

CHAPTER 7—ACRONYMS, GLOSSARY, AND REFERENCES

7.1 ACRONYMS

°F	degrees Fahrenheit
ACEC	Area of Critical Environmental Concern
Act	Energy Policy Act of 2005
AGD	Assessment Guidance Document
AIRFA	American Indian Religious Freedom Act
AM	Adaptive Management
AML	Appropriate Management Level
AMR	Appropriate Management Response
AMS	Analysis of the Management Situation
APA	Administrative Procedure Act
APD	Application for Permit to Drill
APE	Area of Potential Effect
API	American Petroleum Institute
ARPA	Archeological Resources Protection Act of 1979
ASTM	American Society for Testing and Materials
ATV	All-Terrain Vehicle
AUM	Animal Unit Month
Bcf/d	billion cubic feet per day
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
BOR	Bureau of Reclamation
CAAQS	Colorado Ambient Air Quality Standards
CASTNet	Clean Air Status and Trends Network
CBM	Coalbed Methane
CCP	Core Conservation Populations
CD	Capacitive Desalination or Deionization
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CEDIS	Colorado Economic and Demographic Information System
CEQ	Council of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
cfs	100 Cubic Feet Per Second
CGS	Colorado Geological Survey
CIAA	Cumulative Impact Assessment Area
CIG	Colorado Interstate Gas Company
CNHP	Colorado Natural Heritage Program
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COA	Conditions of Approval
COGCC	Colorado Oil and Gas Conservation Commission
CP	Conservation Populations
CR	County Road
CSU	Controlled Surface Use

CWP	Citizens' Wilderness Proposal
DAU	Data Analysis Unit
dbh	Diameter at Breast Height
DEIS	Draft Environmental Impact Statement
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOLA	Colorado Department of Local Affairs
DPC	Desired Plant Community
dv	Deciviews
E.O.	Executive Order
EA	Environmental Assessment
EDR	Electrodialysis Reversal
EIS	Environmental Impact Statement
EMP	Emerald Mountain Partnership
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
EPS	Economic Profile System
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act of 1973
FACA	Federal Advisory Committee Act
FAR	Functioning at Risk
FERC	Federal Energy Regulatory Commission
FLAG	Federal Land Managers' Air Quality Related Values Workgroup
FLPMA	Federal Land Policy and Management Act of 1976
FTE	Freeze-Thaw/Evaporation Method
GAP	Gap Analysis Program
GIS	Geographic Information System
GMU	Game Management Units
GSGWG	Gunnison Sage-grouse Working Group
H ₂ SO ₄	Sulfuric Acid
HA	Herd Area
HAP	Hazardous Air Pollutant
HMA	Herd Management Area
HMU	Habitat Management Unit
HNO ₃	Nitric Acid
HUC	Hydrologic Unit Code
HUP	Hybridized or Unknown Populations
ID	Interdisciplinary
IMP	Interim Management Policy/Plan
IMPROVE	Interagency Monitoring of Protected Visual Environments
KGRA	Known Geothermal Resource Areas
kg/ha-yr	Kilograms Per Hectare Year
km	Kilometers
LBA	Lease By Application
LCAS	Lynx Conservation and Assessment Strategy
LHA	Land/Landscape Health Assessment
LOC	Levels of Concern
LSFO	Little Snake Field Office
LU	Land Utilization
LWCF	Land and Water Conservation Fund

M&E	Monitoring and Evaluation
MFP	Management Framework Plan
MMCF	Million Cubic Feet
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	Miles Per Hour
MSO	Mexican Spotted Owl
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act of 1969
NF	Non-Functioning
NGD	No Ground Disturbance
NGL	Natural Gas Liquids
NH ₄	Ammonium
NHPA	National Historic Preservation Act of 1996
NO ₃	Nitrate
NOI	Notice of Intent
NO _x	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NRI	Nationwide Wild and Scenic Rivers Inventory
NSO	No Surface Occupancy
NURE	National Uranium Resource Evaluation
NWCOS	Northwest Colorado Stewardship
NWR	National Wildlife Refuge
NWSR	National Wild and Scenic Rivers (Act)
NWSRS	National Wild and Scenic River System
OEPC	Office of Environmental Policy
OHV	Off-Highway Vehicle
ORV	Outstandingly Remarkable Values
PAC	Protected Activity Center
PCA	Potential Conservation Area
PEIS	Programmatic Environmental Impact Statement
PFC	Proper Functioning Condition
PILT	Payment in Lieu of Taxes
PM	Particulate Matter
PM ₁₀	Coarse Particulate Matter
PM _{2.5}	Particulate Matter Less Than 2.5 Microns in Diameter
PM _{2.5}	Fine Particulate Matter
POD	Plan of Development
PRIA	Public Rangeland Improvement Act
PSD	Prevention of Significant Deterioration
psig	Pounds Per Square Inch Gauge
R.S.	Revised Statute
RAC	Resource Advisory Council
RAMP	Recreation Area Management Plan
RCA	Reserve Conservation Allotment
RCRA	Resource Conservation and Recovery Act
RFD	Reasonable Foreseeable Development

RFFA	Reasonably Foreseeable Future Actions
RMIS	Recreation Management Information System
RMP	Resource Management Plan
RMPPA	Resource Management Plan Planning Area
RMZ	Recreation Management Zones
RNA	Research Natural Area
RO	Reverse Osmosis
ROD	Record of Decision
ROI	Region of Influence
ROS	Recreation Opportunity Spectrum
ROW	Right-of-Way
SAR	Sodium Adsorption Ratio
SASEM	Simple Approach Smoke Estimation Model
SHPO	State Historic Preservation Office
SIP	State Air Quality Implementation Plan
SLB	State Land Board
SMA	Special Management Area
SN	Sundry Notice
SO ₂	Sulfur Dioxide
SO ₄ ⁻²	Sulfate
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
ssp	subspecies
SSR	Site-Specific Relocation
STMB	Steamboat Springs
SUV	Sport Utility Vehicle
SUWA	Southern Utah Wilderness Alliance
T&E	Threatened and Endangered
TBD	To Be Determined
Tcf	Trillion Cubic Feet
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Loads
TSD	Technical Support Document
U.S.C.	United States Code
UIC	Underground Injection Control
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDW	Underground Sources of Drinking Water
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USIECR	United States Institute for Environmental Conflict Resolution
VOC	Volatile Organic Compounds
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WAPA	Western Area Power Administration
WDEQ-AQD	Wyoming Department of Environmental Quality - Air Quality Division
WDEQ-LQD	Wyoming Department of Environmental Quality - Land Quality Division
WDEQ-SWD	Wyoming Department of Environmental Quality - Solid Waste Division
WDEQ-WQD	Wyoming Department of Environmental Quality - Water Quality Division
WDOT	Wyoming Department of Transportation

WIC	Wyoming Interstate Company
WMP	Water Management Plan
WOGCC	Wyoming Oil and Gas Conservation Commission
WSA	Wilderness Study Areas
WSEO	Wyoming State Engineer's Office
WSR	Wild and Scenic River
WTPD	White-Tailed Prairie Dog
WUI	Wildland-Urban Interface
YBO	Yellow-Billed Cuckoo

7.2 GLOSSARY

Actual Use. The amount of animal unit months consumed by livestock based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

Air Pollution. The contamination of the atmosphere by any toxic or radioactive gases and particulate matter as a result of human activity.

Allotment Management Plan (AMP). A concisely written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment. An AMP is prepared in consultation with the permittee(s), lessee(s), and other affected interests. Livestock grazing is considered in relation to other uses of the range and to renewable resources, such as watershed, vegetation, and wildlife. An AMP establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

Allotment. An area of land in which one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include other federally managed, state owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Analysis of the Management Situation (AMS). Assessment of the current management direction. It includes a consolidation of existing data needed to analyze and resolve identified issues, a description of current BLM management guidance, and a discussion of existing problems and opportunities for solving them.

Areas of Critical Environmental Concern (ACEC). Areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards (from H-6310-1, Wilderness Inventory and Study Procedures).

Atmospheric Deposition. Air pollution produced when acid chemicals are incorporated into rain, snow, fog or mist and fall to the earth. Sometimes referred to as "acid rain" and comes from sulfur oxides and nitrogen oxides, products of burning coal and other fuels and from certain industrial processes. If the acid chemicals in the air are blown into areas where the weather is wet, the acids can fall to Earth in the rain, snow, fog or mist. In areas where the weather is dry, the acid chemicals may become incorporated into dusts or smokes.

AUM (Animal Unit Month). The amount of forage needed by an "animal unit" (AU) grazing for one month. The animal unit in turn is defined as one mature 1,000-pound cow and her suckling calf.

Avoidance Area. Areas with sensitive resource values where rights-of-way and Section 302 permits, leases, and easements would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not otherwise be feasible on lands outside the avoidance area.

Backcountry Byways. Vehicle routes that traverse scenic corridors utilizing secondary or back country road systems. National back country byways are designated by the type of road and vehicle needed to travel the byway.

Big Game. Indigenous ungulate wildlife species that are hunted, such as elk, deer, bison, bighorn sheep, and pronghorn antelope.

Candidate species. Taxa for which the FWS has sufficient information on their status and threats to support proposing the species for listing as endangered or threatened under the ESA but for which issuance of a proposed rule is currently precluded by higher priority listing actions. Separate lists for plants, vertebrate animals, and invertebrate animals are published periodically in the Federal Register (from M6840, Special Status Species Manual) (from M6840, Special Status Species Manual).

Carrying capacity. The maximum population or level of activity that can be supported without degradation of the habitat or the population.

