



JULY 6, 2021

Carbon County Natural Resource Management Plan



Natural Resource Management Plan
Y2 Consultants, LLC & Falen Law Offices

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Resolution No. 2021 – 25

A Resolution of the Board of County Commissioners of Carbon County, Wyoming.

Carbon County Natural Resource Management Plan

WHEREAS, the Carbon County Board of Commissioners (Board) acknowledges the vast majority of lands in Carbon County are public lands managed by federal and state agencies;

WHEREAS, the Board recognizes that federal and state lands are economic and cultural assets to the County that contribute to the stability and character of Carbon County;

WHEREAS, the Board recognizes the importance of local involvement in federal and state decision-making related to natural resources on public lands;

WHEREAS, the Board acknowledges that comprehensive and responsible management of local natural resources requires equal effort and participation from citizens, as well as local, state and federal agencies;

WHEREAS, the 65th Wyoming State Legislature provided funding for counties to develop county natural resource management plans to serve as a basis for communicating and coordinating with the federal government and its agencies on land and natural resource management issues;

WHEREAS, at Carbon County Board of County Commissioner's meeting on November 5, 2019, selected Y2 Consultants to assist with preparation of the Natural Resource Management Plan;

WHEREAS, the Carbon County Board of County Commissioners entered into and signed a contract agreement with Y2 Consultants to help prepare the Carbon County Natural Resource Management Plan on February, 2020;

WHEREAS, the County developed a draft natural resource management plan with the assistance of a volunteer steering committee consisting of members appointed by the Board, as well as utilizing available funding to hire Y2 Consultants to facilitate development of the plan;

WHEREAS, the *Natural Resource Management Plan for State and Federal Lands in Carbon County, Wyoming* ("NRMP") identifies objectives and priorities for the use, development and protection of natural resources and land in the County and is based on criteria established by the Governor's office and includes a provision for updating or revising the NRMP;

WHEREAS, the draft NRMP was made available for public inspection more than forty-five (45) days prior to the public hearing scheduled for Tuesday, June 15, 2021;

WHEREAS, pursuant to Wyo. Stat. Ann. §16-3-101-115, the Carbon County Board of County Commissioners scheduled a public hearing for Tuesday, June 15, 2021, which said public hearing was advertised by public notice at least forty-five (45) days prior to said hearing date take public input and comments on the proposed natural resource management plan;

WHEREAS, at the Tuesday, June 15, 2021, public hearing, the Carbon County Board of County Commissioners provided the public the opportunity to comment and for the Carbon County Board of County Commissioners to consider any public comments which were submitted in writing or made at said public hearing on the proposed natural resource management plan;

WHEREAS, at the conclusion of the Tuesday, June 15, 2021, public hearing, the Carbon County Board of County Commissioners tabled the request until Tuesday, July 6, 2021;

WHEREAS, the Carbon County Board of County Commissioners held and reopened said public hearing on Tuesday, July 6, 2021; and provided the public the opportunity to comment; and

WHEREAS, at the conclusion of said Tuesday, July 6, 2021, public hearing, the Carbon County Board of County Commissioners, by majority vote, the Carbon County Board of County Commissioners moved to adopt the "Carbon County Natural Resource Management Plan".

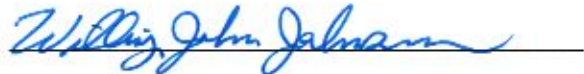
**NOW THEREFORE BE IT RESOLVED BY THE
BOARD OF COUNTY COMMISSIONERS OF CARBON COUNTY, WYOMING:**

That the Carbon County Board of County Commissioners hereby adopts the "Carbon County Natural Resource Management Plan".

PRESENTED, READ, AND ADOPTED at a regularly scheduled meeting of the Board of County Commissioners of Carbon County, Wyoming, on this 6th day of July, 2021.

**BOARD OF COUNTY COMMISSIONERS OF
CARBON COUNTY, WYOMING**

By:



Willing John Johnson, Chairman
On behalf of the Carbon County
Board of County Commissioners

Attest:





Gwynn G. Bartlett, Carbon County Clerk

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ACRONYMS

ACEC - Areas of Critical Environmental Concern
ACHP - Advisory Council on Historic Preservation
AML - Appropriate Management Level
APHIS - Animal and Plant Health Inspection Service
ARPA - Archeological Resources Protection Act
AUM - Animal Unit Month
BGEPA - Bald and Golden Eagle Protection Act
BJFTA - Bankhead-Jones Farm Tenant Act
BLM - Bureau of Land Management
BMP - Best Management Practice
BOCC - Board of County Commissioners
BOR - Bureau of Reclamation
CAP-SSE - Community Assistance Program – State Support Services
CCA - Candidate Conservation Agreements
CCSM - Chokecherry Sierra Madre
CCWP - Carbon County Weed and Pest
CDNST - Continental Divide Trail National Scenic Trail
CE/CX - Categorical Exemption/ Categorical Exclusion
CEQ - Council on Environmental Quality
CWA - Clean Water Act
CWPP - Community Wildfire Protection Plan
EA - Environmental Assessment
EIS - Environmental Impact Statement
EPA - Environmental Protection Agency
ERMA - Extensive Recreation Management Area
ESA - 1973 Endangered Species Act
ESD - Ecological Site Descriptions
FAST - Fixing America’s Surface Transportation Act
FDQA - Federal Data Quality Act
FEMA - Federal Emergency Management Agency



FERC - Federal Energy Regulatory Commission
FHWA - Federal Highway Administration
FLAP - Federal Lands Access Program
FLPMA - Federal Land Policy and Management Act of 1976
FLTP - Federal Lands Transportation Program
GGRB - Greater Green River Basin
GHMA - General Habitat Management Area
GHG - Greenhouse Gas
GLO - General Lands Office
GPC - Groundwater Pollution Control
HMAs - Herd Management Areas
IRA - Inventoried Roadless Area
LSRCD - Little Snake River Conservation District
LSRCD NRMP - Little Snake River Conservation District Land, Water, and Natural Resource Management Plan
LUP - Land Use Plan
LWC - Lands with Wilderness Characteristics
LWCF - Land and Water Conservation Fund Act of 1964
MBCD - Medicine Bow Conservation District
MBCD LRNRMP - Medicine Bow Conservation District Long Range and Natural Resource Management Plan
MBRNF - Medicine Bow-Routt National Forest
MBTA - Migratory Bird Treaty Act
MOA - Memorandum of Agreement
MOU - Memorandum of Understanding
MUSY - 1960 Multiple Use Sustained Yield Act
NAAQS - National Ambient Air Quality Standards
NEPA - 1973 National Environmental Policy Act
NFHL - National Flood Hazard Layer
NFIP - National Flood Insurance Program
NFMA - 1976 National Forest Management Act
NHPA - National Historic Preservation Act



NISIMS - National Invasive Species Management System
NNL - National Natural Landmark
NPS - National Park Service
NRCS - Natural Resource Conservation Service
NRMP - Natural Resource Management Plan
NWR - National Wildlife Refuge
OAA - 1897 Organic Administration Act
OHV - Off-Highway Vehicle
OMB - Office of Management and Budget
PFC - Proper Functioning Condition
PHMA - Priority Habitat Management Area
PILT - Payments In Lieu of Taxes
PRPA - Paleontological Resource Protection Act
PSA - Pipeline Safety Act
REE - Rare Earth Elements
RMP - Resource Management Plan
RNA - Research Natural Area
ROD - Record of Decision
RSGA - Rock Springs Grazing Association
RTP - Recreational Trails Program
SAR - Search and Rescue
SERCD - Saratoga-Encampment-Rawlins Conservation District
SERCD LRLU NRMP - Saratoga-Encampment-Rawlins Conservation District Long Range Land Use and Natural Resource Management Plan
SGNC - Species of Greatest Conservation Need
SIC - Standard Industrial Classification
SIP - State Implementation Plan
SFM - Saratoga Forestry Management
SRMA - Special Recreation Management Area
SWAP - State Wildlife Action Plan
TMDL - Total Maximum Daily Load



TWE - TransWest Express
UAA - Use Attainability Analysis
USACE - US Army Corps of Engineers
USFS - United States Forest Service
USFWS - United States Fish and Wildlife Service
USGS - United States Geological Survey
USRS - United States Reclamation Service
W&WP - Water & Wastewater Program
WDEQ - Wyoming Department of Environmental Quality
WEQA - Wyoming Environmental Quality Act
WFRHBA - Wild-Free Roaming Horses and Burros Act
WGFD - Wyoming Game and Fish Department
WOGCC - Wyoming Oil and Gas Conservation Commission
WOTUS - Water of the United States
WQD - Water Quality Division
WSA - Wilderness Study Area
WSEO- Wyoming State Engineers Office
WSFR - Wildlife and Sport-Fish Restoration
WSGS - Wyoming State Geological Survey
WSGWG - Wyoming Sage Grouse Working Group
WSHPO - Wyoming State Historic Preservation Officer
WUI - Wildland Urban Interface
WWDC - Wyoming Water Development Commission
WWDO - Wyoming Water Development Office
WYDOT - Wyoming Department of Transportation



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CHAPTER 1: INTRODUCTION

1.1 PURPOSE

1.1.1 Natural Resource Management Plan

A Natural Resource Management Plan (NRMP) is a document prepared and adopted by a local government that federal agencies are required to review and consider when making decisions that may affect the local area. Locally elected governments and elected officials have far-ranging and important responsibilities to their constituents, described by Wyoming State Statute as protecting their “health, safety and welfare” (Wyo. Stat. §§ 18-3-504(v); 18-5-208(a)). That responsibility includes specifically interacting with federal agencies on all federal issues impacting the local community and counties. Rural counties’ socioeconomic well-being, health, safety, and culture are impacted by the management of surrounding federal and public lands. To give locally elected governments the strongest voice possible during “government-to-government” interactions, local governments can formally adopt local NRMPs. These plans establish policy regarding the use and management of federal lands in local governments’ jurisdictions and can influence the development and implementation of federal policies, programs, and decision-making that affect local communities. NRMPs are intended to help protect the local citizens’ use of, and access to, federally-administered lands and resources and ensure the socioeconomic wellbeing, culture, and customs of a local community are adequately considered in federal decisions. (Budd-Falen, 2018)

These local NRMPs do not regulate the use of private lands and do not constitute zoning. Land use plans are generally associated with the planning document that counties use to determine zoning on private lands. An NRMP is a separate type of land use plan prepared by rural counties and conservation districts, containing policies relating to the management of federal and public land within a county and reflecting the local government’s position on federal decisions concerning those lands. (Budd-Falen, 2018)

Local governments do not have jurisdiction over the federal government or federal lands. NRMPs cannot require federal agencies to take specific actions. However, federal agencies and departments are mandated by various federal statutes to engage local governments during decision-making processes on federal plans, policies, and programs that will impact the management of land and natural resources within a community and ultimately affect the local tax base and lives of local citizens. Federal agencies are required to coordinate and consult with local governments and give meaningful consideration to policies asserted in written plans prepared and adopted by local governments concerning the management of federal lands in their area. (Budd-Falen, 2018)

Counties are particularly well-suited to understand the impacts of federal land management decisions on the local economy, custom, and culture. Under Wyoming statute, a county is deemed to have special expertise on all subject matters for which it has statutory responsibility including, but not limited to, all subject matters directly or indirectly related to the health, safety, welfare, custom, culture, and socio-economic viability of a county (Wyo. Statute § 18-5-208(a)). This Carbon County NRMP serves as a basis for communicating and coordinating with the federal



government and its agencies on land and natural resource management and use within Carbon County. The further use of the word “County” in this document refers to Carbon County.

1.2 STATUTORY REQUIREMENTS AND LEGAL FRAMEWORK

Federal agencies are required to identify and analyze the impacts on local economies and community cultures when making decisions. NRMPs outline the present economic and cultural conditions and desired future conditions of a county and demonstrate how those conditions are tied to activities on adjoining federal lands. The plan establishes the local government’s preferred policies for the planned use, management, conservation, protection, and preservation of natural resources on the federal and public lands within its jurisdiction. The goals of an NRMP are to protect private property, the local tax base, and local custom and culture. An adopted NRMP is a critical tool that allows a local government to have a substantive impact on federal decisions, plans, policies, and programs. A written plan can play a key role in the success of a local government engaging the federal government. (Budd-Falen, 2018)

Required engagement between federal agencies and local governments takes the form of “consistency review” under the National Environmental Policy Act (NEPA) and the Federal Lands Policy and Management Act (FLPMA), the requirement for “coordination” under both FLPMA and the National Forest Management Act (NFMA), engaging local governments acting as a “cooperating agency” under NEPA, and the Wyoming State Governor’s consistency review process.

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) applies to “every major Federal action significantly affecting the quality of the human environment” (42 U.S.C. § 4332(2)(C)). The courts have interpreted this to mean that every time the federal government makes a decision, for almost any action that may have an environmental impact, NEPA compliance is required. Some courts have even required agencies to follow NEPA when the agency spends a small amount of money on a project or program when they are not the lead agency (See *e.g., Citizens Alert Regarding the Environment v. United States Environmental Protection Agency*, 259 F. Supp.2d 9, 20 (D.D.C. 2003)). On July 16 of 2020, the Council on Environmental Quality (CEQ) announced major regulatory reforms to NEPA, including new rules trying to clarify what is a “major federal action” (See 85 F.R. 43304 (July 16, 2020)). The CEQ regulations define a “Major Federal Action” as “an activity or decision subject to federal control and responsibility” (40 C.F.R. § 1508.1(q)). However, those activities and decisions are limited to those decisions that are discretionary or in which the federal government has sufficient control and responsibility over the outcome of the project. This means that those projects that the government has a minor role in are not included. Further, minor actions that do not typically have a significant effect on the human environment (such as allowing certain range improvements on a grazing allotment) are categorically exempt from NEPA (40 C.F.R. § 1508.1(d)).

NEPA requires that agencies undertake an environmental analysis to determine whether a federal action has the potential to cause significant environmental effects. If a proposed action has been classified by an agencies’ procedures as a categorical exclusion because it does not



individually or cumulatively have a significant effect on the human environment, then no further environmental analysis is needed (40 C.F.R. § 1501.1). If a categorical exclusion does not apply to a proposed action, then the federal agency must prepare an Environmental Assessment (EA) to determine whether the proposed action will have a significant impact on the quality of the human environment. If a proposed major federal action is determined to significantly affect the quality of the human environment, federal agencies are required to prepare an Environmental Impact Statement (EIS). The regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA. There are several ways local governments can participate in the NEPA process depending on the level of analysis, type of federal decision, level of commitment of the local government, and the goals of the local government.

First, local governments can use the NRMP as part of the federal agencies' "consistency review" process. Under this provision, if a federal agency receives a local plan while writing an EIS or EA, NEPA commands the federal agency to "discuss any inconsistency of a proposed action with any approved state or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the [environmental impact] statement should describe the extent to which the [federal] agency would reconcile its proposed action with the [local government] plan or law" (40 C.F.R. §§ 1506.2, 1506.2(d)). For local governments to take advantage of consistency review requirements, a written and adopted local NRMP is required. With a written NRMP, this analysis happens even when the local government does not know about the pending decision or action if the NRMP was provided in advance to the reviewing federal agency.

NEPA requires that copies of comments from state or local governments accompany the EIS or EA throughout the review process (42 U.S.C. § 4332(2)(c)). As there is no requirement for federal agencies to discuss the inconsistencies of a proposed action with comments from state or local governments, written comments submitted by a local government not tied to a formally adopted NRMP require less rigorous analysis than those tied to an adopted NRMP.

Local governments can participate in the NEPA process as a "cooperating agency" (40 C.F.R. § 1508.5), an action separate from NRMP review. If a local government believes that a proposed federal action will impact the local government, and the local government wants to be involved in the analysis and decision-making process at its inception, the government may request "cooperating agency status" to the deciding federal agency. "Cooperating agency status" allows local governments to work with federal agencies throughout the development of a federal plan or proposal, including before public feedback is solicited. It does not require a written NRMP prepared by local governments. Should a local government request cooperating agency status for a particular agency proposed action (for example, the designation of critical habitat for a listed threatened or endangered species), the local government can, at the request of the lead agency, participate in drafting portions of the relevant NEPA document (40 C.F.R. § 1501.6(b)(3)). This can involve identifying appropriate scientific data, assisting with alternative development for the proposed federal action, and ensuring that the discussion of impacts to the local economy or the local citizens is accurate. An NRMP, while not required, can aid this analysis. Cooperating agency status can be reserved for more significant federal decisions likely to have a larger impact on a community and is not required for every federal action.



Pursuant to NEPA, an applicant for cooperating agency status must be a locally elected body such as a conservation district, board of supervisors, or a county commission; and possess “special expertise.” A local government’s special expertise is defined as the authority granted to a local governing body by state statute.

Participation in federal processes as a cooperating agency can be expensive, time-consuming, and cumbersome and may be particularly challenging for communities with limited resources. An NRMP ensures that the federal agency addresses the county’s policies for virtually every federal decision without the burden of cooperating agency status.

The National Forest Management Act

The National Forest Management Act (NFMA) governs the United States Forest Service (USFS) and requires the agency to “coordinate”. The NFMA requirements are as follows:

[T]he Secretary of Agriculture shall develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System, coordinated with the land and resource management planning processes of State and local governments and other Federal agencies (16 U.S.C. § 1604(a)).

The fact that the USFS is directed to “coordinate” with local governments implies, by its plain meaning, that the USFS must engage in a process that involves more than simply “considering” the plans and policies of local governments; it must attempt to achieve compatibility between USFS plans and local NRMPs.

The Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA), which governs the Bureau of Land Management (BLM), provides detailed requirements for “coordination” and “consistency” with local NRMPs. Regarding the requirements for “coordination”, FLPMA states that the BLM must:

To the extent consistent with laws governing the administration of the public lands, coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies and of the State and local governments within which the lands are located [...] by considering the policies of approved State and tribal land resource management programs (43 U.S.C. § 1712(c)(9)).

Such coordination is to be achieved by:

- To the extent practicable, the BLM must stay apprised of local land use plans.
- The BLM must assure that local land use plans germane to the development of BLM land use plans are given consideration.
- To the extent practicable, the BLM must assist in resolving inconsistencies between local and BLM land use plans.

- The BLM must provide for the meaningful involvement of local governments in the development of BLM land-use programs, regulations, and decisions. This includes early notification of proposed decisions that may impact non-federal lands. (43 U.S.C. § 1712(c)(9))

Additionally, FLPMA requires BLM land use plans to be consistent with local land use plans, provided that achieving consistency does not result in a violation of federal law. FLPMA states: “Land use plans of the Secretary [of the Interior,] under this section shall be consistent with state and local plans to the maximum extent he finds consistent with federal law and the purposes of this Act” (43 U.S.C. § 1712(c)(9)).

In other words, FLPMA requires both “coordination” and “consistency review.” Coordination should include both regularly scheduled meetings between the various local governments and BLM managers, as well as inviting local BLM staff to local government meetings (Bureau of Land Management, 2012). Pursuant to FLPMA’s consistency review requirement, if a BLM land-use plan is inconsistent with a local land use plan, the BLM owes an explanation of how achieving consistency would result in a violation of federal law (43 U.S.C. § 1712(c)(9)).

National Park Service

The National Park Service (NPS) was established by the Organic Act in 1916 to manage 14 national parks and 21 national monuments. The Preservation of Historic Sites Act of 1935, the Wilderness Act of 1964, and the Wild and Scenic Rivers Act of 1968 all contributed to the evolution of the NPS and how the agency managed park land. NEPA and the Endangered Species Act (ESA) of 1969 and 1973 increased the complexity and prevalence of science in park management. Throughout this period, the NPS had grown to solely oversee all the nation’s parklands, this included parks previously held by the War Department, the national monuments previously managed by the USFS, and the parks which resided in Washington D.C. The National Park Omnibus Management Act of 1998 increased accountability and improved management for multiple NPS programs. This legislation required that the NPS receive authorization from Congress prior to studying potential areas for addition to the National Park System (NPS, n.d.-b).

In accordance with Executive Order 13352, the NPS is required to carry out its natural resource management responsibilities in a cooperative manner that considers the interests of individuals “with ownership or other legally recognized interest in land and other natural resources”. NPS is also expected to accommodate local participation in federal decision-making (Executive Order 13352, 2004).

Wyoming Governor’s Consistency Review Process

FLPMA also requires that the BLM provide for a governor’s consistency review as part of their land use planning process (43 C.F.R. § 1610.3-2(e)). State governors are entitled to an additional and entirely separate review of BLM land use plans, revisions, and amendments; this provides an opportunity to identify any inconsistencies with state or local plans. If a governor’s comments result in changes to the plan, public notification of these changes is required. The governor may also refer to policies in the NRMP in their review of the proposed federal action.



1.3 CARBON COUNTY NATURAL RESOURCE MANAGEMENT PLAN PROCESS

1.3.1 NRMP Organization Resource Assessment/Objectives/Priority Statements

This NRMP considers the history/customs/culture of the resource, current conditions of federal resources, Carbon County objectives for each resource, and how the County would like to see those objectives achieved. For all federal resources in the county, this plan addresses the following:

- **History, Customs, and Culture.** Includes historical information on the resource and how that resource is important to the custom and culture of Carbon County.
- **Resource Assessment and Legal Framework.** Includes background and detailed information on the resource, including qualitative as well as quantitative information. The assessment includes an evaluation of the importance of the resource to the county, location, quality, and size, as well as a map of the resource, where appropriate. The Resource Assessment relies on the best data available at the time of publication. The Resource Assessment addresses the question, “What is the state of the resource now?” This section does not describe how the County interprets or proposes to use a particular resource or topic. This section also describes how federal agencies are interpreting federal laws, guidance, and handbooks.
- **Resource Management Objectives.** Describes general goals in the form of broad policy statements regarding the use, development, and protection of each resource. Resource Management Objectives address the question, “What does the county want for and from this resource?”
- **Priority Statements.** Describes specific priorities on how to achieve the County’s Resource Management Objective for each resource. Priorities tier to Resource Management Objectives for each resource and address the question, “How would the county like to see its objectives achieved?” The general agreement or disagreement with the interpretation described in the Resource Assessment section should be used as the defining direction for the priority statements.

1.3.2 Process

Consistent with Wyo. Stat. § 9-4-218(a)(viii)(D) and in accordance with Wyo. Stat. §§ 16-4-401 through 16-4-408, Carbon County, with assistance from an appointed steering committee, has guided the development of the document, including objective and priority development. A public meeting was held on December 8, 2020, to inform the public of the purpose and intent behind the plan and ask for public input on the plan while still in the drafting phase.

The amended 2012 Carbon County Comprehensive Land Use Plan along with the 2017 Medicine Bow Conservation District Long Range Plan, 2017 Saratoga-Encampment-Rawlins Conservation District Long Range Plan, and 2015 Little Snake River Conservation District Long Range Plan were referenced in the development of this plan. A steering committee comprised of seven people



guided the development of the draft document, including objective and priority development. See [Appendix B](#) for a list of steering committee members.

The draft document was released for public comment for 30 days beginning on February 16, 2021, and ending on March 17, 2021. Written comments received during the public comment period were incorporated into the final plan as appropriately determined by the steering committee. Public meetings were held during the public comment period on March 3 and March 4, 2021, allowing the public to participate and contribute to the plan as well as ask questions regarding the plan. The public meetings were held virtually with viewing locations in Rawlins and at the Conservation District Offices in Medicine Bow and Saratoga. Public comments received during the public comment period and the responses to those comments can be found in [Appendix C](#). The final plan was presented to the Carbon County Board of County Commissioners for final adoption in July of 2021.

This NRMP is based on criteria developed by the Office of the Governor of the State of Wyoming in consultation with the counties, consistent with Wyo. Stat. § 9-4-218(a)(viii)(B).

1.3.3 Amending the Natural Resource Management Plan

This plan can be amended following the same process for public involvement and adoption as described in the previous section. It is recommended to review the plan every five years.

1.3.4 County Expectations for Natural Resource Management Plan

While the statutes and regulations outlined above spell out the legal requirements of federal agencies in their duties in dealing with local governments, Carbon County recognizes that part of this land-use planning process is to develop a solid working relationship with the federal agencies operating in Carbon County. The County also recognizes that “coordination,” “cooperating agency status,” and “consistency review” require actions on behalf of both federal agencies and local governments. To that end, Carbon County commits to the following actions:

1. Within 60 days of the date of adoption of this plan, Carbon County will inform the federal agencies of the date, time, and location of their regularly scheduled County Commissioner meetings with an open invitation for federal agency personnel to attend such meetings if there are proposed decisions or issues to discuss. At a minimum, Carbon County would like a quarterly update from the federal agencies on the following topics:
 - a. Minerals
 - b. Wildlife
 - c. Livestock grazing
 - d. Invasive species management
 - e. Road improvements
 - f. Any proposed changes to access of public lands
 - g. Any decisions that may affect water quality, water rights, or obligations to current interstate water compacts
 - h. Proposed land exchanges or purchases



- i. An update on all permits or management decisions awaiting a final decision from the agency, including the length of time the permittee has waited on a decision and proposed timelines for the agency to make those pending decisions
2. Within 60 days of the date of adoption of this plan, Carbon County will transmit a copy of this local Natural Resource Management Plan to federal and appropriate state agency offices operating within Carbon County for their consideration as part of any consistency review that is required pursuant to federal statute. Those agencies include:
 - a. Bureau of Land Management – Rawlins Field Office (Rawlins, WY)
 - b. Bureau of Land Management - Lander Field Office (Lander, WY)
 - c. Bureau of Land Management – Wyoming State Office (Cheyenne, WY)
 - d. U.S. Forest Service – Brush Creek/Hayden Ranger District (Saratoga, WY)
 - e. U.S. Forest Service – Medicine Bow-Routt National Forests, Thunder Basin National Grassland (Laramie, WY)
 - f. U.S. Fish and Wildlife Service - Region 6 Office (Lakewood, CO)
 - g. U.S. Fish and Wildlife Service – Wyoming Ecological Services Office (Cheyenne, WY)
 - h. Bureau of Reclamation – Wyoming Area Office (Casper, WY)
 - i. Environmental Protection Agency– Region 8 Office (Denver, CO)
 - j. Wyoming Governor’s Office (Cheyenne, WY)
 - k. Wyoming Department of Environmental Quality (Cheyenne, WY)
 - l. Wyoming Game and Fish State Office (Cheyenne, WY)
 - m. Office of State Lands and Investments (Cheyenne, WY)
 - n. Wyoming Oil and Gas Conservation Commission (Casper, WY)
 - o. Wyoming Department of Agriculture (Cheyenne, WY)
3. Within 60 days of the adoption of this plan, Carbon County will contact the above-listed agencies' offices to determine a protocol for informal communication that should occur so that each is apprised of proposed actions, issues, and concerns as early as possible.
4. In a timely manner, Carbon County will review NEPA documents to determine if they will request “cooperating agency status” and will consider entering into Memorandums of Understanding (MOU) or Memorandums of Agreement (MOA) as appropriate. The County reserves the right to negotiate an MOU or MOA on a case-by-case basis, although an MOU or MOA is not appropriate nor necessary in all cases.

The Carbon County Commissioners invite and welcome all agencies to their monthly Commission meetings to give an update on any items that need to be discussed. Citizens of Carbon County are also welcome to Commission meetings. The County Commissioner meetings are typically held on the first and third Tuesday of every month, the official schedule can be found on the Carbon County [website](#)¹ (**Note: all website links found throughout this document are located in Appendix A**). To assist in keeping an open line of communication and simplify coordination and scheduling between Carbon County and the federal agencies, all correspondences between the agency and the County will be initially directed to a County point of contact. That point of contact will be identified to the agencies in a letter following the adoption of this NRMP and agencies will be notified via letter within two weeks if a new County point of contact is assigned.



1.3.4.1 Resource Management Objectives (County Expectations):

- A. Carbon County's special expertise is acknowledged regarding the natural resources within the County.
- B. Local government policies are a key factor in decisions made affecting federal and state resource plans, policies, and programs that will impact the management of land and natural resources within Carbon County.
- C. Carbon County has an established relationship with local federal agencies in which the agencies regularly coordinate and allow the County to participate as a cooperating agency for any federal action as the County deems appropriate.
- D. The Carbon County Natural Resource Management Plan (NRMP) is reviewed by the federal agencies while generating their land use plans to ensure that the proposed land use plan is coordinated with this NRMP to the greatest extent possible.
- E. The federal agencies conduct a consistency review with the Carbon County Natural Resource Management Plan for every proposed National Environmental Policy Act decision the agency makes that may affect the County, the natural resources within the County, or its citizens.
- F. Federal agencies consider the economic well-being and custom and culture of Carbon County and its citizens when making decisions affecting natural resources within the County.

1.3.4.2 Priorities (County Expectations):

- 1. Federal agencies shall notify Carbon County and conduct a consistency review of any agency action inconsistent with any of the objectives or priorities within this Carbon County Natural Resource Management Plan, as appropriate, pursuant to the Federal Land Policy Management Act and the National Environmental Policy Act.
- 2. Federal agencies should inform Carbon County of all proposed projects, decisions, and actions that may affect the County and allow the County to participate as a cooperating agency and coordinate with agencies at the earliest time in the planning process.
- 3. Federal agencies should give regular (where regular is defined as not less than quarterly) updates on the permit status for current and proposed projects within Carbon County's jurisdiction and support reasonable timelines and explanations for issuance of delays from permitting agencies.
- 4. Federal agencies should achieve a sustainable land use balance between economic growth, energy development, recreation, agriculture, wildlife, conservation use of lands, quality of life, Carbon County's custom and culture, and the environment by coordinating with Carbon County on all decisions.
- 5. Federal agencies should support traditional multiple land uses to maintain continuity in the local economy and assure the sustainability of existing agricultural, recreational, and industrial interests while maintaining or improving the present environmental quality of life.
- 6. Federal agencies should, in conjunction with local, state, and federal planning partners, develop economically sustainable strategies to maintain working ranches. Federal planning-level and project-level National Environmental Policy Act documents shall

encourage proper characterization and analysis of the area, recognizing the benefit of ecosystem services provided by working ranches adjacent to or near public lands.

7. Federal agencies in conjunction with Carbon County should develop and promote the use of resources for economic diversity that maintain quality of life and the County's custom and culture.
8. Federal agencies should maintain Carbon County's culture of open access, multiple use, agriculture, and rural communities.
9. Federal agencies should promote projects that improve the health and sustainability of public lands within Carbon County.
10. Carbon County should be apprised, at minimum, annually of the progress of population recovery objectives for each threatened and endangered species found in Carbon County.
11. A full analysis of the impact each alternative and subsequent "decision" will have on the local Carbon County economy should be conducted by the federal agencies. If it is determined that the alternative will have significant negative impact on the local economy, the alternative/decision is not supported by Carbon County.
12. Federal agencies should inform and encourage those impacted by decisions to substantively participate in scoping processes on National Environmental Policy Act decisions.

1.4 CREDIBLE DATA

To the greatest extent possible, credible data should drive all land use planning decisions. In this plan, "credible data" refers to information that meets, at a minimum, the Federal Data Quality Act (FDQA). Credible scientific data is defined as rigorously reviewed, scientifically valid chemical, physical, and/or biological monitoring data, collected in a timely manner under an accepted sampling and analysis plan's confirmed written approval by the federal/state agency, including quality control and assurance procedures and available historical data (Law Insider, n.d.). The FDQA directs the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies." (Sec. 552(a) Pub. Law. 106-554; HR 5658; 114 Stat. 2763 (2000))

The OMB guidelines apply to all federal agencies and require that information disseminated by the federal government will meet basic informational quality standards (66 Fed. Reg. 49718, (Sept. 28, 2001); see also 67 Fed. Reg. 8452, (Feb. 22, 2002)).

This "standard of quality" essentially requires that data used and published by all federal agencies meet four elements. Those elements are:

- 1) Quality,
- 2) Utility (i.e., referring to the usefulness of the data for its intended purpose),
- 3) Objectivity (i.e., the data must be accurate, reliable, and unbiased), and
- 4) Integrity (66 Fed. Reg. at 49718).



In addition to following the OMB guidelines, all federal agencies were to issue data quality guidelines by October 1, 2002 (67 Fed. Reg. 8452). In 2004, the OMB issued a memorandum requiring that, after June 15, 2005, influential scientific information representing the views of the department or agency cannot be disseminated by the federal government until it has been “peer-reviewed” by qualified specialists (Office of Management and Budget, 2004). This requirement does not specifically require outside peer review, but an internal review.

Many federal agencies and some state agencies have respective handbooks that lay out their credible data standards. A list and links to these handbooks are provided below:

- BLM [1283 Data Administration and Management \(Public\) 2012](#)²
- Bureau of Reclamation (BOR) – [Quality of Information](#)³
- Environmental Protection Agency (EPA) - [EPA Quality System Guidelines](#)⁴
- U.S. Army Corps of Engineers (USACE) – [Information Management Enterprise Data Management Policy Corporate Information](#)⁵
- USFS – [Forest Service Handbook 1909.12 – Land Management Planning Handbook Chapter 40 – Key Processes Supporting Land Management Planning](#)⁶
- U.S. Fish and Wildlife Service (USFWS) – [Data Standards](#)⁷
- Wyoming Department of Environmental Quality (WDEQ) – [WDEQ Standards](#)⁸

1.4.1 Resource Management Objective (Credible Data):

- A. Credible data has a universal meaning for all federal agencies and is the basis for all agency decisions affecting public lands in Carbon County.

1.4.2 Priorities (Credible Data):

1. Federal and state agencies should include quantitative data in land use planning processes that meet credible data criteria, even if the data were not produced by a federal agency.
2. Federal and state agencies should only consider and use credible scientific data in all federal land-use decisions.
3. Federal agencies should adopt a universal definition of credible data consistent with the Carbon County Natural Resource Management Plan and federal law.
4. Federal and state agencies should only use and consider data that meets the minimum criteria described in their respective handbooks when making land management decisions, unless other criteria are agreed upon between Carbon County and federal agencies.
5. Federal agencies should use the best available science when making management and enforcement decisions affecting public lands within Carbon County.
6. Federal agencies should work with cooperating agencies in making sound natural resource decisions that are scientifically based, legally defensible, sensitive to resource health, and responsive to multiple-interest users.
7. Federal agencies should be transparent in all decisions and show the source for all data and studies used in agency decisions.

CHAPTER 2: CARBON COUNTY CUSTOM AND CULTURE

2.1 COUNTY INTRODUCTION AND OVERVIEW

2.1.1 Carbon County History, Customs, and Culture

County Commissions in the State of Wyoming have been charged with responsibility for the preservation of the custom and culture of Wyoming counties in matters relating to NEPA and federal land planning. Since the customs, culture, and history of Carbon County are inseparably tied to the use of and access to land and resources managed by federal agencies, the Board of County Commissioners will use the policies set forth in this NRMP to represent the vital interests of the County in federal natural resource planning efforts.

Carbon County was one of five original counties established in the Wyoming Territory in 1868. The County has a rich and diverse history. Indigenous peoples and then trappers, mountain men, railroad builders, ranchers, and miners appreciated the vast abundance of natural resources present. In the 1860s, emigrants heading west through the area utilized the Overland Trail. Hunting and fishing were prized in the area, and throughout the 1870s sportsmen came from as far away as England and Scotland to participate in these activities. The first black-faced sheep were brought to the area in 1868 by a government trapper. The Red Desert, Great Divide Basin, and Rawlins areas became well-known for sheep production, and starting in the 1880s, sheep and cattle ranches sprang up throughout Carbon County. Logging began in the late 1860s when log ties from the mountains were floated down the North Platte River to supply ties for building the Union Pacific Railroad. Logging and timber production continued after the railroad was built to provide lumber for those settling in the area. (Saratoga-Encampment-Rawlins Conservation District, 2017)

The custom and culture of Carbon County were developed through the tenacity of early emigrants and settlers who developed the area, utilizing the natural resources available to develop economic stability for the residents of Carbon County and its communities. Agricultural industry opportunities in the County expanded in the late nineteenth century along with the population. With a need for research to improve production agriculture, a University of Wyoming Agricultural Experiment Station was developed near Saratoga. (Saratoga-Encampment-Rawlins Conservation District, 2017)

Today the agricultural lifestyle remains a strong component of Carbon County and the way of life for its residents. Additionally, the expansion of the energy industry – including oil, natural gas, and wind – is a driving force in the economy and can provide for future population growth throughout the area. Important to residents is the connection and access to abundant natural resources in the area and the ability to engage in recreation, including both motorized and non-motorized activities. Maintaining traditional historical land uses – farming, livestock grazing, energy development, guest ranching, and recreation such as hunting and fishing – that contribute to the economic viability of the area, is crucial to sustaining the communities within Carbon County. (Saratoga-Encampment-Rawlins Conservation District, 2017)



Currently, agriculture within Carbon County consists primarily of ranching. Most livestock operations are cow-calf and yearling cattle operations. Other types of livestock are also present including sheep. Hay production consists of both alfalfa and grass hay with most irrigation provided by direct flow diversions from the North Platte River, Little Snake River, and their tributaries. Local land users depend on federal lands to varying degrees for commodity use (agriculture, livestock grazing, timber, and mining) and recreational enjoyment. Local economies derive a significant source of income from these public lands – from the mineral/oil and gas industry to agriculture to recreation and tourism. (Saratoga-Encampment-Rawlins Conservation District, 2017)

2.1.2 County Overview

Carbon County, named for its extensive coal deposits, is located in south-central Wyoming, just north of the Colorado border (Figure 1). Carbon County holds various mountain ranges including the Sierra Madres, Ferris Mountains, Freezeout Mountains, Haystack Mountains, Medicine Bow Mountains, Pedro Mountains, Seminoe Mountains, Shirley Mountains, and the Snowy Range Mountains. Elk Mountain, in the Medicine Bow Mountains, is the highest elevation in the County at 11,162 feet, the lowest elevation in the County is 6,168 feet. The North Platte River flows south to north through Carbon County on the eastern side of the Continental Divide. The Encampment River and Medicine Bow River are major tributaries to the North Platte River. The Little Snake River flows east to west across the south-western portion of the County on the west side of the Continental Divide eventually flowing into the Yampa River in Colorado, which is a tributary to the Green River.

The settlement of present-day Carbon County began in the late 1840s, primarily by settlers using the Overland Trail, fur trappers, sportsmen, sheep and cattle ranchers, miners, and railroad developers (Carbon County, Wyoming | WyoHistory.Org, n.d.). Carbon County was formally established in 1868. Eventually, Sheridan, Johnson, and Natrona counties were established through division from the original Carbon County borders.

The total population of Carbon County, according to 2019 U.S. Census data, is 14,800 persons. The population is largely rural, with about half the population living within the ten incorporated towns. The ten incorporated towns include Baggs, Dixon, Elk Mountain, Encampment, Hanna, Medicine Bow, Rawlins, Riverside, Saratoga, and Sinclair. Unincorporated communities within Carbon County include Arlington, Ryan Park, Leo, McFadden, Muddy Gap, Savery, Walcott, and Woodedge.

The third-largest county in Wyoming, Carbon County spans over 5 million acres (7,964 square miles). Fifty-three percent of the land in Carbon County is federally owned, with the largest portions being held by the BLM and the USFS, with small acreages being held by the BOR and USFWS. Table 1 and Figure 2 below show the surface management within Carbon County.



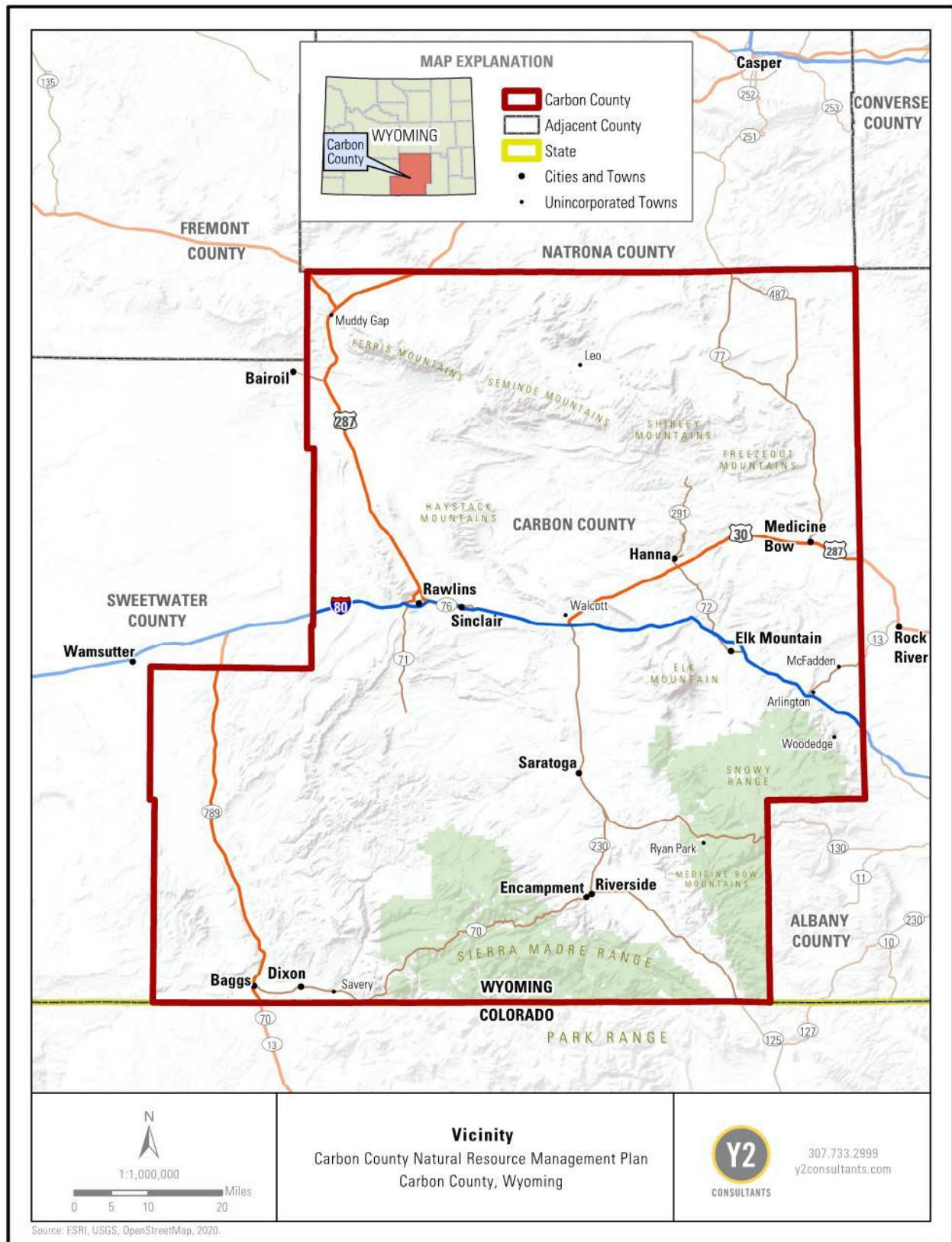


Figure 1. Vicinity map of Carbon County.



Table 1. Surface management in Carbon County (Headwaters Economics, 2020a).

Ownership	Acres in County	Percent of County
BLM	2,046,990	40%
Private	2,010,864	40%
USFS	626,963	12%
State	360,599	7%
BOR	41,559	1%
Water	37,914	1%
USFWS	2,223	<1%

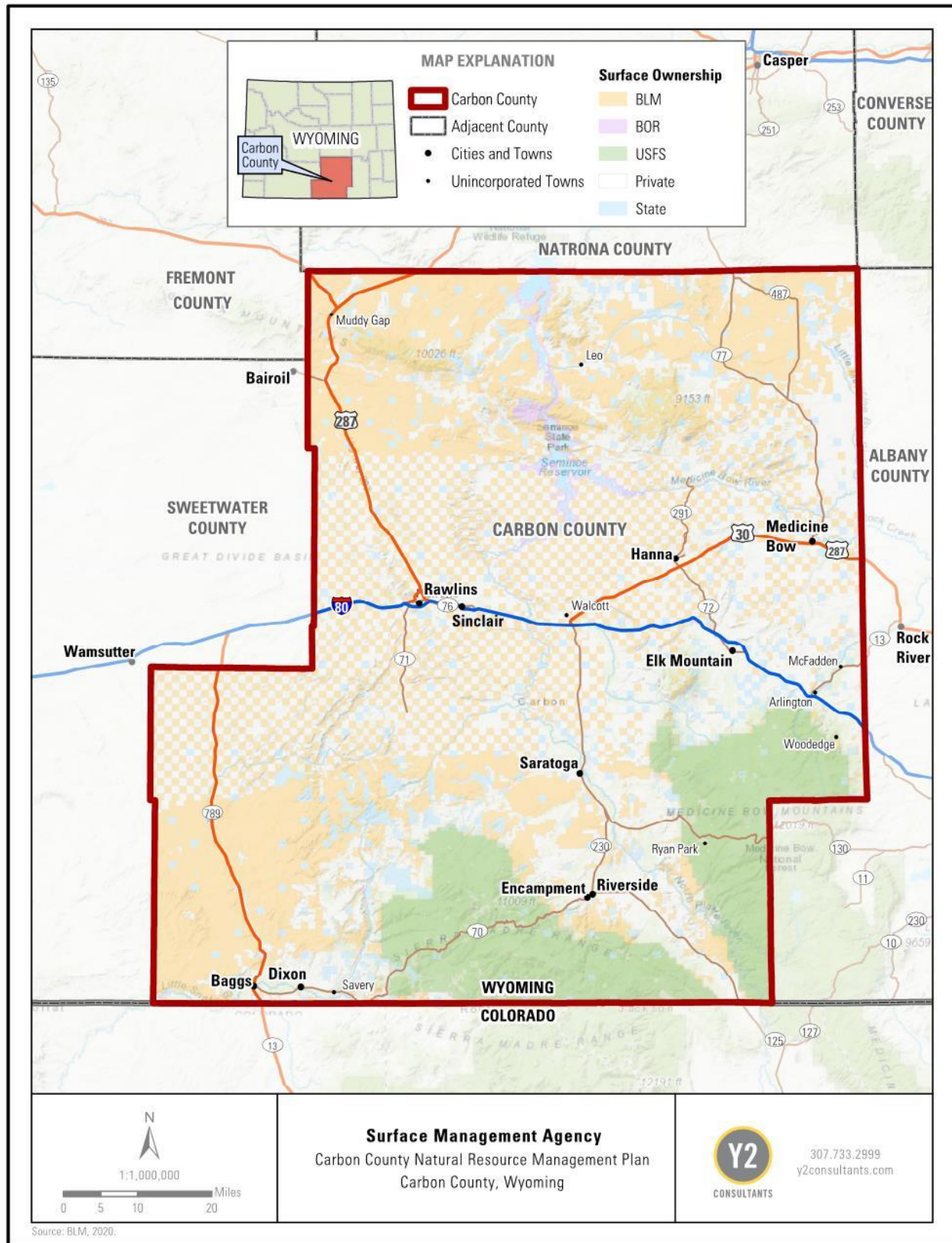


Figure 2. Surface management of lands within Carbon County.

2.2 CULTURAL/HERITAGE/PALEONTOLOGICAL RESOURCES

2.2.1 History, Custom, and Culture

Carbon County has a rich history that includes Indigenous peoples, trappers, sportsmen, railroad workers, soldiers, ranchers, guest ranchers, miners, and prisons. This varied history makes Carbon County a unique place for cultural, historical, and paleontological resources. Provided below is a summarized timeline on the history of Carbon County that has contributed to its present-day culture.

The paleontological history within Carbon County is vast. Large numbers of dinosaur fossils can be found near Como Bluff, east of Medicine Bow. Many of the dinosaur fossils that have been found at Como Bluff are recovered from the Morrison Formation, and most are considered exceptionally preserved. Four types of sauropods have been found at Como Bluff including plant-eating Apatosaurus, Diplodocus, Camarasaurus, and Barosaurus. (Carbon County Visitors Council, n.d.)

It is generally agreed upon that humans were living and hunting within the areas of Carbon County around 12,000 years ago. Carbon County was inhabited by the Ute, Shoshone, Crow, Arapaho, Cheyenne, and Lakota (Sioux) Indigenous tribes. Trappers who worked in the Sierra Madres in the early 1830s held a rendezvous, known as the Grand Encampment, at the base of the mountains of the upper North Platte River Valley. (Van Pelt, 2014b)

By the 1860s, more emigrants started heading west following the Overland Trail across what is now southern Wyoming. Due to hostility with Indigenous peoples, Fort Halleck was built in 1862 at the foot of Elk Mountain to serve as a base for soldiers to protect settlers journeying west. (Van Pelt, 2014b)

In 1867 General John A. Rawlins, chief of staff of the United States Army and a civil engineer, surveyed land with Grenville M. Dodge, chief engineer of the Union Pacific Railroad. Fort Steele was established in 1868 to protect the advancing transcontinental railroad where it crossed the North Platte River. Railroad ties for the new railroad were supplied by woodcutters working on Elk Mountain and in the Grand Encampment Valley, logs were floated down the North Platte to supply the Union Pacific Railroad. (Van Pelt, 2014b)

In the 1880s, sheep and cattle ranchers began moving into Carbon County and establishing ranches. Livestock were moved into the County using the railroad. Many sheep ranchers ran their herds on the ranges of the Red Desert and the Great Divide Basin, leading Rawlins to become well-known for sheep production. The Pick Ranch, located near Saratoga, was one of the first large cattle ranches in the area and several large cattle ranches still exist in this area today. (Van Pelt, 2014b)

In 1886, the Territorial Legislature appropriated \$75,000 for the building of a state penitentiary in Rawlins. In 1901, the state prison, constructed of locally quarried sandstone, began housing prisoners. Male prisoners formerly incarcerated in the Wyoming Territorial Prison in Laramie arrived by train, while female prisoners began arriving in 1902 and serving their sentences in a



separate ward. The penitentiary in Rawlins has been a mainstay of the community's economy since. The modern-day Wyoming State Penitentiary opened south of Rawlins in 1980. The prison includes the North Facility which can hold 780 inmates and the South Facility which opened in 2001 and is used for maximum security. (Van Pelt, 2014b)

Also in the late 1880s, copper was discovered by George Doane in the mountains near Battle Lake in the Sierra Madres. Mr. Doane began the Doane-Rambler mine with his partners, but sheep herder Ed Haggarty's copper vein find in 1897 marked the beginning of a decade-long mining boom that helped to develop the town of Encampment. The town of Grand Encampment was incorporated in 1897 but postal regulations required that the Grand be dropped. Haggarty formed the Rudefeha Mine with his boss George Ferris and partners Robert Deal and J.M. Rumsey. Rumsey sold his share to Ferris, and Deal backed out so the mine became known as the Ferris-Haggarty Mine. In 1899, Haggarty sold his share to Ferris. The Ferris mine employed nearly 250 men and used 400 horses to produce daily shipments of 80,000 pounds of copper ore. In 1902, the Boston & Wyoming Smelter, Power and Light Company started operations in Encampment. The owner was instrumental in the creation of a 16-mile long aerial tramway to transport ore from the mountains to the smelter. In 1908, the Saratoga & Encampment Railway reached Encampment from the main Union Pacific line to the north, but the railroad came too late as copper prices had fallen from 20 cents per pound to 13 cents. (Van Pelt, 2014a)

In 1922-1923, the Producers and Refiners Corporation built Parco, an oil refinery and model company town five miles east of Rawlins, now known as Sinclair and still in operation. Uranium was discovered in Carbon County in the 1950s, and in 1960 underground and open-pit mines began producing ore. (Van Pelt, 2014b)

The tourism industry in Carbon County dates back well before 1900. Guest ranches became an integral part of the industry with the A Bar A Ranch's establishment in 1922 making it one of the oldest guest ranches in the country.

The value of cultural, historical, and paleontological resources is difficult to quantify. However, there is an intrinsic value of each resource for its contribution to the shaping of Carbon County's current civilization, culture, and lifestyle. Though hard to measure in the economy, the value brought to Carbon County by its rich history, cultural resources, and subsequent tourism is important.

2.2.2 Resource Assessment and Legal Framework

Carbon County's traditional lifestyle has centered on agricultural pursuits, recreational activities, and other resource-based industries for generations. Preservation of the remaining historic sites is important to maintain and protect the cultures of historic and present Carbon County inhabitants. Historic preservation of property enhances economic values and provides the basis for heritage tourism. The County is concerned with protecting these resources that have intrinsic value based on their age, heritage, or other unquantifiable significance. These resources also highlight the unique character of the local setting and may contribute toward attracting businesses and tourism.



Historic and Archeological Resources

Many historical and cultural resources are sensitive and protected by law. Two acts primarily protect these historic and archeological resources. The Archeological Resources Protection Act (ARPA) and the National Historic Preservation Act (NHPA).

The ARPA was passed in 1979 and provides regulations on the management of historic sites on federal land and the issuance of permits to excavate archeological discoveries.

The NHPA was passed in 1966 and authorizes the Secretary of the Interior to maintain and expand a National Register of Historic Places. This act established policy for the protection and preservation of sites (e.g., districts, buildings, structures, and objects) that are placed on the National Register of Historic Places. The National Register of Historic Places is managed by the National Park Service. Under NHPA, federal agencies are required to evaluate the effects of actions on any designated 'historic properties' and follow the regulations set by the Advisory Council on Historic Preservation (ACHP) (36 C.F.R. § 800). (National Preservation Institute, 2020)

For listing in the National Register, a property or site typically must be at least 50 years old and have historic significance within one or more of the four criteria for evaluation. The criteria relate to a property's association with important events, people, design or construction, or information potential. The National Register criteria recognize these values embodied in buildings, structures, districts, sites, and objects. The four criteria include properties or sites that:

- 1) Are associated with events that have made a significant contribution to the broad patterns of our history; or
 - 2) Are associated with the lives of persons significant in our past; or
 - 3) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
 - 4) Have yielded or may be likely to yield, information important in prehistory or history.
- (Wyoming SHPO, n.d.)

The Secretary of the Interior has the ultimate decision-making authority when deciding whether a site is listed in the National Register. However, local governments, including counties, can significantly influence the process. Local governments certified by the State Historic Preservation Officer (SHPO) are entitled to prepare a report stating whether a site nominated in its jurisdiction is, in its opinion, eligible for listing in the National Historic Register (see NHPA Section 101(c)).

Perhaps most influential on federal actions, Section 106 of the NHPA grants legal status to historic preservation in federal planning, decision making, and project execution. Section 106 applies when two thresholds are met:

- 1) There is a federal or federally licensed action, including grants, licenses, and permits; and
- 2) That action has the potential to affect properties listed in or eligible for listing in the National Register of Historic Places.



