



United States Department of Agriculture

Appendix H

Coal Unsuitability Criteria Analysis for the Manti-La Sal National Forest Draft Forest Plan



Forest Service

Intermountain Region

September 2020

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INTRODUCTION

With respect to considering coal resources in land management planning, the Manti-La Sal NF (Forest) is following direction established in FSH 1909.12 Chapter 20, Section 23.23i (4)(c). This Forest Service (FS) directive commits the Forest to following established procedures in the BLM regulations at 43 CFR 3420.1-4, General Requirements for land use planning, where it states, that the *“Department of Agriculture or any other Federal agency with surface management authority over lands subject to leasing shall prepare comprehensive land use plans or land use analyses for lands it administers.”* Further, FSH 1909.12 chapter 20 also states that, *“Plan components that deal with minerals must be in accord with Agency jurisdiction, applicable law and Federal regulations, such as coal leasing (43 CFR part 3420).”* These regulations include reviewing the lands to assess where there are areas that may be unsuitable for all or certain stipulated methods of coal mining per the criteria in 43 CFR 3461. Therefore, for the purposes of land management planning, the Forest is following established procedures to evaluate lands with coal development potential that may be unsuitable for coal mining. The coal unsuitability criteria is also applied at the leasing stage where criteria found in 43 CFR 3461.5 is applied to a site specific area with potential for coal leasing.

The FS has also entered into an interagency agreement with the Bureau of Land Management (BLM) to cooperate and coordinate in the application of unsuitability criteria under the general provisions of the Surface Mining Control and Reclamation Act (SMCRA) of 1977. This 1980 *“Memorandum of Understanding (MOU) authorizes the Secretary of Agriculture to assess whether lands within the National Forest System boundaries are unsuitable for surface coal mining operations as part of the Federal lands review under Section 522 of the SMCRA. This delegation is made in order to facilitate the use of surface management agency land use planning as the integrated method for resource inventory and evaluation; to avoid duplication of agency efforts and increase efficiency and to assure the systematic application of the unsuitability criteria, and exceptions, in agency planning that involves a Federal lands review”*

For the purposes of land management planning, the Manti-La Sal NF applied unsuitability criteria to lands with known coal development potential as shown on the attached map, Coal Development Potential (Appendix A). Data used to create the coal development potential map was provided by the BLM, Price Field office as per 43 CFR 3420.1-4(e) (1).

Due to thick overburden, the dominant method of mining coal on the Wasatch Plateau has historically been conducted underground. It is reasonable to assume that any future coal development will utilize underground methods of coal mining. However, for the purposes of land management planning, the Manti-La Sal NF has applied the unsuitability criteria to coal development potential lands with respect to both underground and surface coal mining as surface facilities may be required for future mine developments.

For the purposes of land management planning the Manti-La Sal NF has also assessed coal development potential lands with respect to the general exemptions listed below.

The general exemptions to these criteria for underground mining are located in 43 CFR §3461.1, which state:

(a) Federal lands with coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no surface coal mining operations, as defined in §3400.0-5 of this title, on any lease, if issued.

(b) Where underground mining will include surface operations and surface impacts on Federal lands to which a criterion applies, the lands shall be assessed as unsuitable unless the surface management agency finds that a relevant exception or exemption applies.

The results of the application of unsuitability criteria and exemptions are listed in the assessment portions of the document in the following text.

Criterion Number 1

All Federal lands included in the following land systems and categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and Federal lands in incorporated cities, towns, and villages.

Exceptions. (1) A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease; and (A) surface operations and impacts are incident to an underground coal mine, or (B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th Meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendments Act of 1976 and the Surface Mining Control and Reclamation Act of 1977.

Analysis – For the purposes of land management planning, no lands in the coal development potential area are found to be unsuitable. The underground mining exemption (43 CFR §3461.1) and criterion exception would apply, pending further analyses, for underground mining and the surface effects incident to underground mining.

In the Surface Mining Control and Reclamation Act significant forest cover means an existing plant community consisting predominantly of trees and other woody vegetation. The Secretary of Agriculture shall decide on a case-by-case basis whether the forest cover is significant within those national forests west of the 100th meridian) at the time site-specific leases are evaluated

Criterion Number 2

Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other public purposes, on federally owned surface shall be considered unsuitable.

Exceptions. A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that:

- (i) All or certain types of coal development (e.g. underground mining) will not interfere with the purpose of the right-of-way or easement; or
 - (ii) The right-of-way or easement was granted for mining purposes; or
 - (iii) The right-of-way or easement was issued for a purpose for which it is not being used;
- or
- (iv) The parties involved in the right-of-way or easement agree, in writing, to leasing; or
 - (v) It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

Analysis - For the purposes of land management planning, no lands within in the coal development potential area are found to be unsuitable. There are numerous rights-of-ways on the Forest that must be evaluated on a site-specific basis when lands are proposed for lease. The criteria would be more appropriate at the leasing stage and the underground mining exemption (43 CFR §3461.1) and criterion exceptions (i-v) would apply.

Criterion Number 3

The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of Title 30 of the Code of Federal Regulations. Federal lands affected by section 522(e) (4) and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of any public building, school, church, community or institutional building or public park or within 300 feet of an occupied dwelling.

Exceptions. A lease may be issued for lands:

- (i) Used as mine access roads or haulage roads that join the right-of-way for a public road;
- (ii) For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;
- (iii) If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected.
- (iv) For which owners of occupied dwelling have given written permission to mine within 300 feet of their buildings.

Analysis – For the purposes of land management planning, no lands within the the coal development potential area are found to be unsuitable. The criterion would be more applicable at the leasing stage and the underground mining exemption (43 CFR §3461.1), the exemption for surface operations and impacts incident to an underground coal mine [(Surface Mining Control and Reclamation Act, Section 522 (e) (2) (A)] and the exception to this criterion would apply.

Criterion Number 4

Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For any Federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable, unless issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal Land Policy and Management Act of 1976.

Exemption. The application of this criterion to lands for which the Bureau of Land Management is the surface management agency and lands in designated wilderness areas in National Forests is subject to valid existing rights.

Analysis – There are no designated wilderness study areas on the Forest in areas identified as having coal development potential. As part of its land management planning effort, *the Forest Service inventoried lands for wilderness character according to FSH 1909.12 Chap. 70. No lands within the boundaries of areas with coal development potential were found to have wilderness character. Therefore, no lands were found to be unsuitable for coal mining based on this criterion.*

For the purpose of Land Management Planning, lands designated as Wilderness will be unsuitable for coal mining and the exemption will apply.

Criterion Number 5

Scenic Federal lands designated by visual resource management analysis as Class I (areas of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable.

Exception. A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

Analysis – There are six visual resource management Class I areas on the Forest with a total of 1,161 acres, not currently in the National Register of Natural Landmarks in the coal development potential area. For the purposes of land management planning, no lands within the coal development potential area we found to be unsuitable. However, at the specific leasing stage, the Forest Service will evaluate whether coal mining operations incident to an underground mine would significantly diminish or adversely affect the scenic quality of the designated area.

Criterion Number 6

Federal lands under permit by the surface management agency, and being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

Exemptions. The criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Analysis – There are no Federal lands under permit by the surface management agency, being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments in the coal development potential area. For the purposes of land management planning, no lands within the coal development potential area are found to be unsuitable.

Criterion Number 7

All publicly or privately owned places which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

Exceptions. All or certain stipulated methods of coal mining may be allowed if, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, they are approved by the surface management agency, and where appropriate, the State or local agency with jurisdiction over the historic site.