Casual Use. Means activities that involve practices which do not ordinarily cause any appreciable disturbance or damage to the public lands, resources or improvements and, therefore, do not require a right-of-way grant or temporary use permit (43 CFR 2800). Also means any short term non-commercial activity which does not cause appreciable damage or disturbance to the public lands, their resources or improvements, and which is not prohibited by closure of the lands to such activities(43 CFR 2920). Casual use generally includes the collecting of geochemical, rock, soil, or mineral specimens using hand tools, hand panning, and non-motorized sluicing. It also generally includes use of metal detectors, gold spears, and other battery-operated devices for sensing the presence of minerals, and hand battery-operated dry washers. Casual use does not include use of mechanized earth-moving equipment, truck-mounted drilling equipment, suction dredges, motorized vehicles in areas designated as closed to off-road vehicles, chemicals, or explosives. It also does not include occupancy or operations where the cumulative effects of the activities result in more than negligible disturbance.

Class I Objective. To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective. To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

Class III Objective. To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.

Class IV Objective. To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

Clean Air Act of 1963 (CAA) and Amendments. Federal legislation governing air pollution control.

Closed. Generally denotes that an area is not available for a particular use or uses; refer to specific definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 sets forth the specific meaning of “closed” as it relates to off-highway vehicle use, and 43 CFR 8364 defines “closed” as it relates to closure and restriction orders (from H-1601-1, BLM Land Use Planning Handbook).

Condition Class (Fire Regimes). Fire Regime Condition Classes are a measure describing the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, canopy closure, and fuel loadings. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, introduced insects or disease, or other management activities.

Conditions of Approval. Conditions or provisions (requirements) under which an Application for a Permit to Drill or a Sundry Notice is approved.

Council on Environmental Quality (CEQ). An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews Federal programs to analyze and interpret environmental trends and information.

Critical Habitat. An area occupied by a threatened or endangered species “on which are found those physical and biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection.”

Crucial winter range. That part of the overall range where 90 percent of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site specific period of winter as defined for each Colorado Division of Wildlife Data analysis unit.

Deferred Rotation. Rotation grazing with regard to deferring pastures beyond the growing season, if they were used early the prior year, or that have been identified as needing deferment for resource reasons.

Designated roads and trails. Specific roads and trails identified by the BLM (or other agencies) where some type of motorized vehicle use is appropriate and allowed either seasonally or year-long. (from H-1601-1, BLM Land Use Planning Handbook).

Disposal. Transfer of public land out of federal ownership to another party through sale, exchange, Recreation and Public Purposes Act, Desert Land Entry or other land law statutes.

Easement. A right afforded a person or agency to make limited use of another’s real property for access or other purposes.

Eligibility. Qualification of a river for inclusion into the National Wild and Scenic Rivers System through the determination (professional judgment) that it is free-flowing and, with its adjacent land area, possesses at least one river-related value considered to be outstandingly remarkable (from M-8351, BLM WSR Policy and Program).

Endangered Species. Any species which is in danger of extinction throughout all or a significant portion of its range (from M6840, Special Status Species Manual).

Environmental Impact Statement (EIS). A detailed statement prepared by the responsible official in which a major Federal action which significantly affects the quality of the human environment is described, alternatives to the proposed action provided, and effects analyzed (from BLM National Management Strategy for OHV Use on Public Lands).

Exclusion Area. Areas with sensitive resource values where rights-of-way and 302 permits, leases, and easements would not be authorized.

Extensive Recreation Management Area (ERMA). Areas in which significant recreation opportunities and problems are limited and explicit recreation management is not required. Minimal management actions related to the Bureau's stewardship responsibilities are adequate in these areas.

Federal Land Policy and Management Act of 1976 (FLPMA). Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction policy and basic management guidance (from BLM National Management Strategy for OHV Use on Public Lands).

Fire Suppression. All work activities connected with fire extinguishing operations, beginning with discovery of a fire and continuing until the fire is completely out.

Fluid Minerals. Oil, gas, coal bed natural gas, and geothermal resources.

Forest and Woodland. Areas dominated by coniferous and deciduous trees. These areas include aspen, oniferous forests and pinyon-juniper woodlands vegetation types.

Functioning at Risk. (1) Condition in which vegetation and soil are susceptible to losing their ability to sustain naturally functioning biotic communities. Human activities, past or present, may increase the risks. Rangeland Reform Final Environmental Impact Statement (FEIS) at 26. (2) Uplands or riparian-wetland areas that are properly functioning, but a soil, water, or vegetation attribute makes them susceptible to degradation and lessens their ability to sustain natural biotic communities. Uplands are particularly at risk if their soils are susceptible to degradation. Human activities, past or present, may increase the risks (Rangeland Reform Draft Environmental Impact Statement (DEIS) Glossary). SEE ALSO Properly Functioning Condition and Nonfunctioning Condition (from H-4180-1, BLM Rangeland Health Standards Manual).

Grassland. Areas dominated by grasses and forbs. These areas include foothill and mountain grasslands and grasslands vegetation types.

Grazing Preference. The total number of AUMs on public land apportioned and attached to base property owned or controlled by a lessee.

Habitat. An environment which meets a specific set of physical, biological, temporal or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle.

Herd Management Area (HMA). Public land under the jurisdiction of the BLM that has been designated for special management emphasizing the maintenance of an established wild horse or burro herd.

Intermittent Stream. An intermittent stream is a flowing system under normal weather conditions. During the dry season and throughout minor drought periods, these streams will not exhibit flow. Geomorphological characteristics are not well defined and are often inconspicuous. In the absence of external limiting factors (pollution, thermal modifications, etc.), biology is scarce and adapted to the wet and dry conditions of the fluctuating water level.

K factor. A soil erodibility factor used in the universal soil loss equation that is a measure of the susceptibility of soil particles to detachment and transport by rainfall and runoff. Estimation of the factor takes several soil parameters into account, including: soil texture, percent of sand greater than 0.10 mm, soil organic matter content, soil structure, soil permeability, clay mineralogy, and coarse fragments. K factor values range from .02 to .64, the greater values indicating the highest susceptibilities to erosion.

Land Classification. When, under criteria of 43 CFR 2400, a tract of land has potential for either retention for multiple use management or for some form of disposal, or for more than one form of disposal, the relative scarcity of the values involved and the availability of alternative means and sites for realization of those values will be considered. Long-term public benefits will be weighed against more immediate or local benefits. The tract will then be classified in a manner which will best promote the public interest.

Land Tenure adjustments. Ownership or jurisdictional changes are referred as "Land Tenure Adjustments". To improve the manageability of the BLM lands and improve their usefulness to the public, BLM has numerous authorities for "repositioning" lands into a more consolidated pattern, disposing of lands, and entering into cooperative management agreements. These land pattern improvements are completed primarily through the use of land exchanges, but also through land sales, jurisdictional transfers to other agencies, and through the use of cooperative management agreements and leases.

Land use allocation. The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions. (from H-1601-1, BLM Land Use Planning Handbook).

Land use plan. A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. The term includes both RMPs and MFPs. (from H-1601-1, BLM Land Use Planning Handbook).

Late Season. Fall or late summer grazing.

Lease. Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA) provides the BLM's authority to issue leases for the use, occupancy, and development of the public lands. Leases are issued for purposes such as a commercial filming, advertising displays, commercial or noncommercial croplands, apiaries, livestock holding or feeding areas not related to grazing permits and leases, harvesting of native or introduced species, temporary or permanent facilities for commercial purposes (does not include mining claims), residential occupancy, ski resorts, construction equipment storage sites, assembly yards, oil rig stacking sites, mining claim occupancy if the residential structures are not incidental to the mining operation, and water pipelines and well pumps related to irrigation and non-irrigation facilities. The regulations establishing procedures for the processing of these leases and permits are found in 43 Code of Federal Regulations (CFR) 2920.

Lek. An assembly area where birds, especially sage grouse, carry on display and courtship behavior.

Limited. Designated areas and trails where the use of off-road vehicles is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads and trails. Under the

designated roads and trails designation, use would be allowed only on roads and trails that are signed for use. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year (from BLM National Management Strategy for OHV Use on Public Lands).

Locatable Minerals. Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

LU project lands. Privately owned submarginal farmlands incapable of producing sufficient income to support the family of a farm owner and purchased under Title III of the Bankhead-Jones Farm Tenant Act of July 22, 1937. These acquired lands became known as "Land Utilization Projects" and were subsequently transferred from jurisdiction of the U.S. Department of Agriculture to the U.S. Department of the Interior. They are now administered by the Bureau of Land Management.

Metapopulation. A group of populations, usually of the same species, which exist at the same time but in different places. Interbreeding could occur, but does not due to geographic barriers.

Mineral Entry. The filing of a claim on public land to obtain the right to any locatable minerals it may contain.

Mineral Estate. The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Mineral Materials. Materials such as sand and gravel and common varieties of stone, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws. but that can be acquired under the Materials Act of 1947, as amended.

Mineral. Any naturally formed inorganic material, solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained for man's use, usually from the ground. Under Federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable (subject to the Materials Act of 1947).

Mining Claim. A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

Multiple use. The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the

combination of uses that will give the greatest economic return or the greatest unit output (FLPMA) (from M6840, Special Status Species Manual).

National Wild and Scenic Rivers System. A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past, (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads, and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted.

Nonfunctioning Condition. (1) Condition in which vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities. FEIS at 25. (2) Riparian-wetland areas are considered to be in nonfunctioning condition when they don't provide adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, or other normal characteristics of riparian areas. The absence of a floodplain may be an indicator of nonfunctioning condition (DEIS Glossary). SEE ALSO Properly Functioning Condition and Functioning at Risk (from H-4180-1, BLM Rangeland Health Standards Manual).

Off-highway vehicle (OHV). Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used for national defense. (from H-1601-1, BLM Land Use Planning Handbook).

Open. Designated areas and trails where off-road vehicles may be operated, subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343; or an area where all types of vehicle use is permitted at all times, subject to the standards in BLM Manuals 8341 and 8343 (from BLM National Management Strategy for OHV Use on Public Lands).

Outstandingly Remarkable Values. Values among those listed in Section 1(b) of the Act: "scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values..." Other similar values which may be considered include ecological, biological or botanical, paleontological, hydrological, scientific or research values (from M-8351, BLM WSR Policy and Program).