Section 106 requires all federal agencies to consider the effects of their actions on historic properties. The responsible federal agency must consult with appropriate state and local officials, Indigenous tribes, applicants for federal assistance, and members of the public to consider their views and concerns about historic preservation issues when making final project decisions.

Effects are resolved by mutual agreement, usually among the affected state's SHPO or the Tribal Historic Preservation Officer, the federal agency, and any other involved parties. The ACHP may participate in controversial or precedent-setting situations.

In 2014 the NHPA was amended, and the codified law was moved from Title 16 to Title 54 and retitled the Historic Preservation Act. However, the substance of the act remained the same, including the listing criteria for placement of sites in the National Historic Register and the requirements under Section 106.

Currently, Carbon County has 46 sites listed in the National Register (Wyoming SHPO, n.d.). The sites are listed in Table 2 and additional information about the site can found [here](#)⁹ (**NOTE: all website links can be found in Appendix A and are denoted in the text with a superscript number**).

Table 2. National Register Historic Sites located within Carbon County.

National Register Historic Site	Site Owner
Boston-Wyoming Smelter Site	Private
Bridger's Pass	Federal
Brush Creek Work Center	Federal
Butler Bridge	Local
Carbon Cemetery	Private
Como Bluff	State, Federal, Private
Divide Sheep Camp (Niland's Cabins)	Federal
Downtown Rawlins Historic District	Federal, Local, Private
Duck Lake Station Site (Duck Lake Station)	Federal
Elk Mountain Bridge	Local
Elk Mountain Hotel (Mountain View Hotel; John S. Evans Hotel; Grandview Hotel Bridger St.)	Private
Ferris-Haggarty Mine Site	Private
First State Bank of Baggs	Private
Fort Fred Steele	Private
Fort Halleck	Private
Fossil Cabin	Private
France Memorial United Presbyterian Church	Private
Garrett Allen Prehistoric Site	Federal, Private
George Ferris Mansion	Private
Hanna Community Hall	Local
Headquarters Park Historic District	Federal
Hotel Wolf	Private

Hugus (Shively) Hardware	Private
Jack Creek Guard Station	Federal
Jim Baker Cabin	State
JO Ranch Rural Historic Landscape	Private
Medicine Bow Union Pacific Depot	Local
Midway Stage Station Site	Federal
Muddy Creek Archaeological Complex	Private
Parco (Sinclair) Historic District	State, Private
Pick Bridge	Local
Pine Grove Station	Private
Platte River Crossing	State
Rawlins Residential Historic District	Private, Local
Rock Creek Stage Station Historic District (Arlington)	Private
Ryan Ranch	Private
Sage Creek Station Site	Federal
Saratoga Masonic Hall	Private
Site 32 SL-O (Salt Lake-Omaha) Intermediate Field Historic District	Federal
Stockgrowers Bank (Dixon Town Hall)	Local
Stone Wall Ranch	Private
Union Pacific Railroad Depot	Private
Virginian Hotel	Private
Washakie Station	Federal
Willis House	Private
Wyoming State Penitentiary	State

Paleontological Resources

The Paleontological Resource Preservation Act (PRPA) was enacted in 2009, directing multiple federal agencies to establish comprehensive management plans for paleontological resources. PRPA applies to the USFS, BLM, BOR, NPS, and the USFWS. For information concerning each agency's plan regarding paleontological resources refer to their websites below. (Bureau of Land Management, 2016b; National Park Service, 2020)

- [Forest Service, fossils and paleontology](#)¹⁰
- [Bureau of Reclamation, fossil resources](#)¹¹
- [U.S. Fish and Wildlife Service, historic preservation](#)¹²
- [Bureau of Land Management, Paleontology](#)¹³
- [National Park Service, Fossils and Paleontology](#)¹⁴

2.2.3 Resource Management Objectives (Cultural Resources):

- A. Federal actions affecting cultural, historical, and paleontological resources are made in consultation with Carbon County.



- B. Any work toward a proposed new listing in the National Register of Historic Places is coordinated with Carbon County.
- C. Locations on the National Register of Historic Places are protected and contribute to the cultural education of Carbon County and the economy.
- D. Federal agencies consider a balance between the preservation of cultural, historical, and paleontological resources with existing uses and property rights in coordination with Carbon County.
- E. Carbon County is the primary source in deciding the cultural importance of sites found within the County.

2.2.4 Priorities (Cultural Resources):

1. State and federal authorities should coordinate with Carbon County and allow the County to participate in the identification of sites with significant cultural resources in the County, make such sites known, and evaluate the significance of proposed land use actions and their impact on cultural resources.
2. Federal agencies should work with Carbon County to evaluate the economic and cultural impacts associated with cultural resource identification and protection and weigh one against the other in a cost/benefit context based on the County's unique custom and culture.
3. Support making significant local cultural resources available for research and education and urge the protection of those cultural resources.
4. Carbon County does not support excessive buffer zones around historical and cultural resources. Buffer zones should be determined on a case-by-case basis and should not exceed one-quarter mile in width in most circumstances.
5. Discourage cultural resource recognition or protections of additional sites or structures on public land that have not played a significant part in creating the cultural, prehistoric, and historic fabric of the community.
6. Support private property rights as paramount for cultural, historical, geological, and paleontological resources thought to be on private lands.
7. Mineral development should be allowed to occur if reasonable and effective stipulations, conditions, and mitigation measures accompany decisions to issue mineral leases, permit drilling, or permit seismic activities in the area and are implemented to protect against damage to cultural and historic resources.
8. Drilling and seismic activities should not be denied merely because they are in the immediate vicinity of cultural resources if it is shown that such activities will not damage those cultural resources.
9. Federal agencies should protect cultural, historical, and paleontological resources from theft and vandalism in coordination with the Carbon County sheriff.
10. Promote the cooperation between federal agencies and local governments to improve enforcement against and investigation of acts of vandalism in order to deter future damage and vandalism.
11. Federal agencies should continue to share information with local museums and other learning institutions as more cultural, historical, and paleontological information becomes available.



12. Carbon County supports preserving cultural, historic, and paleontological resources according to state and federal laws and protection of private property rights.
13. Carbon County opposes public land management actions that restrict public access to cultural, historic, and paleontological resources, except as required by law or if restrictions are enforced to protect current uses on public lands.
14. Carbon County favors management that makes cultural, historic, and paleontological resources available for educational purposes that can be enjoyed by the public.
15. Carbon County should be consulted before exporting fossils or other cultural, historical, geological, or paleontological resources found on public lands within the County.

CHAPTER 3: LAND USE

3.1 LAND USE

3.1.1 History, Custom, and Culture

Public lands and the resources on them significantly influence the custom and culture of Carbon County. These lands comprise 53% of the lands within Carbon County and are an important resource to the County both for the livelihoods of its residents and the attraction of those traveling through. Carbon County has many uses on its public lands, from wildlife viewing, livestock grazing, and recreation to oil and gas drilling, mining, and wind energy development.

The relationship between Carbon County and the federal agencies is key to ensuring resources are managed successfully and Carbon County's custom and culture of using public lands for multiple uses remains intact. Carbon County and the federal agencies have worked together in the past on resource management concerns and issues and will continue to strengthen and build those relationships to ensure that all stakeholders are at the table when discussing resource management on public lands within Carbon County.

3.1.2 Resource Assessment and Legal Framework

3.1.2.1 Checkerboard Land Ownership

As Figure 2 above shows, much of the land in Carbon County is federally managed. There is a significant amount of area where land ownership is intermingled between two or more owners (often public land and private land) that results in a checkerboard pattern (often called checkerboard lands). Much of the checkerboarding occurred in the West due to railroad land grants in the 1860s and 1870s that granted the railroads every other section along a rail corridor (the railroads were given the odd-numbered plots and the federal government kept the even-numbered plots). This was the case for Carbon County as the Union Pacific Railroad was built in the northern half of the County through Rawlins. Over time, many of these railroad sections have been sold to other private landowners.

Checkerboard land can pose challenges to access and ecological management, and cause unintended consequences to private, state, and public lands when management decisions are made. This landscape pattern can also lead to landlocked parcels for both public and private lands, as a parcel can be surrounded by other land ownerships. In many cases, these checkerboard areas are managed together due to the inability to fence individual parcels. These areas can also be beneficial to private landowners in some cases where it reduces the impact and authority of the federal agencies as these small sections of public lands are often a lower priority.

3.1.2.2 Conservation Districts

During the 1930s, the Dust Bowl made the need to conserve natural resources, particularly soil, very important. The Soil Conservation Act of 1935 created the Soil Conservation Service, now termed the Natural Resource Conservation Service (NRCS), to develop and implement soil erosion control programs. In 1941, the Wyoming State Legislature passed an enabling act, which established conservation districts in Wyoming (Wyo. Stat. § 11-16-103). Conservation districts

were to direct programs protecting local renewable natural resources. Wyoming now has 34 conservation districts in 23 counties. (WACD, n.d.)

Carbon County encompasses three conservation districts: The Medicine Bow Conservation District (MBCD) in the northeastern third of the County, the Saratoga-Encampment-Rawlins Conservation District (SERCD) spanning the center of the County, and The Little Snake River Conservation District (LSRCD) in the southwestern corner of the County.

3.1.2.3 Bureau of Land Management

The BLM we know today was established in 1946 by combining the General Lands Office (GLO) and the U.S. Grazing Service. In 1812, the GLO, responsible for all public land sales, patents, and entries, was established within Treasury Department to oversee the disposition of ceded and acquired lands (Bureau of Land Management, 2016a). In 1934, the Taylor Grazing Act authorized grazing districts, regulation of grazing, and public rangeland improvements in western states and established the Division of Grazing (later renamed U.S. Grazing Service) within the Department of the Interior.

FLPMA is the BLM's governing document outlining the management responsibilities of the BLM to balance public access and multiple uses with the protection and preservation of the quality of the lands and its resources (43 U.S.C. § 1732). FLPMA requires the BLM to administer public lands "on the basis of multiple use and sustained yield" of all resources. (FLPMA, 1976)

The BLM manages approximately 40% (2 million acres) of the land in Carbon County. This includes most of the unincorporated County. Most of Carbon County is included in the High Desert District Office and includes a field office in Rawlins. The Rawlins Field Office encompasses 3.5 million acres, including all of Carbon County except the very northwest corner which is managed by the Lander Field Office in the Wind River/Bighorn Basin District. The Rawlins Field Office also covers portions of Albany County and BLM lands to the Nebraska border. The Rawlins Resource Management Plan was approved in a record of decision signed in December 2008. The Lander Field Office portion encompasses approximately 38,406 acres within the northwestern corner of Carbon County. The Lander Field Office Resource Management Plan was approved in a record of decision signed in June 2014.

3.1.2.4 United States Forest Service

In 1876, United States forest management was formalized with the creation of the office of Special Agent within the Department of Agriculture to assess the quality and condition of U.S. forests. In 1881, the Division of Forestry was added to the Department of Agriculture. In 1891, Congress passed the Forest Reserve Act allowing the President to designate western lands as "forest reserves" to be managed by the Department of the Interior. Western communities strongly opposed forest designations because the development and use of "reserved lands" were prohibited. In 1897, Congress adopted the Organic Administration Act of 1897 (OAA) to protect the use of forest reserves for local citizens. The OAA declared that forest reserves would be created either to protect water resources for local communities and agriculture and/or to provide a continuous supply of timber. Thus, the purposes for which forests were to be used changed



from the land being reserved from local communities to the land being used for economic development by local communities.

Responsibility for forest reserves was transferred to the Department of Agriculture with the Transfer Act of 1905 and the establishment of the U.S. Forest Service (USFS). The Multiple-Use Sustained-Yield Act of 1960 (MUSY) requires that forests be managed for various non-timber uses (MUSY of 1960, 1960). This idea was further codified in the National Forest Management Act (NFMA) (16 U.S.C. § 1601(d)).

The USFS manages approximately 12% (626,129 acres) of the total land in Carbon County, all within the Medicine Bow-Routt National Forest (MBRNF). The MBRNF is divided into six ranger districts with only one of these districts in Carbon County, the Brush Creek/Hayden Ranger District Office in Saratoga, Wyoming. The MBRNF headquarters is located in Laramie, Wyoming.

NFMA requires that each national forest and grassland be governed by a management plan. The Revised Land and Resource Management Plan (LRMP) for the Medicine Bow National Forest was approved in 2003; the Routt National Forest, located in Colorado, has a separate LRMP. Three amendments have been made to the Medicine Bow National Forest RMP and modify specific activities in the 2003 Revised LRMP. These amendments include the Southern Rockies Lynx Management Direction Amendment (2008), Energy Policy Act (EPA) of 2005 Section 368 Westside Energy Corridor Amendment, and Site-specific Amendment Travel Management – Eastern Snowy Range EA (2007).

3.1.2.5 Bureau of Reclamation

The BOR began as the United States Reclamation Service (USRS) in 1902, as part of the United States Geological Survey (USGS). The USRS was established under the Reclamation Act to manage U.S. water resources. In 1907, the USRS was separated from the USGS and designated as a separate agency within the Department of the Interior, the BOR (Bureau of Reclamation, 2018). The BOR is responsible for the oversight and operation of irrigation, water supply, water storage, and hydroelectric power plant generation. The BOR was created to manage water projects and promote homesteading and economic development in the West. The mission of the BOR is “to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.” (Bureau of Reclamation - About Us, 2019)

The Bureau of Reclamation (BOR) manages 1% (41,559 acres) of the land in Carbon County. The BOR manages the Seminoe Dam/Reservoir and the Kortes Dam/Reservoir.

3.1.2.6 United States Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is the oldest federal conservation agency in the U.S., having been established in 1871. The USFWS is housed under the Department of the Interior and helps ensure a healthy environment for people by providing opportunities to enjoy the outdoors and our shared natural heritage. They are the only federal agency whose primary responsibility is the management of fish and wildlife for the public. In 1940, a reorganization plan in the



Department of Interior consolidated the Bureau of Fisheries and the Bureau of Biological Survey into the USFWS. (USFWS, 2020a)

The USFWS manages <1% (2,223 acres) of the land in Carbon County. Most of this land is associated with the Pathfinder Wildlife Refuge. The Pathfinder National Wildlife Refuge was established in 1909 and is comprised of 16,806 acres. Most of the refuge is in Natrona County but a few small segments lie within Carbon County. (USFWS, 2017) The Saratoga National Fish Hatchery is located near Saratoga, Wyoming, and is also managed by the USFWS.

3.1.2.7 National Park Service

The NPS was created in 1916 within the U.S. Department of the Interior, ten years after the first national monument was established. The NPS is governed by the National Park Service Organic Act, which delegated the roles of preserving the ecological and historical integrity of the land entrusted to their management while retaining public access and enjoyment of those lands to the NPS. Most lands under NPS control are designated as National Parks or Monuments by Congress.

The National Park Service (NPS) does not have any lands within Carbon County. The Como Bluff area is under the NPS's National Natural Landmarks (NNL) Program which recognizes and encourages the conservation of sites that contain outstanding biological and geological resources. The NPS administers the program and works cooperatively with landowners, managers, and partners to promote the conservation of these areas. Como Bluff was designated an NNL in 1966 for its significant number of dinosaur fossils.

3.1.3 Resource Management Objectives (Land Use):

- A. The basis for management of all public lands within Carbon County is multiple-use management.
- B. Federal agencies consider the direct and indirect effects on private and state lands on a local region-wide basis rather than only analyzing the impacts on federal lands.
- C. Federal agency decisions on federal public lands minimally impact neighboring state and private lands.
- D. Federal land-use projects in mixed land ownership areas are coordinated with Carbon County and rely heavily on input from neighboring private landowners.
- E. Effective reclamation plans that protect existing uses are a primary requisite when approving projects in mixed land ownership projects.

3.1.4 Priorities (Land Use):

- 1. Federal agencies should conduct any National Environmental Policy Act analysis using multiple-use principles that take into consideration all the resources such as, but not limited to, agriculture, air, energy, mineral extraction, range, recreation, socioeconomics, timber, tourism, wildlife, and water.
- 2. Carbon County shall be notified and allowed to participate as a cooperating agency on National Environmental Policy Act projects that may influence the economic stability of the County and its residents.

3. Federal agencies should support decisions that ensure the socioeconomic wellbeing of Carbon County citizens, maintain the culture and customs of the constituents, and consider natural resource health.
4. Federal agencies should consider the effects their decisions will have on neighboring private and state lands within Carbon County.
5. When an agency decision or proposed alternative will negatively impact the current use of neighboring lands, that proposed decision or alternative is not supported by Carbon County.
6. Federal agencies should coordinate with and accommodate the reclamation needs of neighboring landowners whenever a project will affect neighboring lands.
7. Federal agencies should coordinate with and accommodate the reclamation needs of neighboring landowners whenever a project will affect split estate lands.
8. Federal agencies should give regular (where regular is defined as not less than quarterly) updates on the project and permit status for current and proposed projects within Carbon County's jurisdiction and support reasonable timelines and explanations for issuance of delays from permitting agencies.

3.2 TRANSPORTATION AND LAND ACCESS

3.2.1 History, Custom, and Culture

Carbon County itself relies on access to federal lands to fulfill its statutory mandate to protect the health, safety, and general welfare of the people within its jurisdiction. This includes, but is not limited to, fire protection, search and rescue, flood control, law enforcement, economic development, and the maintenance of County improvements.

Interstate 80 (I-80) runs east-west through the county. State Highway 287 runs from the northwest corner of the county in a southerly direction turning east and south at Rawlins. Secondary Highway 789 runs south across the western portion of Carbon County through Baggs and into Colorado. Wyoming Highway 130 (Snowy Range Road) runs 98.5-miles west from Laramie across the plains and rises over the Medicine Bow Mountains before turning north through the town of Saratoga and ending at I-80. Wyoming Highway 230 runs from 8 miles south of Saratoga south to Wyoming Highway 70 in Riverside where it turns east and continues to Laramie. Wyoming Highway 70 (Battle Pass) is 57.6 miles long and runs from Riverside west to Baggs over Battle Pass. Wyoming Highway 220 runs 73 miles from Muddy Gap to Casper. Wyoming Highway 487 is 71.6 miles long and runs from Medicine Bow to Casper. The Union Pacific has railroad tracks paralleling I-80 from Rock Springs through Rawlins and east to Walcott. The mainline then leaves the Interstate corridor and follows Highway 30/287 east through Hanna and Medicine Bow.

These interstates, highways, county roads, and railroads all allow products and services to move throughout the county, state, and nation. Tourists travel through Carbon County on the I-80 and state highways to various destinations including Yellowstone National Park and to get across the state. There is also a significant amount of oil and gas traffic utilizing these corridors to convey production across Carbon County and the state. Agricultural products are also heavily



transported across the County and state using the network of roads. County roads are extremely important for moving agricultural products and industrial products for the mining and oil/gas industries.

It is vital to the sustainability of the livestock industry in Carbon County that grazing areas, and the stock trails that connect them, be open and accessible. Livestock “trailed” from one grazing area to another must access the grazing areas on either end of that process, as well as lands in between. Historical use of stock trails and grazing areas has fluctuated over the years, depending on market prices and weather conditions, but the need for access availability has remained constant.

3.2.2 Resource Assessment and Legal Framework

Congress, as the constitutional manager of federal lands, has made it clear through natural resource statutes that the public must have use of and access to federal lands. It is vital to Carbon County’s interests and performance of duties that full access to the federal lands continue. However, it is important to note that access to those federal lands needs to be legal and without crossing private property and infringing upon private property rights.

The BLM and USFS both have specific provisions they must follow when considering the closure of roads and trails. These provisions require that such activity be conducted in coordination with Carbon County prior to such action being taken (43 CFR subpart 8364; 36 CFR part 212). Road closures have occurred in the County by both federal and state agencies without prior coordination, despite requirements by federal law for coordination before a final decision. This has caused economic harm and impacted citizen and visitor enjoyment of Carbon County’s natural resources.

It is understood that the federal definition of “roadless” means there are no road improvements present. An “improved road” is not limited to mechanically improved but includes roads made passable by regular use. The term “maintained road” is not limited to roads that are maintained annually. Rather, it refers to roads that are maintained as needed to continue their use. There are a variety of road types that occur on public lands. The following are definitions on different classifications of roads:

- Road: A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.
- Primitive Road: A linear route managed for use by four-wheel-drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards.
- Trail: A linear route managed for human-powered, stock, off-highway vehicle forms of transportation, or historical or heritage values. Trails are not generally managed for use by four-wheel-drive or high-clearance vehicles.
- 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 yearlong. (BLM, 2006)



- Temporary routes (roads): Short-term overland roads, primitive roads, or trails authorized or acquired for the development, construction, or staging of a project or event that has a finite lifespan (definition from BLM [Instruction Memorandum 2007-176¹⁵](#)).
- Logging road: Any new or existing road that is mechanically shaped where the road will be specifically used to facilitate the management or harvesting of timber. (USFS, 2000)

Transportation and Access Acts

The Taylor Grazing Act provides for the establishment, maintenance, and use of stock driveways within established grazing districts (43 U.S.C. § 5315).

The National Trails Systems Act defines the standards and methods by which additional trails may be added to the system including scenic, historic, and recreational trails. NEPA requires federal projects and land-use decisions, including opening and closing of roads, to go through an environmental review process.

The Wilderness Act of 1964 prohibits motor vehicles in wilderness areas except in emergency situations or when there is a possible management need, such as wildfires or search and rescue missions.

The Land and Water Conservation Fund (LWCF) Act of 1964 was permanently reauthorized in March 2019 and “...supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities.” The Great American Outdoors Act, signed in August of 2020, secured permanent funding for the LWCF. (Department of the Interior, 2020; US Department of the Interior, 2015)

Through the Fixing America’s Surface Transportation Act (FAST), the Recreational Trails Program (RTP) was reauthorized and “provides funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses” (Office of Federal Lands Highway, 2018). The LWCF and RTP can be reliable sources for funding through grants and loans.

Federal Highway Administration

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation and was created in 1966.

“The mission of FHWA is to enable and empower the strengthening of a world-class highway system that promotes safety, mobility, and economic growth, while enhancing the quality of life of all Americans.” (Office of Federal Lands Highway, 2018)

Under this mission, the FHWA provides resources to municipalities across the nation and in the form of indirect and direct methods. Indirectly, the FHWA provides valuable research and design guidance on numerous topics to push the industry towards a safer, efficient, and holistic network.



Directly, the FHWA provides grants to local Departments of Transportation divisions to facilitate project design and construction based upon merit. These grants are distributed through the Federal Highway-Aid Program.

Alongside the FHWA, numerous programs were created under the Federal Lands Highway Division to specifically service certain groups and were reauthorized under the FAST Act (established 2015). These programs are:

- Federal Lands Access Program (FLAP) (established 2011): “established in 23 U.S.C. 204 to improve transportation facilities that provide access to, are adjacent to, or are located within, federal lands. FLAP supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators” (Office of Federal Lands Highway, 2018).
- Federal Lands Transportation Program (established 2011): “established in 23 U.S.C. 203 to improve the transportation infrastructure owned and maintained by federal land management agencies including NPS, USFWS, USFS, BLM, USACE, BOR, and independent federal agencies with land and natural resource management responsibilities”(Office of Federal Lands Highway, 2018).
- Nationally Significant Federal Lands and Tribal Projects Program (established 2015): “...provides funding for the construction, reconstruction, and rehabilitation of nationally significant projects within, adjacent to, or accessing federal and tribal lands. This program provides an opportunity to address significant challenges across the nation for transportation facilities that serve federal and tribal lands” (Office of Federal Lands Highway, 2018).
- Emergency Relief for Federally Owned Roads (established 2015): “established to assist federal agencies with the repair or reconstruction of tribal transportation facilities, federal lands transportation facilities, and other federally owned roads that are open to public travel, which are found to have suffered serious damage by a natural disaster over a wide area or by a catastrophic failure” (Office of Federal Lands Highway, 2018).

The Wyoming Department of Transportation (WYDOT) can work directly with any of the above programs to help secure funding and has done so annually. Through the FLAP program alone, Wyoming has secured \$73.3 million spread across 16 projects from 2013 to 2022.

Federal Agencies Transportation and Access

Bureau of Land Management

BLM land is enjoyed by the public for numerous recreational activities. The BLM must follow various federal laws regarding the management of transportation and travel on public lands including provisions in FLPMA. The National Trails Systems Act defines the standards and methods by which additional trails may be added to the system including scenic, historic, and recreational trails. The BLM is required to coordinate inventory, planning, and management activities with the County (43 U.S.C. § 1712) (FLPMA, 1976).



United States Forest Service

According to the MUSY Act of 1960, USFS lands in Carbon County are to be managed for multiple-use and sustained-yield uses including, but not limited to, agriculture (farming, irrigation, and livestock grazing); recreation (motorized and non-motorized transport and activities such as hunting, fishing, water and land sports, hiking); industry (mining, power production, oil and gas production/exploration, and timbering); intangible values (historical and cultural sites, access to open space, aesthetic values, and conservation); and weed, pest, and predator control (16 U.S.C. § 529529).

The USFS is directed to coordinate the preparation of Travel Management Plans with Carbon County (36 C.F.R. § 212).

“The responsible official shall coordinate with appropriate Federal, State, county, and other local governmental entities and tribal governments when designating National Forest System roads, National Forest System trails, and areas on National Forest System lands pursuant to this subpart.” (36 C.F.R. § 212.53)

“Designations of National Forest System roads, National Forest System trails, and areas on National Forest System lands pursuant to §212.51 may be revised as needed to meet changing conditions. Revisions of designations shall be made in accordance with the requirements for public involvement in §212.52, the requirements for coordination with governmental entities in §212.53, and the criteria in §212.55”. (36 C.F.R. §212.54)

United States Fish and Wildlife Service

The USFWS and the FHWA work together through the FLTP to improve public access to wildlife refuges and waterfowl production areas. The USFWS Transportation Program’s goals are to protect wildlife, enhance man’s role in his environment, and provide visitors with high-quality, safe recreational experiences oriented toward wildlife. (USFWS, 2017)

The USFWS has produced both National Long-Range Transportation Plans (LRTPs) and Regional LRTPs including roadway design guidelines and other guidelines when developing infrastructure through conservation lands (US Fish and Wildlife Service, 2018).

Revised Statute 2477

Revised statute 2477 (R.S. 2477) provided that “the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.” The Act of July 26, 1866, § 8, ch. 262, 14 STAT. 251, 253 (1866) (formerly codified at 43 U.S.C. § 932). Congress enacted a grant of rights-of-way over unreserved public lands for the construction of highways. The grant was originally Section 8 of the Mining Act of 1866, which became section 2477 of the Revised Statutes; hence the grant is commonly referred to as R.S. 2477.

The grant is self-executing and a R.S. 2477 right-of-way comes into existence “automatically” when the requisite elements are met (*See, Shultz v. Dep’t of Army*, 10 F.3d 649, 655 (9th Cir. 1993)). One hundred and ten years after its enactment, R.S. 2477 was repealed with the passage



of the FLMPA, 43 U.S.C. § 1701 et seq (See, 43 U.S.C. § 932, repealed by Pub. L. No. 94-579, § 706(a), 90 STAT. 2743, 2793 (1976)). Even though FLPMA repealed R.S. 2477, FLPMA explicitly preserved any rights-of-way that existed before October 21, 1976, the date of FLPMA's enactment (See, 43 U.S.C. § 1769(a) (stating that nothing “in this subchapter shall have the effect of terminating any right-of-way or right-of-use heretofore issued, granted, or permitted”); see also, 43 U.S.C. § 1701, Savings Provision (a) and (h)). Therefore, R.S. 2477 rights-of-way which were perfected before October 21, 1976, are valid even after the repeal of R.S. 2477. In order for a road to qualify as an R.S. 2477 right-of-way in Wyoming, the road must have been established by a board of county commissioners under the procedures established in Wyoming's county road statutes (See *Yeager v. Forbes*, 78 P.3d at 254).

The courts have clearly established that the states have proprietary jurisdiction over rights-of-way within their state (*Colorado v. Toll*, 268 US 228, 231 (1925)). This jurisdiction and control over rights-of-way through public lands must be actively ceded by the state (or counties as arms of the state) to the federal government or curtailed by Congress (*US v. Garfield County*, 122 F. Supp.2d 1201, 1235 (D. Utah 2000) citing *Kleppe v. New Mexico*, 426 US 529, 541-46 (1976)). Congress has yet to overturn R.S. 2477 or wrest control over the determination of what is a valid R.S. 2477 right-of-way. Thus, the question of whether an R.S. 2477 is established and the scope of the right-of-way is a matter of state law (See *U.S. v. Garfield County*, 122 F.Supp.2d at 1255; *Sierra Club v. Hodel*, 848 F.2d 1068, 1080 (10th Cir. 1988)).

The repeal of R.S. 2477 “froze” the scope of the R.S. 2477 right-of-way. Thus, the scope of the R.S. 2477 right-of-way is limited by the established usage of the route as of the date of the repeal of the statute (*Southern Utah Wilderness Alliance v. Bureau of Land Management*, 425 F.3d 735, 746 (10th Cir. 2005, as amended 2006)). Concerning the roads at issue here, this scope would be access to, and between private land sections.

Coordination between the government agency and the holder of the R.S. 2477 right-of-way is a necessity. The courts have clearly stated that both the holder of the dominant and servient estate must exercise their rights to not interfere with the other (*SUWA*, 425 F.3d at 746 citing *Hodel*, 848 F.2d at 1083). Thus, there must be a system of coordination between the federal agency and the holder of the R.S. 2477 right-of-way whenever there may be an action that may affect the rights or use of the other. Further, the courts have also clearly demarcated that the use of an R.S. 2477 right-of-way is a question of scope on a case-by-case basis, considering state law, that will allow for the use that is reasonable and necessary for the type of use to which the road has been put until 1976. This, however, does not mean that the road had to be maintained in precisely the same condition it was in on October 21, 1976; rather, it could be improved “as necessary to meet the exigencies of increased travel,” so long as this was done “in the light of traditional uses to which the right-of-way was put” as of repeal of the statute in 1976 (*Hodel*, 848 F.2d at 1083).

As discussed earlier, an R.S. 2477 grant is self-executing, and the right-of-way comes into existence “automatically” when the requisite state law elements are met (See, *Shultz v. Dep't of Army*, 10 F.3d 649, 655 (9th Cir. 1993)). Thus, adjudication of R.S. 2477 rights is not a prerequisite to their existence unless the agency contests the existence of the grant. In cases where the

federal agency contests the existence of an R.S. 2477 right-of-way, a claim against the United States would need to be made under the Quiet Title Act (28 U.S.C.A. § 2409a). The Quiet Title Act provides that the United States may be named as a party defendant in a civil action to adjudicate a disputed title to real property in which the United States claims an interest, other than a security interest or water right (28 U.S.C.A. § 2409a(a)). In such an action, a plaintiff must demonstrate with particularity the nature of the right, title, or interest which the plaintiff claims in the real property, the circumstances under which it was acquired, and the right, title, or interest claimed by the United States (28 U.S.C.A. § 2409a(d)).

3.2.3 Resource Management Objectives (Transportation):

- A. Full and open access to Carbon County federal lands for purposes such as safety, health, and welfare of Carbon County is maintained and expanded where possible.
- B. Roads are maintained and expanded for economic uses, such as agriculture, mining/oil and gas industries, energy industries, communication infrastructure, and recreation where possible so long as such access, maintenance, or expansion does not harm private property rights.
- C. Current and future designated motorized and non-motorized access to public lands is maintained.
- D. Transportation corridors (Interstate 80, state highways, and county roads) are maintained to ensure efficient movement of products (agricultural, industrial, other supplies) across Carbon County, the State of Wyoming, and the Nation.
- E. Federal and state agencies coordinate with Carbon County to maintain the safety and availability of public roads within their jurisdiction.
- F. All federal agencies' travel management planning efforts affecting Carbon County are coordinated with the County.

3.2.4 Priorities (Transportation):

- 1. No road, trail, or R.S. 2477 right of way on federal lands shall be permanently closed unless public safety or health demands its closing and the proper analysis, disclosure, and procedure, in consultation with Carbon County, is completed prior to closure.
- 2. Carbon County should be notified in advance of any planning process or activity that has the potential to restrict, eliminate, or expand access from federal to state or private lands and allow the County to initiate coordination and cooperation to resolve any potential conflicts with Carbon County's objectives, principles, and policies, prior to acting.
- 3. Federal agencies should work with Carbon County to reopen roads and trails that were closed by an agency without specific coordination with the County as long as it does not infringe upon private property rights.
- 4. It is expected that federal/state agencies will reopen access routes that restrict Carbon County's ability to perform its duties or conflict with County policy.
- 5. If access routes in conflict with Carbon County policy are not reopened by federal/state agencies, said agency should provide a written explanation to Carbon County within 60 days explaining why County policy is not being followed.

6. Historic stock trails should be designated in all applicable planning documents as valid access routes for the purpose of trailing livestock between grazing areas so long as it does not infringe upon private property rights.
7. All formally established public roads and rights-of-ways should be considered valid transportation routes unless formally decommissioned, even if not presently maintained.
8. Carbon County considers any permanent or long-term (greater than one year) road closure a major federal action affecting the human environment. Thus, a road on federal lands may not be permanently closed until a full National Environmental Policy Act analysis has been completed, including public review and coordination with Carbon County.
9. Should a federal agency believe that a road closure falls under a categorical exemption/exclusion (CE/CX), Carbon County shall be consulted before completing the CE/CX.
10. Carbon County should be notified in advance of any temporary road closures.
11. Carbon County considers all stock trails to be roads and these roads should not be abandoned unless abandonment is explicitly established by the County.
12. Federal land managers should properly and proactively manage landslides near roads to prevent/minimize new movement, especially where landslides could disrupt public transportation or threaten public safety within Carbon County.
13. Access to forest products via logging roads within Carbon County should be ongoing, and access to these sites should be through a cross-country travel system so long as it does not infringe upon private property rights.

3.3 SPECIAL DESIGNATION AND MANAGEMENT AREAS

3.3.1 History, Custom, and Culture

Most federal land use plans will contain one or more special designations that say the land will be managed with a particular focus to provide for public recreation or to conserve some significant resource. Special designation and management areas within Carbon County include Areas of Critical Environmental Concern (ACEC), Wilderness Study Areas (WSA), Wilderness Areas, Lands with Wilderness Characteristics (LWCs), Special Recreation Management Areas (SRMAs), Extensive Recreation Management Areas (ERMAs), Inventoried Roadless Areas (IRA), National Natural Landscapes (NNL), Research Natural Areas (RNAs), proposed Wild and Scenic Rivers, and National Scenic and Historic Trails and Byways. Special designations may compete with the natural resource-based businesses that are important to Carbon County's economy, such as grazing, mining, and recreation.

3.3.2 Resource Assessment and Legal Framework

Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are BLM-managed areas "where special management attention is needed to protect important historical, cultural, and scenic values, fish and wildlife, or other natural resources. An ACEC may also be designated to protect human life and safety from natural hazards. ACEC designations must go through the NEPA land use planning process. An ACEC designation may be revisited through subsequent land use planning, revision,



or amendment. Figure 3 displays the ACECs within Carbon County and each of the ACECs is described below. (BLM, 2016b)

Sand Hills/JO Ranch ACEC

The JO Ranch Rural Historic Landscape is part of the Sand Hills ACEC and is approximately 11,980 acres. The JO Ranch served as a sheep ranching operation from its establishment in 1885 into the 1990s. The ranch is listed in the National Register of Historic Places. (BLM, 2016e)

Blowout Penstemon ACEC

The Blowout Penstemon ACEC is approximately 29,150 acres. The management goal for this ACEC is to manage the endangered blowout penstemon (*Penstemon heydenii*) plant and its habitat. The blowout penstemon was discovered in Wyoming in 1996 by Frank Blomquist of the BLM Rawlins Field Office but the identity of the species was not confirmed until 1999. Before this, the species was only thought to be endemic to Nebraska. Blowout penstemon was listed as endangered under the ESA in 1987. (BLM, 2013)

A variety of management decisions were established in the BLM's 2018 Final Record of Decision, including:

1. The Blowout Penstemon ACEC will be expanded to 29,312 acres and managed as an endangered plant habitat area.
2. The ACEC will be open to locatable mineral entry and closed to mineral material disposals.
3. Plans of Operation will be required for locatable federal mineral exploration and development (except casual use), regardless of the number of acres disturbed.
4. The ACEC will be closed to new oil and gas leasing. The existing No Surface Occupancy (NSO) stipulation within 0.25 miles of occupied blowout penstemon habitat will apply to proposed projects on existing leases. Surface disturbances on existing leases outside the 0.25-mile NSO will be intensively managed.
5. Fire suppression activities will be based on Appropriate Management Response with an emphasis on maintaining early successional plant communities.
6. The BLM will actively pursue land tenure adjustments, including acquisition of lands, easements, or exchanges, to meet the ACEC management goals and objectives.
7. BLM-administered public lands containing occupied blowout penstemon habitat will not be exchanged or sold.

The following management actions will be adhered to, unless further consultation and coordination has occurred with the USFWS and an alternate agreement has been reached:

8. Limiting the use of off-highway vehicles (OHVs) to designated roads and trails (with certain allowed exceptions for authorized necessary tasks related to firefighting, hazardous material cleanup, access to existing rights-of-ways for maintenance and inspection, and fence maintenance).
9. Motorized vehicle use will be limited to existing roads and trails, until they are designated. OHV use to retrieve big game kills or access camp sites is prohibited off of existing roads and vehicle routes, until they are designated.

10. Roads that are not required for routine operations or maintenance of developed projects, or that lead to abandoned projects, will be reclaimed.
11. No OHV competitive events will be allowed within the ACEC.
12. Surface disturbing activities will not be authorized within 0.25 miles of occupied habitat. Surface disturbing activities will be intensively managed outside of the 0.25 mile of occupied habitat within the ACEC.
13. Mineral supplements, or new water sources (permanent or temporary), for livestock, wild horses, or wildlife will be placed at least 1.0 mile from known blowout penstemon populations. Supplemental feed for livestock, wildlife, or wild horses will not be placed within 1.0 mile of known blowout penstemon populations. Straw or other feed must be certified weed-free. This requirement will be added to the grazing permit/lease renewal or Allotment Management Plan in allotments with known blowout penstemon populations.
14. Livestock grazing permits/leases will not be increased in any allotment with pastures containing blowout penstemon populations. This management action will be added to the grazing permit/lease renewal or Allotment Management Plan in allotments with known blowout penstemon populations.
15. Introduction of biological controls for noxious and invasive plant species is prohibited in blowout penstemon habitat until the impacts of the control agent have been fully evaluated and determined not to adversely affect the plant populations. The BLM will monitor biological control vectors (RMP ROD 2008, Appendix I of Appendix 14).
16. Herbicide treatments (aerial, vehicle, and ground) of noxious and invasive weeds are prohibited within 0.5 miles of occupied blowout penstemon habitat. Insecticide treatments are prohibited within 1.0 mile of occupied habitat in areas where treatments have the potential to impact blowout penstemon pollinators, Preliminary Final Blowout Penstemon Statewide Programmatic Biological Opinion.
17. For insecticide treatments, no aerial applications of malathion or carbaryl would occur within 3.0 miles of occupied habitats; only carbaryl bran bait or diflubenzuron combined with Reduced Agent Area Treatment methodology will be used within the 3-mile buffer; and no application of carbaryl bran bait will be applied within a 0.25-mile buffer of occupied blowout penstemon habitats.
18. The ACEC is an exclusion area for wind energy development.
19. All proposed right-of-way projects will be designed and locations selected at least 0.25 miles from any occupied habitat.
20. Revegetation projects are not authorized within 0.25 miles of occupied blowout penstemon habitat. (BLM, 2018)

Additional information on the Blowout Penstemon ACEC, and the current area boundary, can be found in the [2018 Blowout Penstemon ACEC Decision Record](#)¹⁶.

Cave Creek Cave ACEC

The Cave Creek Cave ACEC is located on public land in the Shirley Mountains and covers approximately 240 acres. The principal vegetation type within the ACEC is limber pine with scattered stands of aspen and lodgepole pine. Cave Creek flows through the ACEC. Cave Creek



Cave is used by recreational cavers, members of various cave grotto clubs, and students from the University of Wyoming as part of spelunking classes. However, other types of recreation also occur within the ACEC. The ACEC area is open to oil and gas leasing. (BLM, 2011)

Wilderness Areas and Wilderness Study Areas

The Wilderness Act of 1964 established the National Wilderness Preservation System to be managed by the USFS, NPS, and the USFWS. Wilderness areas can only be designated by Congress.

The passage of FLPMA in 1976 added the BLM as a wilderness management authority to the Wilderness Act. Wilderness Study Areas (WSAs) are places that have wilderness characteristics; (i.e., untrammeled, natural, undeveloped, and outstanding opportunities for solitude or a primitive and unconfined type of recreation) that make them eligible for future designation as wilderness (BLM, 2016c). Wilderness areas and WSAs must have “wilderness character”, which is described with four qualities:

- 1) The area must be untrammeled by man. Untrammeled refers to wilderness as an area unhindered and free from modern human control and manipulation. Human activities or actions on these lands impairs this quality.
- 2) The area must be natural. The area should be protected and managed to preserve its natural conditions and should be as free as possible from the effects of modern civilization. If any ecosystem processes were managed by humans, they must be allowed to return to their natural condition.
- 3) The area must be undeveloped. No human structures or installations, no motor vehicles or mechanical transport, or any other item that increases man’s ability to occupy the environment can be present.
- 4) The area must offer solitude or primitive and unconfined recreation. People should be able to experience natural sights and sounds, remote and secluded places, and the physical and emotional challenges of self-discovery and self-reliance.

WSAs are established in three different ways:

- 1) They are identified by the wilderness review as required by Section 603 of FLPMA;
- 2) They are identified during the land use planning process under Section 202 of FLPMA; or
- 3) They are established by Congress.

Section 603(c) of the FLMPA requires that WSAs are managed so as not to impair their suitability for preservation as wilderness and strives to retain their primeval character and influence, without permanent improvements or human habitation (BLM, 2016c). However, the FLPMA also requires that mining, livestock grazing, and mineral leasing (e.g., grandfathered uses) continue in the manner and to the degree as they were being conducted in 1976. Therefore, to the extent that grazing was allowed in the wilderness before 1976, its use, specifically including allowing the same number of livestock as existed in 1976, should be continued. Grandfathered uses are protected and must be maintained in the same manner and degree as they were being conducted on October 21, 1976, even if they impair wilderness characteristics according to *Rocky Mountain*



Oil and Gas Association v. Watt, 696 F.2d 734, 749 (10th Cir. 1982). This requirement includes the authority to develop livestock-related improvements (*Utah v. Andrus*, 486 F. Supp. 995 [D. Utah 1979]).

BLM Managed Wilderness Study Areas

Bennett Mountain WSA

Bennett Mountain WSA encompasses 6,003 acres of BLM-administered land near Rawlins. This WSA is characterized by steep rock ledges and walls with several drainages. The WSA is predominately natural, with few human footprints. Motorized travel is strictly prohibited along with mineral entry. (BLM, 2017a)

Encampment River Canyon WSA

Encampment River Canyon WSA encompasses 4,547 acres of BLM-administered land near Encampment. The WSA is characterized by deep canyons and high rocky ridges. Of special mention are the sites contained within the Encampment River Canyon that are associated with early exploration and mining activities of regional historical importance. The Encampment River Trail parallels the WSA and provides access to the entire length of the river. The trail and entire WSA are closed to mechanized travel and the WSA is also closed to mineral entry. (BLM, 2017b)

Ferris Mountain WSA

Ferris Mountain WSA encompasses 22,245 acres of BLM-administered land and one private inholding of 160 acres. Ferris Peak is the highest point in the Great Divide Basin at 10,037 feet and rises some 3,000 feet from the valley floor. Motorized travel is strictly prohibited along with mineral entry. (BLM, 2017c)

Prospect Mountain WSA

Prospect Mountain WSA encompasses 1,145 acres of BLM-administered land. The USFS's Platte River Wilderness forms the eastern boundary of the WSA. The North Platte River runs adjacent to the WSA. The WSA is closed to mineral entry and motorized travel is prohibited. (BLM, 2017d)

Wyoming Public Lands Initiative

Carbon County participated in the Wyoming Public Lands Initiative (WPLI) from 2017 – 2018. The WPLI was a voluntary, collaborative, county-led process that intended to result in one, multi-county legislative lands package broadly supported by public lands stakeholders in Wyoming. The ultimate goal of WPLI was to develop a new federal law that governs the designation and management of Wyoming's WSAs and, where possible, address and pursue other public land management issues and opportunities affecting Wyoming's landscapes (WPLI, n.d.). Carbon County formed a WPLI Advisory Committee that provided recommendations for the designation and management of WSAs within Carbon County to the Carbon County Board of County Commissioners. Figure 3 and Figure 4 show the WSAs and the WPLI recommendations within Carbon County. It is important to note that a management or status change of these WSAs cannot change until Congress acts. The bill has been drafted but these areas will remain as their designated status until Congress takes action. The WSAs with recommendations by the Carbon County WPLI committee are summarized below.



Bennett Mountain WSA

The Carbon County WPLI Advisory Committee’s recommendations for the Bennett Mountain WSA were to designate a special management area with the following management prescriptions:

- Permit motorized and mechanized vehicles only on roads and trails designated for motorized and mechanized vehicles, except as needed for administrative purposes and to respond to an emergency, or to develop/maintain grazing infrastructure.
- Prohibit construction of permanent or temporary roads except in response to an emergency (fires). Temporary roads must be reclaimed to Wyoming BLM policy.
- Continue existing grazing in accordance with applicable law following the Federal Land Policy Management Act of 1976, the Public Rangelands Act of 1978, and the Taylor Grazing Act of 1934.
- Prohibit commercial timber harvest.
- Prohibit oil and gas, geothermal, coal, and other mineral leasing and new locatable mineral entry under the 1872 Mining Law as amended. Honor all existing valid mining claims.
- Maintain existing fire management.

Encampment River Canyon Wilderness Area and Wild and Scenic River

The Carbon County WPLI Advisory Committee’s recommendations for the Encampment River Canyon WSA were to designate the Encampment River Canyon Wilderness, except for 3.9 acres to exclude the Odd Fellows Lodge point of diversion on Miner Creek, with the following management prescriptions:

- Manage area within existing WSA according to the Wilderness Act.
- Grazing shall continue according to the Congressional Grazing Guidelines as set forth in “Grazing in National Forest Wilderness” in (H. Report 96-617) which shall accompany any act which designates this area as wilderness.
- The Secretary of Interior is directed to review all policies, practices, and regulations of the Department of Agriculture regarding disease or insect outbreaks, forest fires, and the use of modern suppression methods and equipment in National Forest System components of the National Wilderness Preservation System in the State of Wyoming to ensure that –
 - Such policies, practices, and regulations fully conform with and implement the intent of Congress regarding forest fire, disease, and insect control, as such intent is expressed in the Wilderness Act;
 - Policies, practices, and regulations are developed that will allow timely, and efficient fire, insect, and disease control, to provide to the extent reasonably practicable, adequate protection of adjacent Federal, State, and private non-wilderness lands from forest fires and disease or insect infestations; and
 - Additionally, there will be established a standing wildfire management plan that provides a quick response should any structures or property, including those at

the Odd Fellows Camp, adjacent ranches, or the towns of Encampment and Riverside be threatened by wildfire.

- Provide a 100-foot buffer from the centerline of County Road 353 and Water Valley Road for maintenance.
- Nothing in this recommendation shall be construed as a creation, recognition, disclaimer, relinquishment, or reduction to any water rights of the State of Wyoming.

Prospect Mountain Wilderness + North Platte/Black Cat Special Management Area

The Carbon County WPLI Advisory Committee's recommendations for the Prospect Mountain WSA were to designate as wilderness within the existing WSA boundary with the following management prescriptions:

- Manage area within existing WSA according to the Wilderness Act.
- Provide a 100-foot buffer from the centerline of Prospect Road for maintenance.
- Continue grazing according to the Congressional Guidelines set forth in "Grazing in National Forest Wilderness" in (H. Report 96-617) which shall accompany any act which designates this area as wilderness.
- The Secretary of Interior is directed to review all policies, practices, and regulations of the Department of Agriculture regarding disease or insect outbreaks, forest fires, and the use of modern suppression methods and equipment in National Forest System components of the National Wilderness Preservation System in the State of Wyoming to ensure that –
 - Such policies, practices, and regulations fully conform with and implement the intent of Congress regarding forest fire, disease, and insect control, as such intent is expressed in the Wilderness Act; and
 - Policies, practices, and regulations are developed that will allow timely, and efficient fire, insect, and disease control, to provide to the extent reasonably practicable, adequate protection of adjacent Federal, State, and private non-wilderness lands from forest fires and disease or insect infestations.

The North Platte/Black Cat Special Management Area was also recommended with the following management prescriptions:

- Permit motorized vehicles only for administrative purposes and to respond to an emergency, or to develop/maintain grazing infrastructure.
- Prohibit construction of permanent or temporary roads except to respond to an emergency (fires). Temporary roads must be reclaimed to Wyoming BLM policy.
- Continue existing grazing in accordance with applicable law following the Federal Land Policy Management Act of 1976, the Public Rangelands Act of 1978, Taylor Grazing Act of 1934.
- Prohibit commercial timber harvest.
- Prohibit oil and gas, geothermal, coal, and other mineral leasing and new locatable mineral entry under the 1872 Mining Law as amended. Honor all existing valid mining claims.

- Maintain existing fire management.
- Prohibit mountain bikes.

Medicine Bow-Routt National Forest Managed Wilderness Areas

Huston Park Wilderness

The Huston Park Wilderness is located in the Brush Creek/Hayden Ranger District. The Wilderness Area was designated in 1984 and has a total of 30,588 acres. The terrain of the area rises to an elevation of 10,500 feet and contains alpine bogs, spruce-fir, lodgepole pine, and aspen forests. (USFS, 2020d)

Encampment River Wilderness

The Encampment River Wilderness is located in the Brush Creek/Hayden Ranger District. The Wilderness Area was designated in 1984 with 10,124 acres and is the smallest wilderness area in Wyoming. The Encampment River flows through a narrow rugged canyon and varies from narrow, rushing rapids to calm, smooth stretches. (USFS, 2020c)

Savage Run Wilderness

The Savage Run Wilderness is located in the Laramie Ranger District. The Wilderness Area was designated in 1978 and has a total of 14,927 acres. Steep-sided canyons are located at low elevations while rolling, plateau-like terrain can be found at higher elevations. The Savage Run Trail traverses the wilderness along Savage Run Creek. (USFS, 2020g)

Platte River Wilderness

The Platte River Wilderness mainly lies within the Medicine Bow National Forest but also includes a small portion within the Routt National Forest in Colorado. The area is in the Brush Creek/Hayden, Laramie, and Parks Ranger Districts. The Platte River Wilderness was designated in 1984 and has a total of 23,492 acres (22,749 acres in Wyoming and 743 acres in Colorado). (USFS, 2020f)

Lands with Wilderness Characteristics

Section 201 of FLPMA requires the BLM to maintain, continuingly, an inventory of all public lands and their resources and other values, which includes wilderness characteristics. It also provides that the preparation and maintenance of the inventory shall not, of itself, cause or prevent the change of the management or use of public lands. It does not address or affect policy related to Congressionally designated Wilderness or existing WSAs.

The BLM uses the land use planning process to determine how to manage lands with wilderness characteristics (LWCs) as part of the BLM's multiple-use mandate. The BLM will analyze the effects of:

- Plan alternatives on lands with wilderness characteristics, and
- Management of lands with wilderness characteristics on other resources and resource uses.

There are no designated LWCs within Carbon County. In the 2008 Rawlins BLM RMP, the BLM elected to manage LWCs for multiple use and not for the protection of wilderness character. This decision was due to the lands being unmanageable for wilderness character because of preexisting oil and gas leases. (BLM, 2008)

National Natural Landmarks

The National Natural Landmarks (NNL) Program recognizes and encourages the conservation of sites that contain outstanding biological and geological resources. Sites are designated by the Secretary of the Interior for their condition, illustrative character, rarity, diversity, and value to science and education. The NPS administers the program and works cooperatively with landowners, managers, and partners to promote conservation and appreciation of our nation's natural heritage.

Como Bluff NNL

The Como Bluff NNL is located in Carbon and Albany counties (NPS, n.d.-a). Como Bluff NNL was designated in 1966 and encompasses 1,617 acres. Como Bluff is one of the most significant Mesozoic vertebrate localities in the world. The first and best examples of Jurassic mammals, including the discovery of 80 new vertebrate species have been found at this site. (NPS, n.d.-a)

Inventoried Roadless Areas

Inventoried Roadless Areas (IRA) are portions of National Forest that were identified in the USFS 2001 Roadless Area Conservation Final EIS as lands without roads that are worthy of protection. Construction and reconstruction of roads are prohibited in roadless areas unless the USFS determines the road is necessary to protect public health and safety or otherwise meets one of the exceptions listed in the rule. These lands are to be periodically evaluated for potential designation as wilderness based on the availability, capability, and need for these areas to be designated as such. Characteristics of roadless areas include things such as natural landscapes, high scenic quality, and traditional cultural properties. To preserve the characteristics of IRAs, logging has been greatly restricted in these areas.

IRAs exist in the Platte River Wilderness, Huston Park Wilderness, and the Encampment River Wilderness. There are over 800,000 acres of IRAs on the MBNF. A map of these areas can be found [here](#)¹⁷.

Research Natural Areas

Research Natural Areas (RNAs) are permanently established areas on USFS lands that maintain areas of natural ecosystems and areas of special ecological significance. RNAs serve as benchmarks for monitoring and evaluating the impacts of land management practices on lands with similar ecosystems, these areas provide sites for research into how ecosystems function, particularly in areas where ecological and evolutionary processes are functioning in a relatively natural state. RNAs protect biological diversity. Acres within established RNAs are removed from the suitable timber base making timber harvest and fuel reduction treatments inappropriate. RNA requirements can be more restrictive than those for wilderness designation. (USFS, n.d.-b)



In the 2003 Medicine Bow Land Use Plan several areas were identified as RNAs in Carbon County. Further information on RNAs in the area can be found [here](#)¹⁸.