Analysis – There is one site within the coal development potential area listed in the National Register of Historic Places. The Great Basin Experimental Station (portions of Sections 21 and 22, T17S, R4E, SLM, Sanpete County, Utah) is in an area identified as having moderate coal development potential on the west side of the Wasatch Plateau. The Stuart Guard Station, located in the SW ¼, Section 9, T15S, R7E is eligible for listing in the National Register of Historic Places; this is in an area identified as having high coal development potential.

All sites would be inventoried and evaluated for eligibility or potential listing in the National Register of Historic Places in consultation with the State Historic Preservation Officer and Advisory Council prior to leasing. For the purposes of land management planning, the lands are not found to be unsuitable in the coal development potential area.

Criterion Number 8

Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

Exceptions. A lease may be issued, and mining operations approved in an area or site if the surface management agency determines that:

- (i) The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or
- (ii) The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g., paleontological sites).

Analysis – Currently there are no National Natural Landmarks within areas identified as having coal development potential within the Forest. Therefore, for purposes of land management planning, no lands within the coal development potential area were found to be unsuitable.

Criterion Number 9

Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat proposed to be designated as critical for listed threatened or endangered plant and animal species or species proposed for listing, and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

Exception. A lease may be issued, and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Analysis – For the purposes of land management planning, no lands within the coal development potential area were found unsuitable. The underground mining exemption (43 CFR §3461.1), the exemption for surface operations and impacts that are incident to an underground coal mine [(Surface Mining Control and Reclamation Act, Section 522 (e) (2) (A)] and exception to this criterion would apply.

The list of species is constantly changing and use of an area by listed species can change each year based on behavioral factors and conditions.

The Heliotrope milkvetch is a federally listed threatened species with designated critical habitat within lands identified as having coal development potential. Species listed under the Endangered Species Act are threatened or endangered. An official species list is acquired from the U.S. Fish and Wildlife Service (USFWS) for every site-specific project. The list of species is constantly changing and use of an area by listed species can change each year based on behavioral factors and conditions. Any decisions regarding mine leasing and/or operations

where federally listed species or designated critical habitat occur will be made after consultation with the USFWS at the project or site-specific level.

Criterion Number 10

Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

Exception. A lease may be issued, and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

Analysis – The State of Utah does not maintain a separate list of endangered or threatened species; however, it does maintain two species lists which identify species of concern for the State. The lists were created under differing legal requirements resulting in differences between the lists. Both lists are reviewed by the State when making land management decisions. These lists are the:

- 1) Utah’s Sensitive Species List: This list is created and maintained pursuant to the Utah Division of Wildlife Resources Administrative Rule R657-48. This Rule is pursuant to sections 23-14-19 and 63-34-5(2). Under this Rule, the sensitive species list is intended to “...*preclude listing under the ESA...*” (Italics added).
- 2) Wildlife Action Plan - Species of Greatest Conservation Need (SGCN): In order to qualify for Federal grant funds through the USFWS State Wildlife Grant (SWG) Program, Utah is required to have a completed state Wildlife Action Plan (WAP); all WAPs must include the identification of SGCN. State WAPs, including identification of WAPs are intended for “...*conserving wildlife and habitat before they become too rare or costly to restore*” (Italics added).

The list of Utah sensitive species by county, as well as the WAP SGCN by county or in its entirety can be found on the Utah Division of Wildlife Resources webpage. Updated lists by North Zone Counties (as of April 10, 2017) may be found in Appendices B and C. The lists of species may change over time and the use of an area by listed species can change each year based on behavioral factors and conditions.

For the purposes of land management planning, the lands are not found to be unsuitable in the coal development potential area. If it is determined that Federal lands do contain habitat critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened, then the underground mining exemption (43 CFR §3461.1) and the exception to the criterion would apply.

Criterion Number 11

A bald or golden eagle nest or site on Federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable.

Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exceptions. A lease may be issued if:

- (i) It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or
- (ii) The surface management agency, with concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved.
- (iii) Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

Analysis – Golden eagles are year-round residents while bald eagles are mostly winter migrants with only small numbers nesting in Utah. There are no known bald eagle nest sites on or directly adjacent to the areas identified as having coal development potential; however, there are numerous golden eagle nests located throughout those areas. The underground mining exemption (43 CFR §3461.1) generally applies. Leases can be conditioned to meet the requirements of the exception, and therefore no lands in the area with coal development potential were found to be unsuitable for the purposes of land management planning. Application of this criterion at the lease-specific stage would result in identification of specific protections.

Criterion Number 12

Bald and golden eagle roost and concentration areas on Federal lands used during migration and wintering shall be considered unsuitable.

Exception. A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

Analysis – No bald eagle roost or concentration areas exist within areas identified as having coal development potential. However, golden eagles exist within the coal development potential area. Application of this criterion at the lease-specific stage would result in stipulated methods of coal mining conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed. The underground mining exemption (43 CFR §3461.1) and the exception to this criterion would apply to golden eagle roost and concentration areas prior to leasing. Therefore, for the purposes of land management planning, the lands are not found to be unsuitable in the coal development potential area.

Criterion Number 13

Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exception. A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

Analysis -There are known peregrine falcon eyries located within areas designated as having coal development potential.

If falcon habitat is identified as part of the site-specific analysis during leasing, then specific protection measures will be identified at that time and the exception to this criterion would apply. The underground mining exemption (43 CFR §3461.1) applies to all areas identified as having coal development potential on the Forest. The exemption to this criterion will also apply if lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest are identified.

Criterion Number 14

Federal lands which are high priority habitat for migratory bird species of high Federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.

Exception. A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

Analysis – Any habitat utilized by a high priority species for nesting, migration or wintering is treated as high priority habitat.

For the purposes of land management planning, the lands are not found to be unsuitable in the coal development potential area. Site-specific analyses would occur during proposed leasing and specific protection measures will be identified at that time, therefore the exception to this criterion applies. The underground mining exemption (43 CFR §3461.1) would also apply to all areas identified as having coal development potential on the Forest.

Criterion Number 15

Federal lands which the surface management agency and the state jointly agree are habitat for resident species of fish, wildlife and plants of high interest to the state and which are essential for maintaining these priority wildlife and plant species shall be considered unsuitable. Examples of such lands which serve a critical function for the species involved include:

- (i) Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;
- (ii) Winter ranges crucial for deer, antelope, and elk;
- (iii) Migration corridor for elk; and

- (iv) Extremes of range for plant species; and

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Analysis – For the purposes of land management planning, no lands within the coal development potential area were found to be unsuitable. The exemption to this criterion would apply, if identified. The underground mining exemption (43 CFR §3461.1) would also apply to all areas identified as having coal development potential on the Forest.

- (i) There are active greater sage grouse leks and priority habitat within areas identified as having coal development potential, see map located in Appendix D. There are standards and guidelines in the Greater Sage Grouse ROD that are applicable to identified lands with coal development potential, located in Appendix E. These standards and guidelines will be evaluated as part of the site-specific analysis.
- (ii) Big game key and general winter ranges have been delineated for the Manti-La Sal National Forest. State data was used in delineating this layer. Some of these important seasonal habitats are within areas identified as having coal development potential. The UDWR has delineated their own deer and elk habitat layers that are very similar but differ slightly in terminology and acres. Maps of the Forest winter ranges and UDWR winter ranges can be found in Appendices F and G.
- (iii) While species are known to seasonally migrate through the Forest, there are mapped migration corridors within the Forest boundary. This criterion is most appropriately applied to proposed leasing and mining areas based on site-specific analyses.
- (iv) There are no identified areas on the Forest, within lands identified as having coal development potential, that are at the extreme range for known plant species. Species for which the entire known range exists within the Forest boundary, and which occur within lands identified as having coal development potential are addressed under criteria 9 and 10.

