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Bureau of Land Management**

**Environmental Assessment
DOI-BLM-UT-W020-2011-0009-EA**

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August 2011 Competitive Oil and Gas Lease Sale

Location: Fillmore Field Office
Millard and Juab Counties, Utah

Applicant/Address: Not Applicable

Fillmore Field Office
95 East 500 North
Fillmore, Utah 84631
Phone: (435)743-3100
Fax: (435)743-3135



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1.0 PURPOSE & NEED

1.1 Introduction

The Bureau of Land Management (BLM), Fillmore Field Office (FFO) has prepared this environmental assessment (EA) to disclose and analyze the environmental consequences of the sale of approximately 10 parcels during the August 2011 competitive oil and gas lease sale. The EA is a site-specific analysis of potential impacts that could result from the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any significant impacts could result from the analyzed actions. *Significance* is defined by NEPA and is found in regulation 40 Code of Federal Regulations (CFR) 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of Finding of No Significant Impact (FONSI). If the decision maker determines that this project has significant impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision to Lease [aka Decision Record (DR)] may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A DR, including a FONSI statement, for this EA would document the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects) beyond those already addressed in the House Range Resource Area Resource Management Plan Record of Decision Rangeland Program Summary, BLM, 1987 (HRRR RMP); Warm Springs Resource Area The Resource Management Plan Record of Decision Rangeland Program Summary, BLM 1987 (WSRA RMP); House Range Resource Area RMP Oil and Gas Leasing Implementation Environmental Assessment, 1988 (HRRR Implementation EA); Warm Springs Resource Area RMP Oil and Gas Leasing Implementation Environmental Assessment, 1988 (WSRA Implementation EA); and in the Finding of No Significant Impact and Decision Record of Environmental Assessment UT-010-2008-050, Oil and Gas Leasing in the Fillmore Field Office, BLM 2009, (FFO EA).

1.2 Background

Nominations to lease for oil and gas development for the lands encompassed by 10 parcels (Appendix A, August 2011 Preliminary Oil and Gas Lease Sale List; Appendix B, Map of Parcels) were received by the BLM. The surface and mineral rights for the parcels UT0811-003; UT0811-004; UT0811-005, UT8011-006, UT8011-007, UT8011-008; and portions of parcels UT0811-001 and UT0811-002 are owned by the federal government and administered by the FFO. The mineral rights on split-estate parcels UT8011-010; UT0811-011; and portions of parcels UT8011-001 and UT0811-002 are owned by the federal government and whereby the remaining surface estate is administered by the State of Utah and private land owners.

1.3 Purpose and Need of the Proposed Action

The purpose of the proposed action is to provide parcels for inclusion in a competitive oil and gas lease sale to be held by the Utah BLM State Office in August 2011. Offering parcels for competitive oil and gas leasing provides for the orderly development of fluid mineral resources under BLM's jurisdiction in a manner consistent with multiple use management and environmental consideration for the resources that may be present. Adequate provisions must be included with the leases to protect public health and safety and assure full compliance with the objectives of NEPA and other federal environmental laws and regulations. Continued leasing is necessary to maintain options for exploration of oil and gas as companies seek new areas for production or attempt to locate and develop previously unidentified, inaccessible or uneconomical reserves.

The sale of oil and gas leases is needed to meet the growing energy needs of the United States public. The BLM is required by law to review areas that have been nominated, and there has been steady interest in oil and gas exploration in the FFO area. Although an oil or gas discovery is considered to be unlikely, based on the Reasonably Foreseeable Development (RFD) scenario which the BLM has determined is valid even in today's energy driven market, such a discovery would require the completion of new analysis.

Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of the Federal Land Policy and Management Act of 1976 (FLPMA), and it is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). Leases would be issued pursuant to 43 CFR subpart 3100.

1.4 Conformance with BLM Land Use Plan and Implementation EA Decisions

Pursuant to 40 CFR 1508.28 and 1502.21, this EA tiers to and incorporates by reference the information and analysis contained in the Warm Springs Resource Area Resource Management Plan Final Environmental Impact Statement (WRRRA FEIS), Final Environmental Impact Statement and Proposed Resource Management Plan for the House Range Resource Area (HRRRA FEIS), WSRA RMP, HRRRA RMP; WSRA Implementation EA; HRRRA Implementation EA; and the FFO EA. The proposed action is in conformance with the HRRRA and WSRA RMPs because it is specifically provided for in the planning decisions. Oil and gas leasing categories are identified in each of the RMPs. The HRRRA RMP (BLM 1987; page 76 and Map 9) and WSRA RMP (BLM 1986; page 45 and figures 2-12) categorize all lands in the oil and gas leasing planning area that are available for leasing. Stipulations that would be attached to offered leases are contained in the Implementation EAs and the FFO EA. The HRRRA and WSRA FEISs; RMPs; Implementation EAs, and FFO EA analyze the environmental consequences of oil and gas leasing in the FFO. The RMPs establish four leasing categories. The analyses in the FFO EA is based on an estimate that exploration wells would continue to be drilled in the FFO at an average rate of about one well every year with a low success rate for finding commercial quantities. The projected total surface disturbance from oil and gas activities occurring over 10 years is 60 acres. Although developed over 20 years ago, the Reasonable Foreseeable Development (RFD) scenario has not been exceeded. As noted previously, exploration drilling has not been extensive and results have not been encouraging. Based on geology and previous results, potential for oil and gas occurrence is not high (the extreme eastern part of the area may be an exception) and discovery and field development is unlikely. Site-specific NEPA analysis

will be required for each Application for Permit to Drill (APD) filed and any field development will require additional NEPA analysis, which may result in an amendment to the RMPs or drafting of an EIS.

1.5 Relationship to Statutes, Regulations, or Other Plans

The proposed action is consistent with federal environmental laws and regulations, Executive Orders, and Department of Interior and the BLM policies and is in compliance, to the maximum extent possible, with state laws and local and county ordinances and plans to the maximum extent possible, including the following:

- Federal Land Policy and Management Act (1976) as amended
- Taylor Grazing Act (1934) as amended
- National Historic Preservation Act(1966), as amended
- Bald and Golden Eagle Protection Act (1962)
- Endangered Species Act (1973), as amended.
- Migratory Bird Treaty Act (1918)
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- Regulations found at 43 CFR 2800
- Regulations found at 43 CFR 3600
- Regulations found at 43 CFR 3100
- Utah Standards and Guidelines for Rangeland Health (1997)
- BLM Utah Riparian Management Policy (2005)
- BLM Manual 6840- Special Status Species Management
- Utah Supplemental Planning Guidance: Raptor Best Management Practices (BLM UTSO IM 2006-096)
- Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews (BLM WO IM 2010-117)
- MOU between the USDI BLM and USFWS to Promote the Conservation and Management of Migratory Birds (4/2010)
- Utah Comprehensive Wildlife Conservation Strategy (2005)
- Utah Partners in Flight Avian Conservation Strategy Version 2.0. (2003)
- Birds of Conservation Concern (2002)
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (U.S. Department of Interior, Bureau of Land Management, June 2007)
- Environmental Analysis Record, Oil & Gas Leasing (Old) Fillmore District Bureau of Land Management, Richfield District, 1976 (EAR)

These documents and their associated analysis are hereby incorporated by reference, based on their use and consideration by various authors of this document. The attached Interdisciplinary Team Checklist, Appendix C, was also developed after consideration of these documents and their contents. Each of these documents is available for review upon request from the FFO. Utah's Standards for Rangeland Health address upland soils, riparian/wetlands, desired and native species and water quality. These resources are either analyzed later in this document or, if not impacted, are also listed in Appendix C.

1.6 Identification of Issues

The proposed action was reviewed by an Interdisciplinary Parcel Review (IDPR) team composed of resource specialists from the FFO. This team identified resources in the parcel areas which might be affected and considered potential impacts using current office records and geographic information system (GIS) data, and site visits. On March 1, 2011, notice of the lease sale and parcel locations was provided to the National Park Service (NPS), the United States Forest Service (USFS), the United States Fish and Wildlife Service (USFWS) and the State of Utah's Public Land Policy Coordination Office (PLPCO) and the State Institutional Trust Land Administration Office (SITLA). The BLM Utah State Office (USO) specialists for air quality, paleontology, and solid minerals also reviewed the proposal. The IDPR team conducted site visits on March 11, and March 15, 2011 to validate existing data and gather new information in order to make an informed leasing recommendation. A site visit was scheduled for the NPS, USFS, USFWS and State of Utah on April 7, 2011; however none of the agencies attended. On the site visits that were conducted, additional information was not identified that would change the issues carried forward for analysis or alternatives considered. The results of the IDPR team review are contained in the Interdisciplinary Team Checklist, Appendix C.

Public notification was initiated by entering the project information on the Environmental Notification Bulletin Board (ENBB¹), a BLM environmental information internet site on March 2, 2011², 2010. In addition to the Utah State Office announcement, the FFO posted this environmental assessment and FONSI onto the ENBB on March 30, 2011³. One comment from the EPA was received on April 29, 2011. No other comments were received from the public. The protest period for the August 2011 Oil and Gas Lease Sale scheduled from May 23, 2011 through June 23, 2011. Additional information for the public is maintained on the Utah BLM Oil and Gas Leasing Webpage⁴.

1.7 Issues Considered but Eliminated from Further Analysis

The following issues were considered, but eliminated from further analysis:

- Areas of Critical Environmental Concern
- Greenhouse Gas Emissions
- Environmental Justice
- Farmlands (Prime or Unique)
- Floodplains
- Fuels/Fire Management
- Geology / Mineral Resources / Energy Production
- Invasive Species/Noxious Weeds
- Lands / Access
- Livestock Grazing
- Paleontology
- Rangeland Health Standards
- Recreation

¹ Accessed online at: <https://www.blm.gov/ut/enbb/index.php>.

² The Utah State Office ENBB notice number is DOI-BLM-UT-9100-2011-0002-EA.

³ The FFO ENBB notice number is DOI-BLM-W020-2011-0009-EA.

⁴ Accessed online at: http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html.

- Socio-Economics
- Soils
- Threatened, Endangered, Candidate, or Special Status Plant Species
- Wastes, Hazardous or Solid
- Water Resources/Quality, Drinking, Surface, Groundwater
- Wetlands / Riparian Zones
- Wild and Scenic Rivers
- Wilderness / WSA
- Woodland / Forestry
- Vegetation, excluding FWS Designated Species
- Visual Resources
- Wild Horses and Burros
- Areas with Wilderness Characteristics

These issues were eliminated from analysis because they were either not applicable to the lands considered in the proposed action or the reviewing specialists did not consider the proposed action to represent a potential impact to these issues, under applicable leasing protective measures provided through the HERRA and WSRA FEISs; RMPs; Implementation EAs, and FFO EA. Additional resource protection is provided under Onshore Oil and Gas Orders Nos. 1, 2, and 7, and the Utah BLM Ground Water protection IM No. UT 2010-055.

1.8 Summary

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This EA focuses on the Proposed Action and No Action alternatives. Other alternatives were not considered because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the proposed action. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

2.2 Alternative A – Proposed Action

Ten nominated parcels within the jurisdiction of the Fillmore Field Office have been proposed for sale in the August 2011 Oil and Gas Lease Sale to be held at the Utah BLM State Office. The nominated parcels would be offered with additional resource protection measures consistent with the HRRRA and WSRA FEISs, RMPs, Implementation EAs, and FFO EA. Legal descriptions of each nominated parcel can be found in Appendix A, and maps of the nominated parcels can be found in Appendix B.

2.3 Alternative B – No Action

The No Action alternative would offer none of the nominated parcels for lease sale.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix C and presented in Chapter 1 of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4. Only those aspects of the affected environment that are potentially impacted are described in detail (see Appendix C).

3.2 General Setting

The nominated parcels are located in Millard and Juab counties in western Utah. Appendix A contains legal descriptions of the nominated parcels. Appendix B contains a map of the nominated parcels.

The area is within the Basin and Range physiographic province, which generally consists of north-south trending mountain ranges separated by broad arid valleys with interior drainage and vegetated with sagebrush and other plants typical of the Great Basin. The soil in this area consists mostly of aridisols, iron-rich desert soils upon which the land is used mainly for range, wildlife, and recreation. Because of the dry climate in which they are found, these soils typically are not used for agricultural production unless irrigation water is available. The valleys throughout the region contain a variety of native grasses, junipers, and pinyon pines, while xerophytic and desert shrub vegetation are common in lower and drier areas.

The climate of the area is characterized by cold winters and hot summers – average minimum temperatures are around 19°F (January) and average maximum temperatures are around 94°F (July). Average annual precipitation is about 13 inches depending on elevation, with approximately 45 percent of the moisture coming during the period of plant growth between April and September.

The area has had a relatively long socio-cultural history of resource use and development. Since the late 1800s agricultural pursuits such as farming and cattle and sheep ranching have dominated the character of the general region. The region's rural western character has been retained through its small cities and towns and its large open expanses.

Water use in the area is primarily for livestock and irrigation, with occasional domestic use. Three wells were found inside of the lease parcels ranging from 110 to 265 feet below ground surface. Several springs and stream diversions were found that were appropriated for livestock watering and small scale irrigation projects.

3.3 Resources/Issues Brought Forward for Analysis

The affected environment of the proposed action and no action alternatives were considered and analyzed by an interdisciplinary team as documented in the Interdisciplinary Team Checklist, Appendix C. The checklist indicates which resources of concern are either not present in the project area or would not be impacted to a degree that requires detailed analysis. Resources which could be impacted to a level requiring further analysis are described in this Chapter and impacts to these resources are analyzed in Chapter 4.

3.3.1 Air Quality

The construction, drilling, completion, testing, and production of an oil and gas well results in various emissions that affect air quality. Construction activities result in emissions of particulate matter (PM₁₀). Well drilling activities result in engine exhaust emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Completion and testing of the well result in emissions of VOC, NO_x, and CO. Ongoing production results in the emission of NO_x, CO, VOC, and PM₁₀.