Ozone. A faint blue gas produced in the atmosphere from chemical reactions of such sources as burning coal, gasoline and other fuels, and chemicals found in products including solvents, paints, hairsprays, etc.

Perennial Stream. Perennial streams carry flowing water continuously throughout the year, regardless of weather conditions. It exhibits well-defined geomorphological characteristics and in the absence of pollution, thermal modifications, or other man-made disturbances has the ability to support aquatic life. During hydrological drought conditions, the flow may be impaired.

Permit Long. Grazing for the duration of the permitted time with care taken not to overuse the resource.

Permitted Use. The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease, and is expressed in Animal Unit Months (AUMs) (43 CFR § 4100.0-5) (from H-4180-1, BLM Rangeland Health Standards Manual).

Prevention of Significant Deterioration (PSD). An air pollution permitting program intended to ensure that air quality does not diminish in attainment areas.

Primary succession. The establishment and subsequent changes in a community from newly formed habitats without plants (e.g. sand dunes, lava flows, or newly exposed rock). Involves much modification of the environment by early colonists = pioneer species (such as lichens and mosses, beach grasses) which in terrestrial environments stabilize and enrich or even generate soil.

Primitive and Unconfined Recreation. Non-motorized, non-mechanized (except as provided by law), and undeveloped types of recreational activities. Bicycles are considered mechanical transport (from H-6310-1, Wilderness Inventory and Study Procedures).

Properly Functioning Condition. (1) An element of the Fundamental of Rangeland Health for watersheds, and therefore a required element of State or regional standard and guidelines under 43 CFR § 4180.2(b). (2) Condition in which vegetation and ground cover maintain soil conditions that can sustain natural biotic communities. For riparian areas, the process of determining function is described in the BLM Technical Reference TR 1737-9. FEIS at 26, 72. (3) Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The functioning condition of riparian-wetland areas is influenced by geomorphic features, soil, water, and vegetation (DEIS Glossary). (4) Uplands function properly when the existing vegetation and ground cover maintain soil conditions capable of sustaining natural biotic communities. The functioning condition of uplands is influenced by geomorphic features, soil, water, and vegetation (DEIS Glossary). SEE ALSO Nonfunctioning Condition and Functioning at Risk (from H-4180-1, BLM Rangeland Health Standards Manual).

Public land. Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM without regard to how the United States acquired ownership, except lands located on the Outer Continental Shelf, and land held for the benefit of Indians, Aleuts, and Eskimos. (from H-1601-1, BLM Land Use Planning Handbook).

Reasonable Foreseeable Development (RFD) Scenario. The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

Recreation and Public Purposes (R&PP) Act (of 1926). Recreation and Public Purposes Act provided for the lease and sale of public lands determined valuable for public purposes. The objective of the R&PP Act is to meet the needs of State and local government agencies and non-profit organizations by leasing or conveying public land required for recreation and public purpose uses. Examples of uses made of R&PP lands are parks and greenbelts, sanitary landfills, schools,

religious facilities, and camps for youth groups. The act provides substantial cost-benefits for land acquisition and provides for recreation facilities or historical monuments at no cost.

Recreation Opportunity Spectrum (ROS). A continuum used to characterize recreation opportunities in terms of setting, activity and experience opportunities. The spectrum covers a range of recreation opportunities from primitive to urban. With respect to river management planning, ROS represents one possible method for delineating management units or zones. See BLM Manual Section 8320 for more detailed discussion (from M-8351, BLM WSR Policy and Program).

Recreational River. Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Remnant Plant Species. A remnant or fragment of the vegetation of an area that remains from a former period when the vegetation was more widely distributed.

Resource Management Plan (RMP). A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

Rest Rotation. Grazing rotation that rests pastures that have been grazed early the prior year or that have been identified as needing rest for resource reasons.

Right-of-Way (ROW). Means the public lands authorized to be used or occupied for specific purposes pursuant to a right-of-way grant, which are in the public interest and which require rights-of-way over, upon, under, or through such lands.

Riparian Area. A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

Rock Art. Petroglyphs (carvings) or pictographs (painting) used by native persons to depict their history and culture.

Rotation Age. The period of years between when a forest stand (i.e., primarily even-aged) is established (i.e., regeneration) and when it receives its final harvest. This time period is an administrative decision based on economics, site condition, growth rates, and other factors.

Rotation. Grazing rotation between pastures in the allotment for the permitted time.

Scenic Byways. Highway routes, which have roadsides or corridors of special aesthetic, cultural, or historic value. An essential part of the highway is its scenic corridor. The corridor may contain outstanding scenic vistas, unusual geologic features, or other natural elements.

Scenic River. A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

Scrubland. Areas dominated by woody shrubs. These areas include sagebrush, salt desert shrub, and mountain shrub vegetation types.

Season of Use. The time during which livestock grazing is permitted on a given range area, as specified in the grazing lease.

Secondary succession. Results from changes in an area that previously had a vegetation community where disturbance (i.e., surface disturbance, insect pest or disease) reset the stage of the community to an earlier point in the succession process but did not reset it to the primary succession stage.

Seral. The stage of succession of a plant community that is transitional. If left alone, the seral stage will give way to another plant community that represents a further stage of succession.

Severe winter range. Areas within the winter range where 90% of the individuals are located when annual snow pack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.

Special recreation management area (SRMA). A public lands unit identified in land use plans to direct recreation funding and personnel to fulfill commitments made to provide specific, structured recreation opportunities (i.e., activity, experience, and benefit opportunities). The BLM recognizes three distinct types of SRMAs: community-based; intensive; and undeveloped big open. (from H-1601-1, BLM Land Use Planning Handbook).

Split Season. Removing livestock from the allotment and returning them later in the year within the permitted time.

Stand. A group of forest trees of sufficiently uniform species composition, age, and condition to be considered a homogeneous unit for management purposes.

State Implementation Plan (SIP). A detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act. State implementation plans are collections of the regulations used by a state to reduce air pollution.

Succession. Vegetation changes in a community at a site following either habitat disturbance or colonization of an area.

Sustained Yield. Sustained yield of wood fiber that properly harvested and mitigated, would sustain the underlying ecosystem processes.

Threatened Species. Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (from M6840, Special Status Species Manual).

Total Maximum Daily Load (TMDL). An estimate of the total quantity of pollutants (from all sources: point, nonpoint, and natural) that may be allowed into waters without exceeding applicable water quality criteria.

Traditional Cultural Property. a property that derives significance from traditional values associated with it by a social and/or cultural group such as an Indian tribe or local community. A traditional

cultural property may qualify for the National Register if it meets the criteria and criteria exceptions at 36 CFR 60.4. See National Register Bulletin 38.

Undertaking. A term with legal definition and application i.e., “actions carried out by or on behalf of the agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a federal agency.” (See National Historic Preservation Act, Section 106 and Section 301(7), Appendix 5; 36 CFR Part 800). However, Section 106 does not apply to actions subject to State or local regulation only. The vast majority of land use authorizations approved by BLM, as well as BLM-funded projects, are undertakings for purposes of Section 106 of the NHPA.

Valid Existing Rights. Any lease established (and valid) prior to a new authorization, change in land designation, or in regulation.

Visibility (Air Quality). A measurement of the ability to see and identify objects at different distances.

Visitor Day. Twelve visitor hours which may be aggregated by one or more persons in single or multiple visits.

Visitor Use. Visitor use of a resource for inspiration, stimulation, solitude, relaxation, education, pleasure, or satisfaction.

Visual Resource Management (VRM) Classes. Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape. (from H-1601-1, BLM Land Use Planning Handbook) Below are the four classes and their objectives:

Visual Resource Management (VRM) Classes. Visual resource management classes define the degree of acceptable visual change within a characteristic landscape. A class is based on the physical and sociological characteristics of any given homogeneous area and serves as a management objective. Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape. (from H-1601-1, BLM Land Use Planning Handbook). The four classes are described below:

Visual Resource Management (VRM). The system by which BLM classifies and manages scenic values and visual quality of public lands. The system is based on research that has produced ways of assessing aesthetic qualities of the landscape in objective terms. After inventory and evaluation, lands are given relative visual ratings (see definition for Visual Resource Management Classes), which determine the amount of modification allowed for the basic elements of the landscape.

Visual Resources. The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Volatile Organic Compounds (VOCs). Volatile organic chemicals that produce vapors readily; at room temperature and normal atmospheric pressure. Volatile organic chemicals include gasoline, industrial chemicals such as benzene, solvents such as toluene and xylene, and tetrachloroethylene (perchloroethylene, the principal dry cleaning solvent).

Wild and Scenic Study River. Rivers identified in Section 5 of the Wild and Scenic Rivers Act for study as potential additions to the National Wild and Scenic Rivers System. The rivers shall be studied under the provisions of Section 4 of the Act (from M-8351, BLM WSR Policy and Program).

Wild River. Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Wild, Scenic, and/or Recreational (WSR). The term used in this Manual Section for what is traditionally shortened to "Wild and Scenic" rivers. Designated river segments are classified, i.e., wild, scenic, and/or recreational, but cannot overlap (from M-8351, BLM WSR Policy and Program).

Wilderness Characteristics. Wilderness characteristics include size, the appearance of naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include ecological, geological, or other features of scientific, educational, scenic, or historical value. However Section 2(c) of the Wilderness Act of 1964 has been updated by IM-2003-195, dated June 20, 2003. Indicators of an area's naturalness include the extent of landscape modifications; the presence of native vegetation communities; and the connectivity of habitats. Outstanding opportunities for solitude or primitive and unconfined types of recreation may be experienced when the sights, sounds, and evidence of other people are rare or infrequent, in locations where visitors can be isolated, alone or secluded from others, where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

Wilderness Study Area (WSA). A designation made through the land use planning process of a roadless area found to have wilderness characteristics as described in Section 2(c) of the Wilderness Act of 1964 (from H-6310-1, Wilderness Inventory and Study Procedures).

Wilderness. A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value. The definition contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891) (from H-6310-1, Wilderness Inventory and Study Procedures).