Criterion Number 16

Federal lands in riverine, coastal and special floodplains (100-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Analysis – Areas of the Forest identified as having coal development potential include riverine floodplains. However,. Stipulated methods of underground mining are not expected to change watershed characteristics sufficiently to alter flood threats or risk, therefore for the purposes of land management planning, none have been determined to pose a substantial threat for loss of life or property. Thus, no lands within the coal development potential area are found to be unsuitable. The exemption to this criterion would apply, if identified and the underground mining exemption (43 CFR §3461.1) would also apply.

Criterion Number 17

Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

Exception. A lease may be issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

Analysis – According to the FSH (2542.05) a Municipal Supply Watershed is a watershed that serves a public water system as defined in the Safe Drinking Water of 1974, as amended (42 U.S.C. 300f-300j). According to the Safe Drinking water act the term ‘public water system’ means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such a system has at least fifteen service connections or regularly serves at least twenty-five individuals. Based on the Utah Department of Water Quality GIS data (1 Aug 2017 (<https://enviro.deq.utah.gov/>), there are 74 public water systems on the North Zone in nine HUC 5 level watersheds. These watersheds are Chicken Creek, Cottonwood Creek, Ferron Creek, Huntington Creek, Lower San Pitch River, Middle San Pitch River, Scofield Reservoir, Twelvemile Creek and West Creek (Appendix H). The systems provide drinking water to the towns of Levan, Ephraim City, Manti City, Spring City, Wales, Mayfield, Sterling, the Fillmore subdivision in Joes Valley, Fairview Lakes development and Trail Canyon residents Association. Several campgrounds are served as well: Joes Valley, Indian Creek, Ferron Reservoir, Forks of Huntington, Camp Shinob, Stuart visitor center, Old Folks Flat campground, Flat Canyon Campground, MIA Shalom Recreation Camp, Manti Community Campground, Lake Hill Campground, Mammoth Guard Station- Gooseberry Campground, Twelve Mile Flat Campground and Old Pinery Recreation Area. Five of the 74 Public water systems are located within areas the BLM identified as having High Coal Potential (Appendix H). They occur in Huntington Creek and Scofield Reservoir HUC 5 level watersheds. 39 public water supply locations occur in low coal potential zones. Therefore, the exception to this criterion would apply. For the purposes of land management planning, the lands are not found to be unsuitable, however the criterion would be reassessed if/when specific lease applications are reviewed. The underground mining exemption (43 CFR §3461.1) would also apply.

Criterion Number 18

Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of Federal lands ¼ mile from the outer edge of the far banks of the water, shall be unsuitable.

Exception. The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect National Resource Waters.

Analysis - The State of Utah has categorized all surface waters geographically located within the boundaries National Forests into 3 categories according to whether point source discharge of waste water is not permitted (category 1), point source discharge may be permitted provided that the discharge does not degrade existing water quality (category 2), or category 3 where point source discharges are allowed and degradation may occur (<https://rules.utah.gov/publicat/code/r317/r317-002.htm>). Most surface waters with the MLNF are classified as category 1. Category 2 surface waters are Electric Lake, the lower 4800 feet of Deer Creek, both in the Huntington HUC 5 watershed on the Wasatch Plateau, and Chicken Creek with its tributaries and Pigeon Creek with its tributaries both in the Chicken Creek HUC 5 Watershed on the Gunnison Plateau (Appendix I). Most waters in zones with coal development potential are associated with Category 1 waters which do not allow point discharge of waste waters even after treatment.

For the purposes of land management planning, the lands are not found to be unsuitable in the coal development potential area. The underground mining exemptions (43CFR §3461.1) and exemption for surface operations and impacts that are incident to an underground coal mine [(surface Mining Control and Reclamation Act, Section 522 (e) (2) (A))] would apply. Relative to the surface effects of underground mining this criterion would need to be analyzed on the site specific basis for proposed lease actions to determine suitability and therefore the exception to this criterion would apply.

Criterion Number 19

Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in §3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines or the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining Federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

Exemptions. This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

Analysis – No areas identified as having coal development potential on the Forest have been designated or identified as Alluvial Valley Floors according to the definition in §3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines, or by the Office of Surface Mining Reclamation and Enforcement. For the purposes of land management planning, no lands within the coal development potential area were found unsuitable.

Criterion Number 20

Federal lands in a state to which is applicable a criterion (i) proposed by the state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

Exceptions. A lease may be issued when:

(i) Such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis plan, or supplement to a comprehensive land use plan, for the area in which such land is included, or

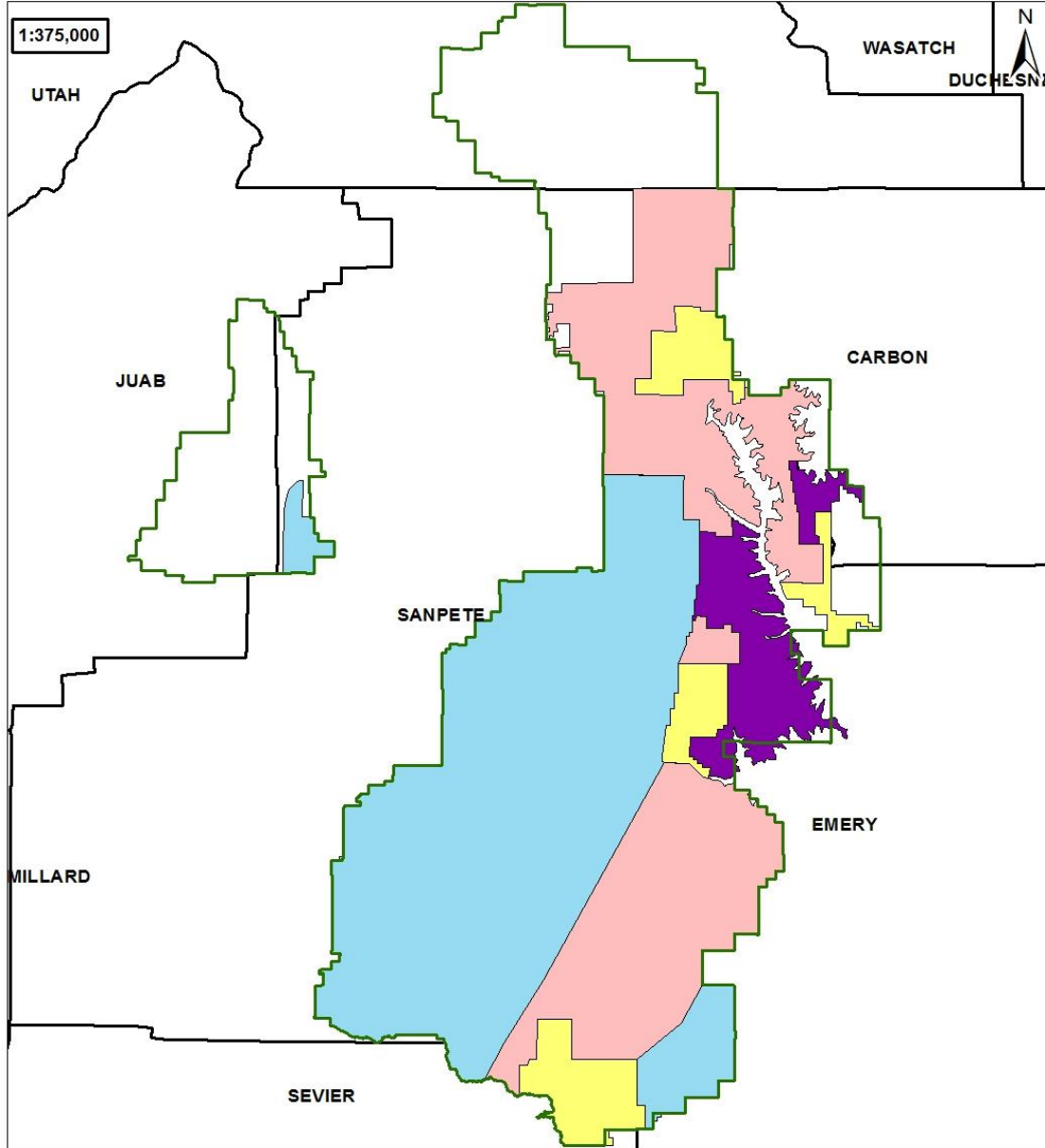
(ii) After consultation with the state or affected Indian tribe, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

Analysis – The State of Utah under State rule, R645-103-300, Utah Criteria for Designating Areas as Unsuitable for Coal Mining and Reclamation Operations, has developed unsuitability criteria, which are similar to Federal criteria. No Indian Tribes have proposed that any areas identified as having coal development potential on the Forest be designated as unsuitable for coal leasing/development. For the purposes of land management planning, the lands are not found to unsuitable in the coal development potential area.

