

United States Department of the Interior Bureau of Land Management

Determination of NEPA Adequacy
DOI-BLM-CO-S010-2015-0020-DNA

November 2015

Tres Rios February 2016 Oil and Gas Lease Sale

Location: Five parcels for 4,912.33 acres in Dolores County

BLM, Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7093

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Worksheet

Determination of NEPA Adequacy

U.S. Department of the Interior
Colorado Bureau of Land Management

OFFICE: Tres Rios Field Office

TRACKING NUMBER: DOI-BLM-CO-S010-2015-0020-DNA

CASEFILE/PROJECT NUMBER: Parcels 6715, 7371, 7372, 7373, and 7390

PROPOSED ACTION TITLE/TYPE: Tres Rios 2016 Oil and Gas Lease Sale

LOCATION/LEGAL DESCRIPTION: See Attachments B and C for full legal descriptions

BACKGROUND:

It is the policy of the Bureau of Land Management (BLM) as derived from various laws, including the Mineral Leasing Act of 1920 (MLA) and the Federal Land Policy and Management Act of 1976 (FLPMA), to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

The BLM's Colorado State Office conducts quarterly competitive sales to lease available oil and gas parcels. A Notice of Competitive Lease Sale (Sale Notice), which lists parcels to be offered at the lease sale auction, is published by the Colorado State Office at least 90 days before the auction is held. Lease stipulations applicable to each parcel are specified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations may be necessary, based on information available at the time, is made during the land use planning process. Constraints on leasing and any future development of parcels with surface managed by other federal agencies are determined by the BLM in consultation with the appropriate surface management agency.

In the process of preparing a lease sale, the Colorado State Office sends a draft parcel list to each field office where the parcels are located. Field Office staff then review the legal descriptions of the parcels to determine if they are in areas open to leasing and that appropriate stipulations have been included; verify whether any new information has become available that might change any analysis conducted during the planning process; confirm that appropriate consultations have been conducted; and identify any special resource conditions of which potential bidders should be made aware. The nominated parcels are posted online for a 30 day public scoping period. This posting also includes the appropriate stipulations as identified in the relevant Resource Management Plan (RMP). The BLM prepares documentation consistent with the National Environmental Policy Act (NEPA). Comments received from the public are reviewed and

considered as applicable. Responses to the 80 individual public comments received are in Attachment E.

After the Field Office completes the draft parcel review and NEPA analysis and returns them to the State Office, a list of available lease parcels and associated stipulations is made available to the public through a Notice of Competitive Lease Sale. Lease Sale Notices are posted on the Colorado BLM website at: http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/oil_and_gas_lease.html. On rare occasions, the BLM may defer or withhold offering proposed parcels for lease (up to the day of the lease sale). In such cases, the BLM prepares an addendum to the Sale Notice.

If the parcels are not leased at the Tres Rios February 2016 lease sale, they will be available for noncompetitive leasing pursuant to 43 CFR Subpart 3110 for a period of up to two years following the lease sale. Parcels obtained in this way may be re-parceled by combining or deleting other previously offered lands.

Mineral estate that is not leased within a two-year period after an initial offering will no longer be available, and must go through a competitive lease sale process again prior to being leased.

The act of leasing does not authorize any development or use of the surface of lease lands, without further application by the operator and approval by the BLM.

In the future, the BLM may receive Applications for Permit to Drill (APDs) for those parcels that are leased. If APDs are received, the BLM conducts additional site-specific NEPA analysis before deciding whether to approve the APD, and what conditions of approval (COAs) should apply.

Ten parcels comprising approximately 9,512.33 acres of Federal mineral estate within the BLM Tres Rios Field Office (TRFO) were nominated for leasing in the Tres Rios February 2016 Oil and Gas Lease Sale. Maps of the parcels are in Attachment A, and legal descriptions of the 10 proposed parcels are in Attachment B.

This Determination of NEPA Adequacy (DNA) documents the review of the nominated parcels under the administration of the TRFO. It serves to verify conformance with the approved land use plan, and provides the rationale for the field office's recommendation to offer or to defer particular parcels from a lease sale.

In accordance with BLM Colorado Instruction Memorandum (IM) No. 2012-027 and BLM Washington Office IM No. 2010-117, this DNA has been released for 30 days of public comment. Any comments received within the 30-day timeframe have been considered and incorporated into the DNA as appropriate.

A. Description of the Proposed Action and Any Applicable Mitigation Measures

Of the ten nominated parcels, TRFO proposes to offer five parcels, totaling 4,912.33 acres for lease at the Tres Rios February 2016 Oil and Gas Lease Sale, and to defer five parcels totaling 4,600 acres from the sale. Maps depicting all of the nominated parcels are in Attachment A, and legal

descriptions of the parcels are in Attachment B. Legal descriptions and stipulations for the five parcels recommended for lease are in Attachment C, and full stipulation descriptions are in Attachment D. The stipulations are identified in the 2015 Tres Rios Field Office Record of Decision/Resource Management Plan (TRFO ROD/RMP).

The BLM administers the mineral estate of the five parcels recommended for lease, while the BLM, State of Colorado, and private landowners manage the surface estate. These parcels would be offered at public auction for lease for oil and gas exploration and development.

The deferral process for nominated parcels was established to address situations in which legitimate questions arise as to the reasonably foreseeable impacts from leasing of a parcel. The deferral of a parcel does not permanently withdraw the parcel from leasing, but merely indicates that further consideration is needed before a decision is made regarding whether to offer the parcel at a future lease sale. The four parcels totaling 3,880 acres in and around Lone Mesa State Park are recommended for deferral in order to allow for additional review of appropriate protections for State Park land from oil and gas development. The one 720-acre parcel southwest of the McPhee Reservoir dam in Montezuma County is recommended for deferral to allow for additional analysis of the potential for seismic activity that may be caused by oil and gas drilling, completion, and development in the vicinity of the dam.

B. Land Use Plan (LUP) Conformance

Plan: Tres Rios Field Office Resource Management Plan (TRFO RMP)

Date Approved: February 2015

X The proposed action is in conformance with the applicable LUPs because it is specifically provided for in the following LUP decisions:

Decision Language: This program emphasizes the orderly and environmentally responsible development of oil and gas (natural gas and CO₂) deposits (page II-111).

The TRFO ROD/RMP identifies areas open for oil and gas leasing (pages II-113 through II-121), and specifies stipulations that would apply to leases (Appendix H). The proposed lease parcels are within the areas identified as open to leasing. Based on the RMP, specific stipulations are attached to each lease parcel.

C. Identify the applicable National Environmental Policy Act (NEPA) documents and other related documents that cover the proposed action.

BLM Tres Rios Field Office, San Juan National Forest Land and Resource Management Plan Final Environmental Impact Statement (RMP FEIS) (September 2013).

D. NEPA Adequacy Criteria

1. Is the new proposed action a feature of, or essentially similar to, an alternative analyzed in the existing NEPA document(s)? Is the project within the same analysis area, or if the

project location is different, are the geographic and resource conditions sufficiently similar to those analyzed in the existing NEPA document(s)? If there are differences, can you explain why they are not substantial?

Yes. The proposed action is included in an alternative analyzed in the TRFO RMP FEIS (Sept, 2013). The proposed lease parcels are within the area analyzed by the RMP FEIS, and leasing and subsequent development of oil and gas resources are specifically analyzed throughout the RMP FEIS (Sept, 2013), see chapters 3 and 4. Section 3.19 of the RMP FEIS describes the acres of currently leased and unleased federal minerals, under BLM, Forest Service, and split-estate surface ownership. The RMP FEIS describes leasing and types of stipulations which could be applied as resource mitigation, and explains that stipulations, Conditions of Approval and other existing law can mitigate resource concerns during development. The RMP FEIS also describes average acres of disturbance for development of well pads, roads, pipelines, and other facilities. Other resource sections describe the type and qualitative impact of development on that resource in the FEIS. All lands considered in this action are open to leasing under the RMP FEIS, and stipulations have been attached in conformance with the RMP.

2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the new proposed action (or existing proposed action), given current environmental concerns, interests, and resource values?

Yes. Five alternatives, covering a full range of oil and gas leasing options, were addressed in the RMP FEIS (see Section 2.4.6 of that document). The alternatives ranged from the most restrictive, a No Leasing Alternative, to the least restrictive, which made 78% of lands Available for Lease and had No Surface Occupancy stipulation on only 38% of those lands. Other alternatives were considered but eliminated from full analysis in the RMP FEIS due to being contrary to law or valid existing rights, or similar to analyzed alternatives. The alternatives considered in the TRFO RMP FEIS appropriate for the proposed action.

3. Is existing analysis adequate in light of any new information or circumstances (such as, rangeland health standards assessment; recent endangered species listings, updated list of BLM sensitive species)? Can you reasonably conclude that new information and new circumstances would not substantially change the analysis of the new proposed action?

Yes, the existing TRFO RMP FEIS is sufficient. We are not aware of any new information or circumstances that would require modification of the analysis.

4. Are the direct, indirect, and cumulative effects that would result from implementation of the new proposed action similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document?

Yes. The impacts of oil and gas developments, as well as other resource management actions, were addressed in the RMP FEIS based on a reasonable foreseeable development (RFD) scenario of approximately 2900 new wells in the next 15 years. Only four new wells have been approved in the eight months since the RMP was signed. This totals one new well every two months, which is only 3% of the RFD's predicted monthly average. Thus, the impacts to date from oil

and gas development are much lower than those anticipated under the approved plan, and are within the range of those analyzed in the RMP FEIS.

5. Are the public involvement and interagency review associated with existing NEPA document(s) adequate for the current proposed action?

Yes. Full public review occurred during the RMP FEIS process. The currently proposed lease sale would fall under the RMP FEIS. In addition, a public scoping period was held from May 11 to June 10, 2015, specifically for the proposed lease sale. On May 11, 2015, a courtesy notice for that public scoping period was posted on the BLM web site, http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/oil_and_gas_lease/20160/february_2016.html. Surface owners for the proposed parcels were notified of the proposed leasing action by mail. A site visit was held with Colorado Parks and Wildlife on June 12, 2015. From August 12 to September 11, 2015, an initial draft of this DNA was posted for a public review and comment period.

In addition, a notice of the competitive lease sale is being posted approximately ninety (90) days prior to the sale on the BLM web site, ww.co.blm.gov/oilandgas/leasinfo.html.

E. Persons/Agencies/BLM Staff Consulted:

<u>Name</u>	<u>Title</u>	<u>Resource Represented</u>
Tracy Perfors Robert Garrigues	Natural Resource Specialist	Project Manager
Chad Meister	Natural Resource Specialist	Air
Julie Bell Bruce Bourcy	Archaeologist	Cultural; Native American Religious Concerns
Brad Pietruszka	Fire Management Specialist	Fuels, Fire
Nathaniel West	Wildlife Biologist	Wildlife; Migratory Birds; Special Status Animal Species; Threatened, Endangered or Candidate Animal Species; Wetlands; Water Resources
Mike Jensen	Botanist	Invasive Species/Noxious Weeds; Rangeland; Special Status Plant Species; Threatened, Endangered or Candidate Plant Species; Vegetation
Martin Hensley	Economist	Environmental Justice; Socio- Economics
Harrison Griffin	Realty Specialist	Lands/Access
Jeff Christenson	Outdoor Recreation Planner	Lands with Wilderness Characteristics; Recreation; Visual; Wild and Scenic Rivers; Wilderness/Wilderness Study Areas
John Pecor	Petroleum Engineer	Mineral Resources; Waste

Jamie Blair	Paleontology Coordinator	Paleontology
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In addition, the list of preparers, cooperating agencies, and tribes participating in the original RMP FEIS is available in the FEIS, Chapter 4.

Remarks:

Cultural Resources:

The leasing of federal mineral rights for potential oil and gas exploration and production is an undertaking under Section 106 of the National Historic Preservation Act (NHPA).

A total of 21 cultural resource inventories have been conducted in the lease parcels to be offered for sale and/or the land within a one mile radius around those parcels. Of the total 9,313.6 acres nominated for the lease sale, approximately 1,487 acres (30%) have been surveyed, resulting in 38 archaeological sites recorded. Of the 38 sites recorded, 11 are eligible for listing on the NRHP, while 12 sites are evaluated as needing more data, but must be protected as if they are eligible for listing. The remaining 15 sites are not eligible for the NRHP.

No direct impacts will occur from leasing, and no historic properties will be affected. The act of leasing oil and gas parcels may have indirect impacts to historic properties. Leasing allows for future development that may impact the setting of sites and may provide more access to the area by the public. The density of oil and gas development within the sale parcels and increased access to the area for illegal artifact collection and vandalism may have cumulative effects on historic properties.

Compliance with Section 106 of the NHPA for the lease sale is in progress. Any future exploration and development of leases that might affect historic properties will be subject to additional cultural resources work pursuant to Section 106 of the National Historic Preservation Act, 54 U.S.C. § 306108, including identification, effects assessment, consultation, and if necessary, resolution of adverse effects. This requirement is outlined in CSU stipulation CO-39 attached to each lease parcel. At that time, any adverse effects of proposed development on historic properties will be identified and mitigated, if necessary.

Native American Religious Concerns:

Tribal consultation for the Proposed Action was initiated on November 6, 2015. There are no known traditional cultural properties and sacred sites in or near the lease parcels. The Tribes have been asked to provide any additional information during consultation.