An E mission Inventory (EI) has not been conducted specifically for the August 2011 Oil and Gas Leasing EA due to the very small level of anticipated development (1 well per year). A typical oil and gas well EI is estimated for the purpose of this analysis. This typical well is based on the following analysis assumptions:

- Each oil and gas well would cause 9.6 acres of surface disturbance. This acreage is divided into 5.5 acres for road and pipeline construction and 4.1 acres for well pad construction.
- Construction activity for each well is assumed to be 10 days. It is further assumed that, based on the acreage disturbed, 4.5 days would be spent in well pad construction and 5.5 days would be spent in road and pipeline construction.
- Control efficiency of 25% for dust suppression would be achieved as a result of compliance with Utah Air Quality regulation R307-205.
- Post construction particulate matter (dust) emissions are likely to occur on a short term basis due to loss of vegetation within the construction and staging areas. Assuming appropriate interim reclamation, these emissions are likely to be minimal to negligible and will not be considered in this EA.
- Drilling operations would require 14 days.
- Completions and testing operations would require 3 days.
- Off road mobile exhaust emissions from heavy equipment during construction activities and on road mobile emissions will not be considered as they are dispersed, sporadic, temporary, and not likely to cause or contribute to exceedence of the National Ambient Air Quality Standards.

The estimated EI for the typical well includes particulate matter of less than 10 micrometers in diameter (PM₁₀), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions of sulfur dioxide (SO₂) and lead (Pb) from oil and gas development activities are insignificant and are not included.

3.3.2 Cultural Resources

The National Historic Preservation Act (NHPA), as amended in 1992 (16 USC 40 et. seq.), requires government agencies to take into account the effects of their actions on properties listed or eligible for listing on the National Register of Historic Places (NRHP). The term “cultural resources” refers to any historic or prehistoric resource. The term “historic property” specifically refers to a cultural resource that has been determined eligible for inclusion to the NRHP. These terms imply a great deal more than prehistoric and historic material remains, ruins, or standing structures. They encompass a wide range of material remains that have the potential to provide information about the occupation of the project area.

The proposed lease parcels are located within the eastern portion of the Great Basin culture area (D’Azevedo 1986). The geographic limits of the Great Basin part of the eastern province extend from Goose and Grouse Creek and the Raft River Mountains on the north, the Pine Valley Mountains of southern Utah in the south, the Wasatch Range on the east, and the Utah-Nevada border on the west. This is essentially the Bonneville Basin and adjacent mountain areas. This is an area of large and varied archeological resources, with sites reflecting occupation and use by various groups over the past 12 - 15,000 years, including big game hunters of the Paleoindian Period, Archaic hunters and gatherers, Fremont agriculturists, and, most recently, the Paiute hunters and gatherers. As such, Native American groups, particularly local groups, have expressed interest in land use planning in the area, especially if it involves ground disturbing activities. The following is a summation of the prehistory and history of the area.

Paleoindian Period (Approximately 12,000 – 7000 B.P./5000 B.C.)

Paleoindian cultures are generally associated with an adaptation to big game, mega-fauna hunting in a plains environment. Archaeological evidence for human occupation in Utah during the Paleo-Indian period is generally limited to surface finds of diagnostic projectile points. The earliest projectile point forms in Utah are associated with fluted Clovis, Folsom, and Lake Mojave lanceolate projectile points types. Most of these finds were in the eastern two-thirds of the state, although Paleoindian projectile points have been found on the surface within Millard and Juab County (Copeland and Fike 1988).

Archaic Period (5000 B.C. – A.D. 300)

Following the Paleoindian period the eastern part of the Great Basin and adjacent Colorado Plateau area was occupied by a regional manifestation of a highly adapted, mobile hunting and gathering culture. In the early Holocene, the megafauna became extinct and subsistence strategies adapted to the new environment. The projectile points became smaller and more suited for hunting smaller game, and there was an increase in variety of stone grinding implements used for plant and seed processing. The adaptation is characteristic of the Intermountain West and persisted for up to 6,000 years. The prehistoric cultures of the eastern Great Basin may be viewed as variants of what has been described as the Desert Culture or Desert Archaic adaptation that occurred throughout the western United States.

Projectile point types are the primary chronological marker having been found in dated, stratified contexts and serve to divide the archaic into three phases: Early, Middle, and Late (Holmer 1978). However some types, such as the Elko series points, are found throughout the history of the Archaic Period.

Early Archaic sites with stemmed projectile point types (i.e., Lake Mojave, Haskett, Parman, etc.) also frequently contain lanceolate points with concave bases. The dated materials are associated with a period when Pleistocene vegetation patterns were giving way to modern distributions, and human subsistence and settlement patterns may have been somewhat different from patterns established during the Holocene.

The Wendover period corresponds to early Archaic period phases defined elsewhere in the Great Basin. Upland sites include Joe's Valley Alcove, Sudden Shelter, Cowboy Cave, Weston Canyon Rockshelter, and O'Malley Shelter.

The presence of sites in a variety of altitudinal and topographic settings implies a mobile seasonal hunting and gathering subsistence economy with a strict division of labor. The differential use of upland and basin, or lowland sites is considered to have been dependant on the seasonal movement of game and ripening of plant resources. The emphasis on foraging was gathering as many food sources as possible thereby increasing caloric consumption. McGuire and Hildebrandt (2005) make an argument that the Middle Archaic period in the Great Basin saw a greater division of labor among the sexes and a shift from caloric focus to a greater focus on prestige achieved through big-game hunting. This argument can be supported by a greater increase in the number stable, residential sites of pit-house orientation (Madsen and Simms 1998) in the Great Basin during the Middle Archaic period (4500-1000 BP) well before the development of the Fremont culture.

Evidence indicates that both demographic and dietary adjustments occurred in the Desert Archaic lifeway in response to changing environmental conditions during the middle and later Holocene. The changes were not fundamental, however, in that they did not dramatically alter adaptations established during the Wendover Period. Foraging and collecting a variety of plants and animals continued and their methods of exploitation and tools used were not substantially modified. The bow and arrow came into use late in the Desert Archaic, replacing atlatl projectiles by the end of the period. The associated projectile point styles (i.e., Rose Spring and Eastgate) were smaller, but generally similar to previous forms. The basketry complex continued without major change, but one-rod-and-bundle foundation forms become dominant

Archaic sites, particularly from the middle and late periods, are relatively abundant throughout the area. Almost all of the Archaic sites are characterized as "scatters" of widely varying sizes and complexities, but marked by often abundant chipped stone debris from artifact production, chipped stone artifacts (atlatl dart points, scrapers, knives, drills, blades, etc.), very often ground stone (manos and metates), and occasionally hearths, alignments, and other minor features. In Millard and Juab Counties, there are very few caves and rockshelters, which were generally favored as occupation sites by the Archaic people.

Formative Period (A.D. 300 – 1200)

Excepting some nomadic hunting traditions that persisted until historic times, the Archaic period in the Great Basin is considered to end with the development of sedentary adaptations that were coincident with the adoption of a horticultural subsistence base. These traits became elements of the Fremont culture. By A.D. 400 or 500, small quantities of pottery appear, occasionally accompanied by maize. Initially, the introduction of maize may have been minimal. Gathering of piñon nuts is well documented for the first time during this transitional period. By A.D. 800, settled Fremont villages with pit houses and above- or below-ground storage units and maize,

beans, and squash horticulture had begun to occur on the northern Colorado Plateau and eastern Great Basin.

The Fremont culture designation has applied to several related, but geographically diverse, archaeological complexes centered in Utah. In terms of overall culture history of the region, the Fremont is an oddity, even an aberration. For a period of about 900 years the earlier desert foragers were replaced by more sedentary horticulturalists who lived in scattered farmsteads or small villages, made pottery, built substantial dwellings and storage structures, and developed a unique artistic tradition manifested in rock art and modeled clay figurines. The introduction of the bow-and-arrow and its associated smaller projectile points flourished at this time.

The Fremont Culture developed in an area of considerable environmental diversity, probably from an Archaic base that may, over time, have become regionally specialized. The Fremont Culture has been difficult to characterize in terms of a uniform set of cultural traits or a single cultural pattern. However, a village farming pattern distinguishes Fremont from both Archaic and Shoshone cultures. Their horticulture and sedentary villages never developed to the extent of their Anasazi neighbors in the Southwest. Hunting and gathering remained important in the area, where reliance on game and wild plant foods appears to have outweighed the contribution of horticulture to the subsistence base. Also, their architecture was crude in comparison to contemporary Anasazi groups.

The Fremont Culture was variably influenced by Southwestern Pueblo cultures, but according to some authors the Fremont Culture is probably best viewed as a product of indigenous traditions. Trade and other contacts with the Southwest do not seem to have been close, and traits that were introduced from the south were modified and adapted by the Fremont peoples to suit requirements in their less hospitable environment. The source or route of maize introduction is unclear. The several radiocarbon dates from northern Utah that date from A.D. 400 to 700 suggest that the Fremont Culture developed too early for Basketmaker III influence to have played an important role. One source of southern borrowed traits may be from the Mogollon area, where early sites share a number of striking similarities to the Fremont Culture (i.e., including the "Utah" type metate).

Within Millard and Juab Counties, agricultural sites are clustered strongly along the streams issuing from the high country on the east (e.g., Pahvant Front). There are also seasonal sites associated with exploitation of the natural resources of the western valleys and ranges.

Late Prehistoric Period (A.D. 1200 – 1826)

Linguistic evidence has suggested members of the Numic family of languages arrived out of southern California into Nevada and Utah by approximately A.D. 1000. By around A.D. 1200, this expansion of Numic-speaking peoples into the area seems to have replaced or displaced the Fremont culture (Bettinger and Baumhoff 1982). Archaeologically, the primary material culture of the Numic consists of Intermountain Brownware pottery and the Desert Side notched and Cottonwood Triangular arrow points. Subsistence strategy appears to shift back to one largely focused on hunting and gathering; however, there is some evidence of at least limited reliance on horticulture. The Numic-speaking peoples, including the Ute, Shoshone and Paiute, were the occupants of the Great Basin upon the initial arrival of Europeans in 1776. Sites associated with the Paiutes, who were occupying the area at the time of white contact, become definable at about the same time as the Fremont demise. Reflected is a return to a transient lifeway supported by hunting and gathering; existing sites in the area often appear to be clustered around springs.

Ute Consolidation and the Establishment of the Uintah-Ouray Reservation AD 1847-1890

The arrival of Mormons in the area west of the Wasatch Range in 1847 and their subsequent expansion to the south had a drastic impact on the western Ute bands. Epidemic diseases began to substantially reduce Ute populations as immigrating Mormons expropriated land and other resources which were routinely used by the Ute.

The nominated parcels contain numerous steep slopes and previously-disturbed areas that inhibit the potential for significant cultural resources. Areas within the nominated parcels that haven't been disturbed, or are on more gentle terrain, have a low to moderate cultural resource site density, based upon topography and the types of cultural resources previously found near these areas.

3.3.3 Fish Habitat

Aquatic habitat for fish can be found within the Delta, Melville, Abraham, and Deseret Companies (DMAD) Reservoir. Parcel UT0811-005 includes a portion of the Reservoir. No threatened or endangered species are documented within the Reservoir but it does provide a sport fishery for crappie, white bass and catfish. Threats to fish include degradation of water quality and loss of riparian habitat thru delivery of sediment, contaminated water and loss of near shore habitat structure.

3.3.4 Migratory Birds

The Migratory Bird Treaty Act of 1918 protects migratory birds and their parts. Executive Order 13186, signed on January 10, 2001, directs federal agencies to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern. Birds of Conservation Concern (FWS, 2002) identify the migratory bird species of concern in different Bird Conservation Regions (BCRs) in the United States. All of the parcels are located in habitats used by migratory birds at some degree or another throughout the year. Migratory birds including various raptors, shorebirds, waterfowl and passerines, can be found to use a variety of habitats throughout the year. Nesting success is a primary importance. Nesting primarily occurs between April and September, with several of the species known to nest within Millard and Juab Counties. Migratory birds occur in a wide variety of habitat types including the pinyon and juniper woodland, sagebrush-steppe, and grasslands found in these Counties. Waterfowl and shorebirds are abundant on the portion of parcel UT0811-005 containing DMAD Reservoir especially during the migration seasons. Rocky outcrops and trees provide raptor nest sites.

3.3.5 Native American Religious Concerns

The Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe and the Uinta and Ouray Ute Tribe were notified via certified letter on March 30, 2011.

Based on the information received, the BLM has determined that the August 2011 Oil and Gas Lease Offering has no potential to affect tribes or Traditional Cultural Properties.

3.3.6 Threatened, Endangered, Candidate, and Special Status Animal Species

Utah Prairie Dog

The Utah prairie dog (*Cynomys parvidens*) is one of three species of prairie dogs that live in Utah, all of which are in the subgenera *Leucocrossuromys* or white-tailed prairie dogs. Utah

prairie dogs forage primarily on grasses and forbs, and tend to select those with higher moisture content. They often select colony sites in swales where the vegetation can remain moist even in drought conditions. Vegetation must be short stature to allow the prairie dogs to see approaching predators as well as have visual contact with other prairie dogs in the colony. Soils need to be well drained for burrow sites. Burrows must be deep enough to protect the prairie dogs from predators as well as environmental and temperature extremes. Utah prairie dogs are found in elevations from 5,400 feet on valley floors up to 9,500 feet in mountain habitats. Females give birth to one litter per year, with an average of four young which are born in April after a gestation period of 30 days. Young appear above ground at five to seven weeks of age, are full grown by October of their first year and reach sexual maturity at one year (BLM 2010).

Threats to the species include intentional poisoning, shootings, diseases such as plague, habitat loss and degraded habitat quality, and environmental conditions such as vegetation changes and drought. Land management practices may result in: vegetation changes from grass to shrub; erosion of the swales that were historically occupied by Utah prairie dogs; and lowered water tables which in turn reduce the amount of moisture available for palatable grasses and forbs that supply summer food for Utah prairie dogs (BLM 2010).