Appendix A:

**Coal Development Potential Map
August 7, 2017**

District, Manti-LaSal National Forest

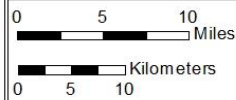


Legend

- CoalPotential_BLM_NZ**
- High Potential
 - Lease (Majority may be mined out)
 - Low Potential
 - Mined Out

Prepared by: Manti-La Sal National Forest
 Contact: Jeff Sallow
 Date: 8/7/2017
 Document Name: Potentially Leasable Coal Resources
 Coordinate System: NAD 1983 UTM Zone 12N
 File Path: T:\FS\NFS\MantiLaSal\Program\2800Minerals\Geology\GIS

The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification.



Appendix B:

Utah Sensitive Species List for 6-counties located within the North Zone of the Manti-La Sal National Forest. This is extracted from the full county list (as of April 10, 2017).

Utah's State Listed Species by County *

**This list is a condensed excerpt from the State's individual county lists*

Disclaimer: This list was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System (BIOTICS); other species of special concern likely occur in Utah Counties. This list includes both current and historic records. (Last updated on October 1, 2015).

Common Name	Scientific Name	State Status	Counties
American Three-toed Woodpecker*	Picoides dorsalis	SPC	J, Sa, Se, U
American White Pelican	Pelecanus erythrorhynchos	SPC	J, Se, U
Bald Eagle	Haliaeetus leucocephalus	SPC	C, E, J, Sa, Se, U
Big Free-tailed Bat	Nyctinomops macrotis	SPC	Se
Black Swift	Cypseloides niger	SPC	Se, U
Black-footed Ferret	Mustela nigripes	S-ESA	C, E
Bluehead Sucker	Catostomus discobolus	CS	C, E, Sa, U
Bobolink*	Dolichonyx oryzivorus	SPC	U
Bonneville Cutthroat Trout	Oncorhynchus clarkii utah	CS	C, J, Sa, Se, U
Bonytail	Gila elegans	S-ESA	C, E
Brown (Grizzly) Bear*	Ursus arctos	S-ESA	Sa, Se, U
Burrowing Owl	Athene cunicularia	SPC	C, E, J, Sa, Se
California Floater	Anodonta californiensis	SPC	J, U
Canada Lynx	Lynx canadensis	S-ESA	E, Sa, Se
Carinate Glenwood Pyrg	Pyrgulopsis inopinata	SPC	Se
Colorado Pikeminnow	Ptychocheilus lucius	S-ESA	C, E
Colorado River Cutthroat Trout	Oncorhynchus clarkii pleuriticus	CS	C, E, Sa, Se, U
Columbia Spotted Frog	Rana luteiventris	CS	J, Sa, U
Dark Kangaroo Mouse *	Microdipodops megacephalus	SPC	J
Eureka Mountainsnail	Oreohelix eurekaensis	SPC	J, U
Ferruginous Hawk	Buteo regalis	SPC	C, E, J, Sa, Se, U
Flannelmouth Sucker	Catostomus latipinnis	CS	C, E
Fringed Myotis	Myotis thysanodes	SPC	J, Se, U
Grasshopper Sparrow *	Ammodramus savannarum	SPC	J, Sa
Great Plains Toad	Bufo cognatus	SPC	C, E
Greater Sage-grouse	Centrocercus urophasianus	SPC	C, E, J, Sa, Se, U
Humpback Chub	Gila cypha	S-ESA	C, E
June Sucker	Chasmistes liorus	S-ESA	U
Kit Fox	Vulpes macrotis	SPC	C, E, J, Sa, Se, U

Least Chub	Iotichthys phlegethontis	CS	J, U
Lewis's Woodpecker	Melanerpes lewis	SPC	J, Sa, U
Long-billed Curlew *	Numenius americanus	SPC	J, Sa, Se, U
Ninemile Pyrg	Pyrgulopsis nonaria	SPC	Sa
Northern Goshawk	Accipiter gentilis	CS	C, E, J, Sa, Se, U
Otter Creek Pyrg	Pyrgulopsis fusca	SPC	Se
Pygmy Rabbit	Brachylagus idahoensis	SPC	J, Se
Razorback Sucker	Xyrauchen texanus	S-ESA	C, E
Roundtail Chub	Gila robusta	CS	C, E, U
Short-eared Owl*	Asio flammeus	SPC	J, Se, U
Smooth Glenwood Pyrg	Pyrgulopsis chamberlini	SPC	Se
Smooth Grasssnake*	Opheodrys vernalis	SPC	U
Southern Bonneville Springsnail	Pyrgulopsis transversa	SPC	Sa, U
Southern Leatherside Chub	Lepidomeda aliciae	SPC	J, Sa, Se, U
Spotted Bat*	Euderma maculatum	SPC	U
Townsend's Big-eared Bat *	Corynorhinus townsendii	SPC	C, E, J, Sa, Se, U
Utah Physa*	Physella utahensis	SPC	J, U
Utah Prairie-dog	Cynomys parvidens	S-ESA	Sa, Se
Western Red Bat *	Lasiurus blossevillii	SPC	C, U
Western Toad	Bufo boreas	SPC	C, E, J, Sa, Se, U
White-tailed Prairie-dog	Cynomys leucurus	SPC	C, E, U
Yellow-billed Cuckoo	Coccyzus americanus	S-ESA	U

**These species are not included on the 2015 UT WAP.*

C – Carbon County, **E** – Emery County, **J** – Juab County, **Sa** – Sanpete County, **Se** – Sevier County, **U** – Utah County

Appendix C:

Utah's 2015 Wildlife Action Plan (WAP) species of greatest conservation need (SGCN). This list includes the 6-counties located within the North Zone of the Manti-La Sal National Forest. This is extracted from the full county list (as of April 10, 2017).