No direct impacts will occur from leasing, and no traditional cultural properties or sacred sites will be affected. The act of leasing oil and gas parcels may have indirect impacts to traditional cultural properties and sacred sites. Leasing allows for future development that may impact the setting of sites and may provide more access to the area by the public. The density of oil and gas development within the sale parcels and increased access to the area for illegal artifact collection and vandalism may have cumulative effects on traditional cultural properties and sacred sites.

CONCLUSION *(If you found that one or more of these criteria is not met, then you cannot conclude that the NEPA documentation fully covers the proposed action).*

Plan Conformance:

- This proposal conforms to the applicable land use plan.
- This proposal does not conform to the applicable land use plan

Determination of NEPA Adequacy

- Based on the review documented above, I conclude that this proposal conforms to the applicable land use plan and that the NEPA documentation fully covers the proposed action and constitutes BLM's compliance with the requirements of the NEPA.
- The existing NEPA documentation does not fully cover the proposed action. Additional NEPA documentation is needed if the project is to be further considered.

Signature of Project Lead

Date

Signature of NEPA Coordinator

Date

Signature of the Responsible Official

Date

Note: The signed Conclusion on this Worksheet is part of an interim step in the BLM's internal decision process and does not constitute an appealable decision. However, the lease, permit, or other authorization based on this DNA is subject to protest or appeal under 43 CFR Part 4 and the program-specific regulations.

ATTACHMENTS:

Attachment A: Maps

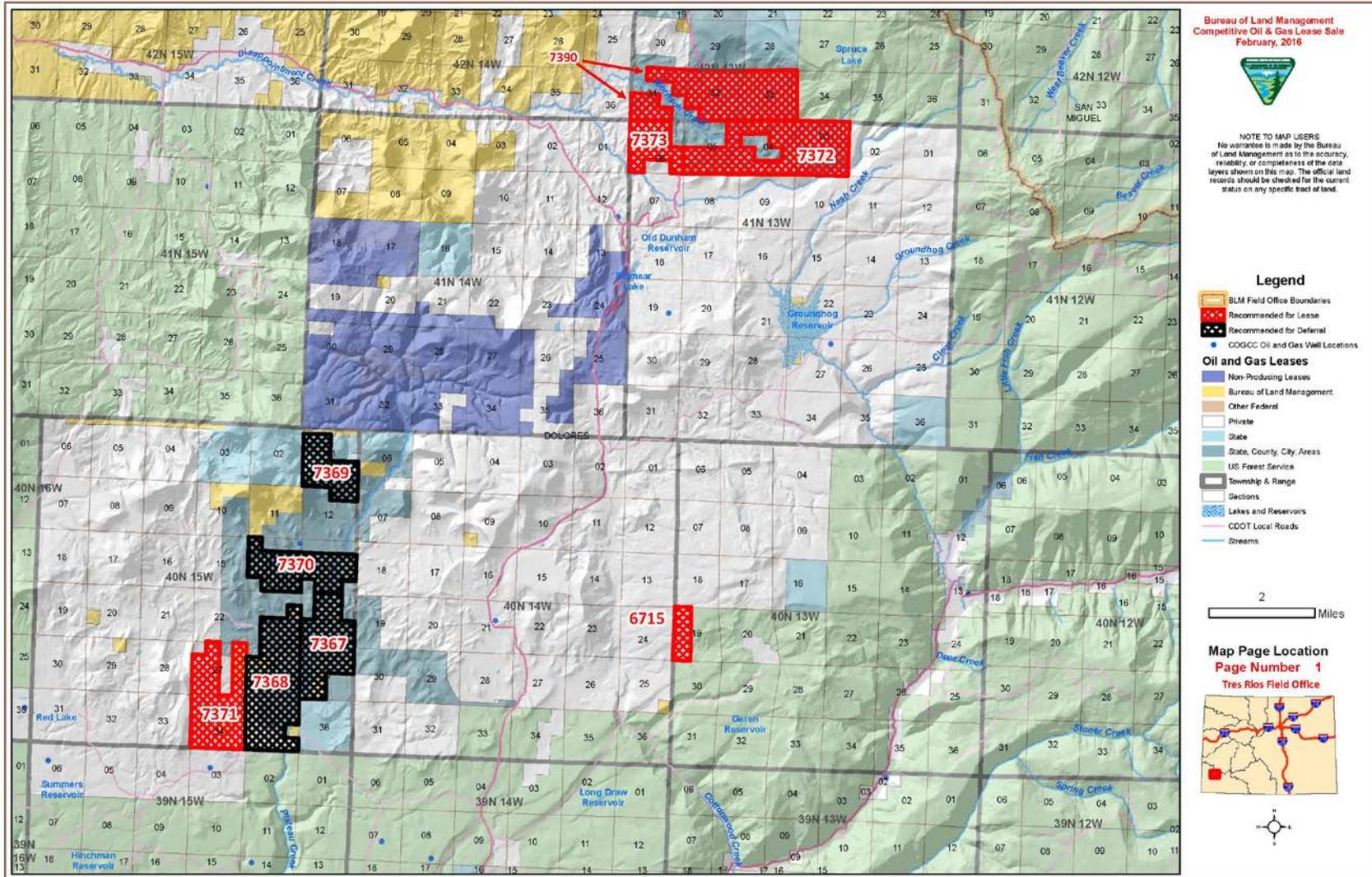
Attachment B: Legal Descriptions of Proposed Parcels

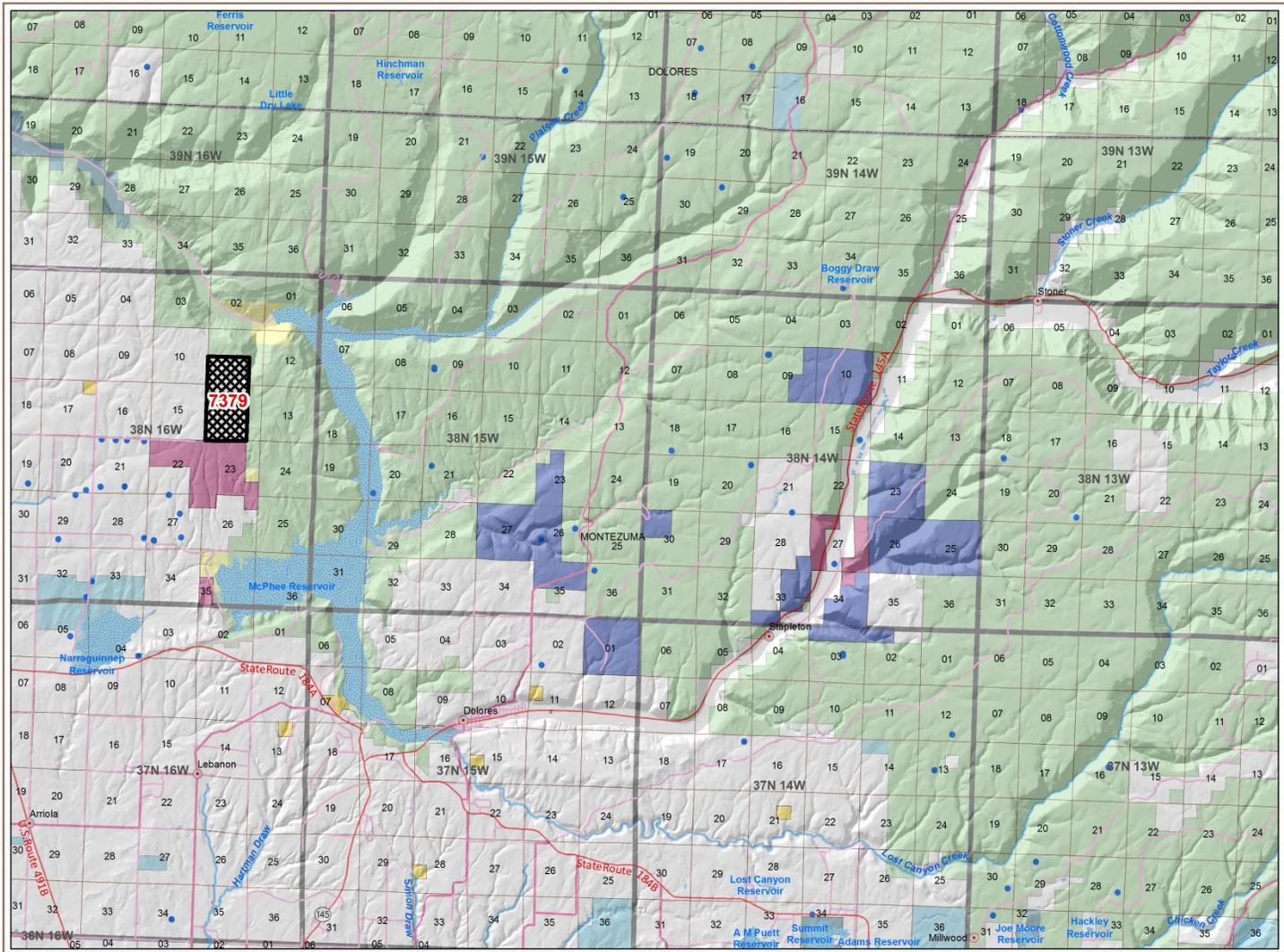
Attachment C: Parcels Recommended for Lease with Applied Stipulations

Attachment D: Stipulation Descriptions

Attachment E: Responses to Public Comments

ATTACHMENT A: Maps





**Bureau of Land Management
Competitive Oil & Gas Lease Sale
February, 2016**



NOTE TO MAP USERS
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records should be checked for the current status on any specific tract of land.

Legend

- BLM Field Office Boundaries
- Oil & Gas Sale Status**
 - Recommended for Deferral
 - COGCC Oil and Gas Well Locations
- Oil and Gas Leases**
 - Non-Producing Leases
 - Producing Leases
 - Bureau of Land Management
 - Bureau of Reclamation
 - Private
 - State
 - State, County, City, Areas
 - US Forest Service
 - Township & Range
 - Sections
 - Lakes and Reservoirs
 - Minor Highways
 - CDOT Local Roads
 - Streams

2 Miles

**Map Page Location
Page Number 2
Tres Rios Field Office**



Attachment B: Legal Descriptions of Proposed Parcels

Attachment B: Legal Descriptions of Proposed Parcels

THE FOLLOWING PUBLIC DOMAIN LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

PARCEL ID: 6715 (Recommended for lease)

T.0400N., R.0130W., NMPM

Section 19: Lot 1,2;

Section 19: E2W2;

Dolores County

Colorado 196.440 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7367 (Recommended for deferral)

T.0400N., R.0150W., NMPM

Section 24: W2NE,E2NW,S2;

Section 25: N2,SW;

Dolores County

Colorado 960.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7368 (Recommended for deferral)

T.0400N., R.0150W., NMPM

Section 23: SENE,E2SW,SE;

Section 26: E2,E2NW,SWNW,SW;

Section 35: N2,SW,W2SE,SESE;

Dolores County

Colorado 1480.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7369 (Recommended for deferral)

T.0400N., R.0150W., NMPM

Section 1: Lot 5,6,11,12;

Section 1: S2;

Section 12: N2NE;

Dolores County

Colorado 560.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7370 (Recommended for deferral)

T.0400N., R.0150W., NMPM

Section 13: S2N2,N2S2,SESW,SWSE;

Section 14: N2SW,SESW,SE;

Section 14: S2N2,NWNW;

Dolores County

Colorado 880.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7371 (Recommended for lease)

T.0400N., R.0150W., NMPM

Section 27: E2E2,E2W2,SWNW,W2SW;

Section 34: ALL;

Dolores County

Colorado 1080.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7372 (Recommended for lease)

T.0410N., R.0130W., NMPM

Section 3: Lot 1-4;
Section 3: S2N2,S2;
Section 4: Lot 1-4;
Section 4: S2NE,NWSW,NESE,S2S2;
Section 5: Lot 1;
Section 5: SENE,S2;

Dolores County
Colorado 1519.900 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7373 (Recommended for lease)

T.0410N., R.0130W., NMPM

Section 6: Lot 2-7;
Section 6: SWNE,SENE;
Section 6: NESW,N2SE,SESE;

Dolores County
Colorado 503.640 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7379 (Recommended for deferral)

T.0380N., R.0160W., NMPM

Section 11: SW,W2SE;
Section 14: W2E2,W2;

Montezuma County
Colorado 720.000 Acres

PVT/BLM; COS:TRFO

PARCEL ID: 7390 (Recommended for lease)

T.0420N., R.0130W., NMPM

Section 31: Lot 3,4;

Section 31: N2NE,SENE,NENW;

Section 31: E2SW,SWSE;

Section 32: N2,N2SW,SESW,SE;

Section 33: ALL;

Dolores County

Colorado 1612.350 Acres

PVT/BLM; COS:TRFO

**ATTACHMENT C: Parcels Recommended for Lease with Applied
Stipulations**

ATTACHMENT C: Parcels Recommended for Lease with Applied Stipulations

THE FOLLOWING PUBLIC DOMAIN LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

Stipulations are No Surface Occupancy (NSO), Timing Limitation (TL), Controlled Surface Use (CSU), or Lease Notice.

