface disturbance warrants it under the new proposal.

In accordance with 40 CFR 1505.2(b), the BLM is required to specify in the ROD which alternative(s) were considered to be environmentally preferable. Based on the minimal amount of acreage available for potential future oil shale leasing, the BLM identified this alternative as the environmentally preferred alternative.

Rationale for Non-Selection: Alternative 3 was not selected as the Proposed Plan Amendment because the alternative would only make lands within the current boundaries of RD&D leases and PRLAs in Colorado and Utah available for application for commercial leasing.

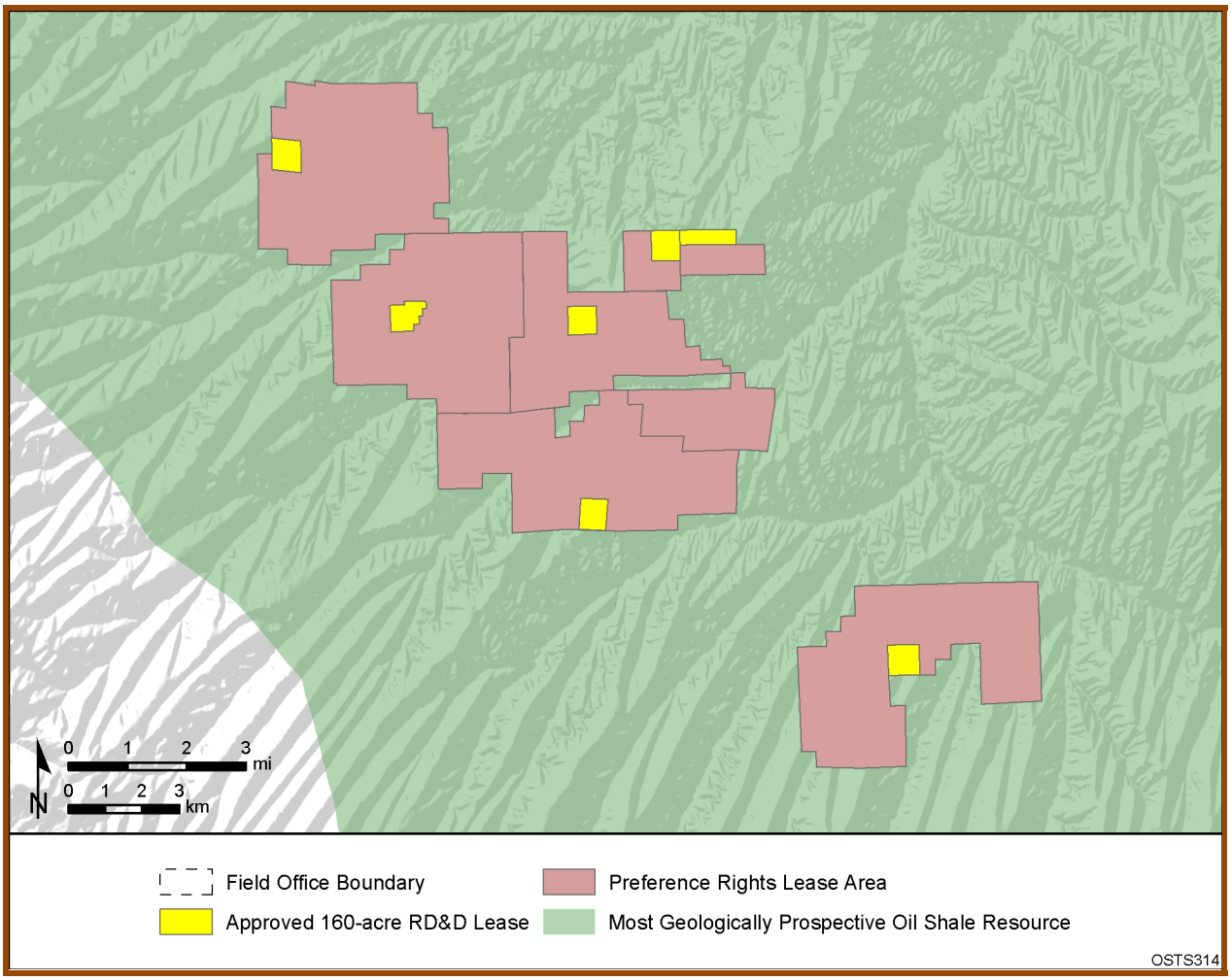

Figure 9: Lands Available for Application for Leasing under Alternative 3 for Commercial Oil Shale Development within the Most Geologically Prospective Areas in Colorado

A large portion of the most geologically prospective acreage would be excluded under Alternative 3. Alternative 3 represents more than a 98 percent reduction in the area available for potential oil shale leasing and development from the 2008 OSTS PEIS. Limiting the oil shale program to only conversion of existing RD&D leases to commercial leases, or leaving open only those acres currently under RD&D lease and in associated PLRAs limits the technologies the BLM can consider and the operators who participate. This would also be the case if the "RD&D First" aspect of the Preferred Alternative were adopted for Alternative 3, as well.

If the vast majority of oil shale resources are closed because of the exclusions in Alternative 3, the benefits to the nation from exploitation of a domestic unconventional energy source would be severely limited. Selection of Alternative 3 would not produce a proper balance of the nation's need to promote research and future commercial development of oil shale use with the nation's

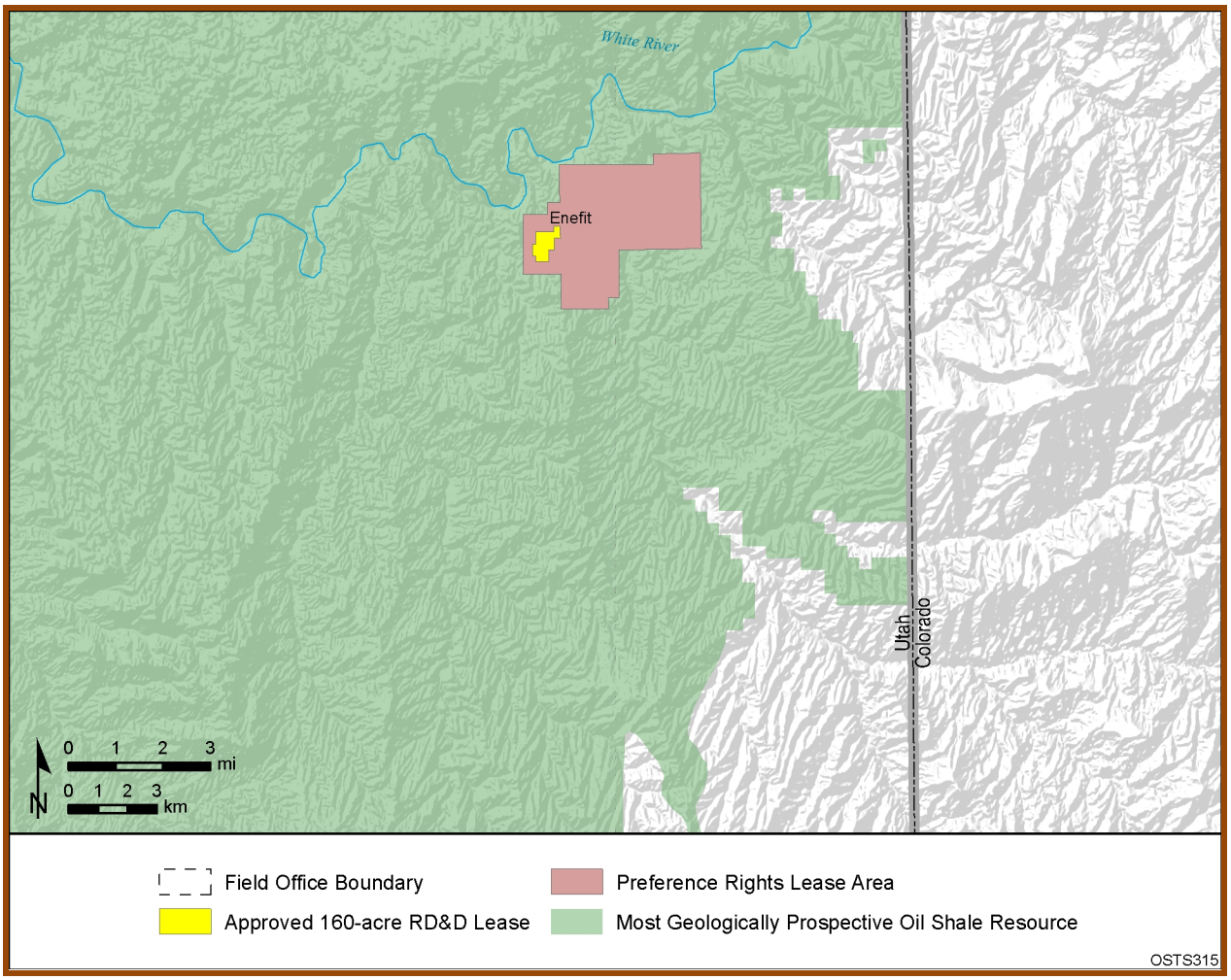

Figure 10: Lands Available for Application for Leasing under Alternative 3 for Commercial Oil Shale Development within the Most Geologically Prospective Areas in Utah

need to protect other resources and values, as required by FLPMA's principal of "multiple use." Exclusion of all acres of the study area outside of the RD&D boundaries speculates that the nature and degree of impacts that would be caused by future oil shale development would be too great, and that future BLM managers would be unable to make appropriate decisions on leasing oil shale and on mitigation impacts of operations. Even though Alternative 2(b) would significantly reduce the acres that would be available for commercial leasing, unlike Alternative 3, it affords future decisionmakers sufficient areas within all three states to foster an emerging oil shale industry, while limiting harm to other resources and values that deserve protection while the development and mitigation technologies are being proven.

Alternative 4(a) and Alternative 4(b) — Oil Shale Moderate Development

Under Alternative 4(a), the BLM would amend eight land use plans in Colorado, Utah, and Wyoming to designate between 1,346,400 and 1,931,800 acres as available for future consideration for leasing for commercial oil shale leasing. This alternative would exclude the following from commercial oil shale or tar sands leasing:

1. The whole of the Adobe Town "Very Rare or Uncommon" area, as designated by the Wyoming Environmental Quality Council on April 10, 2008 (180,910 acres total; 167,517 acres of public land, of which 10,920 acres are already a BLM WSA).
2. All ACECs located within the areas analyzed in the 2008 OSTS PEIS (76,666 acres in existing ACECs in the 2008 OSTS PEIS plus additional ACEC acreages as a result of Colorado, Utah, and Wyoming planning efforts recently completed).[14]

"RD&D First" Requirement (Alternative 4(b)). Under Alternative 4(b), the lands open for future leasing consideration would be the same as those in Alternative 4(a), but only for RD&D leases. The BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D lease and the regulations at 43 CFR Part 3926 for conversion to a commercial lease. The preference right acreage, if any, which would be included in the converted lease, would be specified in the RD&D lease.

The environmental impacts of Alternative 4(b) would be analytically indistinguishable from those of Alternative 4(a). Only the method of obtaining a lease would be different. Accordingly, the analysis of Alternative 4 in the Final PEIS applied fully and equally to both alternatives. To the extent there may be differences in environmental consequences between Alternatives 4(a) and 4(b), these would be related to the timing of commencement of impacts, as well as, possibly, length of disturbance. However, these issues are best addressed in the lease and/or project-specific analysis.

The RD&D first element of Alternative 4(b) would be similar in approach to the RD&D first element of Alternative 2(b).

Under Alternative 4, lands that would be available for future consideration for leasing would include those BLM-administered lands within the most geologically prospective oil shale areas, including split estate lands where the Federal Government owns the mineral rights. Lands available for application for leasing under Alternative 4 are shown in Figures 11, 12, and 13. Table 5 lists the approximate number of acres of BLM-administered lands available for application for commercial leasing under the Proposed Plan Amendment by State. Tables 6 and 7 show acreages available in each State, assuming 75 percent and 25 percent, respectively, protection of LWC and sage-grouse core and priority habitat.

[14] This would only include those ACECs that were formally designated in those plans. ACECs that were proposed but not formally designated in the applicable plans undergoing revision/amendment at that time would not be considered for closure.

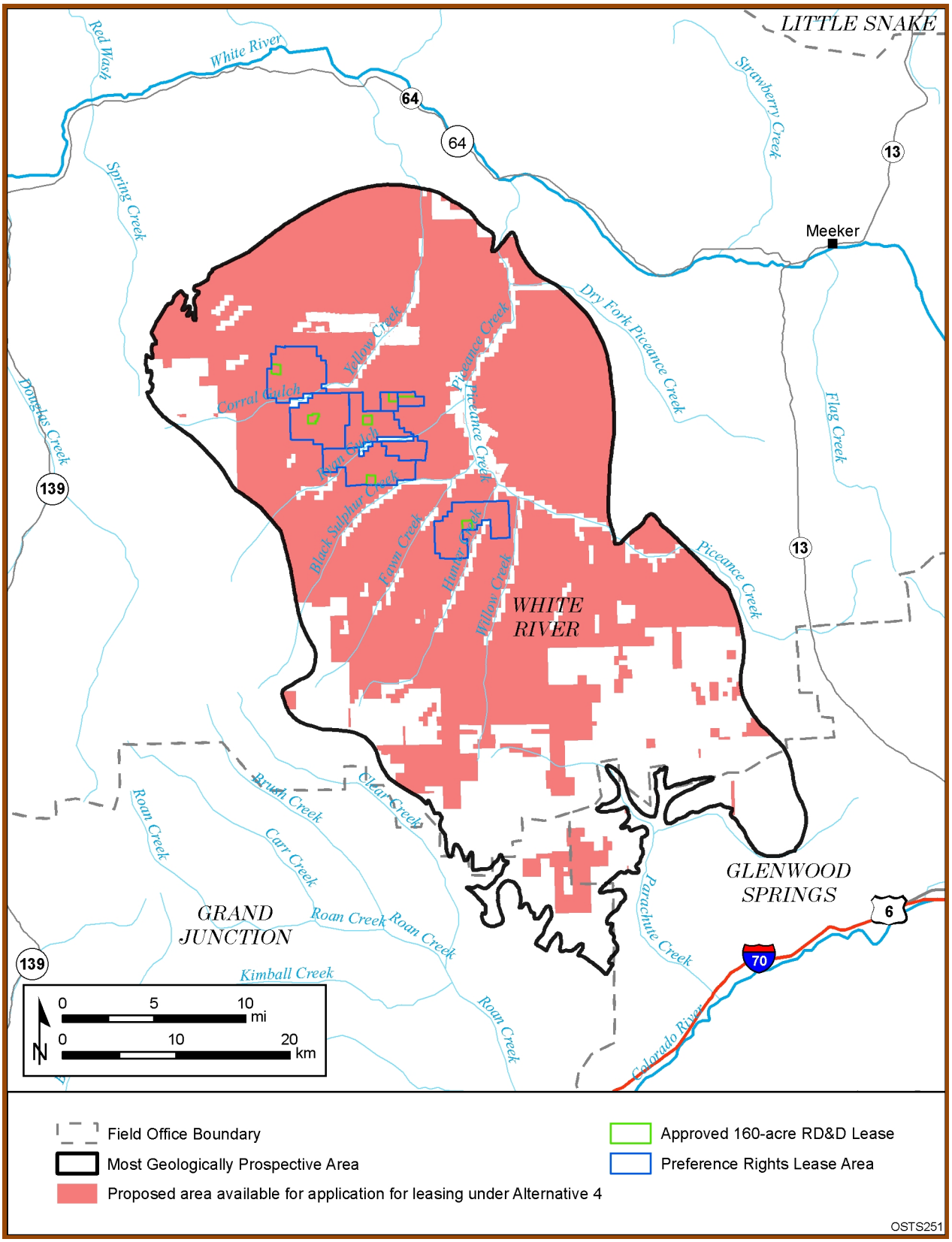

Figure 11: Lands Available for Application for Oil Shale Leasing under Alternative 4 in Colorado

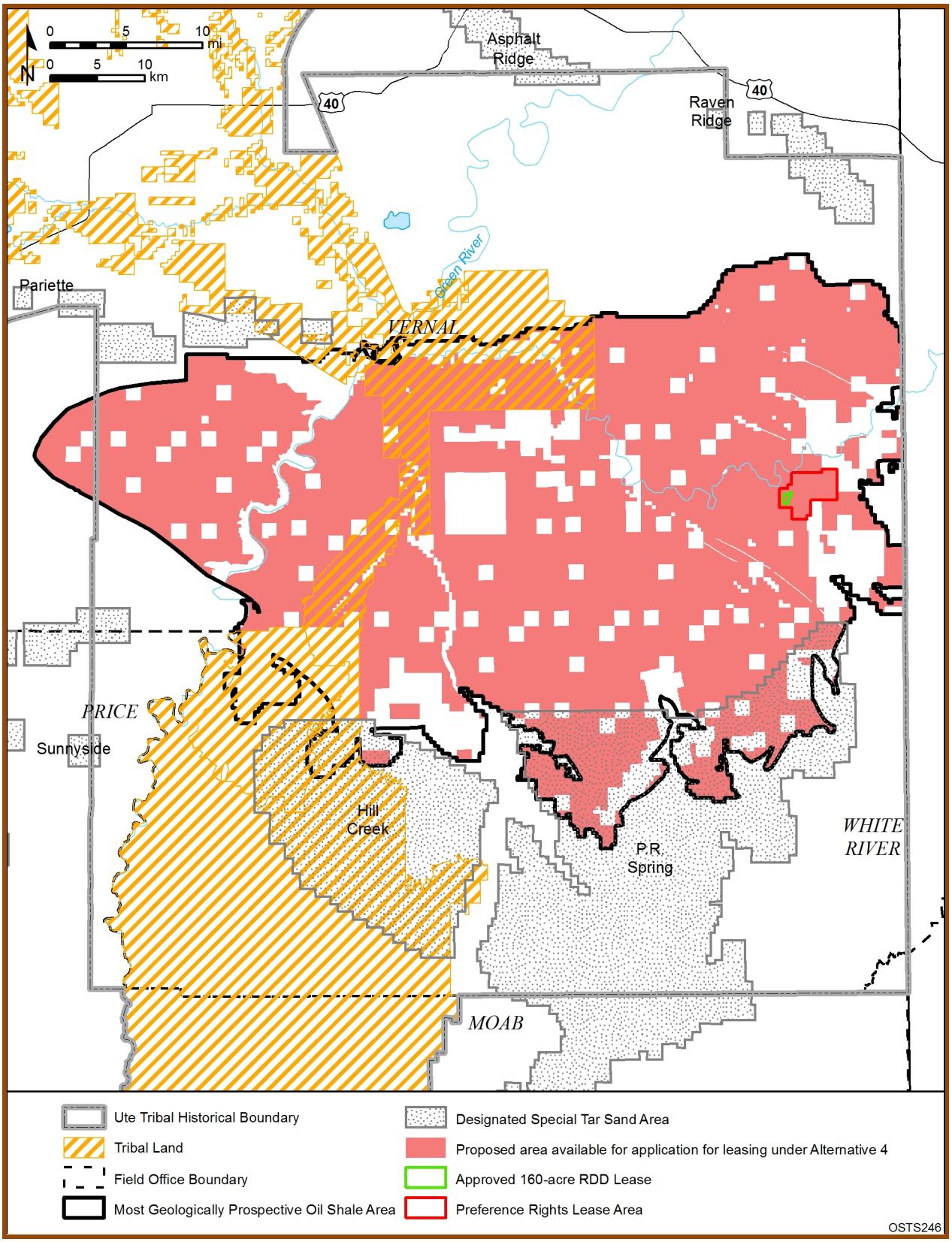

Figure 12: Lands Available for Application for Oil Shale Leasing under Alternative 4 in Utah

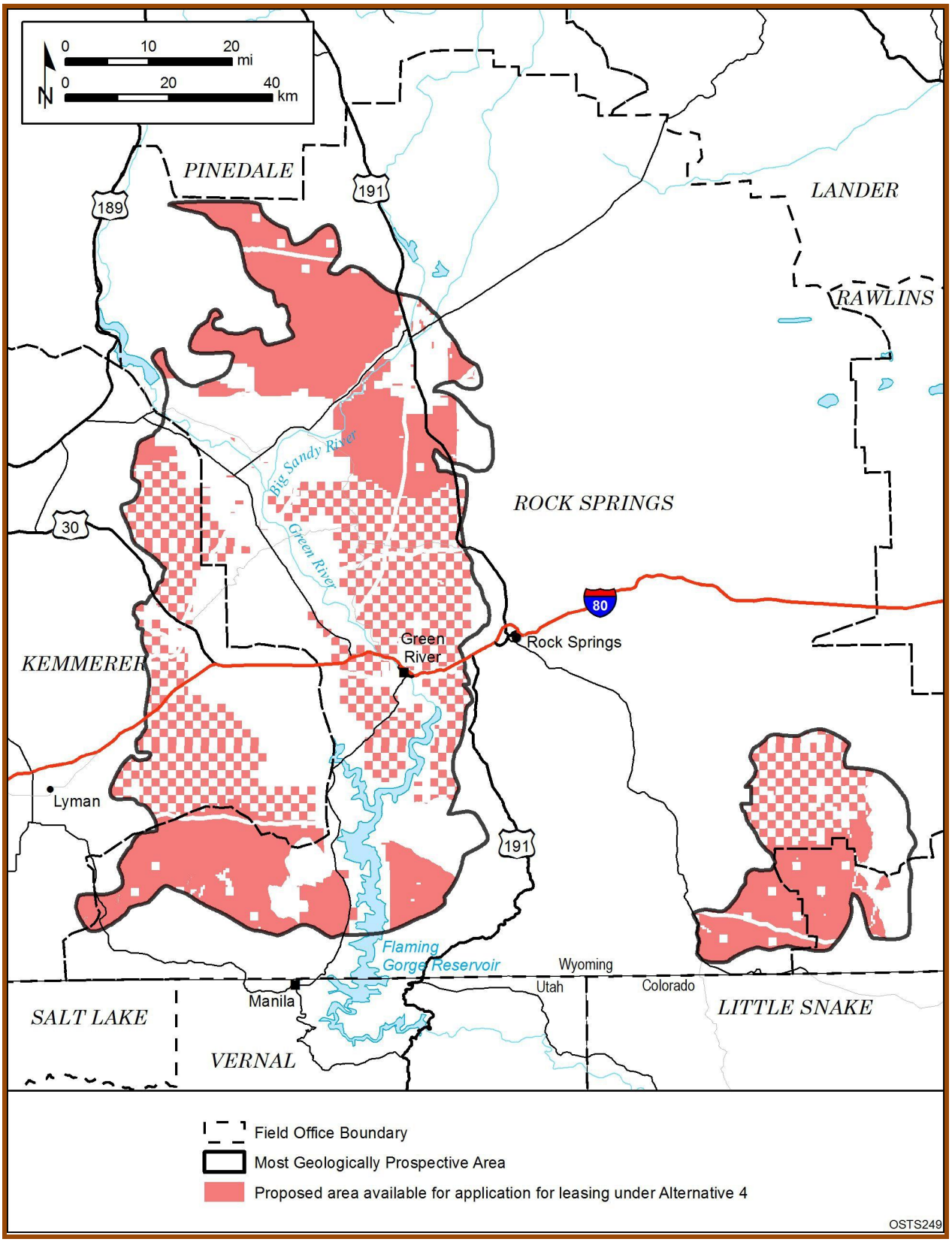

Figure 13: Lands Available for Application for Oil Shale Leasing under Alternative 4 in Wyoming

Table 5: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Oil Shale Development under Alternative 4,[a] Assuming None of the LWC and Sage-Grouse Core and Priority Habitat Are Protected through NSO or No Lease Stipulations

State	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Colorado	300,700	39,400	340,100
Utah	556,400	67,800	624,200
Wyoming	959,900	7,600	967,500
Total for Alternative 4	1,817,000	114,800	1,931,800

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses. This table assumes that no surface occupancy (NSO)/no lease measures are not applied as mitigation to protect LWC or sage-grouse core and priority habitat areas.

Table 6: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Oil Shale Development under Alternative 4, Assuming 75% of the LWC and Sage-Grouse Core and Priority Habitat Is Protected through NSO or No Lease Stipulations

State	Acres LWC and Sage-Grouse[a]	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total[b]
Colorado	75,400	255,700	27,900	283,600
Utah	219,800	397,500	61,900	459,400
Wyoming	485,400	598,100	5,300	603,400
Total for Alternative 4	780,600	1,251,300	95,100	1,346,400

[a] Acreage that is identified as either LWC or sage-grouse core or priority habitat, or both, within Alternative 4.