Browns Peak RNA

Browns Peak RNA is 472-acres located on the Brush Creek/Hayden District and is within the Bow River Geographic Area. The area is characterized by alpine fellfield, tundra, and willow habitats. Known occurrences of rare animals in the area include the brown-capped rosy finch, dwarf shrew, pygmy shrew, and Medicine Bow Mountain pika. Rare plants in the area include Golden saxifrage, black-head fleabane, Rocky Mountain snowlover, pygmy goldenweed, northern white rush, Rocky Mountain nailwort, Arctic harebell, alpine kittentails, and Dane's gentian. (USFS, 2003a)

Platte Canyon RNA

The Platte Canyon RNA is an 8,982-acre area on the Laramie Ranger District and within the Platte River Geographic Area. The main characteristics of this area include a mosaic of upland forest, woodlands, and shrublands, and a narrow riparian corridor in North Platte River Canyon. The RNA was selected as it hosts the following community types: Douglas-fire series, aspen series, narrowleaf cottonwood series, Rocky Mountain juniper series, big sagebrush series, antelope bitterbrush series, Idaho fescue series, thinleaf alder series, Booth's willow series, water sedge series, and bluepoint reedgrass series. The RNA provides habitat for the boreal western toad, bald eagle, and peregrine falcon. (USFS, 2003a)

Savage Run RNA

The Savage Run RNA is 1,061 acres and is located in the Laramie Ranger District within the Platte River Geographic Area. The main characteristic of this area is that it is almost entirely covered by lodgepole pine but includes small pockets of subalpine fir-Englemann spruce/elk sedge, subalpine fir-Englemann spruce/grouse whortleberry phase Ross sedge, and lodgepole pine/elk sedge. Much of this area likely burned in the 2020 Mullen Fire. (USFS, 2003a)

Snowy Range RNA

The Snowy Range RNA is 734 acres and was established in January 1936 for the purpose of studying old-growth Englemann spruce stands. It is located in the Laramie Ranger District within the North Fork Geographic Area. The area is comprised of Englemann spruce and subalpine fir, lodgepole pine, and very small areas of grassland, shrubland, and lakes. (USFS, 2003a)

Special Recreation Management Areas/Extensive Recreation Management Areas

The BLM's land use plans may designate Special Recreation Management Areas (SRMAs) or Extensive Recreation Management Areas (ERMAs) to provide specific management for recreation opportunities, such as developing trailhead areas for hikers, mountain bikers, horseback riders, or off-road vehicle users. Both SRMAs and ERMAs exist in Carbon County and the management goals and objectives for these areas can be found in the [2008 Rawlins BLM RMP](#)¹⁹.

SRMAs are BLM administrative units where a commitment has been made to prioritize recreation by managing for specific recreation opportunities and settings on a sustained or enhanced, long-term basis. SRMAs are managed for their unique value, importance, and/or distinctiveness; to protect and enhance a targeted set of activities, experiences, benefits, and desired resource

setting characteristics; as the predominant land use plan focus; to protect specific recreation opportunities and resource setting characteristics on a long-term basis.

ERMAs are administrative units managed to address recreation use, demand, or existing Recreation and Visitor Services Program investments; support and sustain the principal recreation activities and the associated qualities and conditions; and commensurate with the management of other resources and resource uses. There are two ERMAs designated within Carbon County, the Western ERMA and the Eastern ERMA. Descriptions of the management goals, objectives, and management actions for these areas can be found in the [2008 Rawlins RMP](#)²⁰ starting on page 2-25. The map depicting these areas can be found [here](#)²¹.

Continental Divide National Scenic Trail SRMA

The Continental Divide National Scenic Trail (CDNST) SRMA spans approximately 600 acres with the federal portion of the trail being approximately 82 miles long and located within a one-quarter-mile corridor. The management goals for this area are to 1) manage to emphasize interpretative and educational opportunities, and 2) ensure the continued availability of outdoor recreation opportunities associated with the CDNST. The area is to be managed for trail users to view the diverse topographic, geographic, vegetation, wildlife, and scenic phenomena that characterize the CDNST and to observe examples of human use of the natural resources. The management objectives and further management actions for this area can be found in the [2008 Rawlins RMP](#)²⁰ starting on page 2-26. The map of the CDNST SRMA boundary can be found [here](#)²².

North Platte River SRMA

The North Platte River SRMA is a 5,060-acre area including the one-quarter-mile area on either side of the North Platte River. The management goal is to manage the area to ensure the continued availability of outdoor recreation opportunities associated with the North Platte and Encampment Rivers. The area is to be managed to provide high-quality recreational opportunities, especially for floating, fishing, camping, and sightseeing. Current public facilities and access will be maintained to support the values of the SRMA. The management objectives and further management actions for this area can be found in the [2008 Rawlins RMP](#)²⁰ starting on page 2-27. The map of the North Platte River SRMA can be found [here](#)²³.

Shirley Mountain SRMA

The Shirley Mountain SRMA is a 37,820-acre area. The management goal is to ensure the continued availability and diversity of outdoor recreation opportunities in the Shirley Mountains. The area is to be managed for retention and expansion. The management objectives and further management actions for this area can be found in the [2008 Rawlins RMP](#)²⁰ starting on page 2-28. The map of the Shirley Mountain SRMA can be found [here](#)²⁴.

Western ERMA

The Western ERMA is managed to consider recreation objectives during development involving surface disturbing or disruptive activity and should consider the Adobe Town Dispersed Recreation Management Area desired future condition during development involving surface disturbing or disruptive activity.

Eastern ERMA

The Eastern ERMA is to be managed to retain the quality of dispersed recreation opportunities and settings (with the exception of isolated development areas, such as coal mines or wind generation facilities) while meeting the above recreation objectives.

Scenic Byways

Scenic byways are designated byways by the USFS that provide opportunities to explore the beauty, history, and natural heritage of the National Forests. The byway system was created in 1987 and originally a total of 10 byways were designated nationally. Since then, the byway system has grown to include 138 National Forest Byways, each administratively designated by the USFS Chief. There are three scenic byways within Carbon County, the Snowy Range Scenic Byway, Battle Pass Scenic Byway, and the Seminoe to Alcova Backcountry Byway. These are depicted in Figure 5.

Snowy Range Scenic Byway

The Snowy Range Scenic Byway was one of the first scenic byways designated on National Forests and is a stretch of Wyoming State Highway 130 between the cities of Laramie and Saratoga. The 29-mile scenic byway is paved and crosses through spectacular alpine habitats. The byway rises from sagebrush and lodgepole pine forests below and offers views of rugged peaks reaching over 12,000 feet in elevation, crystal clear lakes, and gorgeous displays of native wildflowers in the spruce-fir forests and alpine areas of the high country. The byway is typically open from Memorial Day weekend through mid-October. (USFS, n.d.-c)

Battle Pass Scenic Byway

The Battle Pass Scenic Byway leads across the Sierra Madre Mountains from Encampment to Baggs. This scenic 28 mile stretch of Highway 70 is open during the summer from Memorial Day weekend to mid-October. Several historic sites are located along the byway including the Battle town site and Edison Monument. Battle Pass is located along the Continental Divide. (USFS, 2020b)

Seminoe to Alcova Backcountry Byway

The Seminoe to Alcova Backcountry Byway is a 64-mile byway that goes near Alcova Reservoir, Pathfinder Reservoir, Seminoe Reservoir, and the Seminoe and Pedro Mountains. From the southern end, the byway starts at the town of Sinclair and follows County Road 351 north into Natrona County ending at Alcova. (BLM, n.d.-c)

Historic Trails

There are several historic trails and contributing segments that cross through parts of Carbon County within 66,370 acres of federal lands. These historic trails include the CDNST, Overland Trail, Cherokee Trail, Rawlins to Baggs Road, and Rawlins to Ft. Washakie Road. The BLM's management goals for these historic trails are to preserve and protect the historic trails to ensure that they are available for appropriate uses by present and future generations; reduce imminent threats from natural or human-caused deterioration or potential conflict with other resource uses; and promote stewardship, conservation, and appreciation of historic trails. The objectives

and management actions for the historic trails can be found in the [2008 Rawlins BLM RMP](#)²⁰. (BLM, 2008)

The CDNST runs south to north through Carbon County, going right through Rawlins which is a gateway city for the CDNST. Approximately 550 miles of the CDNST run through Wyoming and 45.9 of those miles run through Carbon County. The CDNST spans across the U.S. approximately 3,100 miles between the borders of Mexico and Canada. (Continental Divide Trail Coalition, n.d.; Wyoming Office of Tourism, 2018)

Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created in 1968 to preserve naturally, culturally, and recreationally valued rivers. Rivers are designated for the National Wild and Scenic River System by Congress or, in certain situations, the Secretary of Interior. There are currently 408 miles of rivers and streams designated as wild and scenic in Wyoming. (National Wild and Scenic Rivers System, n.d.-b)

There are currently no rivers in Carbon County designated as wild, scenic, or recreational within the National Wild and Scenic Rivers System (National Wild and Scenic Rivers System, n.d.-a). The 2008 Rawlins BLM RMP identified seven segments within Carbon County that are eligible for inclusion in the Wild and Scenic River System. These segments are on Muddy Creek, Littlefield Creek, Cherry Creek, Bunker Draw, Encampment River, North Platte River, and Big Creek. The BLM manages the 2.51 mile Encampment River segment as suitable for inclusion in the National Wild and Scenic River System with the tentative classification of wild. (BLM, 2008)

The 2003 Medicine Bow Land and Resource Management Plan identified eight segments within Carbon County that are eligible for designation as wild, scenic, or wild and scenic. The segments inventoried for Wild and Scenic River eligibility include (NOTE: The segments with an asterisk (*) did not meet the USFS eligibility requirements for wild and scenic but they were included as proposed Wild or Scenic River in Alternative F of the Forest Plan.) (USFS, 2003b)

- North Platte River – 16.35 miles
- Encampment River – 11.7 miles
- North Fork Little Snake River – 9.36 miles
- West Branch North Fork Little Snake – 7.72 miles
- Roaring Fork Little Snake River – 3.73 miles
- Rose Creek – 0.89 miles
- *Big Sandstone – 14.0 miles
- *Solomon Creek – 4.0 miles

Further information on the Wild and Scenic segments inventoried can be found in [Appendix E](#)²⁵ of the 2003 Medicine Bow Land and Resource Management Plan.



Other Management Areas

Raptor Concentration Areas – Shamrock Hills

The Shamrock Hills Raptor Concentration Area is managed to maintain or improve habitat and protect the concentration of breeding and nesting ferruginous hawk species, as well as other bird species, including the mountain plover, sage sparrow, and Greater sage-grouse, and is crucial winter/year-long range for pronghorn. The area is approximately 18,400 acres. Further management actions and objectives for the area can be found in the [2008 Rawlins BLM RMP](#)²⁰. (BLM, 2008)

Management Area – High Savery Dam and Reservoir Site

The High Savery Dam and Reservoir Site is managed to protect the area, support the development of a fishery for Colorado Cutthroat and manage the area for recreation. The area is approximately 530 acres and is managed jointly with the Wyoming Water Development Commission (WWDC). Further management actions for the area can be found in the [2008 Rawlins BLM RMP](#)²⁰. (BLM, 2008)

Research Area – Stratton Sagebrush Steppe

The Stratton Sagebrush Steppe Research Area is managed for scientific values within the area and provides opportunities for cooperative research while protecting the long-term research value. The area is approximately 4,613 acres. The area is closed to mineral material disposal, has limited motorized vehicle use to only designated roads and vehicle routes, is closed to oil and gas leasing, is designated as a fire suppression area, and allows livestock grazing that is managed to meet the objectives of the research area. (BLM, 2008)

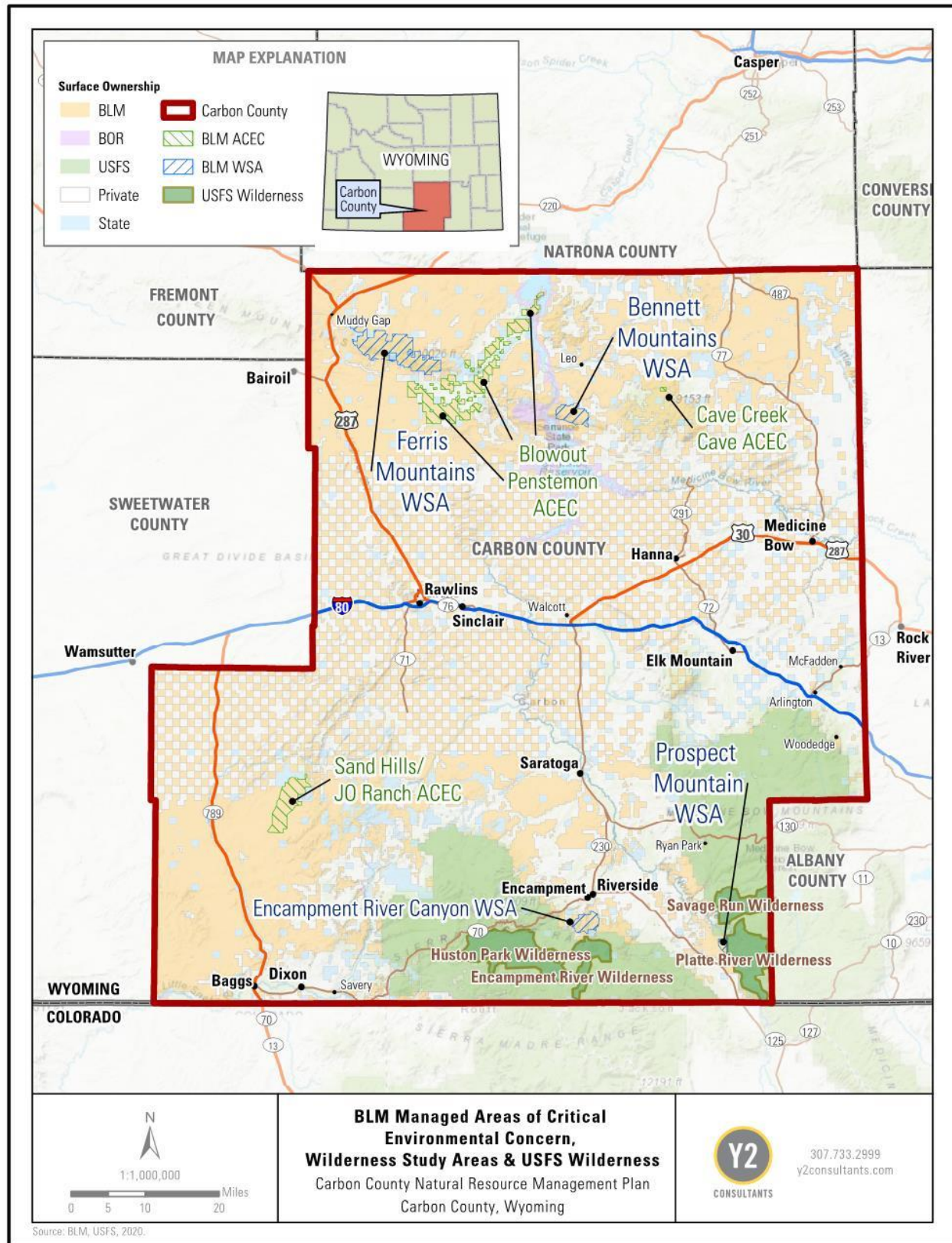


Figure 3. BLM Managed ACECs and WSAs in Carbon County.

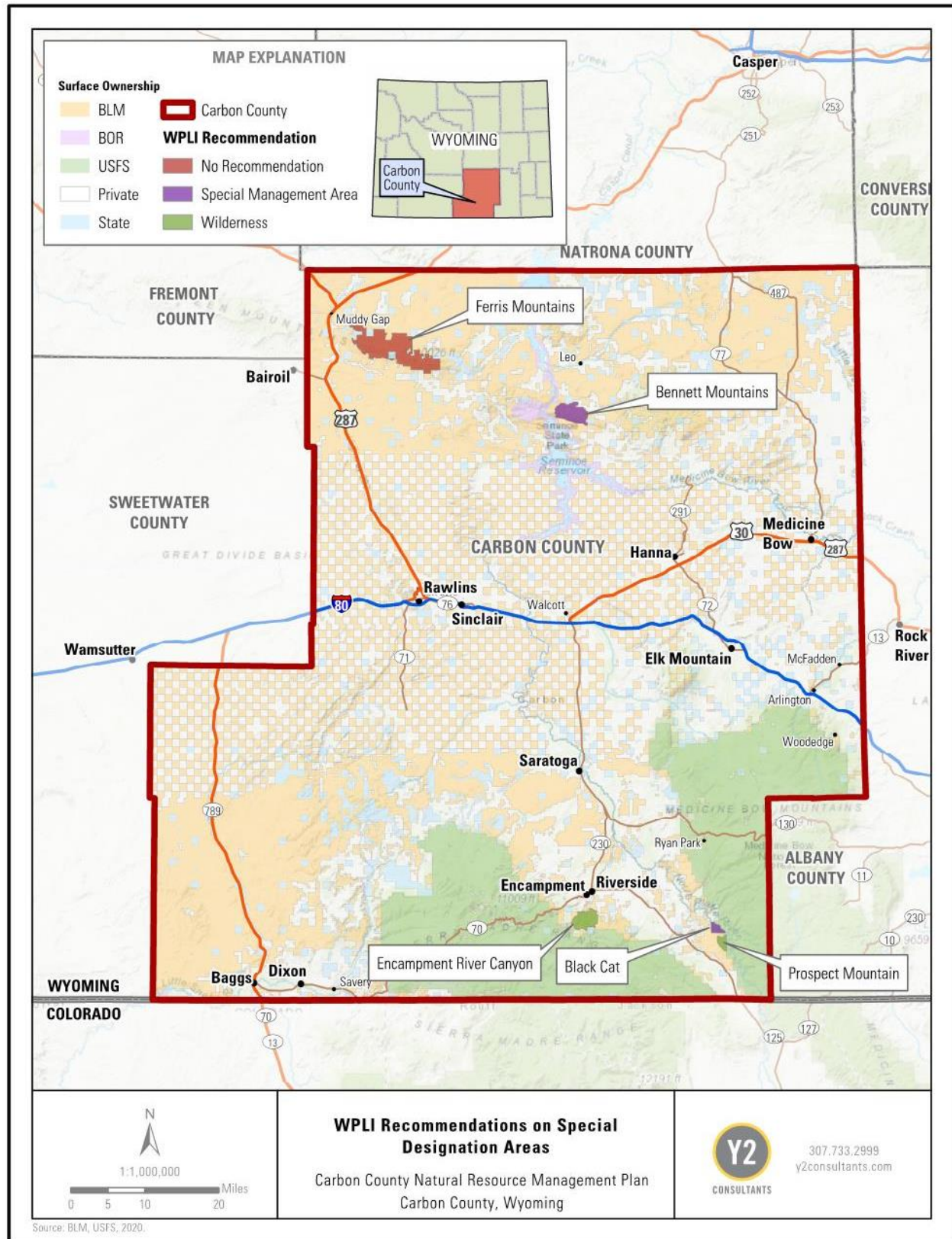


Figure 4. Wyoming Public Lands Initiative special designation area recommendations.

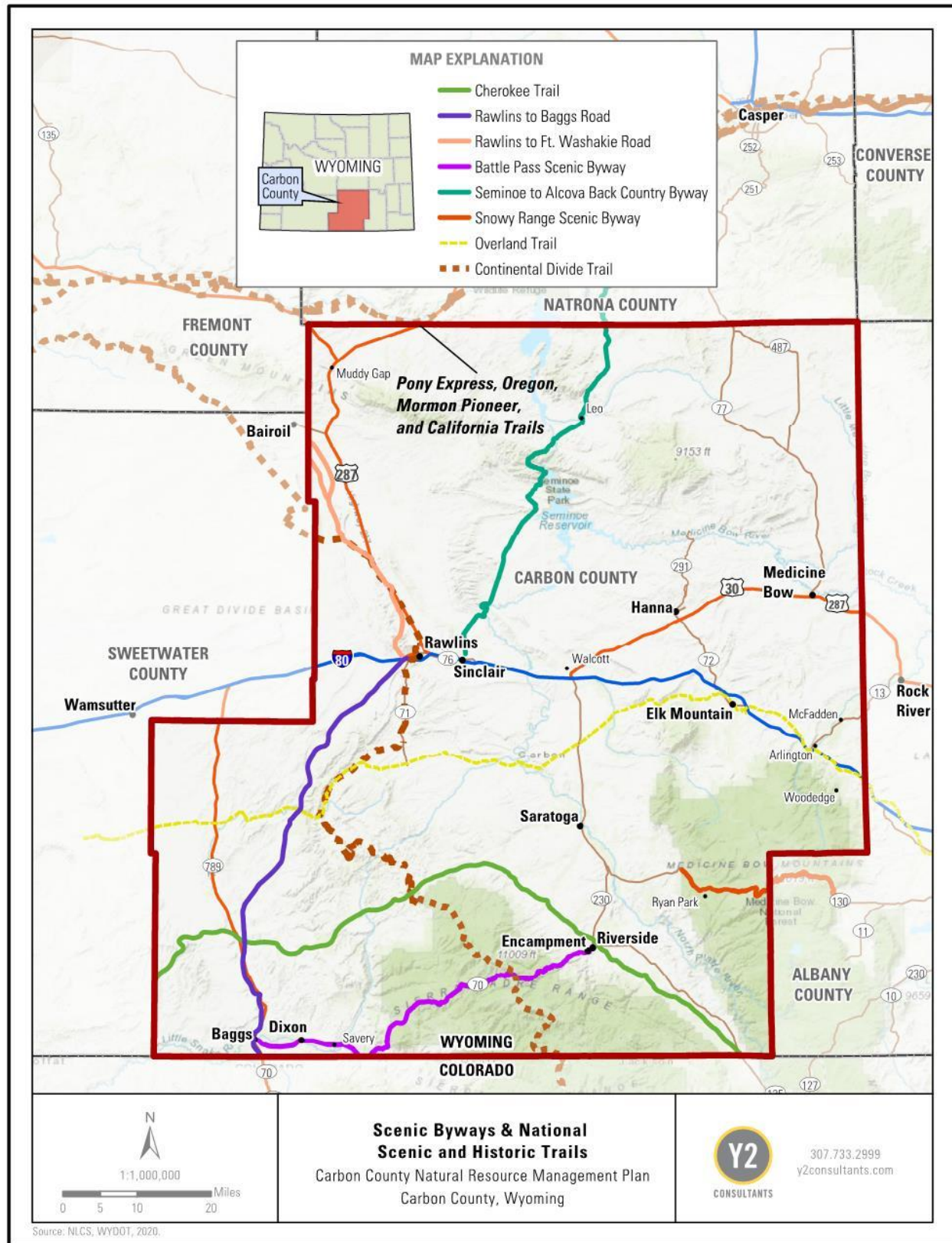


Figure 5. Scenic byways and National Scenic and Historic Trails within Carbon County.

3.3.3 Resource Management Objectives (Special Management Areas):

- A. Carbon County is coordinated with on current management strategies on lands currently listed or proposed for listing as special designation or special management areas.
- B. Historic uses are maintained on lands already designated as Wilderness, Wilderness Study Areas, Areas of Critical Environmental Concern, other special designation areas, or areas inventoried as lands with wilderness characteristics.
- C. Special land use designations are applied only when the management is consistent with surrounding management and contributes to the sound policies of multiple use, economic viability, and Carbon County custom and culture.
- D. The 2008 Bureau of Land Management Rawlins Field Office Resource Management Plan and 2003 United States Forest Service Medicine Bow National Forest Land Use Plan management continue to be implemented by the agencies and there is no expansion or creation of new special use areas.

3.3.4 Priorities (Special Management Areas):

- 1. Federal agencies responsible for making wilderness recommendations to Congress shall comply with their respective coordination mandates with Carbon County when making wilderness determinations and developing wilderness inventories.
- 2. The Bureau of Land Management should coordinate with Carbon County early and allow the County to participate as a cooperating agency whenever there is an Area of Critical Environmental Concern proposal on land managed by the Bureau of Land Management.
- 3. Proposals for Areas of Critical Environmental Concern designations shall strictly adhere to the relevance and importance criteria, and the Bureau of Land Management must demonstrate, using credible data, the need for an Area of Critical Environmental Concern designation to protect the area in question and prevent irreparable damage to resources, natural systems, or the economy of the local area.
- 4. Any Area of Critical Environmental Concern designation should address the reason for designation and not extend beyond the reason for the designation.
- 5. Wilderness Study Area designations after 2020 by Congress should be expedited to achieve a decision within 2-years from the proposal of the designation; should the designation not be made within this timeframe, Carbon County requests that the area be returned to multiple use.
- 6. Management of special designation areas should be coordinated with Carbon County and consistent to the maximum degree with the Carbon County Natural Resource Management Plan.
- 7. Federal agencies should allow for the use of herbicides to control noxious weeds in special designation and management areas.
- 8. Carbon County supports the continued use of livestock grazing in all special management or designation areas unless prohibited by law.
- 9. Federal land management agencies should apply wilderness area management techniques exclusively to those lands officially designated as Wilderness areas.
- 10. Historic access routes should be included in all special designation areas.
- 11. Prior or existing lease rights should continue or be reinstated in Wilderness Areas and Wilderness Study Areas as required by the Federal Lands Policy and Management Act.

12. Federal agencies should not curtail the installment of necessary rangeland improvements in Wilderness or Wilderness Study Areas (i.e., fences and water developments) to maintain and encourage the use of the prior existing rights in the area.
13. On-the-ground mapping of the roads, fences, rangeland improvements, and any other anthropogenic influence in lands under consideration for lands with wilderness characteristics or Wilderness Study Area designations should occur to ensure accurate representations of the area.
14. Economic and environmental cumulative impacts analysis should be conducted for all existing and proposed designations of any specially designated areas before any new areas are designated or expanded.
15. Wilderness Study Areas should be released or removed from consideration that contain non-wilderness characteristics, such as roads or active oil/gas wells within 2 years.
16. Carbon County should be a cooperating agency on any future designation of any action to analyze any current or proposed special land use designation.
17. Wild and Scenic River designations should not occur that will economically harm existing uses within Carbon County.
18. Federal agencies should conduct surveys of special management or designation area lands affected by fire in a timely manner following a fire to identify invasive and noxious weed presence or potential.

3.4 WILDFIRE MANAGEMENT AND COMMUNITY WILDFIRE PLANNING

3.4.1 History, Custom, and Culture

Wildfire is defined as an unplanned, unwanted fire that spreads rapidly and is difficult to extinguish. This includes accidental human-caused fires, unauthorized human-caused fires, escaped prescribed fires, and naturally occurring fires. Wildfires have had catastrophic effects in Carbon County, including severe damage to the County's watersheds, timber resources, grazing lands, wildlife habitat, and recreational activities that rely on healthy forests and rangelands (Figure 6).

3.4.2 Resource Assessment and Legal Framework

Proactive planning to respond to a wildland fire event is critical to the protection of Carbon County; its citizen's health, safety, welfare, and private property; and forest and rangeland health. A high degree of coordination between federal, state, and local agencies is necessary for the management of wildfires. Some wildfires are suppressed immediately to prevent resource damage, but other fires are controlled to carry out specific land health objectives, such as habitat enhancement.

Many areas of Carbon County fall within a Wildland Urban Interface (WUI). A WUI is an area where human-made structures and infrastructure (e.g., cell towers, schools, water supply facilities, oil and gas pads, etc.) are in or adjacent to areas prone to wildfire (U.S. Fire Administration, 2020). WUI areas are typically private forestlands that are within 500 meters of public forestlands. The 500-meter buffer is used to identify the existing and potential WUI area because guidelines for defensible space necessary to protect homes from wildfire range from 40

to 500 meters around a home. Between 2000 and 2019 Carbon County experienced a 23.5% increase in land developed within the WUI. (Headwaters Economics, 2019)

Carbon County has a Community Wildfire Protection Plan (CWPP) that was last updated in 2016. The purpose of the plan is to identify at-risk communities, prioritize these communities based on fire risk, and make recommendations for reducing the chances of unplanned fire threatening these communities. The CWPP helps coordinate activities across jurisdictions and ownerships. It addresses the need for the restoration of fire-adapted ecosystems and improved forest and rangeland health (Carbon County CWPP, 2016). A copy of the plan can be found [here](#)²⁶ and at-risk communities can be found on pages 39-43 of the CWPP. Carbon County has been greatly affected by wildland fire particularly in the last 20 years. Table 3 shows the fires over 100 acres that have occurred in the County since 2000.

Table 3. Wildfires that have occurred in Carbon County since 2000.

Fire Name	Year	Total Acres Burned	Acres in Carbon County
Blackhall	2000	611	611
Hell Canyon	2000	257	257
Bear Mountain South	2002	506	506
Sixmile	2003	200	200
Iron Draw	2010	175	175
McCarty	2010	229	229
Iron Draw	2010	175	175
McCarty	2010	229	229
South Pennock	2011	477	477
Ferris Mountain	2011	1,588	1,588
Willow	2012	566	241
Ferris	2012	2,639	2,639
Seminole	2012	3,516	3,516
Cardwell	2012	186	186
Ferris	2012	7,985	7,985
West Battle Creek	2013	37,640	101
Beaver Creek	2016	38,394	2,832
Broadway	2016	2,121	2,121
Snake	2016	2,565	2,565
Encampment River	2017	140	140
Ryan	2018	28,419	25,181
250	2018	162	162
Pedro Mountain	2019	23,564	23,564
Mullen Fire	2020	176,890	64,373

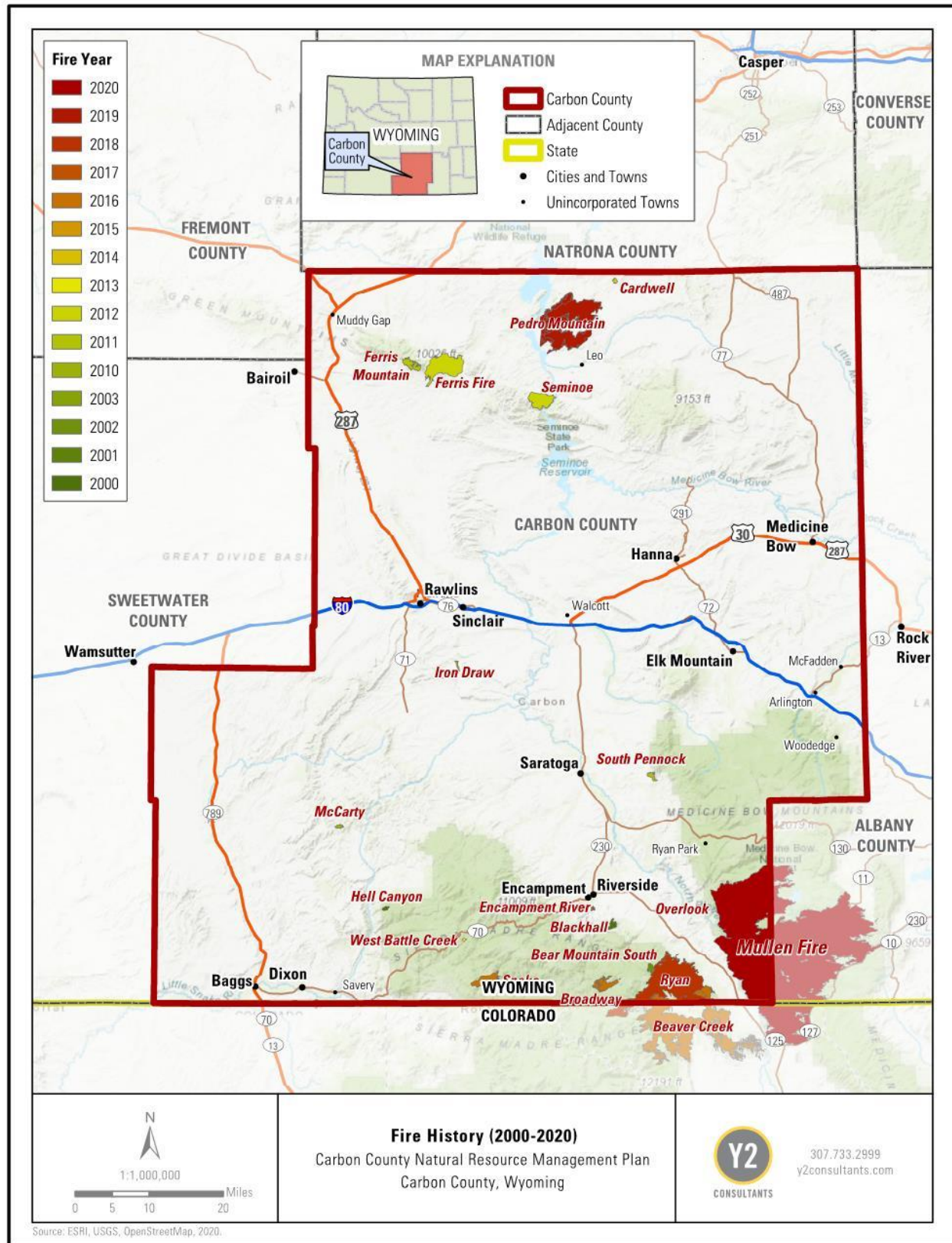


Figure 6. Wildfires within Carbon County larger than 100 acres from 2000 to 2020.

3.4.3 Resource Management Objectives (Wildfire Management):

- A. Wildfire management, wildfire, fuels, and fire rehabilitation are managed promptly and effectively using credible data, as defined above, in coordination with Carbon County.
- B. Fire suppression efforts are implemented effectively as appropriately determined through full coordination, communication, and cooperation between federal, state, and local fire suppression units within Carbon County.
- C. Consultation and coordination with Carbon County occur on all proposed changes and updates to fire management plans for federal lands.
- D. Multiple fuels management techniques are utilized to reduce fuels including but not limited to, logging, grazing, vegetation treatments, etc.
- E. Wildfire management is focused on wildland-urban interface areas and those at-risk communities described in the 2016 Carbon County Community Wildfire Protection Plan.
- F. Post-fire resource objectives are coordinated with Carbon County and applicable permittees.
- G. In conjunction with local, state, and federal planning partners, strategies are developed to help enhance vegetative conditions, encourage historic fire regimes, and reduce the potential risk for large wildland fires via fuels treatments and controlled burning.
- H. The Secretaries of Agriculture and Interior and local agencies develop fire management policies and resource management plans that utilize and acknowledge the beneficial effects of planned grazing as a fuels management tool.

3.4.4 Priorities (Wildfire Management):

- 1. Federal agencies should incorporate local fire association plans into their fire suppression and control plans and support efforts of local fire departments in immediate wildfire suppression activities.
- 2. Federal agencies should support the development of a Master Good Neighbor Agreement between federal, state, and local fire suppression units.
- 3. Federal agencies should coordinate with Carbon County and other agencies to implement insecticide and herbicide treatments, livestock grazing, biomass fuel removal and reduction, slash pile burning, and prescribed burning as proactive fire mitigation tools.
- 4. Federal agencies should utilize adaptive and flexible grazing management practices and include them in term permits to allow for management practices that will decrease fuel loads on the landscape, particularly in areas with a heavy grass understory.
- 5. Carbon County encourages the use of the authorities granted under the Healthy Forests Restoration Act, Healthy Forests Initiative, and Good Neighbor Authority to expedite cross-boundary/agency planning, collaboration processes, and project implementation to treat and protect the resources of Carbon County economically and efficiently.
- 6. Federal agencies shall coordinate with local fire agencies.
- 7. The United States Forest Service shall adhere to all requirements set forth in the Cooperative Forestry Assistance Act, 16 U.S.C. § 2106, including:
 - a. The effective cooperative relationships between the Secretary of Agriculture and the states regarding fire prevention and control on rural lands and in rural communities shall be retained and improved.

- b. Efforts in fire prevention and control in rural areas shall be coordinated among federal, state, and local agencies.
 - c. In addition to aiding state and local rural fire prevention and control programs, the Secretaries of Agriculture and Interior shall provide prompt and adequate assistance whenever a rural fire emergency overwhelms or threatens to overwhelm the firefighting capability of the affected state and rural area.
- 8. The Bureau of Land Management should use their agency document *Earning Bridges: Strategies for Effective Community Relations Before, During and After Fire* to improve coordination between the Bureau of Land Management, State of Wyoming, Carbon County, local fire associations, and local stakeholders.
- 9. Carbon County supports and encourages temporary fire restrictions when done in coordination with the County based on fire hazard designations to minimize the potential for human-caused wildfires. Restrictions should be removed as soon as it is safe for work and recreation to resume on federal lands.
- 10. If grazing on federal lands is temporarily suspended due to fire, grazing should be recommenced based on monitoring and site-specific rangeland health determinations and objectives rather than solely on fixed timelines.
- 11. Authorized livestock grazing should be returned to pre-fire levels when post-fire monitoring data shows established objectives have been met or have been achieved to an extent allowed by the site potential. The use of credible data should be used as previously defined to make these determinations and permittees should be notified within 60 days of the permitted turnout date.
- 12. Federal agencies should rehabilitate forests and rangelands damaged by wildfires as soon as possible to reduce the potential for erosion and the introduction of invasive or noxious weeds.
- 13. Federal agencies should manage invasive and noxious weeds after wildland fire events as a way to reduce fire fuels on federal lands, using tools including (but not limited to) targeted livestock grazing, chemical, and mechanical controls that promote ecosystem health and as a management tool for vegetation manipulation.
- 14. Federal agencies should support the use of ongoing research and experimental options for developing new and alternative treatments for the management of invasive and noxious weeds after wildland fire events on federal lands.
- 15. Federal agencies should conduct surveys of lands affected by fire in a timely manner following a fire to identify invasive and noxious weed presence or potential.
- 16. Post-fire objectives should be consistent with site potential as defined in approved Desired Future Conditions or Ecological Site Descriptions. Carbon County requires the use of credible data as previously defined to make these determinations.
- 17. Carbon County promotes the prompt rehabilitation of forested lands whether those areas are harvested or affected by wildfire, including salvage logging operations.
- 18. Carbon County supports exposing aspen stands to periodic fire or manmade disturbance that mimics wildfire to remove competing conifers.
- 19. Federal agencies should coordinate with Carbon County on prioritizing fire suppression or control for resource management purposes.

20. Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered.
21. Encourage the use of free dead wood, in approved areas, for private use to help reduce fuel loads on federal lands.

3.5 FOREST MANAGEMENT

3.5.1 History, Custom, and Culture

The beneficial use of forest resources has always been a part of Carbon County's customs and culture. Early citizens relied on forest resources for timber for buildings, corrals, fences, railroad ties, and fuel. Logging occurred early in the history of Carbon County as timber crews began cutting lumber to build Fort Steele in 1868 and during that same time the first log ties were floated down the North Platte River to supply the Union Pacific Railroad. The Medicine Bow National Forest was established in 1902 and has been managed by the USFS since. Timber harvesting within Carbon County historically paid for the maintenance of forest roads and allowed more public access and multiple use of the forests. Several sawmills were once operational in Carbon County but the shift in forest management to less logging and different policies shut most of the sawmills down and significantly reduced timber harvesting as an economic resource within the County. The sawmill in Saratoga has been part of that community since the 1940s and is the only sawmill still operational in the County. The sawmill provides over 100 jobs and contributes to the economic resources of Carbon County. (Van Pelt, 2014b)

3.5.2 Resource Assessment and Legal Framework

A healthy forest ecosystem provides employment, ecosystem services, and economic benefit for individuals and businesses within Carbon County. Proper forest management ensures the protection of natural resources as well as human health and safety within the County by reducing risk in WUI areas and to communities at risk of wildfire. Forest products also increase the economic potential within the County as a revenue source. Forest management includes proactive measures to maintain the health of forests, provide enhancement opportunities for forest succession, promote optimum timber species on forested areas identified in the Medicine Bow LRMP for forest products or maintenances and restoration considering the historic range of variability. [Table 2-2](#)²⁷ in the Medicine Bow LRMP describes the selected activities that are permitted or restricted according to management area prescriptions. (USFS, 2003a)

Harvesting of forest products still occurs within the County and includes firewood, posts and pole, Christmas trees, and commercial harvesting. Several timber sales contracts have been issued in recent years and fuels mitigation projects in the WUI are being conducted (USFS, 2018). In 2018, approximately 8,779,000 board feet came out of the National Forest in Carbon County, 500,000 board feet came off State lands, 2,000,000 came off BLM lands (Forest Industry Research Program, 2018).

Saratoga Forest Management (SFM), the sawmill in Saratoga, commercially harvests from the Medicine Bow National Forest and has been in the Saratoga community since the 1940s. SFM has a history of producing straight, strong, framing lumber from the high-altitude lodgepole and



Engelmann spruce forests within the area. It is the only company within the region that has the infrastructure necessary to provide large-scale forest restoration on a commercially viable basis. SFM also provides much-needed revenue through direct payment to federal, state, and municipal agencies to treat ecosystems devastated by fire, pathogens, or invasive species. SFM produces approximately 200,000 board feet per day. (Saratoga Forest Management, n.d.)

The Medicine Bow Landscape Vegetation Analysis Project (LaVA Project) was recently signed in August 2020. The LaVA project includes up to 288,000 acres of vegetation management in the next 15 years on the Medicine Bow National Forest under one decision. The LaVA Project was developed to respond to unprecedented landscape-level tree mortality from bark beetles and other forest health issues that have affected hundreds of thousands of acres across the forest since the 1990s. The LaVA project encompasses both Albany and Carbon counties with the project area stretching from the Colorado-Wyoming border north across the Snowy Range and Sierra Madre Mountain Ranges from approximately 25 miles west of Laramie to about 25 miles east of Baggs (USFS, 2020a). The ROD can be found [here](#)²⁸.

3.5.3 Resource Management Objectives (Forest Management):

- A. Forest managers use the multiple use mandate for sustainable management of all national forests and other public forests.
- B. All fire rehabilitation efforts are done in coordination with Carbon County on a case-by-case basis.
- C. Forest resources are managed within Carbon County to benefit the economy of the communities, support a strong agriculture industry, and maintain recreational availability along with custom and culture in Carbon County.
- D. Forest management within Carbon County is conducted on a watershed level in cooperation, consultation, and coordination with landowners and land managers.
- E. Forest management within Carbon County is prioritized in wildland-urban interface areas and near high-risk communities.
- F. Forests within Carbon County are actively managed to naturally optimize carbon sequestration.

3.5.4 Priorities (Forest Management):

- 1. Carbon County encourages federal policies that support the timber industry and its continued economic benefit to the citizens of Carbon County.
- 2. Forest management shall follow the mandates of the Organic Administration Act and adhere to the Multiple Use Sustainable Yield, as well as the National Forest Management Act, and the National Environmental Policy Act.
- 3. Forest management should support a coordinated timber harvesting and thinning method to promote forest health, reduce disease and insect infestation, reduce wildfire impacts, and prevent waste of forest products while supporting the economy of Carbon County for future generations.
- 4. Federal agencies should utilize livestock grazing and fuels management programs to promote forest health and reduce wildfire risk within Carbon County.

5. Federal agencies should promote the prompt rehabilitation of harvested forest areas and areas affected by wildfire, including salvage logging operations, when not in conflict with federal law.
6. Burning of firewood is part of the custom and culture and important to the economic welfare of Carbon County's citizens and should be maintained as an acceptable practice.
7. Forest vegetation should be managed for a mosaic of vegetative communities, focusing on the Medicine Bow National Forest Historic Range of Variability, for a diversity of age class distribution, patch size, and vegetation composition as allowed per elevation, edaphic, and topographic influences.
8. Active management of forested lands should consider timber yield to maintain the health of timber stands to provide wildlife habitat, minimize erosion of soils, and continue soil stability.
9. The United States Forest Service should support salvage timber sales and other sales wherever stands of trees require this to maintain a healthy, viable forest and to reduce the amount of dead wood accumulation within the Medicine Bow National Forest.
10. Carbon County supports the Secretaries of Agriculture and Interior and their efforts to conduct fuel reduction treatments in the wildland-urban interface on federal lands that are at risk from wildfire.
11. Accelerated forest thinning should occur at large scales to improve the water balance and resilience of forests and sustain the ecosystem services they provide.
12. Aspen stands should be exposed to periodic fire or manmade disturbance that mimics wildfire to remove competing conifers.
13. The United States Forest Service timber land managers should offer timely timber sales (post and pole, hazard tree removal, large scale logging operations, etc.) and forest products permits to help sustain the timber industry and ensure that forest conifer age classes are diverse and include both substantial amounts of seedling-sapling stands and mature stands.
14. Cooperative efforts with Wyoming State Forestry, United States Forest Service, other federal agencies, and industry should continue to address forest health issues because of the beetle epidemic and other natural catastrophic events (i.e., tornadoes, microbursts).
15. Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered.
16. Federal agencies should conduct projects to remove conifers and/or sagebrush in areas where they have encroached to improve the diversity of vegetation.
17. Federal agencies should coordinate with Carbon County, Conservation Districts, and Wyoming Game and Fish Department on areas where conifer and/or sagebrush should be removed due to encroachment.

3.6 LAND EXCHANGES

3.6.1 History, Custom, and Culture

Land exchanges can be used to alter the checkerboard of federal and private land, allowing lands to be consolidated by ownership type and reducing the amount of federal land that is isolated from other public lands. This allows for more uniform management of USFS and BLM lands and



can create public access opportunities that were previously impossible due to the landlocked nature of such parcels and the lack of easements on neighboring private lands. Land exchanges can also be used to allow community development or other purposes that provide great value to the public interest. Exchanges usually take two to four years, but the process can be extended considerably if complications arise with NEPA, land valuation, or ESA.

Several land exchanges between private and State lands have occurred within Carbon County in recent years which has allowed more public access to certain areas. In most cases, the surface ownerships are exchanged but the sub-surface mineral rights stay with the private landowner.

3.6.2 Resource Assessment and Legal Framework

Exchanging private land for public is one way that agencies can improve their management of public lands and allow public access to said lands. FLPMA granted the USFS and BLM power to conduct land exchanges with private property owners and established five requirements for the process:

- 1) Acquisitions must be consistent with the mission and land use plans of the agency.
- 2) Public interests must be served by the land exchange.
- 3) An agency may accept title to non-federal land if the land is in the same state as the federal land for which it is being exchanged and the agency deems it proper to transfer the land out of federal care.
- 4) The lands to be exchanged must be equal in value or equalized through the addition of a cash payment, but a cash payment may not exceed 25% of the total value of the federal land.
- 5) Land may not be exchanged with anyone who is not a U.S. citizen or a corporation that is not subject to U.S. laws (Bureau of Land Management, 2005).

The process for land exchanges begins with a proposal (by an agency or private landowner) of exchange by an agency to a private landowner. The proposal then goes through multiple analysis and review phases to assure its compliance with the laws and regulations controlling such an exchange. After the review process is complete, an agreement to initiate is signed by both parties which outlines the scope of the exchange and who will be responsible for what costs in the procedure. (USFS, 2004)

The parties are expected to share equally in the costs of a land exchange, but specific requirements may vary between agencies. The USFS requires private landowners to pay for title insurance, advertising, hazmat cleanup, and land surveys at a minimum. The USFS usually pays for appraisals (USFS, 2004). However, the BLM may share in some of these specific expenses if the total costs are apportioned in an equitable manner (Bureau of Land Management, 2005)

Next, an appraisal must be done on each parcel to determine their respective values and assure that the properties are capable of being exchanged. At this point, the agency and private landowner sign a formal exchange agreement binding them to the exchange. The plan is then subject to final review before being completed. During the exchange process, NEPA review must also be completed. The exchange must follow NEPA procedures to determine the environmental



impacts of the exchange, including scoping, environmental assessment, notice and comment, and appeals. (USFS, 2004)

The USFS can also perform land exchanges under Title III of the Bankhead-Jones Farm Tenant Act (BJFTA) for parcels situated in National Grasslands. These lands are commonly called “Title III Lands.” Title III lands require the USFS to determine that an exchange will not conflict with the purposes of the BJFTA and that the values of the properties are “substantially equal.” If the USFS can show through a determination of consistency that the exchange does not conflict with the purpose of the BJFTA, it “may be completed without a ‘public purpose’ reversionary clause.” (USFS, 2004)

Payments in Lieu of Taxes

Land exchanges or acquisitions that eliminate or decrease private lands can be harmful to the County because the federal government does not pay property taxes, but still may create a demand for services, such as fire protection and police cooperation. One way to offset some of these losses is Payments in Lieu of Taxes (PILT) administered by the United States Department of Interior (31 U.S.C. §§ 6901-6907). The annual PILT payments to local governments are computed in a complex formula based on five variables 1) the number of acres of eligible land in the county; 2) the population of the county; 3) the previous year’s payments for all eligible lands under other payment programs from federal agencies; 4) any state laws requiring payments to be passed through to other local government entities (such as school districts); 5) any increase in the Consumer Price Index for the 12 months ending the preceding June 30th. Generally, federal lands eligible under PILT include acreage within the National Forest and National Park Systems, those managed by the BLM, and those affected by USACE and BOR water resources development projects (31 U.S.C. § 6901). Individual county payments may increase or decrease from the prior year due to changes in computation variables and the amount allocated by Congress in its discretionary spending (31 U.S.C. § 6902). In 2020, Carbon County received \$1,505,226.00 in PILT payments (U.S. Department of the Interior, 2020). The Congressional Research Service offers an in-depth look at PILT and some of the issues surrounding the program, including, the uncertainty counties face regarding PILT funding because the funding is discretionary for Congress (Hoover, 2017).

3.6.3 Resource Management Objectives (Land Exchanges):

- A. Land exchanges within Carbon County that are mutually beneficial to private landowners, federal agencies, and the public are completed in a timely and cost-efficient manner.
- B. There is no net loss of private or state lands in exchange for federal lands within Carbon County.

3.6.4 Priorities (Land Exchanges):

- 1. Federal agencies should proactively identify potential land exchanges that will consolidate land ownership type and reduce federal land from being isolated from other federal lands within Carbon County.

2. Federal agencies should prioritize land exchanges in areas where there may be resource or management conflicts between federal managers and neighboring private or state landowners.
3. There should be no net loss of state or private land based on acreage and fair market value.
4. Voluntary land exchanges and/or other similar programs should be pursued as a primary way to encourage access to landlocked federal public lands as opposed to the use of eminent domain or other involuntary methods.
5. Federal agencies should attempt to consolidate and combine land exchanges when possible to reduce overall costs. However, such consolidations should not be at the expense of causing undue delay on smaller land exchange proposals.
6. Payment in lieu of taxes funds and other federal funding mechanisms should be used to offset any loss in tax income resulting from land exchanges or purchases from federal agencies.

CHAPTER 4: GEOLOGY, SOILS, MINING, ENERGY, AND AIR QUALITY RESOURCES

4.1 OVERVIEW

Mineral ownership is heavily mixed within Carbon County (Figure 7) and there is a substantial amount of private land with federally held mineral estate (split estate). Given this land pattern, it is critical to evaluate the effects of federal and local management actions across all ownerships. Split estate is defined as a tract of land where title to the surface estate is separate from the title to some or all the mineral rights. Split estates are common in the western United States because private land conveyed under the homestead or stock-raising homestead acts reserved the mineral rights to the United States. Under common law, the mineral estate is dominant and can be developed over the objections of the surface owner. Generally, and as set forth in Wyoming law, mineral rights often take precedence over other rights and the owner of the mineral estate has an overriding right to use the land to explore for and develop minerals. Many situations of split estate minerals in which the federal government owns the mineral estate originate back to the Stock Raising Homestead Act of 1916 in which the federal government reserved everything to the government besides what was necessary to farming and raising livestock (43 U.S.C. §§ 291 and 299; *see also Watt v. Western Nuclear Inc.*, 462 US 36, 53-55 (1983)). Thus, the federal government owns the minerals of any lands in which the patent is after 1916. Modern laws and case decisions have modified the rule but still recognize the right of the mineral owner to develop the mineral estate, even when the surface owner objects. If the surface is federally owned, it will require the mineral owner to reclaim the surface, secure permits to build roads and other facilities, and post reclamation bonds. If the surface is owned by a private landowner, then federal reclamation laws do not apply but state laws will.

The surface owner where oil and gas operations occur may experience significant impacts to their property if they do not also own the mineral rights. In this situation, there are very few options for the surface owner. Wyoming Statute §§ 30-5-401 thru 30-5-410 include provisions that the oil and gas operator and the surface owner shall attempt good faith negotiations to reach a surface use agreement for the protection of the surface resources, reclamation activities, timely completion of reclamation of the disturbed area, and payment for damages caused by the oil and gas operations. Additionally, Wyo. Stat. § 30-5-405 “Surface damage and disruption payments; penalty for late payment” outlines that these payments only cover land directly affected by oil and gas operations for damages sustained by the surface owner for loss of production and income, loss of land value, and loss of value of improvements caused by oil and gas operations.

For federal split mineral estates, the BLM manages all minerals owned by the federal government. Whenever an operator acquires a BLM lease to produce minerals from a split estate, they must negotiate a surface use agreement in good faith with the surface estate owner (Bureau of Land Management, 2007). The surface use agreement is confidential but must provide enough information in a Surface Use Plan to allow for the BLM to conduct NEPA review of the project. If the operator is unable to negotiate a surface use agreement with the landowner, they may elect to file a bond with the BLM to cover compensation for damages to the surface estate.



4.2 GEOLOGY

4.2.1 History, Custom, and Culture

Carbon County has a rich geologic history. There are many locations throughout the County where geologic formations are visible and display the history of the area (Figure 8).

4.2.2 Resource Assessment and Legal Framework

The topography of Carbon County is generally characterized by plains and valleys transitioning into rugged uplifts. Exposed rocks in Carbon County range from Precambrian to Quaternary in age with the older Precambrian formations exposed in the uplifts. These Precambrian rocks are generally quartzite, conglomerates, and shales. (Geology and Ground-Water Resources of the Rawlins Area, Carbon County, Wyoming, 1960)

The Sierra Madre Mountains, which cut through Carbon County, were formed by crustal folding in the late Cretaceous and early Cenozoic periods (the Laramide Orogeny). During the Eocene epoch, a shallow lake was formed southwest of the Sierra Madre, and lake sediments were eventually transformed into marlstone and calcareous shales (Green River Formation). Along the shoreline of this lake, the fluvial and deltaic Wasatch Formation was formed. Virtually all the strata in the river basin are sedimentary in origin.

The western edge of Carbon County is part of the Greater Green River Basin which hosts the Little Snake River Coal Field with coal-bearing formations present in the Eocene, Paleocene, and Cretaceous strata. (Shaffer et al., 2019)

Carbon County is also within the North Platte River basin. This basin has a long, complex history of sedimentation, erosion, and tectonic activity. The forces of the Laramide Orogeny are the most important in shaping the area's basic structures: synclinal basins and anticlinal mountains caused by uniform geologic events and processes. Generally, the region is made of broad, deeply eroded, granitic anticlines between which lie several synclinal basins, or parks, consisting of sedimentary deposits. The northernmost synclinal basin is North Park which is approximately 1,000 square miles in northern Colorado. North Park is part of a larger structural basin bisected by the Rabbit Ears Range, the Never Summer Range, the Medicine Bow Mountains, and the Sierra Madre Mountains. The latter two ranges and the Laramie Mountains extend into Wyoming, where they decrease in elevation and become buried by surrounding sedimentary deposits. This sedimentary granitic rock contact serves as the approximate boundary between the Southern Rocky Mountains and the Wyoming Basin. (The North Platte River Basin: A Natural History | WyoHistory.Org, n.d.)