PARCEL ID: 6715

T.0400N., R.0130W., NMPM

Section 19: Lot 1,2;

Section 19: E2W2;

Dolores County

Colorado 196.440 Acres

All lands are subject to Exhibit 1.4.1 (NSO) to protect ephemeral streams.

All lands are subject to Exhibit 1.4.2 (CSU) to protect ephemeral streams.

All lands are subject to Exhibit 1.6.1 (CSU) to protect shallow groundwater resources.

All lands are subject to Exhibit 1.6.2 (CSU) to protect groundwater resources during hydraulic fracturing.

All lands are subject to Exhibit 1.8.1 (Lease Notice) to protect against radioactive materials.

All lands are subject to Exhibit 1.10.1 (CSU) to protect 25-35% slopes and shale soils.

All lands are subject to Exhibit 1.11.1 (NSO) to protect lands prone to mass movement.

All lands are subject to Exhibit 1.13.1 (CSU) to protect biological soil crusts.

All lands are subject to Exhibit 2.1.1 (NSO) to protect threatened, endangered, proposed and candidate plants.

All lands are subject to Exhibit 2.2.1 (CSU) to protect sensitive plants.

All lands are subject to Exhibit 3.2.1 (CSU) to protect lynx habitat.

All lands are subject to Exhibit 3.8.1 (Lease Notice) to protect migratory birds.

All lands are subject to Exhibit 3.9.1 (NSO) to protect raptors.

All lands are subject to Exhibit 3.9.2 (TL) to protect raptors.

All lands are subject to Exhibit 3.10.1 (TL) to protect big game parturition areas.

All lands are subject to Exhibit 3.10.2 (CSU) to protect big game winter range and production areas.

All lands are subject to Exhibit CO-29 to alert lessee of PFYC 4 and 5 paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit CO-56 (Lease Notice) to alert lessees of potential supplementary air analysis.

PVT/BLM; COS:TRFO

PARCEL ID: 7371

T.0400N., R.0150W., NMPM

Section 27: E2E2,E2W2,SWNW,W2SW;

Section 34: ALL;

Dolores County

Colorado 1080.000 Acres

All lands are subject to Exhibit 1.4.1 (NSO) to protect ephemeral streams.

All lands are subject to Exhibit 1.4.2 (CSU) to protect ephemeral streams.

All lands are subject to Exhibit 1.6.1 (CSU) to protect shallow groundwater resources.

All lands are subject to Exhibit 1.6.2 (CSU) to protect groundwater resources during hydraulic fracturing.

All lands are subject to Exhibit 1.8.1 (Lease Notice) to protect against radioactive materials.

All lands are subject to Exhibit 1.10.1 (CSU) to protect 25-35% slopes and shale soils.

All lands are subject to Exhibit 1.13.1 (CSU) to protect biological soil crusts.

All lands are subject to Exhibit 2.1.1 (NSO) to protect threatened, endangered, proposed and candidate plants.

All lands are subject to Exhibit 2.2.1 (CSU) to protect sensitive plants.

All lands are subject to Exhibit 3.8.1 (Lease Notice) to protect migratory birds.

All lands are subject to Exhibit 3.9.1 (NSO) to protect raptors.

All lands are subject to Exhibit 3.9.2 (TL) to protect raptors.

All lands are subject to Exhibit CO-29 to alert lessee of PFYC 4 and 5 paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit CO-56 (Lease Notice) to alert lessees of potential supplementary air analysis.

The following lands are subject to Exhibit 1.3.1 (NSO) to protect perennial water bodies:

T.0400N., R.0150W., NMPM

Section 27: E2E2, E2NW, SWNW, E2SW, SWSW;

Section 34: NE, N2SE, SESE, SW, E2NW;

The following lands are subject to Exhibit 1.3.2 (CSU) to protect perennial water bodies:

T.0400N., R.0150W., NMPM

Section 27: E2E2, E2NW, SWNW, E2SW, SWSW;

Section 34: SW, SESE;

The following lands are subject to Exhibit 1.9.1 (NSO) to protect greater than 35% slopes:

T.0400N., R.0150W., NMPM

Section 27: SWNW, SW;

Section 34: SWNE, NW, N2SW, NWSE;

The following lands are subject to Exhibit 1.11.1 (NSO) to protect lands prone to mass movement:

T.0400N., R.0150W., NMPM

Section 27: E2E2, NENW, SWNW, W2SW, SESW;
Section 34: ALL;

The following lands are subject to Exhibit 3.11.1 (CSU) to protect Gunnison prairie dog:

Section 34: S2SW;

The following lands are subject to Exhibit 4.9.1 (NSO) to protect visual resources:

Section 27: E2NE, NESE;
Section 34: SWNE, NWSE;

PVT/BLM; COS:TRFO

PARCEL ID: 7372

T.0410N., R.0130W., NMPM

Section 3: Lot 1-4;
Section 3: S2N2,S2;
Section 4: Lot 1-4;
Section 4: S2NE,NWSW,NESE,S2S2;
Section 5: Lot 1;
Section 5: SENE,S2;

Dolores County

Colorado 1519.900 Acres

All lands are subject to Exhibit 1.4.1 (NSO) to protect ephemeral streams.

All lands are subject to Exhibit 1.4.2 (CSU) to protect ephemeral streams.

All lands are subject to Exhibit 1.6.1 (CSU) to protect shallow groundwater resources.

All lands are subject to Exhibit 1.6.2 (CSU) to protect groundwater resources during hydraulic fracturing.

All lands are subject to Exhibit 1.8.1 (Lease Notice) to protect against radioactive materials.

All lands are subject to Exhibit 1.10.1 (CSU) to protect 25-35% slopes and shale soils.

All lands are subject to Exhibit 1.11.1 (NSO) to protect lands prone to mass movement.

All lands are subject to Exhibit 1.13.1 (CSU) to protect biological soil crusts.

All lands are subject to Exhibit 2.1.1 (NSO) to protect threatened, endangered, proposed and candidate plants.

All lands are subject to Exhibit 2.2.1 (CSU) to protect sensitive plants.

All lands are subject to Exhibit 3.8.1 (Lease Notice) to protect migratory birds.

All lands are subject to Exhibit 3.9.1 (NSO) to protect raptors.

All lands are subject to Exhibit 3.9.2 (TL) to protect raptors.

All lands are subject to Exhibit 3.10.1 (TL) to protect big game parturition areas.

All lands are subject to Exhibit 3.10.2 (CSU) to protect big game winter range and production areas.

All lands are subject to Exhibit 3.13.1 (NSO) to protect State Wildlife Areas.

All lands are subject to Exhibit CO-29 to alert lessee of PFYC 4 and 5 paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit CO-56 (Lease Notice) to alert lessees of potential supplementary air analysis.

The following lands are subject to Exhibit 1.3.1 (NSO) to protect perennial water bodies:

T.0410N., R.0130W., NMPM

Section 3: Lot 1-4,

Section 3: SWNW, S2SE, SESW;

Section 4: Lot 1-2, Lot 4

Section 4: SENE, NWSW, NESE, S2S2;

Section 5: Lot 1

Section 5: SENE, N2SE, SWSE, W2SW;

The following lands are subject to Exhibit 1.3.2 (CSU) to protect perennial water bodies:

T.0410N., R.0130W., NMPM

Section 3: Lot 1-4

Section 3: S2NW, S2SE, SESW;

Section 4: Lot 1-4;

Section 4: S2NE, NWSW, NESE, S2S2;

Section 5: Lot 1,

Section 5: SENE, N2SE, SWSE, W2SW, SESW;

The following lands are subject to Exhibit 1.9.1 (NSO) to protect greater than 35% slopes:

T.0410N., R.0130W., NMPM

Section 3: Lot 1-4;

Section 3: S2N2, S2;

Section 4: Lot 4;

Section 4: S2NE, NWSW, NESE, S2S2;

Section 5: SW, E2SE;

PVT/BLM; COS:TRFO

PARCEL ID: 7373

T.0410N., R.0130W., NMPM

Section 6: Lot 2-7;

Section 6: SWNE, SENW;

Section 6: NESW, N2SE, SESE;

Dolores County
Colorado 503.640 Acres

All lands are subject to Exhibit 1.4.1 (NSO) to protect ephemeral streams.
All lands are subject to Exhibit 1.4.2 (CSU) to protect ephemeral streams.
All lands are subject to Exhibit 1.6.1 (CSU) to protect shallow groundwater resources.
All lands are subject to Exhibit 1.6.2 (CSU) to protect groundwater resources during hydraulic fracturing.
All lands are subject to Exhibit 1.8.1 (Lease Notice) to protect against radioactive materials.
All lands are subject to Exhibit 1.10.1 (CSU) to protect 25-35% slopes and shale soils.
All lands are subject to Exhibit 1.11.1 (NSO) to protect lands prone to mass movement.
All lands are subject to Exhibit 1.13.1 (CSU) to protect biological soil crusts.
All lands are subject to Exhibit 2.1.1 (NSO) to protect threatened, endangered, proposed and candidate plants.
All lands are subject to Exhibit 2.2.1 (CSU) to protect sensitive plants.
All lands are subject to Exhibit 3.8.1 (Lease Notice) to protect migratory birds.
All lands are subject to Exhibit 3.9.1 (NSO) to protect raptors.
All lands are subject to Exhibit 3.9.2 (TL) to protect raptors.
All lands are subject to Exhibit 3.10.1 (TL) to protect big game parturition areas.
All lands are subject to Exhibit 3.10.2 (CSU) to protect big game winter range and production areas.
All lands are subject to Exhibit CO-29 to alert lessee of PFYC 4 and 5 paleontological area inventory requirement.
All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal
All lands are subject to Exhibit CO-39 to protect cultural resources.
All lands are subject to Exhibit CO-56 (Lease Notice) to alert lessees of potential supplementary air analysis.

The following lands are subject to Exhibit 1.3.1 (NSO) to protect perennial water bodies:

T.0410N., R.0130W., NMPM

Section 6: Lot 3-5, 7

Section 6: NESE, SESE;

The following lands are subject to Exhibit 1.3.2 (CSU) to protect perennial water bodies:

T.0410N., R.0130W., NMPM

Section 6: Lot 3-5, 7

Section 5: N2SE, SESE;

The following lands are subject to Exhibit 1.7.1 (NSO) to protect reservoirs and lakes:

Section 6: Lot 3-6

Section 6: SENW, NESW, N2SE, SESE;

The following lands are subject to Exhibit 1.9.1 (NSO) to protect greater than 35% slopes:

T.0410N., R.0130W., NMPM

Section 6: Lot 2;
Section 6: SESE;

PVT/BLM; COS:TRFO

PARCEL ID: 7390

T.0420N., R.0130W., NMPM

Section 31: Lot 3,4;
Section 31: N2NE,SENE,NENW;
Section 31: E2SW,SWSE;
Section 32: N2,N2SW,SESW,SE;
Section 33: ALL;

Dolores County

Colorado 1612.350 Acres

All lands are subject to Exhibit 1.4.1 (NSO) to protect ephemeral streams.

All lands are subject to Exhibit 1.4.2 (CSU) to protect ephemeral streams.

All lands are subject to Exhibit 1.6.1 (CSU) to protect shallow groundwater resources.

All lands are subject to Exhibit 1.6.2 (CSU) to protect groundwater resources during hydraulic fracturing.

All lands are subject to Exhibit 1.8.1 (Lease Notice) to protect against radioactive materials.

All lands are subject to Exhibit 1.10.1 (CSU) to protect 25-35% slopes and shale soils.

All lands are subject to Exhibit 1.11.1 (NSO) to protect lands prone to mass movement.

All lands are subject to Exhibit 1.13.1 (CSU) to protect biological soil crusts.

All lands are subject to Exhibit 2.1.1 (NSO) to protect threatened, endangered, proposed and candidate plants.

All lands are subject to Exhibit 2.2.1 (CSU) to protect sensitive plants.

All lands are subject to Exhibit 3.8.1 (Lease Notice) to protect migratory birds.

All lands are subject to Exhibit 3.9.1 (NSO) to protect raptors.

All lands are subject to Exhibit 3.9.2 (TL) to protect raptors.

All lands are subject to Exhibit 3.10.1 (TL) to protect big game parturition areas.

All lands are subject to Exhibit 3.10.2 (CSU) to protect big game winter range and production areas.

All lands are subject to Exhibit 3.13.1 (NSO) to protect State Wildlife Areas.

All lands are subject to Exhibit CO-29 to alert lessee of PFYC 4 and 5 paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit CO-56 (Lease Notice) to alert lessees of potential supplementary air analysis.