[b] Total at 75% protection of BLM-administered lands and split estate lands.

Table 7: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Oil Shale Development under Alternative 4, Assuming 25% of the LWC and Sage-Grouse Core and Priority Habitat Is Protected through NSO or No Lease Stipulations

State	Acres LWC and Sage-Grouse[a]	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total[b]
Colorado	75,400	285,700	35,600	321,300
Utah	219,800	503,500	65,800	569,300
Wyoming	485,400	839,300	6,800	846,100
Total for Alternative 4	780,600	1,628,500	108,200	1,736,700

[a] Acreage that is identified as either LWC or sage-grouse core or priority habitat, or both, within Alternative 4.

[b] Total at 25% protection of BLM-administered lands and split estate lands.

Under Alternative 4, all oil shale and tar sands resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation are open for potential leasing and development, subject to further consultation with the Ute Indian Tribe. These lands total 57,700 acres.

Rationale for Non-Selection: Alternative 4 was not selected as the Proposed Plan Amendment. Development of oil shale and tar sands resources is a relatively new program. The BLM recognizes the importance of oil shale resources to the country, and, in our uncertain world, reliable, sustainable domestic oil-based resources are increasingly important. However, because development of oil shale resources mainly consists of untested technology with potential long-term impacts on communities and the environment, the BLM has decided against leaving open large amounts of public land for future oil shale leasing and development prior to a meaningful evaluation of the results of the RD&D leases and development on non-Federal lands. Therefore, the BLM has determined that in light of the other uses and resources on these lands, a higher priority should be given to protection of core and priority sage-grouse habitat, LWC, ACECs, the Adobe Town "Very Rare or Uncommon" area, and other wildlife resources. FLPMA Section 103(c) charges the Secretary to manage the public lands and their various resource uses so that they are utilized in the combination that best meets the needs of the American people; providing sufficient latitude to conform to changing needs and conditions and providing a combination of balanced and diverse resource use that takes into account the long-term needs of future generations for renewable and nonrenewable resources, with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return. In addition, decreasing the amount of acreage available for future leasing and development significantly reduces the potential impacts from such development on water resources, fragile soils, and known archaeological sites.

OVERVIEW OF THE ALTERNATIVES CONSIDERED — TAR SANDS

Tar sands are sedimentary rocks containing bitumen, a heavy hydrocarbon complex. Lighter, more volatile hydrocarbons once present in these rocks have escaped to the environment, leaving the heavier, less volatile bitumen in place. Because of the very viscous nature of the bitumen, tar sands cannot be processed by normal petroleum production techniques.

More than 50 tar sands deposits occur in Utah. For the tar sands resources, the Proposed Plan Amendments study area includes those locations designated as STSAs by Congress in the Combined Hydrocarbon Leasing Act of 1981 (P.L. 97-78). Eleven STSAs were identified in Utah (Figure 14): Argyle Canyon-Willow Creek (hereafter referred to as Argyle Canyon), Asphalt Ridge-Whiterocks and Vicinity (hereafter referred to as Asphalt Ridge), Circle Cliffs East and West Flanks (hereafter referred to as Circle Cliffs), Hill Creek, Pariette, P.R. Spring, Raven Ridge-Rim Rock and Vicinity (hereafter referred to as Raven Ridge), San Rafael Swell, Sunnyside and Vicinity (hereafter referred to as Sunnyside), Tar Sand Triangle, and White Canyon. The total acreage of the study area is approximately 1,026,000 acres. The tar sands resources within the defined study areas are located within the jurisdiction of separate BLM administrative units. These units include the Monticello, Price, Richfield, and Vernal Field Offices and the Grand Staircase–Escalante National Monument (GSENM) in Utah. With the exception of the GSENM,[15] the Final PEIS evaluated the alternatives that would amend the existing BLM land use plans.

Limited data are available on many of these deposits, and most of the known bitumen occurs in just a few of the deposits. The deposits that were evaluated in this PEIS are those classified in the 11 sets of geologic reports (minutes) prepared by the U.S. Geological Survey (USGS) in 1980 (USGS 1980a–k) and formalized by Congress in the Combined Hydrocarbon Leasing Act of 1981 (P.L. 97-78).[16]

Table 8 lists the STSAs, along with their total size in acres and the number of acres of BLM-administered and split estate lands within each STSA. These STSAs are considered to be the most geologically prospective areas for tar sands development.

Although no tar sands development is currently taking place on public lands in Utah, the BLM does have a pending application for a tar sands lease. In the mid-1980s and mid-1990s, a number of combined hydrocarbon leases (CHL) were issued in the Pariette and P.R. Spring STSAs under the authority of the Combined Hydrocarbon Leasing Act (P.L. 97 78). Seventeen of these leases remain in existence. Also in the mid-1980s, a number of operators holding oil

[15] Like other National Monuments, the GSENM in Utah, which overlies the Circle Cliffs STSA, will be excluded from future leasing for tar sands development. However, at this time, there are two pending conversion leases within the GSENM that could potentially be converted to Combined Hydrocarbon Leases (CHLs) and developed under the Combined Hydrocarbon Leasing Program. Because there will be no future tar sands leasing within the GSENM, the impacts of commercial tar sands leasing and development in the Circle Cliffs STSA are not evaluated in this PEIS.

[16] The boundaries of the designated STSAs were determined by the Secretary of the Interior's orders of November 20, 1980 (45 FR 76800–76801), and January 21, 1981 (46 FR 6077–6078).

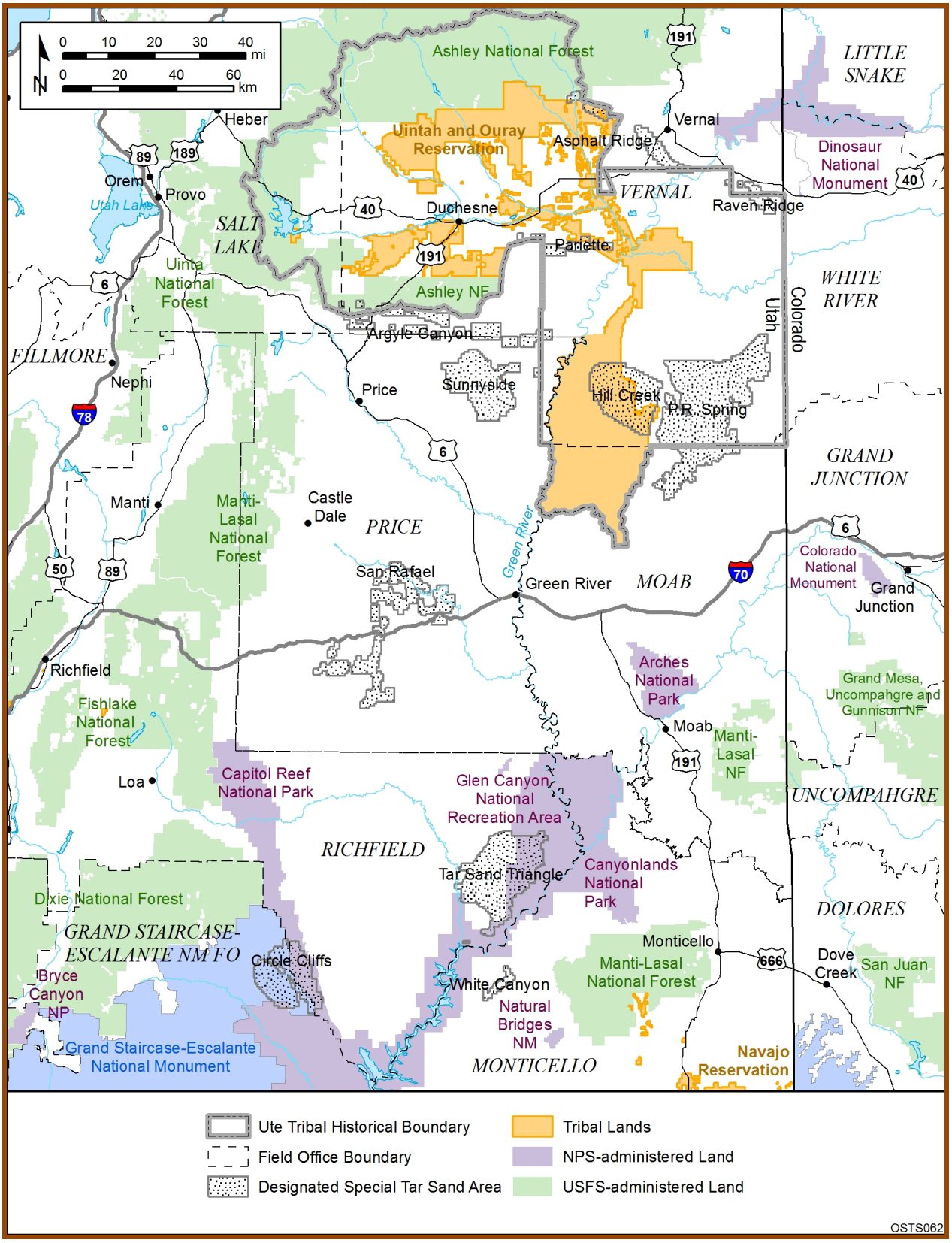

Figure 14: Special Tar Sand Areas in Utah

Table 8: Total Size in Acres of the 11 STSAs and Acres of BLM-Administered and Split Estate Lands within Each STSA[a,b]

STSA	Total Size	Total BLM-Administered Surface and Minerals within STSA	Total Split Estate Lands, BLM-Administered Minerals Only within STSA
Argyle Canyon	22,300	1,200	11,900
Asphalt Ridge	39,200	5,300	100
Circle Cliffs[c]	91,300	50,900	6,700
Hill Creek[d]	106,800	19,800	36,600
Pariette	22,600	12,300	100
P.R. Spring	273,900	184,100	7,600
Raven Ridge	16,500	14,400	15
San Rafael Swell	130,700	115,600	0
Sunnyside	157,400	78,700	18,200
Tar Sand Triangle	155,000	82,200	0
White Canyon	10,500	8,100	0
Total	1,026,200	572,700	81,215

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses.

[b] Split estate lands include areas where the Federal Government owns, and the BLM administers, the subsurface mineral rights, but the surface estate is owned by tribes, States, or private parties.

[c] The Circle Cliffs STSA is included for information purposes only; it has been excluded from consideration for being designated as open to application for leasing in this PEIS. The BLM-administered lands fall entirely within the GSENM.

[d] The split estate lands in the Hill Creek STSA include 35,472 acres of split estate lands within the Hill Creek Extension of the Uintah and Ouray Reservation on which the surface rights are owned by the Ute Indian Tribe.

and gas leases within designated STSAs applied to convert their leases to CHLs. In most instances, the conversion of these leases has not been completed; thus, a number of pending conversion applications remain within the study area, specifically within the Circle Cliffs, Tar Sand Triangle, and P.R. Spring STSAs.[17] The BLM is currently engaged in adjudication of these

[17] While the Circle Cliffs STSA is a designated STSA, the BLM-administered portion of it falls entirely within the GSENM and has been excluded from consideration for being designated as open to application for leasing in this PEIS.

leases.[18] Tar sands deposits outside the areas designated by the Secretary of the Interior in the 11 sets of minutes are not available for leasing under the CHL Program, but may be available for development under a conventional oil and gas lease.

Potential tar sands development could occur on the existing CHLs or on pending conversion leases should they be converted to CHLs.

Alternatives 2, 3, and 4 described different management approaches to amending RMPs to designate certain lands as being available for application for future commercial leasing and development, and certain lands as excluded from such leasing and development. The approaches taken in Alternatives 2 through 4 are designed to ensure that future tar sands leasing and development are possible when economic and environmentally acceptable. With the exception of certain corrections as noted in the Notice of Modifications and Clarifications section below, no new areas have been allocated as open for lease application as compared to the 2008 allocations; rather, the alternatives represent differing acreage amounts to be excluded from such application. With respect to tar sands, while there is no formal RD&D program for tar sands, this resource is not, at present, a proven commercially viable energy source, and the BLM would like to obtain more information about environmental consequences associated with its development prior to committing to broad-scale commercial development.

Alternative 1 — No Action Alternative, Continuation of Current Management

Under this alternative, no existing land use plans would be amended. In 2008, the BLM designated a total of 430,686 acres as available for applications for commercial tar sands leasing. The lands available for lease under the 2008 land use plan amendment decisions would remain available for future leasing consideration under Alternative 1, the No Action Alternative. These public lands comprise the most geologically prospective tar sands areas administered by the BLM, including split estate lands where the Federal Government owns the mineral rights, but excluding lands that are exempted by statute, regulation, or E.O. Other exempted lands include lands within incorporated towns and within city limits; historic trails; and the Monument Valley Management Area. Split estate lands within the Hill Creek Extension of the Uintah and Ouray Reservation would potentially be available for leasing. These lands total approximately 57,700 acres. Figure 15 shows the lands available for application for leasing under Alternative 1, and Table 9 shows the acreages available by STSA.

Under the 2008 OSTS ROD (BLM 2008b), which forms the basis for the No Action Alternative, ACECs are treated in the following manner: those ACECs that were closed for mineral development would be closed to oil shale/tar sands leasing, and those ACECs open for mineral development would be open to oil shale/tar sands leasing. With respect to LWC, no specific decision was made in the 2008 ROD. Rather, as noted in the 2008 OSTS PEIS, the decision as

[18] Decisions in this ROD regarding the availability of lands within the STSAs for future commercial leasing and the constraints under which such future leases would be issued would not affect the existing CHLs or any of the pending applications that are converted to CHLs.

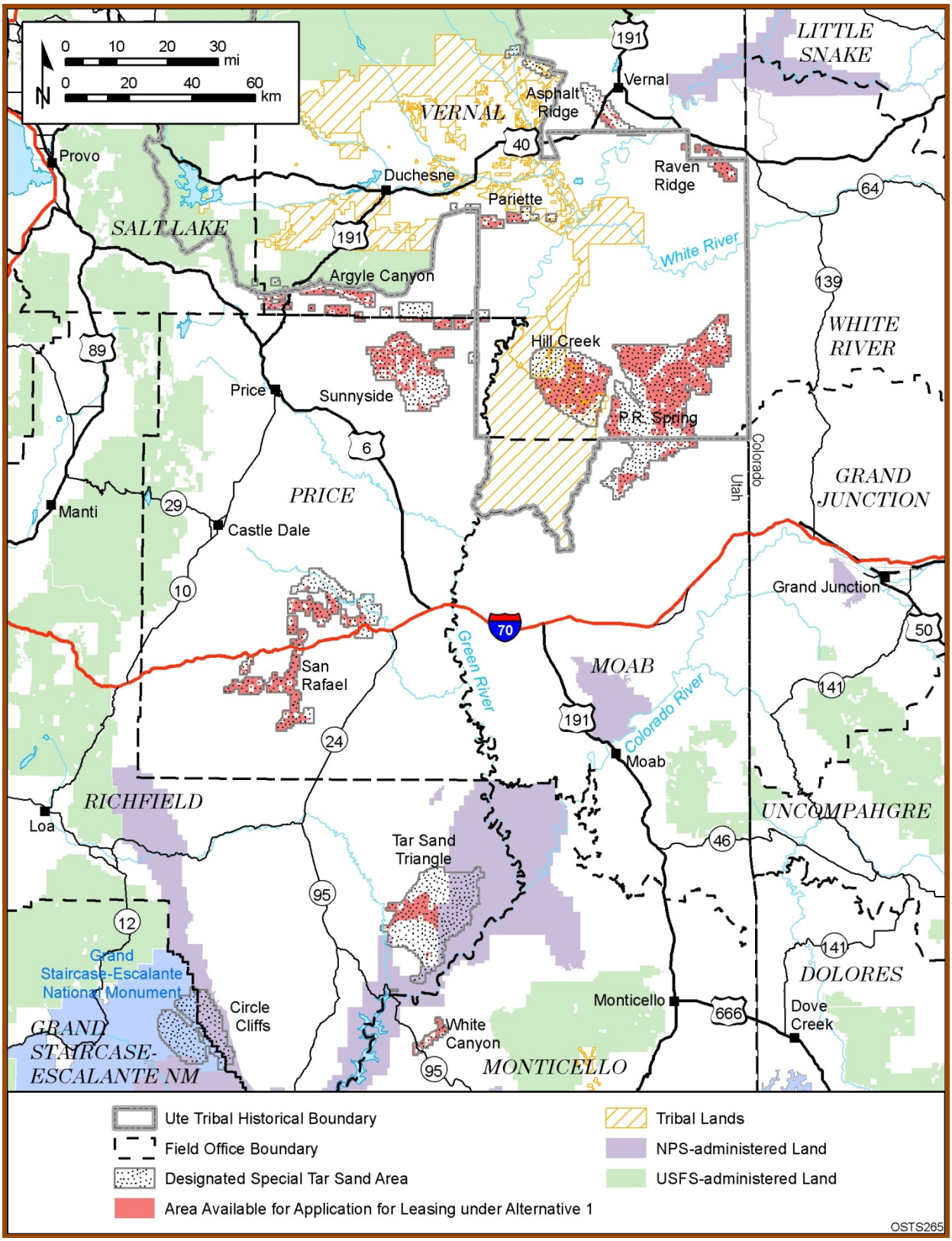

Figure 15: Lands Available for Application for Tar Sands Leasing under Alternative 1 for Commercial Tar Sands Development within the STSAs in Utah

Table 9: Estimated Acres Potentially Available under Alternative 1 for Application for Leasing in Each STSA for Commercial Tar Sands Development[a]

STSA	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Argyle Canyon	1,000	10,200	11,200
Asphalt Ridge	5,300	100	5,400
Circle Cliffs[b]	0	0	0
Hill Creek	19,900	36,600	56,500
Pariette	10,100	100	10,200
P.R. Spring	145,900	6,700	152,600
Raven Ridge	14,300	15	14,400
San Rafael	70,500	0	70,500
Sunnyside	61,300	16,600	78,000
Tar Sand Triangle	24,900	0	24,900
White Canyon	7,000	0	7,000
Total for Alternative 1	360,200	70,315	430,700

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses.

[b] Leasing for commercial tar sands development in the Circle Cliffs STSA is excluded under all alternatives because it falls entirely within the GSENM and units managed by the NPS on which mineral leasing and development are prohibited.

to how to manage these areas is the responsibility of the individual BLM field offices. Field offices would apply direction from current RMPs and BLM policy in making leasing decisions for oil shale and tar sands resources on LWC utilizing the BLM NEPA and planning processes.

Similarly, with respect to the management of sage-grouse habitat, the 2008 ROD made no specific decisions; rather, the 2008 Final OSTS PEIS included a text box discussing BLM's policies and general practices, including specific frequently used mitigation measures that might be applied to any development, as warranted by analysis at the lease and/or development stage (2008 Final OSTS PEIS, pp. 4-78 to 4-80). More recently, the BLM has issued nationwide and state-specific guidance recommending the consideration of certain interim management practices to address the appropriate management of sage-grouse habitat in the context of land use actions, and this information is presented in a text box on pages 4-128–4-130 in Section 4.8.1 of the 2012 Final OSTS PEIS. Under all allocation alternatives, including the No Action Alternative, field

offices would need to take this guidance into account and incorporate protective measures in any authorizations, as warranted by ecological conditions, and on the basis of environmental analysis. As such, it is likely that not all the areas that are currently classified as open for application for potential future leasing under this alternative would be leased or developed.

Rationale for Non-Selection: Alternative 1 was not selected as the Proposed Plan Amendment. Development of tar sands resources is a relatively new program. The BLM recognizes the importance of tar sands resources to the country, and reliable, sustainable domestic oil-based resources are increasingly important. However, because development of tar sands resources mainly consists of untested technology with potential long-term impacts on communities and the environment, the BLM has decided against leaving open large amounts of public land for future tar sands leasing and development. Therefore, the BLM has determined that in view of the other uses and resources on these lands, a higher priority should be given to protection of core and priority sage-grouse habitat, LWC, ACECs, and other wildlife resources. FLPMA Section 103(c) charges the Secretary to manage the public lands and their various resource uses so that they are utilized in the combination that best meets the needs of the American people; providing sufficient latitude to conform to changing needs and conditions and providing a combination of balanced and diverse resource use that takes into account the long-term needs of future generations for renewable and nonrenewable resources, with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return. In addition, decreasing the amount of acreage available for future leasing and development significantly reduces the potential impacts from such development on water resources, fragile soils, and known archaeological sites.

Commercial Tar Sands Program Action Alternatives

The BLM developed three new allocation action alternatives for establishing a commercial tar sands program. These new allocation alternatives, labeled Alternatives 2, 3, and 4, consist of different management approaches to future commercial tar sands leasing. Under all allocation alternatives, including the No Action Alternative, the BLM proposes to make certain lands within the STSAs available for application for commercial leases and certain lands unavailable. Under all alternatives, additional NEPA and other appropriate analyses would be conducted prior to the issuance of commercial leases. In addition, site-specific NEPA and other appropriate analyses would be conducted during evaluation and approval of plans of development during the project development phase. These site-specific analyses, which potentially could be combined into a single NEPA evaluation, would identify potential project-specific impacts and define appropriate lease stipulations and required mitigation measures.

With the exception noted in the socioeconomic analysis in the Final PEIS regarding potential impacts on land values that may result from these allocation decisions, the action alternatives presented would not result in any impacts on the environment or socioeconomic setting of the area under consideration. The BLM will also consider and give priority to the use of land exchanges, where appropriate and feasible, to consolidate land ownership and mineral interests within the STSAs.

In all allocation alternatives, including the No Action Alternative, RD&D leases could be issued in any areas opened to commercial tar sands leasing. While there has never yet been any formal RD&D program for tar sands leasing, and there is no present intention to establish such a program, nevertheless, RD&D projects might precede commercial tar sands leasing or might be conducted contemporaneously with commercial leasing and operations. Impacts from RD&D projects are anticipated to be qualitatively similar, but smaller in scale than those of commercial projects, at least until any RD&D lease might be converted to a commercial tar sands lease and expanded to include preference right acreage. Additional NEPA analysis would be required prior to issuance of any RD&D lease and prior to conversion of an RD&D lease to a commercial tar sands lease and expansion into a PRLA.

Under each of the three new allocation action alternatives, four land use plans in Utah would be amended to designate lands within the STSAs as available or not available for application to lease. The plans that would be amended to address commercial tar sands leasing and development include the following:

- Monticello RMP (BLM 2008g);
- Price RMP (BLM 2008d);
- Richfield RMP (BLM 2008h); and
- Vernal RMP (BLM 2008e).

The following sections describe the new allocation action alternatives evaluated in this PEIS. The sections identify the additional leasing exclusions that the BLM has identified for each alternative and the proposed land use plan amendments. The specific land use plan amendments are discussed in greater detail in Appendix A.

Alternative 2 — Tar Sands Conservation Focus, Proposed Plan Amendments

Alternative 2 was identified as the BLM's Preferred Alternative in the Draft Proposed Plan Amendments/PEIS. Under this alternative, four land use plans in Utah would be amended to designate 132,220 acres as available for future commercial tar sands leasing. This alternative represents the mix and variety of actions that, in the opinion of the BLM, best resolve the issues and management concerns in consideration of all values and programs. As a result of public comment, internal review, and cooperating agency coordination on the Draft Proposed Plan Amendments/PEIS, Alternative 2(b) was clarified and slightly modified to become the Proposed Plan Amendment and analyzed in the Final PEIS. With minor adjustments and clarifications, upon signing of this ROD, it is now the Approved Plan Amendment. As noted in Section 2.4.3.1 of the FPEIS, decisionmaking regarding the pending Asphalt Ridge tar sands leasing application has not yet been completed. To avoid pre-determining the outcome of that decisionmaking process, the lands encompassed by the pending lease application are included in the Proposed Plan as open and have been added to the acreage analyzed as open in Alternative 2.

In addition to the areas excluded in Alternatives 1 through 4, Alternative 2 would exclude from commercial tar sands leasing the following categories or groups of categories of public lands and/or their resource values that may warrant protection from potential oil shale leasing and

development, except where they might be located on the lands encompassed by the pending Asphalt Ridge lease application:[19]

1. All areas that the BLM has identified or may identify as a result of inventories conducted during this planning process, as LWC;

2. Core or priority sage-grouse habitat, as defined by such guidance as the BLM or the DOI may issue;

3. All ACECs located within the areas analyzed in the 2008 OSTS PEIS (76,666 acres in existing ACECs in the 2008 OSTS PEIS plus additional ACEC acreages as a result of recently completed Utah planning efforts), as well as all areas under consideration for designation as ACECs in planning processes currently underway; and

4. All areas identified as excluded from commercial oil shale and tar sands leasing in Alternative C of the September 2008 OSTS PEIS (Alternative C made 830,296 acres available for potential commercial oil shale leasing and 229,038 acres available for potential commercial tar sands leasing).