The Utah prairie dog (*Cynomys parvidens*) was declared an endangered species in 1973 and down-listed to threatened status in 1984. No critical habitat has been designated for this species. Historic range occurs within the FFO in Juab County south and east of SR132 and in Millard County east of the San Francisco Mountains, Cricket Mountains and the Sevier River. Although the status and distribution of Utah prairie dogs in the FFO is largely unknown at this time, suitable habitat within historic range does exist in portions of Juab and Millard Counties. Proposed oil and gas lease parcels UT0811-002, UT0811-003, UT0811-004, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 do occur within in historic range and suitable habitat (USFWS 2010). However, potential for prairie dog occupancy within or near the proposed parcels at this time is low to none (BLM 2010).

California Condor

The California condor (*Gymnogyps californianus*) is a member of the family Cathartidae, the New World vultures, a family of seven species, including the closely related Andean condor (*Vultur gryphus*) and the sympatric turkey vulture (*Cathartes aura*). California condors are among the largest flying birds in the world. Condors reach sexual maturity by 5 to 6 years of age and breeding occurs between 6 and 8 years of age. Nest sites include: caves, cliffs, or in a crevice among boulders on a steep slope. Breeding California condors normally lay a single egg between late January and early April, every other year. Both parents share responsibilities for feeding the nestling. The California condor life span is unknown, but may possibly extend up to 60 years. Condors are strict scavengers. They locate their food visually, often by investigating the activity of ravens, coyotes, eagles, and other scavengers (BLM 2010).

The main reason for the decline of the condors was an unsustainable mortality rate of free-flying birds combined with a naturally low reproductive rate. Most deaths in recent years have been directly or indirectly related to human activity such as shootings, poisoning, lead poisoning, and collisions with power lines (BLM 2010).

The California condor was listed as endangered on March 11, 1967 (32 FR 4001). No critical habitat is designated within the FFO. The California condor within the FFO is designated a nonessential experimental population east of I-15 and south of I-70 and is treated, for the purpose

of Section 7, as a proposed species for listing. Condors are considered a rare visitor to FFO, however a potential for condors to visit the FFO does exist. If a condor is observed outside the designated nonessential experimental area, they would be considered an endangered species. The release program of California Condors in northern Arizona is centered near the Grand Canyon, an immense and rugged area of limited access. The current free-flying population of condors has shown an increasing tendency for long-distance movement within a range now extending to northern Utah. California condors remain one of the world's rarest and most imperiled vertebrate species. Proposed parcels of concern include UT0811-004, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 (USFWS 2010).

Greater Sage Grouse

Greater sage grouse depend on a variety of shrub-steppe habitats throughout their life cycle and are considered obligate users of several species of sagebrush. Thus sage grouse distribution is strongly correlated with the distribution of sagebrush habitats and individuals express a high fidelity (loyalty to a particular area even the area is no longer of value) to seasonal habitats which include breeding, nesting, brood rearing, and wintering areas. The greater sage grouse is a year-round resident and will move through these areas as the season change (BLM 2010).

The greater sage grouse (*Centrocercus urophasianus*) was listed as a candidate species on March 5, 2010. The USFWS found that the listing of the greater sage grouse was warranted but was precluded due to higher priority listing actions. The USFWS will develop a proposed rule to list the species as priorities allow. The greater sage grouse was found historically throughout many western and northwestern states. In Utah, historically the sage grouse occurred in 29 counties. Currently it is found in 26 counties and is estimated to only occupy 41% of the historic range and is 50% as abundant as in 1850. Small isolated populations occur in the in the within the Sheeprock-Tintic Mountains east of Nephi, UT and within the vicinity of the Little Sahara Recreation Area. At this time, the proposed parcels are not located within any mapped occupied but habitat but do occur within the species historic range (BLM 2010).

Western Yellow-Billed Cuckoo

The western subspecies of the yellow-billed cuckoo (*Coccyzus americanus*) was designated as a candidate species in 2001. The USFWS has found that the species population status warrants listing but other, higher priority listing actions prevent them from addressing the cuckoo's status at this time. They are riparian obligate-species and are dense riparian vegetation, including cottonwood and willow stands, tamarisk thickets, willows, and orchards. The parcel of concern due to its proximity to DMAD Reservoir and therefore riparian habitat include UT0811-005 (BLM 2010).

Breeding occurs in late spring and a nest is generally built from four to 10 feet off the ground in riparian vegetation. Both the male and the female incubate the three to four eggs for nine to 11 days. Both parents feed the young, which fledge in approximately three weeks (BLM 2010).

This species occurs intermittently across the state. Utah populations of the western yellow-billed cuckoo were historically rare and have declined in recent years. Because this species is sparsely distributed and prefers dense cover and a secretive lifestyle, the number of breeding individuals is difficult to determine but could be fewer than approximately 20 adults. The decline is likely related to habitat destruction and degradation from the invasion of tamarisk, livestock use of riparian areas, water withdrawals, and human development (BLM 2010).

3.3.7 Wildlife Excluding U.S. Fish and Wildlife Service Designated Species

Habitat characteristics of the proposed parcels vary greatly from mountainous juniper-pinion pine forests, shrub-steppe, open grasslands, sand dune environments and riparian communities, equally supporting a large diversity of wildlife species. In general, those species (largely those not covered by any federal law or special status designation) would include, but are not limited to, big game species such as mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and pronghorn antelope (*Antilocarpa americana*), blacktail jackrabbits (*Lepus californicus*), coyote (*Canis latrans*), Great Basin rattlesnakes (*Crotalus oreganus lutosus*), bobcats (*Lynx rufus*) and badgers (*Taxidea taxus*). All of the parcels are proposed within the range of these species. Utah Division of Wildlife Resources has identified some of these fall within crucial winter/spring transitional ranges.

The Utah Division of Wildlife Resources (UDWR) has mapped mule deer crucial use areas in Utah and identified areas of crucial value habitat and areas of substantial value habitat. UDWR defines crucial value as “habitat on which the local population of a wildlife species depends for survival because there are no alternative ranges or habitats available” and “...essential to the life history requirements of a wildlife species.” They further state that degradation or unavailability of crucial habitat will lead to declines in carrying capacity and/or numbers of wildlife species in question. UDWR defines substantial value as “habitat that is used by a wildlife species but is not crucial for population survival.” Unlike crucial habitat, degradation or unavailability of substantial value habitat will not lead to declines in carrying capacity and/or numbers of the wildlife species in question.

Sensitive Species

BLM manages sensitive species in accordance with BLM Manual 6840; included in this category are state-listed species and federal candidate species which receive no special protections under the ESA. The FFO has mapped potential habitats for those species which have readily defined habitat characteristics; this information would be used to determine if potential lease parcels fall within known special status species’ habitats.

Pygmy Rabbit

The Pygmy rabbit (*Brachylagus idahoensis*) is the smallest North American rabbit. The pygmy rabbit uses tall, dense stands of big sagebrush, primarily basin big sagebrush, with deep, friable soils typically loamy in texture. Habitat in northeastern Utah includes shorter sage brush and rockier areas. In Oregon, inventories have shown that pygmy rabbit colonies were found in much shorter sage brush than what was expected. The Pygmy rabbit mates in early spring and summer. Its primary food is sagebrush which makes up to 98% of its winter diet. Grasses are important during the summer, comprising as much as 30-40% of its diet. Inventories for pygmy rabbits have been completed in the West Desert District (WDD) and have been located in Rich and Box Elder counties. Potential sites include the edges of floodplains in the upper portions of watersheds and degraded floodplains at lower elevations where channel down-cutting has allowed for the invasion of Basin big sagebrush into sites that were formerly occupied by wet and semi-wet meadows. Parcels of concern that may impact this species include UT0811-002 and UT0811-003 (BLM 2010).

Kit Fox

The range of the kit fox (*Vulpes macrotis*) encompasses much of the Great Basin. This range includes sparsely vegetated arid habitat of greasewood, shadscale, or sagebrush dominated habitat of western Utah. Kit fox has been observed throughout the FFO usually associated with areas where there are abundant rodents. Changes in small mammal prey base resulting from habitat alteration in association with non-native plant invasions and land use practices is also of potential importance. Observations indicate that there are usually kit fox in areas where there are burrowing owls. Habitat use includes open desert, shrubby or shrub-grass habitat. Maximum population density in optimum habitat in western Utah was about 2 adults per 259 hectares. Seasonal home range in Utah averaged less than 5 square kilometers. Parcels of primary concern that impact this species include UT0811-002, UT0811-003, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 (BLM 2010).

Townsend's Big-Eared Bat

The Townsend's big-eared bat (*Corynorhinus townsendii*) has been recorded from pine-fir-hemlock-broadleaf deciduous forests in western Oregon to the edge of spruce-fir forest in Colorado. The Townsend's big-eared bat occurs in various habitats and elevations, but in Utah it is primarily found in shrub steppe and pinyon/juniper habitats. Maternity and hibernation colonies typically are in caves and mine tunnels where it hangs from the ceiling near total darkness. This bat also uses caves, buildings, and tree cavities for night roosts, and is sensitive to disturbance at these roosts. In Utah, caves were preferred as day roosts in summer, as well as abandoned mines. This bat feeds on various flying insects (moths being a large portion of their diet) near the foliage of trees and shrubs. All of the proposed parcels lie within suitable foraging habitat for this species (BLM 2010).

Spotted Bat

The Spotted Bat (*Euderma maculatum*) is found in various habitats from desert to montane coniferous stands, including open ponderosa pine, pinyon-juniper woodland, canyon bottoms, open pasture, and hayfields. In Utah it has been captured in low riparian habitat in the desert shrub community, sagebrush – rabbitbrush, ponderosa pine forest, montane grassland (grass-aspen), montane forest and woodland (grass-spruce-aspen). This bat roosts in caves and in cracks or crevices in cliffs and canyons. In British Columbia, they were found to use the same roost each night May-July, but not after early August. The breeding and birthing period for the spotted bat is usually over by June. The spotted bat feeds primarily on noctuid moths and beetles in clearings amongst pine forests. In southeastern Utah, spotted bats fed on small insects within 2 meters of the ground. All of the proposed parcels lie within suitable foraging habitat for this species (BLM 2010).

Golden Eagle

The golden eagle (*Aquila chrysaetos*) breeds across western North America, from Alaska south to northern Mexico. In North America it is protected under the Bald and Golden Eagle Protection Act (1940). Resident individuals are prominent through the FFO. Migratory individuals will occur in the FFO as well throughout the winter. Typically golden eagles are found in open country, especially in mountainous regions. It feeds mainly on small mammals, especially rabbits, marmots, and ground squirrels, but it also eats insects, snakes, birds, juvenile ungulates, and carrion. Nests are constructed on cliffs or in large trees. Eggs are laid from late February to

early March in Utah. Eggs are incubated mostly by the female and hatch after 43 to 45 days. Young can fly after 60 to 77 days and are cared for by the parents for at least 30 days after fledging. The young may remain with the parents for several months. Birds first breed at an age of 4 or 5 years. All of the proposed parcels are located within the range of the golden eagle (BLM 2010).

Western Burrowing Owl

The burrowing owl (*Athen cunicularia hyugea*) is a migratory species known to nest in the FFO. Its habitats are open grassland and prairies, but it also utilizes other open situations, such as golf courses, cemeteries, and airports. It eats mainly terrestrial invertebrates, but also consumes a variety of small vertebrates, including small mammals, birds, frogs, toads, lizards, and snakes. The nest is in a mammal burrow, usually that of a prairie dog, ground squirrel, or badger; if a mammal burrow is not available the owls will sometimes excavate their own nest burrow. Three to eleven (usually five to nine) eggs are incubated by the female parent, who is fed by the male, for 27 to 30 days. The young are tended by both parents and fledge after about 40 to 45 days. Parcels UT0811-002, UT0811-003, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 all occur within suitable habitat for burrowing owls (BLM 2010).

Short-Eared Owl

The short-eared owl (*Asio flammeus*) is a medium-sized, resident, owl that frequently flies during daylight, especially at dusk and dawn, as it forages for rodents. This owl is usually found in grasslands, shrublands, and other open habitats. It is nomadic, often choosing a new breeding site each year, depending on local rodent densities. This owl nests beginning in April on the ground in a small depression excavated by the female. This depression is usually lined with a small amount of grass and other plant material. Usually four to eight eggs are laid; the eggs are incubated by the female for 24 to 28 days. The male parent brings food to the nest, but the food is given to the owlets by the female. The young leave the nest after 12 to 17 days, but they are unable to fly for another 10 days. Parcels UT0811-002, UT0811-003, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 all occur within suitable habitat for burrowing owls (BLM 2010).

Ferruginous Hawk

Ferruginous hawks generally nest in lone juniper trees or trees near the edge of a stand adjacent to sagebrush areas and may also nest on the ground as well. They generally feed in the sagebrush grassland habitat type. They are resident to the FFO. Ferruginous hawks are managed by the BLM using the *Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances* (USFWS 2002) and *Best Management Practice for Raptors and their Associated Habitats in Utah* (BLM 2006). Parcels UT0811-002, UT0811-003, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 all occur within the range of this species (BLM 2011).

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is not known to nest within the FFO but is a known winter migrant. During the winter, eagles range broadly for forage that may include waterfowl and carrion. Bald eagles are communal roosters. It can often be found in sought out locations comprising of large mature trees and snags. Bald eagles were delisted from the ESA in 2007 and are currently protected under the Bald and Golden Protection Act (1940) and BLM Special Status Species policy (BLM Manual 6840). Pair of adult birds was observed by the FFO

biologist at the Delta, Melville, Abraham, and Deseret Companies (DMAD) Reservoir during a site visit on 3-15-2011. All of the parcels fall within suitable habitat for this species. Threats would include, but not limited to, loss of foraging habitat and disturbance.