4.2.3 Resource Management Objective (Geology):

- A. Geological research occurs to promote the economic viability and the custom and culture of Carbon County.

4.2.4 Priority (Geology):

- 1. Carbon County encourages geological studies to occur within the County to assist with potential development of new mining and energy activities.



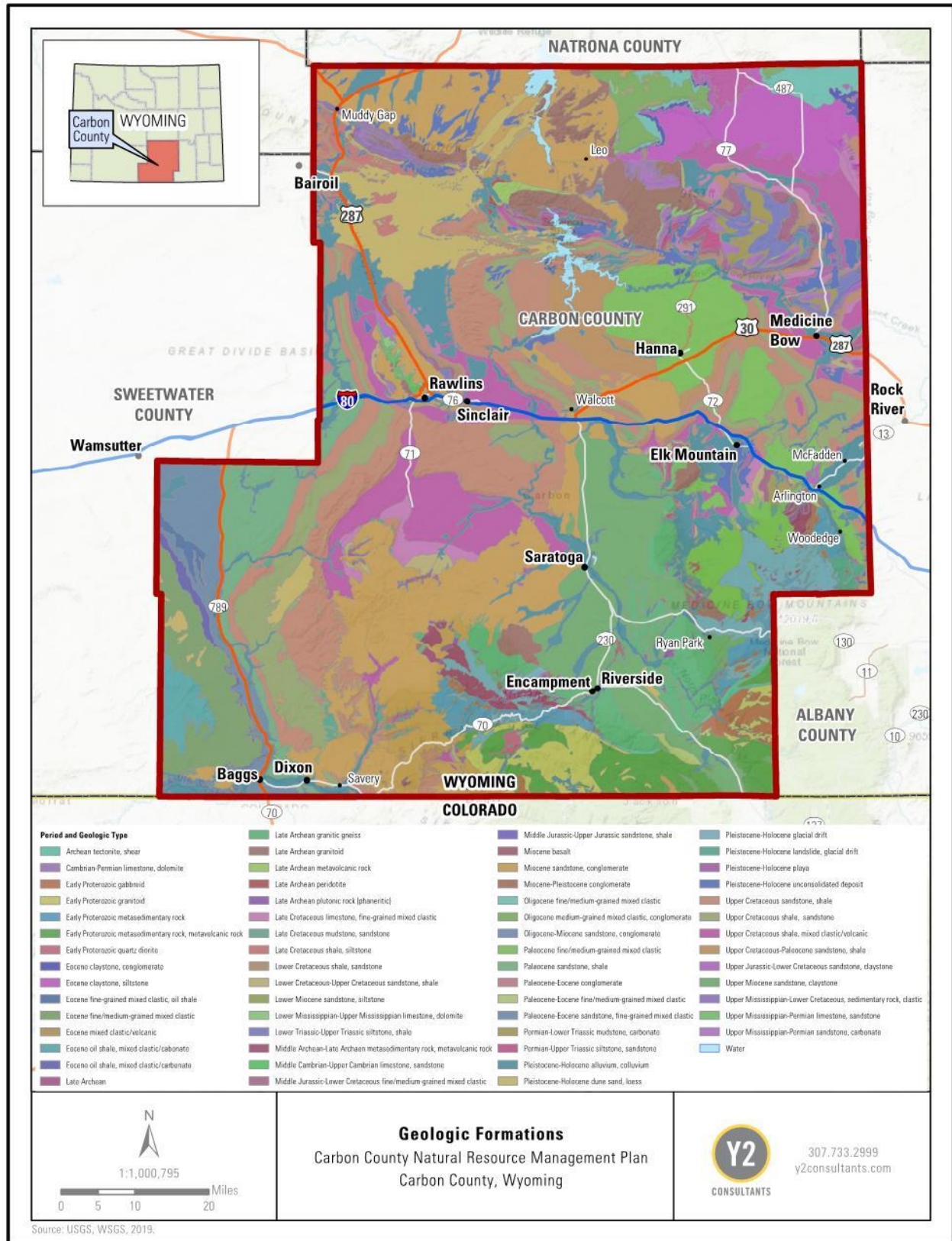


Figure 8. Geologic formations in Carbon County.

4.3 SOILS

4.3.1 History, Custom, and Culture

Healthy soils sustain plant communities, keep sediment out of streams, and dust out of the air. Land managers of public lands are mandated to manage soils and vegetation to ensure land-health standards are maintained and to safeguard sustainable plant and animal populations (NRCS, 2018). Soil type dictates the vegetation within an area, which determines the area's uses, productivity, resistance to disturbance, and scenic quality.

Anthropogenic land disturbance and wildfire can influence soil quality. Soil issues arising from both anthropogenic and natural causes include erosion, drainage, invasive species, soil compaction, salination, and loss of vegetation. (NRCS, 2018)

The three Conservation Districts within Carbon County (MBCD, SERCD, and LSRCD) work to promote the conservation of soil and water resources within the County. (See 3.1 Land Use for more information).

4.3.2 Resource Assessment and Legal Framework

Soil Surveys

Soil surveys provide detailed information on soil limitations and properties necessary for project planning and implementation. Soil surveys document soil properties and distribution to monitor and understand the impacts of various uses. Most natural resource work whether for agriculture, energy, or wildlife purposes begins with the evaluation of the soils to determine site potential. There are five levels or "Orders" of soil surveys depending on the level of detail involved. Order 3 is typical for most public land projects which do require onsite investigations by expert soil scientists for site-specific project-related activities. (USDA: Soil Science Division Staff, 2017)

Soil survey reports, which include the soil survey maps and the names and descriptions of the soils in a report area, are published by the NRCS and are available online through Web Soil Survey (NRCS, n.d.-b). The general soil map units for Carbon County are depicted below in Figure 9 and data is from the NRCS's Web Soil Survey application.

The basic soil survey for Carbon County has not been completed and only preliminary soil survey data and general soil information is available (NRCS, n.d.-a). BLM has done some soils work in certain areas for specific projects, but the information is not publicly available and does not necessarily correlate with the standard soils data compiled by NRCS. The lack of basic soil survey data creates project limitations for evaluating site potential and implementing best management practices.

While Ecological Site Description (ESD) information is available as "provisional" (NRCS 2015), the information given represents the lowest tier of documentation that is releasable to the public. Ecological sites contain a grouping of soil units that respond similarly to ecological processes. Basic baseline soils information is unavailable and these "provisional" ESDs are very general in nature. More detailed soils information is necessary for accurate analysis of disturbance impacts, reclamation, and rangeland health evaluations.

The uniform use of ESDs developed by NRCS should be used as the foundation for the inventory, evaluation, setting of monitoring objectives, and management of rangelands and forestlands. Ecological sites are the basic units of soils and associated plant communities and they provide the basis for setting vegetative management objectives, monitoring, and extrapolations of management impact to other areas.

4.3.3 Resource Management Objectives (Soils):

- A. A completed, digitized, and publicized soil survey for all lands within Carbon County is developed.
- B. A partnership between Carbon County, State, and federal agencies is formed to fund a Natural Resource Conservation Service accepted Level III Soil Survey (digitized/published) for all lands within Carbon County.
- C. Ecological site descriptions (as available) are the foundation for inventory, evaluation, setting of monitoring objectives, and management of rangelands and forestlands within Carbon County.
- D. The Natural Resource Conservation Service (NRCS) is the primary source for soils data and other soils data is used only when NRCS soils data is unavailable for a site and the data is approved by NRCS before determining it as an appropriate ecological site description.
- E. Topsoil is preserved and projects or actions disturbing topsoil will have topsoil reclamation and management plans.

4.3.4 Priorities (Soils):

1. Soil quality and health should be maintained and conserved through best management practices.
2. Ecological site descriptions should be completed and approved for Carbon County soils.
3. Until ecological site descriptions are developed and available, federal agencies should use soil and range site data to create site-specific objectives that inform management direction for livestock, wildlife, energy development, etc.
4. Federal agencies should use the Natural Resources Conservation Service ecological site descriptions as they become available to help define desired conditions by vegetation type for all management actions.
5. Federal agencies should assist in maintaining the resilience of Carbon County soil resources and encourage practices that support soil health and reduce or eliminate soil loss.
6. Federal agencies should support and encourage the use of mechanical treatments, including livestock grazing, as key to site reclamation for soil health and biodiversity.
7. Drill mud should be removed from drill sites to designated waste sites.
8. Best management practices should be used for soil reclamation on all disturbed sites.
9. Topsoil in Carbon County shall be considered a non-renewable resource and should be conserved during any soil disturbing activity.
10. Topsoil reclamation and management plans are required for all projects or actions that may disturb top soil in Carbon County.

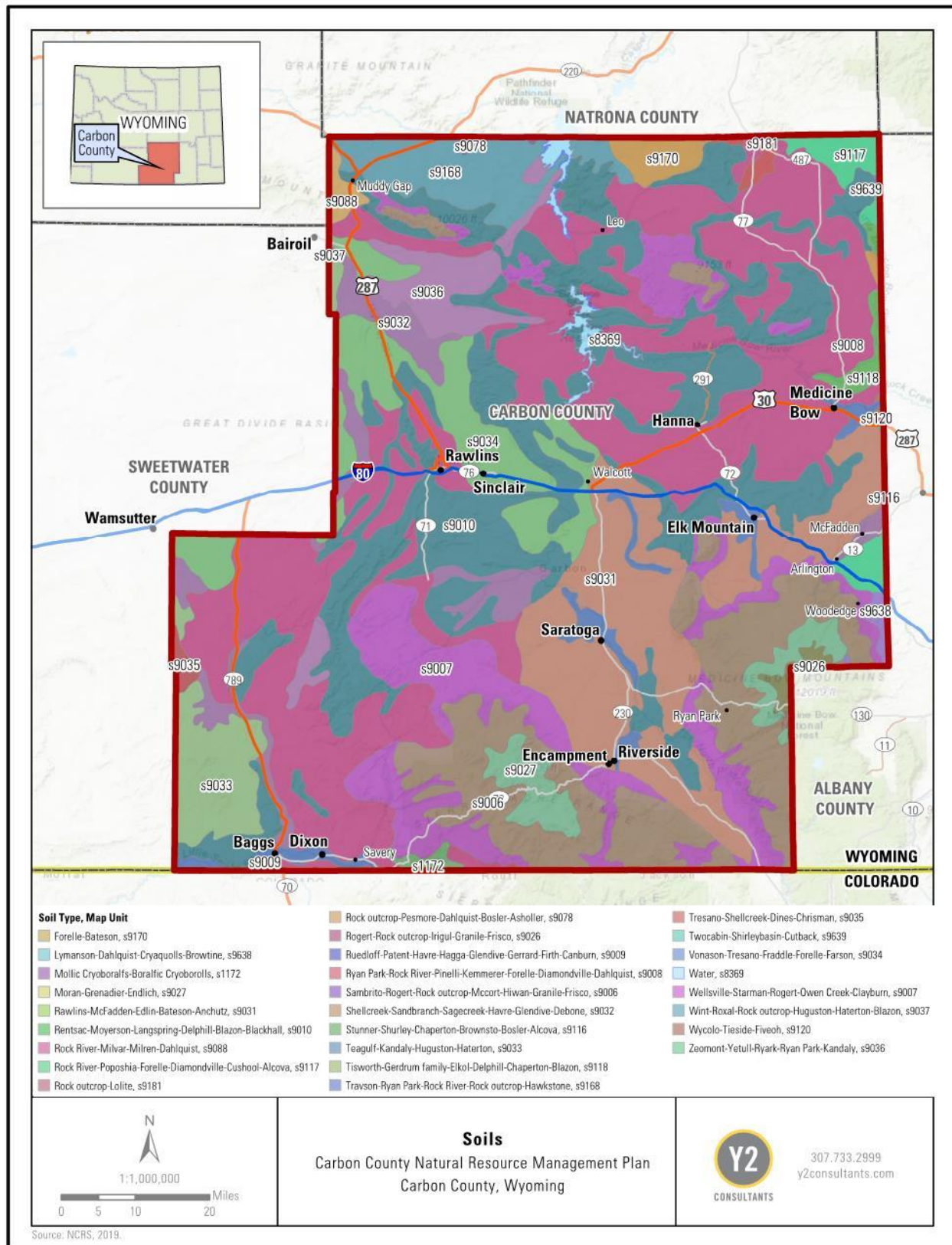


Figure 9. Order 5 soils survey mapped for Carbon County.



4.3 Soils

4.4 MINING & MINERAL RESOURCES

4.4.1 History, Custom, and Culture

Mineral production, namely crude oil and locatable minerals has been part of Carbon County's culture for over 100 years. Mining is one of the historical uses of federally managed lands, predating the establishment of the USFS and BLM. Maintenance of such use is statutorily compatible with multiple use principles. Carbon County contains deposits of uranium, copper, gold, silver, and iron. (Carbon County Economic Development Corporation, 2016)

Production of minerals, and associated economic and cultural activity, have historically waxed and waned with demand and pricing, but mining remains a significant portion of Carbon County's tax base.

4.4.2 Resource Assessment and Legal Framework

Carbon County supports the extraction of all minerals in an environmentally responsible manner by providing infrastructure and services such as roads, bridges, medical services, and law enforcement. Entities such as the Wyoming Oil and Gas Conservation Commission (WOGCC), BLM, USFS, and Wyoming Department of Environmental Quality (WDEQ) are critical to the development of hydrocarbon reserves but can also potentially hinder the development of these resources. Improved relations with these agencies are a crucial element for increasing access to new reserves. To secure the economic longevity and prosperity of Carbon County, these challenges and interface issues need to be efficiently addressed through consistencies and improved communication.

The Congressional Act of July 26, 1866, and the General Mining Act of 1872 granted all American citizens the right to go into the public domain to prospect for and develop minerals. Every mining law or act enacted since then has contained a "savings clause" that guarantees that the originally granted rights will not be rescinded. These laws are applicable in Carbon County. Carbon County's policies for mineral development are structured to increase the exploration, development, and production of mineral and energy resources within the political jurisdiction of the County. Through these relationships, Carbon County plans to encourage the development of mineral and energy production countywide where appropriate.

Carbon County is rich in many different minerals and mineable natural resources. Economics has impacted what resources have been mined to date. Carbon County has 37,735 records of mining claims on federal lands managed by the BLM. Of the 37,735 records, 1,516 are active mining claims. Open mining claims in the County peaked in the late 1970s, with approximately 6,000 claims open at one time. The number of open claims dropped in the mid-1980s and has continued to fluctuate near 1,000 open claims since. (The Diggings, 2020)

The rare earth elements (REE) are a group of 17 metals with similar physical and chemical properties that include the lanthanide series elements plus scandium and yttrium. REE are considered strategic metals in the United States and are necessary for energy generation, transportation, data transmission, and national defense. REE are a vital resource to industrialized societies worldwide. (Sutherland, et. al. 2016)



A small amount of REE-bearing minerals were mined from an igneous rock bearing pegmatite in Carbon County during the 1950s (King and Harris, 2002). The Wyoming State Geological Survey recently investigated, analyzed, and produced maps showing there are deposits of REE in Carbon County. The development of REE in Carbon County would contribute to the diversification of the economy and benefit the national supply. Two mapped REE districts fall within Carbon County, the Southern Medicine Bow Mountains District and the Sierra Madre District. The map of REE for the state and Carbon County can be found [here](#)²⁹.

Withdrawal

Federal lands can be withdrawn from mineral eligibility of development under the mining laws (30 U.S.C. Ch. 2). Mineral withdrawal prohibits the location of new mining claims. Withdrawal also may require that any preexisting mining claims in the area demonstrate that valuable minerals have been found before the withdrawal before any activities can commence on those preexisting claims. Whether done through Congress, or by executive order, a withdrawal order prohibits the use of a valid existing right. A valid existing right exists when the mining claim contains the discovery of a valuable mineral deposit that satisfies the “Prudent Person” test, as defined in *Castle v. Womble*. *US v. Cole*, 390 U.S. 599, 602 (1968). To pass the “Prudent Person” test a person must demonstrate that “the discovered deposits must be of such a character that “a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine” (*Id*). However, these minerals cannot be considered “of common variety” to be considered a valuable mineral under the mining laws (*See id.*; 30 U.S.C. § 611).

Congress can withdraw lands from new mineral claims or leases by passing legislation withdrawing said lands (*See North Fork Watershed Protection Act of 2013*). Additionally, FLPMA gives the Secretary of Interior the authority to withdraw federal lands (43 U.S.C. § 1714). Secretarial withdrawals of over 5,000 acres may only last 20 years at most, but withdrawals may be renewed (43 U.S.C. § 1714(c)). The Secretary of Interior must inform Congress of any secretarial withdrawal of over 5,000 acres (*Id*). If both bodies of Congress adopt concurrent resolutions that they do not approve a withdrawal initiated by the Secretary of Interior within 90 days of being notified, the withdrawal will be removed (*Id*). To allow for public involvement in the withdrawal process, public hearings and opportunities for public comment are required of all new secretarial withdrawals (43 U.S.C. § 1714(h)).

4.4.3 Resource Management Objectives (Mining & Mineral Resources):

- A. Mineral resources are extracted within Carbon County while maintaining a sustainable balance with other resources to achieve a high quality of life for County residents.
- B. Carbon County is included in any regulatory or management process or decision involving minerals which impacts its customs, culture, and economic stability.
- C. Coordination is enhanced and streamlined with all agencies involved in the regulatory process of mineral extraction as provided for by federal and state law.
- D. Future development occurs for all minerals that may be valuable to Carbon County.
- E. All mining and mineral exploration activities protect the municipal water supply (Upper North Platte) within Carbon County.



4.4.4 Priorities (Mining & Mineral Resources):

1. The permitting process for new activities within Carbon County should be efficient and timelines should follow National Environmental Policy Act guidelines to allow for more exploratory drilling and mining and improved access to reserves.
2. Partnerships with mineral industries, state agencies, federal agencies, and Carbon County should be established to increase and share knowledge of the mineral estate, and to develop and foster trust among partners.
3. Federal agencies should require that “public lands will be managed in a manner which recognizes the Nation’s need for domestic sources of minerals, food, timber, and fiber from the public lands, including implementation of the Mining and Minerals Policy Act of 1970,” as stated in the Federal Lands Policy and Management Act.
4. Federal agencies should give regular (where regular is defined as not less than quarterly) updates on the permit status for current and proposed projects within Carbon County’s jurisdiction and support reasonable timelines and explanations for issuance of delays from permitting agencies.
5. Local, state, and federal land use and management plans should contain a thorough discussion and evaluation of energy and mineral development, including the implications such development may have on surface land uses and the Carbon County economy. Additionally, all plans must demonstrate an understanding of Carbon County’s plans and policies and resolve any conflicts with Carbon County’s plans.
6. All exploration, development, and mining on federal lands in Carbon County with mineral or energy potential shall be governed by adherence to all laws which pertain to mining and energy development and production.
7. All lands not lawfully withdrawn from mineral exploration and development shall remain available for mineral exploration. These lands should be developed in an orderly manner to accommodate exploration, development, and production. These activities will be performed in a manner consistent with the Mining and Mineral Policy Act of 1970.
8. State, federal, and County agencies shall protect the rights of access, occupation, and property of anyone prospecting and/or developing minerals within Carbon County as required by federal and state law.
9. Federal agencies should allow for simultaneous or sequential mineral development with other resource uses in accordance with multiple-use management principles in Carbon County, giving precedence to established mineral rights in the development coordination process.
10. Federal agencies should encourage mining reclamation to use best management practices instead of requiring restoration to as near the same condition as the site was originally. Consider nonnative seeding where appropriate and beneficial for soil and land conservation.
11. Federal agencies should provide a justification to operators and Carbon County when deferring lease applications.
12. In instances of split estate minerals, federal agencies should ask for input from the surface owner and take the surface owner’s requests into great consideration when developing a surface use plan.

13. There should be clear standards setting forth what is considered “good faith negotiations” when an operator is negotiating a surface use agreement with a surface user or owner as appropriate.
14. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation is done properly and locally.
15. Federal agencies should support mitigation plans for mining projects that will minimize habitat loss and fragmentation or degradation of habitat values. The amount and location of mitigation should correspond to the quantity and quality of the habitat at risk and should be conducted locally.

4.5 ENERGY RESOURCES

4.5.1 Oil and Gas

4.5.1.1 History, Custom, and Culture

Energy production has contributed to Carbon County’s taxable income for over 100 years. The Sinclair Oil Refinery was built in the early 1920s and is still a major employer within Carbon County. In the late 1970s, overall state oil production decreased, negatively impacting County revenue. This is illustrated in the trending of countywide production records from the WOGCC. Carbon County was listed as one of the counties with the largest number of wells drilled nationally between 1980 and 2008, totaling around 2,530 wells. (Carbon County Economic Development Corporation, 2016)

In the last decade there have been developments in secondary and tertiary production methods that have made previously depleted fields economically feasible to re-produce and re-complete. From these advances, there has been an increase in statewide oil production in the past decade. Carbon County has seen fluctuating oil production over the past 35 years. Since the mid-1990s oil production trends have remained steady in Carbon County, varying between 1.1 and 1.7 million barrels annually. These trends in decline and growth are tied to existing economic conditions at the County, state, and national levels (Figure 10, Figure 11, and Figure 12).

Wyoming Oil Production for 1978-2020

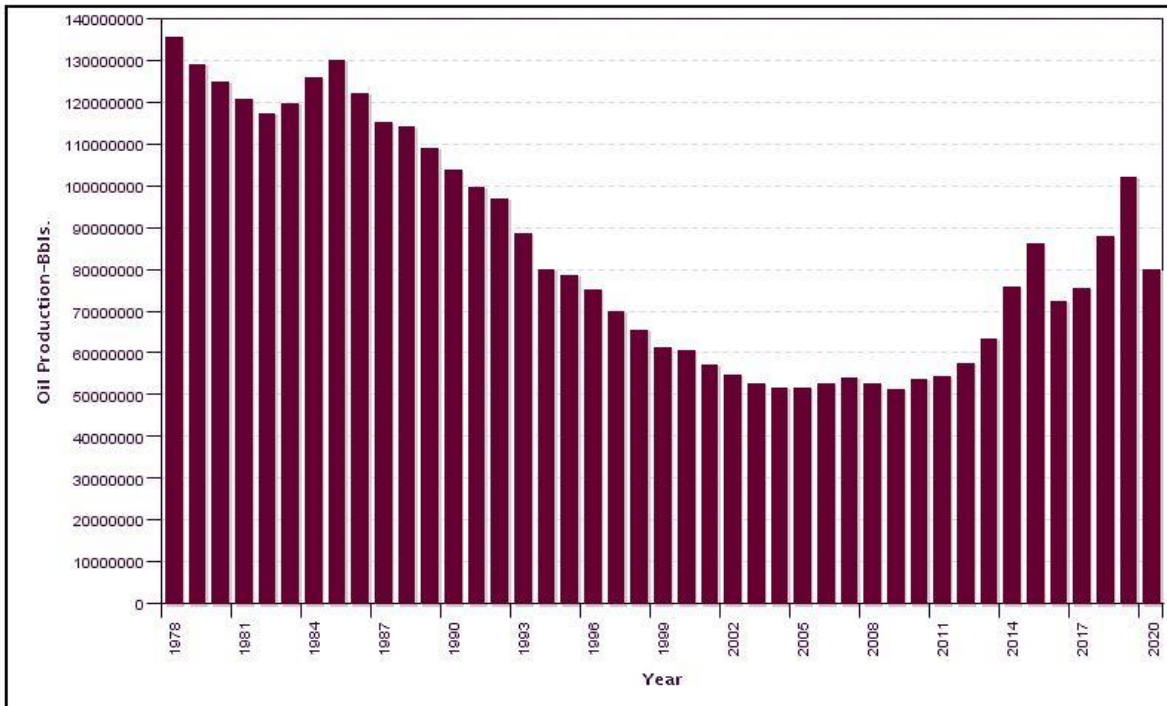


Figure 10. State of Wyoming Oil Production Trends (1978-2020) (WOGCC, n.d.-a).

Wyoming Gas Production for 1978-2020

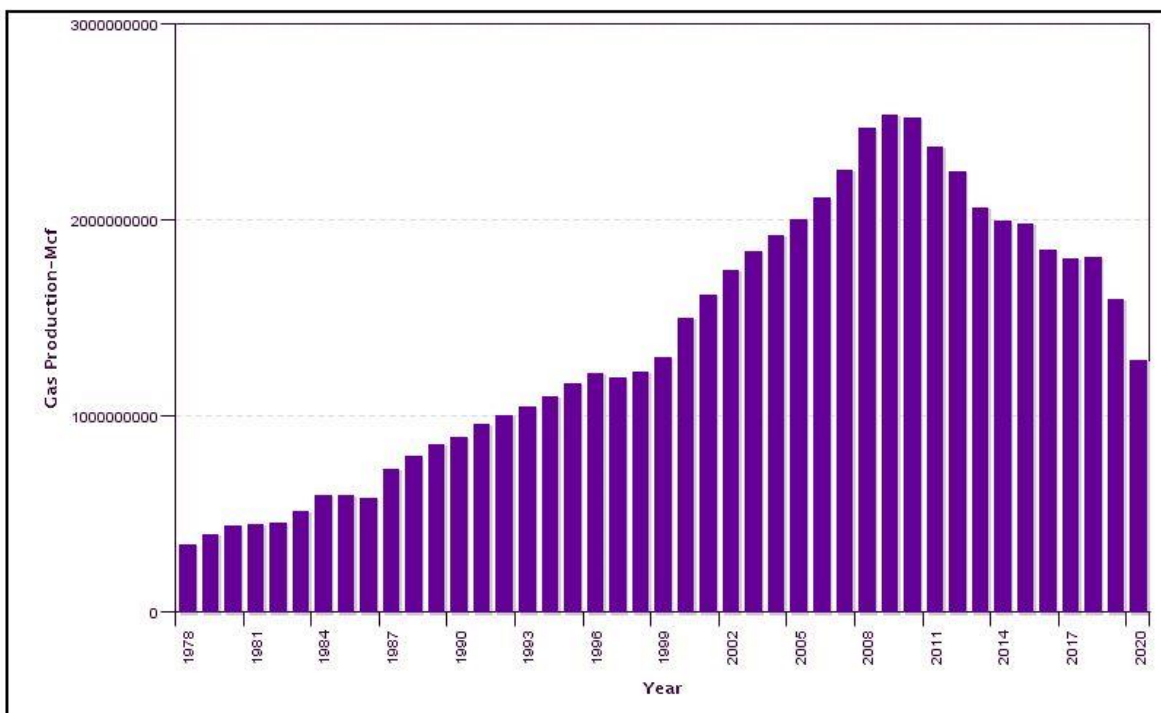


Figure 11. State of Wyoming Gas Production Trends (1978-2020) (WOGCC, n.d.-b).

Gas production increased in the County from the 1980s until 2009. In 1979, annual gas production was 14.7 million cubic feet (MCF), by 2009 production had reached almost 129 MCF. Since 2009, production has gradually declined, totaling 72 MCF in 2019. (DrillingEdge, 2020)

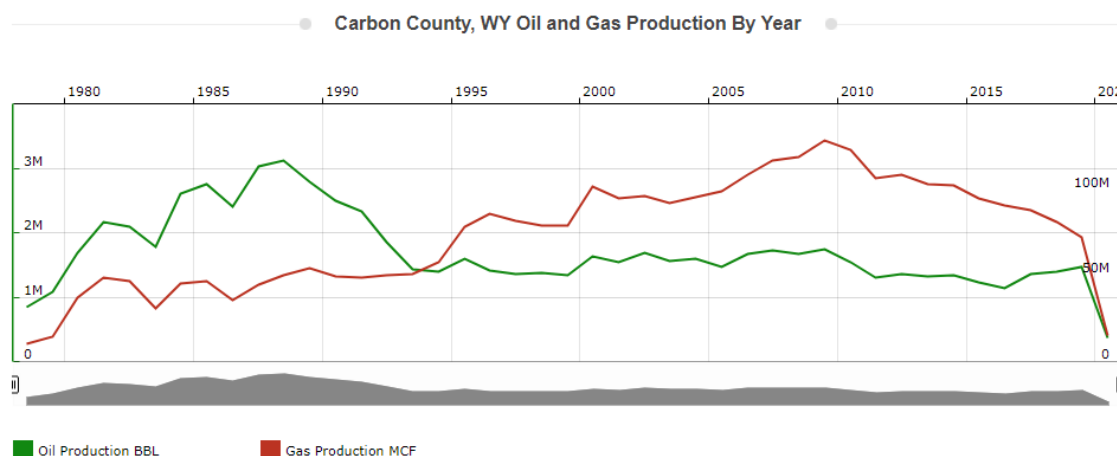


Figure 12. Oil and gas production in Carbon County from 1980 to 2020 (DrillingEdge, 2020).

4.5.1.2 Resource Assessment and Legal Framework

The extraction of oil from deposits is accomplished in three central phases of recovery: primary, secondary, and enhanced or tertiary recovery. Primary recovery relies on initial underground pressure to drive the product to the surface. As pressure falls, artificial lift technologies are used to bring the product to the surface. Occasionally the need for artificial lift is eliminated in the case of an artesian, or over-pressured reservoir. Typically, only 10% of a reservoir's original oil in place is produced through primary recovery. Secondary recovery methods, such as water or gas injection, can extend a field's productive life and result in the extraction of an additional 20-40% of the original oil in place. Enhanced oil recovery techniques offer the potential to produce 30-60% more oil. These techniques include thermal recovery, hydraulic fracturing, gas injection, or chemical flooding.

The production of natural gas is like that of oil. The primary phase of production is driven by initial reservoir pressure and decreases as this pressure and reserves in place are reduced. The production of gas can be augmented in a manner like that of oil. Enhanced or tertiary recovery of gas can be further augmented through the utilization of fracturing and other stimulation methods. Enhanced recovery methods are limited by costs and unpredictable effectiveness. These methods have improved drastically over the past decade allowing for more cost-effective and efficient recovery.

The Mineral Leasing Act of 1920, as amended, and the Mineral Leasing Act for Acquired Lands of 1947, as amended, give the BLM responsibility for oil and gas leasing on BLM, USFS, and other federal lands, as well as private lands where mineral rights have been retained by the federal government (split estates). The BLM is a multiple-use agency and must balance the development of mineral resources in the best interest of the country. The BLM must manage for uses like

livestock grazing, recreation, and development and conservation of wildlife habitat. The USFS regulates all surface-disturbing activities on USFS land, (30 U.S. Code § 226 (g)). The USFS is the lead agency applying stipulations on leasing of USFS land and conducts environmental analysis for leasing and permitting activities on these lands. The Mineral Leasing Act makes the disposition of oil and gas in the form and manner provided by the Act a mandatory act (30 U.S.C. § 181). Further, lease sales for each state, where eligible lands are available, must be held at least quarterly (30 U.S.C. § 226).

Two major gas production projects in Carbon County are the Atlantic Rim and Continental Divide-Creston Projects. The Atlantic Rim Project ROD was released in 2007, permitting the development of 2,000 natural-gas wells over the 50-year life span of the project. The Atlantic Rim Project is projected to produce 1,350 billion cubic feet of natural gas and approximately \$958 million in tax revenue and royalties (BLM, 2007). The Continental Divide-Creston Natural Gas Development Project ROD was published in 2016, permitting the drilling of nearly 9,000 additional wells west of Rawlins, near the Carbon County border with Sweetwater County (BLM, 2016a).

4.5.1.3 Resource Management Objectives (Oil and Gas):

- A. Responsible extraction of oil and gas within Carbon County continues while also maintaining a sustainable balance with other resources to achieve quality of life for County residents.
- B. Carbon County is a part of any regulatory process regarding oil and gas which impacts its custom, culture, and economic stability.
- C. Private landowners (surface estate owners) are coordinated with during the development and reclamation of oil and gas areas.
- D. All oil and gas developments in Carbon County reclaim the land back to its pre-development productivity using best management practices.
- E. Lease sales for eligible lands in Carbon County are held at least quarterly.

4.5.1.4 Priorities (Oil and Gas):

- 1. The permitting process for new oil and gas drilling activities within Carbon County should be efficient and timelines should follow National Environmental Policy Act guidelines to allow for more exploratory drilling and improved access to reserves.
- 2. Federal agencies should pursue opportunities to encourage the nomination of more oil and gas leases for sale.
- 3. Federal agencies should prioritize approval of secondary and enhanced (tertiary) oil and gas recovery methods where possible (e.g., fluid, gas, and steam injection) to extend the production life of a field while maintaining air quality and available water quality and quantity for agricultural and domestic use.
- 4. Carbon County encourages federal agencies to use advanced oil and gas production techniques to improve access to reserves in place.
- 5. Carbon County encourages coordination among the various federal agencies to facilitate hydrocarbon production permits in a timely manner, as prescribed in federal law.

6. Federal agencies should support the use of enhanced oil recovery and the associated infrastructure (e.g., carbon dioxide pipelines, processing plants, steam flood facilities) necessary to support enhanced oil recovery production.
7. Federal agencies should support mitigation plans for energy projects that will minimize habitat loss and fragmentation or degradation of habitat values. The amount and location of mitigation should correspond to the quantity and quality of the habitat at risk and should be conducted locally.
8. New roads and utility rights-of-way should be co-located in existing corridors and where there has been a previous disturbance to minimize new ground disturbance associated with energy development. When co-location is not possible, locate new roads outside of important wildlife habitats.
9. Carbon County encourages surface occupancy of oil and gas development to already disturbed areas or edges of habitat.
10. Linear oil and gas facilities should be placed in or adjacent to previously disturbed corridors. Prevention of additional habitat fragmentation is encouraged.
11. Federal agencies should protect water quality, aquatic habitat, and fish and wildlife habitat by conserving water bodies and associated wetland and riparian areas. Minimize disturbance of these areas from associated energy developments such as buildings, roads, and other structures.
12. Federal agencies should conduct pre-construction surveys in coordination with the appropriate state agencies for a minimum of twelve months on important wildlife species for new oil and gas developments, including: big game surveys, migratory bird surveys, raptor nest surveys, Greater sage-grouse surveys, any known Endangered Species Act and sensitive species list surveys, and bat surveys (resident and migratory).
13. Federal agencies should conduct a minimum of twelve months of post-construction monitoring to assess the displacement of wildlife and the effectiveness of mitigation measures. Monitoring should cover all seasons of operation and should follow credible data criteria.
14. Carbon County encourages mining reclamation to use best management practices and should consider the use of nonnative seeding where appropriate and beneficial for soil stability and conservation.
15. In instances of split estate minerals, federal agencies should ask for input from the surface owner and take the surface owner's requests into great consideration when developing a surface use plan.
16. There should be clear standards when setting forth "good faith negotiations" when an operator is negotiating a surface use agreement with a surface owner.
17. Baseline water testing should be completed using state water quality standards before a proponent is issued a permit for development within Carbon County.
18. Federal agencies should encourage oil and gas reclamation to use best management practices instead of requiring restoration to as near the same condition as the site was originally. Consider nonnative seeding where appropriate and beneficial for soil stability and conservation.

19. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation for oil and gas development is done properly and locally.
20. The Bureau of Land Management should continue holding lease sales and awarding leases for Carbon County lands on at least a quarterly basis as is required by the Mineral Leasing Act.

4.5.2 Coal

4.5.2.1 History, Custom, and Culture

Coal was discovered in Wyoming in 1843 by the Fremont Expedition. Coal mining began in the area in the 1860s. Wyoming's first coal town, Carbon, and Carbon County were both founded in 1868, named for the rich coal deposits. The first commercial mines began with the arrival of the railroads in the 1860s and were in the towns of Carbon and Rock Springs.

Through the 1860s and into the 1880s, Carbon County boomed with seven nearby coal mines which fed the trains traversing the country. The town of Carbon and the surrounding area boomed until 1902. The Town of Hanna was founded in 1889 once coal was depleted at Carbon. Trains were diverted from the mainline to Hanna to transport the coal. By 1892, the production of coal in the area made Carbon County the second-highest coal-producing county in Wyoming. In the mid-1990s, coal was still at high production in the County and it was reported that production of coal in Carbon County was 2.6 million tons per year from surface mines and more than 1.6 million tons of coal from underground mines. (Van Pelt, 2014b)

4.5.2.2 Resource Assessment and Legal Framework:

Coal production across Wyoming and in Carbon County has declined as U.S. coal-fired power plants have shut down and natural gas-fired and renewable-sourced electricity generation have increased. In 2019, approximately 24% of the nation's electricity came from coal with natural gas electricity source at 38%. (U.S. Energy Information Administration, 2020) However, Wyoming coal remains in demand as it is considered clean-burning due to it being sub-bituminous, which makes it an attractive choice for power plants because it has less sulfur and burns around 8,400 to 8,800 British thermal units (BTUs) per pound. (Wyoming Mining Association, 2013)

There are substantial coal resources in Carbon County, however large portions of the Greater Green River Basin (GGRB) have not yet been formally assessed. The evaluation of the eastern portion of the GGRB, labeled as the Little Snake River coal field and the Red Desert area, was published in 2019. Within this area, there are approximately 73.2 billion short tons (BST) of coal, 19.37 BST of which are recoverable with current technology. Coal reserves in this region total 167 million short tons (MST). (Shaffer et al., 2019)

Coal was once a large industry cornerstone in Carbon County and provided jobs to hundreds of people particularly around the Hanna area (Carbon County Economic Development Corporation, 2016). There are currently no operating coal mines within Carbon County.



Dormant Commerce Clause

One issue arising recently is that of cities across the west coast enacting ordinances banning the export of coal from their ports. In 2016, the City of Oakland enacted such a ban, similar bans have been enacted in the city of Richmond and the state of Washington. Such bans bring up constitutional questions regarding the Dormant Commerce Clause (*See Levin v. City of Richmond*, 107 Fed.R.Serv.3d 1608 (August 27, 2020)). The Dormant Commerce Clause of the Constitution prohibits states or local governments from unjustifiably discriminating against or burdening the flow of interstate commerce (U.S. CONST. art. I, § 8, cl. 3). The general purpose of the Dormant Commerce Clause is to avoid states from engaging in “economic Balkanization” or economic protectionism in which one state’s industry or business is discriminated against in order to benefit the industry of another state (*Hughes v. Oklahoma*, 441 U.S. 322, 325 (1979)).

There are four ways in which a local or state regulation may be a violation of the Dormant Commerce Clause. The first instance is when state or local law that “discriminates” against interstate commerce faces a “virtually per se rule of invalidity” (*Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978)). Thus, when a law explicitly discriminates or is applied unevenly to an out-of-state business in favor of an in-state business, the law is automatically unconstitutional. The second way a local law or ordinance may violate the Dormant Commerce Clause is when there is a non-discriminatory law that incidentally affects interstate commerce, but the burden on interstate commerce is clearly exceeding the local benefits (*Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970)). In other words, when a law is evenly applied to everyone, but the law creates an immense burden on interstate trade with little benefit to the local community, it is unconstitutional. The third way a law can violate the Dormant Commerce Clause is if it has an impermissible extraterritorial reach (*Healy v. Beer Inst.*, 491 U.S. 324, 336 (1989)). Simply put, if the practical effect of a statute controls the conduct of citizens within the borders of another state, the law is unconstitutional (*See id.* (ruling a law requiring beer and liquor sold in Connecticut to be the same price or less than beer and liquor sold in bordering states unconstitutional because the law has the practical effect of regulating markets outside of the state of Connecticut)). Finally, a state or local law violates the Dormant Commerce Clause if it interferes with the federal government’s ability to speak with one voice when regulating commerce with foreign nations (*Japan Line, Ltd. v. Los Angeles Cty.*, 441 U.S. 434, 449 (1979)). In turn, if a regulation has the practical effect of preventing Wyoming coal from being exported to other countries and jurisdictions, the Dormant Commerce Clause may very well make such laws illegal because it impermissibly regulates interstate commerce (*See State of Wyoming, Kansas, Montana, Nebraska, South Dakota and Utah’s Motion for Leave to Participate as Amicus Curiae, Lighthouse Resources, Inc. v. Inlsee*, No. 3:18-cv-05005 (W.D. Wash., Motion and Brief Filed May 8, 2018)).

4.5.2.3 Resource Management Objectives (Coal):

- A. Future research on clean coal technology is supported and conducted.
- B. Carbon County coal is exported to other states and countries.
- C. Coal is used for other purposes in addition to energy development.
- D. Affordable and reliable electricity is available and accessible to Carbon County without unnecessary regulatory or management impedances.



4.5.2.4 Priorities (Coal):

1. Carbon County should be involved as a cooperating agency as early as possible in any federal agency action to downsize the coal industry in the County.
2. Federal agencies and state agencies should make Carbon County aware of any decisions or actions that could limit, impede, or increase the cost of coal energy being brought into the County and allow the County to participate as a cooperating agency early in the process for all such decisions.
3. Federal agencies should support the continued responsible use of coal as an energy source and its transmission into Carbon County.
4. Federal agencies should encourage the implementation of new technologies to provide for cleaner, more efficient use of coal in the refinement process.
5. Federal agencies should support all sources of energy without regulatory impediment.
6. Federal agencies should support the development and improvement of current and future infrastructure for the transmission of coal-powered energy.
7. Energy generated from coal should be transmitted and stored in ways that limit risks to the environment and residents of Carbon County.
8. Carbon County does not support any restrictions to the exportation of coal and considers any such restriction a violation of the Dormant Commerce Clause.

4.5.3 Uranium

4.5.3.1 History, Custom, and Culture

Uranium was discovered in the Shirley Basin in Carbon County in 1955 with production beginning in 1960 from both underground and open-pit mines. Mining by in-situ leaching began in 1961. Uranium mining subsided in the County in the 1990s and has not been a viable operation since.

4.5.3.2 Resource Assessment and Legal Framework

Uranium mining does not currently occur within Carbon County. However, uranium deposits are still present in the County and within the last year, a uranium mine 30 miles north of Medicine Bow has had discussions about resuming mining operations using previously explored techniques with new technology. Should it be approved, the Shirley Basin Uranium In-Situ Recovery Project could produce up to 2 million pounds of dried yellowcake uranium annually by injecting underground rock formation with a water-based solution designed to attract uranium. The proposed project is located at an open-pit uranium mine that was previously active from the 1960s to the 1990s.

4.5.3.3 Resource Management Objectives (Uranium):

- A. Uranium is mined as a viable energy source when there is a market and it is economically beneficial for the citizens of Carbon County.
- B. Future mining reclamation restores the land to allow for other multiple uses.

4.5.3.4 Priorities (Uranium):

1. Federal agencies should permit uranium mines within Carbon County.



2. Federal agencies should encourage mining reclamation to use best management practices instead of requiring restoration to as near the same condition as the site was originally.
3. Federal agencies should consider nonnative seeding where appropriate and beneficial for soil stability and conservation.

4.5.4 Renewable Energy

4.5.4.1 History, Custom, and Culture

Wind

Carbon County's primary form of developed renewable energy is wind energy. Carbon County has some of the best wind resources in the country. The area produces Class 6 and 7 winds, which are the highest wind classes (Power Company of Wyoming, 2020). Carbon County understands that the development of renewable energy is a component of energy infrastructure development. Wyoming does not have a renewable portfolio standard goal to generate a certain amount of the state's electricity from renewable energy (National Conference of State Legislatures, 2019).

Hydroelectricity

Carbon County also has two hydroelectric power dams, Seminoe and Kortes Dams. The Seminoe Dam is on the North Platte River and was constructed between 1936 and 1939 to expand irrigation and generate hydropower in central Wyoming. The dam is still used for that purpose today. The Kortes Dam is located on the North Platte River downstream of the Seminoe Dam. Its main purpose is power generation with irrigation as a secondary purpose. The Kortes Dam was constructed between 1946 and 1951 and impounds the North Platte River for hydroelectric power. (BOR, n.d.-a, n.d.-c)

4.5.4.2 Resource Assessment and Legal Framework

Carbon County is supportive of the renewable energy opportunities within the County including wind, hydroelectric, and solar. The County's zoning regulations specifically discuss commercial-scale energy facilities with the purpose to ensure that commercial-scale energy facilities are placed in the appropriate locations and mitigate potential negative impact; provide minimum design and development standards; and provide a consistent standard to ensure development. Through the County review process, important wildlife habitats can be identified and appropriate avoidance, minimization, and/or impact mitigation techniques may be required. Further information on the zoning regulations for commercial-scale energy opportunities and zoning in Carbon County can be found [here](#)³⁰.

Wind

Carbon County has approved 17 wind power projects with the total construction of over 1,000 wind turbines within the County. Six wind projects have been permitted through the County but never constructed, seven projects have been permitted and constructed, and four wind projects are currently permitted and under construction. Those projects permitted and constructed include Foote Creek Rim, Simpson Ridge, Seven Mile Hill, Rock River I, Clipper Wind Turbine, High Plains and McFadden Ridge, and the Dunlap Wind Energy Development Project. The projects



currently approved and under construction include the Chokecherry and Sierra Madre Wind Energy Project, TB Flats Wind Energy Project, Ekola Flats Energy Project, and Foot Creek Rim I Wind Energy Project. Those approved wind energy projects are shown below in Figure 13. Wind energy rights are real property appurtenant to the surface estate (W.S. 34-27-103(a)).

The largest wind energy project in Carbon County is the Chokecherry and Sierra Madre Wind Energy Project. This project is anticipated to generate up to 3,000 megawatts of electricity with almost 900 wind turbines. The Chokecherry and Sierra Madre Wind Energy Project EIS was approved in 2012 and the EA for the project's infrastructure was finalized in 2014. Phase One EA of the project construction was approved in 2017, starting the development of the first 500 turbines. The EA for the second, and final, phase of the project was published in December of 2019, approving the development of an additional 396 turbines. (BLM, 2019b; Power Company of Wyoming, 2020)

The wind power industry is likely to continue growing in Carbon County due to the quality of wind resources available. New development of renewable energy in the County will be considered based on expanding existing available energy infrastructure.

The [2015 Carbon County Zoning Regulations](#)³¹ layout siting and location standards for commercial-scale energy systems regarding Greater sage-grouse. The regulation states:

No Commercial Scale Energy System shall be located within Greater Sage-Grouse Core Area Protection zones as defined by the State of Wyoming Executive Order 2015-4 or as amended, or the Sage Grouse Priority Habitat as defined by the BLM approved Resource Management Plan Amendment for Greater Sage Grouse. When the State of Wyoming Executive Order for Sage-Grouse Core Area Protection and the BLM approved Resource Management Plan amendment for Greater Sage Grouse conflict, the more restrictive of the documents shall apply. (Carbon County, 2015)

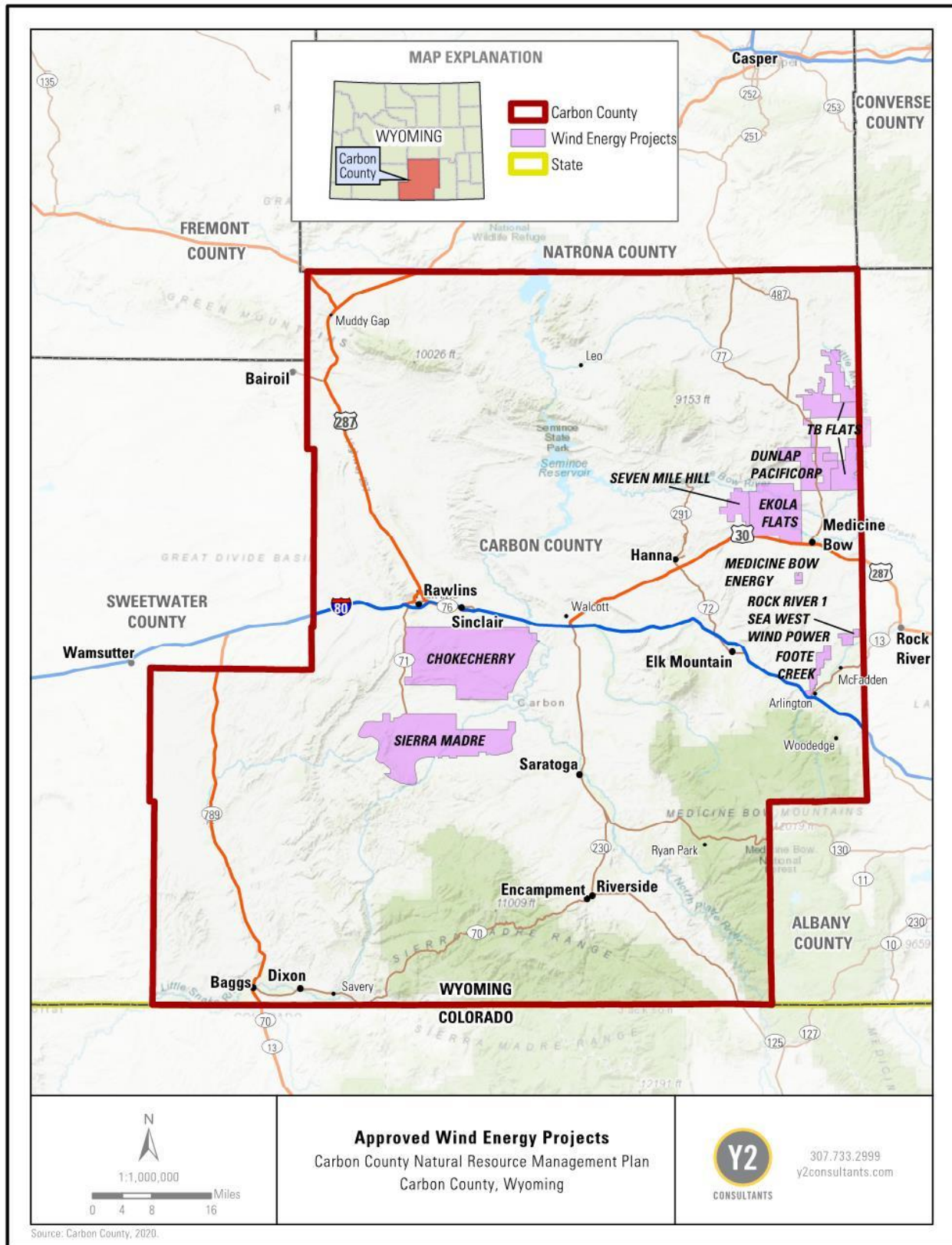


Figure 13. Approved wind energy projects within Carbon County.



Hydroelectricity

The Seminole Dam created the Seminole Reservoir which has a total capacity of 1.1 million acre-feet and provides storage capacity for the water to irrigate project lands. The power plant generates electric power and is located at the base of the dam. (BOR, n.d.-c)

The Kortess Dam is much smaller and only provides storage for 4,700 acre-feet of water. The dam is constructed at the optimum location to develop the most head between Seminole tailwater and Pathfinder high water surface elevation. (BOR, n.d.-a)

Solar

Carbon County is mostly sunny throughout the year with warm, mostly clear summers and cold, partly cloudy winters. While there currently are not any commercial solar energy projects in Carbon County, the future potential exists. The State of Wyoming Sage-Grouse Executive Order 2019-3 does not recommend commercial solar energy development in sage-grouse core areas.

4.5.4.3 Resource Management Objectives (Renewable Energy):

- A. Renewable energy, including, wind, solar, hydroelectric, etc. is developed within Carbon County while striving for a sustainable balance with other resources to achieve quality of life for County residents.
- B. All wind projects, regardless of when they were permitted, follow the current Carbon County and Wyoming State guidelines for decommissioning and abandoning wind turbines.
- C. All renewable energy projects minimize habitat fragmentation, collocate disturbances with existing projects, following existing energy corridors, and conduct successful reclamation.

4.5.4.4 Priorities (Renewable Energy):

- 1. Federal and state agencies should give notice to Carbon County of any decisions or actions that could limit, impede, or increase the cost of renewable energy being brought into the County and allow the County to participate as a cooperating agency early in the process for all such proposals and decisions.
- 2. Federal agencies should evaluate the development of renewable energy in coordination with stakeholders.
- 3. Federal agencies should support renewable energy (i.e., wind, solar, hydroelectricity) as a means of economic diversification and to further develop energy infrastructure and energy independence without encumbering the underlying mineral estate.
- 4. Absent a conflict with federal law or federal agencies' written reclamation requirements, reclamation requirements should be permitted at the higher of the two standards (Carbon County or federal agency) if there are discrepancies before projects are approved.
- 5. Federal agencies should develop and determine reclamation standards for proposed actions in coordination with stakeholders.
- 6. When conflicting with other uses, renewable energy should be a lower priority than other multiple uses in Carbon County.

7. Wind and solar farms should be located on lands with high energy potential and low-value habitats such as previously disturbed lands or areas where impacts on native plant or wildlife species are minimal.
8. Federal agencies should discourage locating wind energy projects within bird, bat, pronghorn, and mule deer migration areas.
9. Federal agencies should encourage renewable energy reclamation to use best management practices instead of requiring restoration to as near the same condition as the site was originally. Consider nonnative seeding where appropriate and beneficial for soil stability and conservation.
10. Federal agencies should be consistent with the Carbon County Zoning Regulations.
11. Federal agencies should follow Carbon County Zoning Resolution Chapter 6.1.C limiting the location of commercial-scale wind or solar energy systems within sage-grouse core areas.

4.5.5 Corridors, Pipelines, and Transmission Lines

4.5.5.1 History, Custom, and Culture

Corridors

In 2005, Section 368 of the Energy Policy Act of 2005, directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate under their respective authorities' corridors on federal land in 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities.

Pipelines

Pipeline infrastructure plays a crucial role in the development and transmission of hydrocarbons at the national, state, and county levels. It is crucial that these avenues for transmission can thrive and develop within Carbon County. Pipelines offer a safe and effective means for delivering large amounts of hydrocarbons across extended distances with minimal risk for spills (Global Energy Institute, 2013).

Due to the development of oil and gas within Carbon County, there has been significant development of oil and gas transmission pipelines throughout the County, primarily along the east-west axis. These pipelines are mostly confined to a central corridor within Carbon County, though a few oil and gas pipelines are located between Rawlins and the northwest corner of the County. Carbon County has long been a proponent of pipeline development. (WSGS, 2020)

Transmission Lines

Transmission lines have been expanding within Carbon County and surrounding areas particularly as more renewable energy sources such as wind energy become more prevalent across the landscape (Figure 14). Many of these transmission lines have the purpose of transporting energy generated in the state to other states such as Arizona, California, Colorado, Idaho, Nevada, and Utah.