Lands that are excluded from application for tar sands lease under Alternative 2, described in items 1–4, above, are shown in Figure 16. The lands that would be available for application for lease under Alternative 2, as modified, are shown in Figure 17. Table 10 lists the approximate number of acres of BLM-administered lands, including areas where the Federal Government owns only the mineral estate, available for application for commercial leasing under Alternative 2 by STSA.[20]

In the formulation of Alternative C in the 2008 OSTS PEIS, the BLM excluded from commercial tar sands development all lands where such surface-disturbance and seasonal limitations were in place to protect known sensitive resources. Lands within each field office where stipulations for no surface disturbance, controlled surface use, or seasonal limitations were in place for oil and gas leasing were also excluded. Table 11 identifies the types of stipulations and restrictions in place for oil and gas leasing in each State that were used to identify lands excluded under Alternative C.

All tar sands resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation are open for potential leasing and development, subject to further consultation with the Ute Indian Tribe.

As shown in Figure 16 and reflected in Table 10, 298,549 acres available for application for leasing under Alternative 1 are excluded under Alternative 2; several STSAs become entirely unavailable for application for lease. In addition, in some of the STSAs, a large portion of the lands proposed to be available for leasing is composed of relatively small, isolated tracts of land.

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[19] This element has been included from Alternative 3, so as not to pre-determine the outcome of the BLM's decision regarding the pending Asphalt Ridge lease application.

[20] The maps and acreage estimates were constructed by applying the leasing restrictions discussed in the text to the best available GIS datasets available to the BLM. These maps and acreage estimates may contain errors and should be considered to be only representative of the proposed leasing area for this alternative. As specific areas are considered for commercial leasing, a detailed evaluation of land status would be required.

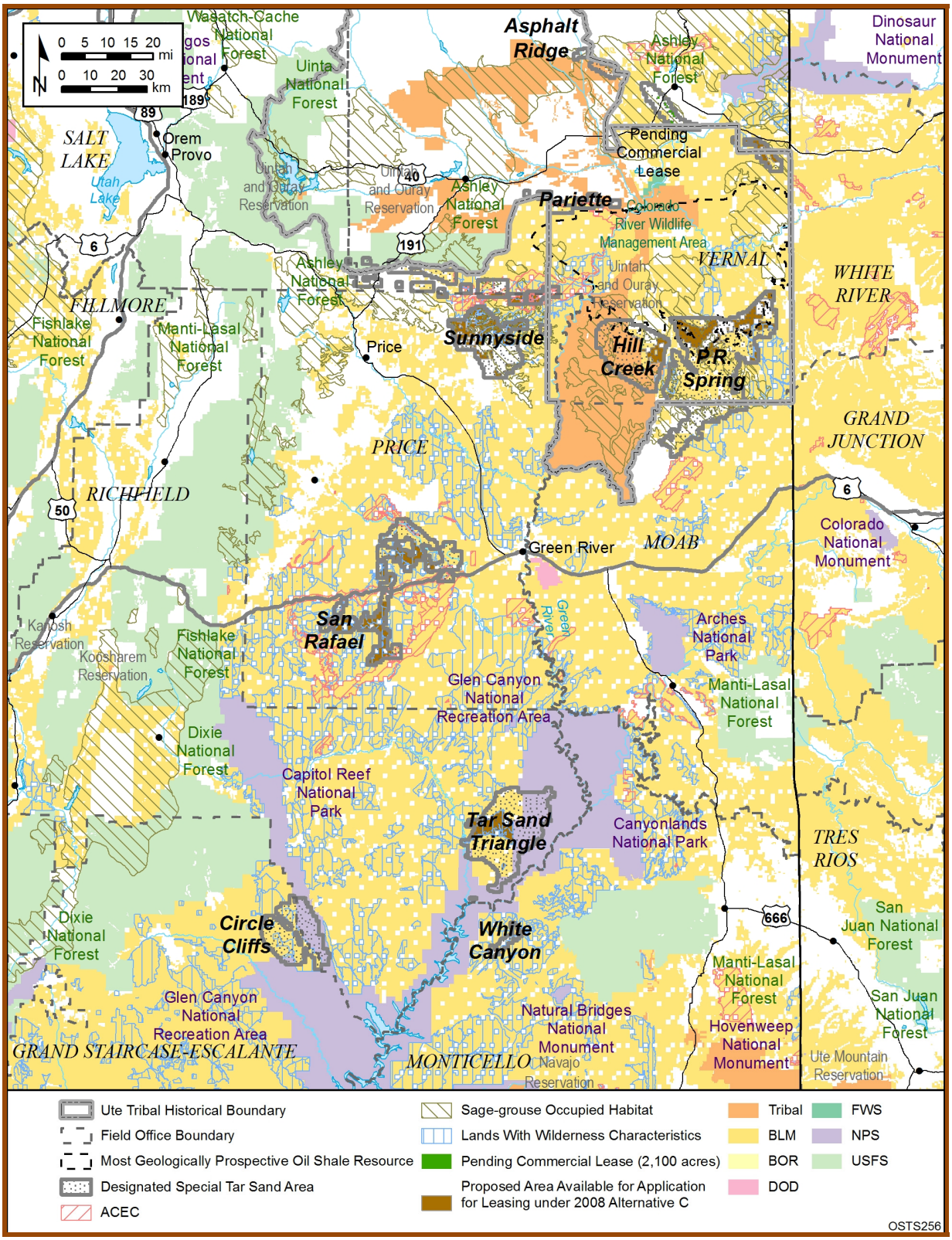

Figure 16: Land Categories Used as Criteria to Identify Lands Open for Leasing under Alternative 2 (and Proposed Plan Amendment) for Commercial Tar Sands Development within the STSAs in Utah

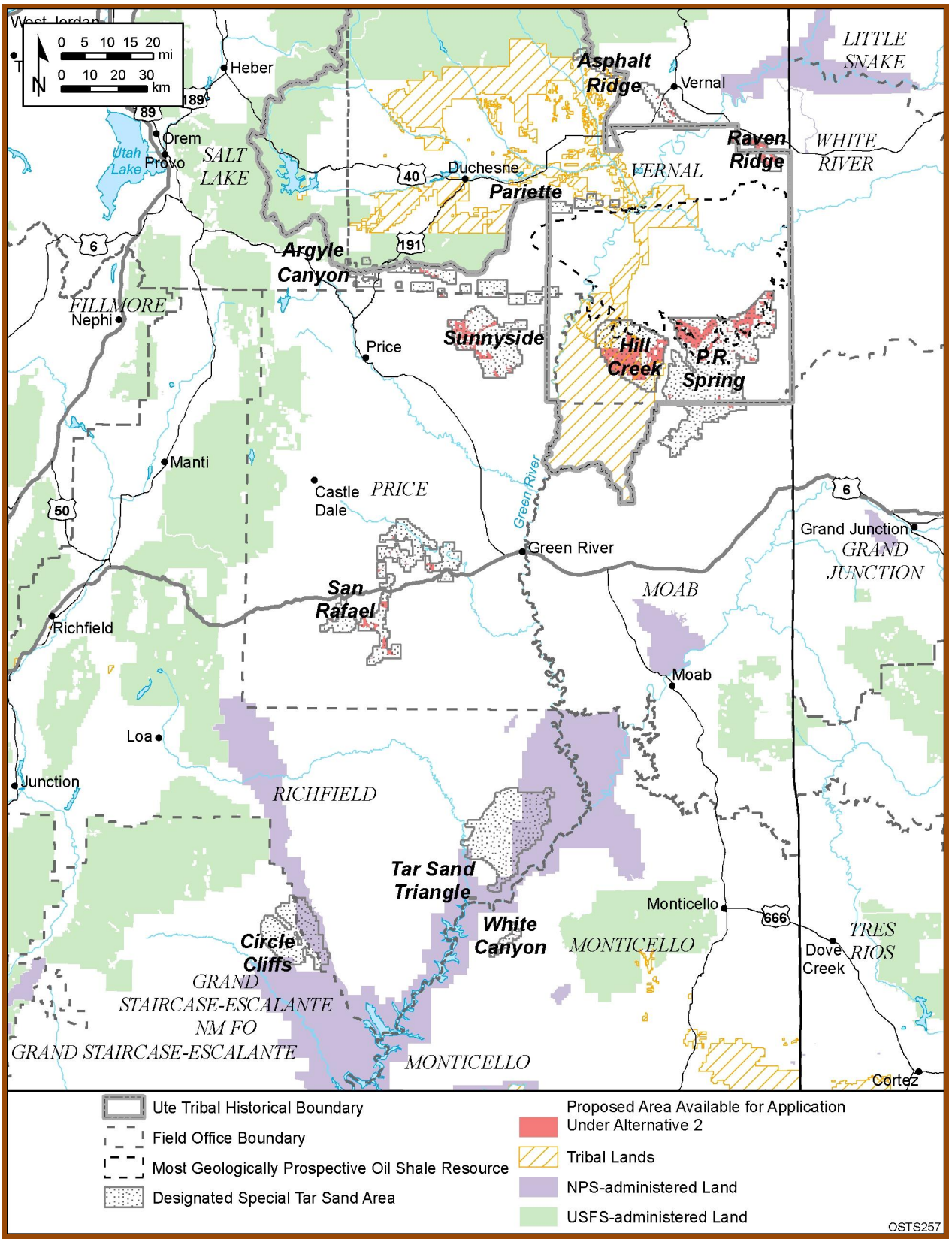

Figure 17: Lands Available for Application for Tar Sands Leasing within the STSAs in Utah

Table 10: Estimated Acres Potentially Available under Alternative 2 for Application for Leasing in Each STSA for Commercial Tar Sands Development[a]

STSA	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered lands Only	Total
Argyle Canyon	0	5	5
Asphalt Ridge	2,100	0	2,100
Circle Cliffs[b]	0	0	0
Hill Creek	9,400	36,000	45,400
Pariette	900	0	900
P.R. Spring	39,100	4,200	43,300
Raven Ridge	9,100	15	9,115
San Rafael	9,300	0	9,300
Sunnyside	11,900	10,000	21,900
Tar Sand Triangle	100	0	100
White Canyon	100	0	100
Total for Alternative 2	82,000	50,220	132,220

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses. The GIS data may contain errors; therefore, these estimates should be considered to be only representative of the proposed leasing area.

[b] Leasing for commercial tar sands development in the Circle Cliffs STSA is excluded under all alternatives because it falls entirely within the GSENM and units managed by the NPS on which mineral leasing and development are prohibited.

These factors could result in limiting the potential amount of commercial tar sands development to a level well below that which might be realized under Alternative 1.

Rationale for Selection: Alternative 2 for tar sands was selected as the Proposed Plan Amendment based on (1) its balanced use and protection of resources, (2) its consistency with the requirements of the Energy Policy Act of 2005, and (3) the PEIS's analysis of potential environmental impacts. Alternative 2 is structured to be consistent with the congressional mandate of the Energy Policy Act to make lands within the "most geologically prospective lands in Colorado, Utah, and Wyoming" available for application for leasing, while still protecting the quality of the environment. As compared with Alternative 3, Alternative 2 makes more Federal tar sands available for application.

Table 11: Resources Covered by Stipulations and Restrictions in Place for Oil and Gas Leasing in the STSAs That Were Used to Identify Lands Not Available for Application for Tar Sands Leasing under Alternative C of the 2008 OSTS PEIS
Slopes and erosive/critical soils
Floodplains, watersheds, and live water
Sage-grouse leks and nesting habitat
Raptor nests and habitat
Wildlife habitat[a]
Special status plants and relict vegetation
VRM Class II areas and other high-quality visual resources
ACECs
Paleontological resources
Other[b]

[a] Wildlife habitat includes a combination of winter range, crucial winter range, summer range, and calving areas for antelope, bighorn sheep, deer, and elk, as well as seclusion areas for other wildlife.

[b] Other resources include Special Management Areas (SMA), recreation areas, and areas restricted from leasing for reasons not specified in the GIS data.

Alternative 2 supports a tempered approach and the desire to learn more about the technologies and their potential environmental impacts, before approving a broad-scale commercial tar sands leasing and development program. Unlike Alternative 3, which precludes almost all tar sands leasing and development, Alternative 2 provides the decisionmaker with the discretion to balance the tar sands use and protection of resources on the public lands during subsequent site-specific NEPA analysis. This balanced approach is consistent with FLPMA principles of "multiple use," and "sustained yield." The requirement to perform future NEPA analyses and to comply with other environmental laws allows the decisionmaker to optimize the recovery of energy resources, to establish appropriate lease stipulations to mitigate anticipated impacts, or to fully protect a resource or resource value by choosing not to offer an area for lease at any particular time.

Alternative 3 — Tar Sands Pending Commercial Lease

This alternative is designed as an analog to the Research Lands Focus Oil Shale Alternative 3, in order to respond to scoping comments that called for consideration of closing public lands to all development, or all development other than research projects. Unlike with respect to oil shale, there is no specific RD&D program for tar sands. Therefore, this alternative would also analyze forgoing the leasing of tar sands for the commercial development of fluid mineral resources entirely, except for one tar sands lease currently under consideration. The Asphalt Ridge tar sands lease application, shown in Figure 18, is located approximately 11 miles south of Vernal, and the expression of commercial leasing interest that forms its basis was submitted on November 16, 2009. This prospective lease is for a commercial tar sands project; however, as with oil shale, the technology to develop tar sands commercially to produce fluid hydrocarbons is in its nascent stages. Under this alternative, a priority is placed on protecting the environment by excluding all lands in the planning area, except for those under consideration in the pending Asphalt Ridge tar sands lease from application for leasing.

While Alternative 3 analyzes the potential effects of this pending lease application, which covers approximately 2,100 acres, for the purposes of informing land use allocation decisionmaking, the information and analysis in this PEIS is not considered to be the NEPA analysis sufficient to provide the basis for determining whether or not to issue that lease. The NEPA analysis associated with the decision whether or not to issue the Asphalt Ridge lease is under preparation in a separate process.

Under this alternative, there is the possibility of limited development, in the event the pending commercial lease is issued; therefore, the opportunity remains for future decisions regarding availability of public lands for this resource to be made on the basis of demonstrable economic viability and in light of specific environmental information. Should tar sands development technologies be demonstrated to be feasible, the opportunity will still exist to consider making public lands available for future development.

In accordance with 40 CFR 1505.2(b), the BLM is required to specify in the ROD which alternative(s) were considered to be environmentally preferable. Based on the minimal amount of acreage available for potential future tar sands leasing, the BLM identified this alternative as the environmentally preferred alternative for tar sands.

Rational for Non-Selection: Alternative 3 was not selected as the Proposed Plan Amendment because the alternative would not make the "most geologically prospective lands in Colorado, Utah, and Wyoming" available for application for commercial leasing. Almost all of the most geologically prospective acreage would be excluded under Alternative 3. Limiting the tar sands program to only the pending tar sands lease application limits the technologies the BLM can consider and the operators who participate. If tar sands resources are bypassed because of the exclusions in Alternative 3, this could also limit the benefits to the nation from exploitation of a domestic unconventional energy source. Selection of Alternative 3 precipitously limits the decisionmaker's discretion to balance tar sands use and the protection of resources or resource values, in accordance with FLPMA's principal of "multiple use." Although as presently being

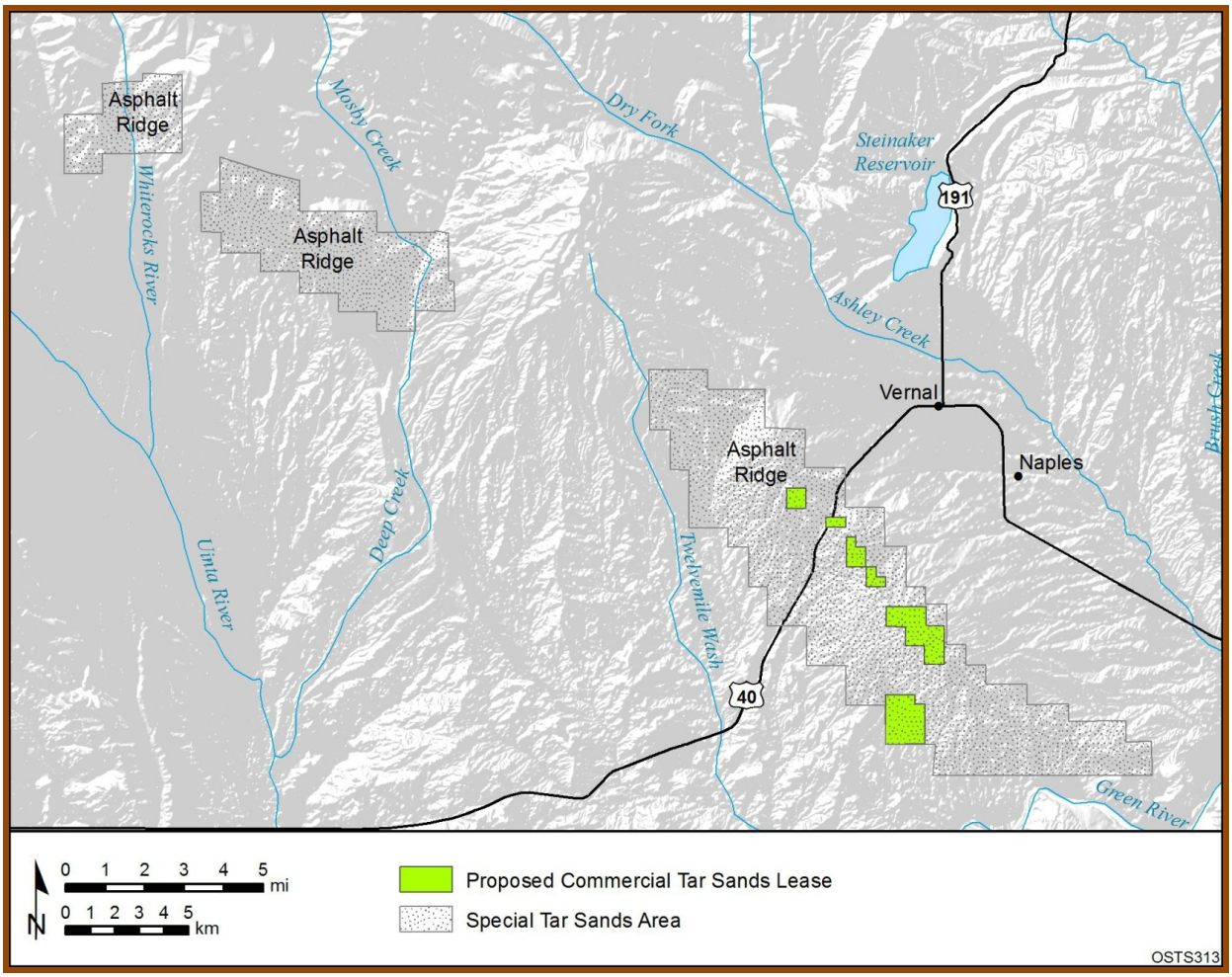

Figure 18: Location of Potential Tar Sands Leases under Alternative 3

researched, tar sands extraction would have many impacts similar to those of mining development, exclusion of all areas outside of the pending application unnecessarily speculates upon the nature and degree of impacts that would be caused by future tar sands development. It would be premature to eliminate to the degree considered under Alternative 3, areas prior to site-specific analysis based on factors that are not known now, but that would be known at the leasing or operation permitting stages, such as location, timing, and type of tar sands technology, that may show that these resources could be adequately protected through mitigation. Unlike Alternative 2, Alternative 3 does not give the decisionmaker the necessary discretion to optimize the recovery of energy resources, establish appropriate lease stipulations to mitigate anticipated impacts, or to fully protect a resource or resource value by choosing not to offer an area for lease.

Alternative 4 — Tar Sands Moderate Development

Under Alternative 4, the BLM would amend four land use plans in Utah to designate between 277,600 and 429,600 acres as available for application for commercial tar sands leasing.[21] This alternative would exclude the following from commercial tar sands leasing:

- All ACECs located within the areas analyzed in the 2008 OSTS PEIS (about 36,000 acres in existing ACECs in the 2008 OSTS PEIS plus additional ACEC acreage as a result of recently completed Utah planning efforts),[22] as well as all areas under consideration for designation as ACECS in planning processes currently underway.

Under Alternative 4, lands that would be available for future consideration for leasing would include those BLM-administered lands within the most geologically prospective tar sands areas, including split estate lands where the Federal Government owns the mineral rights. All ACECs would be excluded, as described above. Lands available for application for tar sands leasing under Alternative 4 are shown in Figure 19.

All oil shale and tar sands resources on split estate lands (Federal minerals, Tribal surface) within the Hill Creek Extension of the Uintah and Ouray Reservation are open for potential leasing and development, subject to further consultation with the Ute Indian Tribe.

Lands within the most geologically prospective tar sands areas identified by the BLM as LWC would be managed as in Alternative 1; that is, they would be available for future consideration of leasing and development. Decisions regarding management of these areas would be the responsibility of the individual BLM field offices. Field offices would apply direction from current RMPs and BLM policy in making leasing decisions on LWC utilizing the BLM NEPA and planning processes. This Alternative leaves open to leasing 9,600 acres of river segments that the BLM found to be unsuitable for WSR designation in the appropriate RMP Revision. This contrasts with Alternative 1 where these 9,600 acres are closed to leasing.

Similarly, with respect to the management of sage-grouse habitat, under Alternative 4, lands would be managed as in Alternative 1. No specific decisions regarding core and priority habitat will be made; rather, those decisions will be left up to the individual field offices to make, which would determine the management of such areas through additional NEPA and planning processes (as appropriate) with respect to core and priority sage-grouse habitat consistent with applicable BLM policy. These policies were described in the 2008 OSTS PEIS (pp. 4-78 to 4-80) and include BLM's policies and general practices, including specific frequently used mitigation measures that might be applied to any development, as warranted by analysis at the

[21] This alternative satisfies the settlement agreement to exclude some, but not all, lands from the application of oil shale and tar sands leasing, in comparison to Alternative 2.

[22] This would only include those ACECs that were formally designated in those plans. ACECs that were proposed but not formally designated in the applicable plans undergoing revision/amendment at that time would not be considered for closure.