4.0 ENVIRONMENTAL IMPACTS

4.1 Introduction

This chapter discusses the environmental consequences of implementing the alternatives described in Chapter 2. Under NEPA, actions with the potential to affect the quality of the human environment must be disclosed and analyzed in terms of direct and indirect effects, whether beneficial or adverse and short or long term, as well as cumulative effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by an action and occur later or farther away from the resource but are still reasonably foreseeable. Beneficial effects are those that involve a positive change in the condition or appearance of a resource or a change that moves the resource toward a desired condition. Adverse effects involve a change that moves the resource away from a desired condition or detracts from its appearance or condition. Cumulative effects are the effects on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions.

The No Action alternative (offer none of the nominated parcels for sale), serves as a baseline against which to evaluate the environmental consequences of the Proposed Action alternative (offer all the FFO parcels for lease sale with lease notices that will adequately protect resources should ground disturbing activity occur as allowed by the leases). For each alternative, the environmental effects are analyzed for the resource topics that were carried forward for analysis in Chapter 3.

4.2 General Analysis Assumptions and Guidelines

Leasing is an administrative action that affects economic conditions but does not directly cause environmental consequences. However, leasing is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy (NSO) stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the planning area. Direct, indirect or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development. In order to provide a basis for analysis, the RFD scenario is applied to each of the alternatives analyzed in detail. The RFD scenario is a long term projection of oil and gas exploration, development, production, and reclamation activity in a defined area for a specified period of time and serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity, under standard lease terms and conditions, on all potentially productive areas open to oil and gas leasing, and forms the foundation for the analysis of the effects of oil and gas management decisions.

In general, the BLM Utah State Office (USO) conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a draft parcel list the appropriate District Office where the parcels are located. District and field office staff then review and verify that the parcels are in areas open to leasing; that any new information that has become available, or any circumstances that have changed, are assessed to determine what level of analysis is required; that appropriate stipulations and notices can be included; that appropriate consultations have been conducted, when necessary; and that any special resource

conditions are identified for potential bidders. The field office then either determines that existing analyses provide an adequate basis for leasing recommendations or that additional NEPA analysis is needed before making a leasing recommendation. In most instances an EA will be initiated for the parcels within the district or field office to meet the requirements of Washington Office (WO) Instruction Memorandum (IM) 2010-117. The EA, once completed, results in a list of available lease parcels and stipulations as part of the analysis. The EA is then made available to the public for a 30-day comment period on the BLM web page. After analyzing and incorporating all applicable comments received during the public comment period, changes to the document and/or lease list parcels are made as necessary and are summarized in Section 5.3. The document is made available again to the public for the protest period (30 days). The protest period ends 60 days before the scheduled lease sale. A list of available lease parcels and stipulations is made available to the public through a Notice of Competitive Lease Sale (NCLS). Lease stipulations and notices applicable to each parcel are specified in the sale notice.

It is unknown when, where, or if future well sites or roads might be proposed on any leased parcel. Although no site-specific activities are specified, analysis of projected surface disturbance impacts, should a lease be developed, was estimated based on the RFD in the HRRRA and WSRA Implementation EAs, both prepared in 1988. This EA would be used to determine the necessary administrative actions, stipulations, lease notices, special conditions, or restrictions that would be made a part of an actual lease at the time of issuance. If leases are offered, purchased and issued, typical subsequent developments may include the construction of drill pads, access roads, and other ancillary facilities. Detailed site specific analysis of individual wells, roads and facilities would occur when a lease holder submits an APD. Under all alternatives, continued interdisciplinary support and consideration would be required to ensure on the ground implementation of planning objectives, including the proper implementation of stipulations, lease notices and Best Management Practices (BMPs) through the APD process.

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, June 1988 or later edition). Although once the lease has been issued, subject to lease stipulations the lessee has the right to use as much of the leased land as necessary to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands, operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment and minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Compliance with valid, nondiscretionary statutes (laws) is included in the standard lease terms and would apply to all lands and operations that are part of all of the alternatives. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, ESA, NHPA, and FLPMA, which are applicable to all actions on federal lands even though they may not be reflected in the oil and gas stipulations in the RMP(s) and would be applied to all potential leases regardless of their category. Also included in all leases are the two mandatory stipulations for the statutory protection of cultural resources (BLM WO IM No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened or endangered species (BLM WO IM No. 2002-174, Endangered Species Act Section 7 Consultation). BLM would also encourage industry to consider participating in Environmental Protection Agency's (EPA) Natural Gas STAR program under all alternatives. The program is a flexible, voluntary partnership between EPA and the oil and natural gas industry wherein EPA works with companies that produce,

process, transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a greenhouse gas.

For purposes of the effects analysis, the RFD and the primary construction, operations, and abandonment elements described below would be similar for the Proposed Action and No Action alternatives.

4.2.1 Reasonably Foreseeable Development

As described above, the RFD scenario serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity and forms the foundation for the analysis of the effects of oil and gas management decisions in planning and environmental documents. The EAR, HRRRA and WSRA RMPs, Implementation EAs, and the FFO EA describe in detail fluid minerals leasing and operations and RFD scenarios for Juab and Millard Counties. In those analyses it was estimated based on past drilling history that exploratory wells would continue to be drilled in the entire FFO at the rate of about one well every year for the foreseeable future. It was further estimated that the drilling targets would continue to be primarily anticlinal structures in the eastern part of the district where recoverable oil and gas is anticipated to be low. The current rate of drilling, extent of disturbance, and magnitude of impacts are within the projection made in the FFO EA's. Consequently, the impact analysis is appropriate and within the range of those described in the FFO EA. If there is a discovery, the RFD scenario would change in which case additional NEPA analysis would be required.

For the purposes of this analysis, the main assumption is that the RFD over a 10-year period for the analysis area would be 10 exploratory wells (one well every year \times 10 years). This RFD is a combination of both RMPs. Each RMP area would consist of five exploratory wells in the 10 year period. This would include a 10-acre disturbance from well sites (one acre/well \times 10 wells = 10 acres maximum) and a five-acre disturbance from access roads (10 wells \times five acres = 50 acres maximum) for a total disturbance of 60 acres. The RFD scenario is based on the actual level of activity that has occurred since planning which has been well within the projected disturbance scenario.

4.2.2 Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to depth and stockpiled for future reclamation. The topsoil would be seeded with native species of plants and left in place for the life of the well, then used during the final reclamation process. Disturbance for each well pad would be estimated at an area of approximately 175 feet by 250 feet (one acre), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as six acres per well to account for any access roads and well pad construction. Disturbed land would be seeded with a mixture and rate as recommended or required by the BLM.

Depending on the locations of the proposed wells it is anticipated that some new or upgraded access roads would be required to access well pads and maintain production facilities. Construction of new roads or upgrades to existing roads would require a 30-foot wide right of way (ROW) and would be constructed of native material. It is not possible to determine the distance of road that would be required because the location of the wells would not be known

until the APD stage. However, for purposes of analyses it is assumed that disturbance from access roads would be similar to development in other areas (five acres of disturbance).

All operations would be conducted following the “Gold Book” Surface Operating Standards for Oil and Gas Exploration and Development (BLM 2007b). The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Exploration and development on split-estate lands is also addressed in the Gold Book, along with IM 2003-131, *Permitting Oil and Gas on Split-estate Lands and Guidance for Onshore Oil and Gas Order No. 1*, and IM 2007-165, *Split-estate Report to Congress – Implementation of Fluid Mineral Leasing and Land Use Planning Recommendations*. Proper planning and consultation, along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations (SUPO) by the operator, will typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

4.2.3 Produced Water Handling

Water is often associated with either the production of oil or natural gas. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include surface evaporation/storage pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7, which prescribes measures required for the protection of surface and ground water sources.

4.2.4 Plugging and Abandonment

If the wells do not produce economic quantities of oil or gas, the well would be plugged and abandoned. The wells would be plugged and abandoned following specifications from a BLM Petroleum Engineer, which would include requiring cement plugs at strategic positions in the well bores. All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days, the fluid would be pumped from the pit and disposed of in accordance with applicable regulations. The well pad would be recontoured, and topsoil would be replaced, scarified, and seeded within 180 days of the plugging the well.

4.3 Issues Carried Forward for Analysis

4.3.1 Alternative A – Proposed Action

This section analyzes the impacts of the proposed action to those potentially impacting resources described in the affected environment Chapter 3, above.

4.3.1.1 Air Quality

Emission factors for activities of the proposed action were based on information contained in the EPA’s Emission Factors & AP 42, Volume I, Fifth Edition (EPA.1995), available at: <http://www.epa.gov/ttn/chief/ap42/index.html>. The production emissions from oil storage tanks was estimated based on the emission factor contained in the Colorado Department of Public Health and Environment PS Memo 05-01, Oil & Gas Atmospheric Condensate Storage Tank Batteries Regulatory Definitions and Permitting Guidance (CDPHE 2009), available at: <http://www.cdphe.state.co.us/ap/down/ps05-01.pdf>.

Table 1 – Emissions Inventory

	Construction Emissions (Tons)	Drilling Emissions (Tons)			Completions Emissions (Tons)				Ongoing Production Emissions (Tons/year)			
	PM10	NOX	CO	VOC	VOC	NOx	CO	PM10	NOX	CO	VOC	PM10
Typical Well	0.34	13.31	1.83	0.23	0.85	0.07	0.07	0.00	0.01	0.01	6.44	0.00000
Sub Total	0.34	13.31	1.83	0.23	0.85	0.07	0.07	0.00	0.01	0.01	6.44	0.00000

	PM10	NOx	CO	VOC	
Activity Emissions (Total emissions for drilling and completion the well)	0.34	13.37	1.89	1.08	Tons
Production Emissions (Ongoing annual emissions for the well)	0.00000	0.01	0.01	6.44	tpy

Based on the emissions estimates contained in Table 1, and considering the location of the proposed leasing relative to population centers and Class 1 areas, no significant air resource impacts are anticipated as a result of this leasing action, and no further analysis or modeling is warranted.

4.3.1.2 Cultural Resources

The Utah Protocol Part VII.A.B was applied to the cultural resource review for the August 2011 Oil and Gas Lease Sale and the FFO’s determination was “No Adverse Affect” in a letter sent on March 30, 2011. In a letter dated April 11, 2011 the SHPO concurred with that determination.

Cultural resources on the nominated parcels would not be directly impacted by the issuance of leases. However, the issuance of leases does convey an expectation that drilling and development could occur. Indirect impacts to cultural resources could result from future lease actions, such as exploration or operational activities.

Each issued lease would contain a mandatory stipulation for the statutory protection of cultural resources (BLM Washington Office Instruction Memorandum (WO-IM) No. 2005-03), which would be enforced through any future authorization to conduct exploration or operational activities under the lease. Potential impacts relating to future authorizations would be mitigated

through avoidance whenever possible. Due to the expected site type and site density, reasonable development could occur on these parcels without effect to historic properties. To assure appropriate consideration of future effects from the lease sale, the BLM would add the following “lease stipulation” (WO-IM-2005-003), to all parcels offered for lease.

“This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources 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 disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.”

4.3.1.3 Fish Habitat

The sale or issuance of a lease would not directly impact fish species or habitat, specifically on parcel UT0811-05, the issuance of leases does convey an expectation that drilling and development could occur. Indirect impacts to fish species and habitat could result from future lease actions, such as exploration or operational activities.

Application of the appropriate lease notices would be adequate for the leasing stage to disclose potential restrictions against future authorizations. The appropriate lease stipulations and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.3.1.4 Migratory Birds

The sale or issuances of leases would not directly impact migratory bird species or habitat on the nominated parcels. However, the issuance of leases does convey an expectation that drilling and development could occur. Indirect impacts to migratory bird species and habitat could result from future lease actions, such as exploration or operational activities.

Application of the appropriate lease notice would be adequate for the leasing stage to disclose potential restrictions against future authorizations. Threats would include, but limited to, nest mortality, loss of habitat, and disturbance. Appropriate lease stipulations and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.3.1.5 Native American Religious Concerns

The following tribes have been notified via certified letter: Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe and the Ute Tribe. All tribes have had 30 days to comment on this sale. If any concerns are raised, they will be addressed prior to the August 2011 lease sale. Consultation will be considered complete if tribal response presents no objections or if response is not received seven (7) days prior to the date of the proposed sale. Additional consultation will be conducted should site-specific use authorization requests for a lease be received. This correspondence is part of the record.

4.3.1.6 Threatened, Endangered, Candidate or Sensitive Animal Species

The issuances of leases would not directly impact threatened, endangered, candidate or special status species or habitat on the nominated parcels. However, the issuance of leases does convey an expectation that drilling and development could occur. Indirect impacts to threatened, endangered, candidate or special status species and habitat could result from future lease actions, such as exploration or operational activities.

The possibility of the Utah prairie dog and the California condor, occurring within or near the nominated parcels, although low, cannot be completely dismissed. Proposed oil and gas lease parcels UT0811-002, UT0811-003, UT0811-004, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 do occur within in historic range and suitable habitat for Utah prairie dog. Potential for prairie dog occupancy within or near the proposed parcels at this time is low to none (BLM 2010). Proposed parcels of concern for the California condor since it is within its flight range include UT0811-004, UT0811-005, UT0811-006, UT0811-007, and UT0811-008 (USFWS 2010). Upon any approval of exploration or operational activities, the BLM will coordinate with the USFWS and conduct Section 7 consultation if warranted.

Application of the appropriate species-specific lease notices that have been developed with the USFWS would be adequate for the leasing stage to disclose potential restrictions against future authorizations. The appropriate lease stipulation (below) and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

In accordance with WO IM No. 2202-174, the following Endangered Species Act (ESA) related stipulations will be applied to all parcels:

The lease may now and hereafter contain plants, animals, and their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modification to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened, or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligation under requirements of the Endangered Species Act as amended, 16 U.S.C. 1531 et seq. including completion of any required procedure for conference or consultation.