Wildfire. Unplanned human or naturally caused fires in wildlands.

Wildland fire. Any fire, regardless of ignition source, that is burning outside of a prescribed fire and any fire burning on public lands or threatening public land resources, where no fire prescription standards have been prepared (from H-1742-1, BLM Emergency Fire Rehabilitation Handbook).

7.3 REFERENCES

- Air Resource Specialists, Inc. (ARS). 2002. Green River Basin Visibility Study.
- Anderson, J.E., and Shumar, M.L. 1986. *Impacts of back-tailed jackrabbits at peak population densities on sagebrush-steppe vegetation*. Journal of Range Management. Volume 39. Pages 152-156.
- Anderson, R. and T. Crocker. 1971. *Air Pollution and Residential Property Values*. Urban Studies 8: 171-180.
- Armour, C.L. 1991. The effects of livestock grazing on riparian and stream ecosystems. Fisheries 16(1):7-11. 1991. FR 36(2).
- Armstrong, H. J. and Wolny, D. G. 1989. *Paleontological Resources of Northwest Colorado: A Regional Analysis*. Museum of Western Colorado, Grand Junction, CO, prepared for Bur. Land Management, Vol. I of V.
- Bailey, R.G. 1995 Description of the ecoregions of the United States. 2nd Ed. Rev. and expanded (1st ed. 1980). Misc. Publ. No. 1391 (rev.), Washington, DC: USDA Forest Service. 108 p. with separate map at 1:7,500,000
- Barnett, J.K., and J.A. Crawford. 1994. Pre-laying nutrition of Greater Sage-Grouse hens in Oregon. Journal of Range Management 47:114-118.
- BBC Research and Consulting. 2001. Measuring the Impact of Coal bed Methane Wells on Property Values. Denver, CO.
- BBC Research and Consulting. 2006. *Garfield County Land Values and Solutions Study*. Denver, CO.
- Bergin, M. J. 1959. Preliminary Geological Map of the Maybell-Lay Area, Moffat County, Colorado: U.S. Geological Survey Open-File Map, scale 1:48,000.
- Beroni, E. P., and McKeown, F. A. 1952, Reconnaissance for Uraniferous Rocks in Northeastern Colorado, Southwestern Wyoming, and Northeastern Utah: U.S. Geological Survey, Trace Element Investigation Report TEI-308A, 41 p.
- BIO-WEST, Inc. 2004. Colorado Statewide Programmatic Biological Assessment: Bonytail (*Gila elegans*), Colorado Pikeminnow (*Ptychocheilus lucius*), Humpback Chub (*Gila cypha*), Razorback Sucker (*Xyrauchen texanus*), and Pallid Sturgeon (*Scaphirhynchus albus*).
- Bisson, P.A., B.E. Rieman, C. Luce, P.F. Hessburg, D.C. Lee, J.L. Kershner, G.H. Reeves, and R.E. Gresswell. 2003. In press. *Fire and aquatic ecosystems of the Western USA: current knowledge and key questions*. Forest Ecology and Management. In press.
- Boyle, Kevin and Richard Bishop. 1984. *Lower Wisconsin River Recreation: Economic Impacts and Scenic Values*. Agricultural Economics Staff Paper Series, College of Agricultural and Life Sciences, University of Wisconsin, Madison.
- Braun, C.E. 1995. Distribution and Status of Greater Sage-Grouse in Colorado. Prairie Naturalist 27:1-9.

- Brimson, M.M. [Chair]. 2001. *Riparian Areas: Functions and Strategies for Management*. National Academies Press, 2001 Constitution Avenue N.W. Washington D.C. 20418. 424 pp.
- Brookshire, D. , B. Ives, and W. Schulze. 1979. The Valuation of Aesthetic Preferences. *Journal of Environmental Economics and Management* 3: 325-346.
- Brownfield, M. E., Hettinger, R. D., and Johnson, E. A. 2004. Geological Assessment of Coal in the Colorado Plateau: Arizona, Colorado, New Mexico, and Utah: U.S. Geological Survey Paper 1625-B.
- Bruns, E.H. 1977. *Winter behavior of pronghorns in relation to habitat*. *Journal of Wildlife Management* 41(3):560–570.
- BRW, Inc., Otten, Johnson, Robinson, Neff & Ragonetti, P.C., Leland Consulting Group, and B.B.C. Research & Consulting. February 4, 1999. *Upper Elk Valley Community Plan*.
- Buenger, B. 2003. *The Impact of Wildland and Prescribed Fire on Archaeological Resources*. Dissertation. Submitted to the Department of Anthropology, University of Kansas. http://www.blm.gov/heritage/docum/Fire/Dissertation_Buenger.htm.
- Bunger J. W., Crawford, P. M., and Johnson, H. R. 2004. Is Oil Shale America's Answer to Peak-Oil Challenge: *Oil and Gas Journal*, p.16 – 24.
- Bunting, S. C. 1984. Fires in sagebrush-grass ecosystems: successional changes. K. Sanders and J. Durham, editors. *Rangeland fire effects: a symposium*. USDI Bureau of Land Management, Boise, ID. 7-11.
- Bureau of Land Management (BLM) .1997. Standards for Public Land Health and Guidelines for Livestock Grazing in Colorado.
- Bureau of Land Management (BLM) 2005. Reasonable Foreseeable Development: Oil and Gas in the Little Snake Field Office Administrative Boundary Area.
- Bureau of Land Management (BLM). 1979. Visual Resource Inventory, Little Snake River Resource Area (draft).
- Bureau of Land Management (BLM). 1983. Riley Ridge Natural Gas Project Environmental Impact Statement. Prepared by the USDI - Bureau of Land Management, USDA – Forest Service and Environmental Research & Technology, Inc. May 1983.
- Bureau of Land Management (BLM). 1986. Craig District, Colorado, Little Snake Resource Area Draft Little Snake Resource Management Plan and Environmental Impact Statement, February 1986.
- Bureau of Land Management (BLM). 1988. Craig, Colorado District, Little Snake Resource Area Revised Proposed Little Snake Resource Management Plan, October 1988.
- Bureau of Land Management (BLM). 1989. Craig District, Colorado, Little Snake Resource Area Resource Management Plan and Record of Decision, June 1989.
- Bureau of Land Management (BLM). 1989. Little Snake Draft Environmental Impact Statement (DEIS), Little Snake Field Office 1989.

- Bureau of Land Management (BLM). 1990. Handbook H-8431-1, Visual Resource Contrast Rating, <http://www.blm.gov/nstc/VRM/vrmsys.html>. Accessed 10/16/2004.
- Bureau of Land Management (BLM). 1991. Colorado State Office, Colorado, Wilderness Study Report, Statewide Overview, October 1991.
- Bureau of Land Management (BLM). 1991. Colorado State Office, Colorado, Wilderness Study Report, Volume One, Pages 1-168, Craig District Study Areas, October 1991.
- Bureau of Land Management (BLM). 1996. Craig, Colorado District, Little Yampa Canyon Recreation Area Management Plan, October 1996.
- Bureau of Land Management (BLM). 1997. Standards for Public Land Health and Guidelines for Livestock Grazing in Colorado.
- Bureau of Land Management (BLM). 2000. Little Snake Field Office. Landscape Health Assessment, Cold Spring Landscape. May 22-25 & June 26-29, 2000.
- Bureau of Land Management (BLM). 2001. Little Snake Field Office. Landscape Health Assessment, Sandhills Landscape. June 11-14, 2001.
- Bureau of Land Management (BLM). 2002. Instruction Memorandum No. 2003-020, Interim Wind Energy Development Policy, Washington, D. C.
- Bureau of Land Management (BLM). 2002. Little Snake Field Office. Landscape Health Assessment, Dry Creek Mountain Landscape. June 17-20, 2002.
- Bureau of Land Management (BLM). 2002. Little Snake Field Office. Landscape Health Assessment, Sandwash Landscape. June 3-7, 2002.
- Bureau of Land Management (BLM). 2002. Permanent Photographic Archive and Data Summaries Craig, Colorado, 1987-1996. Prepared by Air Resource Specialists, Ft. Collins, CO.
- Bureau of Land Management (BLM). 2003. America's Priceless Heritage: Cultural and Fossil Resources on Public Lands- Colorado. Internet. <http://www.blm.gov/heritage/>. Accessed: March – July 2003.
- Bureau of Land Management (BLM). 2003. Instruction Memorandum No. 2003-233, Integration of the Energy Policy and Conservation Act (EPCA) Inventory Results into the Land Use Planning Process, Washington, D. C.
- Bureau of Land Management (BLM). 2003. Little Snake Field Office. Landscape Health Assessment, Dry Creek Landscape. June 2-6, 2003.
- Bureau of Land Management (BLM). 2003. Little Snake Field Office. Landscape Health Assessment, Powderwash Landscape. June 2-6, 2003.
- Bureau of Land Management (BLM). 2004. Roan Plateau Draft Resource Management Plan Amendment and Environment Impact Statement. Glenwood Springs, Colorado.
- Bureau of Land Management (BLM). 2004. "Streams04.shp" GIS shapefile. November 5, 2004.