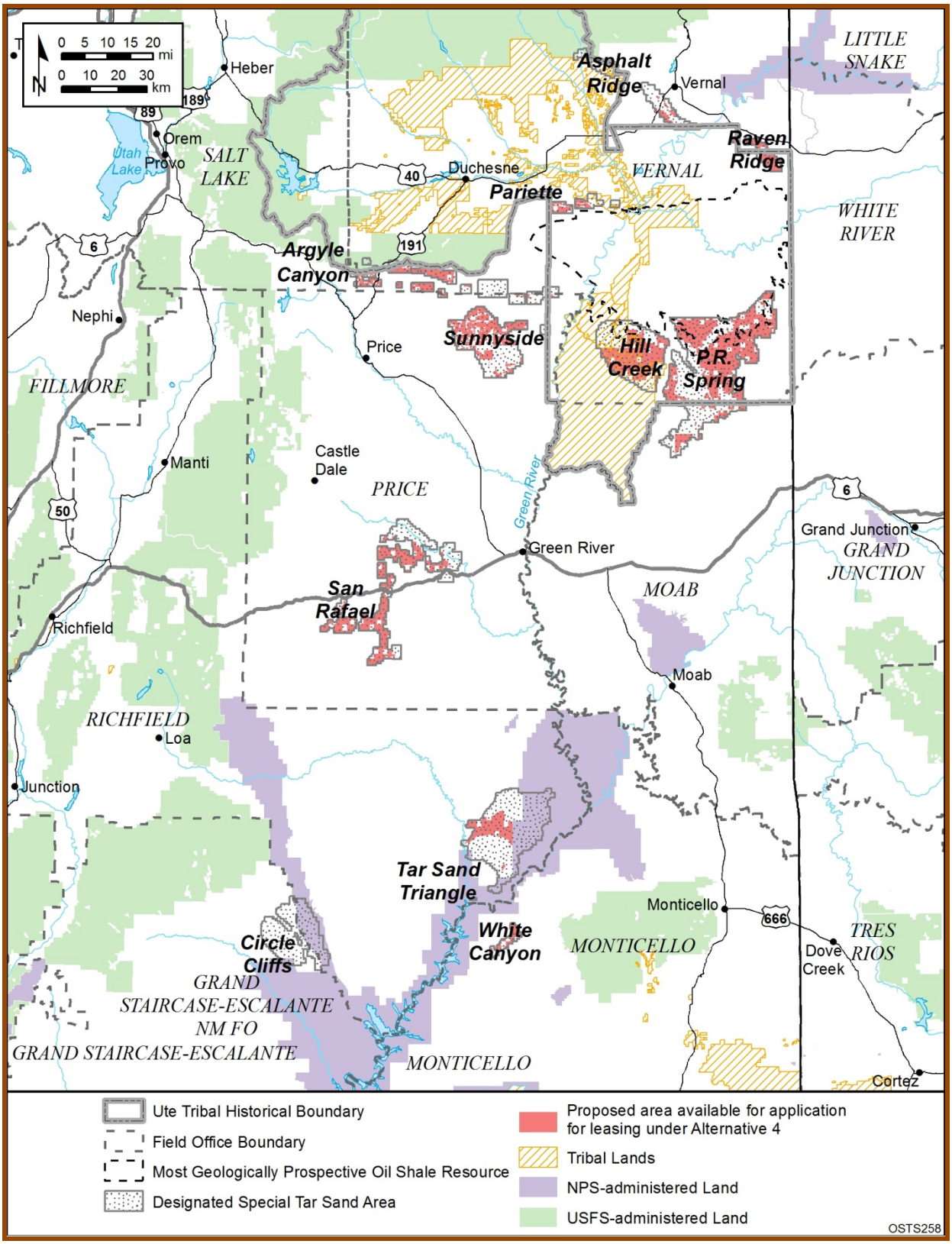

Figure 19: Lands Available for Application for Tar Sands Leasing under Alternative 4 for Commercial Tar Sands Development within the STSAs in Utah

lease and/or development stage. More recently, the BLM has issued nationwide and state-specific guidance recommending the consideration of certain interim management practices to address the appropriate management of sage-grouse habitat in the context of land use actions; this information is presented in a text box on pages 4-128 through 130 in Section 4.8.1 of the 2012 Final OSTS PEIS (BLM 2012a). The BLM is currently engaged in a National Greater Sage-Grouse Planning Strategy to identify necessary conservation measures and management restrictions for the maintenance and recovery of sage-grouse populations. As part of this sage-grouse planning process in Colorado, Utah, and Wyoming, the BLM is identifying those areas as open or closed to mineral leasing and development; for those areas open to leasing, the BLM is identifying major or moderate constraints (management actions) that may be required to mitigate impacts on sage-grouse or their habitat. Field offices would need to take this planning into account and incorporate protective measures in any authorizations, as warranted by ecological conditions, and on the basis of environmental analysis. As such, it is unlikely that all the areas that are currently open under this alternative for potential future leasing would be leased. The maximum acreage developed could be much less than that expressed in Table 12, as a result of the application of current BLM policy.

Depending on what the applicable RMP provides with respect to LWC and core and priority sage-grouse habitat, it may be necessary to initiate a plan amendment at the leasing and/or development stage to make allocation decisions on an individual RMP basis regarding management of these lands with respect to oil shale and tar sands resources. The reason for qualifying the amount of acreage available for lease under this alternative is that while areas of core and priority sage-grouse and areas of LWC are left open for potential future leasing and development of oil shale and tar sands resources, the likelihood of all this acreage being available for further oil shale and tar sands resources leasing and development is low. National and state-specific guidance related to sage-grouse management and protection of core and priority habitat will likely result in substantially less acreage being available, as will field office management decisions related to the protection of LWC. It is difficult to establish disturbance amounts at the programmatic level before more is known regarding the specifics of leasehold location and technology to be used. Tables 13 and 14 show what this might look like under different protective scenarios. The scenarios are only provided to illustrate this idea, but the decisions to protect these amounts are not being made at this time as part of this land use plan amendment initiative. These decisions will be made at the field office level as part of the NEPA and/or planning analyses completed for leasing and site-specific development.

Rationale for Non-Selection: Alternative 4 was not selected as the Proposed Plan Amendment. Development of tar sands resources is a relatively new program. The BLM recognizes the importance of tar sands resources to the country, and, reliable, sustainable domestic oil-based resources are increasingly important. Because tar sands development mainly consists of untested or pilot technologies with potential long-term impacts on communities and the environment, the BLM has decided against opening large amounts of public land for future tar sands leasing and development prior to a meaningful evaluation of the results of development on non-Federal lands. Therefore, the BLM has determined that in view of the other uses and resources on these lands, a higher priority should be given to protection of core and priority sage-grouse habitat, LWC, ACECs, and other wildlife resources. FLPMA Section 103(c) charges the Secretary to manage the public lands and their various resource uses so that they are utilized in the combination that best meets the needs of the American people; providing sufficient latitude to

Table 12: Estimated Acres Potentially Available for Application for Leasing in Each STSA for Commercial Tar Sands Development under Alternative 4[a]

STSA	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Argyle Canyon	1,000	11,300	12,300
Asphalt Ridge	5,300	100	5,400
Circle Cliffs[b]	0	0	0
Hill Creek	20,500	36,000	56,400
Pariette	10,100	100	10,200
P.R. Spring	146,900	7,600	154,500
Raven Ridge	14,300	15	14,400
San Rafael	72,100	0	72,100
Sunnyside	54,300	18,100	72,400
Tar Sand Triangle	25,000	0	25,000
White Canyon	7,000	0	7,000
Total for Alternative 4	356,500	73,100	429,600

[a] Totals may not be exact because of rounding. These estimates were derived from GIS data compiled for the PEIS analyses. The GIS data may contain errors; therefore, these estimates should be considered to be only representative of the proposed leasing area.

[b] Leasing for commercial tar sands development in the Circle Cliffs STSA is excluded under all alternatives because it falls entirely within the GSENM and units managed by the NPS on which mineral leasing and development are prohibited.

conform to changing needs and conditions and providing a combination of balanced and diverse resource use that takes into account the long-term needs of future generations for renewable and nonrenewable resources, with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return. In addition, decreasing the amount of acreage available for future leasing and development significantly reduces the potential impacts from such development on water resources, fragile soils, and known archaeological sites.

Table 13: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Tar Sands Development under Alternative 4, Assuming 75% of the LWC and Sage-Grouse Core and Priority Habitat Is Protected through NSO or No Lease Stipulations

State	Acres LWC and Sage-Grouse[a]	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total
Utah	202,700	217,400	60,200	277, 600[b]

[a] Acreage that is identified as either LWC or sage-grouse core or priority habitat or both within Alternative 4.

[b] Total at 75% protection of BLM-administered lands and split estate lands.

Table 14: Estimated Acres Potentially Available in Each State for Application for Leasing for Commercial Tar Sands Development under Alternative 4, Assuming 25% of the LWC and Sage-Grouse Core and Priority Habitat Is Protected through NSO or No Lease Stipulations

State	Acres LWC and Sage-Grouse[a]	BLM-Administered Surface and Minerals	Split Estate Lands, BLM-Administered Minerals Only	Total[b]
Utah	202,700	310,100	68,800	379,000

[a] Acreage that is identified as either LWC or sage-grouse core or priority habitat or both within Alternative 4.

[b] Total at 25% protection of BLM-administered lands and split estate lands.

The BLM received a comment after the publication of the PRMP/FEIS requesting the BLM clarify and expand on its commitment to the "prior existing rights" of RD&D lease holders with regard to conversion to commercial leases. Specifically, the commentor was concerned that assumptions and conclusions of the PEIS not be used to interfere with the RD&D lease holders exercise of vested conversion rights by predetermining or unreasonably burdening the satisfaction of environmental conditions for conversion. Concerns were also raised that the proposed revision represents a dramatic change in public policy and do not apply the best and current scientific standards and information available.

First, the rights of current RD&D leaseholders are determined according to the terms of those leases, independent of decisions in this ROD. With respect to the change in public policy identified by the commenter, as explained above, because development of oil shale and tar sands resources mainly consists of untested technology with potential long-term impacts on communities and the environment, the BLM has decided against leaving open large amounts of public land for future oil shale leasing and development prior to a meaningful evaluation of the results of the RD&D leases and development on non-Federal lands.

After publication of the PRMP/FEIS, one commentor requested that the BLM ensure consideration of the USGS report "Assessment of In-Place Oil Shale Resources of the Eocene Green River Formation, Greater Green River basin, Wyoming, Colorado, and Utah" by Ronald C. Johnson et al (USGS 2010a, 2010b, and 2011) and follow-up fact sheet (USGS 2013). The BLM considered this information during development of the PEIS and in the resolution of protests.

In addition, the BLM received a letter from the Mayor of Aspen, Colorado, supporting the PRMP/FPEIS.

Information/Data Quality Act (IQA) Request for Correction of Information ROD Language

In addition to comments received on the Draft PEIS, the BLM also received two Requests for the Correction of Information (Requests) in the Proposed Plan Amendments/FPEIS, after the latter's publication. The Requests were made by Uintah County, Utah, and Garfield County, Colorado, pursuant to the Department of the Interior and BLM's procedures implementing the IQA (P.L. 106-554, Section 515). Both Requests questioned the assumptions made in the Proposed Plan Amendments/FPEIS regarding the feasibility and environmental impact of "new extraction techniques" identified by the requestor and asked that the BLM "consider and analyze new information documenting 2012 technological advances for the extraction of oil from oil shale and tar sands, and addressing the previously identified scientific controversies relating to the claimed environmental impacts of oil shale and tar sands development." The remedies requested were for the BLM to:

1. "Correct" its analysis because both counties identified a number of disputed data and scientific issues in both its scoping comments and its comments on the Draft PEIS.

2. Prepare a supplement to the FPEIS based on the new information provided in the Request.

The BLM reviewed the two Requests in accordance with the Department's and BLM's IQA procedures, which are separate from the planning process, and determined that the information Uintah and Garfield Counties provided did not support the assertion that the testing done to date with these technologies demonstrates that oil shale development in the Piceance or Uintah Basins is economically viable on a commercial scale. While these technologies appear to hold promise, and many have been laboratory and/or field tested, most of the technology descriptions in the Requests do not provide sufficient detail in their depiction of results and technical data that would warrant revision of the analytical assumptions underlying this planning process. Nor does the information provided represent "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" so as to require supplemental analysis, pursuant to the Council on Environmental Quality's regulations implementing NEPA, at 40 CFR 1506.9(c).

The BLM found, therefore, that the Requests do not provide the basis for "correcting" the Proposed Plan Amendments/FPEIS, and do not provide evidence of the need for BLM to conduct a supplemental assessment. As such, no changes were made, and no supplement has been prepared. Documents associated with the Request and the BLM's response pursuant to the Department's and BLM's IQA procedures may be found at:

http://www.blm.gov/wo/st/en/National_Page/Notices_used_in_Footer/data_quality.html.

NOTICE OF MODIFICATIONS AND CLARIFICATIONS MADE TO THE APPROVED PLAN

Protest Resolution

A programmatic EIS was prepared for this Approved Resource Management Plan Amendment (RMPA) in compliance with BLM's regulations implementing FLPMA at 43 CFR Part 1600 and NEPA. The Approved RMPA is nearly identical to the Proposed RMPA (PRMPA) set forth in the Oil Shale and Tar Sands PRMPA/FPEIS, published November 2012.

The BLM received 18 protest letters during the 30-day protest period provided for the proposed land use plan decisions in the PRMPA/FPEIS, in accordance with 43 CFR Part 1610.5-2. The protesting parties are listed below:

- Center for Regulatory Effectiveness
- Mesa County, Colorado Board of County Commissioners
- Duchesne County Commission
- Garfield County Board of County Commissioners
- Excalibur Industries, Inc.

- Enefit American Oil
- American Petroleum Institute
- State of Utah Public Lands Policy Coordination Office
- Uintah County Board of Commissioners, Utah Association of Counties, Lincoln County Board of Commissioners, Coalition of Local Governments, Sweetwater County Board of Commissioners, Sweetwater County Conservation District, Lincoln Conservation District
- Center for Biological Diversity, Grand Canyon Trust, Living Rivers, and Sierra Club
- Environmentally Conscious Consumers for Oil Shale
- American Oil Shale, LLC
- Biodiversity Conservation Alliance, Western Watersheds Project, and Californians for Western Wilderness
- Wyoming Outdoor Council and Wyoming Association of Churches
- National Wildlife Federation
- Western Resource Advocates, Natural Resources Defense Council, Southern Utah Wilderness Alliance
- Rio County Board of County Commissioners
- Lionel Trepanier

Protest resolution is the responsibility of the BLM Washington Office, with input from the Solids Branch in the Division of Minerals, Realty, and Resource Protection. Once the standing of the protesters was determined, protest letters were reviewed for valid protest issues. Issues must meet the following criteria to be valid protest issues:

- They must pertain to land use planning level decisions. Implementation level decisions are not protestable under the planning regulations.
- They must pertain to information already raised in comment at some time during the planning process. No new issues can be brought up for protest.
- They must include a concise statement explaining why the State Director's decision is believed to be wrong. A difference of opinion or disagreement is not sufficient to constitute a protest issue.

Protest issues were parsed out of letters and then combined into common issues. These issues were then summarized and responded to as issue groups. While the protest process considered the whole letter sent by protesters, responses were provided only to those statements that constituted valid protest issues. The responses have been published, concurrent with this ROD, on the BLM's Web site and the project Web site as the Director's Protest Resolution Report.

The protest resolution team identified valid protests relating to 32 issue topics, summarized below:

- *Oil Shale and Tar Sands Policy*: Rationale for revising the decisions in the 2008 PEIS (treatment of "new information"); proposed reduction in the amount of lands available for leasing (consistent with the Energy Policy Act); the proposed requirement for RD&D before issuance of commercial leases.

- *Lands with Wilderness Characteristics*: Implementation of Wild Lands policy; adequacy of inventory and analysis (Adobe Town area in the Rawlins Field Office).
- *Resource-Specific Policies*: Consideration of Greater Sage-Grouse habitat inventories and related State policies; compliance with ESA and NHPA; treatment of eligible WSR segments (Vernal Field Office); climate change policy.
- *NEPA Inadequacies*: Range of alternatives (failure to consider new technologies); impact analysis relating to cumulative impacts and to wildlife, water quality and quantity, air quality, recreation, climate change/GHG emissions; public involvement; adequacy of data (Data Quality Act compliance).
- *FLPMA Violations*: Inconsistencies with the state and local land use plans and policies; failure to adequately consult.

The BLM Director's decisions on the protests are summarized in the "Director's Protest Resolution Report, Amendments for Allocation of Oil Shale and Tar Sands Resources," available on the BLM Web site. The Director dismissed the protest from Mesa County, Colorado, because it contained only comments and no valid protest issues. The Director also dismissed the protest from Lionel Trepanier as it was submitted after the protest period closed. The Director denied protests from the Center for Regulatory Effectiveness, Duchesne County Commissioners, Garfield County Board of County Commissioners, Excalibur Industries, Inc., American Petroleum Institute, State of Utah Public Lands Policy Coordination Office, Center for Biological Diversity, Grand Canyon Trust, Living Rivers, Sierra Club, Environmentally Conscious Consumers for Oil Shale, American Oil Shale, LLC., Wyoming Outdoor Council, Wyoming Association of Churches, National Wildlife Federation, Western Resource Advocates, Natural Resources Defense Council, Southern Utah Wilderness Alliance, and the Rio Blanco County Board of County Commissioners, and provided responses to their protests in the Director's Protest Resolution Report. In addition, the Director granted in part and denied in part protests from Enefit American Oil, Uintah County Board of Commissioners, Utah Association of Counties, Lincoln County Board of Commissioners, Coalition of Local Governments, Sweetwater County Board of Commissioners, Sweetwater County Conservation District, Lincoln Conservation District, Biodiversity Conservation Alliance, Western Watersheds Project, and Californians for Western Wilderness, and provided responses to the protests that were denied in the Director's Protest Resolution Report. The BLM Director made changes to the proposed RMPA for those protests that were granted, and these changes are explained in the following section.

In summary, the Director concluded that the BLM followed the applicable laws, regulations, and policies and considered all relevant resource information and public input in developing the Proposed RMPA. Each protesting party was notified in writing of the Director's findings and the disposition of its protests.

Alternative 2—Commercial Oil Shale and Tar Sands Proposed Amendments—has been revised for this ROD from the Proposed Plan presented in the Final PEIS to open for leasing approximately 4,700 acres[23] river segments in oil shale areas and approximately 3,500 acres in tar sands areas that were closed to leasing under Alternative C of the 2008 OSTS PEIS in order to determine if the segments were eligible for WSR designation but that have since been determined to be unsuitable in the appropriate RMP revisions conducted prior to the completion of this OSTS planning initiative. In this respect, Alternative 2 resembles Alternative 4 in the Final PEIS. The opened acreage affects portions of river segments along the White River, Evacuation Creek, and Bitter Creek in Utah, which are not otherwise closed under criteria used to construct Alternative 2.

In addition, Alternative 2/Proposed Amendments has been revised to close approximately 1,355 acres of lands identified as LWC within the Rawlins Field Office in Wyoming that were identified as open to leasing in the PRMP/Final PEIS. These lands, located along the border of the Adobe Town WSA, were determined in inventories conducted by the BLM to contain wilderness characteristics. Based on the presence of oil and gas leases, it was determined in the Rawlins RMP that all of these areas would be managed for multiple-use and not for protection of wilderness. In the PRMP/Final PEIS, the BLM stated that these lands would not be closed for oil shale leasing and development since they were not being managed that way for other resources (Final PEIS, p. 3-36). Upon review of this determination in the preparation of this Plan Amendment/ROD, the BLM has determined that it is appropriate to close these lands to oil shale leasing and development, consistent with the closure of other lands similarly identified under Alternative 2. For all other resources, these areas will be managed in accordance with the decisions in the Rawlins RMP.

Maps and text in this Plan Amendment/ROD have been revised appropriately from those in the Final PEIS to indicate that the BLM is no longer considering the Aurasource RD&D proposal in Utah. The Final PEIS refers to this proposal as still under consideration.

Under the Proposed Land Use Plan Amendments listed in Appendix C of the Final PEIS, all of the 20,400 acres identified for tar sands leasing within the Sunnyside STSA in Utah was listed under the Price RMP in Table C-2. This description has been revised in the Plan Amendment/ROD to identify 19,963 acres within the Sunnyside STSA open to tar sands leasing in the Price RMP and 1,982 acres of the Sunnyside STSA open to leasing in the Vernal RMP in Table A-2 of Appendix A.

[23] While the estimated acreage added to Alternative 2 for the former WSR segments is 4,700 acres in oil shale areas and 3,500 acres in tar sands areas, adding these segments into Alternative 2 required recalculating the total Alternative 2 acreage from its constituent parts. In the process, the estimated total acreage of Alternative 2 increased by about 3,000 acres in oil shale areas and about 2,600 acres in tar sands areas from that presented in the Final PEIS. This smaller-than-expected increase is due to uncertainties in the GIS re-estimate of the alternative acreage, an error of less than 1 percent.

Clarifications

The following clarifications made to the information included in the PRMP/FEIS are reflected in the attached Approved Plan:

- This ROD only amends the decisions for oil shale and tar sands resources in the 10 existing RMPs and does not amend any of the decisions or protocols for the management of the other resource uses or values, such as air quality, wildlife, cultural resources, water quality, special resource values, etc.
- Tribal Trust lands were erroneously included in the Final PEIS/Proposed Plan as open for leasing under Alternative 4. BLM jurisdiction only covers the split-estate lands (Federal minerals/Tribal surface) in the Hill Creek Extension in Utah. As a result, approximately 36,000 acres of Tribal Trust lands in oil shale areas and approximately 5,700 acres in the Hill Creek STSA have been removed from Alternative 4 in Utah in the affected tables and figures in this ROD.

MANAGEMENT CONSIDERATIONS IN SELECTING THE APPROVED PLAN AMENDMENTS

The Approved Plan Amendments have been selected on the basis of the following factors, consistent with the policies of the Energy Policy Act of 2005, as well as the policies of FLPMA calling for balanced use and protection of resources of the public lands. The BLM has also considered the analysis of potential environmental impacts and formal comments and recommendations from cooperating agencies and the public.

With respect to oil shale resources, public lands outside of the most geologically prospective area for oil shale resources, and with respect to tar sands resources, public lands outside STSAs are not being excluded from consideration for leasing for any environmental or other specific reason and could be considered for application for leasing at a later time, which would require a new NEPA analysis. Areas within the most prospectively valuable area that are excluded from consideration for application for leasing, or environmentally and economically sound proposals employing different technologies, could also be considered in the future through evaluation of a plan amendment.

Balanced Use and Environmental Protection

The BLM considered whether the Approved Plan Amendments would improve and sustain properly functioning resource conditions, while considering the need and demand for existing or potential resource commodities and values. Consideration was given as to whether there was an appropriate balance of resource use to meet resource, social, and economic concerns in the

planning areas. The impact analysis in the PRMP/FEIS discloses, with the exception noted in the socioeconomic analysis concerning potential impacts on land values, that there are no impacts on the environment or socioeconomic setting of the study area resulting from this allocation decision alone, but that there are likely to be potential impacts that may result from future leasing and/or development decisions regarding oil shale and tar sands activities. The amendment of the land use plans does not authorize any ground-disturbing activities, and there are no irreversible or irretrievable commitments of resources.

The BLM also considered the wealth of information on the consequences of oil and gas and underground and surface mining activities. The BLM used comparable data, and the BLM's professional experience with surface-disturbing activities associated with these types of mineral development, to determine that the BLM had sufficient information on the nature of the effects for an allocation decision to be made. The analysis of potential impacts associated with oil shale and tar sands development as disclosed in Chapters 4, 5, and 6 of the PRMP/FEIS provided essential information necessary for formulating the Approved Plan Amendments.

Consideration was given to whether the Approved Plan Amendments provided the BLM with the discretion to establish appropriate lease stipulations to mitigate anticipated impacts or eliminate areas from consideration for leasing to protect resource values. The Approved Plan Amendments require site-specific NEPA analysis to be carried out prior to issuance of any oil shale or tar sands leases, and the environmental consequences to specific resource values and uses within the areas and any alternative actions be analyzed. If, pursuant to that NEPA and leasing process, the BLM determines that leasing and subsequent development of the oil shale or tar sands resources would cause significant impacts, the BLM can require the applicant to (1) mitigate the impact so that it is no longer significant, (2) move the proposed lease location, or, if neither of these options resolves the anticipated conflicts, (3) the BLM can decide that the importance of development of the oil shale and tar sands resources outweighs protection of the competing resource value and approve the application, or (4) the BLM can choose not to issue the particular lease. The requirement to perform future NEPA analyses and associated compliance activities prior to any lease issuance affords the BLM the opportunity to establish appropriate lease stipulations to mitigate anticipated impacts or eliminate areas from consideration for leasing to protect resource values, if the mitigation could not be prescribed as conditions of BLM approval of plans for development.

MITIGATION MEASURES

Council on Environmental Quality regulations implementing NEPA require that a ROD state whether all practicable means to avoid or minimize environmental harm have been adopted (40 CFR 1505.2(c)). Because none of the allocation alternatives would themselves result in any impacts on the environment or socioeconomic setting (beyond those impacts on land values noted above), no practicable means to avoid or minimize environmental harm from the alternative selected are needed, or have been adopted, nor has a monitoring and enforcement program been adopted. The amendment of the land use plans to establish allocation does not authorize any ground-disturbing activities, and there are no irreversible or irretrievable commitments of resources. Therefore, the PRMP/FEIS presents a preliminary, qualitative,

analysis of the impacts of leasing and development of these resources to assist in informing the land use planning decision. This analysis of potential direct, indirect, and cumulative impacts associated with oil shale and tar sands development is based on currently known technologies. However, the level and degree of the potential impacts of future development could not be quantified because this would require making many speculative assumptions regarding potential, unproven technologies, project size, and production levels. This analysis, nevertheless, discloses potential effects associated with leasing and development to provide the decisionmaker available information to assist in informing the allocation decision.

In this decision, the BLM is electing to retain its focus on RD&D, in order that more may be learned about the technologies required to develop oil shale and tar sands resources, as well as the environmental consequences of implementing such technologies, prior to any broad-scale development. In addition, as specified in the Draft and Final PEIS, as well as in this ROD, further NEPA analysis and other environmental review would be required prior to issuance of any oil shale or tar sands leases or approval of any proposals for development. Included in Chapters 4 and 5 of the PRMP/FEIS is a brief description of mitigation measures to avoid or minimize environmental harm that the BLM may consider for use, if warranted by the results of subsequent NEPA analysis undertaken prior to issuance of oil shale or tar sands leases and/or approval of detailed site-specific plans of development. Like the general description of common impacts that might be associated with development of these resources, the descriptions of the types of mitigation measures that could be used are programmatic in character. Specification and use of the mitigation measures will be evaluated at the time they are considered for adoption. The effectiveness of these potential mitigation measures and the extent to which they are applicable would vary from project-to-project and need to be examined in detail in future NEPA reviews of leasing and project plans of development. Additional measures to mitigate environmental impacts may also be developed during subsequent NEPA analysis at the leasing level planning and project development stages.