4.5.5.2 Resource Assessment and Legal Framework

Corridors

Carbon County lies within Region 4 of the Section 368 Energy Corridors. Within Carbon County several corridors have been designated. They include:

- [Rawlins Corridor \(73-138\)](#)³² – 25 miles of designated corridor
- [Baggs Corridor \(138-143\)](#)³³ – 23 miles of designated corridor
- [Shirley Basin Corridor \(78-225\)](#)³⁴ – 28 miles of designated corridor
- [Laramie Corridor \(78-85\)](#)³⁵ – 7 miles of designated corridor

Pipelines

There is very little federal regulation of most pipelines. Permitting for interstate natural gas pipelines and interstate liquified natural gas pipelines fall under Section 7 of the Natural Gas Act and are reviewed by the Federal Energy Regulatory Commission (FERC), which also gives pipeline companies their national condemnation authority. However, the Natural Gas Act does not regulate oil and natural gas liquid.

The federal government has explicitly avoided drafting regulations concerning pipeline land-use issues. “Congress has failed to create a federal regulatory scheme for the construction of oil pipelines and has delegated this authority to the states.” (*Sisseton-Wahpeton Oyate v. U.S. Dep’t of State*, 659 F. Supp. 2d 1071, 1081 (D.S.D. 2009) (“Generally, state and local laws are the primary regulatory factors for construction of new hazardous liquid pipelines”). Even for gas pipelines, the FERC requires gas pipeline companies to comply with state and local regulations as a condition of their federal certificates (*See NE Hub Partners, L.P. v. CNG Transmission Corp.*, 239 F.3d 333, 339, 346 n. 13 (3d Cir.2001) (concluding that field of natural gas regulation was occupied by federal law, but that FERC required gas companies to comply with local regulations through conditions in the certificate)). Thus, unless pipelines cross federal lands and trigger NEPA review, interstate pipelines remain mostly unregulated by the federal government.

One aspect of pipelines that is federally regulated outside of federal lands is pipeline safety. In 1994, Congress passed the Pipeline Safety Act (PSA) (49 U.S.C. § 60101–60137) recodifying without substantive changes the Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquids Pipeline Safety Act of 1979. Among other things, the PSA expressly preempts state law concerning “safety standards for interstate pipeline facilities or interstate pipeline transportation” and delegates the authority to draft pipeline safety regulations to the Pipeline and Hazardous Materials Safety Administration (49 U.S.C. § 60104(c)).

However, regulations that concern a county’s purview (the general welfare of its constituents) are not necessarily preempted if they indirectly affect pipeline safety (*See, e.g., Tex. Midstream Gas Svcs., LLC v. City of Grand Prairie*, 608 F.3d 200, 212 (5th Cir. 2010) (holding a setback requirement for compressor stations was primarily motivated to preserve “neighborhood visual cohesion, avoiding eyesores or diminished property value”)). So that the regulations are not preempted by the PSA, the regulations must affect aesthetics or other non-safety police powers (*Id.* at 212; *see also, e.g., Am. Energy Corp. v. Tex. E. Trans., LP*, 701 F. Supp. 2d 921, 931 (S.D.

Ohio 2010) (“The PSA does not preempt Ohio property or tort law.”)). Regulations directly affecting reclamation, water crossings, cleanup, or other similar matters important to landowners that affect their environment would likely not be preempted by the PSA.

Pipelines associated with oil and gas within Carbon County include the Exxon/Frontier Natural Gas Pipelines, CIG Natural Gas Pipelines, Lost Creek Natural Gas Pipeline, and the Sinclair Natural Gas Pipelines (BLM, 2008). For an interactive map of Carbon County’s oil and gas pipelines refer to the Interactive Oil and Gas Map of Wyoming located [here](#)³⁶.

In 2019, the State of Wyoming proposed the Wyoming Pipeline Corridor Initiative to the BLM, which is a proposal to designate almost 2,000 miles of pipeline corridors across the state with approximately 1,105 miles of the proposed corridors on BLM managed lands. The purpose behind the pipeline corridor is to connect existing oil fields suitable for enhanced oil recovery with anthropogenic and natural carbon dioxide sources. The BLM released the Final Environmental Impact Statement in October 2020 for this project. The EIS can be found [here](#)³⁷. (BLM, 2020)

Transmission Lines

Energy Gateway West

The Gateway West Project is a 230kV transmission line that crosses approximately 100 miles through Carbon County from the Shirley Basin to the Carbon and Sweetwater County line. The purpose of this project was to expand Rocky Mountain Power’s existing transmission system to provide reliable transmission service and to construct, and place into service, sufficient capacity to reliably deliver resources to network and native load customers. The transmission line crosses checkerboard land ownership with both private lands and federal lands managed by the BLM. The Board of County Commissioner of Carbon County approved the project in September 2018.

Energy Gateway South

The Gateway South Project is a single circuit, 500kV transmission line between Aeolus Substation and the Moffatt County, Colorado border. The Gateway South Transmission line will be generally co-located and offset from the existing Gateway West Transmission line. The project will consist of 500kV alternating current electric transmission lines and associated substation facilities as part of the PacifiCorp Energy Vision 2020 Plan. When complete, the project will provide existing and new renewable energy sources to meet growing needs, ease transmission congestion, and improve the flow of electricity throughout the West. The project will cross private lands, state lands, and federal lands administered by the BLM and USFS within Wyoming, Colorado, and Utah. The Gateway South Project was approved by the Carbon County Board of County Commissioners, on September 1, 2020 (Resolution 2020-44).

TransWest Express Transmission Project

The TransWest Express (TWE) Project is part of a high voltage transmission system that will extend across four states and will include approximately 730 miles of transmission line and three terminals located in Wyoming, Utah, and Nevada. TWE will transmit electricity generated at the Chokecherry Sierra Madre Wind (CCSM) Energy Facility and other sources. Although CCSM and TWE are independent projects, they will share facilities and access roads to limit new

disturbance. The project includes all associated components and facilities that are necessary to generate electricity and deliver electricity to the transmission grid, including interconnection with an existing 230kV line that will feed energy into the Wyoming grid as demand arises. Estimated construction on the project is 2020 or upon issuance of BLM notice to proceed. Approximately 55 miles of the TWE Project will run through Carbon County; beginning south of Rawlins and then proceeding west to the Sweetwater County line and then south, generally along with Carbon and Sweetwater County line. The transmission line will run through primarily checkboard lands including lands privately owned, state-owned, and BLM managed. The Carbon County Board of County Commissioners approved the TWE Project in November 2018.

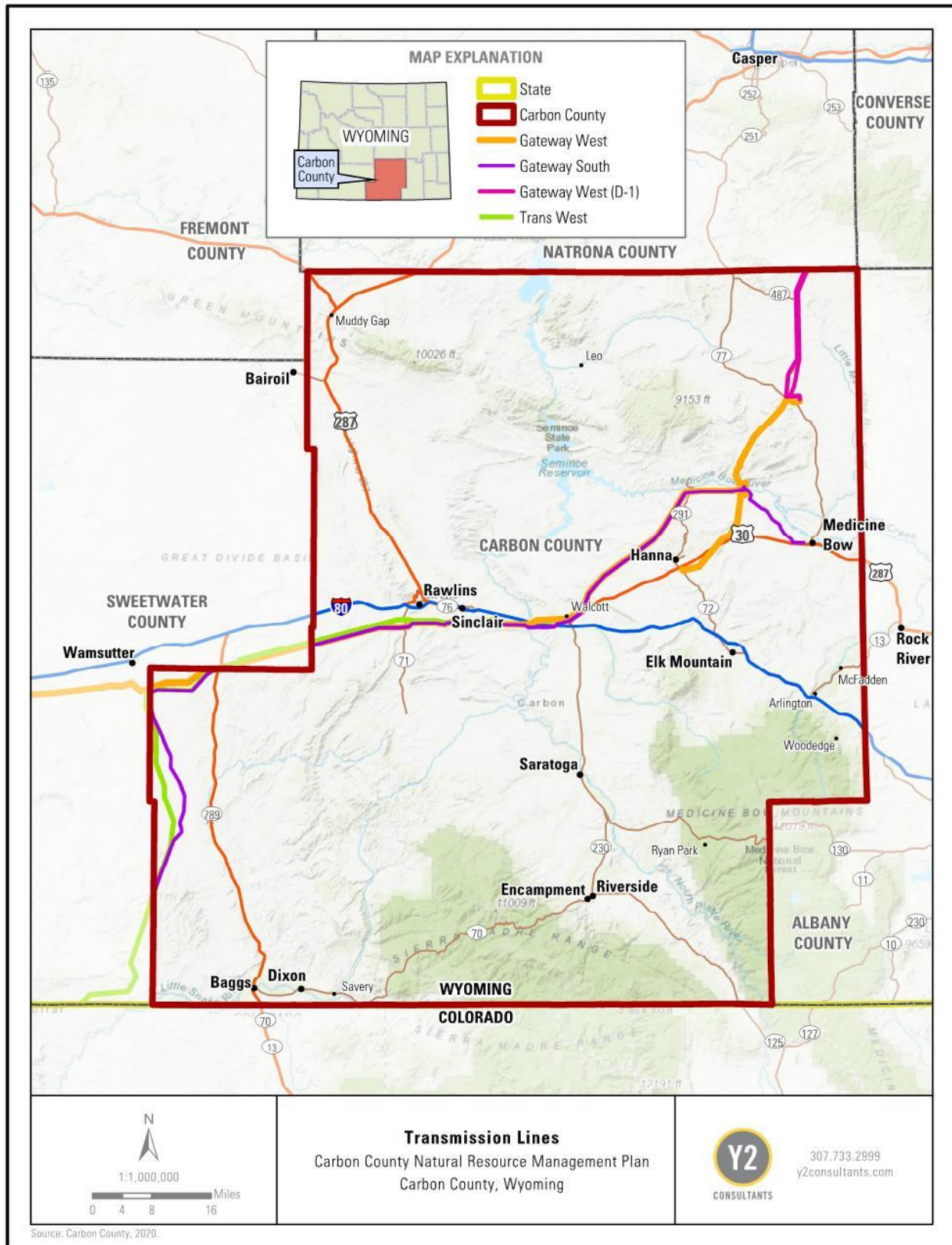


Figure 14. Energy transmission lines in Carbon County.



4.5.5.3 Resource Management Objectives (Transmission):

- A. Energy corridors, development of pipelines, and development of transmission lines from all energy sources are created within Carbon County while a sustainable balance is maintained with other resources to achieve a high quality of life for County residents.
- B. Reclamation is conducted in an efficient way that protects existing uses, utilizes best management practices, and should consider the use of nonnative seeding where appropriate and beneficial for soil stability and conservation.
- C. Pipelines use the most efficient route and avoid the use of eminent domain within Carbon County.
- D. Pipeline and transmission line development within Carbon County primarily utilize existing utility corridors and areas previously disturbed regardless of land ownership, while sensitive habitats and conflicting existing uses are avoided.

4.5.5.4 Priorities (Transmission):

- 1. Carbon County supports the collocation of transmission lines, pipelines, etc. to reduce fragmentation across the landscape.
- 2. Future and existing energy corridor, pipeline, and transmission line infrastructure for the transmission of energy and/or materials in and through Carbon County should be developed and improved when it will not affect pre-existing uses or rights.
- 3. Carbon County supports efficient and timely decisions regarding energy corridors, transmission lines, and/or pipelines so long as it does not harm pre-existing uses or rights.
- 4. Carbon County encourages pipeline and transmission line development to be in the most appropriate route, avoiding sensitive habitats, the use of eminent domain, and conflicting existing and future planned uses, regardless of land ownership, with a preference to placement on federal lands or consenting landowners.
- 5. Federal agencies should encourage reclamation to use best management practices instead of requiring restoration to as near the same condition as the site was originally. Consider nonnative seeding where appropriate and beneficial for soil stability and conservation.
- 6. Pipelines should avoid water crossings and placement in river systems. Should a pipeline cross water bodies, boring and other methods that would reduce disturbance to the water body or riverbed should be required.
- 7. All potentially hazardous materials best management practices shall be required to prevent water quality impairments from occurring from the development of pipelines.
- 8. Carbon County discourages the use of eminent domain for all pipeline and powerline projects.
- 9. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation is done properly and locally for all pipelines and transmission lines.

4.6 AIR QUALITY

4.6.1 History, Custom, and Culture

Clean air in Carbon County is important to citizens and visitors. Wildfires can create air quality issues in the summer and fall. Dust from unpaved roads can negatively impact air quality, particularly during drought conditions. Clean air is key to people living in Carbon County and to those who visit the County.

4.6.2 Resource Assessment and Legal Framework

Under the Clean Air Act of 1970 (42 U.S.C. §7401 et seq.), the EPA is responsible for setting and enforcing National Ambient Air Quality Standards (NAAQS). Standards were established for total suspended particulate matter, carbon monoxide, ozone, nitrogen dioxide, and sulfur dioxide. The EPA, working with states and tribes, identifies areas as meeting (attainment) or not meeting (nonattainment) the NAAQS. The Clean Air Act requires states to develop a plan for the attainment of air quality standards in their state. These plans are called State Implementation Plans. (O. EPA, 2014)

In Wyoming, local enforcement of many air pollutant regulations is delegated to the WDEQ (R. 08 EPA, 2014). WDEQ's Air Quality Division has established standards for ambient air quality necessary to protect public health and welfare; ambient air refers to that portion of the atmosphere, external to buildings, to which the general public has access (WDEQ, 2018b). WDEQ has also established limits on the quantity, rate, and concentration of emissions of various air pollutants from various sources including, but not limited to:

- Vehicle engines
- Construction/Demolition activities (asbestos)
- Handling and transport of materials
- Agricultural practices
- Fuel-burning equipment
- Oil and gas operations
- Manufacturing operations

The degradation of air quality in Carbon County comes from both natural and man-made sources including but not limited to:

- Wind-carried dust (especially during periods of drought)
- Wildfire emissions
- Emissions from the prescribed burning of vegetation
- Emissions from farming and agricultural operations
- Emissions from industrial operations
- Dust from unpaved roadway use

Air quality is important to the health, safety, and welfare of Carbon County's residents. Currently, Carbon County has good air quality with no nonattainment issues. Sulfur dioxide (SO₂) is one of a group of highly reactive gasses known as "oxides of sulfur," and are emitted into the air as a



result of fossil fuel combustion and other industrial processes. There is one WDEQ air quality monitoring station in Carbon County in the town of Sinclair. This station began operating in December 2015 and the objective is to monitor air quality and meteorological data in a populated area near a large SO₂ source. (WDEQ, 2020)

Dust from surface disturbing activities is often another contributing factor to air quality degradation. The 2008 BLM Rawlins RMP defines surface disturbance as:

Any action created through mechanized or mechanical means that would cause soil mixing or result in alteration or removal of soil or vegetation and expose the mineral soil to erosive processes. Used in the literal context of actual, physical disturbance and movement or removal of the land surface and vegetation. Examples of surface disturbance include construction of well pads, pits, reservoirs, pipelines, and facilities (e.g., parking lot and tanks). (BLM, 2008)

4.6.3 Resource Management Objectives (Air Quality):

- A. Clean air is vital to Carbon County and management actions are conducted to maintain clean air without expansion of regulations that would act as an impediment to economic development.
- B. Beneficial uses, such as prescribed burning, wood-burning for heat, historical agricultural practices, and other established activities within the custom and culture of Carbon County are allowed to continue.

4.6.4 Priorities (Air Quality):

- 1. Carbon County supports the promotion of clean air practices and limiting air pollution within the County.
- 2. Federal, state, and local agencies should work together to educate all stakeholders involved to develop best management practice concepts and plans to protect the air quality in Carbon County.
- 3. Federal agencies should implement best management practices and take aggressive efforts with forest management to decrease the size and impacts of wildfires within Carbon County.
- 4. Federal agencies should acknowledge that wood-burning for heat is a "necessity of life" for Carbon County's citizens and should be maintained as an acceptable activity.
- 5. Federal agencies shall evaluate Carbon County's and/or the affected water basin's economic impacts when considering management or enforcement decisions regarding clean air. If the negative impacts to Carbon County's and/or water basin's economy outweigh the positive effects on local clean air, then the management, enforcement, or alternative should not be utilized.
- 6. Federal agencies should require dust mitigation plans and standards for all surface disturbing activities as defined in the 2008 Bureau of Land Management Rawlins Field Office Resource Management Plan.
- 7. Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered.

4.7 CLIMATE CHANGE

4.7.1 History, Custom, and Culture

Carbon County relies heavily upon agriculture, tourism, and energy development to support the local economy. Climate change factors, including increased temperatures, reduced precipitation, and changes in airflow have the potential to drastically affect the economy of the County. Legislation and federal actions related to climate change have impacts on the agriculture, tourism, and energy industries that can, in turn, impact the economic stability of Carbon County. Carbon County experiences a naturally high variability in temperature and precipitation from year to year and over time. The County recognizes that there is natural variability in climate and that this is likely the largest contributing factor to changes in climate with minimal influence from human influences.

4.7.2 Resource Assessment and Legal Framework

Climate change has been defined as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. Climates are defined by long-term patterns of temperature, humidity, atmospheric pressure, precipitation, and airflow generally over years, decades, and/or centuries.

Paleoclimatology, the study of past climates via ice cores, tree rings, and sediment cores has shown that climates vary naturally over time and are subject to the cyclical phenomena of El Niño-Southern Oscillation, Pacific Decadal Oscillation, and North Atlantic Oscillation. These phenomena, among others, cause yearly variations in precipitation, and temperature.

NEPA-compliant documents may include the following analyses of the proposed action regarding climate change: (1) the extent to which the proposed action and all reasonable alternative(s) contribute to climate change through greenhouse gas (GHG) emissions; (2) the effect of a changing climate over the life of the project on the proposed project including flooding considerations and changes in precipitation; and (3) implications of climate change on the proposed project including cumulative impacts to resource availability.

Federal agencies are required to consider direct, indirect, and cumulative effects when analyzing any proposed federal action and its environmental consequences. When assessing direct and indirect climate change effects, agencies should take account of the proposed action, including “connected” actions, subject to reasonable limits based on feasibility and practicality. In addition, emissions from activities that have a reasonable nexus to the federal action (e.g. cumulative actions), such as those activities that may be required either before or after the proposed action is implemented, must be analyzed. (National Environmental Policy Act 1969, 1969)

4.7.3 Resource Management Objectives (Climate Change):

- A. Cooperation and open communication between the federal agencies and Carbon County is achieved when assessing the effects of proposed federal actions within Carbon County.
- B. Climate change analysis is conducted on a regional level that analyzes the immediate harms that the decision may have to Carbon County including economic impacts in



comparison to the probability that the decision will contribute to the long-term effects of climate change.

4.7.4 Priorities (Climate Change):

1. Encourage inclusion of additional climate change scientific data in all National Environmental Policy Act planning processes that meet the credible data criteria, even if not produced by a federal agency.
2. Climate change analysis should occur on a regional level; the region should be identified through consultation and coordination with Carbon County.
3. A full analysis of the impact each alternative and subsequent “decision” will have on the local economy should be conducted. If it is determined that the alternative/decision will have a significant negative impact on the local economy, the alternative/decision is not supported.
4. Regulation of greenhouse gases through climate change analysis is not supported.
5. Encourage acknowledgment of sustainable rangeland management having a positive effect on carbon sequestration.

CHAPTER 5: WATER RESOURCES

5.1 OVERVIEW

Healthy watersheds contain ecosystems that are in good health, have minimal weed infestations, functioning riparian areas, rangelands with a variety of vegetation, and valleys that support farming and urban developments. Healthy watersheds provide recreational opportunities for residents and visitors, serve cultural needs, and provide habitat for native plants, wildlife, and fisheries. The health of Carbon County's watersheds directly affects the current and future availability of quality water resources and water-dependent natural resources, as well as the ability of watersheds to adapt to climate variability, such as periods of drought or high rainfall and rain-on-snow events.

Carbon County's watersheds are diverse and dynamic. They consist of a variety of vegetation and topography, including uplands, floodplains, wetlands, channels, springs, lakes, and reservoirs. These watersheds continue to evolve under the influence of climate, floods, landslides, erosion, and human land use. The water resources of Carbon County are an integral function of the County's economy and the health of County residents and communities. Carbon County, and many surrounding areas in Wyoming, are headwater watersheds. Many of the waters within the County are important to municipalities, irrigation, wildlife, and other uses within the County and outside of the County further downstream. A successful management strategy for Carbon County's watersheds must consider how the various watershed components and uses interrelate and influence each other from ridgeline to stream, and across adjacent watersheds. Refer to Figure 15 and Figure 16 below for maps of the watersheds and major hydrologic features in Carbon County.

The largest hydrologic units, or Hydrologic Unit Code (HUC) 2 watersheds, span entire major river systems. Carbon County is located within HUC 2 Region 10 (Missouri River) and Region 14 (Upper Colorado River). These regions are subdivided into finer scale basins, water systems, and waterways with longer HUC designation codes (i.e., HUC 4 through HUC 12). Carbon County spans portions of the Greater Green River Basin (GGRB) and the Platte River Basin (PRB), which are HUC 4 units in their respective regions (USGS, n.d., 2020). Figure 15 depicts the HUC 10 watersheds located within the GGRB and PRB.

Water plans that span Carbon County include the GGRB Plan, the PRB Plan, the Upper North Platte River Watershed Study, the Medicine Bow Watershed Study, the Sweetwater River Watershed Study, and the Little Snake River/ Vermillion Creek Watershed Study. These plans can be found on the Wyoming Water Development Commissions (WWDC) Water Resources Data System Library [webpage](#)³⁸. The protection of water resources within Carbon County is a high priority for the County.



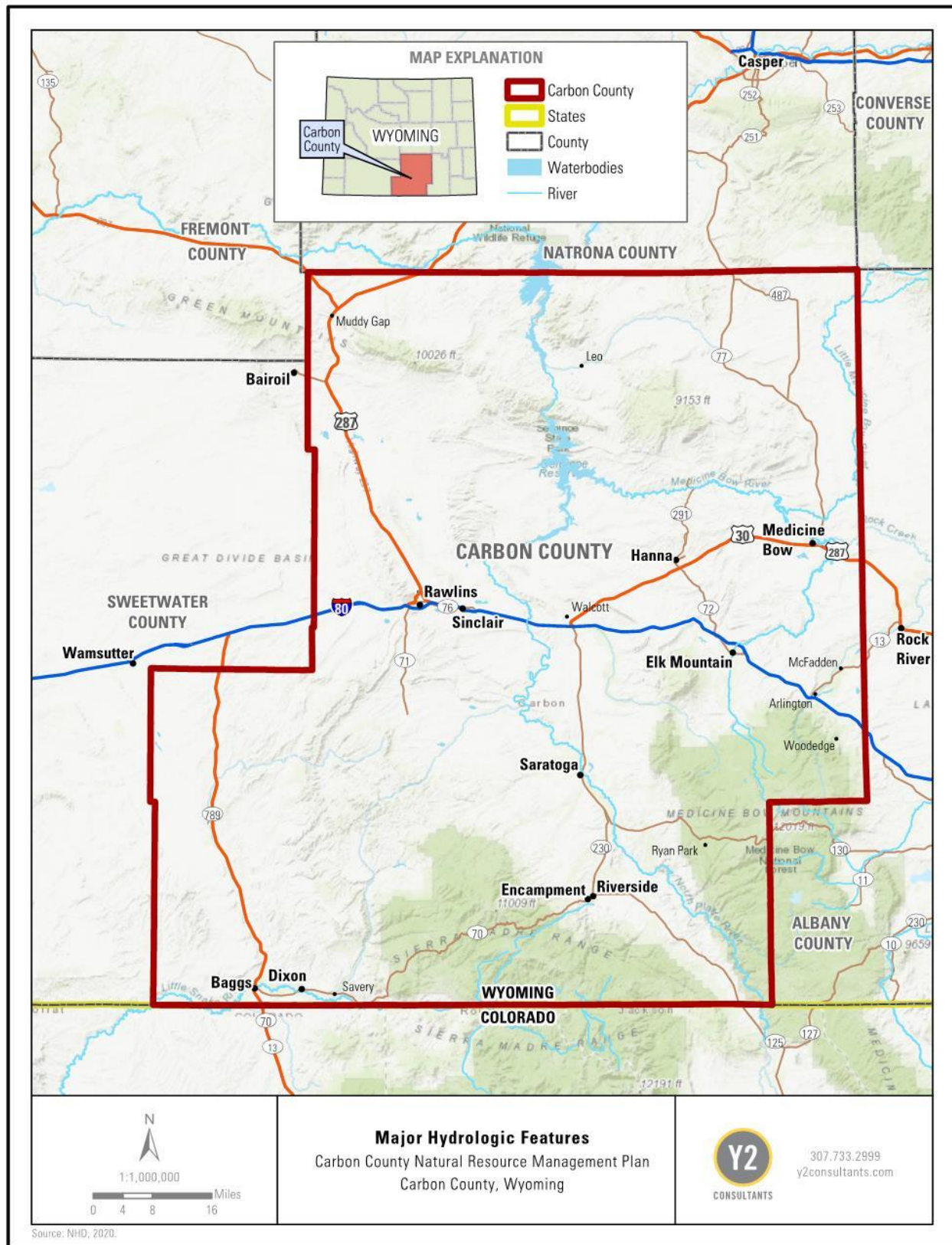


Figure 16. Major hydrologic features of Carbon County.

5.2 WATER USE

5.2.1 History, Custom, and Culture

Only 15% of the state of Wyoming has a positive water balance, where the average annual precipitation exceeds the annual evapotranspiration. Carbon County's surface water accessibility and health are integral to multiple industries, including livestock and crop production, recreation, and tourism. Surface waters are especially integral to forage irrigation and fisheries in Carbon County. The climatic characteristics of the state have shaped water law across Wyoming and driven the need for the development of water storage and irrigation infrastructure over the years.

Early settlement and development within Carbon County were focused along rivers and streams. These water resources have been important to historic cultural development such as agriculture, municipal use, and recreation including hunting and fishing. Irrigation development in Carbon County started in the 1850s and the earliest water right filings are recorded in the 1860s. The first surface water laws were enacted in 1875. In 1894, the Carey Act was passed to encourage settlement and irrigation development across western states. Over time, irrigation expanded across the lowlands and reservoir storage rights began to develop in the 1920s. By 1970, 90% of the water depletions in the GGRB were attributed to irrigation. Between 1986 and 1990 irrigation attributed water depletions had declined to 79% due to an increase in industrial development. Between the 2001 GGRB Water Plan and the 2010 update, there was a negligible change in water use attributed to irrigation while industrial depletions declined by 15%. There are approximately 150,000 acres of the irrigated acres within the 'Above Pathfinder Dam' subbasin within the Platte River Basin. About 88%, or 132,000 acres, are located within Carbon County. (States West Water Resources Corporation & WWDC, 2001; Tyrrell & States West Water Resources Corporation, n.d.; WWC Engineering et al., 2010; WWDC, 2006)

The development of dams and reservoirs began nearly as early as irrigation to allow for extended seasonal access to water. For additional information regarding the history of dam development in Carbon County refer to Section 5.2.4 Dams and Reservoirs. Reservoirs in Carbon County now provide water resources for agriculture, hydroelectric power, recreation, wildlife habitat, and tourism. Irrigation and water storage infrastructure shaped the early development of water use and will continue to be an important resource for the development of agriculture, tourism, and industry in Carbon County. (States West Water Resources Corporation & WWDC, 2001; Tyrrell & States West Water Resources Corporation, n.d.; WWC Engineering et al., 2010; WWDC, 2006)

The rivers within Carbon County have an extensive history associated with the development of the County. The North Platte River drainage has been an important westward expansion of the U.S. As emigrants moved west, they followed the river for the available grass and water for livestock. Often settlers laid roots near the river to have continual water resources. Over time the rivers transitioned into transportation pathways to assist in the building of the railroad across the west. Loggers in the forested areas around Encampment would harvest logs to be used as railroad ties for the railroad tracks. To transport the logs efficiently the loggers would float the logs down the Encampment River during high water. The Encampment River flows into the North Platte and eventually, the logs were taken out of the river at Fort Steele where they were loaded



on trains for shipment to a tie treatment plant in Laramie. Loggers would log year-round but would hold the logs in the winter until the spring melt when they were able to float them down. Tie camps were located along various tributaries of the Encampment River.

The rivers and streams throughout Carbon County have also provided recreational opportunities, including fishing and rafting for many years. The North Platte River from the Colorado border to just north of Saratoga is a blue-ribbon fishery (>600 pounds of fish per mile) as is the section of the North Platte from just south of Seminoe Reservoir all the way north to the Pathfinder Reservoir and the County-line. Further information on water resources for fishing can be found in Section 6.4 Fisheries.

5.2.2 Water Rights

5.2.2.A Resource Assessment and Legal Framework

Wyoming water laws and statutes are governed by [Title 41](#)³⁹. By Wyoming law, all surface and groundwater belong to the State. The Wyoming State Engineers Office (WSEO) is responsible for the management of these waters and protecting existing water rights and resources.

Wyoming is a Prior Appropriation Doctrine state, meaning that water rights are established by actual use of the water, and maintained by the continued use and need (W.S. § 41-3-101). Wyoming prioritizes water uses as “preferred uses” and all other uses (W.S. § 41-3-102). Preferred uses include “rights for domestic and transportation purposes, steam power plants, and industrial purposes.” *Id.* Preferred uses have the right of condemnation against all other water uses and those lesser preferred uses. *Id.* Wyoming ranks uses in the following order:

- 1) Water for drinking purposes for both man and beast;
- 2) Water for municipal purposes;
- 3) Water for the use of steam engines and general railway use, water for culinary, laundry, bathing, refrigerating (including the manufacture of ice), for steam and hot water heating plants, and steam power plants; and
- 4) Industrial purposes. *Id.*

In Wyoming, a water right is a right to use the water of the state, when such use has been acquired by the beneficial application of water under the laws of the state relating thereto, and in conformity with the rules and regulations dependent thereon. Beneficial use shall be the basis, measure, and limit of the right to always use water. Thus, in Wyoming, a person must (1) obtain a permit; (2) demonstrate a beneficial use; and (3) use the water in conformity with the permit to have a valid water right (W.S. § 41-3-101). Wyoming case law also generally holds that water rights appurtenant to land and the means of conveyance of the water (i.e., ditches, pipes, and conduits) pass with the transfer of the land (*See Toltec Watershed Improvement Dist. V. Associated Enterprises, Inc.*, 829 P.2d 819 (Wyo. 1992); *Frank v. Hicks*, 35 P. 475 (Wyo. 1894)). Wyoming also allows for a temporary change in water use of a currently valid water right for up to two years with approval from the WSEO, so water right users may transfer their water rights for other uses on a temporary basis (W.S. § 41-3-110).

Although all surface and groundwater in Wyoming belong to the state, water rights are considered property rights that can be conveyed or reserved in the same manner as real property. Thus, water rights are widely accepted as property of the holder and can be protected under the 5th and 14th Amendments of the United States Constitution when taken through regulation (See *Klamath Irrigation Dist. v. United States*, 113 Fed. Cl. 688, 691 (2013)).

Territorial water rights exist in Carbon County and may not be readily available via records through the WSEO but should be considered and researched when dealing with water rights within the County. The water in the Upper North Platte River Valley is over adjudicated due to existing water rights and water compacts.

Instream Flow

Instream flow refers to water flowing in streams. An instream flow water right refers to the legal means to protect water in streams for the benefit of fish based on the same laws used for other kinds of water rights. In 1986, legislation was passed that extended the same opportunity to manage water in stream channels for fish as had been allowed for uses of water out of the stream. Wyoming statute identifies instream flow as a beneficial use of water and requires the Wyoming Game and Fish Commission to identify opportunities to protect or restore flows (W.S. 41-3-1001 to 41-3-1014).

Water is an important part of the habitat for fish management and securing instream flow water rights is an important management practice. The Wyoming Game and Fish Department (WGFD) has filed instream flow water rights on several waters within Carbon County. Those stream segments that have been filed for in Carbon County can be found on the map provided [here](#)⁴⁰ along with additional information. Most instream flow filings have been on important recreational streams, as well as streams harboring habitat for and populations of Colorado River and Bonneville cutthroat trout. More recently, priorities have been on streams in the Yellowstone and Snake River cutthroat trout groups. (Robertson, 2011)

Cloud Seeding

Cloud seeding is a type of weather modification that aims to change the amount or type of precipitation that falls from clouds by dispersing substances into the air that serve as cloud condensation which alters the microphysical processes within the cloud. The usual intent is to increase precipitation. The Wyoming Water Development Office became interested in cloud seeding in the early 2000s and has spent more than ten years conducting extensive research on the science and effectiveness of the technology to help determine whether seeding over certain parts of the state would be a valuable and affordable investment. The Medicine Bow/Sierra Madre Mountain Ranges have been one of the study sites in the state. In the winter of 2018-2019, the cloud seeding study in this area was done strictly by aircraft. Further information on the cloud seeding program in Wyoming can be found [here](#)⁴¹.

Currently, there are no legal regulations or laws surrounding cloud seeding. The largest issue identified is if cloud seeding could result in interstate compact issues. Cloud seeding is a water rights discussion for the fact that cloud seeding has the potential to take someone else's rainwater artificially which could disrupt their currently protected water rights and uses.



5.2.1.B Resource Management Objectives (Water Rights):

- A. Wyoming water law and policy controls all water rights within Carbon County and is supreme to any federal policy or regulation.
- B. Beneficial uses of water as defined by Wyoming statutes are protected and prioritized in all water management.
- C. Federal agencies never acquire water rights outside of Wyoming water law.
- D. No new interstate water compacts are developed without Carbon County's involvement.
- E. No new trans-basin diversions or interstate water transfers occur within the County. Carbon County water stays in Carbon County.
- F. Federal agencies never use exactions to acquire water rights.

5.2.1.C Priorities (Water Rights):

- 1. Placing water rights in the name of any state or federal agency when the water right is applied for and proved upon by a private individual or corporation, or as the condition of any permit, is not supported.
- 2. Water rights shall not be acquired through exactions as a condition precedent of any permit.
- 3. Water right exactions should never be a condition for any right-of-way or ditch permit. It is the position of Carbon County that instream flow requirements as a condition for a permit are water rights exactions.
- 4. Water rights should be recognized as a private property right that may be owned separately from federal land when allowed by Wyoming law.
- 5. Carbon County opposes over-reaching federal regulations on Wyoming waters; we support Wyoming control of Wyoming waters.
- 6. Carbon County opposes the use, sale, or lease by the State of any Wyoming basin water unless the water and storage need of the affected basin(s) have been met. Any sale or lease of water out of basin or out of state shall be mitigated by storage before the transaction is approved.
- 7. Carbon County supports policies and actions that will protect existing water rights and water uses within the County for long-term conservation and enhancement of our natural resources while contributing to the economic stability of the County and its residents.
- 8. Carbon County supports efforts to ensure Wyoming water law as it exists is adhered to in all cases.
- 9. Carbon County supports historic and customary beneficial water uses under Wyoming state law to take precedence over all in-stream flow use designations.
- 10. Carbon County supports Wyoming state water law and the state's right to administer all water.
- 11. Carbon County is opposed to any federal government action which adversely affects the State of Wyoming's water rights and water law.
- 12. Federal agencies should work with local, state, and other federal agencies to encourage and support state control of water rights and to maintain opportunities for future water right allocations.
- 13. Federal agencies should work to see that all water rights are being utilized to their fullest extent.

14. Federal agencies should work with Carbon County to educate and inform cooperators regarding Wyoming water laws.
15. Carbon County supports the State of Wyoming's prior appropriation doctrine for water rights allocation.
16. Carbon County supports the protection of senior water right holders' allocations.
17. Water rights must be officially abandoned through Wyoming law. Federal agencies and interstate compact authorities shall unilaterally abandon water rights or impede the use of water rights.
18. Carbon County should be included in discussions regarding cloud seeding within the County.
19. Cloud seeding outside Carbon County is discouraged when the use of cloud seeding could harm or bypass certain interstate water compact obligations.
20. Federal agencies should not allow cloud seeding outside of Carbon County as a method to induce inter-basin transfers of Carbon County water.

5.2.3 Irrigation and Related Infrastructure

5.2.3.A Resource Assessment and Legal Framework

As recently as 2017, over 3% of Carbon County's land area was irrigated acres (USDA, 2017; WLC Engineering, Surveying & Planning et al., 2010). There are approximately 330,408 acres of irrigated land across the GGRB. The Little Snake River subbasin contains 16,959 acres of irrigated land and has 17,430 acre-feet of permitted storage for irrigation. The eastern portion of Carbon County intersects with the Platte River Basin and averaged about 132,000 acres of irrigated land in 2006. Across the Platte River Basin, the majority of irrigated acres produce hay, pasture grass, and alfalfa. (States West Water Resources Corporation & WWDC, 2001; WLC Engineering, Surveying & Planning et al., 2010; WWDC, 2006)

Irrigation influences the flow rates and timing of both perennial and ephemeral streams in Carbon County. Return flow from irrigation can maintain perennial flow in naturally ephemeral streams. During non-irrigation seasons both perennial and ephemeral streams in irrigated areas experience low flows. The use of reservoirs for retaining irrigation water can lower peak flow rates in systems downstream. This water retention can also extend how long spring and early summer runoff is held in the system before being released downstream. This can extend the season before low flow and increase low flow rates during the non-irrigation season for downstream systems. The result is peak and low flows that are more moderated; this decreased flow fluctuation can influence the ecology of downstream fisheries and habitats. (Bartos et al., 2006)

Additional information regarding irrigation acres, conveyance, and capacity can be found in the [Wyoming Water Development Commission Irrigation Survey System Reports](#)⁴² (Wyoming Water Development Office, 2019).

5.2.3.B Resource Management Objectives (Irrigation and Related Infrastructure):

- A. Irrigation and water systems are managed to ensure future access to irrigation water and to promote the health and longevity of Carbon County's water systems and supply.



- B. Flood irrigation is an approved method of irrigation for agricultural meadows within Carbon County.
- C. Water conveyance rights-of-way are guaranteed, and access is uninhibited for irrigation practices within Carbon County.
- D. Carbon County water remains in Carbon County.
- E. Carbon County is involved in any water resources action.
- F. Federal agencies never use exactions to acquire water rights.

5.2.3.C Priorities (Irrigation and Related Infrastructure):

1. Carbon County should be notified at the earliest time possible when interstate or intermountain projects are proposed or occur. Carbon County plans to participate as a cooperating agency.
2. Support the development, improvement, and continued use of irrigation and related infrastructure within Carbon County.
3. Federal agencies should work with local, state, and other federal agencies on funding for water storage facilities within Carbon County.
4. Federal agencies should work with appropriate partners and agencies to promote the efficient delivery and use of irrigation water throughout Carbon County.
5. Federal agencies should support the development of downstream and off-stream storage facilities that would allow excess spring runoff to be captured and used later in the growing season.
6. Federal agencies should encourage and allow consumptive water right owners to improve water quality and water-use efficiency to provide additional water for economic development and agriculture.
7. The importance of irrigation systems that make up a critical part of the water cycle within Carbon County should be recognized and protected.
8. Federal agencies should support the implementation of irrigation best management practices.
9. Historical irrigation ditch rights-of-way should continue to be used and protected through federal lands whether those rights are permanent or require periodic renewal.
10. Any renewal of rights-of-way for irrigation ditches crossing federal lands should be done expeditiously with little impact on the historical use.
11. Instream flow requirements should not be a precedent condition for the renewal of irrigation ditch rights-of-way.
12. Irrigation ditches should never be considered navigable water under the Clean Water Act. Carbon County supports the September 11, 2020 Waters of the United States definition as presented by the Environmental Protection Agency.
13. Water rights shall not be acquired through exactions as a condition precedent of any permit.
14. Support the prohibition of water right exactions for right-of-way and ditch permits. It is the position of Carbon County that instream flow requirements are exactions.
15. Federal agencies should support projects that create hydroelectric power projects within Carbon County.

5.2.4 Dams and Reservoirs

5.2.4.A Resource Assessment and Legal Framework

Dams and reservoirs are located across Carbon County and are used for various functions, including storage for irrigation, livestock/ wildlife water, recreation, industrial, municipal, flood control, and fish propagation. The Wyoming Water Development Office's (WWDO) Dam and Reservoir Planning Division works to promote dam and reservoir maintenance and improvement. Funding from the State Dam and Reservoir Division's account, Wyoming Water Development Account III, is available for the development of new reservoirs that are 2,000 acre-feet or larger, or the enlargement of existing reservoirs (minimum of 1,000 acre-feet increased capacity). Funding is also available for Level I reconnaissance studies and Level II feasibility studies to identify possible water storage projects. (WWDC, n.d.)

The GGRB and PRB Water Plans evaluated all reservoirs considered 'major reservoirs' within the surface water assessments. Major reservoirs are defined as reservoirs with equal to or greater storage capacity than 500-acre feet. Below is a description of the major reservoirs within Carbon County. (States West Water Resources Corporation & WWDC, 2001; WWDC, 2006)

High Savery Reservoir

The High Savery Reservoir is located on the western side of Carbon County in the GGRB. The reservoir is within the Little Snake Basin on Savery Creek. The maximum storage for this reservoir is 22,400 acre-feet. The High Savery Reservoir was a state-sponsored project to provide late-season irrigation water, recreation, environmental resources, and to mitigate the trans-basin diversion effects from Cheyenne projects. Permitting for the reservoir reserved 4,955 acre-feet of the reservoir's storage for fish and wildlife use (States West Water Resources Corporation & WWDC, 2001). The BLM recognizes High Savery Reservoir as another management area and further description of management goals and objectives can be found in the [2008 Rawlins BLM RMP](#)²⁰.

Kortes Reservoir

Located in Black Canyon of the PRB, the Kortes Reservoir and dam were built in 1951 as part of the Pick-Sloan Missouri Basin Project. The total storage capacity of the reservoir is 4,640 acre-feet. While the Kortes Reservoir is used for irrigation holding, flood control, and recreation, the primary benefit is hydroelectric power generation. (Hein, 2014)

Seminole Reservoir

The Seminole Reservoir is located on the North Platte River upstream of the Pathfinder Reservoir. Seminole Reservoir is the first reservoir on the North Platte and therefore anything upstream from the reservoir is not regulated by a reservoir system for flood mitigation as areas downstream from the reservoir are. The Seminole Reservoir and dam are used for hydroelectric power generation, flood control, and irrigation. Seminole is a primary irrigation storage component of the Kendrick Project, this reservoir stores up to 1,026,360 acre-feet. The Kendrick Project provides irrigation water to about 24,000 acres of land northwest of the North Platte River between Casper and Alcova. (Hein, 2014)

Pathfinder Reservoir

The Pathfinder Reservoir is located north of the Seminoe Reservoir on the North Platte River. The Pathfinder Dam is in Natrona County but much of the reservoir is located in Carbon County. The reservoir has a storage capacity of 1,016,000 acre-feet. During the irrigation season, water is released, as required, including water flowing from Seminoe Reservoir to be diverted at Alcova Dam for irrigation on the Kendrick Project. During the non-irrigation season, some of the water in the reservoir is released to satisfy other water rights, enhance fish and wildlife, and operate power plants downstream. Much of the Pathfinder Reservoir is included in the Pathfinder National Wildlife Refuge. (BOR, n.d.-b)

Hog Park Reservoir

Hog Park Reservoir is located on Hog Park Creek, a tributary of the Encampment River, 13 miles southwest of Encampment. The Hog Park Dam is an earth-fill dam with a rock spillway. The reservoir is permitted at 22,656 acre-feet capacity. The Hog Park Reservoir is used for erosion and flood control, fish culture, industrial use, municipal use, recreation use, and irrigation. Hog Park Reservoir is one of the reservoirs that supply water to the City of Cheyenne. (Roedel & 2020, 2020; WWDC, 2006)

Pierce Reservoir

Pierce Reservoir was constructed in 1912 and is located 18 miles east of Elk Mountain in a natural basin. The reservoir holds 3,205 acre-feet and is primarily used for irrigation, stock water, and domestic water use. (WWDC, 2006)

Saratoga Reservoir

Saratoga Reservoir is located along the North Platte River just northeast of Saratoga. The Saratoga Reservoir holds 1,559 acre-feet and is primarily used for municipal water, recreational uses, stock water, and fish culture. The reservoir is filled through the enlargement of the Saratoga Supply Ditch, which receives water from the North Platte River. (WWDC, 2006)

Turpin Park Reservoir

Turpin Park Reservoir is located on the channel of Turpin Creek in the Medicine Bow-Routt National Forest, 20 miles east of Saratoga. Turpin Park Reservoir has an available permitted capacity of 1,316 acre-feet and is used for irrigation, recreation, and stock purposes. (WWDC, 2006)

Sand Lake Reservoir

Sand Lake Reservoir is located on Deep Creek in the Medicine Bow National Forest, 27 miles east of Saratoga. The reservoir is permitted for irrigation, stock, domestic, and industrial uses with a 1,105 acre-feet capacity. It is also heavily used for recreation.

Other General Reservoirs

There are many other small reservoirs throughout the county that provide stock water and recreational opportunities. These reservoirs can be found [here](#)⁴³.

5.2.4.B Resource Management Objectives (Dams and Reservoirs):

- A. Dams and reservoirs within Carbon County are well maintained, accessible, and functional.
- B. The quality of all dams and reservoirs within Carbon County is preserved and water resources are developed responsibly in coordination with the County.
- C. Water storage facilities are increased or developed where they are cost-effective and provide an economic benefit to Carbon County.
- D. The primary use of all reservoirs within Carbon County is maintained for the purpose for which they were originally intended.
- E. Hydroelectricity projects including micro hydroelectricity projects within existing structures are developed within Carbon County where they may be useful and appropriate.
- F. Carbon County is consulted regarding federal land management decisions that impact water quality; water yields and timing of those yields; impacts on facilities such as dams, reservoirs, delivery systems, or monitoring facilities; and any other water-related concerns.

5.2.4.C Priorities (Dams and Reservoirs):

- 1. Carbon County supports the construction and/or expansion of water storage if a health and safety or economic benefit for the State and/or County can be realized.
- 2. Unless required in an interstate water compact or existing water agreement, water stored in Carbon County should be exclusively used within the State of Wyoming.
- 3. Federal agencies should recognize and consider primary and preexisting uses of water facilities in all decisions affecting such.
- 4. Federal agencies should support the recreational and consumptive use of water to support the local economy.
- 5. Federal agencies should support funding for dams and reservoirs within Carbon County on federal lands.
- 6. Carbon County should be informed early of any potential decisions that may impact water use, yield, or development of dams, reservoirs, and other water storage methods and is coordinated with and given the opportunity to participate as a cooperating agency.
- 7. Support water development projects that increase water quantities for beneficial use within Carbon County, while conserving the traditional custom, culture, and economy of the area.
- 8. Federal agencies should support projects that create hydroelectric power projects within Carbon County.

5.2.5 Rivers and Streams

5.2.5.A Resource Assessment and Legal Framework

Wyoming has approximately 108,767 miles of rivers. Within Carbon County, many perennial rivers and streams provide water for municipal, agricultural, recreational, tourism, and industrial uses. Perennial streams originating from high mountain aquifers and snowpack are fed throughout the year and experience maximum discharge during the spring and early summer snowmelt. (National Wild and Scenic Rivers System, n.d.-b)



Rivers and streams in Carbon County are integral to many industries across the County. From agriculture uses such as irrigation and stock water, to recreation uses such as fishing and floating, to industrial uses including mining, water access within the County is paramount to a thriving economy. Rivers and streams also provide water for municipal use that is important to the health and standard of living for County residents. In addition to these listed uses, healthy rivers and streams are necessary for functioning ecosystems and fishery and wildlife health.

Little Snake River

The Little Snake River is a tributary of the Yampa River and runs approximately 155 miles in southeastern Wyoming and northwestern Colorado. The headwaters rise near the continental divide in the Routt National Forest in northern Routt County, Colorado where the river is fed from high spring snowmelt. The two major tributaries to the Little Snake River within Carbon County are Savery Creek and Muddy Creek. The towns of Baggs and Dixon receive their primary water supply from the Little Snake River. The Little Snake River basin contains substantial agricultural development, making irrigation and agricultural water use from the Little Snake River important to the industry in the basin. The Little Snake River is generally not navigable except for during the high-water season.

The Little Snake River drainage is considered part of the Green River Basin. The Green River Basin includes the Henry's Fork, Vermillion Creek, and Little Snake River drainages and is roughly 17,100 square miles or approximately 16% of Wyoming's surface area. The Little Snake River falls within the Colorado River Compact which is described below.

Colorado River Compact

The Colorado River Compact of 1922 is an agreement among the states whose boundaries lie within the Colorado River Basin. The purpose of the agreement is to provide for the equitable division and apportionment of the use of the waters of the Colorado River System; to establish the relative importance of different beneficial uses of water, to promote interstate comity; to remove causes of present and future controversies; and to secure the expeditious agricultural and industrial development of the Colorado River Basin, the storage of its waters, and the protection of life and property from floods. Under the compact, the water of the Colorado River is divided in half; with half going to the upper basin states of Colorado, Utah, Wyoming, New Mexico, and parts of Arizona; and half going to the lower basin states of California, Arizona, and Nevada. The dividing line between the Upper and Lower Basins is at Lee's Ferry, Arizona. Ultimately, the Compact dictates that the Upper Basin cannot deplete the flow at Lee's Ferry below 75 million acre-feet in any running 10-year period. (Water Education Colorado, 2015)

The Colorado River Compact specifically protects water rights predating the compact, stating, "Present perfected rights to the beneficial use of waters of the Colorado River System are unimpaired by this compact" (Colorado River Compact Article VIII). Thus, any perfected water rights in the Colorado River system that predate November 24, 1922, are not obligated to the Colorado River Compact and cannot be required to supply any shortage if a Lower Basin makes a call on the river. Additionally, the Upper Basin states of Wyoming, Colorado, New Mexico, Utah, and Arizona negotiated an Upper Colorado River Compact in 1948. The Upper Colorado River



Compact further allocates the water distributed between the Upper Colorado River Basin states with Wyoming being guaranteed a 14% allocation of Colorado River Compact Water (totaling approximately 1.04 million acre-feet (maf))(Upper Colorado River Compact Art. III (1948)). The Compact also contains important (but so far unused) language relating to compact curtailment should the Upper Basin fail to meet its non-depletion obligation under the 1922 Compact. *See id.* at Art. IV.

Much has changed since the ratification of the Colorado River Compact and the Upper Colorado River Compact. The 2007 BOR Colorado River Interim Guidelines set forth the criteria as to when the Secretary of the Interior is to declare the Colorado River's water supply availability conditions for the Lower Division States and also set out and defined coordinated operations of Lake Powell and Lake Mead. The guidelines are in place through 2026 (2007 US Bureau of Reclamation Colorado River Interim Guidelines Executive Summary p. ES-2). The three conditions are normal, surplus, and shortage conditions. Under the Interim Guidelines, Lake Powell and Lake Mead's operations are coordinated. Releases are based on forecasted, year-end reservoir levels in Powell and Mead. Lake Powell is divided into four tiers. Each of these tiers dictates how much water is released from Lake Powell for storage into Lake Mead (and thereby fulfilling the required 7.5 maf obligation in the Colorado River Compact). Lake Mead is divided into several different tiers. At levels above 1,075 feet, normal or surplus conditions are declared and Lake Mead is required to deliver at least 7.5 maf. The critical levels at Lake Mead are those levels below 1,075 feet, the level at which shortages are imposed on Lower Basin water users, and 1,025 feet when a shortage condition is declared. Ultimately, the reason the Interim Guidelines are important to Upper Basin users is that higher levels of Lake Mead allow for Lake Powell to remain high and the Upper Basin water users are given a greater buffer for when drought conditions may make it more difficult to deliver water through Lee's Ferry.

Finally, in 2019, the Colorado River Basin States reached a dual drought contingency plan agreement based largely on the 2007 Interim Guidelines. The Upper Basin Drought Contingency Plan established a Demand Management Program that established 3,525 feet as the target operational level for Lake Powell. Lake Powell's operations will then be coordinated with other Upper Basin Reservoirs, including the Flaming Gorge, Aspinall, and Navajo Dams to protect Lake Powell's depth. In turn, the Lower Basin Drought Contingency Plan would require that the Lower Basin states would curtail their deliveries from Lake Mead when the lake reaches the levels specified in the 2007 Interim Guidelines.

North Platte River

The North Platte River is the largest river in Carbon County and is a major tributary of the Platte River in Nebraska. The North Platte's headwaters are in Jackson County, Colorado, and then flow into southeast Carbon County, through the town of Saratoga and north toward Casper. The North Platte and South Platte River join to form the Platte River in western Nebraska near the city of North Platte, Nebraska. The Platte River eventually flows to the Missouri River which joins the Mississippi River to flow to the Gulf of Mexico. The North Platte provides the major drainage for northern Colorado, eastern Wyoming, and western Nebraska. Because of this, the North Platte River is part of the Platte River Recovery Implementation Program (described below).



There is an extensive reservoir system on the North Platte River as it flows north toward Casper. These reservoirs provide irrigation water to over 226,000 acres. The Pathfinder and Seminoe Reservoirs are the primary irrigation holding facilities in Carbon County. Flowing north through the center of the County, this river provides agricultural and municipal resources as well as prime recreational opportunities. Along with these reservoirs the Miracle Mile, a five-and-a-half-mile prime angler reach between the Seminoe Reservoir and the Kortess Dam, are commonly used recreation areas. Important tributaries of the North Platte River include the Laramie River, Encampment River, Medicine Bow River, and Sweetwater River. (WWDC, 2006)

Platte River Recovery Implementation Program

In 1997, Colorado, Wyoming, Nebraska, and the Department of the Interior formed a unique partnership to develop a shared approach to managing the Platte River. The Platte River Recovery Implementation Program (PRRIP) formed out of this in 2007 and is focused on implementing this shared vision for creating and maintaining habitats on the Platte River. The PRRIP is managed by a governance committee comprised of representatives from Colorado, Nebraska, and Wyoming, water users, environmental groups, BOR, and USFWS. The PRRIP utilizes federal and state-provided financial resources, water and scientific monitoring, and research to support and protect four threatened and endangered species (Piping Plover, Least Tern, Whooping Crane, and pallid sturgeon) that inhabit areas of the Central and Lower Platte rivers in Nebraska while allowing for continued water and hydropower project operations in the Platte River basin. In December 2019, the United Secretary of the Interior signed an amendment to the PRRIP Cooperative Agreement, along with the governors of Colorado, Nebraska, and Wyoming committing resources to extend the program through December 31, 2032. (Department of the Interior, 2019; Platte River Recovery Implementation Program, n.d.)