4.3.1.7 Wildlife Excluding U.S. Fish and Wildlife Service Designated Species

The issuances of leases would not directly impacts non- threatened, endangered, candidate or special status species or habitat on the nominated parcels. However, the issuance of leases does convey an expectation that drilling and development could occur. Big game habitat occurs on all of the parcels. Namely crucial winter range and some transitional range captured within the crucial winter range subheading occur on parcels UT0811-001, UT0811-004, UT0811-006, UT0811-010 and UT0811-011. Indirect impacts to big game habitat could result from future lease actions, such as exploration or operational activities.

Application of the appropriate specie-specific lease notices would be adequate for the leasing stage to disclose potential restrictions against future authorizations (Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.3.2 Alternative B – No Action

This alternative (not to offer any of the nominated parcels for sale) would not meet the need for the proposed action. The sale of oil and gas leases is needed to meet the growing energy needs of the United States. Furthermore, it is a stated goal of the HRRRA and WSRA RPMs to provide for exploration, development, and use of minerals on public land consistent with applicable laws and regulations and with the exception of a portion of parcel UT0811-004, the Implementation EA's categorize the areas incorporated by the nominated parcels as open to leasing with the application of standard leasing stipulations. By leasing the land with lease notices the FFO will be doing so.

4.3.2.1 Air Quality

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.2 Cultural Resources

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.3 Fish Habitat

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.4 Migratory Birds

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased

parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.5 Native American Religious Concerns

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.6 Threatened, Endangered, Candidate or Sensitive Animal Species

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.3.2.7 Wildlife Excluding U.S. Fish and Wildlife Service Designated Species

The No Action alternative would prevent future potential impacts relating to lease operations. Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas geophysical exploration operations may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased parcels.

4.4 Cumulative Impacts Analysis

A cumulative impact is defined in Council for Environmental Quality (CEQ) regulations (40 CFR §1508.7) as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Cumulative impacts can result from individually minor but collectively major actions taking place over a period of time. The HERRA and WSRA Implementation EAs developed an RFD scenario and analyzed the cumulative impacts of oil and gas leasing based on that scenario. That analysis is incorporated by reference herein.

Past and present actions and reasonably foreseeable future actions with the potential to contribute to cumulative effects are discussed below followed by an analysis of cumulative effects. A variety of activities, such as sightseeing, biking, camping, and hunting, have occurred and are likely to continue to occur within the nominated parcels; these activities likely result in negligible impacts to resources because of their dispersed nature. Other activities, such as livestock grazing, vegetation projects, and wildland fire, have also occurred within the nominated parcels and are likely to occur in the future. These types of activities are likely to have a greater impact on resources in the project area because of their more concentrated nature. Because these activities are occurring within the nominated parcel boundaries, they have the potential to contribute to cumulative effects. All resource values addressed in Chapter 3 have been evaluated for cumulative effects. If, through the implementation of mitigation measures or project design features, no net effect to a particular resource results from an action, then no cumulative effects result. Therefore, resources that were not carried forward for analysis are not considered in this analysis, since the Proposed Action alternative would not result in effects to those resources.

4.4.1 Past and Present Actions

The Cumulative Impact Area (CIA) for the resources analyzed in this EA is the BLM-managed lands and subsurface resources within the nominated parcel boundaries. Past and/or ongoing activities in the CIA that could combine to produce cumulative impacts include oil and gas exploration and development, livestock grazing and rangeland improvements, recreational activities (particularly off-highway vehicle use), natural and prescribed fire, fire rehabilitation efforts and other vegetation treatments, invasive species/noxious weed control, and increased private land development (e.g., subdivision construction activities).

Based on the past drilling history, it is estimated that exploratory wells would continue to be drilled in the district at the rate of about one well per year for the foreseeable future. Drilling targets would continue to be primarily anticlinal structures in the eastern part of the district. Quantities are anticipated to be low; no oil and gas fields have been discovered in Juab nor Millard County and wildcat wells drilled in the past have not resulted in any usable discoveries. The current rate of drilling, extent of disturbance and magnitude of impacts are within the projection made in the HRRRA and WSRA Implementation EAs. In fact, the number of wells and the amount of surface disturbance that has occurred since completion of that analysis is less than predicted. Consequently impacts should be within the range of those described in the Supplemental EA.

Livestock grazing is currently a permitted use of public lands within the CIA and although some minor changes may be expected over the next few years, it is reasonable to expect that livestock grazing would continue to occur on public lands. Grazing in the area could impact vegetation and soils near water sources and other areas where livestock congregate and could affect wildlife habitat.

Recreation within the CIA is generally dispersed. Use of the area by off-highway vehicle (OHV) recreationists has the potential to disturb soil and vegetation and affect wildlife habitat. OHV use that deviates from designated trails on a routine basis has the tendency to remove vegetation and cause rutting and localized compaction and erosion of soils.

Noxious weed treatments as well as other vegetation treatment projects may occur within the nominated parcels and result in short term ground disturbance. There is currently a NEPA effort

in process to treat fire and fuels within the wildland urban interface area on or near parcels UT0811-001 (Chriss Creek/Salt Creek Vegetation Treatment, DOI-BLM-UT-WO10-2011-0004-EA).

Surface disturbance associated with oil and gas development could combine with vegetation removal and ground disturbance related to livestock grazing, OHV use, and vegetation treatment projects to result in cumulative effects. Impacts from these and other uses could be locally substantial but overall they affect a small portion of the lands within the CIA. Soil disturbing activities from energy exploration and these other activities could reduce or remove the natural components that stabilize desert soils and increase soil loss through water and wind erosion. Eolian dust mobilized from wind erosion of arid-land soils generally contains high concentration of base cations, and the dust typically has high concentrations of nitrogen and phosphorous as well as elevated concentrations of a range of atmospheric pollutants (Neff et al., 2008). The increase in these inputs to ecosystems could have implications for surface-water alkalinity, aquatic productivity and terrestrial nutrient cycling (Neff et al., 2008). Best management practices would be implemented during ground disturbing activities to minimize the amount of dust generated.

There is also the potential for cumulative effects to wildlife and their habitat from these activities. Livestock grazing could reduce the amount of forage available for wildlife and could contribute to the proliferation of non-native weeds (such as cheatgrass) that out-compete native plants and provide inadequate nutrition for prairie dogs and other species. Domestic livestock grazing could also result in shrub encroachment (and subsequent loss of nutritious forbs and grasses) and alteration of fire ecology. Grazing activity in pygmy rabbit habitat could alter the composition, function and structure of habitats required by this species. Vegetation treatments that target the mature and old growth sagebrush required by the pygmy rabbit could lead to fragmentation of habitat for this species. Impacts to wildlife could also occur where OHV use denudes soil and creates gullies. OHV use could affect Utah prairie dogs through loss of habitat, direct disturbance of individuals is unlikely since no known populations exist in the CIA. Impacts to wildlife from the actions proposed in this analysis would be reduced by best management practices and measures implemented for their protection.

4.4.2 Reasonably Foreseeable Action Scenario (RFAS)

Many of the same actions and activities identified above as past and present actions would continue to affect the analysis area in the future and comprise the RFAS. Diffuse impacts from recreation use, livestock grazing, and other uses would continue into the future as described above. Some potential future land treatments in the CIA could help to off-set the impacts from these uses. For example, noxious weed treatment would continue and would improve rangeland health.

Private lands in rural areas are being subdivided and sold for residential housing developments or commercial ventures as the area's population grows. Commercial and residential development is occurring on split-estate lands.

4.4.3 Cumulative Impact Analysis

Increased surface disturbance relating to future potential operational authorizations relating to the Proposed Action alternative (leasing nominated parcels with recommended protective measures) may impact cultural resources, soils, native vegetation, and wildlife habitat and

increase the risk of noxious weed invasion and spread, which in turn could exacerbate the frequency and intensity of wildland fire. It is anticipated that the additional resource protection measures associated with the Proposed Action would reduce the impacts to specific resources and areas within the CIA. The minimal amount of disturbance associated with the expected level of development in the CIA, in combination with Gold Book standard operating practices, best management practices, and additional measures that would minimize development impacts, would result in a negligible cumulative impact on the resources within the CIA.

5.0 CONSULTATION AND COORDINATION

5.1 Introduction

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. The Interdisciplinary Team Checklist provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2 Persons, Groups, and Agencies Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
U.S. Fish & Wildlife Service (USFWS)	Information on Consultation, under Section 7 of the Endangered Species Act (16 USC 1531)	Informal consultation with the USFWS was completed on March 2, 2011.
Utah State Historic Preservation Office (SHPO)	Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470)	SHPO concurrence was received on April 13, 2011
Utah Division of Wildlife Resources	Coordination with UDWR as the agency with expertise on wildlife species.	Coordination with Utah Division of Wildlife Resources was complete on March 21, 2011. Mitigation measures suggested were incorporated.
US Forest Service	Consult as a leasing program partner.	Letter sent on March 1, 2011 and no comments received.
National Park Service	Coordinated with as leasing program partner.	Letter sent on March 1, 2011 and no comments received.
School and Institutional Trust Lands Administration (SITLA)	Coordinated with as leasing program partner.	Letter sent on March 1, 2011 and no comments received.
Public Lands Policy Coordination Office (PLPCO)	Coordinated with as leasing program partner.	Letter sent on March 1, 2011 and no comments received.
Paiute Tribe of Utah (PITU)	Tribal Consultation	Letter sent on March 30, 2011 and no comments received
Confederated Tribes of the Goshute Reservation	Tribal Consultation	Letter sent on March 30, 2011 and no comments received
Kanosh Band of the Paiute Tribe	Tribal Consultation	Letter sent on March 30, 2011 and no comments received
Skull Valley Goshute Tribe	Tribal Consultation	Letter sent on March 30, 2011 and no comments received
Ute Tribe	Tribal Consultation	Letter sent on March 30, 2011 and no comments received

5.3 Summary of Public Participation

On March 30, 2011, the public was notified of this environmental assessment by posting on the Utah BLM Environmental Notification Bulletin Board (<https://www.blm.gov/ut/enbb>). The process used to involve the public also includes a 30-day public review and comment period for the EA and unsigned FONSI from March 30, 2011 to April 29, 2011. Additional information is maintained on the BLM Utah's Oil and Gas Lease Sale webpage (http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html).

5.3.1 Comment Analysis

One comment from the EPA was received on April 29, 2011. Details are provided in Appendix D.

5.4 Modifications Based on Internal Review and Comment

The public and internal review identified necessary corrections or clarifications to this EA. These modifications include:

1. Corrections to grammar, sentence structure, and formatting were made throughout the EA to add clarity. In general, these changes were made without further explanation. Examples include: updates to the Table of Contents, reorganization of tables, moving some text around within the document and formatting for 508 accessibility.
2. Section 1.1 – the phrase “Decision to Lease” was inserted to clarify the oil and gas leasing program correct terminology of the decision document.
3. Section 1.7 – removed air quality from this section because it is now discussed within the body of the EA.
4. Section 3.3.1 – Inserted discussion about air quality and adjusted the numbering in this section accordingly
5. Section 3.3.5 – Discussions about sage-grouse and yellow-billed cuckoo were deleted because there is not any habitat present in or around the parcels for this sale.
6. Section 3.3.6 – Inserted last paragraph in section to define big game ranges.
7. Section 4.3.1.1 – Inserted discussion about impacts to air quality and adjusted the numbers in this section accordingly.
8. Appendix A – added Stipulation UT-S-245 Critical Elk and Deer Winter Range to UT0811-003 because it is warranted and allowed for in the HRRRA Implementation EA.
9. Appendix A – added notification that there are pre-sale offers on UT0811-007 and UT0811-008.
10. Added Appedix D: Comment Worksheet – to address comments received from EPA.

5.5 List of Preparers

5.5.1 BLM

Name	Office	Title	Responsible for the Following Section(s) of this Document
McCarthy, Joelle	FFO	Asst Field Mgr	Cultural Resources, Native American Religious Concerns
Priest, Jim	FFO	Biologist	Fish Habitat; Migratory Birds; Threatened, Endangered, Candidate, and Special Status Animal Species; Wildlife excluding USFWS Designated Species
Mansfield, Jerry	FFO	Geologist	Project Manager
Refer also to the Interdisciplinary Team Checklist.			

6.0 REFERENCES, GLOSSARY AND ACRONYMS

6.1 References Cited

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6.2 List of Acronyms

APD	Application for Permit to Drill
BLM	Bureau of Land Management
BMP	Best Management Practice
CEQ	Council for Environmental Quality
CFR	Code of Federal Regulations
CIA	Cumulative Impact Area
DOI	Department of the Interior
DMAD	Delta, Melville, Abraham, and Deseret Companies
DR	Decision Record
EA	Environmental Assessment
EAR	Environmental Analysis Record
EIS	Environmental Impact Statement
ENBB	Environmental Notification Bulletin Board
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FFO	Fillmore Field Office
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
FR	Federal Register
FWS	United States Fish and Wildlife Service
GIS	Geographic Information System
HRRRA	House Range Resource Area
IDPR	Interdisciplinary Parcel Review
IM	Instruction Memorandum
LN	Lease Notice
NCLS	Notice of Competitive Lease Sale
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
RFAS	Reasonably Foreseeable Action Scenario
RFD	Reasonably Foreseeable Development
PITU	Piute Indian Tribe of Utah
PLPCO	Public Land Policy Coordination Office
ROD	Record of Decision
ROW	Right of Way
SHPO	State Historic Preservation Office
SUPO	Surface Use Plan of Operations
TCP	Traditional Cultural Property
UDWR	Utah Division of Wildlife Resources
USFS	United States Forest Service
USFWS	United States Fish & Wildlife Service
USC	United States Code
USO	Utah State Office
WSRA	Warm Springs Resource Area
WO	Washington Office

APPENDICES

APPENDIX A, MAY 2011 PRELIMINARY OIL AND GAS LEASE SALE LIST
AND LEASE NOTICE SUMMARY

APPENDIX B, MAP OF PARCELS

APPENDIX C, INTERDISCIPLINARY TEAM CHECKLIST

APPENDIX D, COMMENT RESPONSE FORM

APPENDIX A
AUGUST 2011 PRELIMINARY OIL AND GAS LEASE SALE LIST

UT0811 - 001

T. 16 S., R. 1 W., Salt Lake

Sec. 13: N2, N2SW, SESW, SE;

Sec. 14: NE, N2NW, NWSW, N2SE;

Sec. 23: NENE, W2E2, NW, N2SW, SWSW.