CONSULTATION AND CONSISTENCY REVIEW

Government-to-Government Consultation

The BLM works directly with tribal governments on a government-to-government basis. The Federal/tribal Government-to-Government relationship was reaffirmed by the Federal Government on May 14, 1998, with E.O. 13084 and strengthened on November 6, 2000, with E.O. 13175 (U.S. President 1998, 2000).

The BLM coordinates and consults with tribal governments, Native American communities, and individual members of tribes whose interests might be directly and substantially affected by activities on public lands. It strives to provide the tribal entities sufficient opportunities for productive participation in BLM planning and resource management decisionmaking. In addition, Section 106 of the NHPA requires Federal agencies to consult with Indian tribes for

undertakings on tribal lands and for historic properties of significance to the tribes that may be affected by an undertaking (36 CFR 800.2 (c)(2)). BLM Manual 8120 (BLM 2004a) and Handbook H-8120-1 (BLM 2004b) provide guidance for Native American consultations.

The BLM developed a process for this oil shale/tar sands planning initiative to offer specific consultation opportunities to "directly and substantially affected" tribal entities, as required under the provisions of E.O. 13175 and to Indian tribes as defined under 36 CFR 800.2(c)(2). Beginning in July 2011, the BLM State Directors for Colorado, Utah, and Wyoming contacted the 25 federally recognized tribes located in or with historical or cultural ties to the three-state study area. The letters sent by the BLM State Directors provided notification of the BLM's intention to take a fresh look at the land use allocation decisions regarding the management of oil shale and tar sands resources made in 2008. The BLM has followed up with additional letters, e-mails, telephone calls, and meetings for tribes who expressed interest in continuing Government-to-Government consultation. Once the Draft PEIS was completed, a second mailing was sent to all federally recognized tribes with interests in the area under consideration. Follow-up meetings and discussions occurred after the Draft PEIS was published for public comment. Table 15 lists the tribes contacted and describes the status of the ongoing consultations with each tribe.

Eight tribes responded by letter, e-mail, or telephone to communications from the BLM, or met with local BLM personnel during this planning process. Three tribes (the Southern Ute Indian Tribe, the Ute Mountain Ute Tribe, and the Ute Indian Tribe) met with the BLM to conduct field visits to wickiup sites and cultural landscapes and discuss their protection in the Yellow Creek area of Rio Blanco County, Colorado. The Ute Indian Tribe also discussed the leasing of split estate lands on its reservation (2012 Final PEIS, Section 3.10.2). Interaction with the Ute Indian Tribe is ongoing. Through the response form, two tribes (the Hopi and Eastern Shoshone) expressed an initial interest in meeting with the BLM to discuss the project. The Hopi did not respond to follow-up communications, and the Eastern Shoshone were unable to meet with the BLM. One Navajo Chapter (Navajo Mountain) requested additional information, which the BLM provided. The BLM followed up with the Hopi, Eastern Shoshone, and Navajo tribes, providing information about the project. Two tribes (the Pueblo of Santa Clara and the Paiute Indian Tribe of Utah) indicated through the Tribal Response Form that further consultation is not needed. The remaining 10 tribes (Kaibab Paiute Tribe, Northern Arapaho Tribe, Northwestern Band of the Shoshone Nation, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Zia, Pueblo of Zuni, San Juan Southern Paiute Tribe, Shoshone-Bannock Tribes, and White Mesa Band of Ute Mountain Ute Tribe) and 7 Navajo Chapters (Aneth, Dennehotso, Mexican Water, Oljato, Red Mesa, Teec Nos Pos, and Window Rock) have yet to respond to the BLM's request for consultation.

The BLM will continue to provide consultation opportunities for interested tribes and will continue to keep all tribal entities informed about this planning process. In addition, the BLM will continue to implement Government-to-Government consultation on a case-by-case basis for site-specific oil shale and tar sands resource leasing and development projects as they occur (see Appendix L of the Final PEIS for copies of the correspondence).

Table 15: Government-to-Government Consultation Summary	
Tribes Contacted for Consultation on the PEIS	Status of Consultation Process
Eastern Shoshone Tribe, Fort Washakie, WY	The tribe initially expressed a desire to be a cooperating agency. They did not sign the required MOU. Invited to but did not participate in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado. Consultation is ongoing.
Southern Ute Indian Tribe, Ignacio, CO	Invited to and participated in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado. Follow-up consultation is ongoing.
Ute Mountain Ute Tribe, Towoac, CO	Met with the BLM for project overview. Requested that the BLM meet with the Ute Mountain Ute Tribe, the Southern Ute Tribe, the Ute Indian Tribe (Uintah and Ouray Reservation), and the Eastern Shoshone Tribe to field visit wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado, and discuss their protection. Invited to and participated in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area. Consultation is ongoing.
Ute Indian Tribe (Uintah and Ouray Reseervation), Fort Duchesne, UT	Contacts continue regarding potential leasing for commercial oil shale and/or tar sands development on split estate lands located in the Hill Creek Extension of the Uinta and Ouray Reservation. Invited and participated in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado. Met with the BLM to discuss split estate lands in the Hill Creek Extension. Consultation is ongoing.
Hopi Tribe, Kykotsmovi, AZ	The tribe initially indicated it desires further contact regarding the EIS but has not responded to follow-up communications. Consultation opportunities will continue to be provided.
Kaibab Paiute Tribe, Fredonia, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Window Rock, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Aneth Chapter, Montezuma Creek, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Dennehotso Chapter, Dennehotso, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Mexican Water Chapter, Teec Nos Pos, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.

Table 15: Government-to-Government Consultation Summary

Tribes Contacted for Consultation on the PEIS	Status of Consultation Process
Navajo Nation, Navajo Mountain Chapter, Tonalea, AZ	The chapter requested further information, which the BLM provided to them. Consultation opportunities will continue to be provided.
Navajo Nation, Oljato Chapter, Monument Valley, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Red Mesa Chapter, Montezuma Creek, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Teec Nos Pos Chapter, Teec Nos Pos, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Northwestern Band of Shoshone Nation, Pocatello, ID	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Paiute Indian Tribe of Utah, Cedar City, UT	The tribe has indicated that further consultation is not needed.
Pueblo of Laguna, Laguna, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Nambe, Santa Fe, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Santa Clara, Espanola, NM	The tribe has indicated that further consultation is not needed.
Pueblo of Zia, Zia Pueblo, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Zuni, Zuni, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
San Juan Southern Paiute Tribe, Tuba City, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
White Mesa Band of the Ute Mountain Ute Tribe, Blanding, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Northern Arapaho Tribe, Fort Washakie, WY	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Eastern Shoshone Tribe, Fort Washakie, WY	The tribe initially expressed a desire to be a cooperating agency. They did not sign the required MOU. Invited to but did not participate in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado. Consultation opportunities will continue to be provided.

Cooperating Agencies

The PRMP/FPEIS was prepared in cooperation with 14 Federal, State, and local governmental organizations, and numerous opportunities for coordination were provided these entities. These included coordination during the scoping period, briefings throughout the process, formulation of the alternatives, and opportunities to review and comment on preliminary and internal drafts of the PEIS. The BLM held many informal meetings and discussions with the cooperating agencies. In addition, the BLM consulted with the U.S. Environmental Protection Agency (EPA) on the PRMP/FEIS.

The BLM worked collaboratively with its cooperating agencies throughout the process to create a balanced commercial leasing program, consistent with the intent of Congress. Management plans and programs established by these cooperating agencies were considered in the preparation of the PRMP/FPEIS based on information provided by the agencies. The allocation decision, by specifying which lands are open to application to lease, only permits the BLM to consider such applications to lease. The allocation decision does not grant any property rights, nor does it authorize any ground-disturbing activities, and it is not an irreversible or irretrievable commitment of resources under NEPA. Therefore, the allocation decision does not conflict with any State, local, or tribal plans.

The following agencies participated as cooperating agencies in the preparation of the PRMP/FEIS:

- National Park Service;
- U.S. Fish and Wildlife Service;
- State of Colorado, Department of Natural Resources and Department of Public Health and the Environment;
- State of Utah;
- State of Wyoming;
- Garfield County, Colorado;
- City of Rifle, Colorado;
- Duchesne County, Utah;
- Uintah County, Utah;
- Grand County, Utah;
- Carbon County, Utah;
- Sweetwater County, Wyoming;
- Lincoln County, Wyoming; and
- Coalition of Local Governments (Wyoming).

The BLM will continue to cooperate with State, local, and tribal governments to promote consistency with their land use plans. No lease sales will be held before additional consultation with States, tribes, and local governments, as directed by Congress in Section 369(e) of the 2005 Energy Policy Act.

The FLPMA, at *United States Code*, Title 43, Section 1712(c)(9) (43 USC §1712(c)(9)) states that the Secretary of the Interior will "coordinate the land-use inventory, planning, and management activities of or for such lands with the land-use planning and management programs of other Federal departments, and agencies and of the States and local governments within which the lands are located." It further states that "the Secretary shall assure that consideration is given to those State, local, and tribal plans that are germane in the development of land-use plans for public lands [and] assist in resolving, to the extent practical, inconsistencies between Federal and non-Federal Government plans…." This does not require the BLM to adhere to or adopt the plans of other agencies or jurisdictional entities, but rather to give consideration to this plan and make an effort to resolve inconsistencies to the extent practical.

Congress also authorized the Secretary to lease Federal oil shale and tar sands resources and has declared them to be "strategically important domestic resources that should be developed" … "to benefit the United States while taking into account affected States and communities." The BLM is aware that there are State planning decisions relevant to aspects of public land management that are discrete from, and independent of, Federal law. As the BLM is bound by FLPMA and other Federal laws, however, it may be possible that management of Federal oil shale or tar resources could occur that would not be completely consistent with all aspects of State and local plans, and inconsistencies between Federal and non-Federal Government plans could only be resolved to the extent practical (FLPMA, Title II Sec. 202 (c)(9)).

Where State plans conflict with Federal law, there will be an inconsistency that cannot be resolved or reconciled. Thus, while State and Federal planning processes, under FLPMA, are required to be as integrated and consistent as practical, the Federal agency planning process is not bound by or subject to State plans, planning processes, or planning stipulations.

Under the PRMP/FPEIS's allocation decisions, the BLM is only permitted to consider applications to lease. The allocation decision does not grant any property rights, nor does it authorize any ground-disturbing activities and is not an irreversible or irretrievable commitment of resources under NEPA. On November 9, 2012, the BLM initiated the 60-day Governors' Consistency Review of the PRMP/FPEIS.

By letters dated January 8, 2013, and January 9, 2013, Governors Mead of Wyoming and Herbert of Utah provided comments concerning the Proposed Plan Amendments for their respective States. The State of Colorado did not submit a Governors' Consistency Letter. The Wyoming and Utah governors submitted comments and recommendations concerning consistency with State plans, programs and policies. After careful review of the information provided by the Governors of Utah and Wyoming during the Governors' Consistency Review and continued internal review, the BLM determined that no modifications to the Proposed Plan were necessary.

The Governor's Consistency Review process provided an opportunity to clarify the approach the BLM is taking to management of sage-grouse habitat in Wyoming. As explained in the February 6, 2013, response to Governor Mead, the scope of the decisionmaking to be supported by the development of this PEIS is limited to an allocation decision. This land use allocation

does not authorize any future lease or development proposal. The current experimental state of the oil shale and tar sands industries does not allow this PEIS to include sufficient specific information or cumulative impact analyses to support future leasing decisions within these allocated lands. As such, site-specific issues will be resolved at the lease sale and development stages of the process. Also, BLM managers retain the authority to approve, modify or deny future lease and development proposals based on consideration of numerous factors, including, but not limited to, resources, economic viability, and community concerns. As part of the review process for any future oil shale lease or development project, the BLM would consider adopting appropriate mitigation measures, including, but not limited to, the processes, guidelines, and stipulations detailed in Wyoming E.O. 2011-5, as warranted by the NEPA analysis and other environmental review. E.O. 2011-5 is presented in Section K.5 of Appendix K of the Final PEIS.

On March 7, 2013, the Governors of Utah and Wyoming, respectively, appealed the Assistant Director's decision to the BLM Director. The Principal Deputy BLM Director issued a final response to the Governors affirming the Assistant Director's decision. Pursuant to 43 CFR 1610.3-2, the following describes the reasons for the BLM's decision.

This planning initiative is a targeted plan amendment process that addresses only the management of oil shale and tar sands resources. The ROD makes only land use allocation decisions that do not authorize any future leasing or development. The Approved Plan Amendments reflect the BLM's determination that because of the nascent character of the oil shale and tar sands technologies, a measured approach should be taken to oil shale and tar sands leasing and development. This approach is intended to ensure that commercial viability is proven, and the environmental consequences of these technologies known, before any commitment is made to broad-scale development, which may impact other resource values. Consistent with this approach, the BLM is closing lands that have been identified as having wilderness characteristics from future oil shale and tar sands leasing and development. For the same reason, the BLM is closing occupied sage-grouse habitat in Utah. The BLM, the USFWS, and the State of Utah are still in the process of coordinating management of this resource, and the occupied habitat maps relied on in this oil shale/tar sands planning initiative represent the best information available to depict areas warranting protection at this early stage of the oil shale and tar sands industries. We recognize that Utah has recently submitted to the BLM its Conservation Plan for Greater Sage-Grouse, however, until the USFWS and the BLM complete their review of Utah's Conservation Plan in accordance with the BLM National Greater Sage-Grouse Planning Strategy, the State's occupied habitat map represents the best source of information regarding sage-grouse habitat.

By contrast, in Wyoming, interagency coordination regarding sage-grouse habitat is at a different stage. In Wyoming, the USFWS has concurred with the Wyoming Governor's E.O. 2011-5, and the E.O. has been adopted in relevant part by the Wyoming BLM in accordance with the guidance issued in the BLM Washington Office Instruction Memorandum No. 2012-43. Under the Approved Plan Amendments, the BLM is not excluding from potential oil shale leasing and development sage-grouse habitat, but instead, similar to the State of Wyoming's own approach, will consider adopting protective measures at the time it considers lease issuance, if warranted on the basis of environmental review conducted at that time. Because this ROD approves land use allocation decisions that do not authorize any future leasing or development, site-specific issues, including, but not limited to protection of sage-grouse habitat, will be resolved at the lease sale and development stages of the process.

Because the Governor of Colorado did not submit a letter, the Proposed Plan Amendments are presumed to be consistent with state plans, policies and programs in that state.

NHPA — Section 106 Consultation

Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings (actions or authorizations) on any district, site, building, structure, or object that is included in or eligible for inclusion in the *National Register of Historic Places* (NRHP) and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The procedural requirements for compliance with Section 106 of the NHPA are set forth in the ACHP's Section 106 regulations at 36 CFR Part 800. The BLM initiated the Section 106 process pursuant to these regulations and reviewed existing information regarding historic properties in the Area of Potential Effects (APE) for this amendment of land use plans. The APE has been defined as the most geologically prospective areas for oil shale and tar sands in Colorado, Utah, and Wyoming. The BLM initiated consultation with the SHPOs, tribes, and other consulting parties. (Appendix L of the Final PEIS describes the consultation process.) The BLM reviewed existing information on historic properties within the APE, incorporating information gathered through consultation with the consulting parties.

Based on the review, the BLM has identified historic properties within the APE, and that additional unidentified historic properties are likely present within the APE. The BLM has determined that this decision to allocate lands as open or closed for oil shale and tar sands potential leasing and development does not affect these historic properties. As articulated in the BLM's finding letters sent to the Colorado, Utah, and Wyoming SHPOs pursuant to 36 CFR 800.4(d)(1), the BLM bases its determination on the following: (1) the decision to allocate lands as open or closed to potential oil shale and tar sands leasing does not approve any on-the-ground activities and does not restrict any managers' authority to fully consider the potential effects on historic properties prior to the potential offer for leasing or development, including the ability to approve, modify, or deny a lease application or development proposal based on consideration of such effects; and (2) the current status of oil shale and tar sands development technology is not sufficiently defined to identify with certainty the types of impacts that might occur on historic properties if areas were leased and developed. Therefore, while they may inform future decisions, the analyses in this document are more likely to be added to, or elaborated upon, prior to any future leasing or development decisions, which will be subject to full compliance with Section 106 at that time.

Oil shale and tar sands development would require a three-stage decisionmaking process. The first stage, which is the subject of this PEIS, is the proposed amendment of land use plans to allocate lands as open or closed to potential oil shale and/or tar sands leasing and, where leases are acquired, potential development. Compliance with Section 106 for this stage is at a level appropriate for this decision. The BLM recognizes that the decision to allocate lands does not identify or authorize any future leasing or development, and that the technology for such development is subject to change from that reviewed in this study. Accordingly, the BLM has determined that no historic properties would be affected by amending the land use plans.

The second stage requires full compliance with Section 106 of the NHPA prior to the BLM issuing a lease for potential oil shale or tar sands development. The APE for a potential lease would be determined based on the extent of the proposed lease. Government-to-Government consultation with affected tribes concerning a proposed lease area would occur at the second stage. The second stage would require consultation with all interested parties. Documentation and inventory would occur at the second stage in order to identify, evaluate, and mitigate any historic properties in the APE. This effort would include an analysis of existing overview information and a current records and literature search. A Class II or Class III inventory or visual resource inventory may also be required, if necessary, to determine the undertaking's effect on historic properties. Lease areas may be subject to stipulations or other requirements identified during the leasing process.

The final stage is the potential approval of a specific plan of development. A plan of development would identify specific locations, facilities, and timing for development. This decision would also require compliance with Section 106 of the NHPA prior to approval, and may also be subject to stipulations or other requirements identified during the leasing stage to avoid, minimize, or mitigate impacts on historic properties. Government-to-Government consultation with tribes would occur during this stage to determine whether the plan of development would have an effect on properties of concern. Consultation with interested parties would also take place. Detailed field review will take place at this stage, including Class III cultural resource inventories, visual resource inventories, and other site-specific reviews, as needed.

The BLM will complete comprehensive identification (e.g., field inventory), evaluation, protection, and mitigation, following the policies and procedures contained within the 2012 BLM National Programmatic Agreement (BLM 2012b) and as indicated in any lease stipulations. In addition, the BLM will continue to implement Government-to-Government consultation with tribes and with other consulting parties on a case-by-case basis for plans of development.

The BLM does not approve any ground-disturbing activities that may affect any historic properties, sacred landscapes, and/or resources protected under the NHPA, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), E.O. 13007 (U.S. President 1996), or other statutes and E.O.s until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or it may disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.

ESA — Section 7 Compliance

Section 7 of the ESA, as amended (16 USC 1536), directs each Federal agency, in consultation with the USFWS or the National Marine Fisheries Service (NMFS), as appropriate, to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of critical habitat. Under Section 7 of the ESA, those agencies that

authorize, fund, or carry out the Federal action are commonly known as "action agencies." If an action agency determines that its Federal action "may affect" listed species or critical habitat, it must consult with the USFWS (Service), as it has jurisdiction over the species or habitat that may be affected (see 50 CFR 402.02, 402.13–14). If an action agency determines that the Federal action will have no effect on listed species or critical habitat, the action agency may make a "no effect" determination. In that case, the action agency does not initiate consultation with the Service and its obligations under Section 7 are complete.

In complying with its duty under Section 7, the BLM, as the action agency, has examined whether amending land use plans to identify lands as available for application for commercial leases for oil shale or tar sands development would have any effects on listed species and/or critical habitat. In making this determination, the BLM also reviewed USFWS guidance concerning emissions of GHGs and any effects they may cause on listed species and critical habitats, in particular the polar bear, because if and when oil shale and tar sands resources are developed, those development activities may result in the emissions of GHGs (Caswell 2008; Hall 2008). As a result of these reviews, the BLM has determined that its action of amending land use plans to allocate areas as available or not available for application for oil shale and tar sands leasing would cause no effect on any listed species or critical habitat.

Because of the nascent character of any oil shale or tar sands industry, it is impossible at present to determine what biological effects on listed species or critical habitat might be "reasonably certain to occur" (50 CFR 402.02). This is because there is no proven commercially viable technology for extracting liquid fuels or lubricants from oil shale and tar sands. This circumstance is described in the 2008 OSTS PEIS and ROD (BLM 2008a,b) associated with land use plan amendments to address the management of oil shale and tar sands on the public lands, as well as in the preamble to the 2008 oil shale regulations. Even today, as noted in the 2012 OSTS PRMP/PEIS (BLM 2012a), Appendix A, despite ongoing research efforts, there is no such proven technology.

As a result, the specifics of the technology or technologies that may be shown in the future to be commercially viable cannot be predicted with any certainty at this time. Neither can the specific areas (among those generally available) most likely to be developed or the possible environmental consequences of such development be predicted at this time. Therefore, the NEPA analysis associated with the current land use planning initiative, like the 2008 NEPA analysis, is based for analytical purposes on very general assumptions about the possible technologies, areas, and environmental consequences involved in management of oil shale and tar sands resources.

With respect to compliance with the ESA for this land use planning initiative, the BLM considered preparing a biological assessment (BA) and initiating consultation with the USFWS under Section 7(a)(2) of the ESA. After discussing various approaches in light of the nascent character of the development of oil shale and tar sands resources and closely examining the regulations for implementing the ESA, the BLM determined, however, that preparation of a BA before a lease- or site-specific project had been proposed would be based largely on conjecture and speculation. There simply would be no way to know before such a proposal is made whether the impacts to be assessed would be those that would actually occur as a result of a proposal by a future proponent. Further, without knowing the specifics of when and where a project would occur, it would be impossible to know what species or habitat, if any, would be affected by the

project. The BLM considered whether it made sense to make assumptions for the purposes of a BA but was left with no credible basis on which to make such assumptions. The BLM determined such assumptions would be speculative and not linked to the Federal action of amending land use plans. Any BA would be a speculative assessment of the effects from future site-specific projects, not of the current action. Therefore, the BLM has determined that the land use plan amendments to identify lands as available for application for commercial leasing for oil shale or tar sands development would have no effect on listed species or critical habitat.

Moreover, as noted in the 2008 OSTS PEIS and again in the 2012 OSTS PRMP/PEIS, this land use plan amendment is solely an allocation decision; it does not establish a precedent or create any legal right that would allow ground-disturbing activities without further agency decisionmaking and compliance with applicable statutes, including the ESA, NEPA, and other applicable authorities. Further, apart from possible socioeconomic impacts associated with speculative investments in lands adjacent to lands allocated for oil shale and tar sands development, there are no environmental consequences at all from the administrative action of amending land use plans in the manner described. Therefore, the NEPA analysis being prepared focuses on the potential effects associated with possible future leasing and development, in order to inform the decisionmaker regarding the allocation decisions.

This determination of "no effect" is consistent with the determination made with respect to the planning initiative that was completed in 2008. At the outset of the development of the 2008 OSTS PEIS, when the BLM planned to issue leases on the basis of the analyses conducted in that document, the BLM began the process of consultation with the USFWS pursuant to its obligations under Section 7 of the ESA. During this preliminary consultation, the BLM and USFWS jointly developed conservation measures to support conservation of species listed under the ESA. During preparation of what became the 2008 OSTS PEIS, the decision to be made (the proposed action) was limited to the amendment of land use plans setting out the allocation of areas that would be available for application for leases; therefore, during that period, the BLM determined that the proposed action would result in no effect on listed species or critical habitat.

The BLM recognizes that listed species and critical habitat are likely to be present in the lands described in the land use plan amendment. Tables 4.8.1-6 and 5.8.1-6 in the 2008 OSTS PEIS identify the listed species that occur in the States of Colorado, Utah, and Wyoming where the land use plan amendments would allocate lands for either oil shale or tar sands leasing. These have been identified in the 2012 OSTS PRMP/PEIS, as well (see Tables 4.8.1-6 and 5.8.1-6). Portions of the designated areas are occupied by listed species or contain designated critical habitat. Therefore, the BLM fully expects that if in response to a call for nominations, an application for a lease, permit, or other authorization is received by the BLM for oil shale or tar sands development within lands identified as available for application, procedures to comply with Section 7 of the ESA would be initiated at that time. Such procedures may take the form of a "no effect" determination by the BLM, informal consultation with USFWS, or formal consultation with USFWS. At such time as any "no effect" determination is made, or informal or formal consultation occurs, such determination/consultation would be made based on a full record describing the proposed lease, project, site, method of construction, and other relevant information—all features that are lacking at the present time. Such a determination would take place following a full policy and legal review.