The Pathfinder Modification Project was completed in 2012 and was authorized by [Appendix F](#)⁴⁴ to the Final Settlement Stipulation relating to the Nebraska v. Wyoming lawsuit, as approved by the U.S. Supreme Court. The BOR has a Wyoming water right to store 1,070,000 acre-feet of water in the Pathfinder Reservoir for the benefit of the PRRIP. Over the years, approximately 53,493 acre-feet of the storage capacity were lost to sediment and the modification project would recapture the storage space. The modification project was accomplished by raising the elevation of the existing spillway by approximately 2.4 feet with the installation of an ogee crest. The recaptured storage holds water under the existing 1904 storage right for Pathfinder Reservoir. The Pathfinder Modification Project was essential to Wyoming for the state to meet its obligations under the PRRIP and the Modified North Platte Decree. (U.S. Supreme Court, 2000)

Encampment River

The Encampment River flows north from Colorado into Wyoming through the Encampment River Wilderness and passes by the town of Encampment and through the town of Riverside until its confluence with the North Platte River just northeast of Riverside. A small segment of the Encampment River is managed for inclusion as a Wild and Scenic River (BLM, 2008).

Medicine Bow River

The Medicine Bow River is a tributary of the North Platte River. Its headwaters are in the Snowy Range and flow north through eastern Carbon County. The river flows past Elk Mountain and then past the town of Medicine Bow where it is joined by its two largest tributaries Rock Creek and the Little Medicine Bow River. The Medicine Bow River joins the North Platte in the Seminole Reservoir.

5.2.5.B Resource Management Objectives (Rivers and Streams):

- A. Rivers and streams are managed to maintain water quality and to maintain proper ecologic function.
- B. Rivers and streams are managed for municipal use, to control flooding, and for agricultural, recreational, and industrial use.
- C. Rivers and streams are protected to allow continued historical uses that contribute to the custom and culture of Carbon County.
- D. No agreements or new interstate water compacts increasing Carbon County's water obligations are agreed to.
- E. Current uses, water compacts, and other water agreements and expectations are protected.

5.2.5.C Priorities (Rivers and Streams):

- 1. Carbon County does not support any new or increased "instream" flow requirements.
- 2. Federal agencies should support the management of rivers and streams to meet existing designated "in-stream" flow and interstate water compact requirements.
- 3. Support continued use of rivers and streams by all users.
- 4. Carbon County should be consulted when any impact to rivers and streams is a potential outcome of federal action or decision.
- 5. Support projects and policies which improve or maintain the current ecological function of rivers and streams within Carbon County.
- 6. Support the recreational and consumptive uses of water to support the local economy.
- 7. Carbon County does not support any new interstate water diversions, transfers, or obligations outside of those originally agreed to in the Colorado River Compact (and its associated agreements) and the Platte River Recovery Implementation Program Cooperative Agreement.
- 8. Carbon County requests coordination or involvement as a cooperating agency in any proposed amendments or discussions regarding the Platte River Recovery Implementation Program and associated Cooperative Agreement.
- 9. Rivers and streams within Carbon County should be managed in a holistic, ecosystem-level approach rather than for a single species.
- 10. Carbon County should be consulted and coordinated with whenever federal agencies make waterway management decisions regarding endangered species.
- 11. Federal agencies should promote best management practices that maximize stream bank stability, habitat restoration, and riparian health.
- 12. Federal and state agencies should support stream restoration projects with specific goals for habitat improvement.

13. Federal agencies should support stream restoration projects on public lands that will provide long-term benefits for healthy aquatic habitat and watershed health.

5.3 WATER QUALITY

5.3.1 History, Custom, and Culture

Water quality is essential to sustaining life and industry within Carbon County. The quality of water affects the health of County residents. In Wyoming, water quality is regulated by the WDEQ. The Conservation Districts are given specific statute authority for water conservation and other water responsibilities per W.S. § 11-16-122(b)(xvi). The headwaters for many streams lie within Carbon County and surface waters have far-reaching impacts both east and west of the Continental Divide.

5.3.2 Resource Assessment and Legal Framework

Clean Water Act

The Clean Water Act (CWA) is the federal regulatory mechanism that regulates surface water quality. The CWA gives the EPA and USACE regulatory jurisdiction over all “navigable waters” also known as “Waters of the United States or WOTUS.” The CWA makes it illegal to discharge a pollutant from a point source into navigable water unless a permit is obtained. The definitions surrounding what a “navigable water”, or WOTUS has been a creature of controversy in the past several years and there is still some uncertainty as to what bodies of water constitute as WOTUS and what qualifies as a “point source.” From the earliest rulemaking efforts following the adoption of the CWA in 1972 to the agencies’ most recent attempts to define WOTUS in 2015, the lack of a tangible statutory definition has generated hundreds of cases spanning dozens of courts to ascertain the span of the EPA’s jurisdiction. *See Federal Register Vol. 85, No. 77 22255 (April 21, 2020).*

On September 11, 2020, the EPA published final CWA regulations that were intended to clarify some of the definitions and clearly set forth the jurisdictional limits of the CWA. The goal of the final regulations is to:

- 1) Include four simple categories of jurisdictional waters
 - a. Territorial seas and navigable waters
 - b. Tributaries of jurisdictional waters
 - c. Lakes, ponds, and impoundments that contribute surface water flow to a jurisdictional water in a typical year
 - d. Wetlands adjacent to non-wetland jurisdictional waters
- 2) Provide clear exclusions for many water features that traditionally have not been regulated
- 3) Defines terms in the regulatory text that have never been defined before.

The CWA regulations are currently being challenged in federal court in the Federal District of Northern California, the Federal District of Colorado, and the Federal District of Virginia. However, as of the writing of this plan, the regulation is effective in all states, except Colorado.



Prior to the 2020 regulations, the regulations being followed were the 2015 Clean Water Rule: Definition of “Waters of the U.S.” which can be found [here](#)⁴⁵.

Surface and Ground Water Quality

Surface Water

Wyoming surface water quality standards (WDEQ, Water Quality Rules and Regulations, Chapter 1) are developed within the sideboards of the CWA and the Wyoming Environmental Quality Act (WEQA). These standards include water quality criteria, antidegradation provisions, and designated surface water uses (WDEQ, 2018a). Policies for antidegradation were last updated in September 2013 and Surface Water Quality Standards were last updated in April 2018 and are reviewed triennially as per the requirements of the CWA (WDEQ, n.d.-c).

Surface water designated uses are assigned to Wyoming’s surface waters through a hierarchical classification system. The uses that are protected on Wyoming waters include agriculture, fisheries, aquatic life other than fish, industry, drinking water, fish consumption, recreation, scenic value, and wildlife (Wyoming Water Quality Division, 2020). Designated uses assigned to surface waters and site-specific water quality criteria are revised on an ongoing basis. Changes to designated uses and site-specific criteria are based on a scientific evaluation, known as a use attainability analysis (UAA), which considers public input, and is finalized through a formal determination by the Administrator of the WDEQ Water Quality Division (WQD) or formal adoption in Chapter 1. The UAA can be found [here](#)⁴⁶. Recreational designated uses have a Categorical UAA for recreation to identify low flow channels in the state where swimming or similar water contact activities are not attainable. The final determinations for recreation designated use changes were made final on September 1, 2016 (WDEQ, n.d.-c).

Groundwater

The WQD Groundwater Program works to protect and preserve Wyoming’s groundwater by permitting facilities to prevent contamination, investigating, and cleaning up known releases.

The WQD Groundwater Pollution Control (GPC) Program tracks potential impacts to Wyoming’s groundwater through the evaluation of activities permitted at federal, state, and local levels. The GPC Program assists federal agencies with the NEPA process on large projects such as the Moneta Divide and the Pinedale Anticline. This program assists private landowners with suspected contamination of their wells. The GPC Program evaluates the adequacy of water supply sources and wastewater collection and treatment facilities during subdivision applications to ensure groundwater will not be impacted. (WDEQ, n.d.-a)

The Supreme Court recently opined that groundwater can be a point source to transfer pollutants to Waters of the United States when the groundwater is a “functional equivalent of a direct discharge...” (*County of Maui, Hawaii v. Hawaii Wildlife Fund*, 140 d. 1462, 1468 (2020)). To determine whether groundwater is a functional equivalent of a direct discharge, the Supreme Court clarified that “distance and time” to surface water are major factors in determining if a CWA permit is required for any groundwater discharges (*Id.* at 76-77). Thus, there can be some circumstances in which some groundwater discharges may require CWA permitting.

Impaired Waters

The CWA requires each state to submit a report to the EPA every two years that describes the status of its surface and ground waters. This report is known as the 305(b) Report, which includes an assessment of existing water quality in the state and an overview of past and proposed water pollution abatement efforts. Each state is also required to under Section 303(d) of the CWA and 40 CFR part 130 to submit a Section 303(d) report which is a list of waters that are not attaining water quality standards and are not expected to meet state water quality standards even after application of technology-based controls for point sources or other control requirements, such as best management practices for nonpoint sources of pollution. The 303(d) list is a subset of all the impaired waters listed in the comprehensive 305(b) report. Section 303(d) also requires that states develop a total maximum daily load (TMDL) for all waters on the 303(d) list. Waters must be prioritized for TMDL development based on the severity of each listing. Each state must submit a 303(d) list to EPA by April 1st of each even-numbered year, which then EPA reviews and approves or disapproves the 303(d) list within 30 days of submittal (WDEQ, n.d.-d). The most current 305(b) and 303(d) reports can be found [here](#)⁴⁷.

In Carbon County, there are several impaired waters within the Little Snake River Basin and the North Platte River Basin. Those listed segments can be found below in Table 4.

Table 4. Impaired water segments within Carbon County (information from Wyoming's 2020 Integrated 305(b) and 303(d) Report).

Waterbody	Location	Miles	Causes for Impairment	List Date	Impaired Use	Source
Roaring Fork Little Snake River	From the confluence with a tributary draining the Standard Mine downstream 1.8 miles to the confluence with an unnamed tributary	1.8	Copper	2014	Aquatic life other than fish; cold water fishery	Hardrock mining discharges (permitted)
Savery Creek	From the confluence with Little Sandstone Creek downstream to the confluence with the Little Snake River	13.7	Physical substrate habitat alterations	1998	Aquatic life other than fish; cold water fishery	Grazing in riparian or shoreline zones

West Fork Loco Creek	Entire West Fork Loco Creek watershed upstream from the confluence with Loco Creek	12.8	Nutrients; physical substrate habitat alterations; temperature	1998	Aquatic life other than fish; cold water fishery	Grazing in riparian or shoreline zones
Muddy Creek	From below the confluence with Youngs Draw upstream to the confluence with Deep Creek	7.7	Chloride; Selenium	2010	Aquatic life other than fish; non-game fish	Natural sources; source unknown
Little Medicine Bow River	From County Road 2E downstream 26.2 miles to the confluence with Sheep Creek	26.2	Sedimentation/siltation	2014	Aquatic life other than fish; cold water fishery	Surface mining

Subdivision Review

Subdivision reviews are governed by WDEQ Water Quality Rules and Regulations, Chapter 23 and Wyoming Statutes 18-5-301 to 315. The WQD Water & Wastewater Program (W&WP) works to ensure safe and adequate supplies of drinking water and the proper disposal of wastewater. Subdivision review requires that all WQD, W&WP, and GPC standards are complied with during the review for approval, and during the construction of subdivisions. The Conservation Districts within Carbon County are mandated to review subdivision proposals within the unincorporated areas within the Conservation District boundaries. A subdivision review provides recommendations to planning and zoning staff, Carbon County Planning and Zoning Commission, and Carbon County Commissioners for natural resource concerns specific to the development. The review is also an educational tool for land developers and future homeowners and can provide information from other agencies including the Weed and Pest, WGFD, SHPO, and others. According to statute 18-5-306(b) a subdivision review should include soil suitability, erosion control, sedimentation, flooding concerns, and other issues that are a concern to the Conservation District (i.e. noxious weeds, small acreage grazing/livestock management, wildlife concerns). (Star Valley Conservation District & WDA, 2020; WDEQ, n.d.-b)

5.3.3 Resource Management Objectives (Water Quality):

- A. Management practices that maintain or improve the listing status of impaired waters are utilized.

- B. Water quality management balances maintenance of water quality with opportunity cost of regulating business with the ultimate objective of protecting Carbon County's custom and culture within those water resources.
- C. Carbon County and the Conservation Districts are informed and coordinated with regarding all water quality issues and proposed actions within the County.
- D. Federal agencies, industries, and local governments form partnerships that focus on water quality within Carbon County.
- E. A clear definition of point source and non-point source is created that is supported by Carbon County, conservation districts, federal agencies, and the State.
- F. Federal agencies adopt and consistently use September 11, 2020, Clean Water Act final rule defining Waters of the United States.

5.3.4 Priorities (Water Quality):

1. Federal agencies should require water quality monitoring as a part of all energy and right-of-way development projects to ensure groundwater and surface water quality is not degraded.
2. Federal agencies should require baseline water testing in all permits for development within Carbon County.
3. Discharged water should be tested and Carbon County should be made aware of those tests.
4. Federal agencies should support efforts to maintain or improve the quality of water within all watersheds in Carbon County.
5. Federal agencies should encourage maintenance, protection, and enhancement of water quality in Carbon County to sustain the beneficial uses and ecological health of the watershed.
6. Federal agencies should support efforts to improve any waters listed on the 303(d) Impaired Waters list to remove them from the list.
7. Only credible data that, at a minimum, meet the standards set forth in this Plan and meet the Federal Data Quality Act and legally collected should be recognized when assessing water quality.
8. Federal and state agencies should promote best management practices designed to reduce point and non-point source pollution.
9. Federal agencies should promote best management practices that maximize stream bank stability, habitat restoration, and riparian health.
10. In conjunction with local, state, and federal planning partners, federal agencies should develop strategies to improve watershed conditions.
11. Federal and state agencies should support stream restoration projects with specific goals for habitat improvement.
12. Federal agencies should support and promote all waste cleanup programs and projects.
13. Federal agencies should support stream restoration projects on public lands that will provide long-term benefits for healthy aquatic habitat and watershed health.
14. Federal agencies should participate in watershed studies and plans.
15. Federal agencies should coordinate with Carbon County and Conservation Districts to protect the quality of water supplies of established users using the best available science.

16. Carbon County does not support an interpretation of the Clean Water Act (CWA) that broadly views groundwater as a functional equivalent to a point source and only those occurrences when a pollutant travels a small time and distance through groundwater to surface water should be considered for permitting under the CWA.
17. Federal agencies should implement the September 11, 2020 Waters of the United States rule in water quality, water quantity, permitting, management, and Clean Water Act jurisdictional decisions.
18. Federal agencies should recognize the conservation districts' water quality expertise and encourage their continued involvement in any water quality issue that may arise in Carbon County.
19. Stormwater should be managed to ensure the health, safety, and welfare of all residents within Carbon County.

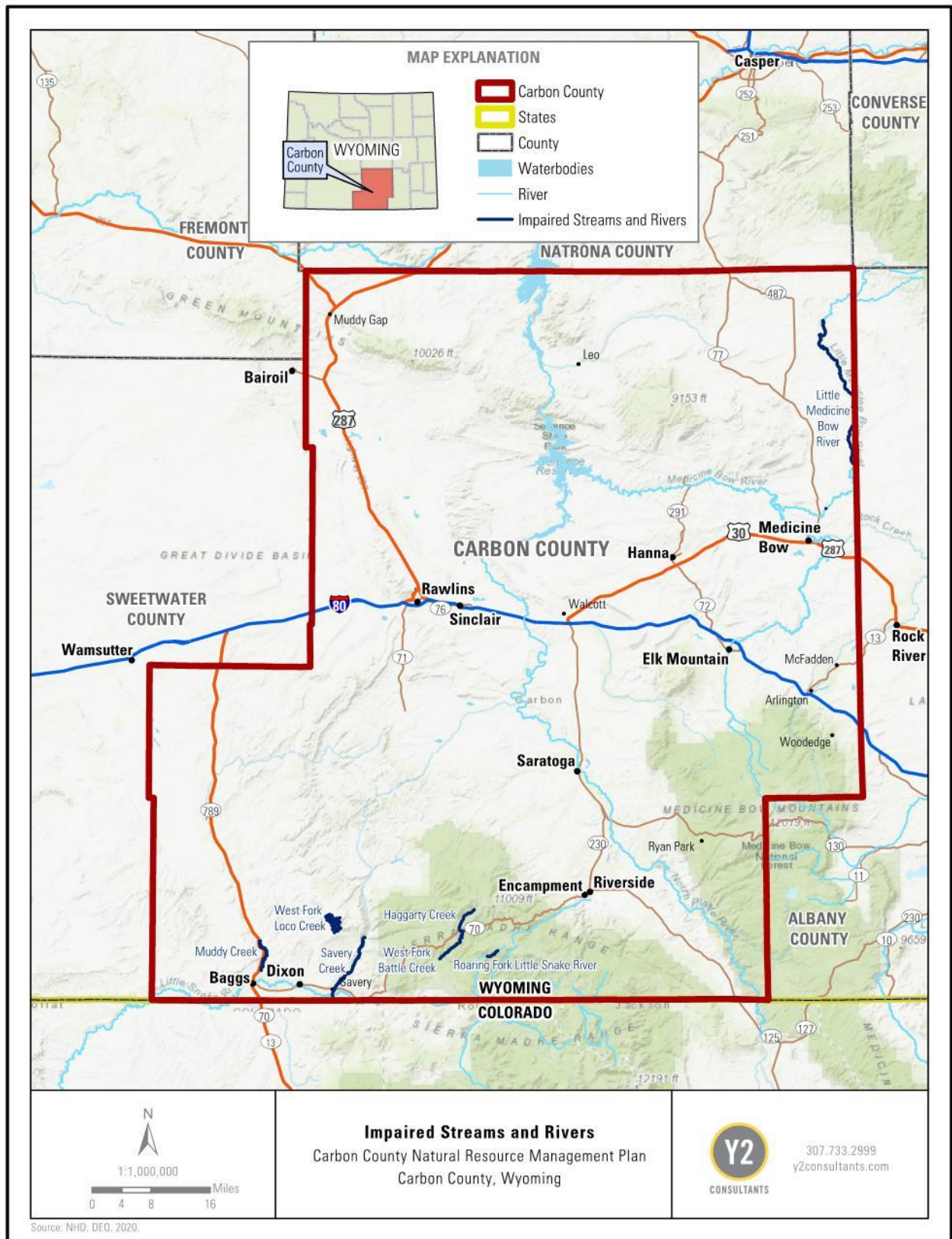


Figure 17. Impaired river and stream segments within Carbon County.

5.4 WATER INFLUENCE AREAS

5.4.1 History, Custom, and Culture

Riparian and wetland areas are important for the ecological and water quality value they add to the environment and are an integral part of the health and resilience of water resources within Carbon County. Most of the settlements within the County were settled near water resources in the flood plain, riparian area, or wetland area to be close to water for life functions and industries including agriculture, energy, mining, and logging. Wetlands and riparian areas provide recreational value as well as ecological, social, and economic value. The most significant economic and social benefit of wetlands and riparian areas is flood control, but they also provide essential functions in filtering water, improving water quality, and providing habitat for waterfowl and other wildlife while also recharging aquifers and securing future water supplies.

5.4.2 Resource Assessment and Legal Framework

Riparian and wetland areas make up only 4% of lands within Wyoming. Since European settlement, the total area of wetlands within Wyoming is estimated to have been reduced by 38% (Tessmann et al., 2018a). Multiple anthropogenic processes can harm riparian and wetland areas. A few examples of activities that can degrade these ecosystems and their ability to function properly are urban development along streams and on floodplains, diversion of water, improper timber harvest, and improper grazing practices (WDEQ, n.d.-e; WGFD, n.d.-f).

Based on the National Wetlands Inventory there are approximately 144,263 acres (2.8% land area) of wetlands within Carbon County, mostly around the rivers and streams throughout the County. The National Wetlands Inventory Map can be found [here](#)⁴⁸. Wetlands and riparian systems serve an important role within the arid landscapes of Carbon County. These habitats enable many wildlife species to persist in environments that would otherwise support lower densities and diversity of wildlife. Wetlands provide critical habitat, breeding grounds, and sources of food for fish, birds, amphibians, and other organisms. Wetlands perform beneficial functions including streamflow stabilization, groundwater recharge, and water quality improvement (Tessmann et al., 2018a). Wetlands and riparian areas also provide a buffer between open water and upland sites, protect streambanks from erosion, filter runoff sediment and nutrients, and improve stream habitat by lowering stream temperatures and increasing oxygen levels.

The Little Snake River Wetland Complex, located just west of the Sierra Madre Mountains, is a great example of the importance of wetlands and their restoration/enhancement. The Muddy Creek Wetlands project is within this area and was an extensive 2,500-acre complex of constructed wetlands and restored riparian corridor in the middle of the sagebrush. The project was part of an effort to use the natural function of wetlands to reduce sediment and improve water quality in Muddy Creek, a portion of which was listed as impaired. (WGFD, n.d.-h)

Wetlands have been defined in different ways by numerous entities and agencies. However, the USACE and the EPA jointly define wetlands as “Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that do under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated



soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” This definition of wetlands is perhaps the most relevant to local land managers and planners because the USACE and EPA are agencies that have legal jurisdiction over wetlands, including those wetlands on private property.

Federally, only wetlands adjacent to WOTUS are considered “Waters of the U.S.” and are protected under the CWA. The definition of wetlands protected under CWA has been specified further through the Supreme Court rulings in 1985 *Riverside Bayview*, 2003 *SWANCC*, and 2008 *Rapanos* (ASWM, n.d.-a, n.d.-b). The EPA and USACE published new CWA regulations on June 22, 2020, that were adopted on September 11, 2020, that attempt to clarify what wetlands fall within the jurisdiction of the CWA. Under these newly published rules, only those wetlands adjacent to non-wetland jurisdictional waters fall under the CWA.

The State of Wyoming has the Wyoming Wetlands Act (W.S. §§ 35-11-308 through 35-11-311) which was passed in 1991 and amended in 1994 which established a statewide wetland mitigation bank to facilitate mitigation of impacts to wetlands. Administration of the mitigation bank falls under the WDEQ with the WSEO administering and regulating the use of water resources in Wyoming. The right to use water for domestic, municipal, agricultural, industrial, construction, or environmental purposes is based on a system of designated beneficial uses. Beneficial uses recognized to sustain and protect natural resources include wetlands, wildlife, environmental, and instream flow. Wetlands associated with irrigation are also directly affected by Wyoming water law.

United States Forest Service and Bureau of Land Management

The USFS and BLM are required to manage riparian-wetland areas in Proper Functioning Condition (PFC). PFC is the minimum state of resilience needed to withstand moderate flooding and make progress toward a desired condition that supports fish habitat, water quality, and wildlife needs. Riparian and wetland areas may be categorized as Non-Functioning (NF), Functioning At Risk (FAR), or PFC with upward or downward trend within a PFC assessment. (BLM, 2016d)

The BLM Wyoming Standards for Healthy Rangelands and Guidelines Assessments dedicate an entire standard to riparian and wetland health. The standard states that “riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for groundwater recharge.” (BLM, 1997)

Riparian and wetland standards for the USFS lands within Carbon County state that “in the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those land treatments that maintain or improve long-term stream health and riparian ecosystem condition.” Wetlands are included in riparian monitoring for the USFS because wetland complexes often occur in or adjacent to riparian complexes. [Forest Service Handbook 2509.25](#)⁴⁹ discusses the watershed conservation practices for USFS Rocky Mountain Region (Region 2). (USFS, 2006, 2013b).



5.4.3 Resource Management Objectives (Water Influence Areas):

- A. Wetlands and riparian areas are healthy and function properly while maintaining a balance with other resource uses.
- B. A universal definition of wetlands is created and used by federal agencies, state agencies, and Carbon County.
- C. Regulation of wetlands is balanced where wetland quality is protected but economic progress is not stifled.
- D. Private landowners' rights are maintained regarding wetland jurisdictions.
- E. Federal agencies adopt and consistently use September 11, 2020, Clean Water Act final rule defining Waters of the United States.

5.4.3 Priorities (Water Influence Areas):

- 1. Federal agencies should coordinate any wetland project with Carbon County and Conservation Districts.
- 2. Federal agencies should recognize the Conservation Districts in Carbon County as the experts on all water-related decisions within Carbon County.
- 3. Support the management, maintenance, protection, and restoration of wetland areas within Carbon County to proper functioning condition.
- 4. Support the use of responsible grazing and vegetation management as a tool to maintain and restore wetlands/riparian areas within Carbon County.
- 5. Federal agencies should manage riparian areas on public lands damaged by non-native species to decrease the impact of these species on the watershed, including water quality and to restore the areas to a proper functioning condition.
- 6. Support the use of credible data and scientific standards for wetland designation.
- 7. Carbon County should be notified of any planned Clean Water Act jurisdictional wetland designations within the County.
- 8. Carbon County does not support previous versions of "Waters of the U.S" rulings. Any definition of navigable water that includes ephemeral streams, irrigation ditches, manmade conveyances, bodies of water not connected to navigable waters, or anything not listed or defined in September 11, 2020, Clean Water Act Regulations should not be recognized.
- 9. Carbon County does not support any Clean Water Act jurisdictional wetland designations for any wetlands not located immediately adjacent to a navigable water in Carbon County.

CHAPTER 6: WILDLIFE RESOURCES

6.1 WILDLIFE RESOURCE MANAGEMENT AGENCIES

6.1.1 United States Fish and Wildlife Service

The United States Fish & Wildlife Service (USFWS) is the agency within the Department of the Interior dedicated to the management of fish, wildlife, and their habitats, and charged with enforcing federal wildlife laws, including the Endangered Species Act (ESA). In addition to managing threatened and endangered species, they manage migratory birds, restore significant fisheries, conserve and restore wildlife habitat including wetlands, and distribute money to state fish and wildlife agencies. They also manage the National Wildlife Refuge (NWR) System created by President Theodore Roosevelt in 1903. (Wilson, 2014)

There are eight administrative regions for USFWS and approximately 700 field offices across the country. Wyoming is in the Mountain Prairie Region which consists of eight states - Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming. The regional office for the Mountain Prairie Region is in Denver, CO. The closest field office to Carbon County is in Cheyenne.

National Wildlife Refuges

In 1903, President Theodore Roosevelt designated the first National Wildlife Refuge (NWR) by executive order. In 1966, the USFWS started administering the refuges. The USFWS administers 89.1 million acres of federal land in the U.S., of which 76.6 million are in Alaska (Federal Land Ownership, 2018). The mission of the NWRs is to administer these designated lands for the conservation, management, and if appropriate, restoration of fish, wildlife, and plant resources, and their habitats within the U.S. for the benefit of present and future generations. Many activities take place on refuges including hunting, fishing, ice fishing, bird-watching, hiking, bicycling, and water recreation (USFWS, 2018c). There are 7 NWRs, totaling 86,681 acres in Wyoming, as of the 2018 Annual Lands Report (USFWS, 2018a). The Pathfinder NWR has a small portion of lands within Carbon County, however, most of the Pathfinder NWR is in Natrona County. A map of the Pathfinder NWR can be found [here](#)⁵⁰.

The Pathfinder NWR was first established in 1909 and is comprised of 16,806 acres. Pathfinder NWR was established as an overlay refuge on BOR lands that resulted from the construction of the Pathfinder Dam. In 1936, Executive Order 7425 established the refuge “as a refuge and breeding ground for birds and other wildlife.” Pathfinder NWR is managed jointly by the USFWS, BOR, WGFD, BLM, and Natrona County Parks. An MOU exists between the USFWS and BOR that specifies the management responsibilities of the USFWS while preserving the autonomy of the BOR to manage Pathfinder Dam and Reservoir. The Pathfinder NWR is managed as part of the Arapaho NWR Complex that includes one refuge in Colorado and four refuges in southern Wyoming. An NWR complex is an administrative grouping of two or more refuges, wildlife management areas, or other refuge conservation areas that are primarily managed from a central office location. The Arapaho Refuge Complex headquarters is in Walden, Colorado. Further information on the Pathfinder NWR can be found [here](#)⁵¹. (USFWS, 2014)



6.1.2 Wyoming Game and Fish Department

Wildlife in Wyoming are managed by the Wyoming Game and Fish Department (WGFD). Nearly a decade after Wyoming became a state in 1890, the legislature created the office of the State Game Warden in 1899. The Wyoming Game and Fish Commission was created in 1921 but did not receive the ability to actively manage Wyoming's game populations through opening and closing hunting until 1929. The Wyoming Game and Fish Department was created in 1973. Prior to this time, all Game and Fish personnel were employed by the Wyoming Game and Fish Commission. (WGFD, n.d.-c)

The Wyoming Game and Fish Commission (Commission) acts as the policy-making board of the WGFD. The Commission is responsible for the direction and supervision of the Director of the WGFD. Through the relationships with the WGFD Director, department, and citizens, the Commission provides a flexible system of control, propagation, management, protection, and regulation of all wildlife in Wyoming. The Commission is a board of seven citizens where not more than five can be from the same political party. The WGFD's mission is 'Conserving Wildlife, Serving People'. (WGFD, n.d.-d)

The WGFD established and manages crucial priority areas through the 2020 Statewide Wildlife Habitat Plan. The plan addresses three major goals 1) to conserve and protect crucial aquatic and terrestrial wildlife habitats, 2) to restore aquatic and terrestrial wildlife habitats, and 3) to conserve, enhance, and protect fish and wildlife migrations. The plan also lays out strategies for managing priority areas. (WGFD, 2020a)

Additionally, the WGFD also assists in producing the [Wyoming Wetland Program Plan](#)⁵², building on the Wyoming Wetlands Conservation Strategy. The Wyoming Wetland Program Plan developed a framework for prioritizing actions to conserve and improve wetlands across the state. (Tessmann et al., 2018b)

The WGFD utilizes a State Wildlife Action Plan (SWAP), revised in 2017, to provide a strategy for managing various wildlife groups including mammals, birds, reptiles, amphibians, fish, and mussels. This plan is not a legal document, a regulatory document, a recovery plan under the ESA, or a NEPA decision document (WGFD, 2017c). It is designed to complement existing and future planning and management programs. Wyoming's SWAP was partially funded by the State Wildlife Grants Program, which was created through federal legislation to provide federal funding to states to create a list of wildlife species that have the greatest conservation need. The state plan is built upon eight essential elements, identified by Congress and implemented by the state game agency, with an overall focus on "species of greatest conservation need". The essential elements are:

- Information on the distribution and abundance of species of wildlife including low and declining populations;
- Descriptions of locations and relative condition of key habitats and community types;
- Problems affecting species and priority research, or survey efforts needed;
- Conservation actions needed to conserve the identified species;



- Plans for monitoring species and the effectiveness of conservation actions;
- Plans for reviewing the strategy;
- Coordinating with federal, state, and local agencies and Tribal governments on the development and implementation of the strategy; and
- Involve broad public participation.

6.1.3 Bureau of Land Management

The BLM's Wildlife Program manages wildlife habitat to help ensure self-sustaining, abundant, and diverse populations of native and desired non-native wildlife on public lands and federal mineral estates. To carry this out, the BLM must formally identify priority species; BLM-sensitive species; and other species. BLM then considers applicable conservation measures for these species and their habitats as part of their land-use planning process.

6.1.4 United States Forest Service

The Medicine Bow National Forest provides important habitat to numerous wildlife species. The USFS is tasked with restoring wildlife habitats, conserving threatened and endangered species, maintaining wildlife habitat connectivity, and connecting people with nature through wildlife events and viewing activities.

The 2012 Planning rule direction (36 C.F.R. § 219) sets out the planning requirements for developing, amending, and revising land management plans for the National Forest System, as required by the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by NFMA. The regulations in 36 CFR 219.9 explain that the Forest Plan components must provide for the diversity of plant and animal communities and keep common native species common; contribute to the recovery of federally listed threatened and endangered species; conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area. Previously the 1982 planning rule direction and used the terms Forester's Sensitive Species and Management Indicator Species, those terms are no longer applicable in the 2012 planning rule direction.

6.2 WILDLIFE

6.2.1 History, Custom, and Culture

Carbon County has diverse rangeland and forest habitats that host a variety of wildlife species important to the recreational industry of the region. Hunting is a cornerstone to the local custom and culture of the County, and the hunting and tourism/guiding industry contribute to Carbon County's economy. Carbon County has a rich history of hunting big game, small game, upland birds, predatory species, and migratory game birds. Wildlife viewing is also a popular activity for both visitors and residents of Carbon County.

Hunting and fishing are major economic drivers for Carbon County. In 2015, hunters and anglers spent a combined \$26.7 million (\$19.9 million from hunters and \$6.8 million from anglers). Hunters spent 92,000 days hunting and anglers spent 58,000 days fishing (Wyoming Wildlife Federation, 2015).



6.2.2 Resource Assessment and Legal Framework

Big Game

Carbon County has a diversity of habitat that hosts several large wildlife species that are important to the recreational industry of the region. Virtually all of Carbon County is habitat of importance to one or more wildlife species at some life stage.

Bighorn Sheep

Bighorn sheep (*Ovis canadensis*) are documented as occurring within Carbon County. Approximately 24,896 (0.5%) of the County is designated as crucial winter/yearlong habitat near Seminoe State Park and along the edge of the Sierra Madre Range near Encampment. There are 148,543 acres (3%) of spring/summer/fall habitat designated, located in the Sierra Madre Range and the Medicine Bow Mountains in the southeast corner of the County. Approximately 82,456 acres (2%) of yearlong habitat is designated spanning between Muddy Gap and the Seminoe State Park. Wyoming manages bighorn sheep according to the [2004 Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group Final Report](#)⁵³ and recommendations created per W.S. 11-19-604. See Figure 18 for mapped bighorn sheep habitat designations in Carbon County.

Elk

Elk (*Cervus canadensis*) are found throughout most of Carbon County. Elk are primarily grazers, or bulk foragers, though they will occasionally browse on willows and aspen. Most of the elk habitat within the County, 666,725 acres (or 13% of the area), is listed as spring/summer/fall habitat predominately in the mountain ranges along the southeast corner of the County. Winter and crucial winter habitat account for 392,857 acres (8%) of the County. Elk in the County winter on both public and private land. High densities of elk can pose a disease risk to livestock operations and can be destructive to winter feed reserves and crops. See Figure 19 for mapped elk habitat designations in Carbon County.

Moose

Moose (*Alces alces*) are found throughout much of Carbon County. Moose are considered primarily browsers but will forage on grasses and forbs as well. Moose inhabit more riparian and wetland areas where willows and water are readily available. Just over 1,047,321 acres (20%) of the County is designated as winter/yearlong habitat, spanning the southern portion of the County. Spring/summer/fall habitat comprises just over 307,912 acres (6%) of the County. See Figure 20 for mapped moose habitat designations for moose in Carbon County.

Mule Deer

Mule deer (*Odocoileus hemionus*) are found throughout all of Carbon County. Mule deer are considered primarily browsers but will use forbs as well. Mule deer will consume grass early in the season while the nutritive value is high, but senescent grasses do not meet their dietary requirements. Most of the County is designated as mule deer habitat. Nearly 1,981,0388 acres (39%) of the County is designated as winter/yearlong mule deer habitat. Spring/summer/fall habitat comprises just over 1,204,991 acres (23%) of the County. See Figure 21 for mapped mule deer habitat designations within Carbon County. In 2020, the Governor of Wyoming signed



Executive Order 2020-1 which protected mule deer and antelope migration corridors in Wyoming. Two mule deer migration corridors were designated in Carbon County; the Baggs Mule Deer and Platte Valley Mule Deer Migration Corridors. Further information on the Executive Order and the Platte Valley and Baggs working groups can be found below.

Pronghorn

Pronghorn (*Antilocapra americana*) are common throughout Carbon County. Pronghorn prefer the open shrublands that the southern portion of the County provides. They are intermediate foragers, eating grasses, forbs, and shrubs. Pronghorn use most of the County year-long at some level except for the developed areas and the upper elevations. Most of the County, outside of the mountain ranges, is designated as pronghorn habitat. Designated winter/yearlong range occupies about 1,777,774 acres (35%) of the County, while spring/ summer/ fall range is 1,360,838 acres (26%) of the County. See Figure 22 for mapped pronghorn habitat designations. In 2020, the Governor of Wyoming signed Executive Order 2020-1 which protected mule deer and antelope migration corridors in Wyoming. To date, there are no designated migration corridors for antelope in Carbon County. Further information on the Executive Order can be found below.

White-tailed deer

White-tailed deer (*Odocoileus virginianus*) prefer riparian habitats often associated with irrigated lands. Approximately 117,25 acres (2.5%) of the County provides yearlong habitat. Whitetails, like mule deer, are browsers, supplementing their diet with forbs and occasionally grass. In agricultural areas, they will feed on field and hay crops. There is some habitat overlap with mule deer and white-tailed deer within the County. See Figure 23 for mapped white-tailed deer habitat designations within the County.

Large Carnivores

Black Bear

Black bear (*Ursus americanus*) are found primarily throughout the mountain ranges along the southern half of Carbon County. Their habitat primarily consists of dense timber or mixed mountain shrub. Black bear, though designated as large carnivores, are omnivores with diets consisting of nuts, berries, grass shoots, other herbaceous materials, carrion, insects, fish, small mammals, and some young ungulates. Human/wildlife conflict is common between black bear and camp areas, livestock feed storage, crops, and garbage facilities. The [Wyoming State Black Bear Management Plan](#)⁵⁴ was updated in 2007. This plan establishes a state framework for management while the 1994 plan outlines the structure for black bear hunting seasons. (WGFD, n.d.-a, 2007)

Mountain Lion

Mountain lion (*Puma concolor*) inhabits a large geographic region and is known to live in a variety of climates and habitats, as long as adequate cover is available. Across the western United States mountain lion are found in conifer or deciduous timber, riparian, and tall shrub habitats, generally at mid-elevations, and prefer steep or rugged terrain. Mountain lion are known to exist in Carbon County. Mountain lion's primary diet consists of large vertebrates such as deer and



other large ungulates, though smaller vertebrates are sometimes supplementary. Mountain lion are solitary and territorial, making them unique in management. The [2006 State Mountain Lion Management Plan](#)⁵⁵ was developed to provide guidelines and a framework for the sustainable management of the species within core habitats, including the management source and sink areas, and areas that young individuals expand into. (WGFD, n.d.-b, 2006)

Small Game, Furbearers, and Other Wildlife

Carbon County hosts a wide variety of wildlife species that are important to the recreational industry of the region, including upland game birds, small game, furbearers, migratory birds, and other non-game wildlife.

Small game and upland game birds in Carbon County include cottontail rabbit, snowshoe hare, fox squirrels, pheasant, partridge, a variety of grouse, and mourning dove. Sandhill crane, turkey, duck, and geese are also game species and migratory species that are commonly harvested and managed within the County. Furbearers are managed following the [Furbearer Regulations \(Chapter 4\)](#)⁵⁶ and include mink, bobcat, muskrat, weasel, badger, marten, and beaver. Fur trapping is an important current, as well as cultural, practice that played important roles in the development of Carbon County. For additional information and data refer to the [Annual Report of Small Game, Upland Game Birds, Migratory Game Birds, Furbearer, Wild Turkey, and Falconry Harvest](#)⁵⁷. (WGFC, 2019; WGFD, 2019a)

Non-game wildlife species are important to both ecologic function and recreation opportunities, such as wildlife viewing, within the County. Non-game birds and mammals are managed by WGFD under the Nongame Bird and Mammal Program in cooperation with USFWS. For additional information, including best management practices, conservation plans, and records refer to the [Nongame Wildlife in Wyoming page](#)⁵⁸. (WGFD, n.d.-e)

Greater Sage-Grouse

Sage-grouse habitat or range spans most of Carbon County. There are 4,300,409 acres of sage-grouse habitat in the County, 2,195,978 acres of which are designated as sage-grouse Priority Habitat Management Area (PHMA). Refer to Figure 24 for a map of sage-grouse habitat and designations within the County. The Greater sage-grouse is a state-managed species that is dependent on sagebrush steppe ecosystems. These ecosystems are managed in partnership across the range of the sage-grouse by federal, state, and local authorities.

Efforts to conserve the species and its habitat date back to the 1950s. Over the past two decades, state wildlife agencies, federal agencies, and many others in the range of the species have been collaborating to conserve sage-grouse and its habitat. BLM has broad responsibilities to manage federal lands and resources for the public benefit. Nearly half of sage-grouse habitat is managed by the BLM. Habitat is managed based on the designation of Priority Habitat or General Habitat. Priority Habitat spans areas that have a high probability of use or are more critical to populations and therefore are managed with higher priority and restrictions than general habitat. General habitat spans areas of isolated habitat with low use (USFS, 2016). Wyoming began sage-grouse management efforts in 2000, forming the Wyoming Sage-Grouse Working Group. In 2003, WGFD released the Wyoming Greater Sage-Grouse Conservation plan, and the 'core area' strategy for



population and habitat management was released via Executive Order in 2008 (later updated in 2011, 2015, and 2019). In 2019, the Wyoming Governor’s Office issued the most recent version of the Sage-Grouse Executive Order 2019-3. The Executive Order is the State of Wyoming’s primary regulatory mechanism in Wyoming to protect Greater Sage-Grouse and its habitat. The order outlines procedures that seek to minimize disturbance and incentivize development outside of designated core population areas. The 2019 Executive Order can be found [here](#)⁵⁹.

Local working groups were established throughout the early 2000s to facilitate and implement conservation plans for the sage-grouse. There are eight local sage-grouse working groups in the state. The South-Central working group spans Carbon County. Further information on the projects and meetings for the local working groups can be found [here](#)⁶⁰. (GFD, 2020; UW Extension, 2016; WGFD, 2019b)

In September 2015, the USFWS determined that the sage-grouse did not warrant listing under the ESA. In its “not warranted” determination, the USFWS based its decision in part on regulatory certainty from the conservation commitments and management actions in the BLM and USFS sage-grouse land use plan amendments and revisions, as well as on other private, state, and federal conservation efforts. Since 2015 the BLM, in discussion with partners, recognized that several refinements and policy updates would help strengthen conservation efforts while providing increased economic opportunity to local communities.

The BLM issued its Record of Decision for the Wyoming Greater Sage-Grouse Approved Resource Management Plan Amendment in March 2019 to update sage-grouse management. This document partially supersedes the 2015 Wyoming Greater Sage-Grouse Land Use Plan Amendment. The 2019 Plan Amendment is currently being litigated in the U.S. District Court for the District of Idaho and is being blocked from implementation under an injunction issued by that court.

The USFS developed standards and guidelines for sage-grouse conservation in 2015. After two years of monitoring, amendments were developed; the new EIS spans Colorado, Idaho, Nevada, Utah, and Wyoming. The Final EIS and Draft Record of Decision was released in the fall of 2019 and went through an extensive objection resolution process. The final decision and resolution outcomes were released in August 2020. Monitoring reports on sage-grouse populations and habitat within USFS Region 4 are released annually. The Final EIS was released in the fall of 2019. Following an objection resolution process, including a resolution meeting, the USFS released an objection response incorporating several edits to the Greater Sage-Grouse Plan Amendments. (U.S. Forest Service, 2020)

The Density and Disturbance Calculation Tool (DDCT), known as OneSteppe, is a sage-grouse habitat disturbance tracking spatial application operated by WGFD. OneSteppe calculates the average number of disturbances per square mile and the total amount of disturbance within the DDCT assessment area. Proposed disturbance activities within sage-grouse core areas must submit project footprints to the DDCT as a part of the permitting process. The OneSteppe application can be viewed [here](#)⁶¹. (WGFD, 2021)



Wildlife Habitat Management Areas

The WGFD maintains approximately 450,000 acres of land under a deed, lease, or by agreement for wildlife habitat management areas (WHMA). There are six WHMAs within Carbon County (Table 3). The Rawlins BLM has set management goals and objectives for these areas which can be found in the [2008 Rawlins BLM RMP](#)²⁰.

Table 5. Wildlife habitat management areas located in Carbon County.

WHMA	Acres
Red-Rim Daley	11,100
Jep Canyon	13,810
Upper Muddy Creek/Grizzly	59,477
Cow Butte/Wild Cow	49,750
Pennock Mountain	7,770
Wick-Beumee	280

State of Wyoming Migration Corridor Protections

In February 2020, Wyoming released the Wyoming Mule Deer and Antelope Migration Corridor Protection [Executive Order 2020-1](#)⁶², outlining the State's strategy for managing migration corridors and habitats. The order designated three separate mule deer corridors and a process by which to designate additional corridors in the future. The Executive Order addresses surface disturbance, state-permitting, and recreation activities within designated mule deer and pronghorn migration corridors, as well as the cooperation between WYDOT and other state agencies to minimize roadway collisions and facilitate big game movement across roadways. Executive Order 2020-1 encourages counties to revise or update land-use plans to be consistent with the State designated migration corridor protections. Executive Order 2020-1 restrictions do not apply to landowners on their private lands.

There are currently two designated corridors within Carbon County, the Platte Valley Mule Deer Migration Corridor, and the Baggs Mule Deer Migration Corridor. The Platte Valley Mule Deer Migration Corridor Local Working Group started meeting in fall 2020 with the first public meeting in December 2020 to review the existing designation of the Platte Valley Mule Deer Migration Corridor. The working group is tasked with reviewing the effectiveness of corridor designation on the migratory herd and evaluating the WGFD's Platte Valley Mule Deer Migration Corridor draft risk assessment report. The working group is also tasked with making recommendations about additional opportunities for conservation, along with examining the impacts of all restrictions on the development and use of lands encompassed in the designated corridor. The group is led by the Board of County Commissions of Carbon County and consists of members from agriculture, industry, wildlife/conservation/hunting, and motorized recreation constituents. State and federal governmental entities are not members of the working group but may act in an advisory capacity and could include WGFD, other State of Wyoming agencies, USFS, BLM, and local elected officials (State of Wyoming, 2020). A similar working group was established for the Baggs Mule Deer Herd in 2014, with the last recorded meeting in May of 2018.

Chronic Wasting Disease

Chronic Wasting Disease (CWD) has been a concern for ungulate populations in and surrounding Carbon County since the early 2000s. A 2016 CWD study in east-central Wyoming discovered that between 2003 and 2010, 32- 43% of all harvested deer were positive for CWD. The study also found that from 2003-2010 the whitetail deer populations declined 10% annually because of CWD-related mortality, potentially leading to the loss of local populations within 50 years. The WGFD statewide 2020 CWD Management Plan outlines surveillance, monitoring, and management strategies at the local or herd unit level to better manage the prevalence of CWD in conjunction with the current herd and population objectives in each herd unit. (Edmunds et al., 2016; WGFD, 2020c)

For additional information on the monitoring and management of CWD in Wyoming refer to the [CWD management plan](#)⁶³.

Brucellosis

Brucellosis is a highly contagious bacterial disease that can occur in wildlife, cattle, and humans. There are several *Brucella* species but *Brucella abortus* is the bacterium that infects elk, bison, and cattle. The infection affects the reproductive tract, and in females results in abortion, but can also affect the male reproductive tract. Bone or joint membranes can also be infected and result in lameness that may make animals more susceptible to predation. The most common route of transmission is orally through licking or ingestion. Carbon County does not fall within the designated surveillance area for brucellosis in Wyoming, however it is something that the County should stay apprised of to protect the agricultural industry within the County. Further information about brucellosis can be found on the WGFD [website](#)⁶⁴.

Hunting is an encouraged management tool to prevent the spread of wildlife diseases. In much of Carbon County, elk numbers are over objective and hunting is one tool that allows a reduction in numbers that could reduce disease and prevent overuse on critical winter ranges.

6.2.3 Resource Management Objectives (Wildlife):

- A. Wildlife and their habitat within Carbon County are managed sustainably using credible data.
- B. Management plans for wildlife are developed in coordination with Carbon County and other stakeholders.
- C. Species and habitat are not managed above their legal designation.
- D. Ecosystem management is supported while single-species management is not within Carbon County.
- E. Hunting, fishing, and outdoor recreation involving wildlife are a protected use within Carbon County.
- F. Non-Endangered Species Act listed wildlife populations are exclusively managed by the Wyoming Game and Fish Department.
- G. Sage-grouse are consistently managed in coordination with the State of Wyoming and Carbon County.

- H. Federal agencies consider the economic well-being and custom and culture of Carbon County and its citizens when making decisions affecting wildlife within the County.

6.2.4 Priorities (Wildlife):

1. Support and promote best management practices to conserve healthy wildlife habitats and populations, for the benefit of both game and non-game wildlife species.
2. Support the use of Wyoming's Bighorn-Domestic Sheep Management Plan as the basis for all management decisions impacting the Bighorn/domestic sheep interactions.
3. Peer-reviewed science, and/or those data meeting the 'credible data' agency specifications, shall be used in the management of disease spread between wildlife and domestic species, with consultation and coordination of local government.
4. Federal agencies should promote wildlife conservation, sustainability of healthy wildlife habitat and populations, and their contributions to the local economy.
5. Carbon County supports state management of wildlife and management of wildlife and wildlife habitat on federal lands should reflect Wyoming Game and Fish Department's policy priorities.
6. Support proactive management of candidate and sensitive species in coordination with other multiple-use users in Carbon County to avoid further Endangered Species Act listing protections.
7. Federal agencies should support wildlife conservation and a robust public process to protect and enhance habitats that are important to the custom and culture of Carbon County and its residents.
8. Wildlife habitat preservation should be one of several multiple-use considerations during any federal habitat disturbing activity.
9. Encourage cooperative efforts between federal agencies and the Wyoming Game and Fish Department on their respective projects to avoid or mitigate adverse impacts to wildlife species and habitats.
10. Carbon County recognizes and supports the Wyoming Governor's Executive Order 2019-3 on Greater Sage-Grouse Core Area Protection in conserving sage-grouse and their habitats.
11. Carbon County should be coordinated with whenever there are proposed adjustments to core sage-grouse habitat boundaries or policies affecting said habitat.
12. Federal agencies should follow Carbon County Zoning Resolution Chapter 6.1.C, limiting the location of commercial-scale wind or solar energy systems within sage-grouse core areas.
13. Carbon County supports mapped Greater Sage-Grouse priority habitat management areas and general habitat management areas that match state plans.
14. Carbon County supports the use of the Density Disturbance and Calculation Tool, known as OneSteppe.
15. Carbon County does not support the use of sagebrush focal areas for Greater Sage-Grouse habitat classification.
16. Carbon County supports the current United States Fish and Wildlife Service policy for issuing an Eagle Take Permit for Wind Energy Developers for no longer than five (5) years.



17. Carbon County does not support the United States Forest Service or Bureau of Land Management managing wildlife populations on public lands.
18. The United States Forest Service and Bureau of Land Management should focus on habitat management for species of importance identified by the State and only consult with and defer to the Wyoming Game and Fish Department for wildlife management.
19. Promote the critical role agricultural producers have in providing habitat to wildlife within Carbon County and encourage the use of livestock as a tool to improve wildlife habitat.
20. Support wildlife habitat improvement projects and tools with appropriate consultation and coordination including but not limited to grazing, plantings, water development, fire, chemical application, wildlife-friendly fencing, and other best management practices that improve the quality of riparian and upland habitats.
21. Support efforts of and partner with other government agencies, local cooperators, and other interested parties in the management, maintenance, and enhancement of wildlife habitat, emphasizing voluntary and incentive-based programs to support the coexistence of the current level of livestock grazing and current wildlife herd objectives.
22. Hunting, fishing, and outdoor recreation involving wildlife are important to the custom and culture of Carbon County and should be recognized as an important use.
23. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation is done properly and locally.
24. Encourage state and federal wildlife agencies to continue surveillance for brucellosis in elk, chronic wasting disease in cervids, and any other disease that could have health or economic impacts on Carbon County citizens or their livelihoods.
25. Recreational hunting, including big game hunting, small game hunting, fur trapping, and other recreational hunting that is a part of Carbon County's custom and culture is maintained at its traditional levels.

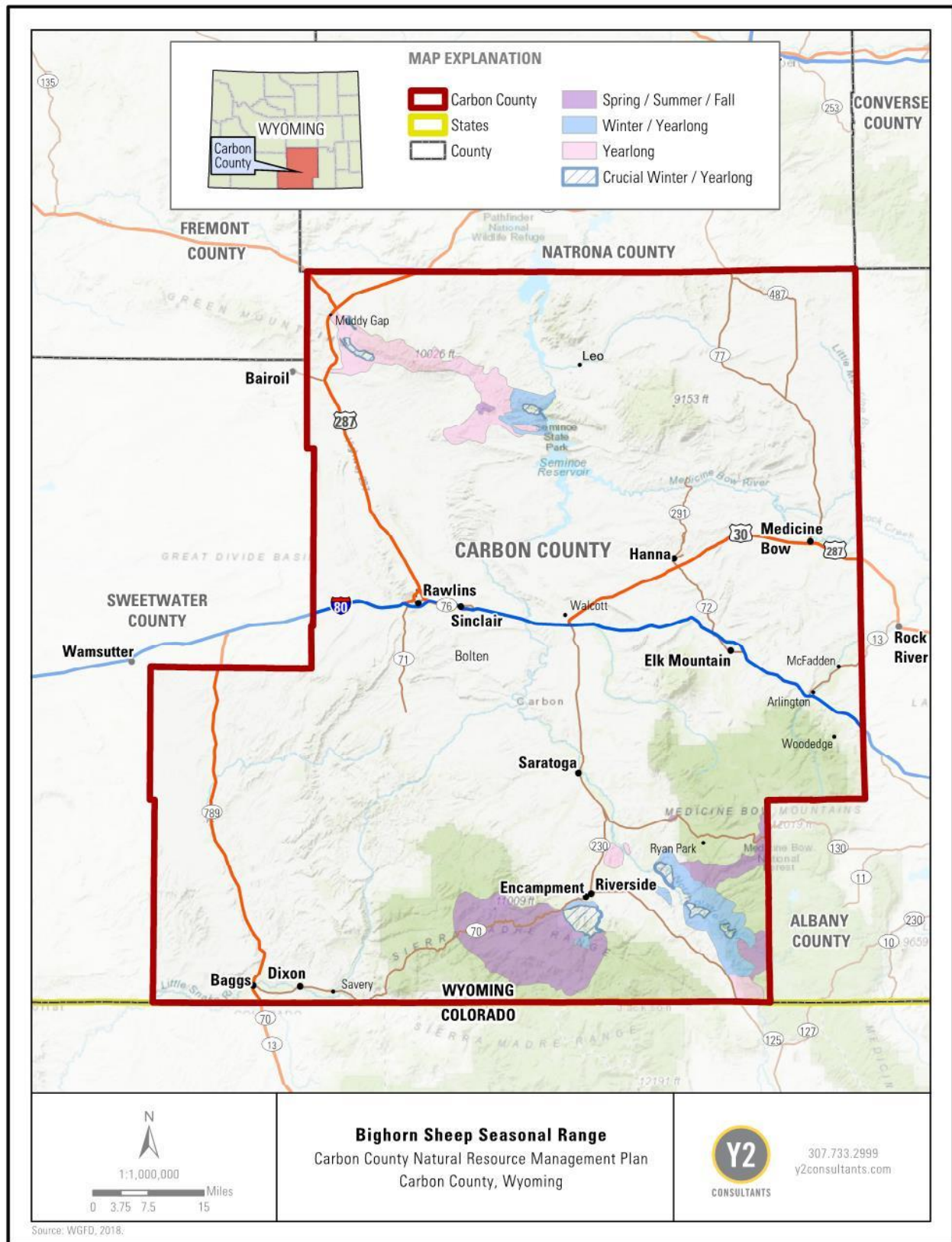


Figure 18. Bighorn sheep seasonal range mapped in Carbon County.