Common Name	Scientific Name	ESA Status	Counties
American Pika*	<i>Ochotona princeps</i>		Sa, Se, U
American White Pelican	<i>Pelecanus erythrorhynchos</i>		J, Se, U
Bald Eagle	<i>Haliaeetus leucocephalus</i>		C, E, J, Sa, U
Band-tailed Pigeon*	<i>Patagioenas fasciata</i>		U
Big Free-tailed Bat	<i>Nyctinomops macrotis</i>		Se
Black Rosy-finch*	<i>Leucosticte atrata</i>		E
Black Swift	<i>Cypseloides niger</i>		U
Black-footed Ferret	<i>Mustela nigripes</i>	Endangered	E
Bluehead Sucker	<i>Catostomus discobolus</i>		C, E, Sa
Bonneville Cutthroat Trout	<i>Oncorhynchus clarkii utah</i>		C, J, Sa, Se, U
Bonytail	<i>Gila elegans</i>	Endangered	C, E
Burrowing Owl	<i>Athene cunicularia</i>		C, E, J, Sa, Se, U
California Floater	<i>Anodonta californiensis</i>		J
Canada Lynx	<i>Lynx canadensis</i>	Threatened	E, Se
Carinate Glenwood Pyrg	<i>Pyrgulopsis inopinata</i>		Se
Caspian Tern*	<i>Sterna caspia</i>		U
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	C, E
Colorado River Cutthroat Trout	<i>Oncorhynchus clarkii pleuriticus</i>		C, E, Sa, Se, U
Columbia Spotted Frog	<i>Rana luteiventris</i>		J, Sa, U
Eureka Mountainsnail	<i>Oreohelix eurekaensis</i>		J, U
Ferruginous Hawk	<i>Buteo regalis</i>		C, E, J, Sa, U
Flammulated Owl*	<i>Otus flammeolus</i>		C, J
Flannelmouth Sucker	<i>Catostomus latipinnis</i>		C, E
Fringed Myotis	<i>Myotis thysanodes</i>		J
Golden Eagle*	<i>Aquila chrysaetos</i>		C, E, J, Sa, Se, U
Great Plains Toad	<i>Bufo cognatus</i>		E
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	C, E, J, Sa, Se, U
Green River Pebblesnail*	<i>Fluminicola coloradoensis</i>		U
Humpback Chub	<i>Gila cypha</i>	Endangered	C, E
June Sucker	<i>Chasmistes liorus</i>	Endangered	U
Kit Fox	<i>Vulpes macrotis</i>		E, J
Least Chub	<i>Iotichthys phlegethontis</i>	Candidate	J
Lewis's Woodpecker	<i>Melanerpes lewis</i>		J, Sa, Se, U
Little Brown Myotis	<i>Myotis lucifugus</i>		U
Ninemile Pyrg	<i>Pyrgulopsis nonaria</i>		Sa
Northern Leopard Frog	<i>Rana pipiens</i>		C, E, J, Sa, Se, U
Otter Creek Pyrg	<i>Pyrgulopsis fusca</i>		Se

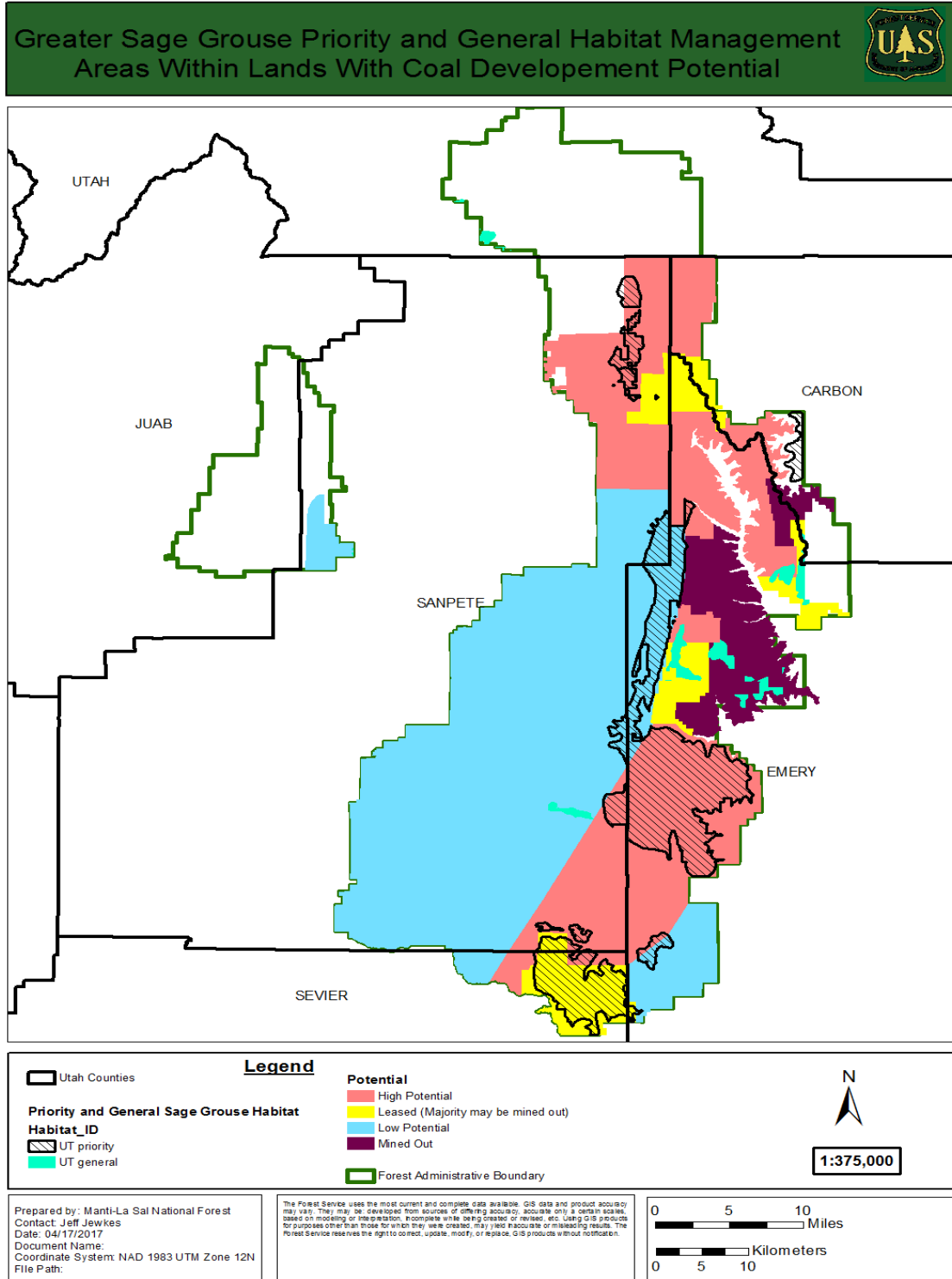
Peregrine Falcon*	Falco peregrinus		C, E, J, Sa, Se, U
Pygmy Rabbit	Brachylagus idahoensis		Se
Razorback Sucker	Xyrauchen texanus	Endangered	C, E
Roundtail Chub	Gila robusta		C, E
Smith's Black-headed Snake*	Tantilla hobartsmithi		C
Smooth Glenwood Pyrg	Pyrgulopsis chamberlini		Se
Snowy Plover*	Charadrius nivosus		J, U
Southern Bonneville Springsnail	Pyrgulopsis transversa		Sa, U
Southern Leatherside Chub	Lepidomeda aliciae		J, Sa, Se, U
Utah Prairie-dog	Cynomys parvidens		Se
Western Toad	Bufo boreas		E, Se, U
White-tailed Prairie-dog	Cynomys leucurus		C, E
Wolverine*	Gulo gulo		Sa
Yellow-billed Cuckoo	Coccyzus americanus	Candidate	E, J, U

*These species are not included in the UT Sensitive Species list (as of April 10, 2017).

C – Carbon County, **E** – Emery County, **J** – Juab County, **Sa** – Sanpete County, **Se** – Sevier County, **U** – Utah County

Appendix D:

Map showing the Sage Grouse Priority Habitat Management Areas (PHMA) and General Habitat Management Areas (GHMA) within the lands with coal development potential.



Appendix E:

Applicable standards and guidelines from the US Forest Service 2015 Greater Sage Grouse Record of Decision (ROD).

GRSG-GEN-ST-006-Standard – Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.

GRSG-GEN-GL-009-Guideline – Development of tall structures within 2 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.

Coal Mines – Unleased

GRSG-M-CMUL-ST-091-Standard – When consenting to new underground coal leases, include a lease stipulation prohibiting the location of surface facilities in priority habitat management areas, sagebrush focal areas, and Anthro Mountain.