Further, if analysis undertaken in consideration of a definitely proposed lease or project area or technology warrants, the BLM may impose conservation measures upon potential lessees through lease stipulation or other means. In fact, as in the 2008 OSTS PEIS, the BLM has included Appendix F to the 2012 OSTS PRMP/PEIS (Appendix B of this ROD), which presents conservation measures developed through coordination with the USFWS during the oil shale and tar sands planning process that culminated in the 2008 land use plan amendments, as well as additional conservation measures that have been developed during more recent coordination. These measures have been included in Appendix B, both for the new NEPA/planning process and to provide the public and any potential lessees with some sense of what conservation measures might be imposed, if warranted.

The BLM, in coordination with the USFWS, intends to ensure that the conservation measures presented are consistent with those currently applied to other land management actions where associated impacts are similar. However, it is presumed that potential impacts from possible development alternatives (described based on assumptions made for analytical purposes in the NEPA analysis) are likely to vary in scale and intensity compared with previously considered land management actions (e.g., oil and gas exploration and production, surface mining, and underground mining). Thus, final conservation measures will be developed commensurate with the anticipated level of impact from actual future site-specific projects developed under the selected alternative, as analyzed in those site-specific project-level analyses, and will be consistent with agency policies. For example, current BLM guidance on similar actions (e.g., projects involved in the development of fluid mineral resources) requires that the least restrictive stipulation that effectively accomplishes the resource objectives or resource uses for a given alternative should be used in order for a project to remain in compliance with the ESA.

PUBLIC INVOLVEMENT

One of BLM's primary objectives during development of the PRMP/FPEIS was to understand the concerns and issues of various members of the public by providing opportunities for meaningful participation in the resource management planning process.

Scoping

To achieve this, the BLM published the Notice of Intent (NOI) to prepare the PEIS in the *Federal Register* (76 FR 21003–21005) on April 14, 2011. The NOI identified planning criteria, initiated the public scoping process, and invited interested members of the public to provide comments on the scope and objectives of the PEIS and to identify issues to be addressed in the planning process. The BLM conducted scoping from April 14, 2011, through May 16, 2011. During that period, the BLM invited the public and interested groups to provide information on resource use, land allocations, and development and protection opportunities for consideration in preparation of the PEIS.

Public scoping meetings were held at seven locations in April and May of 2011: Salt Lake City, Utah (April 26); Price, Utah (April 27); Vernal, Utah (April 28); Rock Springs, Wyoming (April 29); Rifle, Colorado (May 3); Denver, Colorado (May 4); and Cheyenne, Wyoming (May 5). Meetings were held at 1:00 p.m. and 7:00 p.m. at each location, and a court reporter recorded a transcript for each meeting. At each meeting, the BLM presented background information about the OSTS PEIS and related activities. Presentation materials from these meetings, including slides, are available on the project Web site (http://ostseis.anl.gov).

Approximately 4,663 individuals, organizations, and governmental agencies provided comments or suggestions on the scope of the PEIS. Three of these comments were part of major campaigns; each campaign involved an e-mail attachment containing essentially the same letter for each individual submittal. In total, these campaigns represented an additional 23,860 commentors. Approximately 3,061 comment letters were submitted online; 133 were submitted orally at scoping meetings; and 37 were submitted by mail. Comments were received from 5 State agency divisions (1 from Utah, 2 from Colorado, and 2 from Wyoming), 4 Federal agency offices (1 from the NPS, 1 from the USFWS, 1 from the EPA, and 1 from the U.S. Congressional Task Force on Unconventional Fuels), 14 local government organizations (Colorado: Garfield, Mesa, Pitkin, and Rio Blanco Counties; City of Rifle, and Towns of New Castle, Rangely, and Silt; Utah: Carbon and Uintah Counties; Wyoming: Board of Lincoln County Commissioners, Coalition of Local Governments, Rock Springs City Council, and Sweetwater County Board of Commissioners), and more than 80 other organizations (including environmental groups, interest groups, consulting firms, and industry).

More than 392 people registered their attendance at the public meetings in April and May 2011; 133 individuals in attendance provided oral or written comments, or both, during the meetings. Of the remaining scoping comments that were submitted, about 0.1 percent were submitted by mail and 99 percent were submitted online.

The BLM published a scoping report (BLM 2011) that summarizes and categorizes the major themes, issues, concerns, and comments expressed by private citizens, government agencies, private firms, and nongovernmental organizations. These comments were considered in developing the alternatives in this PEIS.

Public Comments on the Draft PEIS

The EPA published the Notice of Availability (NOA) of the Draft PEIS in the *Federal Register* on February 3, 2012 (77 FR 5513). Publication of the NOA began a 90-day public comment period on the Draft PEIS, ending May 4, 2012. The Draft PEIS was posted in its entirety on the Oil Shale and Tar Sands PEIS Web site (http://ostseis.anl.gov). Printed copies of the document and CDs containing the electronic files for the document were mailed upon request. More than 160,000 people and organizations participated in the public comment process. Nearly 153 organizations (public and private) provided comments on the Draft PEIS. The BLM reviewed and responded to all comments and made changes to the FPEIS, as appropriate.

Release of the Proposed Plan Amendments and Final PEIS

The EPA published the NOA of the Proposed Plan Amendments/Final PEIS in the *Federal Register* on November 9, 2012 (77 FR 67362). The BLM will continue to actively seek the views of the public by using outreach techniques such as news releases and Web site information to offer opportunities for public participation and to inform the public of new and ongoing project proposals, site-specific planning, and opportunities and timeframes for comment. The BLM will also continue to coordinate, both formally and informally, with the numerous States, Federal, tribal, and local agencies and officials interested and involved in the management of oil shale and tar sands resources on public lands in Colorado, Utah, and Wyoming within the planning area.

AVAILABILITY OF THE PLAN

Paper and electronic copies of the ROD and the Approved Plan Amendments are available by request from the following locations:

- Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado 80215
- Northwest District Office, 2815 H Road, Grand Junction, Colorado 81506
- Colorado River Valley Field Office, 2300 River Frontage Road, Silt, Colorado 81652
- White River Field Office, 220 East Market Street, Meeker, Colorado 81641
- Utah State Office, 440 West 200 South, Suite 500, Salt Lake City, Utah 84101
- Green River District Office, 170 South 500 East, Vernal Utah 84078
- Price Field Office, 125 South 600 West, Price, Utah 84501
- Color Country District Office, 176 East D.L. Sargent Drive, Cedar City, Utah 84721
- Richfield Field Office, 150 East 900 North, Richfield, Utah 84701
- Canyon Country District Office, 82 East Dogwood, Moab, Utah 84532
- Monticello Field Office, 365 North Main, Monticello, Utah 84535
- Wyoming State Office, 5353 Yellowstone Road, Cheyenne, Wyoming 82009
- High Desert District Office, 280 Highway 191 North, Rock Springs, Wyoming 82901
- Kemmerer Field Office, 312 Highway 189 North, Kemmerer, Wyoming 83101
- Rawlins Field Office, 1300 North Third, Rawlins, Wyoming 82301

Interested persons may also review the Proposed Plan Amendments and Final PEIS on the Internet at http://ostseis.anl.gov.

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BLM DIRECTOR APPROVAL

Having considered a full range of reasonable alternatives, associated effects, and public input, I approve the Oil Shale and Tar Sands Resources Resource Management Plan Amendments.

Neil Kornze
Principal Deputy Director
Bureau of Land Management

3/22/13

Date

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APPROVED RESOURCE MANAGEMENT PLAN AMENDMENTS

INTRODUCTION

These Approved Plan Amendments amend the following RMPs for oil shale and tar sands resources:

Colorado:

- Glenwood Springs RMP (BLM 1988, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])
- Grand Junction RMP (BLM 1987)
- White River RMP (BLM 1997a, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])

Utah:

- Monticello RMP (BLM 2008g)
- Price RMP (BLM 2008d)
- Richfield RMP (BLM 2008h)
- Vernal RMP (BLM 2008e)

Wyoming:

- Green River RMP (BLM 1997b, as amended by the Jack Morrow Hills Coordinated Activity Plan [BLM 2006b])
- Kemmerer RMP (BLM 2010)
- Rawlins RMP (BLM 2008f)

These Approved Plan Amendments are now the base land use allocation plans for oil shale and tar sands resources on public lands administered by the BLM's Colorado River Valley (formerly Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices.

The Approved Plan Amendments adopt the allocations presented in the Proposed Plan Amendments/Final PEIS, with adjustments as described in the Notice of Modification and Clarification sections of the ROD.

CONSIDERATION OF OTHER BLM PLANS AND POLICIES

The ROD for the Approved Plan Amendments amends the land use plans existing at the time the ROD is implemented and identifies those areas designated as open for application for future oil shale and tar sands leasing. The existing plans within the PRMP/FPEIS study area include the following:

Colorado:

- Glenwood Springs RMP (BLM 1988, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])
- Grand Junction RMP (BLM 1987)
- White River RMP (BLM 1997a, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008c])

Utah:

- Monticello RMP (BLM 2008g)
- Price RMP (BLM 2008d)
- Richfield RMP (BLM 2008h)
- Vernal RMP (BLM 2008e)

Wyoming:

- Green River RMP (BLM 1997b, as amended by the Jack Morrow Hills Coordinated Activity Plan [BLM 2006b])
- Kemmerer RMP (BLM 2010)
- Rawlins RMP (BLM 2008f)

These existing BLM land use plans will be amended by decisions contained in the ROD for the Proposed Plan Amendments/Final PEIS. The proposed land use plan amendments are attached (Attachment ─ Appendix A). These plans continue to outline the decisions or protocols for the management of the other resource uses or values within the appropriate planning areas.

In the event there are inconsistencies or discrepancies between previously approved plans and these Approved Plan Amendments, the decisions contained in the Approved Plan Amendments for oil shale and tar sands resources will be followed. The Colorado River valley (formerly Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices will continue to tier to statewide, national, and programmatic EISs and other NEPA and planning documents, as well as consider and apply BMPs or other management protocols contained in other planning documents after appropriate site-specific analysis.

All future resource authorizations and actions will conform to, or be consistent with the decisions contained in these Approved Plan Amendments. All existing operations and activities authorized under permits, contracts, cooperative agreements, or other authorizations will be modified, as necessary, to conform to this plan within a reasonable timeframe. However, this plan does not

repeal valid existing rights on public lands. A valid existing right is an authorization that takes precedence over the decisions developed in this plan. If such authorizations come up for review and can be modified, they will also be brought into conformance with the plan.

While the Proposed Plan Amendments/Final PEIS constitutes compliance with FLPMA and NEPA for the broad-scale decisions made in these Approved Plan Amendments, the BLM will continue to prepare environmental assessments and environmental impact statements where appropriate as part of leasing and development level planning and decisionmaking. The appropriate BLM field office during subsequent NEPA analysis will consider all available information and a range of alternative management prescriptions for how the local resource values and uses would be managed, in conjunction with the specific leasing proposal or development. The NEPA analysis will evaluate any potential environment impacts and evaluate specific measures developed to mitigate or eliminate those impacts.

PLAN IMPLEMENTATION

General Implementation Schedule

The decisions of the Approved Plan Amendments go into effect upon signature of the ROD.

Maintaining the Plan

Land use plan decisions and supporting information associated with the Colorado River Valley (formerly Glenwood Springs), Grand Junction, White River, Price, Vernal, Monticello, Richfield, Kemmerer, Rock Springs, and Rawlins Field Offices can be maintained to reflect minor changes in data, but maintenance is limited to refining, documenting, and/or clarifying previously approved decisions.

In addition, the BLM expects that new information gathered from field inventories and assessments, research, other agency studies, and other sources will update baseline data and/or support new management techniques, BMPs, and scientific principles. Where monitoring shows land use plan actions or BMPs are not effective, modifications or adjustments may occur without amendment or revision of the plan as long as assumptions and impacts disclosed in the analysis remain valid, and broad-scale goals and objectives are not changed.

Plan maintenance will be documented in supporting records. Plan maintenance does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions.

Changing the Plan

The BLM believes that the RD&D program will significantly enhance the collective knowledge regarding the viability of innovative technologies for oil shale development on a commercial scale and provide additional information on environmental consequences and potential mitigations.

The Approved Plan Amendments may be changed, should conditions warrant, through a plan amendment process. A plan amendment may become necessary if major changes are needed, additional information is available, or to consider a proposal or action that is not in conformance with the plan. The results of monitoring, evaluation of new data, or policy changes and changing public needs might also provide the impetus for an amendment. Generally, an amendment is issue specific. If the plan amendments become outdated or otherwise obsolete, a further plan amendment may become necessary. Plan amendments are accomplished with public input and the appropriate level of environmental analysis.

Data used in development of the Approved Plan Amendments are dynamic. The data and maps used throughout the Approved Plan Amendments are for land use planning purposes and will be refined as site-specific planning and on-the-ground implementation occurs. Updating data is considered plan maintenance and will occur over time as the RMP is implemented (see the section on Plan Implementation). Please note that all acreages presented in the Approved Plan Amendment are estimations, even when presented to the nearest acre.

LIST OF PREPARERS

Name	Education/Expertise	Contribution
Bureau of Land Management		
Sherri Thompson	B.S., Petroleum Engineering; 19 years of experience in fluid minerals resources; 8 years of experience in planning and NEPA.	BLM Project Manager
Scott F. Archer	B.S., Chemistry, Environmental Science, and Police Administration; 30 years of experience in air resource management.	Air quality and climate impacts analysis
Susan Bassett	B.S., Chemical Engineering; B.A., English; 20 years of experience in air quality compliance and NEPA analysis.	Air quality impacts analysis
Kate Winthrop	Ph.D., Anthropology; 30 years of cultural resource management experience.	Cultural resources

Name	Education/Expertise	Contribution
Angela Zahniser	B.A., Anthropology and Philosophy; 6 years of experience in air resource management.	Global climate change
Argonne National Laboratory		
Timothy Allison	M.S., Mineral and Energy Resource Economics; M.A., Geography; 25 years of experience in regional analysis and economic impact analysis.	Technical lead for socioeconomic analysis and environmental justice
Georgia Anast	B.A., Mathematics/Biology; 21 years of experience in environmental assessment.	Comment/response manager
Bruce M. Biwer	Ph.D., Chemistry; 21 years of experience in transportation and environmental risk analysis.	Transportation impacts analysis
Brian L. Cantwell	B.S., Forestry; 28 years of experience in cartography and GIS mapping.	Technical lead for GIS mapping
Young-Soo Chang	Ph.D., Chemical Engineering; 24 years of experience in air quality and noise impact analysis.	Affected environment, air quality and emissions, noise
Linda Graf	Desktop publishing specialist; 40 years of experience in creating, revising, formatting, and printing documents.	Document assembly and production
Mark Grippo	Ph.D., Biology; 7 years of experience in ecological research; 4 years of experience in environmental assessment.	Ecological resources analysis (aquatic)
Heidi M. Hartmann	M.S., Environmental Toxicology and Epidemiology; 25 years of experience in exposure and risk analysis and environmental impact assessment.	Health and safety analysis; cumulative impacts summary
John Hayse	Ph.D., Zoology; 24 years of experience in ecological research and environmental assessment.	Ecological resources analysis (aquatic)
Elizabeth Hocking	J.D., 21 years of experience in regulatory and policy analysis.	Regulatory requirements
Patricia Hollopeter	M.A., Philosophy; 30 years of experience in editing and writing.	Lead editor
Ronald Kolpa	M.S., Inorganic Chemistry; B.S., Chemistry; 36 years of experience in environmental regulation, auditing, and planning.	Hazardous materials and waste management; technology overview for oil shale

Table 15: Government-to-Government Consultation Summary	
Tribes Contacted for Consultation on the PEIS	Status of Consultation Process
Navajo Nation, Navajo Mountain Chapter, Tonalea, AZ	The chapter requested further information, which the BLM provided to them. Consultation opportunities will continue to be provided.
Navajo Nation, Oljato Chapter, Monument Valley, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Red Mesa Chapter, Montezuma Creek, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Navajo Nation, Teec Nos Pos Chapter, Teec Nos Pos, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Northwestern Band of Shoshone Nation, Pocatello, ID	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Paiute Indian Tribe of Utah, Cedar City, UT	The tribe has indicated that further consultation is not needed.
Pueblo of Laguna, Laguna, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Nambe, Santa Fe, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Santa Clara, Espanola, NM	The tribe has indicated that further consultation is not needed.
Pueblo of Zia, Zia Pueblo, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Pueblo of Zuni, Zuni, NM	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
San Juan Southern Paiute Tribe, Tuba City, AZ	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
White Mesa Band of the Ute Mountain Ute Tribe, Blanding, UT	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Northern Arapaho Tribe, Fort Washakie, WY	No response to letters and follow-up phone calls. Consultation opportunities will continue to be provided.
Eastern Shoshone Tribe, Fort Washakie, WY	The tribe initially expressed a desire to be a cooperating agency. They did not sign the required MOU. Invited to but did not participate in the field trip with the BLM to consult on wickiup sites and cultural landscapes in the Yellow Creek area, Rio Blanco County, Colorado. Consultation opportunities will continue to be provided.

Name	Education/Expertise	Contribution
Scott Schlueter	B.S., Computer Graphics Technology; 2 years of experience in GIS mapping and database management.	GIS mapping and data management
Barbara A. Simmons	B.A., Technical Writing; 45 years of experience in publications management and technical editing.	Editing and proofreading
Albert E. Smith	Ph.D., Physics; 31 years of experience in air quality and environmental assessment.	Technical review for noise and air quality impacts analysis
Carolyn M. Steele	B.A., English; B.A., Rhetoric; 5 years of experience in technical writing and editing.	Editor
Robert Sullivan	M.L.A., Landscape Architecture; 25 years of experience in visual impact analysis and simulation; 17 years in Web site development.	Technical lead for visual impact analysis; public Web site development
Robert A. Van Lonkhuyzen	B.A., Biology; 20 years of experience in ecological research and environmental assessment.	Ecological resources analysis (plant communities and habitats)
Bruce Verhaaren	Ph.D., Archaeology; 24 years of experience in archaeological analysis; 21 years in environmental assessment and records management.	Native American consultation and concerns; records management
William S. Vinikour	M.S., Biology with environmental emphasis; 35 years of experience in ecological research and environmental assessment.	Ecological resources analysis (wildlife)
Leroy J. Walston	M.S., Biology; 9 years of experience in ecological research and environmental assessment.	Ecological resources analysis (threatened, endangered, and sensitive species)
Suzanne Williams	B.S., Communication Studies with concentration in English; 27 years of experience in technical communications.	Editor
Emily A. Zvolanek	B.A., Environmental Science; 3 years of experience in GIS mapping.	GIS mapping

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LIST OF ACRONYMS

ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	best management practice
CFR	*Code of Federal Regulations*
CHL	Combined Hydrocarbon Lease
DOI	U.S. Department of the Interior
E.O.	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FPEIS	Final Programmatic Environmental Impact Statement
FR	*Federal Register*
GHG	greenhouse gas
GIS	geographic information system
GSENM	Grand Staircase–Escalante National Monument
IQA	Information/Data Quality Act
KSLA	Known Sodium Leasing Area
LAU	Lynx Analysis Unit
LWC	lands having wilderness characteristics
MFP	Management Framework Plan
MMTA	Mechanically Minable Trona Area
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLCS	National Landscape Conservation System

NOA	Notice of Availability
NOI	Notice of Intent
NOSR	Naval Oil Shale Reserves
NPS	National Park Service
NSO	No Surface Occupancy
OSTS	oil shale and tar sands
P.L.	Public Law
PEIS	Programmatic Environmental Impact Statement
PGH	Preliminary General Habitat
PPH	Preliminary Priority Habitat
PRLA	Preference Right Lease Area
PRMP	Proposed Resource Management Plan
PRMPA	Proposed Resource Management Plan Amendment
RD&D	Research, Development, and Demonstration
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
ROD	Record of Decision
SHPO	State Historic Preservation Officer
STSA	Special Tar Sand Area
USC	*United States Code*
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WSA	Wilderness Study Area
WSR	Wild and Scenic River

LIST OF TABLES

LIST OF FIGURES

APPENDIX A:

APPROVED LAND USE PLAN AMENDMENTS
FOR
OIL SHALE AND TAR SANDS

APPENDIX A:
APPROVED LAND USE PLAN AMENDMENTS
FOR
OIL SHALE AND TAR SANDS

The U.S. Department of the Interior, Bureau of Land Management (BLM), develops land use plans to guide activities, establish management goals and approaches, and establish land use allocations within a planning area. Current land use plans are called Resource Management Plans (RMP); in the past, such plans were called Management Framework Plans (MFP); no MFPs remain in the area. Analyses conducted in this programmatic environmental impact statement (PEIS) support the amendment of specific land use plans in those field offices where oil shale and tar sands resources are located, as discussed in Chapters 2 and 6 of the PEIS. For oil shale, eight land use plans would be amended:

- Colorado
  - Glenwood Springs RMP (BLM 1988, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008a])
  - Grand Junction RMP (BLM 1987)
  - White River RMP (BLM 1997a, as amended by the 2006 Roan Plateau Plan Amendment [BLM 2006a, 2007, 2008a])
- Utah
  - Price RMP (BLM 2008b)
  - Vernal RMP (BLM 2008c)
- Wyoming
  - Green River RMP (BLM 1997b, as amended by the Jack Morrow Hills Coordinated Activity Plan [BLM 2006b])
  - Kemmerer RMP (BLM 2010)
  - Rawlins RMP (BLM 2008d).

For tar sands, four land use plans would be amended:

- Utah
  - Monticello RMP (BLM 2008e)
  - Price RMP (BLM 2008b)
  - Richfield RMP (BLM 2008f)
  - Vernal RMP (BLM 2008c).

Table A-1 presents specific information regarding the approved land use plan amendments for each land use plan that is associated with Alternative 2(b) for oil shale, and Table A-2 presents the same information for amendments associated with Alternative 2 for tar sands. These tables describe the individual amendments for each plan, along with the rationale for the amendment. Relevant sections of the PEIS are cited. Some of the proposed amendments are common to all land use plans; these amendments are presented first in each table. Amendments specific to individual plans are presented in the latter section of each table.

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]

Amendments Common to All Land Use Plans

Identify the most geologically prospective oil shale areas within the planning unit.

Rationale: In accordance with the requirements of Section 369(d)(1) of the Energy Policy Act of 2005, the BLM has identified the most geologically prospective oil shale resources in Colorado and Utah as those deposits on public lands (including Federal split estate) that yield 25 gal of oil shale per ton of rock (gal/ton) or more and are 25 ft thick or greater. The most geologically prospective oil shale resources in Wyoming are defined as those deposits that yield 15 gal/ton of oil shale or more and are 15 ft thick or greater.[c]

Specify that while the PEIS refers to "application for leasing for commercial oil shale development," the BLM could publish in the *Federal Register* one or more additional requests for expressions of interest in RD&D leasing within one or more of the states of Colorado, Utah, and Wyoming. Any new RD&D lease would have to be consistent with the applicable BLM land use plans.

Rationale: In Section 369(c) of the Energy Policy Act of 2005, Congress expressly authorized the Secretary to make land available for leasing to conduct R&D activities with respect to technologies for the recovery of liquid fuels from oil shale. The impacts of new RD&D leasing are anticipated to be qualitatively similar to those of commercial oil shale leasing as analyzed in this PEIS. The RD&D impacts, however, are anticipated to be smaller in scale than those of commercial projects, at least until any RD&D lease might be converted to a commercial oil shale lease and expanded to include preference right acreage. Therefore, the analysis in the PEIS for commercial oil shale projects also provides sufficient analysis of RD&D projects for purposes of amending land use plans. New RD&D leases would be issued, if at all, only after site-specific analysis under NEPA. Conversion to commercial leases would also require an individualized NEPA document.

Specify that lands would be available only for RD&D leases first. The BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D lease and the regulations at 43 CFR Part 3926 for conversion to a commercial lease. The preference right acreage, if any, which would be included in the converted lease, would be specified in the RD&D lease.