- Bureau of Land Management (BLM). 2004. Draft Resource Management Plan Amendment/Draft Environmental Impact Statement, Roan Plateau Planning Area, Glenwood Springs Field Office, Colorado, November 2004.
- Bureau of Land Management (BLM). 2004. Draft Resource Management Plan Amendment/Draft Environmental Impact Statement, Roan Plateau Planning Area, Glenwood Springs Field Office, Colorado, November 2004.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2005-024, to AFO and WO Officials for National Sage-Grouse Habitat Conservation Strategy. Attachments: BLM National Sage-grouse Habitat Conservation Strategy (25 pp); Guidance for Addressing Sagebrush Habitat Conservation in Land Use Plans (10 pp); Guidance for the Management of Sagebrush Plant Communities for Sage-grouse Conservation (33 pp).
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2005-006, Solar Energy Development Policy, Right-of-Ways Management, Use Authorization, Facilities Management, Washington, D. C.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2004-188, Wind Energy Development Policy Plan Amendment, Land Use Planning and Right-of Ways (ROWs), Washington, D. C.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2005-003, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing, Washington, D. C.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2004-061, Designating Off-Highway-Vehicle Routes in the Land Use Planning Process, Washington, D.C.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2005-006. Solar Energy Development Policy, Washington, D.C.
- Bureau of Land Management (BLM). 2004. Instruction Memorandum No. 2004-188. Wind Energy Development Plan Amendments, Washington, D.C.
- Bureau of Land Management (BLM). 2004. Little Snake Field Office. Landscape Health Assessment, Douglas Mountain Landscape. June 21-25, 2004.
- Bureau of Land Management (BLM). 2004. Recreation Assessment for Sand Wash Basin, Little Snake Resource Area, February 12, 2004.
- Bureau of Land Management (BLM). 2004. Recreation Management Information System. *Visitor Days and Participants by Office and Activity; Little Snake Field Office*. Accessed 10/22/2004.
- Bureau of Land Management (BLM). 2004. Wind Energy Development Programmatic Environmental Impact Statement, Prepared by Argonne National Laboratory, III, for Bureau of Land Management, Land and Realty Group, Washington, D. C.
- Bureau of Land Management (BLM). 2004a. National Sage-Grouse Habitat Conservation Strategy. U.S. Department of the Interior, November.

- Bureau of Land Management (BLM). 2004b. Northwest Colorado, Greater Sage-Grouse Conservation Plan, Next to Final Draft, 6/24/04.
- Bureau of Land Management (BLM). 2005. Reasonable Foreseeable Development: Oil and Gas in the Little Snake Field Office Administrative Boundary.
- Bureau of Land Management (BLM). 2006. Air Quality Technical Support Document (Appendix B), Booz Allen Hamilton, Denver CO. February 2006.
- Bureau of Land Management (BLM). 2006. Air Quality Technical Support Document (Appendix B), Booz Allen Hamilton, Denver CO. February 2006.
- Burgh, E. E. 1962. Northwestern Colorado Oil Shales: in Exploration For Oil and Gas in Northern Colorado; Rocky Mountain Assoc. Geol., p.34 – 36.
- Buys & Associates, Inc. Environmental Consultants. 2003. Statewide, Programmatic Biological Assessment/ Biological Evaluation of Black-footed Ferret (*Mustela nigripes*), Mountain Plover (*Charadrius montanus*), Gunnison Prairie Dog (*Cynomys gunnisoni*), and White-tailed Prairie Dog (*Cynomys leucurus*) on Colorado Bureau of Land Management Lands.
- Cappa, J. A., Widmann, B., Carroll, C. J., Keller, J. W., and Young, G. 2003. Colorado Mineral and Mineral Fuel Activity: Colorado Geological Survey, information series 69.
- Carroll, C. J. 2004. 2003 Summary of Coal resources in Colorado: Colorado Geological Survey, Special Publication 54, 25 pp.
- Chronic, J., and Ferris, C. S. 1961. Early Paleozoic Outlier in Southeastern Wyoming: In Lower and Middle Paleozoic Rocks of Colorado, Rocky Mountain Asso. Geol., p.143-146.
- City of Steamboat Springs and Routt County. May 2004. *Steamboat Springs Area Community Plan*.
- City of Steamboat Springs and Routt County. November 16, 1999. *West of Steamboat Springs Area Plan*.
- Coe, B. A. 1978. Geothermal Resource Development in Colorado, Processes, Promises, and Problems: Colorado Geological Survey, Information Series 9, 51 p.
- Coggins, K. A. 1998. Relationship between habitat changes and productivity of sage-grouse at Hart Mountain National Antelope Refuge, Oregon. Thesis, Oregon State University, Corvallis, Oregon.
- Colorado County Profile System, Colorado Department of Local Affairs (DOLA), State Demography Office, 1313 Sherman St., Room 521, Denver, CO 80203 Website:
<http://dola.colorado.gov/demog/mule1.cfm>
- Colorado Department of Health and the Environment (CDPHE). 2003. Colorado Air Quality Data Report 2002, Air Pollution Control Division, October 2003
- Colorado Department of Public Health and the Environment (CDPHE), 2002.
<http://emaps.dphe.state.co.us/APIInv/viewer.htm>.
- Colorado Division of Housing. 2003 *What is Affordable Housing in Your Are?* Website:
<http://www.dola.state.co.us/Doh/Documents/What-Afford.pdf>

Colorado Division of Parks and Outdoor Recreation. Information obtained from the website at:
<http://parks.state.co.us/home/aboutus.asp?page=aboutus>

Colorado Division of Wildlife, U.S. Fish and Wildlife Service, and Bureau of Land Management. (FWS, BLM and CDOW). 2001. Draft Supplemental Environmental Assessment, Black-footed Ferret Reintroduction, Wolf Creek Management Area, Northwestern Colorado. October 2001. Prepared by U.S. Fish and Wildlife Service, Region 6, in cooperation with Bureau of Land Management, White River Field Office, and Colorado Division of Wildlife.

Colorado Division of Wildlife, U.S. Fish and Wildlife Service, and Bureau of Land Management. (FWS, BLM and CDOW). 2001. Draft Supplemental Environmental Assessment, Black-footed Ferret Reintroduction, Wolf Creek Management Area, Northwestern Colorado. October 2001. Prepared by U.S. Fish and Wildlife Service, Region 6, in cooperation with Bureau of Land Management, White River Field Office, and Colorado Division of Wildlife.

Colorado Division of Wildlife. January 11, 2002. *Colorado Division of Wildlife Strategic Plan*.

Colorado Economic and Demographic Information System (CEDIS) Colorado Department of Local Affairs (DOLA), 1313 Sherman St., Room 500, Denver, CO 80203 Phone (303) 866-4904, Fax (303) 866-4317, website: <http://www.dola.state.co.us>

Colorado Oil and Gas Conservation Commission (COGCC), Division Of The Colorado Department Of Natural Resources. 1120 Lincoln Street, Suite 801, Denver, Colorado 80203. Website: <http://oil-gas.state.co.us>

Colorado State Land Board. Information obtained from the website at:
<http://www.trustlands.state.co.us/Information/AboutUs.asp>

Colorado State University 2000. Standard Visual Range, Capitol Reef National Park, IMPROVE Database.http://vista.cira.colostate.edu/Datawarehouse/IMPROVE/Data/SummaryData/ReconBext_Seasonal.TXT.

Colorado State University 2000. Standard Visual Range, Capitol Reef National Park, IMPROVE Database.http://vista.cira.colostate.edu/Datawarehouse/IMPROVE/Data/SummaryData/ReconBext_Seasonal.TXT.

Colorado Water Resources Research Institute, Colorado State University. Agricultural Water Conservation Task Force. Regional Characteristics. 1995.
<http://waterknowledge.colostate.edu/default.htm>. Accessed November 2004.

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. *Guidelines to manage sage grouse populations and their habitats*. Wildlife Society Bulletin 28:967-985.

Connelly, J.W., S.T. Knick, M.A. Schroeder, S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming. Interrupted pagination.

Conrath, Fred and Stanley Eng. 2005. *Reasonable Foreseeable Development: Oil and Gas in the Little Snake Field Office Administrative Boundary Area (LSFO)*, Bureau of Land Management, Little Snake Field Office, Craig Colorado, 2005.

- Crawford, J. A., R. O. Olson, N. E. West, J. C. Mosley, M. A. Schroeder, T. D. Whitson, R. F. Miller, M. A. Gregg, and C. S. Boyd. 2004. Synthesis paper - Ecology and management of sage-grouse and sage-grouse habitat. *Journal of Range Management* 57:2-19.
- Deal, K. No Date. *Fire Effects to Flaked Stone, Ground Stone, and Other Stone Artifacts (DRAFT)*. IN: Kevin C. Ryan and Anne Trinkle Jones, editors. *Wildland Fire in Ecosystems: Effects of Fire on Cultural Resources and Archeology*. Rainbow Series, Rocky Mountain Research Station, USDA Forest Service. In press.
- Deblinger, R.D. 1988. Ecology and behavior of pronghorn in the Red Desert, Wyoming with reference to energy development. PhD Dissertation, Colorado State University, Fort Collins, Colorado.
- DeLong, A. K., J. A. Crawford, and D. C. DeLong, Jr. 1995. Relationship between vegetational structure and predation of artificial sage-grouse nests. *Journal of Wildlife Management* 59: 88-92.
- Dwire, K.A. and J.B. Kauffman. In press. *Fire and riparian ecosystems in landscapes of the western USA*. *Forest Ecology and Management*. In press.
- Dwire, K.A., S.E. Ryan, L.J. Shirley, D. Lytjen, N. Otting, and M.K. Dixon. 2006. In press. *Influence of herbivory on regrowth of riparian shrubs following a wildland fire*. *Journal of the American Water Resources Association*.
- Easterly, T.E.; A.W. Wood; and T. Litchfield 1991. Responses of pronghorn and mule deer to petroleum development on crucial winter range in the Rattlesnake Hills. Wyoming Game and Fish Department. Unpublished report.
- Ecosystem Enhancement, LLC. December 2001. Moffat County Wildland Fire and Fuel Management Plan, Phase I Planning Area.
- Ecosystem Enhancement, LLC. August 30, 2002. Moffat County Wildland Fire and Fuel Management Plan, Phase II Planning Area.
- Ecosystem Enhancement, LLC. September 15, 2003. Moffat County Wildland Fire and Fuel Management Plan, Phase III Planning Area.
- Ecosystem Management International, Inc. 2004. Statewide, Programmatic Biological Assessment and Evaluation for One Species of Cutthroat Trout and Biological Evaluation of Two Candidate Species of Cutthroat Trout on Colorado Bureau of Land Management Lands.
- EDAW. 2003. Yampa River Management Plan.
- Eggers, A. and YM Ioannides. 2006. The Role Of Output Composition In The Stabilization Of US Output Growth *Journal of Macroeconomics* 28 (3): 585-595
- Environmental Protection Agency – Clean Air Status and Trends Network (CASTNet)
<http://www.epa.gov/castnet/>
- Environmental Protection Agency (EPA). 1995. *Compilation of Air Pollutant Emission Factors*. U.S. Environmental Protection Agency Publication AP-42, Fifth Edition, Chapter 13.