The following lands are subject to Exhibit 1.3.1 (NSO) to protect perennial water bodies:
T.0420N., R.0130W., NMPM

- Section 31: Lot 3, 4;
- Section 31: NESW, SWSE;
- Section 32: E2, S2NW, N2SW, SESW;
- Section 33: NWSE, SW, E2NW, NWNW;

The following lands are subject to Exhibit 1.3.2 (CSU) to protect perennial water bodies:
T.0420N., R.0130W., NMPM

- Section 31: Lot 3, 4;
- Section 31: E2SW, SWSE, NESW, NWNE, NENE, SENE;
- Section 32: E2, S2NW, N2SW, SESW;
- Section 33: N2SE, SW, E2NW, NWNW;

The following lands are subject to Exhibit 1.7.1 (NSO) to protect Reservoirs and Lakes:

- Section 31: E2SW, SWSE, SENE;
- Section 32: SWNW, NWSW;

The following lands are subject to Exhibit 1.9.1 (NSO) to protect greater than 35% slopes:
T.0420N., R.0130W., NMPM

- Section 31: SWSE;
- Section 32: W2NE, NENW, S2NW, SESW;
- Section 33: N2NE;

PVT/BLM; COS:TRFO

ATTACHMENT D: Stipulation Descriptions

EXHIBIT 1.3.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

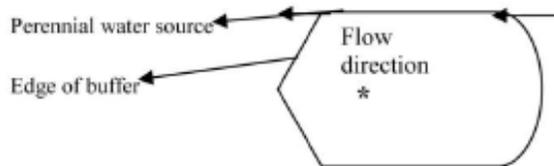
Perennial Streams, Water Bodies, Riparian Areas, and Fens

No surface occupancy or use is allowed on the lands described below: Prohibit surface occupancy and surface-disturbing activities within a minimum buffer distance of 325 horizontal feet for all perennial waters. For perennial streams, the buffer would be measured from the ordinary high water mark (bankfull stage), whereas for wetland features, the buffer would be measured from the edge of the mapped extent (Table H.1). For unmapped wetlands, the vegetative boundary (from which the buffer originates) would be determined in the field. Where the riparian zone extends beyond 325 feet, the NSO stipulation would be extended to include the entire riparian zone.

Table H.1: No Surface Occupancy Buffers for Perennial Waters

Water Body Type	Buffer Width (feet)
Fens and wetlands	325*
Perennial streams (with or without fish)	325 (as measured from ordinary high water mark)
Lotic or lentic springs and seeps	325 (as measured from wetland vegetation edge)
Riparian	325 (or greater if riparian area is wider than 325 feet)

*See Modification.



Wetland buffer dimensions may be averaged to accommodate variability in terrain or development plans. Up-gradient distances should be maintained (i.e., up- gradient buffer distances of 325 feet), while down-gradient buffers may be reduced to no less than 100 feet. The buffer averaging must, however, not adversely affect wetland functions and values, and a minimum buffer distance of 100 feet from the wetland edge is maintained. The buffer’s intent is to protect the water source area of the wetland, which is more important than the down-gradient portion of the wetland.

For the purpose of: Maintaining the proper functioning condition, including the vegetative, hydrologic and geomorphic functionality of the perennial water body. Protect water quality, fish habitat, aquatic habitat, and provide a clean, reliable source of water for downstream users. Buffers are expected to indirectly benefit migratory birds, wildlife habitat, amphibians, and other species.

Justification: Wetlands, floodplains, riparian areas, water influence zones, and fens represent important ecological components and functions, such as storing water, stabilizing valley floors,

enhancing water quality, and providing recreation and aesthetic values, biological diversity, and wildlife species with habitat, water, food, cover, and travel routes. They are easily disturbed by ground-disturbing activities that can cause soil erosion, soil compaction, and adverse changes to the hydrologic function that is important to maintaining the hydrologic and ecological integrity of these lands.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.3.2

Lease Number: <LEASE_NUMBER>

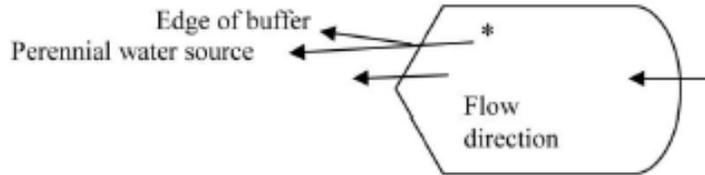
CONTROLLED SURFACE USE

Perennial Streams, Water Bodies, Riparian Areas, and Fens

Surface occupancy or use is subject to the following special operating constraints: From 325 to 500 horizontal feet from the perennial water body, CSU restrictions would apply. Surface-disturbing activities may require special engineering design, construction and implementation measures, including re-location of operations beyond 656 feet (200 meters) to protect water resources within the 325 foot NSO buffer. For perennial streams, the buffer would be measured from ordinary high water mark (bankfull stage), whereas for wetland features, the buffer would be measured from the edge of the mapped extent (Table H.2). For unmapped wetlands, the vegetative boundary (from which the buffer originates) would be determined in the field.

Table H.2: Controlled Surface Use buffers for perennial waters.

Water Body Type	Buffer Width (feet)
Fens and wetlands	325-500*
Perennial streams (with or without fish)	325-500 (as measured from ordinary high water mark)
Lotic or lentic springs and seeps	325-500 (as measured from wetland vegetation edge)



For the purpose of: Maintaining the proper functioning condition, including the vegetative, hydrologic, and geomorphic functionality of the perennial water body, to protect water quality, fish habitat, and aquatic habitat and provide a clean, reliable source of water for downstream users. Buffers are expected to indirectly benefit migratory birds, wildlife habitat, amphibians, and other species.

Justification: Minimizing potential deterioration of water quality; maintaining natural hydrologic function and condition of stream channels, banks, floodplains, and riparian communities; and preserving wildlife habitat. The buffers are sized to accommodate the rivers' larger floodplains and wider riparian zones.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

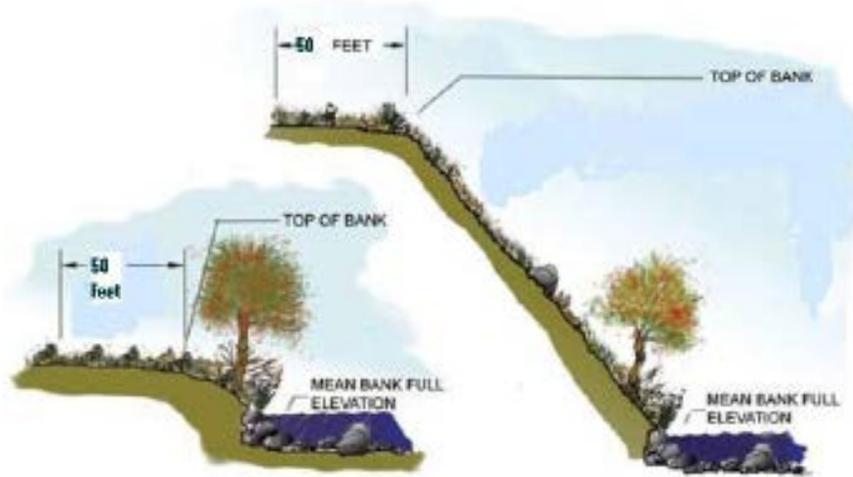
EXHIBIT 1.4.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Intermittent and Ephemeral Streams

No surface occupancy or use is allowed in the lands described below: NSO of 50 horizontal feet as measured from the top of the stream bank for all intermittent or ephemeral streams (see diagram). If riparian vegetation extends beyond the top of the stream bank, the buffer would be measured from the extent of the riparian vegetation.



For the purpose of: Maintaining and protecting water quality, stream stability, aquatic health, seasonal use and downstream fisheries, and sediment processes downstream.

Justification: Minimizing potential deterioration of water quality and maintaining natural hydrologic function and condition of stream channels, banks, floodplains, and riparian communities.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.4.2

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Intermittent and Ephemeral Streams

Surface occupancy or use is subject to the following special operating constraints: CSU from the edge of the NSO buffer to 100 horizontal feet. Avoid locating roads, stream crossings, and facilities within this zone, because activities within this area can potentially affect streams and water quality. Adequate professional design and engineering of activities in this zone is necessary to prevent stormwater runoff and sedimentation. Measurement is from the top of the stream bank, although if wetland vegetation exists, then the measurement is from the vegetation's edge.

For the purpose of: Minimizing the risk of sedimentation, spills, and other contaminants reaching intermittent and/or ephemeral streams to protect water quality, stream function, and aquatic habitat.

Justification: CSU in this zone would minimize potential deterioration of water quality, maintain natural hydrologic function and condition of stream channels, banks, floodplains, and riparian communities.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.6.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Groundwater Resources (shallow)

Surface occupancy or use is subject to the following special operating constraints: Oil and gas surface operations over shallow (<2,000 feet) potentially usable groundwater (<10,000 total dissolved solids) shall use the following protection measures:

- Pitless, self-contained drilling systems.
- In the completion of an oil, gas, injection, disposal, or service well, where acidizing or fracture processes are used, no deleterious substances shall be permitted to pollute subsurface water.
- Flowback and stimulation fluids would be contained within tanks that are placed on a well pad or in a lined, bermed area.
- Fluids, additives, and other materials used for drilling and completion operations must be protective of public health and the environment in the areas where they are used.
- For well where a multi-stage high volume hydraulic fracturing is anticipated, the operators shall indicate the method used to handle, transport, and dispose of the recovered fluids.

For the purpose of: Minimizing the risk of spills and other contaminants reaching potentially usable groundwater with a water table up to 2,000 feet that is near the surface.

Justification: CSU would minimize the risk of water quality contamination and maintain the integrity of potentially usable groundwater resources for present and future uses.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.6.2

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Groundwater Resources

Surface occupancy or use is subject to the following special operating constraints: Oil and gas operations using multi-stage hydraulic fracturing shall use the following measures to protect potentially usable water bearing intervals:

- The placement of all stimulation fluids shall be confined to the objective formation to the extent practicable.
- In all directions a minimum of 2,500 feet of buffer distance (or greater if deemed necessary by BLM) between the well bore (production string) and the lower extent of shallow (<2,000 feet), potentially usable groundwater (<10,000 total dissolved solids) aquifer, shall be maintained so that fractures from the hydraulic fracturing process do not intersect shallow aquifers.
- A continuous column of cement shall extend from the surface casing shoe back to ground level. If cement is not circulated to surface, then a remedial cement job shall be performed to ensure complete cement coverage.
- A cement bond log shall be required in the surface string.
- Surface casing set depth shall be at least 50 feet below any potentially usable water bearing interval.
- Pitless, self-contained drilling systems.
- In the completion of an oil, gas, injection, disposal, or service well, where acidizing or fracture processes are used, no deleterious substances shall be permitted to pollute subsurface water.
- Fluids, additives, and other materials used for drilling and completion operations must be protective of public health and the environment in the areas where they are used.
- Operators shall indicate the method used to handle, transport, and dispose of the recovered fluids.
- Upon request of the BLM, operators shall provide reports that disclose the complete chemical makeup of all materials used in the proposed and actual drilling and stimulation fluids without regard to original source additive.

For the purpose of: Protecting potentially usable groundwater.

Justification: CSU would minimize the risk of groundwater contamination and maintain the integrity of potentially usable water bearing intervals for present and future uses.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.7.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Reservoirs and Lakes

No surface occupancy or use is allowed on the lands described below: For reservoirs and lakes one acre or larger as measured by the high water mark, NSO is stipulated within 0.25 mile of the high water shoreline.

For the purpose of: Protecting water quality and the scenic, recreation, wetland, and wildlife values associated with the lake or reservoir and its shoreline.

Justification: Oil and gas development is incompatible with the emphasized use of these areas.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.8.1

Lease Number: <LEASE_NUMBER>

LEASE NOTICE

Technologically Enhanced Naturally Occurring Radioactive Materials

Oil and gas operations targeting shale formations have the potential to bring to the surface, and concentrate, naturally occurring radioactive materials. These operations can lead to the spread of radioactive contamination and potential human health risks. Wells targeting shale gas plays are subject to the following special sampling requirements:

- All exploratory wells targeting shale gas formations shall obtain a representative sample of cuttings from the targeted formation and complete analysis in accordance with General Provision 3.1.6 of the Colorado Department of Public Health and the Environment (CDPHE) Interim Policy and Guidance Pending Rulemaking for Control and Disposition of Technologically-Enhanced Naturally Occurring Radioactive Materials in Colorado, or the equivalent provisions of any future rulemaking decision. The results shall be provided to the SJNF and TRFO.
- During the first multi-stage hydraulic fracturing of a well targeting shale gas in any given section, representative samples of cuttings, flowback fluids, produced waters, and sludge shall be analyzed in accordance with General Provision 3.1.6 of the CDPHE Interim Policy and Guidance Pending Rulemaking for Control and Disposition of Technologically-Enhanced Naturally Occurring Radioactive Materials in Colorado, or the equivalent provisions of any future rulemaking decision. The results shall be provided to the SJNF and TRFO.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.9.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Lands with Slopes Greater Than 35 Percent

No surface occupancy is allowed on the lands described below: Lands with slopes greater than 35 percent.

For the purpose of: Preventing mass movement and the associated loss of soil productivity, preventing damage to structures and equipment, and protecting riparian areas, wetlands, and aquatic ecosystems from sedimentation and for safety reasons.

Justification: Slopes greater than 35 percent have high to very high potential for mass movement and excessive sheet erosion especially when they are impacted by ground-disturbing management activities. These lands are also very difficult to reclaim following disturbance.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.10.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Lands with 25 to 35 Percent Slopes and Lands with Shale Soils

Surface occupancy or use is subject to the following special operating constraints:

Management activities proposed on those lands would require the lessee to submit an operating plan to an authorized official, which may include special design, construction, and implementation measures (including the relocation of operations by more than 650 feet) that describes how soil erosion, soil compaction, and runoff would be prevented or minimized, and how disturbed sites would be reclaimed.

For the purpose of: Preventing soil erosion, soil compaction, and runoff and the associated loss of soil productivity, and protecting riparian areas, wetlands, and aquatic ecosystems from sedimentation.