Rationale: The BLM is taking a measured approach by requiring, in the case of oil shale, that those potential commercial developers of this resource first prove the commercial viability of the technologies they intend to use. This approach is intended to ensure that commercial viability is proven, and the environmental consequences of these technologies known before any commitment to broad-scale development. This requirement is also intended to promote access by innovative small companies to the Federal oil shale resource, thereby increasing the likelihood that a robust commercial program can emerge.

Specify that commercial leasing will occur utilizing a lease by application process described in Section 2.3.3. The process will require that additional NEPA analysis be conducted prior to lease issuance. Information collected as part of the lease application process will be incorporated into the NEPA analysis.

Rationale: The BLM has concluded that, at this time, it does not have adequate information on the (1) potential magnitude and pace of commercial development, (2) potential locations for commercial leases, (3) technologies that will be employed, (4) size or production level of individual commercial

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]
projects, and (5) development time lines for individual projects to support decisions about lease issuance. As a result, the BLM is deferring decisions regarding lease issuance into the future and specifying that prior to processing applications for commercial leases for oil shale development, applicants will be required to identify key information regarding aspects of the proposed development needed to support a complete NEPA review (e.g., technologies to be employed, level of planned development, anticipated offsite impacts, strategies to comply with regulatory requirements, and so forth). During this NEPA review, the BLM will identify and establish appropriate lease stipulations to mitigate anticipated impacts.
Specify that approval of the project-specific plan of operation will require NEPA review to consider site-specific and project-specific factors. The NEPA review for the plan of operations may be incorporated into NEPA for the lease application if adequate operational data are provided by the applicant(s). *Rationale:* Conducting additional NEPA review prior to approval of project-specific plans of operation will allow the BLM to identify and require appropriate mitigation measures as needed to control impacts beyond those established in the lease stipulations.
Specify that the BLM will consider and give priority to the use of land exchanges, where appropriate and feasible, to consolidate land ownership and mineral interests within the oil shale basins. *Rationale:* Section 369(n) of the Energy Policy Act of 2005 requires the Secretary of the Interior (the "Secretary") to consider and give priority to the use of land exchanges to facilitate the recovery of unconventional fuels. The Act states "…to facilitate the recovery of oil shale and tar sands, especially in areas where Federal, State, and private lands are intermingled, the Secretary shall consider the use of land exchanges where appropriate and feasible to consolidate land ownership and mineral interests into manageable areas." The Act also dictates that any land exchange undertaken shall be implemented in accordance with Section 206 of FLPMA.
Colorado
Glenwood Springs RMP, Glenwood Springs Field Office
Designate no (zero) acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically, using today's technologies. Within the most geologically prospective

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]
oil shale area defined in the Piceance Basin in Colorado, the areas where the overburden is 0 to 500 ft thick are very limited, and it would be difficult to assemble a logical mining unit (see Figure 2.3-1).[d]
Specify that NOSR Areas 1 and 3 encompassing 56,238 acres are closed to oil shale leasing. *Rationale*: As explained on pages 2-31 and 2-32, since the original 1930 withdrawal is still in effect on NOSR 1 and 3, these lands are closed and not available for future opportunity to lease for the development of oil shale resources under all alternatives, including the No Action Alternative.
Grand Junction RMP, Grand Junction Field Office
Designate 180 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As discussed in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically, using today's technologies. Within the most geologically prospective oil shale area defined in the Piceance Basin in Colorado, the areas where the overburden is 0 to 500 ft thick are very limited, and it would be difficult to assemble a logical mining unit (see Figure 2.3-1).[c]
White River RMP, White River Field Office
Designate 26,000 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. Rationale: As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing (i.e., commercial and/or RD&D). The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]
be the maximum amount of overburden where surface mining can occur economically using today's technologies. Within the most geologically prospective oil shale area defined in the Piceance Basin in Colorado, the areas where the overburden is 0 to 500 ft thick are very limited, and it would be difficult to assemble a logical mining unit (see Figure 2.3-1).[d]
Specify that restrictions associated with the Multimineral Zone will remain in place that require that the commercial development of oil shale, nahcolite, and dawsonite will only be allowed in this area if recovery technologies are implemented to ensure that each of these minerals can be recovered without preventing recovery of the others (see Section 2.3.3). *Rationale:* The decision to maintain the restrictions associated with the Multimineral Zone will continue protection of the potential commercial value of all mineral resources within this area.
Utah
Price RMP, Price Field Office
Designate 4 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically using today's technologies. Within the Price RMP planning area, there are no areas where the overburden is 0 to 500 ft thick (see Figure 2.3-1).[d]
Vernal RMP, Vernal Field Office
Designate 360,350 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]
Specify that applications for commercial leases using surface mining technologies will only be accepted within an area of 133,194 acres within the most geologically prospective oil shale area where the overburden is 0 to 500 ft thick (see Figure 2.3-1). Applications for commercial leasing using surface mining technologies will not be accepted in any other areas. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically using today's technologies.
Specify that the Ute Indian Tribe will be consulted regarding potential leasing for commercial oil shale development on 57,700 acres of split estate lands located in the Hill Creek Extension of the Uintah and Ouray Reservation prior to considering any parcel for leasing; *Rationale: Required by Federal law and d*uring the tribal consultation process conducted in conjunction with this planning initiative/PEIS, the Ute Indian Tribe requested that such consultation be conducted.
Wyoming
Green River RMP, Rock Springs Field Office
Designate 210,000 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will only be accepted within an area of 380,220 acres within the most geologically prospective oil shale area where the overburden is 0 to 500 ft thick (see Figure 2.3-1). Applications for commercial leasing using surface mining technologies will not be accepted in any other areas. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically using today's technologies.
Kemmerer RMP, Kemmerer Field Office
Designate 50,000 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]
existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically using today's technologies. Within the Kemmerer RMP planning area, there are no areas where the overburden is 0 to 500 ft thick (see Figure 2.3-1).[d]
Rawlins RMP, Rawlins Field Office
Designate 31,745 acres of land within the most geologically prospective oil shale area as available for application for leasing for commercial oil shale development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.3.3, all lands within the most geologically prospective oil shale area that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Specify that applications for commercial leases using surface mining technologies will not be accepted in the planning area. *Rationale:* As described in Section 2.3.1, surface mining will only be allowed in areas where the overburden is 0 to 500 ft thick, because 500 ft is assumed to be the maximum amount of overburden where surface mining can occur economically using today's technologies. Within the Rawlins RMP planning area, there are no areas where the overburden is 0 to 500 ft thick (see Figure 2.3-1).[d]

TABLE A-1 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2(b) for Oil Shale[a,b]

[a] Abbreviations: BLM = Bureau of Land Management; FLPMA = Federal Land Policy and Management Act; MFP = Management Framework Plan; NEPA = National Environmental Policy Act; NOSR = National Oil Shale Reserves; PEIS = programmatic environmental impact statement; RD&D = research, development, and demonstration; RMP = Resource Management Plan.

[b] Commercial leasing as used herein includes both commercial and RD&D leasing.

[c] The most geologically prospective oil shale resources in Colorado were defined on the basis of digital data provided by the U.S. Geological Survey taken from Pitman and Johnson (1978), Pitman (1979), and Pitman et al. (1989). In Utah, the most geologically prospective oil shale resources were defined by digital data provided by the BLM Utah State Office. In Wyoming, the most geologically prospective oil shale resources were defined on the basis of detailed analyses of available oil shale assay data (Wiig 2006a,b). As discussed in Section 1.2, the oil shale resource is not of as high a quality in Wyoming as it is in Colorado and Utah; therefore, the most geologically prospective oil shale resources were defined on the basis of a lower yield and thickness.

[d] The areas within the most geologically prospective oil shale areas where the overburden is 0 to 500 ft thick were mapped on the basis of a variety of sources of information. In Colorado, the area was defined on the basis of data published in Donnell (1987). In Utah, the area was mapped on the basis of data provided by the Utah Geological Survey (Tabet 2007). In Wyoming, the area was mapped on the basis of data provided by Wiig (2006a,b).

TABLE A-2 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2 for Tar Sands[a,b]
Amendments Common to All Land Use Plans
Identify the most geologically prospective tar sand areas within the planning unit. *Rationale:* In accordance with the requirements of Section 369(d)(1) of the Energy Policy Act of 2005, the BLM has identified the most geologically prospective tar sand resources in Utah as those deposits on public lands (including Federal split estate) within the boundaries of the Special Tar Sand Areas.[c]
Specify that commercial leasing of tar sands resources will require that additional NEPA analysis be conducted prior to lease issuance. Information collected as part of the lease application process will be incorporated into the NEPA analysis. Specify that approval of the project-specific plans of operation will require NEPA review to consider site-specific and project-specific factors. The NEPA review for the plan of operations may be incorporated into NEPA for the lease application if adequate operational data are provided by the applicant(s). *Rationale:* Conducting additional NEPA review prior to approval of project-specific plans of operation will allow the BLM to identify and require appropriate mitigation measures as needed to control impacts beyond those established in the lease stipulations.
Specify that the BLM will consider and give priority to the use of land exchanges, where appropriate and feasible, to consolidate land ownership and mineral interests within the STSAs. *Rationale:* Section 369(n) of the Energy Policy Act of 2005 requires the Secretary of the Interior (the "Secretary") to consider and give priority to the use of land exchanges to facilitate the recovery of unconventional fuels. The Act states "…to facilitate the recovery of oil shale and tar sands, especially in areas where Federal, State, and private lands are intermingled, the Secretary shall consider the use of land exchanges where appropriate and feasible to consolidate land ownership and mineral interests into manageable areas." The Act also dictates that any land exchange undertaken shall be implemented in accordance with Section 206 of FLPMA.
Monticello RMP, Monticello Field Office
Designate 59 acres of land within the White Canyon STSA as available for application for leasing for commercial tar sands development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.4.3, all lands within the designated STSAs that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).

TABLE A-2 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2 for Tar Sands[a,b]
Price RMP, Price Field Office
Designate the following amounts of land within the specific STSAs as available for application for leasing for commercial tar sands development in accordance with applicable Federal and State regulations and BLM policies: San Rafael STSA: 9,277 acres Sunnyside STSA: 19,963 acres *Rationale:* As described in Section 2.4.3, all lands within the designated STSAs that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimates presented here represent those lands not excluded from commercial leasing under Alternative 2(b).
Richfield RMP, Richfield Field Office
Designate 134 acres of land within the Tar Sand Triangle STSA as available for application for leasing for commercial tar sands development in accordance with applicable Federal and State regulations and BLM policies. *Rationale:* As described in Section 2.4.3, all lands within the designated STSAs that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimate presented here represents those lands not excluded from commercial leasing under Alternative 2(b).
Vernal RMP, Vernal Field Office
Designate the following amounts of land within the specific STSAs as available for application for leasing for commercial tar sands development in accordance with applicable Federal and State regulations and BLM policies: Argyle Canyon STSA: 5 acres Asphalt Ridge STSA: 2,123 acres, which represents the acreage subject to the pending tar sands lease application. Hill Creek STSA: 45,307 acres Pariette STSA: 860 acres P.R. Spring STSA: 43,293 acres[d]

TABLE A-2 Approved Changes and Rationales for Land Use Plan Amendments Associated with Alternative 2 for Tar Sands[a,b]

Raven Ridge STSA: 9,134 acres

Sunnyside STSA: 1,982 acres

Rationale: As described in Section 2.4.3, all lands within the designated STSAs that are not excluded from commercial leasing by existing laws and regulations, Executive Orders, or administrative land use plan designation, or have not been specifically excluded by the BLM for other reasons, will be available for application for commercial leasing. The acreage estimates presented here represent those lands not excluded from commercial leasing under Alternative 2(b).

Specify that the Ute Indian Tribe will be consulted regarding potential leasing for commercial tar sands development on split estate lands located in the Hill Creek Extension of the Uintah and Ouray Reservation prior to considering any parcel for leasing. These lands fall entirely within the Hill Creek STSA.

Rationale: During the tribal consultation process conducted in conjunction with this PEIS, the Ute Indian Tribe requested that such consultation be conducted.

[a] Abbreviations: BLM = Bureau of Land Management; FLPMA = Federal Land Policy and Management Act; MFP = Management Framework Plan; NEPA = National Environmental Policy Act; PEIS = programmatic environmental impact statement; RD&D = research, development, and demonstration; RMP = Resource Management Plan; STSA = Special Tar Sand Area.

[b] Commercial leasing as used herein includes leasing for both commercial and research and development purposes.

[c] The tar sands resources available for application for leasing under Alternatives 2, 3, and 4 include deposits located in the designated STSAs described in the geologic reports (minutes) prepared by the U.S. Geological Survey (USGS) in 1980 (USGS 1980a–k) and formalized by Congress in the Combined Hydrocarbon Leasing Act of 1981 (Public Law 97-78). The boundaries of the designated STSAs were determined by the Secretary of the Interior's orders of November 20, 1980 (Volume 45, pages 76800–76801 [45 FR 76800–76801]), and January 21, 1981 (46 FR 6077–6078).

[d] A portion of the P.R. Spring STSA extends south from the Vernal Field Office boundary into the Moab Field Office boundary; however, this area is administered by the Vernal Field Office under a Memorandum of Understanding with the Moab Field Office. Under this agreement, the Vernal Field Office administers all resources and programs, including land use planning, for the entire P.R. Spring STSA. Therefore, the Moab Field Office plan is not impacted by this PEIS. Under Alternative B, the acreage in the P.R. Spring STSA includes 14,406 acres of land within the Moab Field Office boundary. Under Alternative C, the acreage in the P.R. Spring STSA includes 1,874 acres of land within the Moab Field Office boundary.

REFERENCES

Note to Reader: This list of references identifies Web pages and associated URLs where reference data were obtained. It is likely that at the time of publication of this ROD, some of these Web pages may no longer be available or their URL addresses may have changed.

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APPENDIX B:

PROPOSED CONSERVATION MEASURES
FOR OIL SHALE AND TAR SANDS LEASING AND
DEVELOPMENT

APPENDIX B:
PROPOSED CONSERVATION MEASURES FOR OIL SHALE AND TAR SANDS LEASING AND DEVELOPMENT

The following conservation measures were developed for the oil shale and tar sands program in consultations between the Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) (both in the U.S. Department of the Interior) to support the conservation of species listed under the Endangered Species Act of 1973 (ESA), BLM-listed sensitive, and state-listed species, as well as those species that may be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. For purposes of this programmatic environmental impact statement (PEIS), these conservation measures are assumed to be generally consistent with existing conservation agreements, recovery plans, and completed consultations. These conservation measures are not being adopted in this planning initiative, rather, they are provided for the information of the decisionmakers and the public, as a non-exhaustive and non-exclusive list of measures that might be considered for adoption, in consultation with USFWS, through future planning, lease, and/or project-specific decisionmaking. For purposes of this PEIS, these conservation measures are assumed to be generally consistent with existing conservation agreements, recovery plans, and completed consultations. It is the intent of the BLM and USFWS to ensure that the conservation measures presented here are consistent with those currently applied to other land management actions whose associated impacts are similar. However, it is presumed that potential impacts from the development alternatives described in this PEIS are likely to vary in scale and intensity when compared with the impacts associated with other land management actions (e.g., oil and gas exploration and production, surface mining, and underground mining). Hence, final conservation measures will be developed to be commensurate with the expected levels of impact on selected alternatives and to be consistent with agency policies. Current BLM guidance on similar actions (e.g., fluid mineral leasing) requires that the stipulation that is least restrictive yet effectively accomplishes the resource objectives or resource uses for a given alternative shall be used, while compliance with the ESA is maintained.

General Conservation Measures

1. All post-lease activities will be required to comply with the ESA, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act.

2. Surveys will be required prior to operations, unless information on species occupancy and distribution in the area under consideration is complete and available. All surveys must be conducted by qualified individual(s) approved by the BLM. For bald and golden eagles, Mexican spotted owls, and other raptors, surveys shall be conducted up to 1 mile from the proposed disturbance to determine nest and roost status and will be conducted in accordance with existing guidelines. Surveys for listed plant and animal species will follow established protocols approved by the USFWS.

3. Lease activities, upon the start of their implementation, will require monitoring throughout the duration of the project. To ensure that the desired results are being achieved, mitigation measures will be evaluated, and, if necessary, Section 7 consultation will be reinitiated.

4. Water production will be managed to ensure the maintenance or enhancement of riparian habitat and surface water quality.

5. Loss of riparian and wetland habitats resulting from mining and in situ processing activities will be avoided where possible. Loss of riparian and wetland habitats resulting from activities associated with roads, pipelines, and other ancillary facilities will be minimized. Wetland and riparian habitats will be restored when it has not been possible to avoid impacts from facilities on them. Avoidance is particularly important when facilities are within or adjacent to designated critical habitat for listed species.

6. Transportation management plans will be developed in a manner that minimizes habitat fragmentation and destruction.

Species-Specific Conservation Measures

Colorado River Endangered Fishes ─ Bonytail, Colorado Pikeminnow, Humpback Chub, Razorback Sucker

1. Within 0.5 mile of critical habitat, (a) all mining and drilling activities will be avoided and (b) surface disturbance and the removal of vegetation for roads, pipelines, water diversion and acquisition facilities, and other ancillary facilities will be minimized. When surface disturbance within 0.5 mile of critical habitat is needed to address any of the elements in item b, the BLM shall confer with the USFWS regarding minimizing potential impacts on critical habitat and/or endangered fish.

2. With regard to tributaries of major rivers that contain listed fish species or their designated critical habitat, no building of permanent structures, no drilling, and no mining will occur in the 100-year floodplains or riparian corridors that are within those rivers' zones of influence.

3. To avoid excessive stream sedimentation during the spawning period, construction activities (e.g., for roads, pipelines, utilities) will be avoided within critical habitat from April 1 through September 30 of any year.

4. The installation of water diversion structures that might pose a risk to Colorado River fishes or their critical habitat will be avoided (e.g., screens or baffles will be used to minimize entrainment or impingement). If water withdrawal or diversion structures are installed, they will have to incorporate 3/32-inch fish screens.

5. Pump intakes are prohibited from backwaters or off channel floodplain wetlands to minimize impacts on fish larvae.

6. The release of selenium into surface waters will be avoided, and, where possible, measures will be implemented to reduce selenium concentrations in the Upper Colorado River Basin.

For example, (a) erosion in areas with selenium-rich soils (e.g., shale-derived soils) will be decreased, (b) adequate vegetative cover will be maintained on work areas where possible, (c) ephemeral streamflow will be controlled with water-spreading structures, (d) areas with selenium-rich soils will not be irrigated, and (e) causing impacts on selenium-rich soils on steep (>50 percent) slopes will be avoided. If selenium-rich slag/waste piles are created, they shall be isolated and located so this material does not reach critical habitat.

7. All new pipelines and other controlled surface uses that cross within 0.5 mile of critical habitat or areas that drain into critical habitat of the Colorado River fishes will adhere to the following stipulations:

   a. Pipelines shall not be constructed in known spawning sites or backwaters.

   b. No work in the active river channel will take place between July 1 and September 30 in order to avoid adverse effects from sedimentation during spawning and times when larval fishes are drifting in the river channel.

   c. After construction, the streambed will be returned to preconstruction contours.

   d. Pipelines transporting substances other than water will have automatic shut-off valves.

   e. Pipelines transporting substances other than water will be double-walled wherever they cross the 100-year floodplain and river.

   f. A spill/leak contingency plan will be developed prior to pipeline use.

8. The Utah Oil and Gas Pipeline Crossing Guidance (from the BLM National Operations Center) will be implemented.

9. If water for project-related activities is obtained from any surface water source (stream, pond, etc.) or from any groundwater source that has a connection to surface water, the BLM will require that all water withdrawals undergo appropriate Section 7 consultation in accordance with procedures existing at the time of the proposed action. Currently, according to the Colorado River Recovery Program's Section 7 Agreement, new water depletions are handled as follows:

   a. For average annual depletions that are more than 100 acre-ft but less than or equal to 4,500 acre-ft (i.e., the USFWS's current "sufficient progress" threshold), the applicant pays a one-time depletion fee (which is adjusted annually to the consumer price index); the fiscal year 2012 rate is $19.21/acre-ft.

   b. For average annual depletions that are more than 4,500 acre-ft, the applicant pays the depletion fee, and the BLM (acting on behalf of the applicant) and USFWS select (an) action(s) from the Colorado River Recovery Implementation Plan's Recovery Action Plan that must be completed before the impacts of the proposed action occur.

10. The following best management practices for in-stream work that is upstream from or near critical habitat will be carried out:

    a. Flows shall be allowed to bypass the construction activity at all times. Earthen dams and dewatering activities that will create fish barriers shall be avoided.

b. Hazardous fish habitats, such as isolated areas (i.e., ponds or puddles), shall not be created or shall be cleared by trained professionals with adequate permits.

c. Care shall be taken to minimize sedimentation inputs to the river that result from stream bed disturbance by storing excavated material outside the stream channel.

d. Best management practices shall be used to ensure construction-related by-products do not enter the riverine ecosystem and have negative effects on aquatic organisms.

e. Equipment shall be cleaned to remove noxious weeds, seeds, and petroleum products before it is moved onsite.

f. Machinery shall be fueled outside the ephemeral channel to prevent spillage into waterways.

g. Fill materials shall be free of waste, pollutants, and noxious weeds and seeds.

h. Excavated soils shall be sorted into mineral soils and topsoils. When a disturbed site is being backfilled, topsoils shall be placed on top to provide a seed bed for native plants. After construction, disturbed areas (work sites, ingress, egress, stockpile sites, pit) shall be revegetated with native plants or certified as weed-free native seed. The planting shall be monitored for success. If the planting fails, the soil shall be reseeded/planted.

Colorado River Cutthroat Trout

1. A buffer that is a minimum of 0.25-mile wide on both sides of occupied cutthroat trout streams and upstream tributaries will be maintained. The buffer will be extended beyond the 0.25-mile minimum in areas where slopes exceed 50 percent; it will extend out to where the land is relatively level. The idea is to keep any sediment from reaching occupied cutthroat trout reaches by ensuring that mining and drilling take place on flat ground in areas where these fish occur. Linear features, such as roads and pipelines, may be allowed within the buffer zones. Only a handful of known cutthroat trout populations occur in the oil shale and tar sands planning area, and these conservation measures will affect only a very small portion of the area proposed for leasing (5 percent or less).
2. No water will be withdrawn from waters occupied by Colorado River cutthroat trout.
3. Oil shale and tar sands activities will be consistent with the June 2006 *Conservation Agreement for Colorado River Cutthroat Trout* (Oncorhynchus clarkia pleuriticus) *in the States of Colorado, Utah, and Wyoming* (CRCT Conservation Team 2006).

Bald Eagle and Golden Eagle[1]

1. A buffer of 1 mile from known bald eagle nests and 0.5 mile from golden eagle nests will be maintained year-round. This buffer can be reduced if topographic and/or vegetative buffers exist between the nest and the potentially disturbing activity. This avoidance requirement may be adjusted on the basis of a demonstration of nonoccupancy during the last 7 years. Any modification will be done in coordination with the USFWS.

2. A year-round avoidance requirement of 0.5 mile from known winter roost sites will be maintained. This buffer can be reduced if topographic and/or vegetation buffers exist between the roost and development activity. This avoidance requirement may be adjusted on the basis of a demonstration of nonoccupancy during the last 7 years. Any modification will be done in coordination with the USFWS.

3. Loss of or disturbance to riparian habitats containing cottonwoods, conifers, or other tree species that, when mature, may provide roost or nest trees for bald eagles will be avoided. Loss of any other riparian plant species (including box elders, willows, and river birch) will be minimized. The alteration or removal of cliff habitat in golden eagle nesting habitats will be avoided.

4. The USFWS recommends that the BLM and contractors be informed of the risk or potential for vehicle collisions with wildlife (particularly eagles) in the project area and be requested to limit vehicle speed to reduce this potential. In addition, contractors shall move any big game carcasses found along project area roads away from the roadway by 30 ft (generally 60-ft-wide rights-of-way [ROWs]) to minimize potential vehicle collisions with eagles while they feed on roadside carrion. Moreover, in an additional effort to protect eagles, the BLM and contractors will coordinate with appropriate officials regarding any required removal of big game carcasses along county or State roads.

5. To preclude eagles or other raptors from nesting on human-made structures, such as cell phone towers and condensate tanks, and to avoid impeding operation or maintenance activities, anti-perching devices will be installed on structures to discourage their use by eagles and other raptors.