- Environmental Protection Agency and Other Federal Agencies– Visibility Information Exchange Web System (VIEWS) <http://vista.cira.colostate.edu/views/>
- EPA. 2000a. 40 Code of Federal Regulations Part 50, National Primary & Secondary Ambient Air Quality Standards. July 2000.
- EPA. 2000b. 40 Code of Federal Regulations Part 81.430, Designation of Areas for Air Quality Planning Purposes, Identification of Mandatory Class I Federal Areas Where Visibility Is an Important Value, Utah. July 1, 2000.
- EPA. 2000c. 40 Code of Federal Regulations Part 81.345, Designation of Areas for Air Quality Planning Purposes, Section 107 Attainment Status Designations, Utah. July 1, 2000.
- Fenneman, N. M., 1931, Physiography of Western United States: McGraw-Hill, New York, 534 pp.
- Finley, Darby. 2005a. *Elk Management Plan for E-2(Bear's Ears) Data Analysis Unit – DRAFT*. Colorado Division of Wildlife, Meeker Service Center.
- Finley, Darby. 2005b. *Elk Management Plan for E-6(White River) Data Analysis Unit – DRAFT*. Colorado Division of Wildlife, Meeker Service Center.
- Fox, D. G., A. M. Bartuska, J. G. Byrne, E. Cowling, R. Fisher, G. E. Likens, S. E. Lindberg, R. A. Linthurst, J. Messer, and D. S. Nichols. 1989. A screening procedure to evaluate air pollution effects on class I wilderness areas. General technical report RM-168. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado, USA.
- Geist, V. 1978. *Behavior*. In *Big game of North America: Ecology and management*, ed. Schmidt JL, Gilbert DL. Harrisburg, PA: Stackpole Books. Pp. 283-96, 494 pp.
- Goodknight, C. S. 1983. Intermediate-Grade Uranium Resources Assessments Projects for Part of the Maybell District, sand Wash Basin, Colorado: U.S. Department of Energy Open-File Report GJBX-12 (83), 25 p.
- Greenberg, M. and J. Huges. 1993. Impacts of Hazardous Waste Sites on Property Value and Land Use: Tax Assessors Appraisal. *The Appraisal Journal*, January. Pages 42-51.
- Gregg, M. A., J. A. Crawford, M. S. Drut, and A. K. DeLong. 1994. Vegetational cover and predation of sage-grouse nests in Oregon. *Journal of Wildlife Management* 58:162-166.
- GSGWG (Northwest Colorado Greater Sage-Grouse Working Group). 2004. Northwest Colorado Greater Sage-Grouse Conservation Plan, Next to Final Draft 6/24/04. 104 pp.
- Gusey, W.F. 1986. *Terrestrial Wildlife and the Petroleum Industry: Inter-actions and Relationships*. Unpublished draft report, Shell Oil Company. Houston, Texas.
- Hall, J.A. 1980. *Direct impacts of off-road vehicles on vegetation*. Pages 63-74 in: P.G. Rowlands (ed.). *The direct effects of disturbance on desert soils, vegetation and community processes with emphasis on off-road vehicles: a critical review*. U.S. Dept. Interior, Bureau of Land Management, Desert Plan Staff Special Publication. Riverside, CA.

- Hanf, J. M. P. A. Schmidt, and E. B. Groshens. 1994. Sage-grouse in the high desert of central Oregon: results of a study, 1988-1993. United States Department of Interior, Bureau of Land Management, Series P-SG-01, Prineville, Oregon.
- Harris, C.M. 1991. *Handbook of Acoustical Measurements and Noise Control*. McGraw-Hill, Inc, New York, New York. 345 pp.
- Haun, J. D. 1962. Introduction to The Geology of Northwest Colorado: in Exploration For Oil and Gas in Northern Colorado; Rocky Mountain Assoc. Geol., p.7 – 14.
- Hausleitner, D. 2003. Population dynamics, habitat use and movements of greater sage-grouse in Moffat County, Colorado. Thesis, University of Idaho, Moscow, USA.
- Havlick, D. G. 2002. No Place Distant: roads and motorized recreation on America's public lands. Island Press. Washington D.C. 297 pp.
- Hayden-Wing Associates 1990. *Response of Elk to Exxon's Field Development in The Riley Ridge Area of Western Wyoming 1979-1990*. Final report prepared for Exxon Company, USA and Wyoming Game and Fish Department, 33 pp.
- Hershey, T.J. and T.A. Leege 1976. *Influences of logging on elk on summer range in north-central Idaho*. in S. R. Hieb (ed.), Proceedings of the Elk-logging-roads symposium, University of Idaho, Moscow, Idaho. pp 73–80.
- Hiatt, G.S. and D. Baker 1981. Effects of oil/gas drilling on elk and mule deer winter distributions on Crooks Mountain, Wyoming. Wyoming Game and Fish Department. Unpublished report.
- Holloran, M. J. 2005. Greater sage-grouse (*Centrocercus urophasianus*) population response to natural gas field development in western Wyoming. PhD Dissertation. University of Wyoming. Laramie, Wyoming. 211pp.
- Howery, L. 1999. *Rangeland Management Before, During and After Drought*. Range Technical Note No. NM-93. University of Arizona Cooperative Extension Bulletin. US Department of Agriculture, Natural Resources Conservation Service.
- Irvin, C. D. 1986. Upper Cretaceous and Tertiary cross sections, Moffat County, Colorado, Colorado, in Stone, D. S. ed., *New Interpretation of Northwest Colorado Geology*: Denver, Rocky Mountain Association of Geologists, p. 151-156.
- Jaquet, Jeffrey. December 2005. *Index Crimes, Arrests and Incidents in Sublette County, Wyoming, 1995-2004: Trends and Forecasts*. A report prepared for The Socioeconomic Advisory Committee (SAAC) to Sublette County, Wyoming. Available at <http://www.sublette-se.org/Documents.html>
- Jaquet, Jeffrey. 2006. *A Brief History of Drilling in Sublette County, Wyoming, 1995-2005: The Socioeconomics of Gas*. A report prepared for The Socioeconomic Advisory Committee (SAAC) to Sublette County, Wyoming. Available at <http://www.sublette-se.org/Documents.html>
- Jensen, M., A. Michelsen, and M. Gashaw. 2001. Responses in plant, soil inorganic and microbial nutrient pools to experimental fire, ash and biomass addition in a woodland savanna. *Oecologia*. 128:85-93.

- Johnson, Bruce and Lee Wollrab 1987. *Response of Elk to Development of a Natural Gas Field in Western Wyoming 1979–1987*. Riley Ridge Natural Gas Project, Elk Wildlife Study Report.
- Julander, 2006. Personal conversations with employees of Julander Energy, Denver, Colorado.
- Kaiser, W. R., Scott, A. R., Hamilton, D. S., Tyler, R., McMurry, R. G., Najjian, Z., and Treman, C. M. 1994. Geological and Hydrologic Controls on Coalbed Methane Sand Wash Basin, Colorado and Wyoming: Gas Research Institute Topical Report No. 92/0420: Colorado Geological Survey Resource Series 30, 151 p.
- Kartesz, J. P. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. Timber Press. Portland, OR.
- Kelly, R. and D. F. McCarthy. 2001. *Effects of Fire on Rock Art*. IN: Steven Freers and Alanah Woody, eds. American Indian Rock Art. Vol. 27, pp 169-176.
- Kimball, S. and Schiffman, P. 2003. *Differing Effects of Cattle Grazing on Native and Alien Plants*. Conservation Biology Volume 17, No. 6. December 2003. pages 1681-1693.
- Kirschbaum, M. A., Roberts, L. N. R., and Biewick, L. R. H. 2004. Geological Assessment of Coal in the Colorado Plateau; Arizona, Colorado, New Mexico, and Utah: U.S. Geological Survey, Professional Paper 1625-B.
- Knopman, D. 2002. Assessing Gas and Oil Resources in the Intermountain West, CT-195, RAND, Santa Monica, CA.
- Kuck, L.; G.L. Hompland; and E.H. Merrill 1985. *Elk Calf Response to Simulated Mine Disturbance in Southeast Idaho*. Journal of Wildlife Management 49(3):751–757.
- La Point, Halcyon. 1987. A Class I Overview of the Prehistoric Cultural Resources: Little Snake Resource Area, Moffat, Routt, and Rio Blanco Counties, Colorado. Bureau of Land Management, Denver: CO.
- LaTourrette, T. M., Bernstein, P., Holtberg, C., Pernin, B., Vollaard, M., Hanson, K., Anderson, and Knopman, D. 2002. Assessing Gas and Oil Resources in the Intermountain West; Review of Methods and Framework for a New Approach: IP-225-WFHF, RAND Science and Technology, Santa Monica, CA.
- Leonard, S., G. Staidl, J. Fogg, K. Gebhardt, W. Hagenbuck, and D. Prichard. 1992. Riparian area management: procedures for ecological site inventory—with special reference to riparian wetland sites. TR 1737-7. Bureau of Land Management, BLM/SC/PT-92/004+1737, Service Center, CO. 135 pp.
- Lett, M.S and Knapp, A.K. 2003. Consequences of shrub expansion in mesic grassland: Resource alterations and graminoid responses. Journal of Vegetation Science, Volume 14, Issue 4. Pages 487-496.
- Lewis, L., L. Clark, R. Krapf, M. Manning, J. Staats, T. Subirge, L. Townsend, and B. Ypsilantis. 2003. Riparian area management: Riparian wetland soils. Technical Reference 1737-19. Bureau of Land Management, Denver, CO. BLM/ST/ST-03/001+1737. 109 pp.