1,440.00 Acres

Juab County, Utah

Fillmore Field Office

NOTICES

- UT-LN-02: Crucial Winter Mule Deer and Elk Habitat
- UT-LN-07: Crucial Elk Calving and Deer Fawning Habitat
- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat

UT0811 - 002

T. 14 S., R. 2 W., Salt Lake

Sec. 23: W2SE;

Sec. 35: S2.

400.00 Acres

Juab County, Utah

Fillmore Field Office

NOTICES

- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-35: Ferruginous Hawk Nests Sites
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-39: Burrowing Owl Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- T&E-09: Utah Prairie Dog

UT0811 - 003

T. 16 S., R. 2 W., Salt Lake
Sec. 22: SWSE.

40.00 Acres

Juab County, Utah
Fillmore Field Office

NOTICES

- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-35: Ferruginous Hawk Nests Sites
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-39: Burrowing Owl Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- T&E-09: Utah Prairie Dog

UT0811 - 004

T. 19 S., R. 3 W., Salt Lake
 Sec. 3: Lots 3, 4, S2NW, SW;
 Sec. 4: Lots 1, 2, S2NE, SE;
 Sec. 7: Lots 3, 4, E2SW, SE;
 Sec. 8: Lots 1-3, N2SE;
 Sec. 9: Lots 1-4, NE, NENW, S2NW, N2SW, SESW.

1,737.73 Acres

Millard County, Utah
Fillmore Field Office

STIPULATION

- UT-S-245 Critical Elk and Deer Winter Range

NOTICES

- UT-LN-02: Crucial Winter Mule Deer and Elk Habitat
- UT-LN-07: Crucial Elk Calving and Deer Fawning Habitat
- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-35: Ferruginous Hawk Nests Sites
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- T&E-09: Utah Prairie Dog
- T&E-11: California Condor

UT0811 - 005

T. 16 S., R. 5 W., Salt Lake

Sec. 14: SWSW;

Sec. 15: SE;

Sec. 19: NWSE;

Sec. 22: N2NE, SWNE, NENW, S2NW, N2SW, SESW, W2SE;

Sec. 27: W2NE, SENE, E2W2, SWSW, SE;

Sec. 28: SENE;

Sec. 29: N2NW, SWNW;

Sec. 30: E2SE;

Sec. 31: Lot 3;

Sec. 33: SENE, SESW, SE;

Sec. 34: N2, S2SW, SE.

2,240.54 Acres

Millard County, Utah

Fillmore Field Office

NOTICES

UT-LN-24: Waterfowl Nesting Areas

UT-LN-26: Waterfowl Winter Concentration Areas

UT-LN-32: Bald Eagle Nest Sites

UT-LN-33: Bald Eagle Habitat

UT-LN-35: Ferruginous Hawk Nests Sites

UT-LN-36: Golden Eagle Nests

UT-LN-37: Golden Eagle Habitat

UT-LN-39: Burrowing Owl Habitat

UT-LN-41: Raptors

UT-LN-42: Migratory Birds

UT-LN-45: Conservation Agreement Species

UT-LN-46: Sensitive Species

UT-LN-50: Riparian Habitat

T&E-09: Utah Prairie Dog

T&E-11: California Condor

UT0811 - 006

T. 16 S., R. 5 W., Salt Lake

- Sec. 11: SE;
- Sec. 12: S2SW;
- Sec. 13: NWNW, S2SW;
- Sec. 14: NE;
- Sec. 23: SENE, E2SE;
- Sec. 24: W2, SWNE, W2SE;
- Sec. 25: NW, N2SW, SWSW;
- Sec. 26: NWNE, SW, NESE, S2SE;
- Sec. 35: All.

2,320.00 Acres

Millard County, Utah

Fillmore Field Office

NOTICES

- UT-LN-02: Crucial Winter Mule Deer and Elk Habitat
- UT-LN-07: Crucial Elk Calving and Deer Fawning Habitat
- UT-LN-24: Waterfowl Nesting Areas
- UT-LN-26: Waterfowl Winter Concentration Areas
- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-35: Ferruginous Hawk Nests Sites
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-39: Burrowing Owl Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- T&E-09: Utah Prairie Dog
- T&E-11: California Condor

UT0811 - 007

T. 17 S., R. 5 W., Salt Lake

Sec. 3: Lots 5-16;

Sec. 4: Lots 5-13, SENW;

Sec. 9: E2, NENW, S2NW, SW;

Sec. 10: NW, W2SW.

1,775.86 Acres

Millard County, Utah

Fillmore Field Office

NOTICES

UT-LN-24: Waterfowl Nesting Areas

UT-LN-26: Waterfowl Winter Concentration Areas

UT-LN-32: Bald Eagle Nest Sites

UT-LN-33: Bald Eagle Habitat

UT-LN-35: Ferruginous Hawk Nests Sites

UT-LN-36: Golden Eagle Nests

UT-LN-37: Golden Eagle Habitat

UT-LN-39: Burrowing Owl Habitat

UT-LN-41: Raptors

UT-LN-42: Migratory Birds

UT-LN-46: Sensitive Species

UT-LN-50: Riparian Habitat

T&E-09: Utah Prairie Dog

T&E-11: California Condor

PRESALE OFFER UTU88190

UT0811 - 008

T. 18 S., R. 6 W., Salt Lake

Sec. 1: Lot 1, SENE.

79.95 Acres

Millard County, Utah

Fillmore Field Office

NOTICES

UT-LN-32: Bald Eagle Nest Sites

UT-LN-33: Bald Eagle Habitat

UT-LN-35: Ferruginous Hawk Nests Sites

UT-LN-36: Golden Eagle Nests

UT-LN-37: Golden Eagle Habitat

UT-LN-39: Burrowing Owl Habitat

UT-LN-41: Raptors

UT-LN-42: Migratory Birds

UT-LN-46: Sensitive Species

UT-LN-50: Riparian Habitat

T&E-09: Utah Prairie Dog

T&E-11: California Condor

PRESALE OFFER UTU88191

UT0811 - 010

T. 12 S., R. 1 E., Salt Lake

- Sec. 25: NWNW;
- Sec. 26: Lot 1, N2NE, NENW;
- Sec. 27: Lot 1, NWNE, NW;
- Sec. 28: Lots 1, 2, 4, NESE;
- Sec. 34: NESW, N2SE;
- Sec. 35: SENE, SESW, SE.

1,318.07 Acres

Juab County, Utah

Fillmore Field Office

NOTICES

- UT-LN-02: Crucial Winter Mule Deer and Elk Habitat
- UT-LN-07: Crucial Elk Calving and Deer Fawning Habitat
- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- UT-LN-53: Drinking Water Source Protection

UT0811 - 011

T. 13 S., R. 1 E., Salt Lake

- Sec. 1: N2SE;
- Sec. 3: Lot 1.

120.23 Acres

Juab County, Utah

Fillmore Field Office

NOTICES

- UT-LN-02: Crucial Winter Mule Deer and Elk Habitat
- UT-LN-07: Crucial Elk Calving and Deer Fawning Habitat
- UT-LN-32: Bald Eagle Nest Sites
- UT-LN-33: Bald Eagle Habitat
- UT-LN-36: Golden Eagle Nests
- UT-LN-37: Golden Eagle Habitat
- UT-LN-41: Raptors
- UT-LN-42: Migratory Birds
- UT-LN-46: Sensitive Species
- UT-LN-50: Riparian Habitat
- UT-LN-53: Drinking Water Source Protection

Number	UTAH'S LEASE STIPULATIONS
UT-S-245	<p align="center">TIMING LIMITATION – CRITICAL ELK AND DEER WINTER RANGE</p> <p>In order to protect the critical elk and calving summer range, exploration, drilling, and other development activity will not be allowed during the period from December 1 through April 30. This stipulation does not apply to maintenance and operation of producing wells.</p> <p>Exception: Exceptions to this stipulation may be authorized by the BLM if it can be shown that the activity will not have an adverse impact on the summering wildlife.</p> <p>Modification: None</p> <p>Waiver: None</p>

Number	UTAH'S LEASE NOTICES
UT-LN-02	<p align="center">CRUCIAL WINTER MULE DEER AND ELK HABITAT</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing crucial mule deer and/or elk winter habitat. Exploration, drilling and other development activities would be restricted from December 1 through April 30 to protect crucial winter range. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-07	<p align="center">CRUCIAL ELK CALVING AND DEER FAWNING HABITAT</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing crucial elk calving or deer fawning habitat. Exploration, drilling and other development activities would be restricted from May 1 through June 30 to protect antelope fawning. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-24	<p align="center">WATERFOWL NESTING AREAS</p> <p>The lessee/operator is given notice that this lease has been identified as containing surface waters with nesting water fowl habitat. Exploration, drilling and other development activities would be restricted from March 15 through July 15 within 0.25 mile of identified surface waters with nesting waterfowl habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-26	<p align="center">WATERFOWL WINTER CONCENTRATION AREAS</p> <p>The lessee/operator is given notice that this lease has been identified as containing surface waters with concentrations of wintering waterfowl habitat. Exploration, drilling and other development activities would be restricted from November 1 through March 15 within 0.25 mile identified surface waters with concentrations of wintering waterfowl habitat. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-32	<p align="center">BALD EAGLE NEST SITES</p> <p>The lessee/operator is given notice that this lease has been identified as containing bald eagle nest sites. No surface use or otherwise disruptive activity allowed from January 1 through August 31 which would disrupt bald eagle breeding activities within 1 mile of any known bald eagle nesting site. No surface use or otherwise disruptive activity would be allowed which would result in an aboveground facility within 0.5 mile of any known bald eagle nest site, which has been active within the past 3 years. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>

Number	UTAH'S LEASE NOTICES
UT-LN-33	<p style="text-align: center;">BALD EAGLE HABITAT</p> <p>The Lessee/Operator is given notice that the lands in this parcel contains nesting/winter roost habitat for the bald eagle. Avoidance or use restrictions may be placed on all or portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the bald eagle breeding or roosting season. A <u>temporary</u> action is completed prior to the following breeding or roosting season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding or roosting season and/or causes a loss of eagle habitat or displaces eagles through disturbances, i.e. creation of a permanent structure. This notice may be waived, accepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-35	<p style="text-align: center;">FERRUGINOUS HAWK NEST SITES</p> <p>The lessee/operator is given notice that this lease has been identified as containing ferruginous hawk nest sites. No surface use or otherwise disruptive activity allowed from March 1 through August 1 which would disrupt ferruginous hawk breeding activities within 0.5 mile of an occupied nest. No surface use or otherwise disruptive activity would be allowed which would result in an aboveground facility within 0.5 mile of known ferruginous hawk nests, which have been active within the past 3 years. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>
UT-LN-36	<p style="text-align: center;">GOLDEN EAGLE NEST SITES</p> <p>The lessee/operator is given notice that this lease has been identified as containing golden eagle nest sites. No surface use or otherwise disruptive activity allowed from January 1 through August 31 which would disrupt golden eagle breeding activities within 0.5 mile of an occupied nest. No surface use or otherwise disruptive activity would be allowed which would result in an aboveground facility within 0.5 mile of known golden eagle nests, which have been active within the past 3 years. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>
UT-LN-37	<p style="text-align: center;">GOLDEN EAGLE HABITAT</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing Golden Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Golden Eagle and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
UT-LN-39	<p style="text-align: center;">BURROWING OWL HABITAT</p> <p>The lessee/operator is given notice that this lease has been identified as containing burrowing owl habitat. No surface use or otherwise disruptive activity allowed from March 1 through August 31 which would disrupt burrowing owl breeding activities within 0.25 mile of an occupied nest. No surface use or otherwise disruptive activity would be allowed which would result in an aboveground facility within 0.25 mile of known burrowing owl nests, which have been active within the past 3 years. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>

Number	UTAH'S LEASE NOTICES
UT-LN-41	<p style="text-align: center;">RAPTORS</p> <p>Appropriate seasonal and spatial buffers shall be placed on all known raptor nests in accordance with Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances (USFWS 2002) and Best Management Practices for Raptors and their Associated Habitats in Utah (BLM 2006). All construction related activities will not occur within these buffers if pre-construction monitoring indicates the nests are active, unless a site specific evaluation for active nests is completed prior to construction and if a BLM wildlife biologist, in consultation with USFWS and UDWR, recommends that activities may be permitted within the buffer. The BLM will coordinate with the USFWS and UDWR and have a recommendation within 3-5 days of notification. Any construction activities authorized within a protective (spatial and seasonal) buffer for raptors will require an on-site monitor. Any indication that activities are adversely affecting the raptor and/or its' young the on-site monitor will suspend activities and contact the BLM Authorized Officer immediately. Construction may occur within the buffers of inactive nests. Construction activities may commence once monitoring of the active nest site determines that fledglings have left the nest and are no longer dependent on the nest site. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>
UT-LN-42	<p style="text-align: center;">MIGRATORY BIRD</p> <p>The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations. This notice may be waived, excepted, or modified by the authorized officer if either the resource values change or the lessee/operator demonstrates that adverse impacts can be mitigated.</p>
UT-LN-46	<p style="text-align: center;">UTAH SENSITIVE SPECIES</p> <p>The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2.</p>
UT-LN-50	<p style="text-align: center;">RIPARIAN AREAS</p> <p>The lessee/operator is given notice that this lease has been identified as containing riparian areas. No surface use or otherwise disruptive activity allowed within 100 meters of riparian areas unless it can be shown that (1) there is no practicable alternative; (2) that all long-term impacts are fully mitigated; or (3) that the construction is an enhancement to the riparian areas. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>