Justification: Lands with slopes of 25% to 35% and lands with shale soils have moderate to high potential for soil erosion, soil compaction, and runoff particularly when they are impacted by ground-disturbing management activities.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.11.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Lands Prone to Mass Movement

No surface occupancy is allowed on the lands described below: Lands prone to mass movement and lands within a 100-foot buffer around those lands. Lands prone to mass movement include canyon escarpments, hill/mountain dipslopes, lands with unstable geologic formations (including the Morrison, Mancos Shale, Lewis Shale, and Fruitland Formations on the SJNF and TRFO), lands that display evidence of past mass movement (including landslides, landflows, and landslumps), lands lacking vegetation (badlands and burned areas), lands with slopes greater than 35%, and lands associated with map units that have high or very high potential for mass movement (including soil survey map units 254, 386, 606, 720, 926, 20511D, 30506D, 34301D, 34306D, 34506D, 50803D, 50806D, 70806D, 70807D, 74803D, 80604D, 80803D, and 80804D).

For the purpose of: Preventing mass movement and the associated loss of soil productivity, as well as damage to structures and equipment, and for safety reasons.

Justification: The potential for mass movement and its adverse affects is high to very high for lands prone to mass movement especially when those lands are impacted by ground-disturbing activities. Mass movement could cause ruptured pipelines, water/oil/condensate spills, gas explosions, and damaged storage tanks, and could cause injury to people. Those lands are also very difficult to reclaim.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 1.13.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Lands with Biological Soil Crusts

Surface occupancy or use is subject to the following special operating constraints: On lands with biological soil crusts exhibiting a Level of Darkness class of 4 or above on the soil surface (see Belnap et al. 2008). Management activities proposed on those lands would require the lessee to submit an operating plan to an authorized BLM or USFS official, which may include special design, construction, and implementation measures (including the relocation of operations by more than 650 feet) that describes how impacts to biological soil crusts would be prevented or minimized, and how disturbed sites would be reclaimed.

For the purpose of: Protecting biological soil crusts and the important ecosystems in which they occur.

Justification: Biological soil crusts (also known as microbiotic or cryptogamic crusts) are unique components of biodiversity and important components of the semi-desert shrublands, semi-desert grasslands, sagebrush shrublands, and pinyon-juniper woodlands on the SJNF and TRFO. They play an important role in ecosystem restoration, they are very sensitive to disturbances, and they are very slow to recover from disturbances (Bowker 2007). Ground-disturbing activities could cause direct effects to biological soil crusts including mortality and could cause soil erosion and soil compaction to the associated soils, which could adversely affect the crusts habitat.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 2.1.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Threatened or Endangered Plants, Plants Proposed for Federal Listing, or Candidate Plants for Federal Listing

No surface occupancy is allowed on the lands described below: Lands occupied by plant species that are federally listed (threatened or endangered), proposed for federal listing, or candidates for federal listing; lands designated as critical habitat for federally listed species; and lands within a 650 foot (i.e., 200 meter) buffer around all those lands.

For the purpose of: To protect rare plant species and their critical habitat from direct and indirect impacts associated with management actions that could adversely affect their viability and could lead to their extinction.

Justification: Management actions on the SJNF and TRFO could affect federally listed plant species (threatened or endangered), plant species proposed for federal listing, and plant species that are candidates for federal listing; and could affect the critical habitat for those species, which could adversely affect the viability of those species and could lead to their extinction.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 2.2.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Colorado Bureau of Land Management State Director's Sensitive Plants and Region 2 Regional Forester's Sensitive Plants

Controlled surface use is allowed on the lands described below: Lands occupied by Colorado BLM State Director's Sensitive Plant Species, Region 2 Regional Forester's Sensitive Plant Species, and on lands within a 325-foot buffer around lands occupied by those plant species. Management activities proposed on those lands would require the lessee to submit an operating plan to a BLM Authorized Official, which may include special design, construction, and implementation measures (including the relocation of operations by more than 650 feet) that describes how impacts to BLM State Director's Sensitive Plant Species and Region 2 Regional Forester's Sensitive Plant Species would be prevented or minimized and how disturbed sites would be reclaimed.

For the purpose of: Protecting rare plant species and their habitat from direct and indirect impacts associated with management actions that could adversely affect those rare plants.

Justification: Management actions on the SJNF and TRFO could affect Colorado BLM State Director's Sensitive Plant Species, Region 2 Regional Forester's Sensitive Plant Species, and their habitat, which could adversely affect the viability of those species and could lead to a trend to federal listing under the Endangered Species Act.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.2.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Lynx Habitat – Landscape Linkage, Denning and Winter Foraging Habitat

Surface occupancy or use is subject to the following special operating constraints: Limitations on surface use and/or operational activities may be required. TL (especially during winter and/or in lynx habitat) and restrictions on snow compaction activities may be applied in consultation with the USFWS as necessary to protect habitat and linkage area function and limit access by potential lynx competitors. Actions would be consistent with direction found in the Lynx Conservation Assessment and Strategy, best available science as determined by the managing agencies and the USFWS, and/or the Southern Rockies Lynx Amendment, each where applicable.

On the lands described below:

- Within identified current active denning locations
- Within identified landscape linkage areas
- Within identified lynx habitat in a Lynx Analysis Unit (LAU)

For the purpose of: Protection of lynx and lynx habitat in compliance with the Endangered Species Act. H-20 Appendix H - Oil and Gas Leasing Stipulations

Justification: The Canada lynx is a threatened species, with suitable habitat within portions of the SJNF and TRFO. CSU would apply in these habitat areas to protect the habitat and the species.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.8.1

Lease Number: <LEASE_NUMBER>

LEASE NOTICE

Migratory Birds

Avoid or minimize disruption of migratory bird nesting activity by siting or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, utility installation) to avoid the involvement of higher value migratory bird habitats, particularly during the core migratory bird nesting season (April 1–July 15).

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.9.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

Eagles, All Accipiters, Falcons, Buteos, and Owls

No surface occupancy or use is allowed on the lands described below: Within specified distance from nest and communal winter roost sites, NSO would be allowed. Distances are listed in Table H.3.

For the purpose of: Provide adequate nesting and roost sites to support species populations.

Justification: These raptor species are known to have failed reproduction and abandon nests and communal winter roost sites when human activity occurs within the specified buffer distances from these sites. To increase the likelihood of successful reproduction and recruitment of these species, and to provide adequate roost sites for utilization of their habitat, NSO would be permitted within the specified buffer distances from nest and roost sites (see Table H.3).

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

Table H.3: Raptor Conservation Measures

Species	Impact/Risk	Time Frame	Buffer Distance Restrictions	Reference
Golden eagle	Disturbance	December 15–July 15	Project-related activity should not occur within a 0.5 mile of nest during nesting season. (G)	CPW 2008
Golden eagle	Structural improvements *	Year round	New structures must not occur within 0.5-mile radius of active nest. (S)	CPW 2008
Bald eagle	Disturbance	November 15–July 15	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	SJNF and TRFO
Bald eagle	Structural improvements *	Year round	New structures must not occur within a 0.5-mile radius of active nest. (S)	SJNF and TRFO
Bald eagle	Disturbance	November 15–March 15	Project-related activity should not occur within a 0.25-mile radius (indirect line of sight) or a 0.5-mile radius (direct line of sight) of communal winter roost site. Limit activity between 1000 and 1400 hours if encroachment would occur within buffer zones. (G)	CPW 2008
Bald eagle	Structural improvements *	Year round	New structures must not occur within 0.5 mile of communal roost site (S)	SJNF and TRFO
Bald eagle	Disturbance and structural improvements *	Site specific, to be determined by the project biologist	For preferred diurnal hunting perch	CPW 2008
Osprey	Disturbance **	April 1–August 31	Project-related activity should not occur within a 0.25-mile of nest during nesting season.	SJNF and TRFO
Osprey	Structural improvements *	Year-round	New structures should not occur within a 0.25-mile radius of active nest. (G)	CPW 2008
Red-tailed hawk	Disturbance	March 1–July 15	Project-related activity should not occur within 0.125 to 0.25 mile of nest during nesting season, as determined by the project biologist. (G)	SJNF and TRFO
Red-tailed hawk	Structural improvements *	Year-round	New structures should not occur within 0.25-mile radius of active nest. (G)	SJNF and TRFO
Peregrine falcon	Disturbance	March 15–July 31	Project-related activity should not occur within 0.5 mile of nest during nesting season.	CPW 2008
Peregrine falcon	Structural improvements *	Year-round	New structures must not occur within 0.5 mile radius of active cliff nest complex. (S)	CPW 2008
Prairie falcon	Disturbance	March 15–July 15	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	CPW 2008
Prairie falcon	Structural	Year-round	New structures must not occur	CPW 2008

Species	Impact/Risk	Time Frame	Buffer Distance Restrictions	Reference
	improvements *		within a 0.5-mile radius of active nest.	
Northern goshawk	Disturbance	March 1–August 31	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	SJNF and TRFO
Northern goshawk	Structural improvements *	Year-round	New structures should not occur within a 0.5-mile radius of active nest. (G)	CPW 2008
Burrowing owl	Disturbance	March 15–August 15	Project-related activity should not occur within 0.25 mile of nest burrows when owls may be present during nesting season. (G)	SJNF and TRFO
Burrowing owl	Structural improvements *	Year-round	New structures should not occur within a 0.25-mile radius of active nests or within occupied habitat. (G)	Romin and Muck 2002
All other accipiter, buteo, falcon, harrier, and owls	Disturbance **	Varied by species	Determination of the application of these specific seasonal restrictions, TL, and/or buffer distances should be made by the project biologist, guided by agency requirements, along with professional knowledge and experience. They would be considered on a case by case basis, taking into consideration site-specific factors such as topography, vegetation, species of raptor, historic patterns of human activity and infrastructure, and observed behaviors of individual birds (G)	Romin and Muck 2002
All other accipiter, buteo, falcon, harrier, and owls	Structural improvements *	Varied by species	Determination of the application of these specific seasonal restrictions, TL, and/or buffer distances should be made by the project biologist, guided by agency requirements, along with professional knowledge and experience. They would be considered on a case by case basis, taking into consideration site-specific factors such as topography, vegetation, species of raptor, historic patterns of human activity and infrastructure, and observed behaviors of individual birds. (G)	Romin and Muck 2002

* Structures include improvements such as roads, radio towers, oil wells, etc., proposed following nest establishment and is not intended to include structures that historically occurred in the area.

** This does not apply to historic levels and patterns of disturbance under which the nest was established and is intended to apply to additional levels and change in disturbance patterns.

Note: "S" indicates an LRMP standard and "G" indicates an LRMP guideline.

EXHIBIT 3.9.2

Lease Number: <LEASE_NUMBER>

TIMING LIMITATION

Eagles, All Accipiters, Falcons, Buteos, and Owls

No surface use is allowed during the following time period(s): A TL would be applied to lease activities, if surface occupancy is allowed. The TL would apply to all development activities (construction, drilling, workovers, operation, and maintenance). The duration of the timing limitation is species-dependent, and the timing limitation subject to this stipulation are shown in Table H.3.

For the Purpose of:

Justifications: These raptor species are known to have failed reproduction and abandon nests and communal winter roost sites when human activity occurs within the specified buffer distances from these sites. To increase the likelihood of successful reproduction and recruitment of these species, and to provide adequate roost sites for utilization of their habitat, NSO would be permitted within the specified buffer distances from nest and roost sites (see Table H.3).