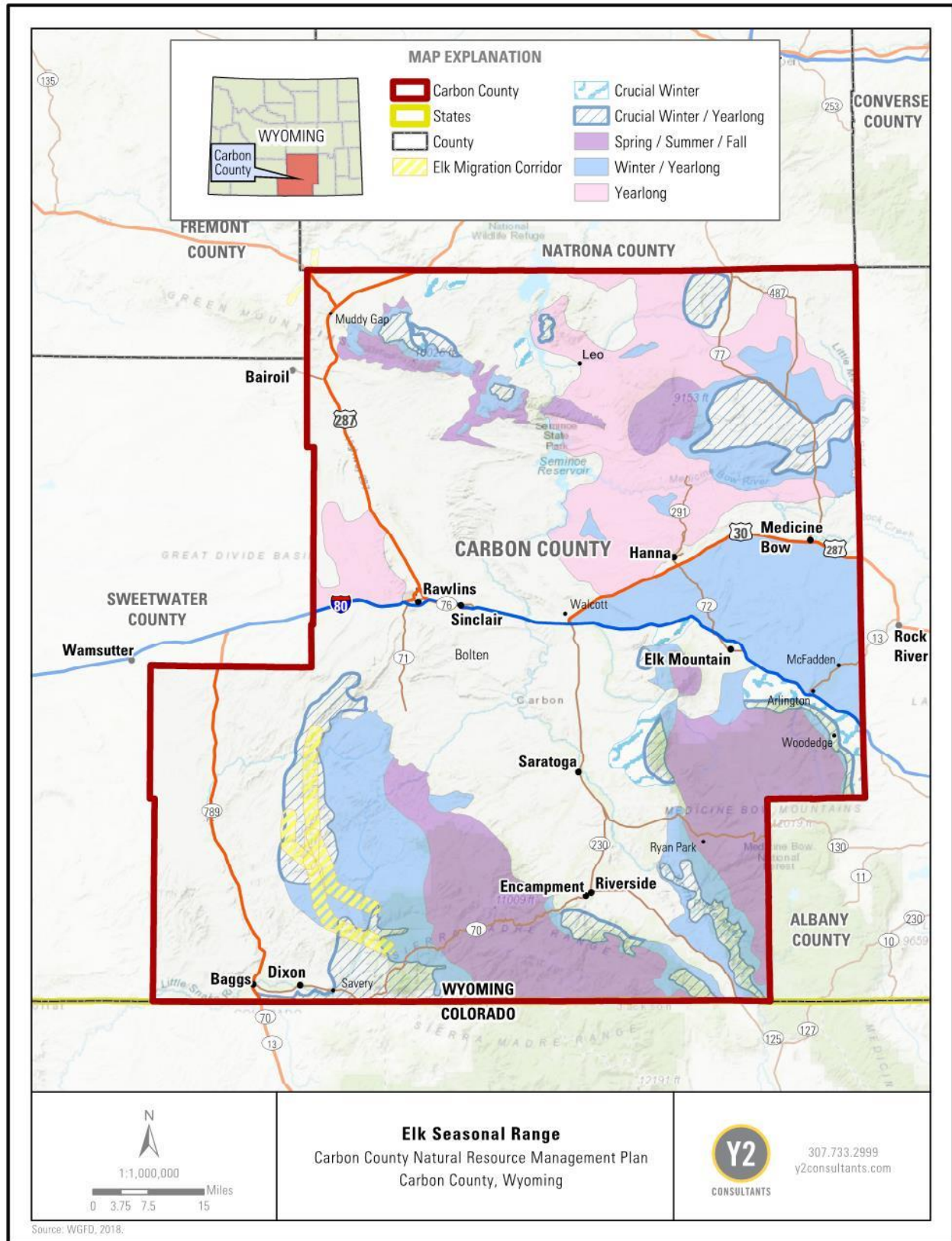


Figure 19. Elk seasonal range mapped in Carbon County.

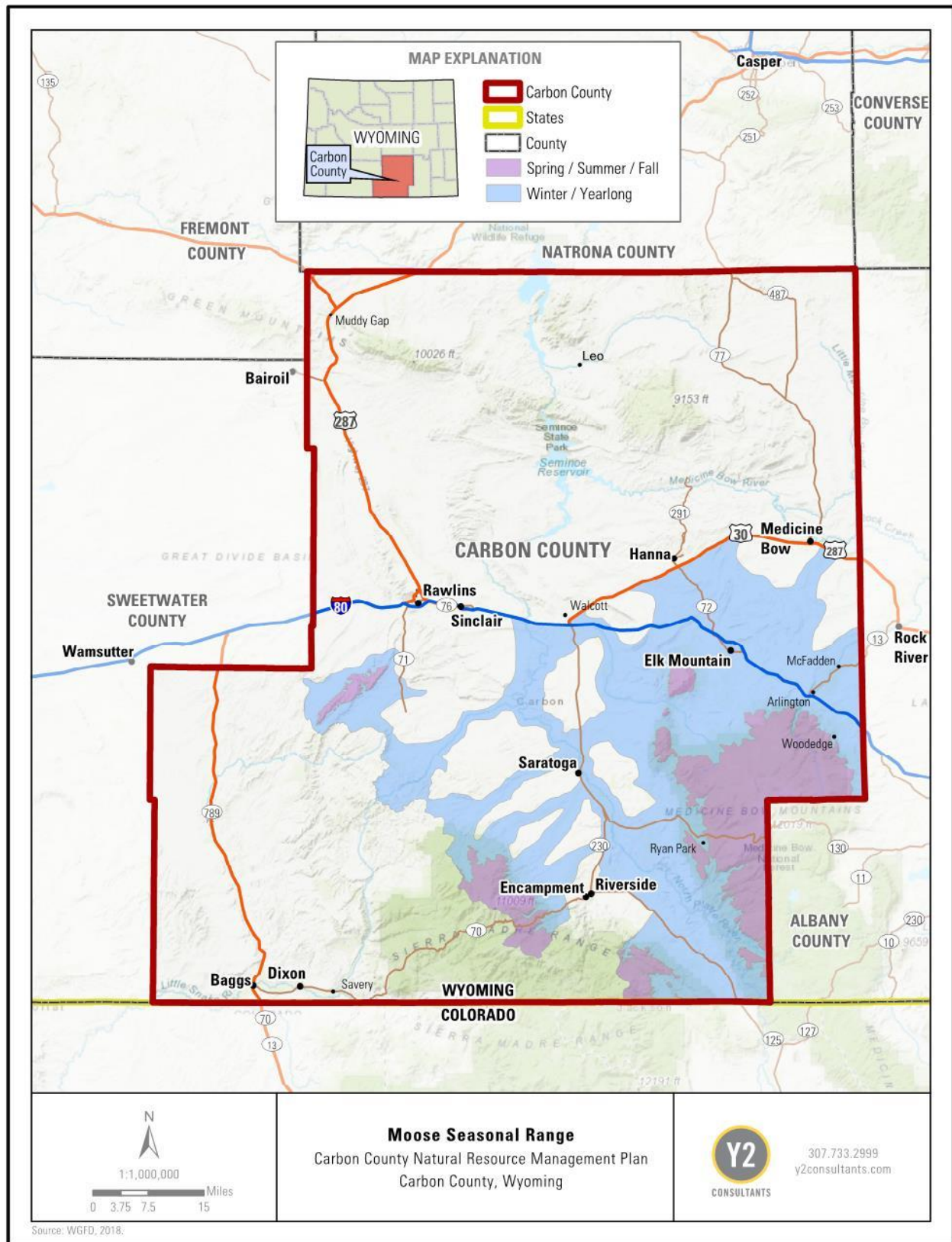


Figure 20. Moose seasonal range mapped in Carbon County.

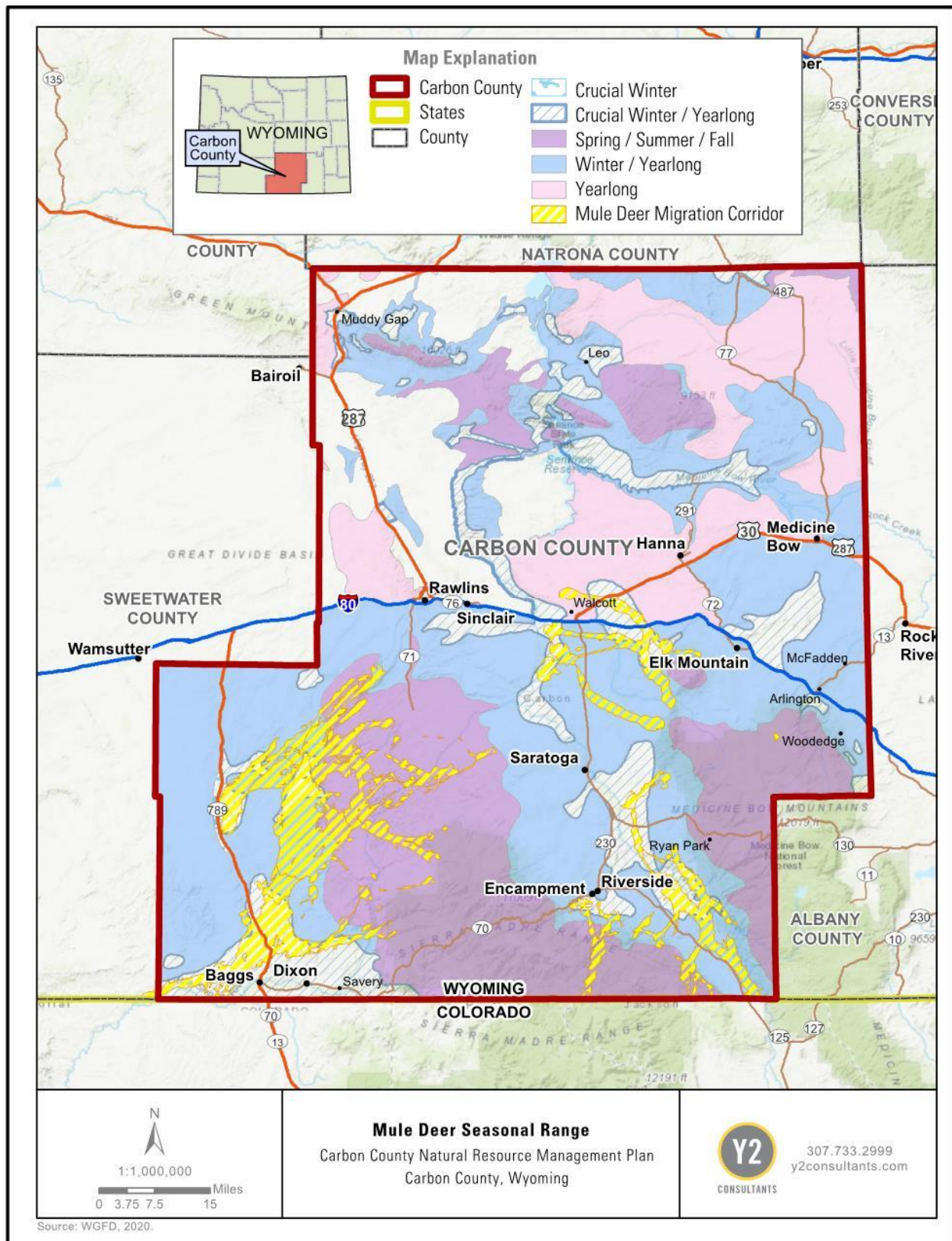


Figure 21. Mule deer seasonal range mapped in Carbon County, migration corridor areas are those designated by Wyoming Executive Order 2020-1.

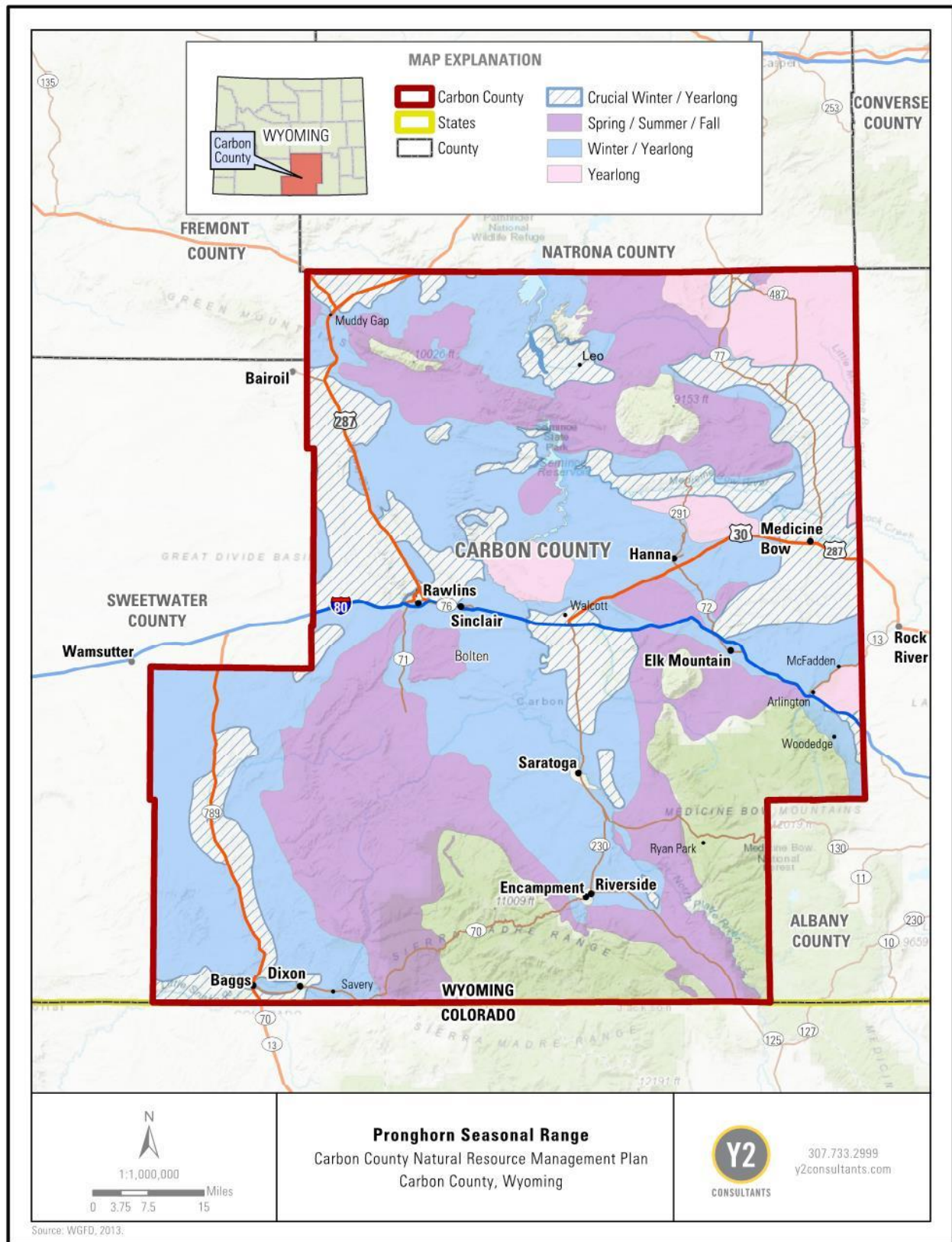


Figure 22. Pronghorn seasonal range mapped in Carbon County.

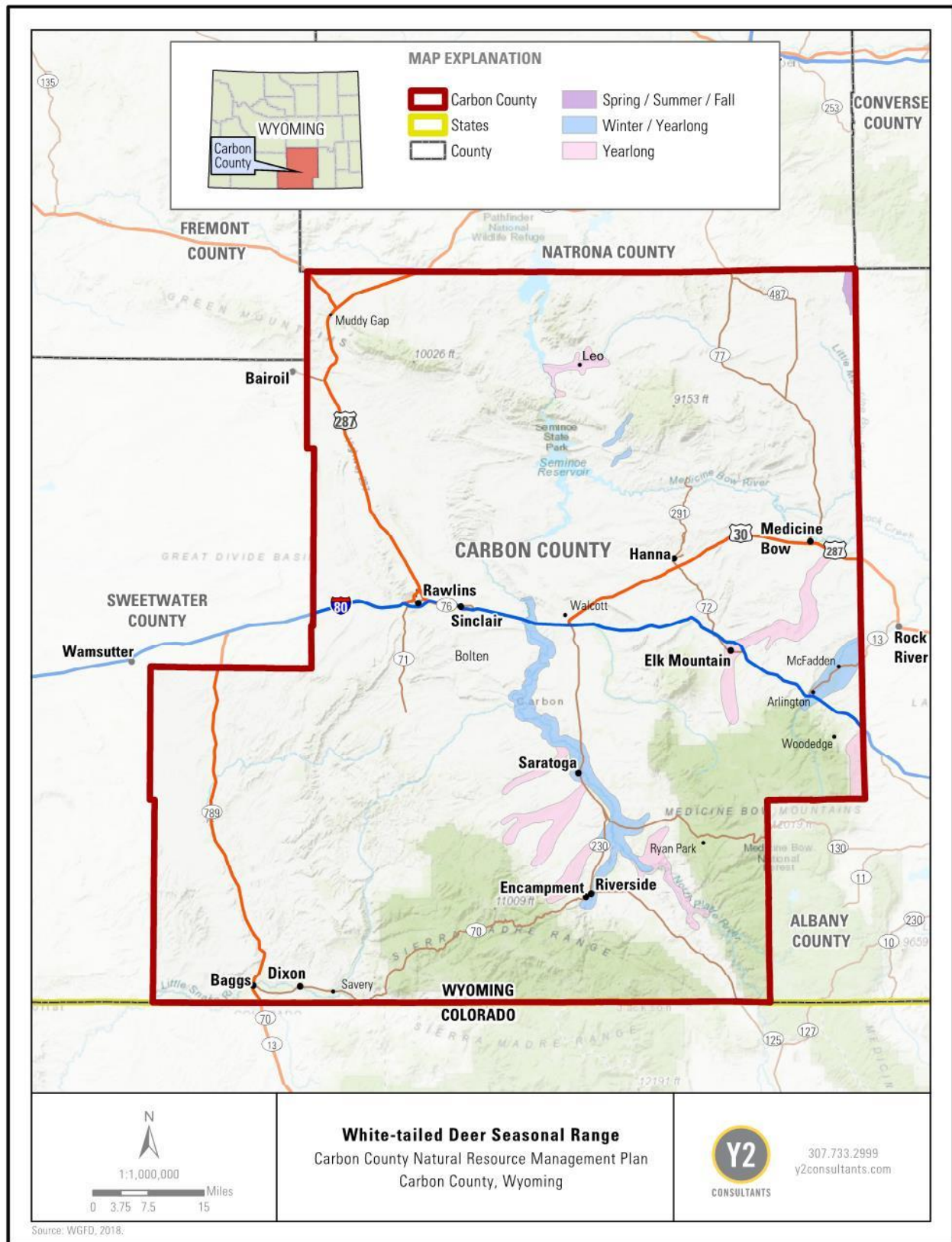


Figure 23. White-tailed deer seasonal range mapped in Carbon County.

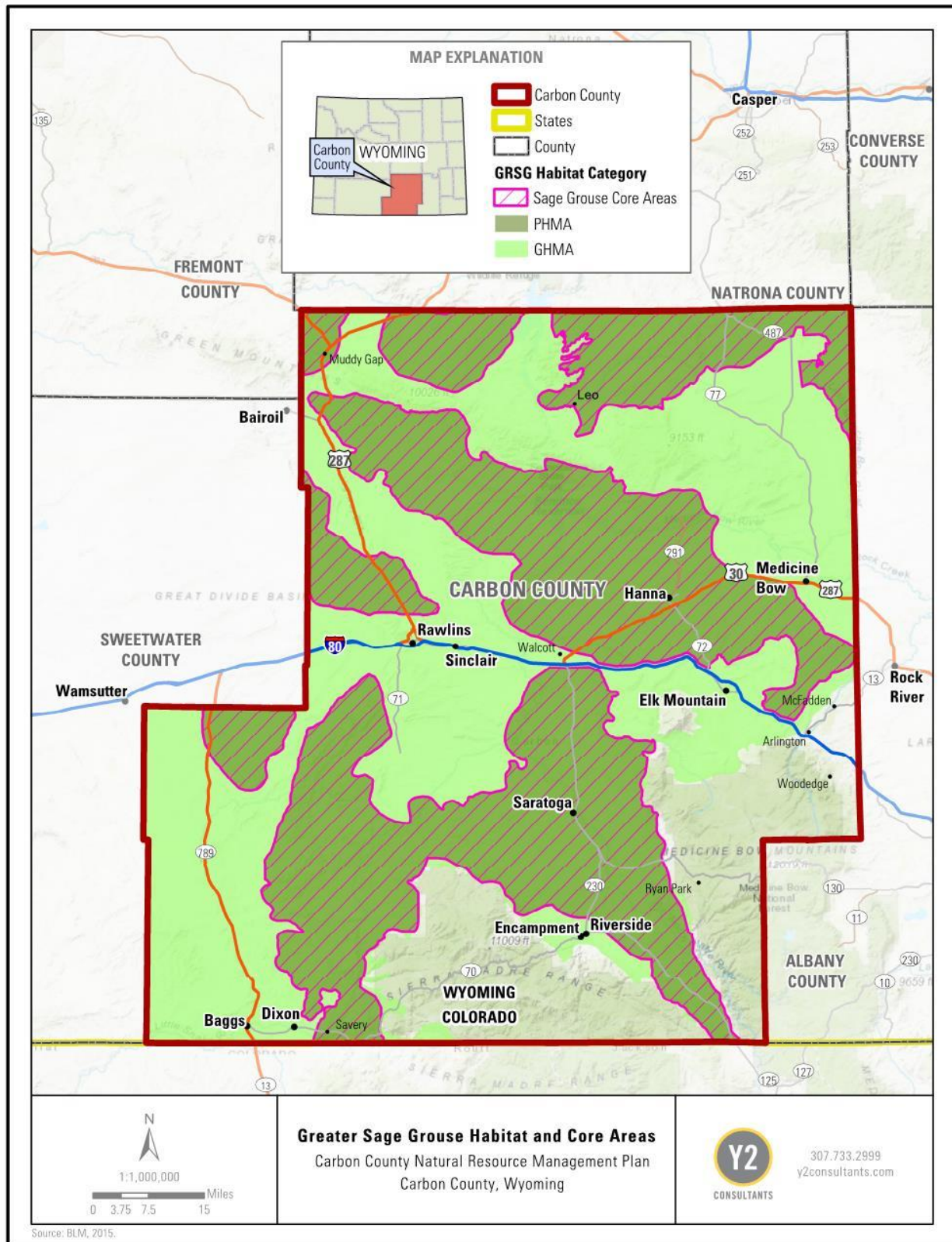


Figure 24. Greater Sage-Grouse core areas and habitat management area designations mapped in Carbon County.

6.3 THREATENED, ENDANGERED, AND SENSITIVE SPECIES

6.3.1 History, Custom, and Culture

Endangered Species Act

The USFWS administers the Endangered Species Preservation Act, passed by Congress in 1966, which provided limited protection for species listed as endangered. The Departments of the Interior, Agriculture, and Defense were to seek to protect listed species and to the extent possible, preserve the habitats of listed species. In 1969, Congress amended the Endangered Species Preservation Act to provide additional protection for species at risk of “worldwide extinction” by prohibiting their import and sale in the United States. This amendment called for an international meeting to discuss the conservation of endangered species and changed the title of the act to the Endangered Species Conservation Act. In 1973, 80 nations met to sign the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Commission of the European Communities, 1986). As a follow-up, Congress passed the Endangered Species Act (ESA) of 1973. The ESA:

- Defined “endangered” and “threatened” species;
- Made plants and all invertebrates eligible for protection;
- Applied “take” prohibitions to all endangered animal species and allowed the prohibitions to apply to threatened animal species by special regulation; such “take” prohibitions also include “adverse modification” of critical habitat;
- Required federal agencies to use their authorities to conserve listed species and consult on “may affect” actions;
- Prohibited federal agencies from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or adversely modify its “critical habitat”;
- Made matching funds available to States with cooperative agreements;
- Provided funding authority for land acquisition for foreign species; and
- Implemented protection in the United States (USFWS, 1973).

The ESA was amended in 1978, 1982, and 1988. Funds are annually appropriated for the implementation of the ESA and have been since 1993.

Candidate species are “any species being considered for listing as an endangered or threatened species, but not yet the subject of a proposed rule” (50 C.F.R. § 424.02(b)).

Critical Habitat

The USFWS is responsible for the identification of critical habitat. Critical habitat is a specific geographic area that contains features essential to the conservation and recovery of a listed species and may require special management or protection. Critical habitat can only include areas that qualify as “habitat” (*Weyerhaeuser Co. v. U.S. Fish and Wildlife Service*, 139 S. Ct. 361, 368 (2018)). The ESA does not define “habitat” *Id.* However, the USFWS regulations define “habitat,” for the purpose of designating critical habitat only, as “the abiotic and biotic setting that currently or periodically contains the resources and conditions necessary to support one or more life processes of a species.” (50 C.F.R. § 424.02). Thus, only those settings that currently



contain the resources may be designated as critical habitat, and those settings that would require additional modification could not qualify as habitat. *See Id.*; 85 FR 81411. Land not currently occupied by an endangered species can only be designated as critical habitat when the Secretary of the Fish and Wildlife Service determines that the land is “essential for the conservation of the species” (16 USC 1532(5)(A)). “Essential for the conservation of the species” is also not defined in either the ESA or USFWS regulations. Although economic impacts are not considered during the species listing process, the economic impacts of a critical habitat designation must be analyzed in the designation process. The USFWS may choose to exclude any area from critical habitat if the agency determines that the benefits of such exclusion outweigh the benefits of designating the area unless such exclusion would result in the extinction of the species (16 U.S.C § 1533(b)(2)). A decision not to exclude critical habitat for economic reasons is reviewable by courts under an abuse of discretion standard. (*Weyerhaeuser*, 139 S. Ct. at 370)

On December 18, 2020, in response to the *Weyerhaeuser* Court’s decision allowing decisions not to exclude critical habitat to be reviewed under the Administrative Procedure Act, the Fish and Wildlife Service promulgated rules regarding the exclusion of critical habitat (50 C.F.R. § 17.90). There are five major items developed in the new rule.

1. The rule gives local governments expert status when discussing the economic and other nonbiological local impacts of critical habitat designation within their jurisdiction.
2. The rule also allows federal land to be excluded from critical habitat designation.
3. The rule set a meaningful standard as to when critical habitat should be excluded.
4. The rule encourages the USFWS to exclude critical habitat for more than just economic consideration, including whether the critical habitat may harm community development or;
5. The rule also allows lands that have proven conservation agreements to be excluded from critical habitat. These agreements can even be agreements created by local governments or the state and not just the USFWS (50 C.F.R. § 17.90).

The ESA created several additional planning tools, including:

- Recovery plans (population and viability goals; define when delisting may be possible; what is required for delisting to begin);
- Reintroduction plans;
- Habitat conservation plans (define when “take” may occur, defines mitigation options);
- Conservation plans or agreements; and
- Candidate Conservation Agreements (CCA) and CCAs with Assurances (CCAA) (private landowner agreements for the protection of Candidate species that provide the landowner with protection if the species is listed) and Species of Concern (USFWS, 2018b).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16. U.S.C 668-668c) was enacted in 1940, with several amendments since, and prohibits anyone from “taking” bald or golden eagles, including their parts, nests, or eggs without a permit issued by the Secretary of the Interior (USFWS, 2018b).



Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is a federal law that carries out the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia. Those conventions protect birds that migrate across international borders. The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except as authorized under a valid permit (50 CFR 21.11). The USFWS published the 'Regulations Governing Take of Migratory Birds' on January 7, 2021, further defining the parameters of 'unlawful take'. The rule defines 'take' as 'to willfully pursue, hunt, shoot, wound, kill, trap, capture, or collect'. 'Take' of migratory birds no longer includes the incidental or accidental killing of migratory birds (USFWS, 2021). The MBTA also authorizes and directs the Secretary of Interior to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take (i.e., hunting seasons for ducks and geese). (USFWS, 2020)

6.2.2 Resource Assessment and Legal Framework

Candidate, Threatened, and Endangered Species in Carbon County

Currently listed, threatened and endangered species can be found on the USFWS [Environmental Conservation Online System](#)⁶⁵ (U.S. Fish and Wildlife Service, n.d.). At the writing of this report, there are thirteen endangered or threatened species and no critical habitats identified for Carbon County. Those species are:

- Canada lynx (*Lynx canadensis*) – Threatened wherever found
- Least Tern (*Sterna antillarum*) – Endangered
- Piping Plover (*Charadrius medodus*) – Threatened
- Whooping Crane (*Grus americana*) – Endangered
- Yellow-billed Cuckoo (*Coccyzus americanus*) – Threatened
- Bonytail Chub (*Gila elegans*) – Endangered
- Colorado Pikeminnow (*Ptychocheilus lucius*) – Endangered
- Humpback Chub (*Gila clypha*) – Endangered
- Pallid Sturgeon (*Scaphirhynchus albus*) – Endangered
- Razorback Sucker (*Xyraychen texanus*) – Endangered
- Blowout Penstemon (*Penstom haydenii*) – Endangered
- Ute Ladies'-tresses (*Spiranthes diluvialis*) – Threatened
- Western Prairie Fringed Orchid (*Platanthera praeclara*) – Threatened

As of the writing of this NRMP, there is no designated critical habitat for any of the above species in Carbon County. However, lynx habitat does occur on the Sierra Madre and Medicine Bow Mountains. Only a few lynx have ever been sighted on the Medicine Bow National Forest and it is not known whether these were naturally dispersing animals or releases of domesticated animals held in captivity as pets or at fur farms. (USFS, 2003a)

Southern Rockies Lynx Management Direction

The Southern Rockies Lynx Management Direction Record of Decision from 2008 amended the management plans for the Arapaho-Roosevelt, Medicine Bow, Routt, Pike-San Isabel, Rio Grande,



San Juan, White River and Grand Mesa, and Uncompahgre and Gunnison National Forests. The amendment focuses on the conservation of lynx habitat in the southern Rocky Mountains. The plan includes objectives and guidelines to maintain and restore lynx habitat as well as management activities that can influence habitat, such as vegetation management, fuels management, livestock grazing, anthropogenic use, and habitat linkage areas. (USDA FS, 2008)

Recovery Plans

Recovery plans for threatened and endangered species are one of the tools the USFWS utilizes to recover species. Without a recovery plan, management cannot focus on increasing the species population or habitat and cannot move closer to a potential delisting of the species. Recovery plans provide a road map with detailed site-specific management actions for private, Tribal, federal, and state cooperation in conserving listed species and their habitats. A recovery plan provides guidance but is not a regulatory document.

Recovery plans often take a long time to complete and are often hard to adjust as new information is available. Due to this, the USFWS has revised its approach to recovery planning and implementation. Now, the recovery plan is part of a three-part framework; it is informed by the Species Status Assessment and is implemented via the Recovery Implementation Strategy. Further information on the revised recovery planning and implementation can be found [here](#)⁶⁶.

Sensitive Species

Wyoming Game and Fish Department

Wyoming's List of Species of Greatest Conservation Need (SGCN List) includes 229 total species including eighty birds, nine amphibians, twenty-four reptiles, fifty-one mammals, twenty-eight fish, eight crustaceans, and twenty-nine mollusks, each with a specific priority designation. (WGFD, 2017c)

The SGCN List is divided into three tiers: Tier 1 – highest priority, Tier 2 – moderate priority, and Tier 3 – lowest priority. The Wyoming Game and Fish Commission has six approved variables to evaluate the conservation priority of each species. These variables include the Wyoming Game and Fish Department Native Species Status; Wyoming's contribution to the species' overall conservation; regulatory/monetary impacts of the species' listing under the ESA; the urgency of conservation action; ability to implement effective conservation actions; and the species' ecological or management role as keystone, indicator, or umbrella species. The consideration of these variables in the species' priority tier designations are made by WGFD biologists who have considerable knowledge about the species. Individual designations may be reviewed annually if warranted by changing circumstances or new data. State Wildlife Grant Program funds are appropriated annually by Congress. In the appropriation process, individual states are evaluated based on their population and total geographical area. From these evaluations, states receive their apportioned funding amounts. Federal grants cover up to 75% of planning grants and 65% of plan implementation grants. (USFWS, n.d.; WGFD, 2017c)



The WGFD updates the species on the Conservation Priority List in conjunction with the State Wildlife Action Plan. The Wyoming Species of Conservation Priority List can also be found on the [WGFD website](#)⁶⁷ (WGFD, 2017b, 2017a).

Bureau of Land Management

Special Status Species are designated by the BLM and include species that are federally listed or proposed for listing as threatened or endangered, candidate species, state protected and sensitive species, and other special-status species including federal and state “species of concern”. The BLM designates special-status species where there is credible scientific evidence to document a threat to the continued viability of a species population. Moreover, special status species are typically designated as sensitive by a BLM state director in cooperation with state agencies that are responsible for managing the species. State natural heritage programs are typically involved as well, where applicable. Species are usually those that fall in the following criteria:

- Could become endangered in or extirpated from a state or within a significant portion of its distribution;
- Are under status review by the USFWS;
- Are undergoing significant current or predicted downward trends in habitat capability that would reduce a species’ existing distribution;
- At the federal level, a listed, proposed, candidate, or state-listed status may become necessary;
- Typically have small and widely dispersed populations;
- Inhabit ecological refugia or other specialized or unique habitats; or
- Are state-listed but may be better conserved through the application of the BLM Sensitive Species Status. (Bureau of Land Management, 2015)

The Wyoming State BLM Office identifies 82 species as sensitive. These species can be found on the Wyoming state BLM [sensitive species page](#)⁶⁸. (Bureau of Land Management, 2010)

United States Forest Service

The Rock Mountain Region of the USFS has 173 identified sensitive species. These species are included on the USFS Region 2 sensitive species [webpage](#)⁶⁹. Management Indicator Species and Threatened, Endangered, Proposed, Candidate and Forest Service Region 2 Sensitive Species identified on the Medicine Bow-Routt National Forest can be found within the [Medicine Bow LRMP](#)⁷⁰.

6.3.3 Resource Management Objectives (Threatened, Endangered, and Sensitive Species):

- A. Threatened, Endangered, and Sensitive species are managed as a part of an ecosystem using credible data and in conjunction with multiple use mandates in coordination with Carbon County and other stakeholders.
- B. The Wyoming Game and Fish Department is the primary agency responsible for managing all wildlife species in Wyoming not listed as threatened or endangered per the



Endangered Species Act, and wildlife species are managed with consideration of the [General Wildlife](#), [Forest Management](#), and [Special Designation](#) policies in this plan.

- C. Critical habitat designations are excluded in areas in which the harm to Carbon County outweighs the benefit of designating the habitat.
- D. Critical habitat exclusion analysis is completed for all land within Carbon County during the critical habitat designation process.
- E. Critical habitat within Carbon County is only designated in those locations where the endangered species could currently survive.
- F. Sub-species are not listed as threatened or endangered within Carbon County.
- G. Immediate and expedited delisting of a species occurs when the benchmarks of the species recovery plan are met.
- H. The United States Fish and Wildlife Service uses the Endangered and Threatened Wildlife and Plants; Regulations for Designating Critical Habitat published in December of 2020 for critical habitat definition.
- I. The United States Fish and Wildlife Service uses the proposed rules for critical habitat exclusion as finalized in the December 2020 Endangered and Threatened Wildlife and Plants; Regulations for Designating Critical Habitat.

6.3.4 Priorities (Threatened, Endangered, and Sensitive Species):

- 1. A robust and full critical habitat exclusion analysis of the local economic impacts should occur on all proposed critical habitat designations or species management plans, and the inclusion of Carbon County in this analysis, as required by the Endangered Species Act, including the transactional costs of Section 7 compliance.
- 2. Any species with insufficient, unsupported, or questionable data not meeting the minimum criteria for its listing or protection level should be delisted.
- 3. Federal agencies should recognize Carbon County endangered species recovery plans and habitat preservation agreements when conducting critical habitat exclusion analyses.
- 4. Support cooperation between private landowners and federal agencies to reduce the risk of listing or the designation of critical habitat under the Endangered Species Act.
- 5. Any introduction or reintroduction of listed species into Carbon County should not occur unless the County consents to terms and conditions or standard operating criteria that avoid disrupting current land uses.
 - a. Shall an agreement not be reached on the potential introduction or reintroduction, and the species is introduced anyway, the species being introduced should only be categorized as a non-essential or experimental population.
- 6. Federal agencies should support the participation of Carbon County and other local governments as cooperating agencies in all decisions and proposed actions that affect the County regarding sensitive, candidate, threatened, or endangered species; the reintroduction or introduction of listed species; habitat conservation plans; conservation agreements or plans; designation of critical habitat, and development of recovery plans.
- 7. Federal agencies should develop recovery plans within 18 months of listing that include clear objectives to reach for delisting to occur.

8. Federal agencies should develop a recovery plan for species already listed within 18 months of this document.
9. Recovery plans should be approved and in place before management actions intended to increase the population are conducted.
10. For any species on the Endangered Species Act list, Carbon County should be apprised, at minimum, annually of the progress of population recovery objectives for each species.
11. Carbon County should be consulted as soon as objectives have been met for a listed species and steps need to be taken to begin immediate delisting.
12. Federal agencies should support the development of local solutions (e.g., habitat projects, habitat management plans, conservation plans, or candidate conservation agreements) to keep a species from being listed under Endangered Species Act or as species of concern/species of special concern.
13. Federal agencies should assist in controlling zoonotic and vector-borne diseases negatively impacting special status, candidate, or listed species before restricting other multiple uses that could be conflicting.
14. Federal agencies should support the continued use of existing valid permits and lease rights on lands with listed species.
15. Federal agencies should support private property rights on lands with Endangered Species Act listed species.
16. Carbon County supports Endangered Species Act threatened and endangered species listings that are based on clear, convincing, peer-reviewed, credible scientific data.
17. The United States Fish and Wildlife Service (or the appropriate federal agency) should be responsible for the financial burden imposed upon private landowners by the listing of threatened or endangered species and the associated critical habitat designations and management changes implemented because of a special status species designation.
18. The United States Fish and Wildlife Service should immediately notify the local governments in Carbon County if critical habitat is being considered for any species within their jurisdictions.
19. Consultation and coordination shall occur with Carbon County regarding management plans, population objectives, and wildlife introductions, in the species of concern and sensitive species review process, or any other decision that may affect the economic viability of the communities within Carbon County.,
20. Support the use of credible data as information the Bureau of Land Management and the United States Forest Service can use as a basis for a decision that a species shall be designated a “species of concern” or “sensitive” beyond criteria provided in their respective handbooks.
21. Support creating a unified (cross-agency) definition for “species of concern.”

6.4 FISHERIES

6.4.1 History, Custom, and Culture

Fishing on the major rivers and streams has contributed to the custom and culture of Carbon County since the first Indigenous People came to the area. Indigenous Peoples fished the rivers and streams to provide food, particularly in the summer months. As settlers moved into the area



they began fishing as well. Carbon County has long been a destination for recreationists and tourists who want to partake in its incredible fisheries. The inventor Thomas Edison visited the area on a hunting and fishing trip in 1878. The Saratoga National Fish Hatchery opened in 1911 to stock various fish species both in Wyoming fisheries and fisheries throughout the country. (Carbon County Economic Development Corporation, 2016)

Fishing continues to support recreation and tourism in Carbon County and therefore proper management of the fisheries is extremely important to the County. The combination of healthy fisheries and public access throughout the County's reservoirs, lakes, and rivers provide diverse fishing opportunities that attract recreators. Healthy native fishery populations are also an indicator of watershed health. Fishing within the County varies from fly fishing for trout species to sport fishing the reservoirs.

6.4.2 Resource Assessment and Legal Framework

Carbon County is comprised of two river basin regions, the Greater Green River Basin and the Platte River Basin. The southwestern corner of the County falls in the Little Snake River and Great Divide sub-basins within the Greater Green River Basin, and includes the Little Snake River, Muddy Creek, and Savery Creek, and many smaller tributaries. The Platte River Basin covers most of the County including the Platte and Encampment Rivers and the associated expansive network of high mountain stream systems. Carbon County resides within the sub-basin designated 'Above the Pathfinder Dam'. The Pathfinder, Kortez, and Seminoe Reservoirs, as well as the 'Miracle Mile', are located in Carbon County within the Platte River Basin. (States West Water Resources Corporation & WWDC, 2001; WWDC, 2006)

In 2015 the State of Wyoming established multiple initiatives to protect and utilize water resources. The River Restoration Initiative developed strategies, financial tools, and technical expertise to further stream restoration efforts across the state. The Collaborative Fish Passage Initiative takes a similar approach to further fish passage development and infrastructure while meeting water users' needs. Refer to the WGFD page [here](#)⁷¹ for additional information surrounding these initiatives.

The WGFD manages and monitors fishing activity throughout the state. WGFD developed the current stream classification in 1961. The classification identifies and ranks the most important coldwater recreational fisheries (Saratoga-Encampment-Rawlins Conservation District, 2017). The State of Wyoming classifies trout streams into five separate designations listed below.

- Blue Ribbon – ≥ 600 pounds of sport fish per mile
- Red Ribbon - ≥ 300 and <600 pounds of sport fish per mile
- Yellow Ribbon - ≥ 50 and <300 pounds of sport fish per mile
- Green Ribbon - ≥ 1 and <50 pounds of sport fish per mile
- Orange Ribbon – Any cool/warm water game fish present

Within the Green River Basin, most of the rivers within Carbon County are yellow ribbon rivers. In the Platte River Basin, large stretches of the North Platte River within the County are



designated as blue ribbon, greater than 600 pounds of sport fish present per mile. There are also stretches of red ribbon rivers along the North Platte River and across the southeastern corner of the County (WGFD, n.d.-g). The WGFD Fish Stream Classifications map can be found [here](#)⁷².

WGFD develops aquatic management plans for the state. The 2020 Statewide Wildlife Habitat Plan addresses three major goals: 1) to conserve and protect crucial aquatic and terrestrial wildlife habitats, 2) to restore aquatic and terrestrial wildlife habitats, and 3) to conserve, enhance, and protect fish and wildlife migrations. The plan also lays out strategies for managing priority areas. (WGFD, 2020a)

Currently, WGFD has designated 64 Crucial Priority Areas for aquatic habitats throughout Wyoming. These areas are managed or protected to maintain viable and healthy populations of wildlife/fish. Within Carbon County these designations span the Medicine Bow- Routt National Forests in the southeast corner of the County, a swath west of Saratoga, multiple sections of the North Platte River, and the Pathfinder and Seminoe Reservoir areas. For more information on Priority Area designations throughout the state refer [here](#)⁷³. (WGFD, 2015, 2020b)

Fishing areas throughout the Platte River Basin are well known and experience large amounts of recreation. The Miracle Mile, a 5.5-mile reach between the Pathfinder Reservoir and Kortess Dam on the North Platte River, is one such area that is an important fishery resource for Carbon County. Common game fisheries in the County vary from trout species to walleye, bass, and channel catfish. The North Platte River fisheries are greatly influenced by the multiple dams present along the river (WWDC, 2006). Refer to Figure 16 for a map of the major rivers of Carbon County.

Table 6 provides the annual angler days for the 'Above Pathfinder Dam' sub-basin. For additional fishery resource information refer to the [Greater Green River Basin](#)⁷⁴ and the [Platte River Basin](#)⁷⁵ Water Plans. (WWDC, 2006)

Table 6. Annual angler days across the 'Above Pathfinder Dam' sub-basin (WWDC, 2006).

Subbasin/tributary	Angler days/year
Kortess Reservoir, Miracle Mile, Pathfinder Reservoir	66,827
Seminoe Reservoir and Big Ditch drainage	33,200
North Platte River, CO State Line to I-80	18,547
Encampment River drainage	16,258
Lake, Cedar, Elk Hollow drainages	14,191
Upper Medicine Bow River drainage	10,465
Seminoe and Ferris Mountains	9,180
Lower Medicine Bow River drainage	5,879
Sweetwater River drainage	4,920
Jack and Spring Creeks	3,975
Beaver Creek and Big Creek drainages	3,292
Pass Creek drainage	3,062
Shirley Mountains	1,157

Saratoga Fish Hatchery

The Saratoga National Fish Hatchery, located just north of Saratoga, is managed and operated by the USFWS. The hatchery acted as an egg-production station for most of its operation. Established in 1911, the hatchery was not formally designated as a broodstock hatchery until 1966. The hatchery has produced multiple strains of brook, rainbow, brown, golden, and cutthroat trout. In 1984, the hatchery began working with the Great Lakes lake trout recovery program. Currently, the hatchery provides cutthroat trout for the Wind River Reservation and maintains backup rainbow trout broodstock for Eagle Lake. The hatchery maintains the goal to produce 2.2 million Lewis Lake lake trout eggs to the Great Lakes restoration program and 3 million Plymouth Rock brown trout eggs to other programs. The Saratoga Fish Hatchery is the first national hatchery to rear the endangered Wyoming toad (*Bufo baxteri*). The hatchery maintains a captive population for breeding and rearing for reintroduction. (USFWS, 2020b)

6.4.3 Resource Management Objectives (Fisheries):

- A. Federal agencies promote actions that maintain or enhance functioning stream habitat, functioning riparian communities, functioning wetland habitats, and functioning upland communities to support watershed health within Carbon County.
- B. Aquatic resources in Carbon County are managed for healthy and biodiverse fisheries that support recreation and tourism.
- C. Aquatic invasive species are aggressively controlled through proactive management to prevent introduction into Carbon County.
- D. Fishing and outdoor water recreation are promoted and protected throughout Carbon County.

6.4.4 Priorities (Fisheries):

- 1. All management plans that may impact aquatic resources in Carbon County should take a holistic approach and protect the overall health of natural resources.
- 2. Federal agencies should support fisheries habitat monitoring efforts and refine available fisheries habitat data.
- 3. Carbon County supports a requirement for water quality monitoring before, during, and after all projects that may have impacts on aquatic resources.
- 4. Promote in-channel improvements for fisheries without additional instream water rights or permitting requirements for instream flows within Carbon County.
- 5. Carbon County does not support converting water rights from agriculture use to instream flow use.
- 6. Support river restoration, fish passage, and aquatic/riparian area enhancement projects within Carbon County.
- 7. Encourage interagency and inter-government fisheries resource enhancement projects within Carbon County.
- 8. Support boat inspection locations for detection of aquatic invasive species within Carbon County.
- 9. Federal agencies should recognize the Conservation Districts' water quality expertise and encourage their continued involvement in any water quality issue that may arise in Carbon County.

6.5 PREDATOR MANAGEMENT

6.5.1 History, Custom, and Culture

Predatory wildlife is important to the ecology of an ecosystem and managing the balance between predators and prey can prove difficult. Predators can have negative impacts on livestock operations, wildlife populations, developing communities, and other agriculture operations. For these reasons, it is important to properly manage predators to ensure safe communities, livestock, and healthy functioning ecosystems.

During the settlement of the western states, predator management fluctuated from population decimation to protection and recovery. Predators were controlled on an individual basis until the early 1900s when stockgrowers began asking for government assistance. The common mindset in the early 1900s was that ‘the only good predator is a dead one’. However, by the 1960s, with the release of the Leopold Report, the importance of proper management of predators became known (deCalesta, n.d.). The common public mindset began to shift to the control of predators threatening stock operations and communities while allowing natural predator populations to exist (deCalesta, n.d.).

6.5.2 Resource Assessment and Legal Framework

The Animal and Plant Health Inspection Service (APHIS) is located within the U.S. Department of Agriculture and provides a Wildlife Damage Program and a Pests and Diseases Program. The Wildlife Damage Program researches and develops wildlife damage management methods and provides resources to the public (APHIS, n.d.). The Wyoming State Legislature has established and updated predator control statutes in Title 11, Chapter 6 since the 1990s. Article 3 defines predatory animals within the state as any coyote, jackrabbit, porcupine, raccoon, red fox, skunk, or stray cat; and gray wolves except where they are designated as trophy game animals. The statutes provide for general provisions, district boards, and the Wyoming State Animal Damage Management Board. The district for the County is the Carbon County Predator Management District. Carbon County maintains the appointed Predator Management District Board (Carbon County, n.d.). Within the County, the Carbon County Predator Management District Board directly administers the predator management program.

There are a variety of predators and/or carnivores within the County that are not classified within the Wyoming predator statutes, those not classified under Title 11, Chapter 6 are often managed by WGFD. Predators are managed variably per their individual designations. Many common large predators are classified and managed as game animals, such as mountain lion and black bear, and some mid-sized predators are managed as furbearers, like the bobcat. Predators within the County may also be protected under ESA or MBTA, such as the raven and birds of prey. Predator population management is highly variable depending on the species and the population in question. An example of this is the gray wolf, which is managed as a predator except for the populations designated as game animals within the Wolf Trophy Game Management Area. For more information on wolf management across Wyoming refer to WFGD’s [Wyoming Gray Wolf Management Plan](#)⁷⁶. In the fall of 2020 Colorado passed ballot initiative Proposition 114, directing Colorado Parks and Wildlife to develop a gray wolf introduction plan by the end of 2023. The initiative directs that the plan introduces wolves on designated lands west of the continental



divide. Changes in population numbers and dynamics, including introductions, in surrounding areas could result in populations migrating into Carbon County (Colorado Parks and Wildlife, 2020).

6.5.3 Resource Management Objectives (Predator Management):

- A. Predator populations are managed to maintain healthy ecological levels, while prioritizing the reduction in the occurrence of livestock depredation and the health and welfare of citizens of Carbon County.
- B. Predator populations are monitored closely in Carbon County to prevent negative impacts on healthy wildlife populations.
- C. Federal land managers follow Wyoming Game and Fish Department and Wyoming State Animal Damage Management Board predator policies.

6.5.4 Priorities (Predator Management):

- 1. Federal agencies should work with the Carbon County Predator Management District Board on predator issues, concerns, and control.
- 2. Federal agencies should support selective predator control as a valid method of attaining sustainability of the wildlife and domestic livestock populations.
- 3. Current predator control measures are supported on all lands within Carbon County and should not be restricted.
- 4. Support recognized proactive efforts such as aerial hunting, snares, and leg traps to control predator populations.
- 5. Predator species such as grizzly bears and wolves shall be deterred from migrating or re-locating to Carbon County as they would impact the health, safety, and welfare of the people.
- 6. Carbon County supports Wyoming Game and Fish Department's current Wyoming Gray Wolf Management Plan (updated annually).
- 7. Any wolf found in Carbon County shall be classified as a predator.
- 8. Carbon County supports the delisting of grizzly bears from the Endangered Species Act and placement under the management of the Wyoming Game and Fish Department following the Wyoming Grizzly Bear Management Plan.
- 9. Any grizzly bear found in Carbon County should be removed.
- 10. When addressing a decline in a sensitive species, predator control shall be employed prior to placing any restrictions on resource-based industries like livestock grazing.
- 11. Only when predation is determined to not be the cause of decline shall restrictions on the resource industries be considered prior to predator management.
- 12. Federal agencies should coordinate with Carbon County in the determination of any impact of the management of a predator species. This includes impacts on the economy, culture, custom, and the health and safety of the residents of Carbon County.

CHAPTER 7: WILD HORSES AND ESTRAY LIVESTOCK

7.1 WILD HORSES AND ESTRAY LIVESTOCK

7.1.1 History, Custom, and Culture

Wild horses have always been a symbol of the West. Horses were first seen in the continental U.S. about 10,000 years ago but for unknown reasons became extinct. Current herds are descended from domestic horses, some of which were brought by the Spanish in the 15th and 16th centuries. Over this 500-year period, these horses have adapted successfully to the western range. Wild horses have occurred in Carbon County for several hundred years and likely descended from released ranch horses and possibly some European descendent horses. Wild horses have no natural predators and as a result, the population increases at a very high rate, generally about 20% per year with good years topping at 40%. When populations of wildlife, wild horses, and domestic livestock exceed the capabilities of their habitat, the environment begins to suffer and, over time, can lead to poor rangeland and the overall decline in the health of wildlife, horses, and domestic livestock. (BLM, n.d.-b)

The Wild-Free Roaming Horses and Burros Act (WFRHBA) was passed by Congress in 1971 and declared wild horses and burros to be “living symbols of the historic and pioneer spirit of the West” (16 U.S.C. § 1331). The law requires the BLM and USFS to manage and protect herds in their jurisdiction in areas where wild horses and burros were found roaming in 1971. Under WFRHBA, “wild free-roaming horses and burros” on BLM land are under the Secretary of the Interior’s jurisdiction for management (16 U.S.C. § 1333(a)). The WFRHBA requires that the Secretary and BLM must inventory and determine appropriate management levels (AMLs) of wild horses and burros, determine if overpopulation exists, and “shall immediately remove excess animals from the range so as to achieve AMLs” (16 U.S.C. §§ 1333(b) (1) and (2) and 43 C.F.R. § 4720.1). When the WFRHBA was passed, the BLM’s population survey methods indicated a population of 17,300 wild horses and 8,045 burros, as compared to the 2020 estimated populations of 79,568 horses and 15,546 burros. With an additional 47,845 horses and burros in ‘off-range’ holding facilities as of August 2020. (BLM, n.d.-b)

Herd Areas were designated in 1971 as places where wild horses and/or burros were found during the initial flights in 1971. Federal lands identified in 1971 but not managed for wild horses and burros are called Herd Areas. As additional surveys were done and data gathered, it was determined that some of these lands and animals were actually on private lands and/or were private animals. Areas with private animals that were 'claimed' during the claiming period were not carried forward as Herd Areas. Herd Areas were carried forward in land use plans and determinations were made as to whether or not to manage animals on these federal lands. Federal lands identified in 1971 but managed for wild horses and burros are called Herd Management Areas (HMAs). In HMAs, specific laws and regulations pertaining to the management of wild horses and burros are applied.