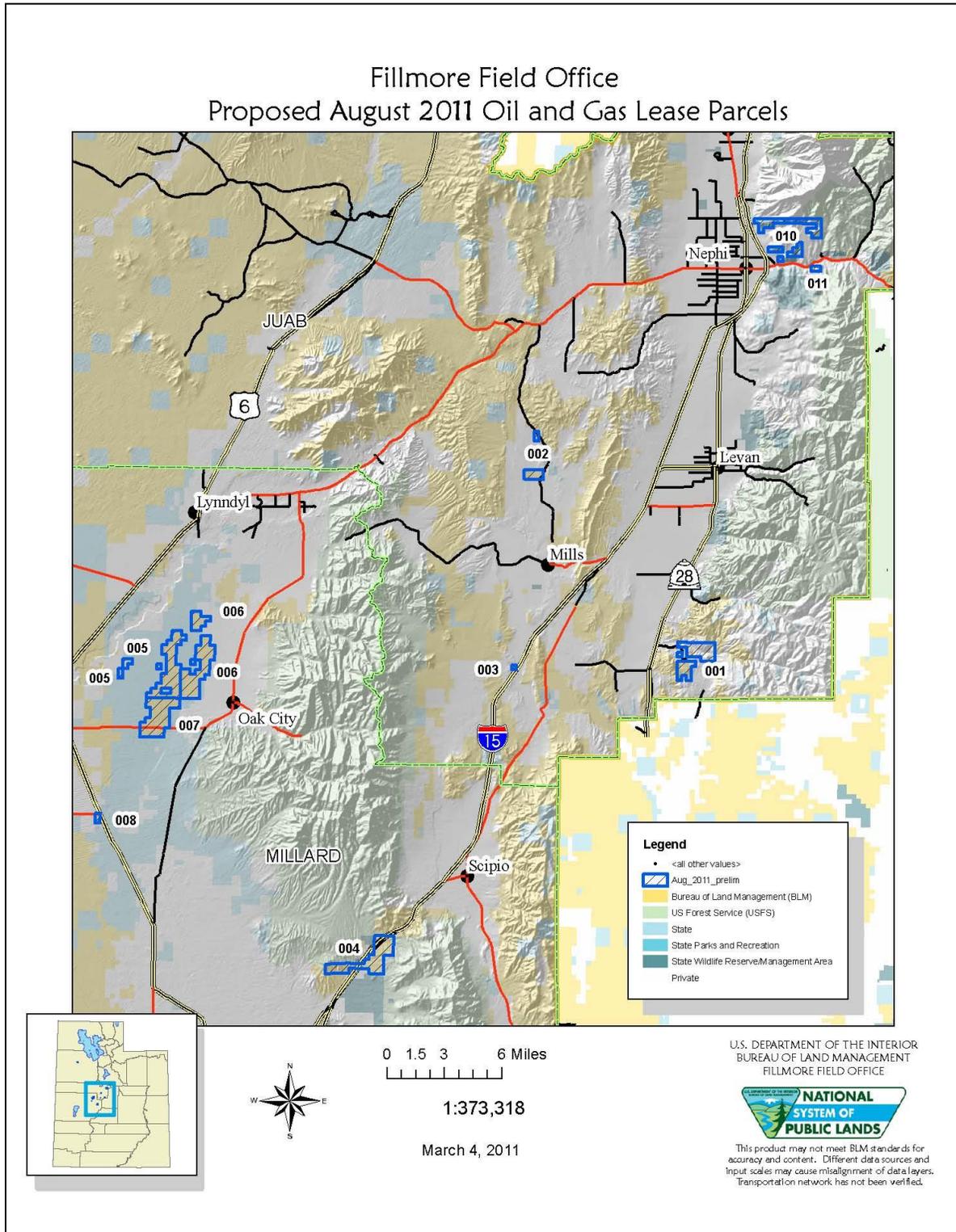
Number	UTAH'S LEASE NOTICES
<p>UT-LN-53</p>	<p style="text-align: center;">DRINKING WATER SOURCE PROTECTION</p> <p>This lease (or a portion thereof) is within a public Drinking Water Source Protection zone. Before application for a permit to drill (APD) submittal or any proposed surface-disturbing activity, the lessee/operator must contact the public water system manager to determine any zoning ordinances, best management or pollution prevention measures, or physical controls that may be required within the protection zones. Drinking Water Source Protection plans are developed by the public water systems under the requirements of R309-600. Drinking Water Source Protection for Ground-Water Sources. (Utah Administrative Code). There may also be county ordinances in place to protect the source protection zones, as required by Section 19-4-113 of the Utah Code.</p> <p>Incorporated cities and towns may also protect their drinking water sources using Section 10-8-15 of the Utah Code. This part of the Code gives cities and towns the extraterritorial authority to enact ordinances to protect a source of drinking water ... "For 15 miles above the point from which it is taken and for a distance of 300 feet on each side of such stream..." Class I cities (greater than 100,000 population) are granted authority to protect their entire watersheds.</p> <p>Some public water sources qualify for monitoring waivers which reduce their monitoring requirements for pesticides and volatile organic chemicals (VOCs). Exploration, drilling, and production activities within Source Protection zone 3 could jeopardize these waivers, thus requiring increased monitoring. Contact the public water system to determine what effect your activities may have on their monitoring waivers. Please be aware of other State rules to protect surface and ground water: the Utah Division of Water Quality Rules R317 Water Quality Rules; and Rules of the Utah Division of Oil, Gas and Mining, Utah Oil and Gas Conservation Rules R649.</p> <p>At the time of development, drilling operators will additionally conform to the operational regulations in Onshore Oil & Gas Order No. 2 (which requires the protection and isolation of all usable quality waters - less than 10,000 mg/L TDS) and Onshore Oil and Gas Order No. 7 (which prescribes measures required for the handling of produced water to insure the protection of surface and ground water sources).</p> <p>Protection measures are detailed in Utah BLM's IM No. UT 2010-055, which is utilized in analyzing potential ground water impacts associated with Oil and Gas exploration and/ or development.</p>

Stip Number	Utah's Threatened & Endangered Species Notices
T&E-09	<p style="text-align: center;">UTAH PRAIRIE DOG</p> <p>The lessee/operator is given notice that lands in this lease may contain historic and/or occupied Utah prairie dog habitat, a threatened species under the Endangered Species Act. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs when prairie dogs are active or hibernating. A <u>temporary</u> action is completed prior to the following active season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one activity/hibernation season and/or causes a loss of Utah prairie dog habitat or displaces prairie dogs through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage.</p> <p>Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s). 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in prairie dog habitat. 4. Surface occupancy or other surface disturbing activity will be avoided within 0.5 mile of active prairie dog colonies. 5. Permanent surface disturbance or facilities will be avoided within 0.5 mile of potentially suitable, unoccupied prairie dog habitat, identified and mapped by Utah Division of Wildlife Resources since 1976. 6. The lessee/operator should consider if fencing infrastructure on well pad, e.g., drill pads, tank batteries, and compressors, would be needed to protect equipment from burrowing activities. In addition, the operator should consider if future surface disturbing activities would be required at the site. 7. Within occupied habitat, set a 25 mph speed limit on operator-created and maintained roads. 8. Limit disturbances to and within suitable habitat by staying on designated routes. 9. Limit new access routes created by the project. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p>

Stip Number	Utah's Threatened & Endangered Species Notices
T&E-11	<p style="text-align: center;">CALIFORNIA CONDOR</p> <p>The Lessee/Operator is given notice that the lands located in this parcel contain potential habitat for the California Condor, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease if the area is known or suspected to be used by condors. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside potential habitat. A <u>temporary</u> action is completed prior to the following important season of use, leaving no permanent structures and resulting in no permanent habitat loss. This would include consideration for habitat functionality. A <u>permanent</u> action continues for more than one season of habitat use, and/or causes a loss of condor habitat function or displaces condors through continued disturbance (i.e. creation of a permanent structure requiring repetitious maintenance, or emits disruptive levels of noise).</p> <p>The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage.</p> <p>Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s) approved by the BLM, and must be conducted according to approved protocol. 2. If surveys result in positive identification of condor use, all lease activities will require monitoring throughout the duration of the project to ensure desired results of applied mitigation and protection. Minimization measures will be evaluated during development and, if necessary, Section 7 consultation may be reinitiated. 3. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season. 4. Temporary activities within 0.5 miles of established roosting sites or areas will not occur during the season of use, August 1 to November 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 5. No permanent infrastructure will be placed within 1.0 mile of nest sites. 6. No permanent infrastructure will be placed within 0.5 miles of established roosting sites or areas. 7. Remove big game carrion 100 feet from lease roadways occurring within foraging range. 8. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat. Utilize directional drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 9. Reinitiation of section 7 consultation with the Service will be sought immediately if mortality or disturbance to California condors is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA. <p>Additional measures may also be employed to avoid or minimize effects to the species between the lease sale and lease development stages. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the Endangered Species Act.</p>

APPENDIX B
MAP OF PARCELS

Map 1. Nominated parcels UT0811-001 through UT0811-008, UT0811-010, and UT0811-011, Millard and Juab Counties. Parcels analyzed for inclusion in the August 2011 Oil and Gas Lease Sale.



APPENDIX C
INTERDISCIPLINARY TEAM CHECKLIST

INTERDISCIPLINARY TEAM CHECKLIST

Project Title: BLM August 2011 Oil & Gas Lease Sale

NEPA Log Number: DOI-BLM-UT-W020-2011-0009-EA

File/Serial Number: N/A

Project Leader: Jerry Mansfield

DETERMINATION OF STAFF:

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality	Juab and Millard Counties are in attainment of the National Ambient Air Quality Standards (NAAQS) for all pollutants. Currently air quality in the area of the proposed leasing meets State Department of Environmental Quality and the Division of Air Quality Standards. Leasing, per se, these parcels would have no impact on air quality. However, there is some expectation that drilling and development could occur. Any ground disturbing activity would have to first be authorized as a lease operation but only through additional NEPA analysis. Given the low level of activity anticipated, only minimal emissions would be expected and effects to air quality would be expected to be negligible.	/s/ Paul Caso	3/23/11
NP	Areas of Critical Environmental Concern	The project parcels are not within any ACEC's within the FFO.	/s/Steve Bonar	3/23/11
PI	Cultural Resources	Known cultural resources are located in such a fashion (size, density and placement) that avoidance is feasible during development of oil and gas resources. The potential for locating additional cultural resources within the proposed lease parcels reviewed for the August 2011 Oil and Gas Lease Sale is low to moderate. A complete inventory of the proposed lease parcels has not occurred; therefore, to assure appropriate consideration of future effects from the lease sale, the BLM would add the following "lease stipulation" (WO-IM-2005-003), to all parcels offered for lease. If additional, site specific resource protection measures are needed to prevent unnecessary or undue degradation, these would be developed at the time of the site specific NEPA. The Utah Protocol Part VII.A.B. will be applied, subject to the SHPO concurrence, to the cultural resource review for the August 2011 Oil and Gas Lease Sale. The FFO has determined that the proposed undertaking will have <i>No Adverse Effect</i> on historic properties. However, there is some (low) expectation that drilling and development could occur, at which time additional NEPA would be conducted. SHPO concurrence letter received on April 13, 2011.	/s/Joelle McCarthy	03/24/2011

Determination	Resource	Rationale for Determination	Signature	Date
NI	Greenhouse Gas Emissions	Leasing of these lands for Oil & Gas Development would not affect greenhouse gas emissions. Further analysis may be necessary when ground disturbing activities are proposed and NEPA for drilling is to be completed.	/s/ Paul Caso	3/23/11
NI	Environmental Justice	Leasing the nominated parcels would not cause any disproportionately high and adverse effects on minority or low income populations.	/s/Cindy Ledbetter	3/23/2011
NI	Farmlands (Prime or Unique)	Most of the area in the lease would not qualify as farmland. There may be some areas in which there are prime or unique farmlands if irrigated. Since there would be no disturbance of soils or vegetation through leasing these lands would not be affected. Further analysis may be necessary when the NEPA for drilling is to be completed.	/s/Bill Thompson	3/21/2011
PI	Fish Habitat	The DMAD Reservoir supports fish and fish habitat. Leasing would not have a direct effect however, if there where oil and gas activities that resulted in the sediment being delivered to the water body it could potentially degrade water quality and reduce near shore habitat. This will be further analyzed at the project specific level.	/s/ James Priest	3-24-11
NI	Floodplains	The only parcels with floodplains are 005 & 006. These floodplains are small (one approximately 15 acres on the Sevier River, another at Colliers Reservoir covering about 10 acres in size that is used at times of high water for Flood Control and the other around 40 acres in Fool Creek Reservoir #2 which is also used for flood control). The parcels could be leased with Lease Notice, UT-LN-45 (FFO), then when NEPA is done for the ground disturbing activities the areas in which these floodplains are located could be identified and restricted from ground disturbing activities.	/s/ Bill Thompson	3/23/11
NI	Fuels/Fire Management	The Proposed Action would not impact goals and objectives associated with the current BLM fire management plans addressing fuels and fire management within the project area. All resource protection measures included in the Fire Management Plan would be incorporated into the Proposed Action; therefore, no impacts to current fuels and fire management with the Fillmore Field Office would be expected. Prior to any area going into production, BLM will provide a list of standard stipulations to incorporate into a pre-construction Wildland Fire Protection Plan, which will be included as an appendix of the Plan of Development. Bare ground requirements surrounding facilities would need to be included within the Wildland Fire Protection Plan. Any proposed chemical control would also be discussed disclosed in the project analysis.	/s/Jay Beckstrand	03/24/11
NI	Geology/Mineral Resources/Energy Production	This project will follow the regulations at 43CFR 3100 et.seq.	/s/Jerry Mansfield	03/23/2011