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

Table H.3: Raptor Conservation Measures

Species	Impact/Risk	Time Frame	Buffer Distance Restrictions	Reference
Golden eagle	Disturbance	December 15–July 15	Project-related activity should not occur within a 0.5 mile of nest during nesting season. (G)	CPW 2008
Golden eagle	Structural improvements *	Year round	New structures must not occur within 0.5-mile radius of active nest. (S)	CPW 2008
Bald eagle	Disturbance	November 15–July 15	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	SJNF and TRFO
Bald eagle	Structural improvements *	Year round	New structures must not occur within a 0.5-mile radius of active nest. (S)	SJNF and TRFO
Bald eagle	Disturbance	November 15–March 15	Project-related activity should not occur within a 0.25-mile radius (indirect line of sight) or a 0.5-mile radius (direct line of sight) of communal winter roost site. Limit activity between 1000 and 1400 hours if encroachment would occur within buffer zones. (G)	CPW 2008
Bald eagle	Structural improvements *	Year round	New structures must not occur within 0.5 mile of communal roost site (S)	SJNF and TRFO
Bald eagle	Disturbance and structural improvements *	Site specific, to be determined by the project biologist	For preferred diurnal hunting perch	CPW 2008
Osprey	Disturbance **	April 1–August 31	Project-related activity should not occur within a 0.25-mile of nest during nesting season.	SJNF and TRFO
Osprey	Structural improvements *	Year-round	New structures should not occur within a 0.25-mile radius of active nest. (G)	CPW 2008
Red-tailed hawk	Disturbance	March 1–July 15	Project-related activity should not occur within 0.125 to 0.25 mile of nest during nesting season, as determined by the project biologist. (G)	SJNF and TRFO
Red-tailed hawk	Structural improvements *	Year-round	New structures should not occur within 0.25-mile radius of active nest. (G)	SJNF and TRFO
Peregrine falcon	Disturbance	March 15–July 31	Project-related activity should not occur within 0.5 mile of nest during nesting season.	CPW 2008
Peregrine falcon	Structural improvements *	Year-round	New structures must not occur within 0.5 mile radius of active cliff nest complex. (S)	CPW 2008
Prairie falcon	Disturbance	March 15–July 15	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	CPW 2008
Prairie falcon	Structural	Year-round	New structures must not occur	CPW 2008

Species	Impact/Risk	Time Frame	Buffer Distance Restrictions	Reference
	improvements *		within a 0.5-mile radius of active nest.	
Northern goshawk	Disturbance	March 1–August 31	Project-related activity should not occur within 0.5 mile of nest during nesting season. (G)	SJNF and TRFO
Northern goshawk	Structural improvements *	Year-round	New structures should not occur within a 0.5-mile radius of active nest. (G)	CPW 2008
Burrowing owl	Disturbance	March 15–August 15	Project-related activity should not occur within 0.25 mile of nest burrows when owls may be present during nesting season. (G)	SJNF and TRFO
Burrowing owl	Structural improvements *	Year-round	New structures should not occur within a 0.25-mile radius of active nests or within occupied habitat. (G)	Romin and Muck 2002
All other accipiter, buteo, falcon, harrier, and owls	Disturbance **	Varied by species	Determination of the application of these specific seasonal restrictions, TL, and/or buffer distances should be made by the project biologist, guided by agency requirements, along with professional knowledge and experience. They would be considered on a case by case basis, taking into consideration site-specific factors such as topography, vegetation, species of raptor, historic patterns of human activity and infrastructure, and observed behaviors of individual birds (G)	Romin and Muck 2002
All other accipiter, buteo, falcon, harrier, and owls	Structural improvements *	Varied by species	Determination of the application of these specific seasonal restrictions, TL, and/or buffer distances should be made by the project biologist, guided by agency requirements, along with professional knowledge and experience. They would be considered on a case by case basis, taking into consideration site-specific factors such as topography, vegetation, species of raptor, historic patterns of human activity and infrastructure, and observed behaviors of individual birds. (G)	Romin and Muck 2002

* Structures include improvements such as roads, radio towers, oil wells, etc., proposed following nest establishment and is not intended to include structures that historically occurred in the area.

** This does not apply to historic levels and patterns of disturbance under which the nest was established and is intended to apply to additional levels and change in disturbance patterns.

Note: "S" indicates an LRMP standard and "G" indicates an LRMP guideline.

EXHIBIT 3.10.1

Lease Number: <LEASE_NUMBER>

TIMING LIMITATION

Big Game Parturition

No surface use is allowed during the following time period(s): In areas mapped as big game parturition areas for:

- Pronghorn antelope fawning areas (on SJNF and TRFO lands this includes the overall range for the species): May 1 through July 1
- Elk calving areas: May 15 through June 30
- Rocky Mountain bighorn sheep lambing: April 15 through June 30
- Desert bighorn sheep lambing: February 1 through May 1

For the purpose of: Parturition areas are critical habitat in maintaining herd sustainability. Disturbance during critical times can result in mortality and loss of reproductive recruitment into the population.

Justifications: In order to reduce behavioral disruption during parturition and early young rearing period.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.10.2

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Severe Winter Range, Winter Concentration and Mule Deer Critical Winter Range and Big Game Production Areas

Surface occupancy or use is subject to the following special operating constraints: In order to provide for healthy ungulate populations capable of meeting state population objectives, anthropomorphic activity and improvements should be designed to maintain and continue to provide effective habitat components that support critical life functions. This includes components of size and quality on the landscape providing connectivity to seasonal habitats (wildlife travel corridors), production areas, severe winter range, and winter concentration areas, along with other habitat components necessary to support herd viability.

For the purpose of: Protecting priority habitats such as winter concentration areas for big game in order to prevent abandonment of critical habitat, and to maintain reproductive success, recruitment, and survival.

Justification: There is a growing body of evidence that TL stipulations on oil and gas development activities are not adequate to protect critical winter habitat and migratory corridors for big game. Managing the concentration and development such as drilling, construction, and the density of surface facilities may be necessary to maintain big game populations in developing areas. Examples may include surface disturbance caps, collocation of facilities, and central gathering facilities, noise reduction, and efforts to minimize traffic and road densities. Routine production activities would be allowed, however workover activities should be handled on a case by case basis.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.11.1

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

Gunnison Prairie Dog

Surface occupancy or use is subject to the following special operating constraints: A survey of the lease area may be required to determine occupation of Gunnison prairie dog. Development of lease parcels that include prairie dog towns would require one or more of the following conservation measures prior to and during lease development:

- Develop a surface use plan of operations with the managing agencies that integrates and coordinates long-term lease development with measures necessary to minimize adverse impacts to prairie dog populations or their habitat.
- Abide by special daily and seasonal restrictions on construction, drilling, product transport, and service activities during the reproductive period (March 1–June 15).
- Incorporate special modifications to facility siting, design, construction, and operation, or NSO to minimize involvement of prairie dog burrow systems.

For the purpose of: Maintaining the integrity and extent of prairie dog complexes, and protecting high value wildlife habitat and recreation values associated with designated state wildlife areas.

Justification: Gunnison prairie dog is a designated sensitive species by the managing agencies and a keystone species for the ecosystem.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 3.13.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

State Wildlife Areas -

No surface occupancy is allowed on the lands described below: In state wildlife areas that have federal mineral estate underlying them. NSO and other mitigations would be determined by the managing Agencies in cooperation with CPW. For Perins Peak state wildlife area, this NSO includes the adjacent BLM lands that in combination comprise the Perins Peak Habitat Management Area.

For the purpose of: Protect high value wildlife habitat and recreation values associated with designated state wildlife areas.

Justification: The State of Colorado is a partner in natural resource management. Many state wildlife areas were purchased and established utilizing federal dollars to accomplish common management objectives complementing similar managements on the planning area.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT 4.9.1

Lease Number: <LEASE_NUMBER>

NO SURFACE OCCUPANCY

High Scenic Integrity Objective and Visual Resource Management Class II Areas -
No surface occupancy or use is allowed on the lands described below: Foreground areas with a high scenic integrity objective or Visual Resource Management (VRM) Class II. (Note: very high scenic integrity objective and VRM Class I are all within wilderness, recommended wilderness, and wilderness study areas and are therefore not available for lease.)

For the purpose of: Protecting the scenic values of these areas.

Justification: These are the areas where viewers have an expectation for high scenic integrity within the foreground viewshed, and where the landscape is to be managed for an overall high scenic integrity objective. Oil and gas exploration and production is typically incompatible with the maintenance of a high scenic integrity and generally inconsistent with protection of valued cultural viewsheds. Oil and gas development introduces industrial facilities and ground disturbance which contrast with natural features.

Exceptions, modifications, and waivers would be considered for BLM leases.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT CO-29

Lease Number: <LEASE_NUMBER>

LEASE NOTICE

The lessee is hereby notified that prior to any surface disturbing activities, an inventory of paleontological resources (fossils) may be required. Mitigation may be required such as monitoring in any area of Probable Fossil Yield Classification (PFYC) 4 or 5 and also upon the discovery of any vertebrate fossil or other scientifically important paleontological resource. Mitigation of scientifically important paleontological resources may include avoidance, monitoring, collection, excavation, or sampling. Mitigation of discovered scientifically important paleontological resources may require the relocation of the surface disturbance activity over 200 meters. Inventory and any subsequent mitigation shall be conducted by a BLM permitted paleontologist.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT CO-34

Lease Number: <LEASE_NUMBER>

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION STIPULATION

The lease area may now or hereafter contain plants, animals, or 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 objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications 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 obligations under applicable 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.

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT CO-39

Lease Number: <LEASE_NUMBER>

CONTROLLED SURFACE USE

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.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

On the lands described below:

<LEGAL_DESCRIPTIONS>

EXHIBIT CO-56

Lease Number: <LEASE_NUMBER>

LEASE NOTICE

Due to potential air quality concerns, supplementary air quality analysis may be required for any proposed development of this lease. This may include preparing a comprehensive emissions inventory, performing air quality modeling, and initiating interagency consultation with affected land managers and air quality regulators to determine potential mitigation options for any predicted significant impacts from the proposed development. Potential mitigation may include limiting the time, place, and pace of any proposed development, as well as providing for the best air quality control technology and/or management practices necessary to achieve area-wide air resource protection objectives. Mitigation measures would be analyzed through the appropriate level of NEPA analysis to determine effectiveness, and will be required or implemented as a permit condition of approval (COA). At a minimum, all projects and permitted uses implemented under this lease will comply with all applicable National Ambient Air Quality Standards and ensure Air Quality Related Values are protected in nearby Class I or Sensitive Class II areas that are afforded additional air quality protection under the Clean Air Act (CAA).

On the lands described below:

<LEGAL_DESCRIPTION>

ATTACHMENT E: Responses to Public Comments

Reponses to Comments February 2016

BLM received comments from 80 individuals and/or organizations about the TRFO DNA for the proposed February 2016 oil and gas lease sale from August 12 until September 11, 2015. The comments are summarized below.

Hydraulic Fracturing Related Comments

Geologic Hazards from Drilling and the Hydraulic Fracturing near McPhee Reservoir Dam

1. **Comment Summary:** Oil and gas development operations that utilize **hydraulic fracturing** (“fracking”) could cause **earthquakes** (seismic activity) in the vicinity of the McPhee Reservoir dam. The dam was designed and built before “fracking” was used. Was the dam designed to withstand earthquakes caused by “fracking”?

Response: Lease parcel 7379 is the only proposed lease parcel located within the vicinity of the McPhee Reservoir dam. That lease parcel has been deferred from offering for lease at the February 2016 oil and gas lease sale in order to provide the BLM with additional time to further analyze the potential for oil and gas operations on that parcel to impact the McPhee Reservoir and McPhee Reservoir dam. None of the other four lease parcels proposed for the February 2016 oil and gas lease sale are in the vicinity of the McPhee Reservoir and dam. As such, the issue(s)/question(s) raised by this comment are no longer applicable to the February 2016 oil and gas lease sale.

2. **Summary:** Should a **drilling/“fracking” buffer zone** be created and enforced around the reservoir and dam?

Response: Lease parcel 7379, the only lease parcel located within the vicinity of the McPhee Reservoir and dam, has been deferred from the February 2016 lease sale. Therefore, the issue(s)/question(s) raised by this comment are no longer applicable to the February 2016 oil and gas lease sale.

3. **Summary:** Who would be **liable** if the McPhee Reservoir dam were damaged or breached?

Response: Lease parcel 7379, the only lease parcel located within the vicinity of the McPhee Reservoir and dam, has been deferred from the February 2016 lease sale. Therefore, the issue(s)/question(s) raised by this comment are no longer applicable to the February 2016 oil and gas lease sale.

4. **Summary:** In case of damage/breach of dam, what would be effect on **Seven States Water Compact?**

Response: Lease parcel 7379, the only lease parcel located within the vicinity of the McPhee Reservoir and dam, has been deferred from the February 2016 lease sale.

Therefore, the issue(s)/question(s) raised by this comment are no longer applicable to the February 2016 oil and gas lease sale.

5. **Summary:** From Dolores Water Conservancy District: Re: **Parcel 7379** - Condition permits on suitable geotechnical evaluation. Include monitoring of seismic activity and cessation of activities if seismic activity is measured.

Response: Lease parcel 7379, the only lease parcel located within the vicinity of the McPhee Reservoir and dam, has been deferred from the February 2016 lease sale.

Therefore, the issue(s)/question(s) raised by this comment are no longer applicable to the February 2016 oil and gas lease sale.

General Concerns about Hydraulic Fracturing

6. **Summary:** Eighty-five percent of the commenters expressed concerns about the negative effects of **hydraulic fracturing “fracking”** on the environment in general. They expressed general fear of “fracking” and the perceived consequences to health and the environment rather than specific concerns. One common theme of the fears expressed was contamination of water resources (see response, below). See Responses #1 - #5, above, and response #18, below, for responses to other specific comments related to hydraulic fracturing.

Response: At the lease-sale stage BLM does not yet know 1) if a lease parcel proposed for an oil and gas lease sale will be purchased and result in the issuance of an oil and gas lease; 2) assuming a lease is issued for the proposed lease parcel, whether an application for permit to drill (APD) will be submitted for that lease, and 3) the specific location and operating procedures, such as hydraulic fracturing, for any oil and gas development proposed on the lease. Because of this uncertainty, it is not feasible to analyze detailed, sit-specific effects of hydraulic fracturing prior to the lease sale.

The TRFO RMP/FEIS analyzed the potential for contamination of ground- and surface-water resources, caused by hydraulic fracturing, in Section 3.6 – Affected Environment and Environmental Consequences – Water Resources - Impacts Related to Fluid Minerals Development (pages 275 – 278) of the FEIS.

Wildlife Related Comments

7. **Summary:** Oil & Gas development in relatively roadless areas will result in **habitat fragmentation**. These comments are related to all parcels but especially northern parcels near Lone Cone SWA.

Response: The potential impact of leasing and development on habitat fragmentation is discussed and analyzed in sections 3.3.2 (Terrestrial Wildlife – Affected Environment (p 114); 3.3.3 (Terrestrial Wildlife –Environmental Consequences (p 153); and 3.3.4 (Fluid Minerals Leasing Analysis (p. 191) of the FEIS.