6. Electric lines will be buried wherever practicable, especially in areas heavily used by eagles. If power lines cannot be buried, they will be built so that they, at a minimum, meet the standards identified by the Avian Power Line Interaction Committee (2006) to decrease

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[1] Nesting and wintering dates can vary by location. Contact a local USFWS office for dates specific to a given area. The USFWS issued updated regulations for take of bald and golden eagles and their nests under Title 50, Part 22, Sections 22.26 and 22.27 of the *Code of Federal Regulations* (50 CFR Part 22, §§ 22.26 and 22.27) to define "take" of an eagle to include actions such as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb." In 2009, the USFWS issued regulations (50 CFR 22.3) that define "disturb" as to "agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." Take of bald and golden eagles, including any disturbance defined above, would require a permit from the USFWS.

the potential for electrocution (see *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006,* http://www.eei.org/products_and_services/descriptions_and_access/suggested_pract.htm). Moreover, power lines will be built according to the additional specifications listed below. The project proponent shall ensure that these additional standards to minimize eagle deaths associated with electric utility distribution lines will be incorporated into the stipulations for all project actions. Note that the effectiveness of these measures in minimizing mortality varies; thus, the measures may be modified as they are tested in the field and laboratory. Local habitat conditions shall be considered in determining their use. The USFWS does not endorse any specific product that can be used to prevent and/or minimize mortality. The following recommendations shall be incorporated into the design plans for new distribution lines or when existing facilities are being modified.

For new distribution lines and facilities:

a. Raptor-safe structures (e.g., with increased conductor-conductor spacing) that address adequate spacing for eagles (i.e., minimum of 60 in. for bald eagles) are to be used.

b. Equipment installations (e.g., overhead service transformers, capacitors, reclosers) shall be made eagle-safe (e.g., by insulating the bushing conductor terminations and using covered jumper conductors).

c. Jumper conductor installations (e.g., corner and tap structures) shall be made eagle-safe by using covered jumpers or providing adequate separation.

d. Arrestor and cutout covers shall be employed when necessary.

e. Lines shall avoid high-avian-use areas, such as wetlands, prairie dog towns, and grouse leks.

For modification of existing facilities:

a. Problem structures that include dead ends, tap or junction poles, transformers, reclosers and capacitor banks, or other structures with less than 60 inches between conductors or a conductor and ground shall be identified and rectified.

b. Exposed jumpers will be covered.

c. Any pole-top ground wires will be capped.

d. Grounded guy wires shall be isolated by installing an insulating link.

e. On transformers, insulated bushing covers, covered jumpers, and cutout covers and arrestor covers shall be installed, if necessary.

f. When bald eagle mortalities occur on existing lines and structures, bald eagle protection measures shall be applied (e.g., modify for raptor-safe construction, install safe perches or perching deterrents, install nesting platforms or nest-deterrent devices).

g. In areas where mid-span collisions are a problem, install line-marking devices that have been proven effective. All transmission lines that span streams and rivers shall maintain proper spacing and have markers installed.

h. If topographic issues or impacts on vegetative or wildlife resources have been identified at the construction site, poles will be moved.

7. When communication towers are being constructed, refer to the USFWS *Guidance on the Siting, Construction, Operation, and Decommissioning of Communication Towers,* found at http://www.fws.gov/migratorybirds/currentbirdissues/hazards/towers/comtow.html.

Mexican Spotted Owl[2]

1. Within the range of the Mexican spotted owl, surface disturbance will be avoided wherever suitable nesting habitat for the species occurs (steep-walled, rocky canyons, typically with a closed canopy of mature, mixed coniferous forest) (USFWS 1995, *Recovery Plan for the Mexican Spotted Owl,* particularly Table III.B.1). (The range of the Mexican spotted owl that was published in the recovery plan shall be extended to include the individuals observed within Dinosaur National Monument.)

2. In areas in which Mexican spotted owl habitat has not been analyzed, the BLM will assess and map the potential habitat for this species by using established protocols prior to leasing of mineral rights for oil shale and tar sands. This mapping effort will be a broad-based approach, from which more specific and intensified habitat analyses could be initiated. The BLM will notify prospective bidders of the presence of Mexican spotted owl habitat and the need for special considerations for managing this species.

3. Where possible, field surveys for the Mexican spotted owl will be conducted in areas of suitable habitat. The surveys shall follow established USFWS protocols. This information will increase the knowledge base on the distribution and status of Mexican spotted owls throughout areas with oil shale and tar sands potential in Utah and Colorado. Field surveys will emphasize areas that have not been previously or recently surveyed. Areas of particular interest include the southern Book Cliffs and areas surrounding Dinosaur National Monument.

4. Once leases are issued, a more in-depth analysis of Mexican spotted owl habitat will be required in areas where leases overlap with potential habitat for the species. The habitat needs to be assessed for both nesting and foraging by using accepted habitat models in conjunction with field reviews. If the habitat is determined to be suitable, management considerations shall include the avoidance of suitable habitat by at least 0.5 mile. If avoidance is not possible, then, unless species occupancy and distribution information is complete and available, site-specific surveys will be needed to determine occupancy.

5. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat:

[2] Contact local USFWS office for breeding season dates specific to a given area.

a. Determine the potential effects of actions on owls and their habitat.

b. Document the type of activity, the acreage and locations of direct habitat impacts, and the type and extent of indirect impacts relative to the location of suitable owl habitat.

c. Document if the action is temporary or permanent. A temporary action is one that is completed prior to the following breeding season, leaves no permanent structures, and results in no permanent habitat loss. A permanent action is one that continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances (such as the creation of a permanent structure).

6. For all temporary actions that may impact owls or suitable habitat:

a. If the action will occur entirely outside the owl breeding season (e.g., March 1 to August 31 in Utah) and leaves no permanent structure or permanent habitat disturbance, the action can proceed without the need for an occupancy survey.

b. If the action will occur during a breeding season, a survey for owls shall be performed before the activity commences. If owls are found, the action must be delayed until it occurs outside the breeding season.

c. Access routes created by the project shall be rehabilitated through measures such as raking out scars, revegetation, and gating access points.

7. For all permanent actions that may impact owls or suitable habitat:

a. For 2 consecutive years before activities commence, a survey for owls will be conducted according to an accepted protocol.

b. If owls are found, no actions will occur within 0.5 mile of any identified nest site. If the nest site is unknown, no activity will occur within the designated protected activity center.

c. Drilling and the establishment of permanent structures within 0.5 mile of a location with suitable habitat will be avoided, unless the location has been surveyed and found to not be occupied.

d. Noise will be reduced (e.g., by using hospital-grade mufflers) to 45 decibels, A-weighted scale, (dBA) at 0.5 mi from suitable habitat, including canyon rims. The placement of permanent noise-generating facilities shall be determined by a noise analysis to ensure that noise does not encroach upon a 0.5-mile buffer for suitable habitat, including canyon rims.

e. Disturbances to and within suitable habitat will be limited by staying on approved routes.

f. The number of new access routes created by the project will be limited.

8. Surface disturbance (e.g., facilities, roads, pipelines) and vegetation removal will be avoided within designated critical habitat and locations where any of the primary constituent elements are present at the project scale.

Southwestern Willow Flycatcher

1. All potential habitats for southwestern willow flycatcher within prospective lease areas will be identified prior to leasing for oil shale and tar sands exploration and development. The BLM will notify prospective bidders of the presence of flycatcher habitat and the need for special considerations for managing this species.
2. Surveys for the southwestern willow flycatcher shall be conducted in project areas near suitable habitat for the species and in project areas potentially occupied by the species.
3. Project activities will maintain a 300-ft buffer from suitable riparian habitat all year long.
4. Project activities within 0.25 mile of occupied breeding habitat will not occur during the breeding season of May 1 to August 15.
5. The USFWS recommends that post-activity surveys for southwestern willow flycatchers be conducted for any project or mitigation areas authorized by the BLM. Surveys must be conducted by individuals who have been properly trained in the approved survey protocol. Surveyors must be familiar with and adhere to the general survey techniques and guidelines found in Sogge et al. (2010). Surveyors must complete flycatcher survey training prior to being permitted to conduct surveys. All reporting requirements must be followed.
6. For projects that may alter or destroy habitat and are located in or near occupied, suitable, potentially suitable, or potential habitat, the USFWS recommends using fences instead of flags to delineate the project area. Fencing is more visible to construction workers and more clearly demarcates the construction zone.
7. If nest parasitism is monitored, when flycatcher nest parasitism exceeds 10 percent of surveyed nests, the USFWS will be consulted with regard to implementing any measures to reduce parasitism rates.

Black-Footed Ferret

1. Prior to leasing for oil shale or tar sands exploration or development, prairie dog towns that could potentially be occupied by black-footed ferrets or are within 1 mile of prairie dog towns that are occupied by black-footed ferrets shall be surveyed and mapped by qualified individuals approved by the BLM before surface-disturbing activities are conducted. Surveys shall be in accordance with the 1989 *Black-Footed Ferret Survey Guidelines* (USFWS 1989) or with other methods that the USFWS has reviewed and approved. The BLM will notify prospective bidders of the presence of black-footed ferrets and the need for special considerations managing this species. Mapping shall be conducted in accordance with Biggins et al. (1993). If black-footed ferrets or signs of them are observed within a prairie dog town or complex where project-related activities are proposed, the BLM shall coordinate Section 7 consultation or conferencing with the USFWS on the proposed action. This measure applies to (1) all habitats occupied by ferrets and (2) all

suitable habitats within the oil shale and tar sands area. The BLM will confer with the appropriate USFWS field office for definitions of suitable habitat within each state.

In Wyoming, if no ferrets or signs of them are observed during the survey, ground-disturbing activities may occur within 1 year of the date of survey completion within the town surveyed. However, surveys shall be completed as close to the date of project initiation as possible to avoid the possibility of a ferret moving into the area after surveys have cleared the area. Alternatively, all suitable habitat within the entire complex in which the town is located may be surveyed. If no ferrets or sign are found, the complex will be designated "ferret-free," and no further Section 7 review for the black-footed ferret will be required for activities occurring within any prairie dog town within the complex. Future observations of ferrets or their sign shall, however, require re-initiation of Section 7 consultation. The BLM and the project proponent are encouraged to work with the USFWS to "block clear" all prairie dog towns within or contiguous to the analysis area. Future actions (including maintenance, work over, and reclamation within towns previously cleared of ferrets) may require additional survey work unless the entire complex containing the town has been block cleared.

Results of all surveys shall be reported to the appropriate USFWS field office. Results can include maps of the areas surveyed; information on surveyor qualifications and the survey method, length, dates, weather, snow cover, and results; and copies of field data sheets.

2. The placement of structures that provide suitable nest or perch sites for avian predators will be avoided within large prairie dog towns. Garbage will be contained so it does not attract coyotes, skunks, and other predators. This measure will apply to (1) all habitats occupied by ferrets and (2) all suitable habitat within the oil shale and tar sands area. The BLM will confer with the appropriate USFWS field office regarding definitions of suitable habitat within each State.

3. Reduced vehicle speeds at night will be posted and encouraged on roads in or near occupied habitat to reduce the chance of vehicles causing mortalities.

4. Reclamation will be conducted so that impacts to active prairie dog colonies are minimized. This measure applies to all suitable habitats within the oil shale and tar sands area. The BLM will confer with the appropriate USFWS field office regarding definitions of suitable habitat within each State.

5. In areas where black-footed ferrets could be encountered, employees, operators, and contractors shall be educated on the natural history of the black-footed ferret, the identification of ferrets and their sign, the potential impacts associated with the transmission of diseases from dogs to ferrets, activities that may affect ferret behavior, and ways to minimize these effects. This measure applies to all suitable habitats within the oil shale and tar sands area. The BLM will confer with the appropriate USFWS field office regarding definitions of suitable habitat within each State.

6. Observations of black-footed ferrets, their sign, or carcasses shall be reported to the nearest BLM and USFWS office within 24 hours. This measure applies throughout the oil shale and tar sands area.

7. The use of "White-Tailed Prairie Dog Conservation Measures" (as revised) will be encouraged in white-tailed prairie dog habitat.

8. Whenever possible, project activities will be designed to avoid any adverse influence on prairie dog habitat occupied by black-footed ferrets. If adverse impacts to occupied prairie dog habitat are unavoidable, activities will be designed in coordination with the USFWS to (1) impact the smallest area practicable, (2) impact those areas with the lowest prairie dog densities, and (3) minimize habitat fragmentation in prairie dog towns occupied by black-footed ferrets or towns suitable for their reintroduction. Off-site mitigation may also be recommended. Impacts on black-footed ferret habitat will be monitored to evaluate cumulative effects.

9. Whenever possible, project activities will be designed to not adversely impact black-footed ferret populations. A monitoring program will be developed, when necessary, to evaluate impacts. This measure applies to all habitats occupied by ferrets within the oil shale and tar sands area.

10. Project activities in Uintah and Duchesne Counties, Utah, will be conducted in a manner consistent with the Utah Division of Wildlife Resources 2007 publication, *Northeastern Region Black-Footed Ferret Management Plan*, and the BLM 1999 publication, *Book Cliffs Resource Area Management Plan Amendment for Black-Footed Ferret Reintroduction, Coyote Basin Area, Utah*.

11. This measure applies specifically to the black-footed ferret management area and subcomplexes described by the Utah Division of Wildlife Resources' 2007 publication, *Northeastern Region Black-Footed Ferret Management Plan*. Within the boundaries of the three subcomplexes (Coyote Basin, Snake John Reef, Bohemian Bottom), activities involving the development or construction of features that could cause permanent surface disturbances will be prohibited within 0.125 mile of the home range of any black-footed ferret. Within the boundaries of the management area, if the observation of a ferret has been recorded within the last 5 years, no surface disturbance will be allowed within 0.44 mile of the observation location if the following two criteria are met: (1) if the ferret is observed in suitable habitat (the BLM will confer with the appropriate USFWS field office regarding definitions of suitable habitat within the management area) and (2) if the ferret is has established residency in the immediate locale (i.e., if a documented home range has been established). The appropriate size of the protected area surrounding a ferret's home range may be adjusted in coordination with the USFWS to coincide with future research and new information and pursuant to the relevant local, site-specific species management plan, if available.

Canada Lynx[3]

1. Within a Lynx Analysis Unit (LAU), ensure that mapping of lynx habitat, nonhabitat, and denning habitat occurs. Foraging habitat and topographic features important for lynx movement shall also be mapped. All lynx habitat within an LAU shall be identified as being in suitable or unsuitable condition. This effort involves interagency coordination where LAUs cross administrative boundaries.

2. Disturbance within each LAU shall be limited to 30 percent of the suitable habitat within the LAU. If 30 percent of the habitat within an LAU is currently in unsuitable condition, no further reduction in the amount of suitable conditions shall be allowed to occur as a result of management activities. To assess cumulative effects, oil and gas production and transmission facilities, mining activities and facilities, dams, timber harvests, and agricultural lands shall be mapped on public lands, and projects on adjacent private lands shall be evaluated. This effort will involve interagency coordination where LAUs cross administrative boundaries, primarily with the U.S. Forest Service.

3. Management actions shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period. This effort will involve interagency coordination where LAUs cross administrative boundaries.

4. Denning habitat shall be maintained in patches that are generally larger than 5 acres and compose at least 10 percent of lynx habitat. Where less than 10 percent is currently present within an LAU, any management actions that will delay development of denning habitat structures will be deferred. This effort will involve interagency coordination where LAUs cross administrative boundaries.

5. Key linkage areas that may be important in providing landscape connectivity within and between geographic areas across all ownerships will be identified by using the best available science.

6. Habitat connectivity within and between LAUs will be maintained.

7. Observations of lynx (tracks or sightings, along with date, location, and habitat) will be documented and provided to the State natural heritage database. An annual update on all sightings will be requested from the database for review.

8. On projects that require over-snow access, such access will be restricted to designated routes.

9. Within lynx habitat, the BLM shall ensure that key linkage areas and potential highway crossing areas are identified by using the best available science.

10. The BLM shall ensure that proposed land exchanges, land sales, and special use permits are evaluated for their effects on key linkage areas (as these activities relate to oil shale and tar sands development).

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[3] Landscape linkages may be the only issues.

11. If activities in lynx habitat are proposed, the BLM shall ensure that stipulations and conditions of approval for limitations on the timing of activities and surface use and occupancy are developed for leasing, and that more site-specific conditions of approval are developed at the permitting stage.

12. The continuation of foraging habitat in proximity to denning habitat shall be provided for.

13. Habitat conditions that support dense, horizontal, understory cover and high densities of snowshoe hares shall be provided through time. An example of such a habitat is mature, multistoried, conifer vegetation. Vegetation management, including timber harvests and the use of prescribed fires, will focus on areas that have the potential to improve snowshoe hare habitat (dense, horizontal cover) but presently have poorly developed understories of little value to snowshoe hares.

14. Areas where high total road densities (more than 2 miles of roads per mile^2) coincide with lynx habitat shall be determined, and roads in those areas will be priorities for seasonal restrictions or reclamation.

15. Public use of temporary roads constructed for project activities will be limited. New roads will be designed so they can be effectively closed upon completion of project activities. Upon project completion, these roads will be reclaimed or obliterated.

16. The building of roads directly on ridge tops or areas identified as important for lynx habitat connectivity will be minimized.

17. Where needed, measures to reduce wildlife mortality risk, such as wildlife fencing and associated underpasses or overpasses, will be developed.

18. Existing snowshoe hare and red squirrel habitats will be conserved.

19. Remote sensing equipment will be used and bunch maintenance activities will be implemented to reduce activity in the area and to reduce the compaction of snow.

Threatened, Endangered, and Proposed Plants[4]

1. All potential habitat for proposed, candidate, and listed species shall be identified prior to leasing for oil shale or tar sands exploration and development. The BLM will notify prospective bidders of the presence of these sensitive plant species and the need for special considerations for managing these species. Within these potential habitat areas, surveys that follow established protocols shall be conducted to better understand these populations and where conservation efforts shall be focused.

   On leased parcels with the potential to impact sensitive plant species, surveys that follow established protocols will be conducted prior to any development activities. Surveys shall be conducted when the plant can be detected and during appropriate flowering periods.

[4] Refer to the PEIS for a list of all threatened, endangered, and proposed plants.

Surveys shall extend at least 600 ft beyond the perimeter of work areas. Surveys are generally valid for 1 year.

2. Consistent with existing or current recovery plans, the proposed action will be designed to support recovery objectives. For example:

   a. Designs will prevent surface runoff from work areas from entering plant-occupied habitat.

   b. Construction will occur below and away from the slope of occupied habitat, where feasible, to avoid slope failure or accelerated erosion.

   c. No surface disturbance will occur within 300 ft of a listed plant. If an area that is less than 600 ft from a listed plant must be disturbed (e.g., for mining, drilling, roads, pipelines), the edge shall be temporarily fenced to keep disturbance from further approaching the listed plant's habitat. To avoid working in listed plant habitats and to avoid drawing attention to listed plants, the edge of disturbance, not the nearby plant population, shall be fenced. This measure could be modified with the approval of the BLM and USFWS.

   d. If a surface disturbance must be located less than 600 ft from a listed plant, appropriate dust-abatement actions, commensurate with the level of use, must be conducted, in consultation with the USFWS and BLM.

3. If ground-disturbing activities occur within 600 ft of listed plants, the plants shall be monitored in accordance with the 1998 publication, *Measuring and Monitoring of Plant Populations*, BLM Technical Reference 1730-1, during the blooming period to track the plants' health and vigor and the occurrence of dust transported from project activities. Data shall also include a site description with global positioning system (GPS) coordinates, the size of the area occupied, the estimated number and range in age of the plants, and evidence of habitat disturbance and plant damage or mortality. Post-construction monitoring for invasive species must also be conducted. Annual reports shall be provided to the BLM and USFWS.

4. "Translocation" (transplanting) will not be considered as a conservation measure.

5. Vehicle travel will avoid suitable and occupied habitat.

6. In consultation with the USFWS, projects that remove topsoil in areas of suitable habitat for listed species shall be evaluated. The topsoil shall be set aside and replaced when ground work is completed to preserve the seed bank and associated mycorrhizal species and to discourage invasive species.

7. When possible, revegetation shall be limited to native species that will not compete with the rare species at the site. Revegetation projects shall require a site-specific plan for areas with listed plant species, to be developed in consultation with the BLM and USFWS.

8. Protective stipulations for endangered or threatened species shall include appropriate measures to protect pollinator species that have been identified.

9. When listed plant species are near project areas, dust control measures will be determined in consultation with the BLM and USFWS. These measures shall be employed to minimize the deposition of fugitive dust on plant surfaces.

10. For riparian and wetland-associated species (e.g., Ute ladies'-tresses), any water extraction or disposal practices shall not result in a change in the hydrologic regime outside the range of natural variability.

11. Produced oil, water, or condensate tanks will be placed in centralized locations away from occupied habitat. Evaporation ponds shall be located so their overspray falls at least 600 ft away from listed plant locations, if such ponds are necessary.

Species Determined Not To Be within the Action Area

Gray Wolf (Per discussion with the USFWS, wolves are not within the action area, so they were not addressed in the PEIS.)

Candidate Animal Species Determined To Be within the Action Area

Greater Sage-Grouse

The Greater Sage-Grouse may occur in lease areas in all three States. Suggested measures for the management of Greater Sage-Grouse populations and their habitat are provided in Section 4.8.1.4 and Appendix K of the Final PEIS. These measures include the following:

1. Identify and avoid both local (daily) and seasonal migration routes.

2. Consider Greater Sage-Grouse and sagebrush habitats when designing, constructing, and utilizing project access roads and trails.

3. When possible, avoid siting energy developments in breeding habitats.

4. Adjust the timing of activities to minimize disturbance to Greater Sage-Grouse during critical periods.

5. When possible, locate energy-related facilities away from active leks or other Greater Sage-Grouse habitat.

6. When possible, restrict noise levels to 10 dBA above background noise levels at lek sites.

7. Minimize nearby human activities when birds are near or on leks.

8. As practicable, do not conduct surface-use activities within crucial Greater Sage-Grouse wintering areas from December 1 through March 15.

9. Maintain sagebrush communities on a landscape scale.

10. Provide compensatory habitat restoration for impacted sagebrush habitat.

11. Avoid the use of pesticides at Greater Sage-Grouse breeding habitats during the brood-rearing season.
12. Develop and implement appropriate measures to prevent the introduction or dispersal of noxious weeds.
13. Avoid creating attractions for raptors and mammalian predators in Greater Sage-Grouse habitat.
14. Consider measures to mitigate impacts at offsite locations to offset the unavoidable alteration and reduction of Greater Sage-Grouse habitat at the project site.
15. When possible, avoid establishing artificial water bodies (e.g., stormwater and liquid industrial wastewater ponds) that could serve as breeding habitat for mosquitoes.

Yellow-Billed Cuckoo (This species is within the action area only in Utah.)

1. All riparian areas shall be surveyed to identify suitable habitat for this species prior to leasing for oil shale or tar sands exploration and development. The BLM will notify prospective bidders of the presence of these sensitive plant species and the need for special considerations for managing these species.
2. Potential habitat for this species shall be avoided by maintaining a 0.25-mile buffer. If suitable habitat for this species is present within a proposed development area, surveys shall be conducted to determine species occupancy.
3. If mining activities cannot be avoided in riparian habitat, the project shall be designed to avoid the removal of large cottonwood trees and shall not occur from June 1 through August 1.
4. To avoid direct impacts on or changes in riparian habitat, stream channel morphology or annual streamflow regimes in suitable habitat shall not be adversely modified.
5. Non-surface-disturbing activities within yellow-billed cuckoo habitat that will have adverse effects on the bird or its habitat (e.g., boat and raft landings, outfitting camps, firewood collection) shall be prohibited within 0.25 mile of occupied habitat.
6. Pesticides shall not be applied within 0.25 mile of habitat occupied by the yellow-billed cuckoo.
7. If technically feasible, biological control shall be used in place of chemical pest control.

Migratory Birds

During site-specific post-leasing activities, impacts on migratory birds and their habitats will be evaluated and minimized, with emphasis on species that are on *Birds of Conservation Concern 2008* (USFWS 2008) and species that are listed among the "Partners in Flight" Priority Species. To help meet the responsibilities identified in Executive Order 13186 ("Responsibilities of

Federal Agencies to Protect Migratory Birds"), the BLM recommends that (a) exploration and mining activities be conducted outside critical breeding seasons for migratory birds, (b) temporary and long-term habitat losses be minimized, and (c) unavoidable habitat losses be compensated for. The BLM has also developed a Memorandum of Understanding between the BLM and the USFWS, which outlines a collaborative approach to promote the conservation of migratory bird populations.

References

Note to Reader: This list of references identifies Web pages and associated URLs where reference data were obtained. It is likely that at the time of publication of this ROD, some of these Web pages may no longer be available or their URL addresses may have changed.

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