- Lewis, W. D. 1977. Geology of Uranium Mineralization in the Brown Park Formation, Carbon County, Wyoming, and Moffat County, Colorado: Master's Thesis, Colorado School of Mines, Golden, Colorado, 85 pp.
- Logan Simpson Design, Inc. 2003. Programmatic Biological Assessment: Mexican Wolf, California Condor, & Wolverine.
- Loomis, John. 2000. *Economic Value of Wilderness Recreation and Passive Use*. In Wilderness Science in a Time of Change Conference, Volume #2. S. McCool, D. Cole, W. Borrie and J. O'Loughlin. Proceedings RMRS-P-15-Vol-2, Rocky Mountain Research Station, USDA Forest Service, Fort Collins, CO.
- Loomis, John. 2005. *Updated Outdoor Recreation Use Values on National Forests and Other Public Lands*. General Technical Report PNW-GTR-658. Pacific Northwest Research Station, USDA Forest Service, Portland, OR.
- Lloyd, J. M. et al. 2002. eds. IN: *The Effects of Fire and Heat on Obsidian*. Bureau of Land Management, Cultural Resources Publication, Bishop Field Office, California
- Lyon, L.J. 1979. Habitat effectiveness for elk as influenced by roads and cover. *Journal of Forestry* 77: 658-660.
- Lyon, L.J. and A.L. Ward 1982. *Elk and land management*. in J.W. Thomas and D.E. Toweill, eds., *Elk of North America, ecology and management*. Stackpole Books, Harrisburg, Pennsylvania. pp 443-477.
- Mack, M. C., S. D., et al. (2000). Biotic Invasion: Causes, Epidemiology, Global Consequences and Control. *Issues in Ecology* 5: 1-19
- Magnan, Nicholas, Andrew Seidl, C.J. Mucklow, and Deborah Alpe. 2005. The Societal Value Of Ranchlands To Routt County Residents, 1995-2005. Economic Development Report (October 2005-EDR- 05-01). Department of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO. Website: <http://dare.agsci.colostate.edu/csusagecon/extension/pubstools.htm>
- Magnan, Nicholas. 2005. The Value Of Ranchland To Routt County Residents, 1995-2005. Unpublished MS thesis. Department of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO.
- Malm et al. 1999. "Spatial and Seasonal Patterns and Temporal Variability of Haze and its Constituents in the United States: Report III" Cooperative Institute for Research in the Atmosphere. Colorado State University, Fort Collins, CO May 1999.
- Malm, W.C. 1999. Introduction to Visibility. Air Resource Division National Park Service and Cooperative Institute for Research in the Atmosphere (CIRA) Colorado State University, Fort Collins, CO.
- Martner, B.E. 1986. Wyoming/Colorado Climate Atlas, University of Nebraska Press, Lincoln, Nebraska.
- Massey, M. 2001. Long-range plan for the management of lesser prairie-chickens in New Mexico 2002-2006. New Mexico Department of Game and Fish, Albuquerque.

- McDonald and Metcalf. 2006. Regional Class I Overview of Cultural Resources for the BLM Little Snake RMP.
- McGranahan, D.A. (1999), Natural Amenities Drive Rural Population Change, Food And Rural Economics Division, Economic Research Service, USDA, AER #781.
- Meyer, S. E. 1994. Germination and establishment ecology of big sagebrush: implications for community restoration. S. B. Monson and S. G. Kitchen, editors, Proceedings: Ecology and management of annual rangelands. USDA Forest Service General Technical Report INT-GTR313. 244-251.
- Miller, R. F. and J. A. Rose. 1999. Fire history and western juniper encroachment in sagebrush steppe. *Journal of Range Management*. 52:550-559.
- Minnesota IMPLAN Group, Inc. 2002. IMPLAN Professional: Social Accounting & Impact Analysis Software, 1940 South Greeley Street, Suite 1091 Stillwater, Minnesota 55082, Website: www.Implan.com
- Moffat County. 2003. Moffat County/City of Craig Master Plan.
- Moffat County. Information obtained from the website at: <http://www.co.moffat.co.us/Planning/>.
- Naiman, R.J., H. Decamps, and M. Pollock. 1993. *The role of riparian corridors in maintaining regional biodiversity*. *Ecol. Appli.* 3, 209-212.
- National Agriculture Statistical Service, 2002, *Census of Agriculture, Washington D.C.*, available at http://www.nass.usda.gov/Census_of_Agriculture/index.asp
- National Atmospheric Deposition Program – (NADP) <http://nadp.sws.uiuc.edu/>
- National Park Service. April 1991. Dinosaur National Monument General Management Plan with Land Protection Plan Update.
- National Resources Conservation Service. December 2003. *National Range and Pasture Handbook*. USDA Website: <http://www.glti.nrcs.usda.gov/technical/publications/nrph.html>
- National Wildfire Coordinating Group (NWCG). 2001. *Fire Effects Guide*. (NFES 2394). Fire Use Working Team, National Interagency Fire Center. Boise, Idaho. Available at: <http://fire.r9.fws.gov/ifcc/monitor/FEG.pdf>.
- Natural Resource Conservation Service, Wildlife Habitat Management Institute. (NRCS). 2001. *Mountain Plover (Charadrius montanus) - Fish and Wildlife Habitat Management Leaflet*, Number 22, April 2001.
- Neary, D.G., C.C. Klopatek, L.F. DeBano, and P.F. Ffolliott. 1999. *Fire Effects on Belowground Sustainability: A Review and Synthesis*. *Forest Ecology and Management* 122:51-71.
- Ormond, A. 1957. Preliminary Report on the Geology of Uranium Deposits in the Brown Park Formation in Moffat County, Colorado, and Carbon County, Wyoming: USAEC Open-File Report TM-D-1-18.
- Oster, E. No Date. *The Effects of Fire on Subsurface Archeological Materials (DRAFT)*. Kevin C. Ryan and Anne Trinkle Jones. Eds. IN: *Wildland Fire in Ecosystems: Effects of Fire on Cultural*

- Resources and Archeology. Rainbow Series, Rocky Mountain Research Station, USDA Forest Service. In press.
- Pacific Northwest Laboratory. 1986. Wind Energy Resource Atlas of the United States.
- Palmquist, R., F. Roka, T. Vukina. 1997. *Hog Operations, Environmental Effects and Residential Property Values*. Land Economics 73(1): 114–124
- Perry, C., and R. Overly 1976. *Impacts of roads on big game distribution in portions of the Blue Mountains of Washington*. in S.R. Hieb, ed., Proceedings of the Elk-logging-roads symposium, University of Idaho, Moscow, Idaho. pp 62–68.
- Phillips, Spencer. 2000. *Windfalls for Wilderness: Land Protection and Land Value in the Green Mountains*. In Wilderness Science. A Time of Change Conference, Volume #2. S. McCool, D. Cole, W. Borrie and J. O'Loughlin, compilers. Proceedings RMRS-P-15-Vol-2, Rocky Mountain Research Station, USDA Forest Service, Fort Collins, CO.
- Pickton, Todd and Linda Sikorowski. October 2004. *The Economic Impacts of Hunting, Fishing and Wildlife Watching in Colorado*. Prepared for Colorado Division of Wildlife by BBC Research & Consulting, Denver, CO.
- Pitchford, M. and Malm, W., 1994. "Development and Applications of a Standard Visual Index," Atmospheric Environment, v.28, no.5, March 1994.
- Powell, Jacob H. 2003. Distribution, Habitat Use Patterns, and Elk Response to Human Disturbance in the Jack Morrow Hills, Wyoming. M.S., Department of Zoology and Physiology, May 2003.
- Prichard, D., J. Anderson, C. Correll, J. Fogg, K. Gebhardt, R. Krapf, S. Leonard, B. Mitchell, and J. Staats. 1998. Riparian area management: A user guide to assessing proper functioning condition and the supporting science for lotic areas. Technical Reference 1737-15. BLM/RS/ST-98/001+1737. Bureau of Land Management, Denver, Colorado. 136 pp.
- Prichard, D., F. Berg, W. Hagenbuck, R. Krapf, R. Leonard, S. Leonard, M. Manning, C. Noble, and J. Staats. 1999. Riparian area management: A user guide to assessing proper functioning condition and the supporting science for lentic areas. Technical Reference 1737-16. BLM/RS/ST-99/001+1737. Bureau of Land Management, Denver, Colorado. 109 pp.
- Pyke, David A, and Borman, Michael. February 1993. *Technical Note: Problem Analysis for the Vegetation Diversity Project*. US Department of Interior, BLM Oregon State Office
- Real West Natural Resource Consulting. 2005. Colorado Bureau of Land Management Statewide Programmatic Biological Evaluation For the Boreal Toad (*Bufo boreas boreas*).
- Ricklefs, Robert E. 2001. *The Economy of Nature* (5th edition). W.H.Freeman and Company, New York, NY. 550pp.
- Rinne, J.N. 1999. Fish and grazing relationships: The facts and some pleas. Fisheries Vol. 24(8), pp. 12-21.