The appropriate lease stipulations, as mentioned above, would apply to the parcels proposed for this lease sale. In addition, if upon APD submittal and NEPA analysis, new concerns are raised, appropriate conditions of approval (COAs) can be added to the APD approval.

- a. **Summary:** A related comment is about **Forest Service winter road closures** to protect wildlife. The northern parcels would be accessed by the Dolores – Norwood Road and related spurs. The comments say that oil and gas development would require those roads to be open year-round, thus negating the winter closure wildlife protections.

Response: While it is true that some of the Forest Service roads in the western portion of “The Glade” are closed in winter to protect big game (elk and mule deer) winter range and production areas, none of the roads that are likely to be used to access parcels 7371, 7372, 7373, and 7390 (the Dolores-Norwood Road and the eastern portion of FS 514) fall into that category of road closure. The Dolores-Norwood Road is expected to be the primary access across Forest Service lands to the northern parcels (7372, 7373, and 7390), but the road is on private or state lands once it crosses the Forest Service boundary in the southern part of T 40 N, R 14 W.

Possible access routes to parcel 6715 are less clear-cut and the best route would depend on a number of environmental and land-ownership factors. If the parcel were leased and if APDs were filed for this parcel, the best route would be determined through the NEPA analysis process and stipulations to protect big game, as described below, would apply.

Although there are no specific wildlife-protective road closures on the likely access routes, parcels 6715, 7372, 7373, and 7390 are located in elk production areas. Stipulations 3.10.1 and 3.10.2 provide protection of production areas through timing limitations and controlled surface use, respectively. These

stipulations would be applied if the parcels are leased. Additional NEPA analyses would occur if APDs were received for any of these parcels. Timing limitations for big game winter range and parturition only restrict oil & gas construction and drilling and were developed in coordination with CPW. Production and maintenance may continue during the critical periods. Standards and guidelines, desired conditions, and objectives provide guidance for project and activity decision making in order to protect resources such as wildlife and their habitat, during and after development.

Parcel 7371 is not located within big game (elk and mule deer) winter range or production areas. The primary access would be along the Dolores-Norwood Road and FS 514. As described above, neither of these roads is administratively closed for wildlife-protection purposes.

Parcel 7379, by contrast, is in critical big-game winter range. However, because of its proximity to the McPhee Reservoir dam, this parcel has been deferred from the February 2016 lease sale (see Response #1, above). Therefore, impacts to big game in this parcel will not be an issue for this lease sale.

8. **Summary:** **Lynx habitat** and migration corridor from Lizard Head Wilderness to Groundhog – Glade region through Lone Cone SWA would be disrupted by oil and gas development.

Response: Parcel 6715 is on the edge of a Lynx Analysis Unit. CPW maps show the parcel in “potential lynx habitat”, however, there is no lynx habitat on that parcel. Nevertheless, lease stipulation 3.2.1 is being applied to this lease parcel to protect potential lynx habitat. Additionally, if project-specific analyses, at the APD stage, reveal previously unknown wildlife concerns, then specific wildlife-protection conditions of approval (COAs) would be attached to the APD approval.

9. **Summary:** Parcel 7379 – Oil and gas development would disrupt **wild turkey reproduction** area in and around this parcel.

Response: Parcel 7379 is located in a production area for wild turkey, but there are no specific protections for this game-bird species. However, because of its proximity to the McPhee Reservoir dam, this parcel has been deferred from the February 2016 lease sale (see Response #1, above). Therefore, impacts to wild turkey production in this parcel will not be an issue for this lease sale.

10. **Summary:** Thirty-six percent of the commenters made general statements about oil and gas development having a negative impact upon **wildlife**. No specific species were mentioned.

Response: Consistent with the TRFO RMP, numerous lease stipulations apply to the proposed lease parcels to protect wildlife and wildlife habitat. If these leases are sold, the stipulations will dictate the various wildlife protection measures. Additionally, if project-specific analyses, at the APD stage, reveal previously unknown wildlife concerns, then specific wildlife-protection conditions of approval (COAs) would be attached to the APD approval.

11. **Summary:** Twenty-nine percent of the commenters expressed concern about negative impacts on **big-game** from oil and gas development. Critical winter habitat and production areas were specifically mentioned.

Response: See response #7, above. Lease stipulations 3.10.1, 3.10.2, and 3.10.3 are designed to protect big game. If these leases are sold, the stipulations will dictate various big game protection measures. Additionally, if project-specific analyses, at the APD stage, reveal previously unknown big game concerns, then additional specific big-game-protection conditions of approval (COAs) would be attached to the APD approval.

12. **Summary:** Twenty-four percent of the commenters expressed concerns about negative impacts on **aquatic wildlife** through water-quality degradation – especially in the Dolores River and McPhee Reservoir.

Response: Lease stipulations 1.3.1, 1.3.2, 1.4.3, 1.4.2, and 1.7.1 are designed to protect surface water quality and habitat adjacent to water bodies and, by extension, the aquatic wildlife. If these leases are sold, the stipulations will dictate various water quality and habitat protection measures. Additionally, if project-specific analyses, at the APD stage, reveal previously unknown aquatic habitat concerns, then additional specific aquatic habitat-protection conditions of approval (COAs) would be attached to the APD approval. With respect to parcel 7379, in Montezuma County, because of its proximity to the McPhee Reservoir dam, this parcel will be deferred from the February 2016 lease sale (see Response #1, above). Therefore, impacts to aquatic wildlife in McPhee Reservoir and the Dolores River adjacent to this parcel will not be an issue for this lease sale.

13. **Summary:** Eight percent of the commenters expressed general concern about negative impacts to the habitat and breeding seasons for **raptors** (3%) and **migratory birds** (5%).

Response: Lease stipulations 3.8.1, 3.9.1, and 3.9.2 are designed to protect Raptors and Migratory Birds and their habitat. If these leases are sold, the stipulations will dictate various raptor, migratory bird, and habitat protection measures. Additionally, if project-specific analyses, at the APD stage, reveal previously unknown concerns about raptors,

migratory birds or their habitat, then additional specific protection conditions of approval (COAs) would be attached to the APD approval.

State Wildlife Area Related Comment

14. **Summary:** Stipulation 3.13.1 specifies **NSO for State Wildlife Areas (SWA)** therefore parcels 7372, 7373, and 7390 should all be deferred as Parcels 7367, 7368, 7369, and 7370 are on Lone Mesa State Park.

Response: A NSO stipulation has been applied to the subject lease parcels to protect resource values associated with the SWA. The current technologies for directional and horizontal drilling make it possible to develop the fluid mineral resources in some formations underneath a lease without physically occupying the surface of the lease.

Comments related to Climate Change, Global Warming, and Green-House Gases

15. **Summary:** “Actual **emissions of greenhouse gases (GHGs)**, including from oil and gas use, must be analyzed for lease sales.”

Response: Determining actual GHG emissions for a specific project, their relationship to global climatic patterns, and the resulting impacts is still an ongoing and developing scientific process. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Accordingly, the BLM believes that an assessment under NEPA must address, in an appropriate way, the GHG emissions from a proposed action and the effects of those emissions on the environment.

While the issuance of oil and gas leases for the proposed lease parcels, by itself, would not authorize any surface-disturbing or GHG emitting oil and gas operations, it is assumed that leasing the parcels would lead to some type of exploration and/or development actions that would have indirect effects on global climate through GHG emissions. However, specific information as to the number and location of future drilling sites, if any, and operating procedures that might be utilized is not currently available. Moreover, it is unknown, at this time, whether the parcels possess economically recoverable fluid minerals resources and, if so, whether those resources are gas, oil, or a combination thereof. Without this information, a quantitative analysis of “actual” GHG emissions and the associated net impacts to climate that might result would be highly speculative and, therefore, would have little value to the decision maker.

Instead, it is appropriate for a NEPA document to utilize a qualitative analysis, to address the potential GHG emissions and climate impacts from oil and gas leasing actions such as the TRFO February 2016 oil and gas lease sale proposal.

The TRFO RMP/FEIS includes a qualitative discussion on the correlation between oil and gas operations, GHG emissions, and climate change in Sections 3.12 - Air Quality; 3.12.2 - Affected Environment, Greenhouse Gas Emissions and Climate Change, pages 364 and 365 and under numerous discussion topics in Section 3.12, pages 364 – 378. This discussion appropriately and adequately addresses the reasonably foreseeable impacts that leasing lands within the planning area, including the parcels proposed for inclusion in the February 2016 lease sale, might have on GHG emissions and climate change.

The TRFO RMP/FEIS estimates GHG emissions for the Paradox Leasing Analysis Area (PLAA), which includes the project-area, and discusses climate change at a landscape level. The RMP/FEIS also discloses GHG emissions for “typical” oil and gas wells in the PLAA.

If oil and gas operations are proposed for any of the subject lease parcels, BLM will complete a site-specific NEPA analysis of the proposal(s) utilizing the best available and most current data. That NEPA analysis may include an estimate of quantifiable GHG emissions and the best available science on climate change. This site-specific NEPA analysis will, in turn, guide the BLM’s decision to either: approve; not approve; or approve with conditions the proposed oil and gas operations. Any potential future emissions resulting from an approval of any APD(s) are not anticipated to change the predictions made in the TRFO RMP/FEIS describing the impacts of climate change, due to the cumulative and global scale of the issue.

16. Summary: Ten percent of the commenters brought up the contributions of the oil & gas industry to **climate change**. One commenter specifically mentioned the recent discovery of the methane gas hot-spot in the 4-corners region and the fact that methane is a significant green-house gas that contributes to global warming.

Response: See response to comment summary #15, above.

17. **Summary:** One commenter said that the **social cost of carbon** has been ignored and made the following specific comments.

“The high costs to society from the leasing and subsequent burning of public lands fossil fuels must be properly analyzed and presented to the public and agency decision makers. Historically, BLM has ignored the costs of fossil fuel leasing on public lands, especially the costs to society that result from global warming.”

“Global Warming is responsible for extreme costs to society already, and it will only get worse in the future.”

“BLM decision makers must consider the social costs of carbon from all proposed land management projects.”

“

The social costs of carbon will be significant whenever fossil fuel leasing, or mining, or drilling is proposed.”

Response: The current TRFO RMP/FEIS estimates green-house gas (GHG) emissions for project-area counties, and briefly discusses Climate Change in general. The TRFO RMP/FEIS also discloses GHG emissions for “typical” oil and gas wells.

As discussed in the response to comment summary #15 above, at this time specific information on the location and number of drilling sites and methods for oil and gas development operations that may be proposed on the subject lease parcels is not known. Additionally, the development potential of the oil and gas resource in the area of the leases is under considerable uncertainty. It is also unknown whether the fluid mineral resources specific to these parcels, if present, are gas, oil or a combination thereof. Without this information, a quantitative analysis of GHG emissions and the associated net impacts to climate that might result would be highly speculative and therefore would have little value to the decision maker. BLM has, instead, qualitatively addressed the potential for GHG emissions and climate impacts from oil and gas operations in the area where the proposed parcel are located in the TRFO RMP/FEIS.

The BLM acknowledges that climate change is happening and that it is affected by human activity. The TRFO RMP/FEIS analysis presents a qualitative discussion of the environmental effects of climate change and their socioeconomic consequences. Consistent with the revised CEQ draft guidance from December 2014, the BLM has used estimated GHG emissions associated with the proposed action as a reasonable proxy for the effects of climate change and has placed those emissions in the context of relevant state emissions. In addition, the BLM has considered and disclosed the projected effects of climate change on the resources within the project areas area. Specifically, the TRFO

RMP/FEIS states that oil and gas development would occur on both existing and future leases, and that the analysis considered both current and future development (FEIS Ch. 3 pg. 63). The FEIS also provided for an accounting of the direct GHG emissions for the estimated cumulative development for each analyzed scenario (FEIS Tables 3.12.21 & 3.12.32). The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. *West Antelope II*, 738 F.3d at 309; *Wild Earth Guardians v. BLM*, Civ. Case No. 1:11-cv-1481 (RJL) (D.D.C. filed Mar. 31, 2014).

As for addressing potential costs to society from GHG emissions:

- The CEQ's 2014 Draft Guidance explains (at page 16): "Monetizing costs and benefits is appropriate in some, but not all, cases..."
- Highlighting the transformative nature of climate change impacts assessment, such as social costs of carbon (SCC)¹ estimates, the CEQ's 2014 Draft Guidance instructs agencies (at page 16): "When using the Federal social cost of carbon, the agency should disclose the fact that these estimates vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves."
- The BLM Washington Office's April 3, 2015 e-mail noted that: "In response to public comments, some BLM field offices have included estimates of the SCC in project-level NEPA documents. We are working on additional guidance for the field. Until such guidance is provided, if BLM managers believe that public interest or other factors make it appropriate to include the SCC, please contact the BLM WO for technical assistance before issuing any NEPA documents."
- As the statements, above, demonstrate, there remain uncertainties involved with estimating the SCC for GHG emissions. While we agree that some level of uncertainty is unavoidable in assessing impacts from complex environmental systems, in this case that uncertainty is compounded by basing any potential SCC estimates on speculative GHG emissions, especially when SCC estimates only consider one component of the equation (primarily by ignoring the contribution of methane).