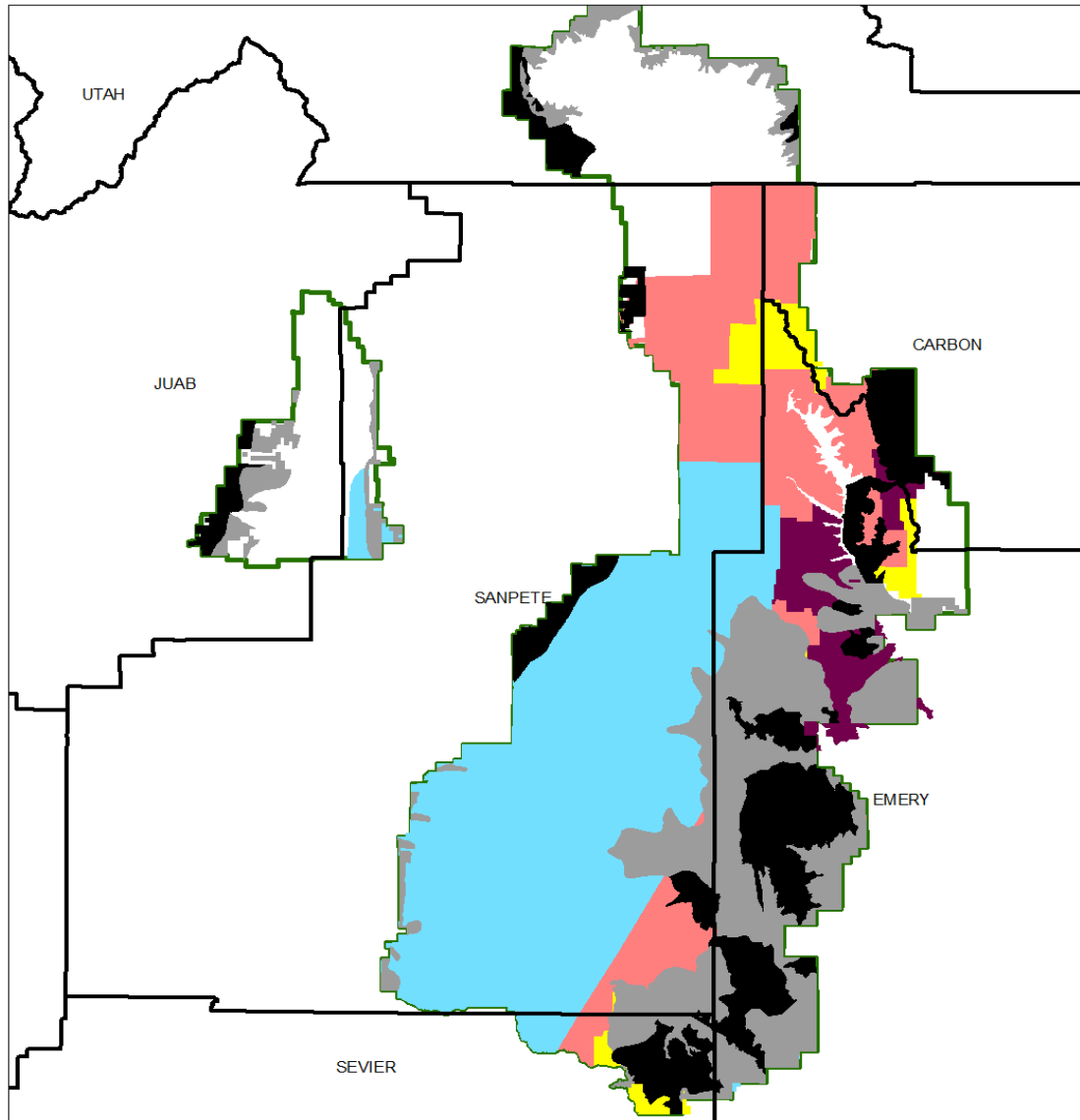
Coal Mines – Leased

GRSG-M-CML-ST-092-Standard – In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize new appurtenant surface facilities related to existing underground mines unless no technically feasible alternative exists. If new appurtenant surface facilities associated with existing mine leases cannot be located outside of priority habitat management areas and sagebrush focal areas, locate them within any existing disturbed areas, if possible. If location within an existing disturbed area is not possible, then construct new facilities to minimize disturbed areas while meeting mine safety standards and requirements as identified by the Mine Safety and Health Administration mine-plan approval process and locate the facilities in an area least harmful to greater sage-grouse habitat based on vegetation, topography, or other habitat features.

Appendix F:

Manti-La Sal National Forest big game (elk and mule deer) key and general winter ranges within lands with coal development potential.

Manti-La Sal National Forest Big Game Winter Range
Within Lands With Coal Development Potential

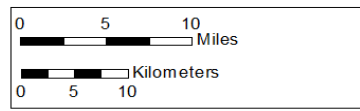
Legend

Utah Counties	General Winter and Transition Range	Low Potential
North Zone Winter Range	High Potential	Mined Out
Key Winter Range	Leased (Majority may be mined out)	Forest Administrative Boundary

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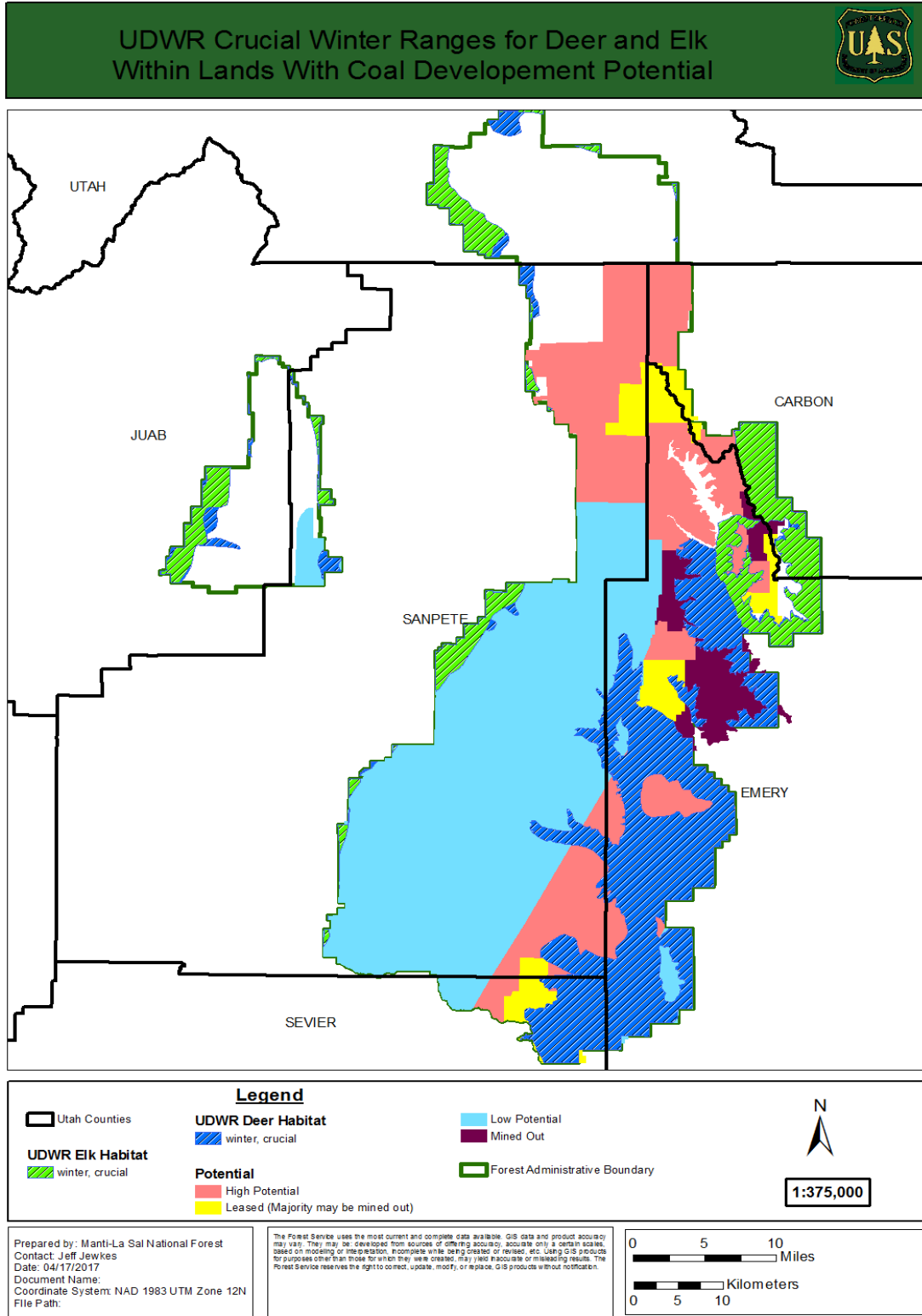
Prepared by: Manti-La Sal National Forest
Contact: Jeff Jewkes
Date: 04/17/2017
Document Name:
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Appendix G:

UDWR Utah Department of Wildlife Resources (UDWR) winter ranges within lands with coal development potential with Elk and Mule deer habitat layers included from the UDWR GIS database (accessed April 12, 2017).

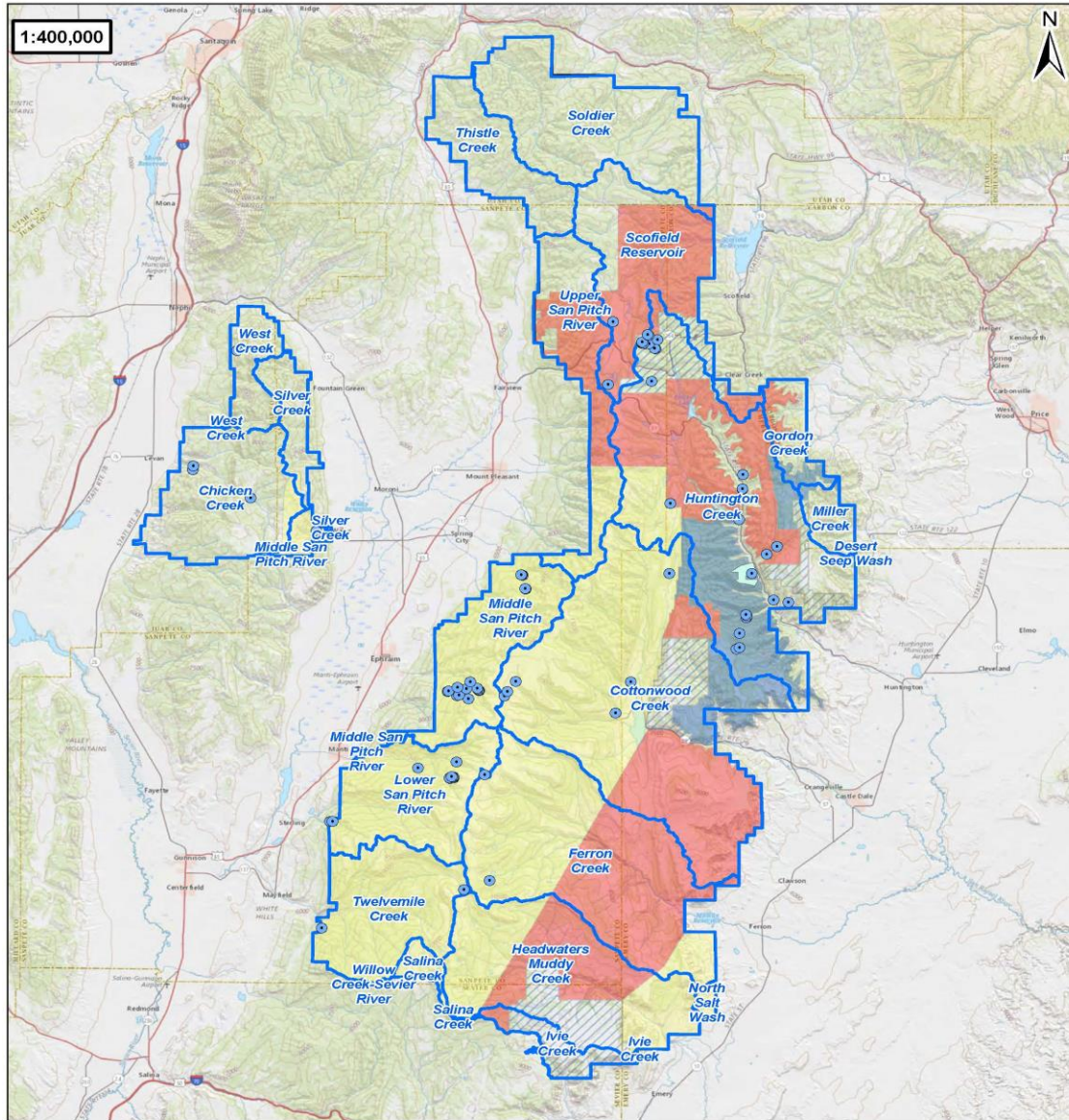


Appendix H:

Five of the 74 Public water systems are located within areas the BLM identified as having High Coal Potential

Forest Plan Revision Coal Unsuitability Criterion 17:
MLNF North Zone Municipal Watersheds & DWQ Public Water Systems, HUC level 5 in relation
to BLM Coal Unsuitability

District, Manti-LaSal National Forest



Legend

- | | |
|------------------------------------|-----------------------------|
| CoalPotential_BLM_NZ | ● UT DWQ PublicWaterSystems |
| High Potential | Watershed HUC Level 5 |
| Leased (Majority may be mined out) | Management Unit |
| Low Potential | Municipal Watershed |
| Mined Out | |