Determination	Resource	Rationale for Determination	Signature	Date
NI	Invasive Species/Noxious Weeds (EO 13112)	There are no known noxious weeds on the proposed areas for lease. In order to protect public lands prior to any work beginning each area that would be going into production would need to have a pre-construction survey for noxious weeds and if any are found they would need to be treated under the direction of the FFO Weed Coordinator. Also prior to construction all equipment would be cleaned and free of and mud, dirt and/or vegetative debris.	/s/RB Probert	
NI	Lands/Access	Oil and gas leasing should not affect access to public land and leases would be subject to valid existing rights-of-ways. Existing roads and trails should be used for travel unless otherwise authorized. During wet road conditions, any ruts deeper than four inches remaining on the roads from the project should be repaired at the Authorized Officer's discretion. Subsequent projects should coordinate with existing ROW holders and apply operating procedures and site specific mitigation at the APD stage that would ensure that communication sites, water projects, and power-lines, etc. would be avoided, restored or replaced.	/s/ Teresa Frampton	3.21.2011
NI	Livestock Grazing	Since there would be no ground disturbing activities authorized by leasing these lands for oil & gas Development livestock grazing would not be affected. Further analysis may be necessary when the NEPA for drilling is to be completed and ground disturbing activities are proposed.	/s/ Bill Thompson	3/21/2011
PI	Migratory Birds	A variety of migratory birds can be anticipated to use all the proposed parcels. Leasing would not have a direct effect however; oil and gas activities after leasing could potentially result in direct mortalities and permanent habitat loss. This will be further analyzed at the project specific level.	/s/ James Priest	3-24-11
PI	Native American Religious Concerns	The following tribes have been notified via certified letter: Paiute Tribe of Utah (PITU), Confederated Tribes of the Goshute Reservation, Kanosh Band of the Paiute Tribe, Skull Valley Goshute Tribe and the Ute Tribe. All tribes have had 30 days to comment on this sale. If any concerns are raised, they will be addressed prior to the August 2011 lease sale. Consultation will be considered complete if tribal response presents no objections or if response is not received seven (7) days prior to the date of the proposed sale. Additional consultation will be conducted should site-specific use authorization requests for a lease be received. This correspondence is part of the record.	/s/Joelle McCarthy	03/24/2011
NP	Paleontology	No significant paleontological resources are known to occur at the proposed lease parcels.	/s/Jerry Mansfield	03/23/2011
NI	Rangeland Health Standards	Leasing of these lands for Oil & Gas Development would not affect Rangeland Health. Further analysis may be necessary when the NEPA for drilling is to be completed and ground disturbing activities are proposed.	/s/ Bill Thompson	3/21/11
NI	Recreation	There will be no impacts to casual recreation use from this oil and gas leasing. Hunting activities would not be curtailed.	/s/Steve Bonar	3/23/11

Determination	Resource	Rationale for Determination	Signature	Date
NI	Socio-Economics	The nominated parcels are located in a rural area with no commercial and residential development.	/s/Cindy Ledbetter	3/23/2011
NI	Soils	Leasing of these lands for Oil & Gas Development would not affect soils. Further analysis may be necessary when ground disturbing activities are proposed and NEPA for drilling is to be completed.	/s/ Paul Caso	3/23/11
NP	Threatened, Endangered, Candidate or Special Status Plant Species	There are no known federally-listed plants on proposed August 2011 oil & gas lease parcels.	/s/DWhitaker	3/21/11
PI	Threatened, Endangered, Candidate or Special Status Animal Species	The proposed parcels are located within the historic range and suitable habitat for the threatened Utah prairie and within potential range and suitable habitat of the experimental population of the California Condor. Leasing would not have a direct effect however, if there where oil and gas activities they could potential result in the permanent loss of suitable habitat and alter behavior patterns. This will be further analyzed at the project specific level and section 7 consultation with the USFWS may required then.	/s/ James Priest	3-24-11
NP	Wastes (hazardous or solid)	There are currently no hazardous or solid waste issues at the site of the lease parcels. Wastes will be able to be properly handled should disturbance activities begin under the leases issued.	/s/Jerry Mansfield	03/23/2011
NI	Water Resources/Quality (drinking/surface/ground)	Lease parcels UT0811-010 and 011 overly drinking water source protection zones. Leasing of these lands for Oil & Gas Development would not affect water resources/quality. The lease notice for drinking water source protection has been attached to these leases to notify potential lessees of the resource. Further analysis may be necessary when ground disturbing activities are proposed and NEPA for drilling is to be completed. All usable ground water (less than 10,000 mg /L TDS) is protected under Oil and Gas Onshore Order No. 2 and Utah BLM's IM No. UT 2010-055.	/s/ Paul Caso	3/23/11
NI	Wetlands/Riparian Zones	As long as the riparian management policy for the BLM in Utah is followed by including UT-LN-50, there would be no affect to wetlands or riparian areas. The lease should specify that when ground disturbing activities are proposed that there will be No new surface disturbing activities will be allowed within 100 meters of riparian areas unless it can be shown that: a. there are not practical alternatives <u>or</u> , b. all long term impacts can be fully mitigated <u>or</u> , c. the activity will benefit and enhance the riparian area.	/s/ Bill Thompson	3/21/11
NP	Wild and Scenic Rivers	There are no identified wild & scenic rivers within the FFO through PL 111.11	/s/Steve Bonar	3/23/11
NP	Wilderness/WSA	The proposed lease parcels are not within wilderness/WSA areas.	/s/Steve Bonar	3/23/11
PI	Wildlife Excluding USFW Designated Species	Special status species such as, but limited to, various raptors, pigmy rabbits, bats and kit foxes may occur within or near the proposed parcels. Leasing would not have a direct effect however, if there where oil and gas activities authorized on the lease these could directly and indirectly remove or cause individuals to abandoned nests, burrows, and dens.	/s/ James Priest	3-24-11

Determination	Resource	Rationale for Determination	Signature	Date
		Mule deer are known to frequent locations within and near the proposed parcels. UDWR has identified that some of the parcels (UT0811-001, 002, 004, 006, 010 and 011) fall within crucial winter/spring transitional ranges. Leasing would not have a direct effect however, if there where oil and gas activities allowed within the lease parcel then it may alter deer behavior and contribute to seasonal stresses.		
NI	Woodland / Forestry	There is a small occurrence of woodland/forest resources in portions of the project area. Removal of small portions of this resource would not affect the overall health and productivity of woodland/forest resources in the vicinity.	/s/Randy Beckstrand	3/23/11
NI	Vegetation Excluding USFW Designated Species	<p>One BLM Sensitive Plant, Neese narrowleaf penstemon, has the potential to occur on parcels 005, 006, and 007. Any activities within most areas within those three parcels would require plant surveys. However, under the standard lease stipulations, impacts to this plant species can be avoided through minor relocations and project design modifications. See attached plant statement.</p> <p>There may be potential habitat for a second BLM Sensitive Plant Species (Sevier townsendia) within parcels 001 and 003. Sevier townsendia plant surveys, along with possible relocations and mitigations for any townsendia habitat that is found, would be required for certain areas within parcels 001 and 003.</p> <p>For BLM lands within the entire FFO, plant surveys would be required on all proposed oil and gas actions that occur on potential habitat for any special status plant species. Again, the standard lease stipulations, which allow for relocation of proposed facilities up to 200 meters, would allow for the necessary protection of most plant populations due to the sparse nature of most plant populations. All disturbed areas would be reseeded using a BLM-approved seed mix until a desirable stand of perennial vegetation is achieved and BLM releases the project proponent from that responsibility.</p>	/s/DWhitaker	3/21/11
NI	Visual Resources	These lease parcels would not affect the VRM Class IV category.	/s/Steve Bonar	3/23/11
NP	Wild Horses and Burros	There are no wild horse HMAs in the area of the oil & gas lease parcels.	/s/Eric Reid	03/23/2011
NP	Areas with Wilderness Characteristics	The areas where the lease parcels are being offered do not contain non WSA lands with wilderness characteristics.	/s/Steve Bonar	3/23/11

FINAL REVIEW:			
Reviewer Title	Signature	Date	Comments
Environmental Coordinator	/s/ Cindy Ledbetter /s/ Randy Beckstrand	8/24/11	
Authorized Officer	/s/ Randy Beckstrand (acting for Mike Gates)	8/24/11	

APPENDIX D
COMMENT RESPONSE FORM

Comment Worksheet: Fillmore Oil and Gas Leasing EA (August 2011 Sale)

Letter Number	Commenter	Comment Number	Category	Comment	Response
1	EPA	1	MIN	<p>Due to the changes in economics and oil and gas technology in the years since the two RMPs were developed, we recommend that the EA provide further support for the statements in the document indicating that BLM considers the 1987 RFD scenario to still be valid (Draft EA, pg. 2). For example, it would be helpful to provide clarity on whether and how advances in directional drilling or hydraulic fracturing may affect the likelihood of a discovery, or how current gas prices may impact production. We particularly recommend additional explanation be provided regarding potential for oil and gas occurrence on the extreme eastern portion of the area, which the EA notes may have greater potential than other areas proposed for leasing (Draft EA, pg. 2). Because a lease provides an opportunity for removal of the mineral resource, it should be assumed that the resource will be developed so that the environmental impacts are fully understood before the lease is granted. We therefore recommend that the EA consider possible impacts associated with a range of potential development levels.</p>	<p>The Fillmore Field Office’s RFD is addressed on page 51 of Environmental Assessment UT-010-2008-050 in April 2009, Oil and Gas Leasing in the Fillmore Field Office. On page 51 it states that “During preparation of this EA, BLM reviewed the geological condition, results of oil and gas drilling, current oil and gas development technology, and economic conditions and determined that the RFD is still adequate for analysis purposes.” The dry hole at the South Hills Federal location, drilled in 2011 by Pioneer Natural Resources in the Fillmore Field Office supports this contention. Therefore the RFD [over a 10-year period for the analysis area would be 10 exploratory wells (one well every year × 10 years)] for the two RMP’s in the Fillmore Field Office and it is still appropriate to use as an analysis assumption.</p>

Letter Number	Commenter	Comment Number	Category	Comment	Response
1	EPA	2	HYDRO	It is important to generally characterize surface water and groundwater resources and their connected uses in the potential leasing area early on in the planning effort, including municipal drinking water supplies (groundwater, surface water and springs) and private groundwater well uses. Disclosing current and anticipated future water use is most appropriately done during the leasing process in order to set the stage to determine if there are potential impacts.	General comments have been included in Section 3.2, (Affected Environment – General Setting, p. 8). Disclosure of ‘future’ water use is not possible to predict. The agency in charge would be the Utah Division of Water Rights (State Engineer) in making decisions for future surface and ground water appropriation.
1	EPA	3	HYDRO	EPA does not believe that deferring this evaluation to the site-specific well reviews provides a complete overview of potential cumulative environmental impacts to surface water or aquifers from leasing for oil and gas development.	The potential cumulative impact to water resources evaluation resulted in No Impact (NI) in the Interdisciplinary Team (IDT) Checklist. At the time of APD submittal the mitigation required to approve a Surface Use Plan of Operations (SUPO) and Drilling Plan (DP) reduces potential impacts to negligible, or insignificant. Furthermore, it is not possible to surmise ‘potential cumulative environmental impacts to surface waters or aquifers’ at the leasing stage due to the fact that the number of wells (if any), their location in relation to surface or ground water resources, and the oil and gas anticipated target depths would be purely hypothetical.

Letter Number	Commenter	Comment Number	Category	Comment	Response
1	EPA	4	HYDRO	We recommend that BLM consider whether No Leasing or No Surface Occupancy should be considered for Sole Source Aquifers, Source Water Protection Zones, and groundwater recharge areas.	After lengthy consideration the BLM concludes that all necessary mitigation to protect ground water is applied prior to APD approval. If proposed mitigation is not deemed adequate the APD will not be approved. No Leasing or No Surface Occupancy stipulations are utilized over Sole Source Aquifers (Sole Source Aquifer Lease Notice would be attached), but are not required to ensure protection of ground water within a Drinking Water Source Protection Zone. Ground water recharge areas are very difficult to determine but if known will require appropriate mitigation.
1	EPA	4	HYDRO	However, we additionally recommend that Utah BLM's IM No. UT 2010-055 be incorporated into the protection specified in the EA, as part of the currently proposed Lease Notices or separately.	Reference to Utah BLM's IM No. UT 2010-055 was incorporated into Lease Notice UT-LN-53 and in the IDT checklist under Water Resources/Quality (drinking/surface/ground).
1	EPA	5	AQ	The U.S. Department of Agriculture, Department of the Interior, and EPA will soon enter into a Memorandum of Understanding (MOU), which describes procedures for addressing air quality analyses and mitigation measures through the NEP A process related to federal oil and gas planning, leasing, or field development decisions. Although it is not yet in effect, we recommend that BLM consider the procedures established in the MOU for air quality analysis in the EA. Because an RFD scenario has been identified for the lease sale, the next step would be preparation of an emissions inventory of criteria pollutants and volatile organic compounds. This emission inventory	The air quality resource was removed from Section 1.7 Issues Considered but Eliminated from Further Analysis and placed into the body of the EA. Air quality is addressed in section 3.3.1 and 4.3.1.1 in the EA.

Letter Number	Commenter	Comment Number	Category	Comment	Response
				<p>would then be used to analyze whether modeling is required. If, after following this procedure, BLM continued to believe that air quality modeling is not needed for this lease sale, this decision would be documented in the EA. In such a case, EPA recommends that the EA include a qualitative narrative analysis of air quality and air quality related value impacts, as described in the MOU.</p>	
1	EPA	6	MIN	<p>We recommend looking at the eight Oil and Gas Leasing EAs prepared by the Montana/Dakotas BLM in 2010. Although RFD varied widely across the management areas represented by these documents, we note that the EA for the Dillon FO 201 0 Oil and Gas Leases predicted 10 wells over 10-15 years, similar to the Fillmore FO Lease Sale.</p>	<p>Refer to the response to comment #1.</p>