¹ BLM policy does not require the agency to engage in speculative analysis under NEPA. The BLM's NEPA Handbook (H- 1790-1, January 2008) at page 59 states, "...you are not required to speculate about future actions. Reasonably foreseeable future actions are those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends."

BLM-CO has concluded that preparing a monetary estimate of the Social Cost of Carbon (SCC) for the proposed TRFO February 2016 oil and gas lease sale, which is not a rulemaking, would not be useful. No case law or existing guidance requires the inclusion of SCC in the NEPA context. A federal Interagency Working Group on the Social Cost of Carbon (IWG), convened by the Office of Management and Budget, developed an SCC protocol for use in the context of federal agency rulemaking. The IWG issued estimates of the SCC, which reflect the monetary cost incurred by the emission of one additional metric ton of carbon dioxide (CO₂). Estimating SCC is challenging because it is intended to model effects on the welfare of future generations at a global scale caused by additional carbon emissions occurring in the present.

For this project, there are several challenges involved in attempting to apply SCC to the analysis. For example:

- Given the global nature of climate change, estimating SCC of an individual project requires assessing the impact of the project on the global market for the commodity in question.
- Monetizing only certain benefits or costs can lead to an unbalanced assessment. A regional economic impact analysis is often used to estimate impacts on economic activity, expressed as projected changes in employment, personal income, or economic output. Such estimates are not benefits or costs, and are not part of a benefit cost analysis.

The SCC estimates developed by the IWG can only be applied to CO₂ emissions, not other GHG emissions such as methane. Again, monetizing only certain effects can lead to an unbalanced assessment.

Given the confusion that the wide range of uncertainties introduces, we find that it is prudent for the BLM to avoid quantifying and analyzing specific estimates of GHG emissions from possible exploration or development of the lease parcels in the February 2016 oil and gas lease sale. If it is later determined to be necessary and appropriate, quantified analysis of GHG emissions and SCC would be less speculative once the BLM receives a proposal to conduct actual operations on the leases, if issued, from the February 2016 Sale.

Comments about Air Quality Related to Hydraulic Fracturing

18. Summary: Twenty-five percent of the commenters expressed concerns about the following: The “fracking” process uses **carcinogenic and endocrine-disrupting chemicals** that affect human health via releases to the environment – especially into the air. Referencing the work of Dr. Theo Colburn and her research concerning endocrine disrupting chemicals associated with hydraulic fracturing processes.

Response: At the lease-sale stage BLM does not yet know 1) if a lease parcel proposed for an oil and gas lease sale will be purchased and result in the issuance of an oil and gas lease; 2) whether an application for permit to drill (APD) will be submitted on a lease that is issued for a proposed lease parcel, and 3) the specific location and operating procedures, such as the use of hydraulic fracturing, for any oil and gas operations that might be proposed in an APD.

Even if it is assumed that oil and gas leases will be issued for the proposed lease parcels, the act of issuing a lease, by itself, does not authorize any oil and gas drilling operations. Once a lease has been issued, before oil and gas drilling may occur the proponent for those operations must submit an APD that provides specific details as to the surface and subsurface operations proposed, the BLM must analyze the proposal in a site-specific NEPA document, and the BLM must provide its approval for the specific oil and gas operations that will occur. Given this multiple-step process for oil and gas development, specific information on the location and operating procedures that will be utilized for any future drilling on the parcels is not currently known. Moreover, there is also uncertainty as to whether the parcel possesses economically recoverable fluid mineral resources, and if so, whether those resources are gas, oil or combination thereof. In light of the uncertainties that exist at this time, conducting the analysis and addressing the issues raised in this comment on the potential impacts of hydraulic fracturing would require a great deal of speculation and, as a result, offer no value with respect to making an informed decision for the proposal at hand. The potential impacts of a specific drilling proposal that includes the use of hydraulic fracturing is more appropriately analyzed if and when a site-specific and detailed drilling proposal is submitted.

Comments Related to the NEPA Process

- 19. Summary:** One commenter said, “BLM fails to follow **the Council on Environmental Quality Guidance on Climate Change (CEQ) and NEPA**”. (see Exhibit 2 - Attachment AR# 2.08.69c). The commenter continued with the following statements.

“Since the RMP FEIS was completed, but before the DNA was released, a December 2014 release of the Council on Environmental Quality’s (“CEQ”) “Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts” (“CEQ Guidance”) has been provided to BLM. Ex. 2. Despite the intervening months, BLM Colorado continues to ignore most of the requirements set forth in the guidance.”

“A programmatic EIS is necessary” -- “The (CEQ) Guidance suggests that for ‘long-range energy’ actions, ‘it would be useful and efficient to provide an aggregate analysis of the [green-house gas] emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA review.’ CEQ Guidance at 29”.

Response: The BLM is under no obligation to implement analysis for “draft guidance”. As such, the BLM will not specifically respond to those points raised concerning the guidance. CEQ received a large number of comments on the second draft of the guidance. Therefore, the guidance may change again before it becomes final. Consistent with existing guidance the TRFO RMP/FEIS provides for an adequate analysis of emissions and climate change using known information and given the uncertainties associated with leasing in terms of timing and intensity for any potential future development.

- 20. Summary:** BLM must produce an **Environmental Analysis or Environmental Impact Statement to Comply with NEPA**

Response: The TRFO RMP/FEIS was clear that oil and gas development would occur on both existing and future leases, and that the analysis considered both current and future development (FEIS Ch. 3 pg. 63). The TRFO RMP/FEIS also provided for an accounting of the direct GHG emissions for the estimated cumulative development for each analyzed scenario (FEIS tables 3.12.21 & 3.12.32). Throughout several sections of the FEIS, natural resource specialists provided state-of-the-science discussions of the anticipated effects of climate change on resources. No new information has become available that would render the FEIS analysis insufficient for leasing purposes.

21. **Summary:** Fifteen percent of the commenters expressed concerns that the current lease sale is not part of a **Master Leasing Plan (MLP)**. One commenter stated it thus: *“Although Tres Rios BLM has identified parcels eligible for oil and gas development in the updated Resource Management Plan, the absence of a Master Leasing Plan has resulted in the lack of sufficient analysis for key state wildlife area”*. Another commenter mentioned that the lease sale parcels are *“outside the draft Master Leasing Plan boundary”*.

Response: The commenters are correct that the proposed lease parcels are not located in an area where the preparation of a MLP is being considered. The areas where the proposed lease parcels are located have not been determined to possess characteristics that require or would benefit from the preparation of a MLP under BLM policy described in IM 2010-117. Stipulation 3.13.1 (NSO) is included to protect State Wildlife Areas.

Comments about Recreation and Visual Resources

22. **Summary:** Forty-three percent of the commenters expressed concerns that leasing these parcels and the assumed eventual oil & gas development would have negative effects on **Recreation and Tourism**.

Response: The TRFO RMP/FEIS analyzed the potential impacts to Recreation from oil and gas development in Section 3.14. The BLM was not provided with any new objective data or information not previously considered in the FEIS. The effects of any specific oil and gas proposed for these in the future would be further analyzed during the site-specific NEPA process that would occur at the APD stage. Based on the NEPA analysis done for the APD, the BLM may require certain Conditions of Approval (COA), beyond the minimum protection required by current regulations and law, to minimize potential adverse impacts to Recreation.

23. **Summary:** One percent of the commenters expressed concerns that leasing these parcels and the assumed eventual oil & gas development would have negative effects on **Visual Resources** of the area.

Response: The TRFO RMP/FEIS analyzes the potential impacts to Visual Resources from potential future development, in general, in Section 3.15. The BLM was not provided with any new objective data or information not previously considered in the FEIS. The effects of the specific proposed development will be assessed through the NEPA process at the Application for Permit to Drill (APD) stage. Based on the NEPA analysis done for the APD, the BLM may require certain Conditions of Approval (COA), beyond the minimum protection required by current regulations and law, to minimize potential adverse impacts to Visual Resources.

Comments Related to Soils, Erosion, and Steep Slopes

- 24. Summary:** Five percent of the commenters expressed concern that the assumed oil & gas development that may occur as a result of the lease sale would have a negative effect on **Soils and Erosion on Steep Slopes**.

Response: The TRFO RMP/FEIS analyzes the potential impacts to Soils and areas with Steep Slopes from potential future development, in general, in Section 3.2. The BLM was not provided with any new objective data or information not previously considered in the FEIS. The effects of the specific proposed development will be assessed through the NEPA process at the Application for Permit to Drill (APD) stage. Based on the NEPA analysis done for the APD, the BLM may require certain Conditions of Approval (COA), beyond the minimum protection required by current regulations and law, to minimize potential adverse impacts to Soils and areas with Steep Slopes.

The BLM has also attached stipulations 1.9.1, 1.10.1, and 1.11.1 to the lease parcels as appropriate. These stipulations would enable the BLM to relocate surface operations or prohibit surface operations during specified time periods as necessary to protect soils, lands with slopes greater than 25 percent, lands with shale soils, and lands prone to mass movement.

Comments Related To Cultural Resources

- 25. Summary:** Ten percent of the commenters expressed concern about negative effects on **Cultural Resources** should the parcels be leased and subsequent Oil & Gas Development occur.

Response: The TRFO RMP/FEIS analyzes the potential impacts to Cultural Resources from potential future development, in general, in Section 3.16. The BLM was not provided with any new objective data or information not previously considered in the FEIS. The effects of the specific proposed development will be assessed through the NEPA process at the Application for Permit to Drill (APD) stage. Based on the NEPA analysis done for the APD, the BLM may require certain Conditions of Approval (COA), beyond the minimum protection required by current regulations and law, to minimize potential adverse impacts to Cultural Resources.

The BLM has also attached stipulation CO-39 to the lease parcels as appropriate to avoid and/or mitigate potential impacts to cultural resources. This stipulation would enable the BLM to relocate surface operations to protect Cultural Resources. In addition BLM always attaches a number of strict conditions of approval (COAs), designed to protect cultural resources, to all APD approvals.

Comments related to the Economy and Property Values

26. Summary: Twenty-five percent of the responders mentioned that oil & gas development will have an effect on the **economy** of area. Of that 25%, one commenter was of the opinion that oil & gas development has a positive effect on the economy the other 19 commenters envisioned a negative effect.

Response: An extensive analysis of the economics of oil and gas development for a five-county analysis area, including Dolores County, is presented in section 3.29 –Economics - of the TRFO RMP/FEIS, pages 578 – 608. The population impacts that flow from the economic impact analysis are presented in Section 3.30 – Demographics, pages 608 – 620 and fiscal impacts to local governments are discussed in Section 3.31 – Local Governments, pages 620 – 631.

However, a detailed analysis of economic impacts associated with specific development projects is impractical at the lease-sale stage because there are so many unknown factors related to the scale and location of specific development scenarios that may or may not occur. If oil and gas development is proposed for any of the parcels, further NEPA analysis would address potential impacts associated with that proposed action and alternatives.

27. Summary: Eight percent of commenters expressed concerns about the negative effects of oil & gas development on **near-by property values**.

Response: An extensive analysis of the economics of oil and gas development for a five-county analysis area, including Dolores County, is presented in section 3.29 –Economics - of the TRFO RMP/FEIS, pages 578 – 608. The BLM was not provided with any new objective data or information not previously considered in the TRFO RMP/FEIS.

28. Summary: Three percent of commenters expressed concern about the negative effects of oil & gas development on the **split-estate property owners**. This concern was best expressed by one commenter as the following:

“The owner of mineral rights has the right to enter property to access their minerals against the wishes of the surface owner. This right was created when these rights were separated. When you buy land it is already subject to this right.

Since the owners of these parcels do not own the sub-surface minerals, and because sub-surface minerals have always been viewed by the legal system as the dominate estate, the surface owner cannot ultimately deny entry to the property, nor can they be assured that they can ever recover what the full potential of an undisturbed surface parcel

would carry. Furthermore they have no guarantee that they will even receive full and fair compensation for the damages that their property has to bear the full weight of. In this case a federal action could potentially set off a chain of events that could negatively impact the surface owner.

Obviously the Oil & Gas industry will do whatever it takes to make sure that their bottom line is as thick as it can possibly be and while the Oil & Gas industry is well heeled with lawyers and backed by much case law, might does not necessarily mean right. Citizens, who are not always able to afford legal representation, could be taken advantage of by unethical business practices by the Oil & Gas industry. As Oil and Gas prices continue to slump and competition becomes more fierce, the likelihood of unethical business decisions to increase competitive edge also probably increase.”

Response: Onshore Order #1 requires a surface use agreement (or bond) before an operator may drill on private surface. The BLM was not provided with any new objective data or information not previously considered.

29. Summary: Sixteen percent of commenters expressed concerns about **increases in traffic, road damage, and needs for road maintenance** if the leases are sold.

Response: Impacts to roads and access from oil and gas exploration and development is analyzed in Section 3.13, pages 386 and 392 of the TRFO RMP/FEIS. The BLM was not provided with any new objective data or information not previously considered in the FEIS. At the lease sale stage, identification of potential access roads is uncertain, as is the volume of traffic associated with potential lease development. Road damage, maintenance needs, and traffic volumes can be much more effectively analyzed at the site-specific stage, and appropriate conditions of approval applied, if and when an APD is submitted.