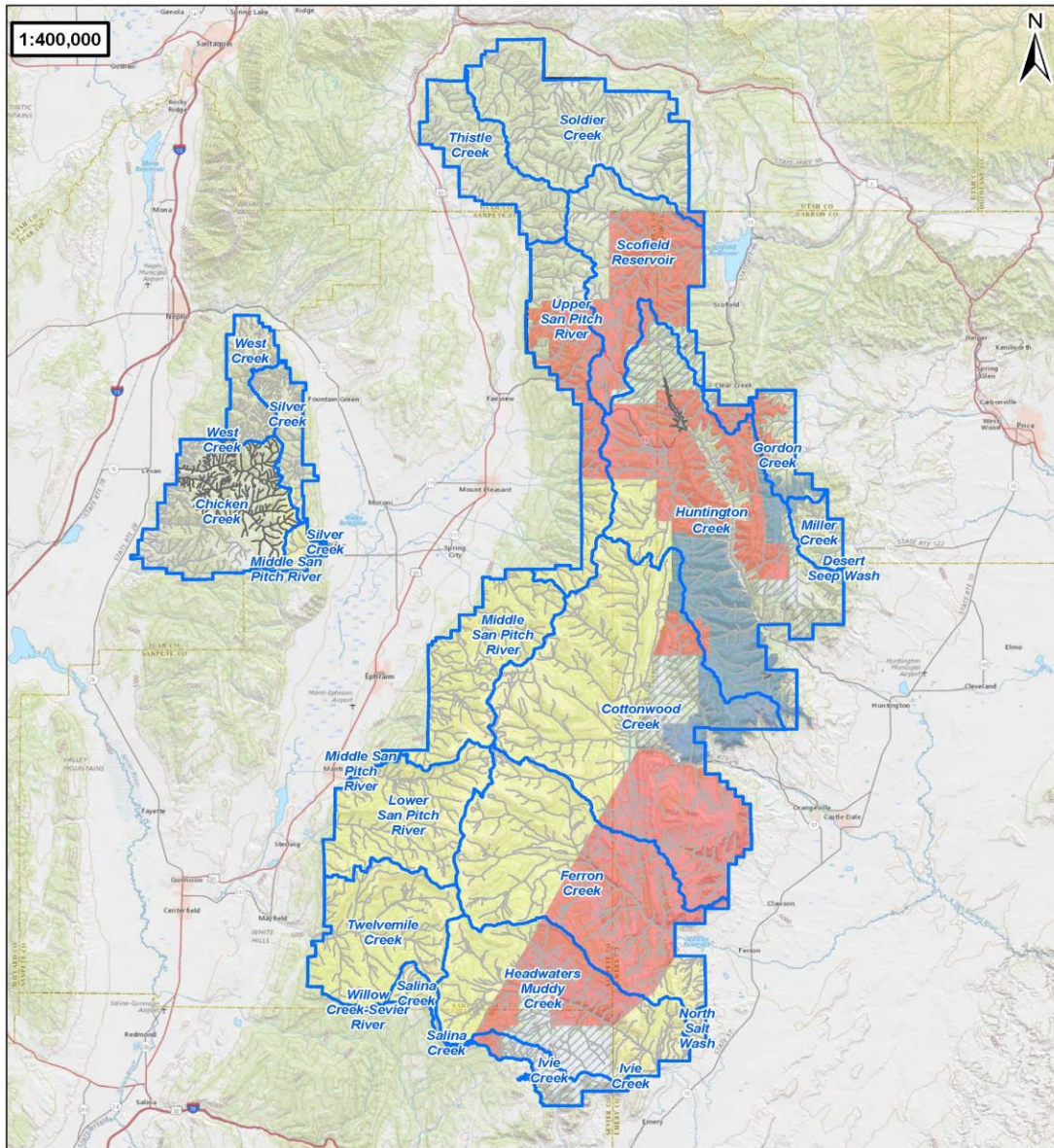
Prepared by: Manti-La Sal National Forest
Contact: Denise Laes
Date: 1 August 2017
Document Name:
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Appendix I:

Forest Plan Revision Coal Unsuitability Criterion 18: MLNF North Zone National Resource Waters in relation to BLM Coal Unsuitability District, Manti-LaSal National Forest

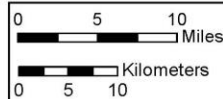


Legend

- | | |
|-------------------------------|------------------------------------|
| Watershed HUC Level 5 | CoalPotential_BLM_NZ |
| UT_R317_2_NRW Category | High Potential |
| Category 1 | Leased (Majority may be mined out) |
| Category 2 | Low Potential |
| | Mined Out |

Prepared by: Manti-La Sal National Forest
 Contact: Denise Laes
 Date: 1 August 2017
 Document Name:
 Coordinate System: NAD 1983 UTM Zone 12N
 File Path: X:\My Documents\FPR\MLNF_FPR\Revision_Coal_criterion18_PWS.mxd

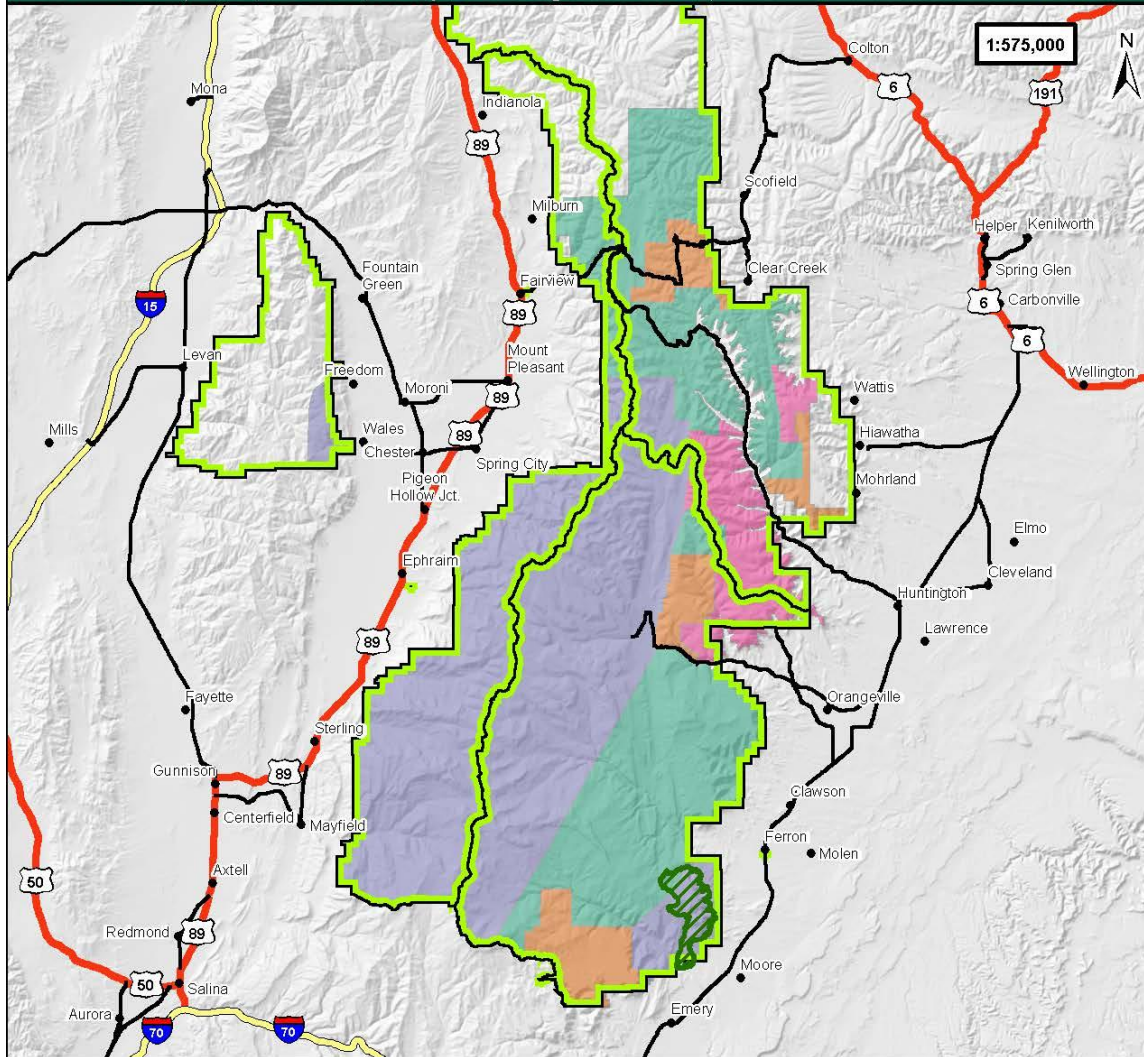
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North Zone Coal Potential with Nelson Mountain Wilderness Boundary



North Zone (Price, Ferron, Sanpete Ranger Districts)



Legend

Nelson Mountain Wilderness	mantiFsCoalPotential	Potential	Leased (Majority may be mined out)	Mined Out
		High Potential	Low Potential	

Prepared by: Manti-La Sal National Forest
 Contact: William Otto
 Date: 20190411
 Document Name: TEST
 Coordinate System: NAD 1983 UTM Zone 12N

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