- R-NEXUS, LLC. 2005. Draft Programmatic Biological Assessment For Southwestern Willow Flycatcher And Mexican Spotted Owl And Biological Evaluation For Western Yellow-Billed Cuckoo In Colorado For Bureau Of Land Management.
- Rogers, G.E. 1964. Greater Sage-Grouse investigations in Colorado. Colorado Game, Fish and Parks Dep. Tech. Publ. 16. 132 pp.
- Rost, G. R. and J. A. Bailey 1979. "Distribution of mule deer and elk in relation to roads." *Journal of Wildlife Management* 43(3):634-641.
- Routt County. April 3, 2003. *Routt County Master Plan*.
- Routt County. December 20, 1990. *South Steamboat Area Land Use Plan*.
- Routt County. September 1999. *Stagecoach Community Plan*.
- Routt County. September 5, 1996. *Sarvis Creek Area Plan*.
- Samuelson, Paul. 1955. *Diagrammatic Exposition of a Theory of Public Expenditure*. *Review of Economics and Statistics* 36: 387-389. Sanders, Larry, Richard Walsh, John Loomis. 1990. Toward Empirical Estimation of the Total Value of Protecting Rivers. *Water Resources Research*, Volume 26 (7): 1345-1357.
- Sanders, Larry, Richard Walsh, John Loomis. 1990. Toward Empirical Estimation of the Total Value of Protecting Rivers. *Water Resources Research*, Volume 26 (7): 1345-1357.
- Sawyer, Hall, Fred Lindzey and Doug McWhirter. 2005. *Mule Deer and Pronghorn Migration in Western Wyoming*. *Wildlife Society Bulletin*, 33: 1266-1273. Website: http://www.west-inc.com/big_game_reports.php. September 4, 2006
- Seinfeld, John H. 1986. *Atmospheric Chemistry and Physics of Air Pollution*. Wiley InterScience, New York.
- Sestak, M.L. and Riebau, A.R., 1988. SASEM simple approach smoke estimation model. Technical Note 382. Bureau of Land Management. Denver, CO.
- Shackley, M., Dillian, S., and Dillian C. 2002. *Thermal and Environmental Effects on Obsidian Geochemistry: Experimental and Archaeological Evidence*. J. M. Loyd, T. M. Origer, and D. A. Fredrickson eds. IN: *The Effects of Fire and Heat on Obsidian*. Bureau of Land Management, Cultural Resources Publication, Bishop Field Office, CA.
- Singh, H. B., F. L. Ludwig and W. B. Johnson. 1978. Tropospheric Ozone: Concentrations and Variabilities in Clean Remote Atmospheres," *Atmospheric Environments*, 12, 2185-2176.
- Solomon, M. 2002. *Fire and Glass: Effects of Fire on Obsidian Hydration Bands*. J. M. Loyd, T. M. Origer and D. A. Fredrickson eds. IN: *The Effects of Fire and Heat on Obsidian*. Bureau of Land Management, Cultural Resources Publication, Bishop Field Office, CA.
- Sonoran Institute. 2002. *Economic Profile System, Moffat and Routt Counties*. Website: <http://www.sonoran.org/eps>. June 6, 2005

- Sonoran Institute. 2004. Prosperity in the 21st Century West: The Role of Protected Lands. Tucson Arizona.
- Spath, C. (Preparer). 1999. Prepared for Anadarko Petroleum Corporation, L. Chandler and Associates, I. Texaco Exploration and Production, & Questar Pipeline Company. Ferron Natural Gas Development Plan for Cultural Resources. Price, UT: Bureau of Land Management.
- Stern, Arthur C, Henry C. Wohlers, Richard W. Boubel and William P. Lowry. 1973. Fundamentals of Air Pollution. Academic Press, New York.
- Sullivan, A. P., Uphus, P. M., Roos, C. I., and Mink, P. B. 2002. *Inadvertent Vandalism: The Hidden Challenge for Heritage Resource Management*. NPS Cultural Resources Management. Volume 25, No. 2 pp 42-45.
- Tipps, B. L. (Writer/Editor). 1988. The Tar Sands Project: An Inventory and Predictive Model for Central and Southern Utah. Cultural Resource Series Number 22. Salt Lake City, UT: Bureau of Land Management.
- Todres, Tamara, Andrew Seidl, Donald McLeod, Amy Bittner, Roger Coupal, and Kate Inman. 2003. *Preferred Public Land Use and Policy in Moffat County: Final report of a Countywide Opinion Survey*. Agricultural and Resource Policy Report (December 2003-APR 03-11). Department of Agricultural and Resource Economics, Colorado State University, Fort Collins, CO. Website: <http://dare.agsci.colostate.edu/csuaecon/extension/pubstools.htm>
- Tratebas, A. 2004. *Rock Art and Fire*. PowerPoint presentation. Available at: http://www.blm.gov/heritage/powerpoint/Alice_Tratebas_firearch2_files/frame.htm.
- TREC, Inc. 2004. Statewide Programmatic Biological Assessment for the Whooping Crane (*Grus americana*) and Bald Eagle (*Haliaeetus leucocephalus*) on BLM Lands in Colorado.
- Trewartha, Glenn T. and Lyle H. Horn. 1980. An Introduction to Climate. McGraw-Hill, New York.
- Trinity Consultants (Trinity). 2004. Draft air quality assessment report – Vernal and Glenwood Springs Resource Management Plans. August.
- Tweeto, O. 1976. Geologic Map of the Craig 1 * 2 Quadrangle, Northwestern Colorado, scale 1:250,000.
- Tweeto, O. 1979. Geological Map of Colorado: U.S. Geological Survey in Cooperation with the Colorado Geological Survey, 1:500,000.
- U.S. Department of Energy. 1986. Wind Energy Atlas of the United States: DOE/CH 100093-4.
- U.S. Fish and Wildlife Service (FWS). September 1999. Browns Park National Wildlife Refuge Comprehensive Conservation Plan.
- U.S. Fish and Wildlife Service (FWS). 1999. Proposed rule to list the mountain plover as threatened under the Endangered Species Act. Federal Register Vol. 64, No. 7587.
- U.S. Fish and Wildlife Service (FWS). 2002. *Mountain plover survey guidelines*. U.S. Fish and Wildlife Service, Denver, Colorado. 7pp.

- U.S. Fish and Wildlife Service (FWS). 2003. Comments on the JMH CAP Supplemental Draft EIS. Jodi Bush, Acting Field Supervisor, Wyoming Field Office. May 20, 2003.
- U.S. Forest Service. February 1998. Routt National Forest Land and Resource Management Plan.
- U.S. Forest Service. 2002. White River National Forest Land and Resource Management Plan.
- U.S. Geological Survey. 1995. Ground Water Atlas of the United States, Arizona, Colorado, New Mexico, Utah, HA 730-C. http://capp.water.usgs.gov/gwa/ch_c/C-text8.html. Accessed November 2004.
- U.S. Geological Survey. 1996. Energy Resource Surveys Program, Fact Sheet FS-157-96.
- U.S. Geological Survey. 2002. Assessment of Undiscovered Oil and Gas Resources in Selected Rocky Mountain Provinces for the Energy Policy and Conservation Act of 2000 (EPCA 2000), Fact Sheet FS-149-02.
- U.S. Geological Survey. 2002. Assessment of Undiscovered Oil and Gas Resources of the Uinta-Piceance Province of Colorado and Utah, Fact Sheet FS-157-02.
- U.S. Geological Survey. National Assessment of United States oil and Gas Resources, Circular 1118, Reston, VA.
- Upper Yampa Water Conservancy District. Information obtained from the website at:
<http://www.crwcd.org/whoweare.html>
- Utah Division of Oil, Gas and Mining, State of Utah, Department of Natural Resources. 1594 West North Temple, Suite 1210, Salt Lake City, Utah 84116. Website: (<http://ogm.utah.gov/default.htm>).
- Van Dyke, Fred and Wendi Klein 1996. "Response of Elk to Installation of Oil Wells." *Journal of Mammalogy* 77(4):1028–1041.
- Walsh, Richard, John Loomis, and Richard Gillman. 1984. *Valuing Option, Existence and Bequest Demands for Wilderness*. *Land Economics*, Volume 60(1): 14-29
- Wambolt, Carl and Hoffman, Trista. 2004. *Browsing Effects on Wyoming Big Sagebrush Plants and Communities*. In Hild, Ann L.; Shaw, Nancy L.; Meyer, Susan E.; Booth, D. Terrance; McArthur, E. Durant, comps. 2004. Seed and soil dynamics in shrubland ecosystems: proceedings; 2002 August 12–16; Laramie, WY. Proc. RMRS-P-31. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 216 p.
- Ward, A.L. 1976. "Elk behavior in relation to timber harvest operations and traffic on the Medicine Bow range in south central Wyoming." pp 32-34 in S.R. Hieb, ed., *Proceedings of the Elk-logging roads symposium*, University of Idaho, Moscow, Idaho.
- Webb, R.H. 1983. *Compaction of desert soils by off-road vehicles*. Pages 51-71 in: R.H. Webb and H.G. Wilshire (eds.). *Environmental effects of off-road vehicles: Impacts and management in arid regions*. Springer-Verlag. New York.

- West, N. E. 1988. Intermountain deserts, shrub steppes and woodlands. M. G. Barbour and W. D. Billings, editors, *North American Terrestrial Vegetation*. Cambridge University Press, Cambridge, UK. 209-230.
- Western Consulting Group. 2005. Colorado Statewide Programmatic Biological Assessment For Canada Lynx.
- Western Regional Climate Center (WRCC). 2002. Information obtained Online at <http://www.wrcc.dri.edu/>
- Western Regional Climate Center (WRCC). 2005. Climate Summaries via the world wide web at <http://www.wrcc.dri.edu/summary/climsmut.html> and at <http://www.wrcc.dr>
- White, R.J. 1996. *Growth and development of North American stream habitat management for fish*. Canadian Journal of Fisheries and Aquatic Sciences Vol. 53 (Suppl 1) pp. 342-363.
- Winston Associates. October 21, 2004. *Draft Hayden Comprehensive Plan*.
- Wray, L. L., Apeland, A. D., Hemborg, H. T., and Brachan, C. A. 2002. Oil and Gas Fields of Colorado: Colorado Geological Survey, Map Series 33, scale 1:500,000.
- Wyoming Game and Fish Department (WGFD). 2000. "History and Current Status of the Steamboat Elk Herd and a Brief Review of Literature Regarding Elk Response to Disturbance." Prepared for the Governor's Sub-cabinet for Natural Resources. Green River, Wyoming.
- Wyoming Oil and Gas Conservation Commission. 2211 King Blvd, Casper, Wy 82602. Website: <http://wogcc.state.wy.us/>
- Zablan, M. A. 2003. Estimation of greater sage-grouse survival in North Park, Colorado. *Journal of Wildlife Management* 67:144-154.