The removal of wild horses from public rangelands is carried out to ensure rangeland health in accordance with land-use plans that are developed in an open, public process. These land-use plans are how the BLM carries out its core mission, which is to manage the land for multiple uses



while protecting the land's resources. Livestock grazing on BLM-managed land has declined by about 29% (12.2 million Animal Unit Months (AUMs) to 8.7 million AUMs in the Fiscal Year 2019) since 1971 when the WFRHBA was passed. (BLM, n.d.-b)

In 2003, the State of Wyoming and BLM entered into a Consent Decree to better manage the sixteen (16) HMAs in the State at AML. The State of Wyoming asserted that the estimated current wild horse population in Wyoming was 7,000 horses, which was more than double the total wild horse population limit for Wyoming as established by the BLM. Both BLM and the State agreed on the AML for the 16 HMAs on the date of the Consent Decree. For those HMAs located in Carbon County, the AML was designated at 610-800 horses for the Adobe Town HMA, 170-300 for the Green Mountain HMA, and 125-175 for the Stewart Creek HMA. It was also agreed that AML only applied to HMAs and that AML in non-HMAs was to be zero. Terms of the agreement under the decree were:

- No later than December 15, 2003, the BLM shall reduce the number of wild horses to AML in the following eight HMAs: **Adobe Town**, Great Divide Basin, Salt Wells, White Mountain, **Green Mountain**, Crooks Mountain, **Stewart Creek**, and Little Colorado. (Those in bold have portions located in Carbon County).
- No later than December 15, 2004, the BLM shall reduce the number of wild horses to AML in the remaining eight HMAs: Conant Creek, Lost Creek, Dishpan Butte, Antelope Hills, Muskrat Basin, Rock Creek, Fifteenmile Herd, and McCullough Peaks.
- No later than June 1, 2005, and no later than June 1 every three years thereafter, the BLM shall complete an inventory of the number of wild horses in the 16 HMAs in Wyoming and shall provide a written report of the results of each triennial inventory to the Governor of the State of Wyoming and Wyoming Attorney General no later than July 1 of the year in which the inventory is completed.
- No later than September 1, 2004, and no later than September 1 every three years thereafter, the BLM shall consult with the WGFD regarding the census technique or method to be used to count the wild horses in the next calendar year.
- If the BLM determines, based on the results of any inventory and projected reproduction rates, that the wild horse population in any HMA or other area in Wyoming is likely to exceed AML in the following fiscal year, the BLM shall in its budget submission to the DOI for the next budget cycle include a request to reduce that HMA back to AML.
- The BLM shall pay all costs and expenses incurred in conducting each inventory required in Section 4 of the Consent Decree and they shall pay all costs and expenses incurred in reducing the number of wild horses to AML as required in Section 2, 3, and 6 of this Consent Decree. (Wyoming District Court, 2003)

The Consent Decree was applicable for ten years and in 2013 was terminated and has never since been renewed. During the ten years of the consent decree, HMAs were managed at AML, and gathers were done in a timely manner. (Wyoming District Court, 2003)

The termination of the 2003 Consent Decree led the Rock Springs Grazing Association (RSGA) to file a lawsuit against the BLM to remove wild horses from private lands within the checkerboard



pattern of mixed land ownerships. In 2013, the RSGA and the BLM entered into a new Consent Decree (RSGA/BLM Consent Decree) which was a result of settlement discussions on the lawsuit. The conditions of the RSGA/BLM Consent Decree were that:

- The BLM agrees to gather and remove all wild horses from RSGA's private lands, including checkboard lands, by conducting gathers from RSGA lands within four herd management HMAs in 2013-2015, with a follow-up gather in 2016, if necessary. Those HMAs included Salt Wells Creek HMA, **Adobe Town HMA**, Great Divide Basin HMA, and White Mountain HMAs. (Bold HMA is in Carbon County)
- The BLM commits to gather excess wild horses in a timely manner upon determining that populations in the HMAs or checkboard lands are likely to exceed certain levels. If wild horse populations in the HMAs or checkerboard lands are likely to exceed agreed-upon levels, the BLM shall adjust its annual work plan to remove all wild horses from checkboard lands within the respective area.
- The BLM commits to consider the use of all fertility control methods such as [contraceptive vaccine porcine zona pellucida] PZP and SpayVac and has the discretion to consider the spaying of mares and gelding of stallions, to achieve the low end of the AML.
- The BLM commits to Submit a *Federal Register* Notice of Intent under NEPA within 180 days to consider the environmental effects of revising the respective resource management plans for the Rock Springs and Rawlins field offices (Wyoming District Court, 2013).

7.1.2 Resource Assessment and Legal Framework

Wild-Free Roaming Horses and Burros Act

Under WFRHBA, BLM is required to maintain wild horse and burro population levels “in a manner that is designed to achieve and maintain a thriving natural ecological balance” and to establish AMLs for the herd, considering the relationships with other uses of the public, and adjacent private lands (16 U.S.C. § 1333(a); 43 C.F.R. § 4710.3-1). The WFRHBA was specifically amended, then, to require “immediate” removal of excess horses (16 U.S.C. § 1333(b)(2)).

Once the inventory occurs and the AML has been set, if an overpopulation of wild horses exists, the BLM “shall immediately remove excess animals from the [public] range so as to achieve appropriate management levels (AMLs).” See 16 U.S.C. § 1333(b) (1) and (2) and 43 C.F.R. § 4720.1 (“Upon examination of current information and a determination by the authorized officer that an excess of wild horses ... exists, the authorized officer shall remove the excess animals immediately...”). “Excess animals” are defined as those that must be removed to preserve and maintain a thriving natural ecological balance and to preserve the “multiple use relationships” in an area. See 16 U.S.C. § 1332 (f). As stated in another section of the WFRHBA, “[A]ll excess animals” must be removed by the BLM “to restore a thriving ecological balance to the range, and to protect the range from deterioration associated with overpopulation” to preserve and maintain the “multiple-use relationship in that area.” See 16 U.S.C. § 1333 (b)(2). When a determination is made that there is an “excess,” action is immediately required because the “endangered and rapidly deteriorating range cannot wait.” *Blake v. Babbitt*, 837 F. Supp. 458, 459 (D. D.C. 1993).



According to the Tenth Circuit, the BLM must make two determinations before the BLM's duty to remove excess animals is triggered (*Wyoming v. United States Department of the Interior*, 839 F.3d 938 (10th Cir. 2016)). The first determination is that overpopulation exists in a given area of public lands. *Id.* at 944. This is shown when an area exceeds its AMLs as discussed above. The second determination is that "action is necessary to remove excess animals." *Id.* If a determination has not been made by the agency that action is necessary, then the agency does not have a duty to remove those excess horses. *Id.*

Wild horses, as they are now perceived, are not native to America's rangelands; they are feral animals. Their vulnerability to predators is limited and their population growth rate is high. BLM conservatively estimates the growth rate of the wild horse population to be 20% annually.

Although there is no federal statute requiring private landowners to allow wild horses to graze on their private lands, private landowners cannot remove the horses; the BLM must be notified of any trespass horses. The WFRHBA mandates that the BLM, once notified, must "immediately" remove trespass wild horses from state and private land.

Wild horses have been problematic for federal land grazing permittees since the passage of the WFRHBA. Other multiple-use grazers are more easily managed to protect the health of the rangeland resources. Livestock grazing is managed with stringent livestock numbers and limited time/season of grazing. Wildlife grazers are managed through hunting seasons and herd objectives. Wild horses are on the same range 365 days a year with numbers significantly higher than healthy rangelands can sustain but can be managed through gathers. However, in recent years, the BLM has been unsuccessful in completing gathers to reduce the numbers of wild horses on rangelands. Many HMAs are significantly over AML, causing harm to rangelands and negative impacts to other multiple uses and sustained yield as mandated by FLPMA. HMAs are not fenced, which also then allows horses to cause degradation on private and state lands too.

Herd Areas and Herd Management Areas

Wyoming BLM manages 16 HMAs on nearly 5 million acres. The combined AML for all HMAs in the state is 3,725 animals. The BLM designates both Herd Areas and HMAs. HMAs are the areas selected within each herd area that were evaluated by BLM to have adequate food, water, cover, and space to sustain healthy and diverse "wild" horse and burro populations over the long term and were calculated using geographical information system (GIS) (National Horse & Burro Rangeland Management Coalition, 2015). HMAs are lands under the supervision of the BLM that are managed for the primary but not exclusive benefit of free-roaming wild horses and burros.

After the WFRHBA of 1971, there were seven Herd Areas designated that have boundaries that lie within Carbon County. Those Herd Areas are Green Mountain, Stewart Creek/Chain Lakes, Bolten, Checkerboard South, Doty Mountain/Cherokee, Sand Creek East, and Sand Creek West. After further ground-truthing through resource planning efforts, there were only three HMAs identified that are partially located within Carbon County (Figure 25) (BLM, n.d.-d.). These include the Adobe Town HMA, Green Mountain HMA, and the Stewart Creek HMA and are further described below.



Adobe Town HMA

The Adobe Town HMA encompasses 478,875-acres in south-central Wyoming. The HMA is in the southwest part of Carbon County on the western border with most of the HMA in Sweetwater County. The HMA is primarily composed of public land managed by the BLM with small amounts of private land inclusions. The Rawlins Field Office manages the Adobe Town HMA which has an AML range of 610-800 head. As of 2017, the estimated Adobe Town HMA population was 1,123 horses. A gather in the fall of 2017 reportedly lowered the population level to within AML. The 2019 HMA Statistics Report listed the population at 994 horses. (BLM, 2019a; Bureau of Land Management, 2016b, 2017) The Adobe Town HMA is part of the April 2013 Consent Decree.

Green Mountain HMA

The Green Mountain HMA is part of the Red Desert Complex, managed jointly by the Rawlins and Lander Field Offices. The Green Mountain HMA spans 117,000 acres, just over 99,000 acres of which are public. A small portion of the HMA is located within the northwest corner of Carbon County west of Muddy Gap. The Green Mountain HMA AML is set at 130-300 horses. The Red Desert Complex AML is 481-725 horses. The estimated Red Desert Complex population in 2018 was 3,500 horses. A gather in the fall of 2018 was set to remove up to 2,670 horses, 1,170 of which would be removed from the Green Mountain HMA. The gather successfully removed a cumulative 1,442 horses. While other HMAs in the Red Desert Complex remained above AML, the Green Mountain HMA population was within AML, estimated at 258 horses in 2019. (BLM, 2016f, 2019a; Bureau of Land Management, 2018)

Stewart Creek HMA

The Stewart Creek HMA is in the northwest portion of Carbon County, south of Bairoil and northwest of Rawlins. Stewart Creek spans almost 168,000 acres and mostly encompasses BLM administered land. The AML for Stewart Creek is 125-175 horses. Stewart Creek is managed within the Red Desert Complex. In the 2018 gather, 2,670 horses were planned to be removed from the complex and 608 horses were planned to be removed from Stewart Creek HMA. Approximately half of the intended gather number was removed in the 2018 gather. As of 2019, the HMA population was 396 horses, or 226% of AML. The Stewart Creek HMA was last at AML in 2013. (BLM, 2016g, 2019a; Bureau of Land Management, 2018)

United States Forest Service

There are no wild horse Herd Areas or HMAs on USFS lands within the state of Wyoming.

Estray

In Title 11 Chapter 24 of Wyoming State Statute, estray is defined as “any animal found running at large upon public or private lands, fenced or unfenced, in Wyoming whose owner is unknown in the territory where found or the owner of which cannot with reasonable diligence be found, or that is branded with two (2) or more brands the ownership of which is disputed, neither party holding a bill of sale. An estray includes any animal for which there is not sufficient proof of ownership found upon inspection.” The entire Title 11 Chapter 24 Statute can be found [here](#)⁷⁷.



7.1.3 Resource Management Objectives (Wild Horses):

- A. Wild horses are managed for a viable, healthy herd resulting in the thriving natural ecological balance of other resources (including the standards and guidelines for rangeland health) and multiple uses as required by the Wild Free-Roaming Horses and Burro Act of 1971.
- B. Excess horses in herd management areas are gathered to reduce horse numbers to lower appropriate management levels to reduce the frequency of gathers while maintaining a thriving natural ecological balance.
- C. The Bureau of Land Management will declare that a gathering is necessary when wild horses are above appropriate management levels.
- D. Current herd management areas are not expanded, and additional herd management areas will not be created.
- E. Any stray livestock from public or private lands are immediately gathered and removed per Wyoming Statutes §§11-24-101 *et seq.*
- F. No long-term holding facilities are placed on public lands.
- G. The Bureau of Land Management will notify and consult with Carbon County whenever there is a proposal to either expand wild horses onto private land or create any wild horse-related holding facility.
- H. The Bureau of Land Management complies with the conditions of the Rock Springs Grazing Association/Bureau of Land Management Consent Decree.

7.1.4 Priorities (Wild Horses):

- 1. Any equine animal released from private individuals, tribes, or neighboring lands onto public lands after 1971 shall be considered as stray and be removed.
- 2. The Bureau of Land Management should not propose any enlargement or expansion of the current herd management areas boundaries nor the designation of any additional new herd management areas or herd areas.
- 3. Federal agencies should complete an inventory of wild horses on each herd management area at least every two years.
- 4. The Bureau of Land Management should use all means given to them under the Wild-Free Roaming Horses and Burros Act including short-and long-term fertility control, gathering, adoption, and destruction.
- 5. The Bureau of Land Management should encourage the creation of public education programs through the Extension Service to inform the public at large about the need to maintain healthy ecosystems and the differences between livestock, wild horse, and wildlife needs and impacts.
- 6. Support rulemaking to give the Bureau of Land Management (BLM), and those who adopt wild horses, additional options for the disposal of wild horses to allow BLM to meet their existing statutory requirements.
- 7. Any reduction in herd management areas size shall be completed with a proportional reduction in appropriate management level.
- 8. If livestock grazing animal unit months (AUMs) are temporarily reduced due to excess wild horses, once excess horses are removed, livestock grazing AUMs should be reinstated as soon as resources recover.



9. The Bureau of Land Management should not reduce cattle or sheep animal unit months in managing for rangeland health in allotments within any herd management area unless horses are at or below the low range of the appropriate management level for the herd management area.
10. When active use animal unit months (AUMs) are reduced in a grazing allotment due to drought or other resource conditions, proportional reduction of horses should be implemented in conjunction with cattle/sheep AUM reductions.
11. When a herd management area exceeds its appropriate management level, the Bureau of Land Management should take the appropriate action to decide that overpopulation exists in the herd management area and within 60 days of discovery, determine that action is necessary to remove excess animals.
12. The Bureau of Land Management should perform a gather within 6-months of declaring that a gather is needed.
13. Carbon County should be consulted if a proposal is made for long-term holding facilities for horses within the County.
14. Carbon County believes that wild horses on private lands are estray horses and if found on public lands outside the boundaries of a herd management area they should be recognized as estray.



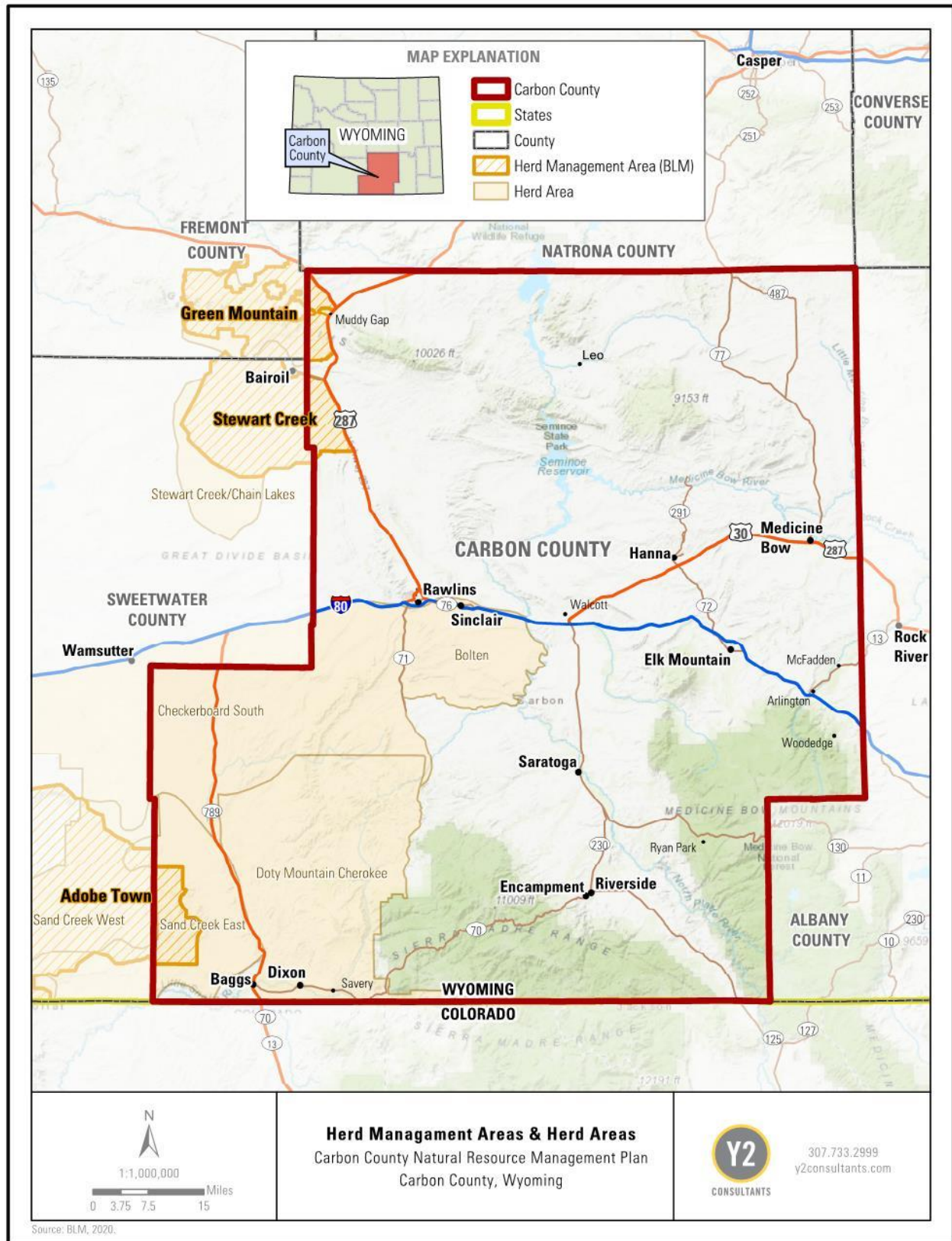


Figure 25. Herd Areas and Herd Management Areas (HMAs) within Carbon County.



CHAPTER 8: SOCIOECONOMICS AND SOCIETY

8.1 TOURISM AND RECREATION ON PUBLIC LANDS

8.1.1 History, Custom, and Culture

Tourism and recreation on public lands in Carbon County are significant contributors to the custom, culture, and economy of the area. Visitors travel to Carbon County to experience the peace, solitude, and quiet of the rivers, mountains, and deserts that make the County unique. Nowhere else will recreationists and tourists find a diversity of landscapes and wide-open spaces to explore pristine mountains, beautiful deserts, blue-ribbon rivers and streams, mineral hot springs pools, and trails including the Continental Divide Trail. In the early days of Carbon County, recreation and tourism revolved around activities such as hunting and fishing. Snow activities such as cross-country skiing, snowshoeing, and snowmobiling have also been long-time activities within the County.

Over time, tourism and recreation have remained centered around outdoor activities but have changed some in the County. Guest ranches, resorts, outfitters, and guides are now popular tourism attractions. Some agricultural operations have diversified to include recreation and tourism including outfitting. The use of motorized vehicles like off-highway vehicles (OHVs) for recreational use has significantly increased over the last several decades both for use as transportation to get to other recreational activities and as a recreational activity itself. Hunting and fishing are still highly sought-after opportunities within the County and bring people from other parts of Wyoming, and other states and countries.

8.1.2 Resource Assessment and Legal Framework

Carbon County is a tourism destination with ten historical museums and numerous historic sites, three public golf courses (Rawlins, Saratoga, Sinclair), guest ranches and hunting lodges, wildlife viewing opportunities, and authentic Western adventure. The Carbon County Tourism Board has created a brochure that lists two-to-three-day adventures around the different communities in Carbon County that tourists can follow to obtain the full experience each of these places has to offer. The brochure can be found [here](#)⁷⁸.

Tourism is extremely important to the local economy. In 2019, tourism in Carbon County employed approximately 1,530 people and brought approximately \$10.6 million in state and local tax revenue (\$4.6 million local, \$6 million state). On average in 2019, an overnight visitor to Carbon County spent \$181 per day and \$356 per trip and spent two nights. In 2017, approximately 761,000 people overnighted in Carbon County with that number increasing to 830,000 in 2018 (a 9.1% annual percent change), and 870,000 in 2019 (a 4.9% annual percent change). (Wyoming Office of Tourism, 2019)

Carbon County's landscape is a recreational haven. Amenities such as a bounty of wildlife, beautiful forests, and high-elevation deserts offer year-round outdoor recreational opportunities and are essential to County residents' way of life. Recreation, both motorized and non-motorized, is a critical economic drawing point for the County. Recreational opportunities on public lands within Carbon County include numerous activities throughout all four seasons. Popular summer



activities include hiking, mountain biking, fishing, wildlife viewing, boating, rafting, camping, bird watching, backpacking, rock climbing, horseback riding, and kayaking. Winter activities in the County include snowmobiling, cross-country skiing, snowshoeing, and even the occasional skijoring.

Still one of the most sought-after activities throughout the County is hunting and fishing. Hunting occurs for species such as elk, mule deer, pronghorn, moose, black bear, mountain lion, sage-grouse, trapping of furbearers, other grouse species, and other small game. Fishing occurs on most if not all the rivers, streams, and lakes within the County in some form. Many public access areas have been developed on private lands, in partnership with WGFD, to provide people the opportunity to fish the river or put their boats in to float and/or fish the river. In 2017, visitors spent over \$170.6 million while visiting Carbon County (Dean Runyan Associates, 2018). Hunting and fishing are major economic drivers for Carbon County. In 2015, hunters and anglers spent a combined \$26.7 million (\$19.9 million from hunters and \$6.8 million from anglers). Hunters spent 92,000 days hunting and anglers spent 58,000 days fishing (Wyoming Wildlife Federation, 2015). There are 65 different trails in Carbon County that span a total of 551 miles, that people can either drive, ride, and/or hike. The most well-known of these trails is the Continental Divide National Scenic Trail (CDNST) which spans from the Mexico border to the Canadian border following the Continental Divide. Many recreationists hike segments of the trail on day trips or short backpacking trips. Some are more adventurous and attempt to hike the entire 3,100-mile trail. The City of Rawlins has been designated as a gateway community on the CDNST and the town of Encampment is soon to be designated as a gateway community as well. These gateway towns highlight the trail and provide a known place for trail users to obtain supplies and amenities.

The use of OHVs is a common form of recreation across Carbon County. The use of OHVs increased 42% between 2001 and 2007 and has continued to increase since then. Between 1999 and 2001 Wyoming recorded the highest rates of OHV recreation in the country (Cordell et al., 2008). The increased use of such vehicles can bring in additional recreational revenue to the County but can also incur additional costs to public land managers for trail maintenance and the County for increased emergency management services and potential search and rescue services. Motorized vehicle (including OHVs, ATVs, and ORVs) use on public lands present unique challenges for management, including additional maintenance, increased fire potential, resource degradation, and trail user designations and management.

Camping is an extremely popular activity within Carbon County particularly during the spring, summer, and fall months. There are numerous campgrounds in Carbon County managed by a variety of federal and state agencies. Dispersed camping is also very popular and without any registration, makes it difficult to quantify the benefits or impacts. The list of developed campgrounds in Carbon County can be found below in Table 7.

Table 7. Developed campgrounds within Carbon County.

Campground Name	Managed By	Closest Town
Battle Creek Campground	USFS	Encampment



Bennett Peak Campground	BLM	Riverside
Bottle Creek Campground	USFS	Encampment
Bow River Campground	USFS	Elk Mountain
Corral Creek Recreation Site	BLM	Riverside
Deep Creek Campground	USFS	Arlington
Dugway Campground	BLM	Rawlins
Encampment River Campground	BLM	Encampment
French Creek Campground	USFS	Saratoga
Hog Park Campground	USFS	Encampment
Jack Creek Campground	USFS	Saratoga
Lazy Acres Campground	Private	Riverside
Lincoln Park Campground	USFS	Saratoga
Lost Creek Campground	USFS	Encampment
No BS RV Park	Private	Elk Mountain
Pike Pole/Pickaroon Campground	USFS	Albany
Prior Flat Campground	BLM	Medicine Bow
Rawlins KOA Journey	Private	Rawlins
Red Desert Rose Campground	Private	Rawlins
Ryan Park Campground	USFS	Saratoga
Saratoga Lake Campground	Town of Saratoga	Saratoga
Seminole State Park Campgrounds	Wyoming State Parks	Sinclair
Silver Lake Campground	USFS	Saratoga
Six Mile Gap Campground	USFS	Encampment
South Brush Creek Campground	USFS	Saratoga
Teton Reservoir BLM Campground	BLM	Rawlins
Western Hills Campground & RV Park	Private	Rawlins

8.1.3 Resource Management Objectives (Tourism and Recreation):

- A. Recreational resources within Carbon County are managed to promote access and availability to the public for both tourism and recreational uses while balancing sustainable resource health and taking other industries and uses into consideration.
- B. Access to public lands for tourism and recreation is continued within Carbon County.
- C. Recreational and tourism opportunities are promoted year-round within Carbon County.
- D. Carbon County is coordinated with regarding the conversion or creation of access roads and timber roads into recreational use or the closing or decommissioning of any road.

8.1.4 Priorities (Tourism and Recreation):

1. Promote responsible tourism and recreation through signage that explains the historical significance of areas, sites, and roads.
2. Federal agencies should coordinate with the County Chamber of Commerce, Carbon County Visitors Council, and Carbon County Economic Development Corporation to promote tourism and recreation within Carbon County.
3. Support and encourage a year-round multiple-use management approach on federal lands as a means of continuing and enhancing recreation opportunities within Carbon



County, so long as there is no negative impact to the County's mineral and agricultural industries.

4. Recreational activities recognized and supported by federal agencies should include facilities that are accessible to the public.
5. Support lawful motorized off-road access.
6. Support and maintain trails for non-motorized recreational activities (i.e., mountain biking, horseback riding, cross-country skiing) on public lands.
7. Federal agencies should notify Carbon County of any developed and/or dispersed campsite closures with an explanation for the closure and a timeline for reopening.
8. Support a funding mechanism from off-highway vehicles for improved enforcement and emergency response efforts.
9. Special recreation permit renewals and proposals by federal agencies shall be coordinated with Carbon County, as required by federal agency mandates.
10. Carbon County should be notified and given an opportunity to be a cooperating agency for all special recreation permit approvals and renewals.
11. Federal and state agencies should coordinate with Carbon County regarding fees for public land use areas within the County.
12. Recreational hunting and fishing, including big game hunting, small game hunting, fur trapping, and other recreational hunting that is a part of Carbon County's custom and culture are maintained at its traditional levels.

8.2 LAW ENFORCEMENT AND EMERGENCY RESPONSE

8.2.1 History, Custom, and Culture

Law enforcement and emergency response have been a necessity in Carbon County since its establishment. Fort Halleck was established in 1862, where it served as a base for soldiers to protect settlers journeying along the Overland Trail. In 1868, Fort Steele was established to protect the advancing transcontinental railroad where it crossed the North Platte River. (Van Pelt, 2014b)

In the late 1870s and 1880s, criminal activity and justice became great concerns of the residents of Carbon County as two deputies, Robert Widdoeffield and Tip Vincent, were murdered near Elk Mountain while tracking down outlaws that attempted to rob a train near Medicine Bow. In 1886, the Territorial Legislature appropriate \$75,000 for the building of a state penitentiary in Rawlins. The original Wyoming Frontier Prison was opened in 1901 and operated until 1981 when the "new" Wyoming State Penitentiary was opened. During its history, the Wyoming Frontier Prison incarcerated 13,500 people. (Van Pelt, 2014b)

Cattle rustling was common during the early history of Carbon County. Some ranchers started to take the law into their own hands as they became frustrated with the lack of court convictions for cattle rustlers. To this day, the Wyoming Livestock Board is responsible for law enforcement of cattle rustling throughout the State and partners with the Carbon County Sheriff's Department to aid in cases that transcend county and state boundaries. (Van Pelt, 2014b)



8.2.2 Resource Assessment and Legal Framework

Law Enforcement

Law enforcement is critically important to the citizens of Carbon County. Law enforcement in Carbon County includes actions on both public and private lands. Public lands within Carbon County are subject to law enforcement coordination when issues related to natural resource management and public lands arise, such as livestock theft or search and rescue operations. State law enforcement officials operating in Carbon County include Wyoming Highway Patrol, Wyoming Livestock Board, Wyoming Game and Fish Department Game Wardens, Wyoming Department of Criminal Investigation, and State Park Rangers. Federal law enforcement officials operating in Carbon County include BLM, USFWS, USFS, U.S. Marshals, and the EPA. As the use of public lands has increased, so has the need for law enforcement and coordination of federal law enforcement agents with the County Sheriff. The Carbon County Sheriff's Office has MOUs with both the BLM and USFS to clearly lay out the roles, responsibilities, and coordination of these federal agencies with Carbon County in law enforcement situations.

The Property Clause of the United States Constitution sets out the jurisdictional powers of state, local, and federal law enforcement officers on federal lands. Generally, federal lands have either proprietary or concurrent jurisdiction, meaning that local law enforcement is either the exclusive law enforcement agency in the area or that both local law enforcement and federal agency law enforcement share jurisdiction together to enforce laws on federal lands. Other federal lands, such as post offices or military bases have exclusive jurisdiction, and only the federal government may enforce federal laws within those areas (United States Constitution Article IV, Section 3, Clause 2). The Assimilative Crimes Act allows federal law enforcement agencies who lack an appropriate federal charge to use an appropriate state law in federal court whenever necessary (18 U.S.C. § 13).

FLPMA gives the BLM authority to retain BLM law enforcement officers who enforce federal law within BLM jurisdiction. Those officers have the authority to enforce federal laws but do not have the authority to enforce state laws without written authorization from the local law enforcement agency in charge. FLPMA and the BLM's regulations specifically give BLM law enforcement officers traditional police powers such as enforcing federal laws, carrying firearms, serving search warrants, making arrests with or without a warrant, and conducting searches of places or people with or without a warrant in accordance with applicable laws and seizing evidence. (BLM, n.d.-a)

NFMA gives the USFS similar law enforcement authority as the BLM. USFS law enforcement officers also have the authority to enforce federal laws and regulations within the national forests, but not state laws. Many of the USFS law enforcement regulations can be found in 36 C.F.R. Part 261. Their primary responsibility is "the protection of natural resources, protection of USFS employees and the protection of visitors." (USFS, n.d.-a)

The Wyoming Livestock Board is responsible for the protection of livestock interests in the State from disease and theft. Seven members are appointed by the Governor and approved by the Senate for six-year terms. The State is divided into "appointment districts" as set by the



Legislature. The Livestock Board Law Enforcement has several benefits that help with law enforcement regarding livestock in the County. These include:

- They are livestock law specialists;
- They can conduct casework across county lines;
- They collaborate with other states livestock investigators ;
- They partner with county Sheriff Departments on cases; and
- They provide training for other state law enforcement agencies.

There are five game warden regions within Carbon County: West Rawlins, East Rawlins, Baggs, Medicine Bow, Elk Mountain, and Saratoga. Game wardens enforce State statutes and Wyoming Game and Fish Commission regulations covering big game, game birds, waterfowl, trophy game, furbearers, small game, fish, nongame species, and watercraft. Game wardens can assist local and federal law enforcement as needed particularly during times of emergency such as wildfire evacuation.

Emergency Management

Natural Disasters

When a natural disaster is declared, the federal government, led by the Federal Emergency Management Agency (FEMA), responds at the request of and in support of States, Tribes, Territories, Insular Areas, and local jurisdictions impacted by a disaster. FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from natural disasters (Federal Register, n.d.).

In 2019, the Wyoming Region 3 (Albany and Carbon counties) [Hazard Mitigation Plan](#)⁷⁹ was updated. The plan assesses risk potential for different hazards including avalanche, drought, earthquake, flooding, geologic, severe thunderstorms (hail, lightning), tornado, wildland fire, wind/windblown deposits, winter storm/blizzards, communicable and infectious disease, dam failure, hazardous material release, and terrorism. The plan also ranks communities for each identified hazard. The ranking for each community within Carbon County can be found in the [Hazard Mitigation Plan](#)⁷⁹ on page 48. Building inventory and assets along with critical facilities are also discussed in the plan. The Hazard Mitigation Plan is updated every three years and updates to the plan can be found on the [Carbon County Website](#)⁸⁰. The plan also provides a mitigation strategy for these identified hazards. The 2019 mitigation goals are:

- a. Reduce the potential for injury and loss of life from natural and human-caused disasters.
- b. Minimize the potential for economic losses from natural and human-caused disasters.
- c. Reduce the impact of natural and human-caused disasters on critical infrastructure, communication systems, and facilities.
- d. Reduce the impact of natural and human-caused disasters on private property.
- e. Increase public outreach to raise awareness of hazard mitigation and potential funding sources. (Albany & Carbon County Emergency Management & Wyoming Office of Homeland Security, 2019)



Search and Rescue

Search and Rescue (SAR) is defined as the employment, coordination, and utilization of available resources and personnel in relieving distress, preserving life, and removing survivors from the site of a disaster, emergency, or hazard to safety in case of lost, stranded, entrapped, or injured people. The Wyoming Office of Homeland Security serves as the account manager for SAR programs and operates using guidance from W.S. 19, Chapter 13, Article 3, and the Wyoming Search and Rescue Council. The Wyoming Search and Rescue Council was established to assist Wyoming sheriffs, who are charged by state statute to conduct SAR operations. Council members are appointed by the governor.

The Carbon County SAR serves all of Carbon County and often works alongside Albany, Sweetwater, and other adjacent county responders. A map of the most recent SAR missions within Carbon County can be found [here](#)⁸¹.

Fire

Wildland fire within Carbon County is discussed in Section 3.4 Wildfire Management and Community Wildfire Planning along with the details of the Carbon County Community Wildfire Protection Plan (CWPP). The purpose of the CWPP is to identify and prioritize wildfire at-risk communities based on fire risk and make recommendations for reducing the chances of unplanned fire threatening these areas. The Carbon County Hazard Mitigation Plan also discusses fire management within Carbon County and is further described above in the natural disasters section. Carbon County has a county fire warden and ten fire departments include:

- Baggs Volunteer Fire Department
- Elk Mountain Volunteer Fire Department
- Encampment Riverside Volunteer Fire Department
- Hanna Fire Department
- Carbon County Fire Department
- Rawlins Fire Department
- Carbon County Fire Department Ryan Park Division
- Saratoga Volunteer Fire Department
- Sinclair Refinery Volunteer Fire Department
- Sinclair Volunteer Fire Department

Floodplains

Flood and floodplain management are important to the safety, economy, and ecological health of Carbon County. Flooding is a significant natural hazard within the state of Wyoming and can cause significant damage. From 1905 to 2015, there have been an estimated \$1.46 billion in damages across the state from flood damage (University of Wyoming, n.d.). Between 1960 and 2015 Carbon County experienced five flood events that incurred \$47,739 in property damage. Carbon County is categorized as 'Medium Risk' for flooding in the Wyoming State Mitigation Plan and all communities except Dixon and Sinclair are categorized as high risk in the 2019 Region 3 Hazard Mitigation Plan (Wyoming Office of Homeland Security, n.d.).



Carbon County along with the towns of Baggs, Dixon, Elk Mountain, Medicine Bow, City of Rawlins, Riverside, and Saratoga all participate and comply with the National Flood Insurance Program (NFIP) through enforcement of existing floodplain management requirements. Communities that participate in NFIP, and implement the floodplain management regulations are eligible for the FEMA Community Assistance Program – State Support Services (CAP-SSE) (FEMA, n.d.-a)). The CAP-SSE provides support and funding for strategic planning, ordinance assistance, technical assistance, mapping coordination, state program and agency coordination assistance, and general outreach and training (FEMA, n.d.-a). Where CAP-SSE provides general preparedness funding, planning, and management, the Risk Mapping and Assessment Planning (Risk MAP) projects develop high-quality maps and data to assess the factors contributing to increased risk of flooding in an area, and then develop plans to reduce risk (FEMA, n.d.-d). All communities in the County have been participating in the Risk MAP process and there are currently active Risk MAP projects within the County (FEMA, n.d.-c). For more information on flood hazard mapping within Carbon County refer to [FEMA's National Flood Hazard Layer](#)⁸² viewer (FEMA, n.d.-b).

8.2.3 Resource Management Objectives (Law Enforcement and Emergency Response):

- A. Public lands are managed for orderly use in coordination with the Carbon County Sheriff's office.
- B. The Carbon County Sheriff is the primary law enforcement official in Carbon County and all law enforcement activities in Carbon County are directed by the Carbon County Sheriff.
- C. State and federal agencies notify the Carbon County Sheriff regarding crimes on the lands they manage, respectively.
- D. Federal agencies cooperate with and notify the Carbon County sheriff of all investigative or prosecutorial activities.
- E. A Memorandum of Understanding is created between all federal agencies and the Carbon County Sheriff Department for law enforcement actions on federal lands.
- F. Emergency response regarding flooding is coordinated with the Carbon County Emergency Response Coordinator.
- G. Carbon County is coordinated with designating federal flood plains.
- H. Natural disaster (i.e., tornadoes, severe winter storms, floods, etc.) management and response are coordinated with Carbon County.
- I. Carbon County is the lead on fires that occur within Carbon County consistent with the annual Memorandum of Understanding.
- J. Carbon County is the lead for search and rescue efforts in accordance with Wyoming Statutes §§ 19-13-301, 19-13-302, and 19-13-304, and search and rescue efforts are unimpeded on all lands within Carbon County.

8.2.4 Priorities (Law Enforcement and Emergency Response):

- 1. All federal and state law enforcement actions within Carbon County shall be coordinated through the Carbon County Sheriff's Office.
- 2. All federal agencies should be aware of and make use of the Carbon County Hazard Mitigation Plan.



3. The Carbon County Sheriff's Office and County Emergency Management Coordinator shall be notified immediately when there is a life-threatening situation, criminal act, project structure failure, resource contamination, natural phenomenon (landslide, flood, and fire), and/or cultural resource site disturbance on public lands.
4. Federal agencies should coordinate all communication equipment with local and state law enforcement and emergency management.
5. Federal agencies should coordinate response and efforts to emergency situations with local and state law enforcement and emergency management.
6. The Wyoming Livestock Board will be notified of any livestock-related issue or investigation within Carbon County. The Wyoming Livestock Board's assistance will be requested as necessary with the Carbon County Sheriff serving as the lead.
7. Encourage all new law enforcement officers within Carbon County to participate in professional development/education opportunities offered by the Wyoming Livestock Board on Wyoming's livestock laws.
8. Law enforcement should protect the rights of the citizens of Carbon County.
9. Law enforcement should protect the health, safety, and welfare of the citizens of Carbon County.
10. Maintain adequate planning for the ability to provide law enforcement, emergency fire, rescue, and other services to visitors on public lands.
11. Use inter-local and inter-agency agreements to provide planning and funding of emergency services on public lands.
12. Support projects and encourage policies that manage stormwater run-off and flooding on public lands.
13. Carbon County should be consulted where flooding and stormwater run-off could impact or endanger Carbon County and its citizens.
14. Federal agencies should support the development of communication technologies (i.e., cell phone towers, internet, etc.) on public lands within Carbon County to ensure communications are available during natural disaster events.
15. Federal agencies shall coordinate with Carbon County should a natural disaster occur within Carbon County.

8.3 ECONOMIC AND SOCIOECONOMIC CONSIDERATIONS

8.3.1 History, Custom, and Culture

Natural and mineral resources have and continue to be important economic factors in Carbon County. Agriculture has been a main driver for the economy since the early history of the County. Livestock continue to be raised in the County but are not the major economic drivers they once were. Some agricultural operations have shifted to more diverse operations that include guest ranches and outfitters. Carbon County has and continues to be a haven for hunters, fishermen, and others who enjoy outdoor activities. (Van Pelt, 2014b)

The timber industry once was a large economic driver for Carbon County as timber was harvested for the railroad and transported down the river to make it easier to access. The timber industry has decreased significantly in more recent years, however, the sawmill in Saratoga, Saratoga



Forest Management, remains open and a large employer to that community. The sawmill provides lumber products and wood by-products.

Carbon County has experienced periodic ups and downs of its local economy, caused in part by the local and regional impact of energy development. The local economy has a few stabilizing influences such as employment opportunities created by the Wyoming State Penitentiary, the presence of a major east-west Interstate, and the continued operation of the Union Pacific Railroad. At the same time, Carbon County tends to lag behind state trends in household income, per capita income, and average wages. (WLC Engineering, Surveying & Planning et al., 2010).

8.3.2 Resource Assessment and Legal Framework

The economy of Carbon County relies on access to public lands and resources. In 2017, the total market value of livestock and crop sales were \$73,241,000. Livestock made up approximately 92% (\$67 million). There were 345 farms, totaling 2.8 million acres with the average farm size being 8,150 acres. Eighty-nine percent of the farms in the County were family farms. Approximately 95,767 cattle and calves were in Carbon County, 1,811 horses, 185 hogs, 681 meat chickens/layers/pullets, and 294 goats (these do not account for seasonal use of public land). Cattle and calves accounted for \$64.6 million of the total \$67 million in livestock sales. (USDA, 2017).

The Agriculture Census data does not adequately reflect the reliance to access on federal lands for these agricultural operations. There are significant limitations to create an excess of \$67 million in revenue from the private lands within Carbon County. The 2.1 million acres of BLM and 626,963 acres of USFS lands are necessary for the continuation of agriculture in Carbon County.

Carbon County is one of the top counties in the nation for the most natural gas wells drilled from 1980 to 2008. Most of these 2,530 wells are located west of Rawlins, northwest of Baggs, and in the southwest near the Carbon-Sweetwater county border. The developments have brought many jobs to the County and substantial revenues. However, due to the nature of the ebb and flow of the energy industry, this leads to many temporary jobs that fluctuate as energy prices fluctuate. The Sinclair Oil Refinery continues its operations today and remains one of the top employers in the County employing approximately 580 people in 2019.

Hunting, fishing, wildlife viewing, and outdoor recreation have always been a key part of Carbon County as described above in Section 8.1 Tourism and Recreation on Public Lands. Recent studies have shown that hunters, anglers, and wildlife viewers spend an estimated \$788 million in Wyoming, with the total economic importance up to \$1 billion in business activity. Wildlife-related activities account for an estimated 9,600 jobs in Wyoming with a total labor income of \$262 million. In Carbon County, hunters directly contributed around \$19 million.

Summary of Employment

From 1970 to 2018, the population in Carbon County grew from 13,485 to 14,971 people, an 11% increase. In this same time period, employment grew from 7,179 to 9,815, a 37% increase, and personal income grew from \$393.2 million to \$889.6 million, a 126% increase (Figure 26, Figure 27, and Figure 28) (Headwaters Economics, 2020b).



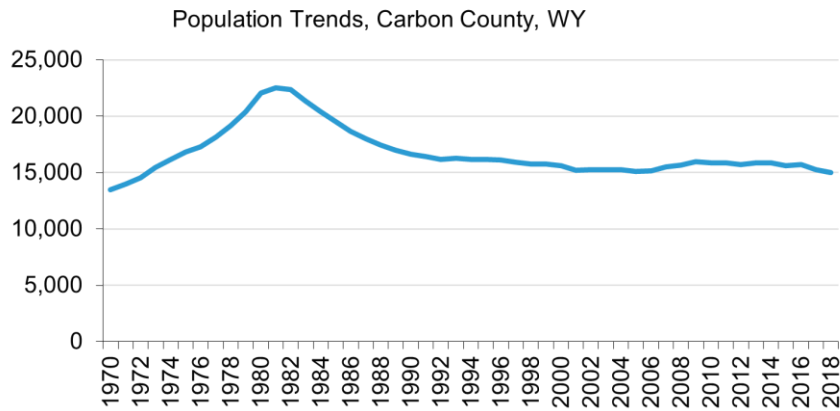


Figure 26. Population trends in Carbon County (Headwaters Economics, 2020b).

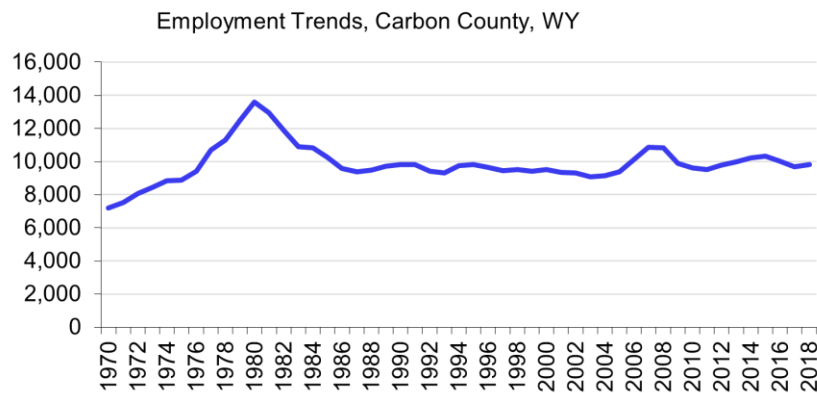


Figure 27. Employment trends in Carbon County (Headwaters Economics, 2020b).

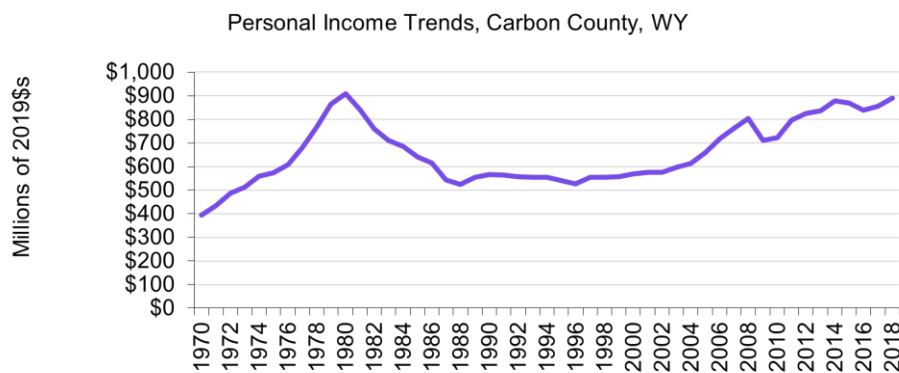


Figure 28. Personal income trends in Carbon County (Headwaters Economics, 2020b).

Employment by Industry (2000 – 2018)

Employment data are categorized using two different systems. From 1970-2000, the Standard Industrial Classification was used. Since 2001, industry-level data have been organized using the North American Industrial Classification System.

From 1970-2000, the three industry sectors that added the most new jobs were services, government, and retail trade (Figure 29) (Headwaters Economics, 2020b).

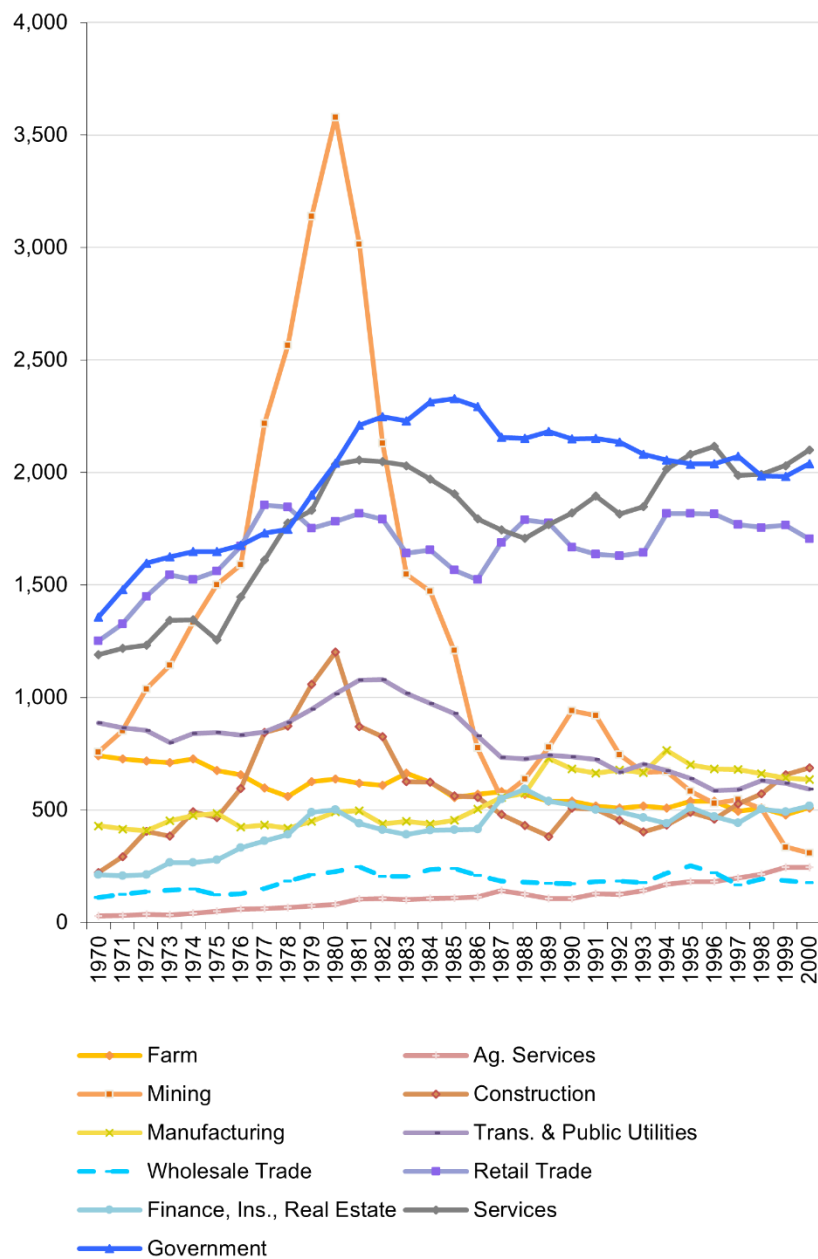


Figure 29. Employment by Industry in Carbon County from 1970-2000 (Headwaters Economics, 2020b).

From 2001 to 2018, total employment increased from 9,339 jobs to 9,815 jobs. Non-services-related jobs (e.g., farming, mining, and construction) increased 5% from 2,075 to 2,172. Service-related industries (e.g., transportation and warehousing, utilities, retail) increased 9% from 5,062 to 5,495. Since 2001, the three industry sectors that added the most new jobs were accommodation and food services, finance and insurance, and real estate/rental/leasing. (Figure 30) (Headwaters Economics, 2020b)

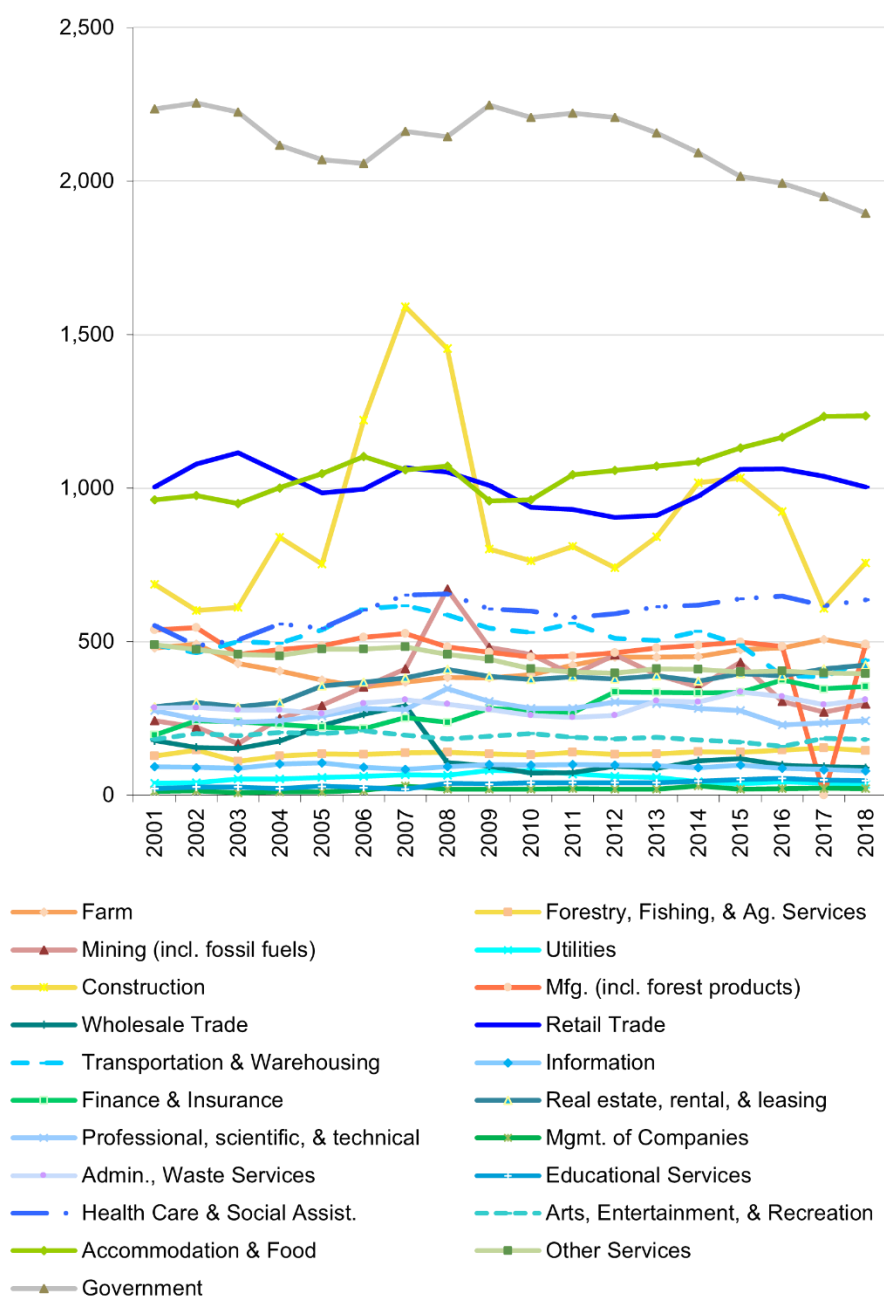


Figure 30. Employment by Industry in Carbon County from 2001-2018 (Headwaters Economics, 2020b).

Earnings by Industry (2000 – 2018)

From 1970 to 2000, the three industry sectors that added the most earnings to Carbon County were government, services, and finance/insurance/real estate (Figure 31). (Headwaters Economics, 2020b)

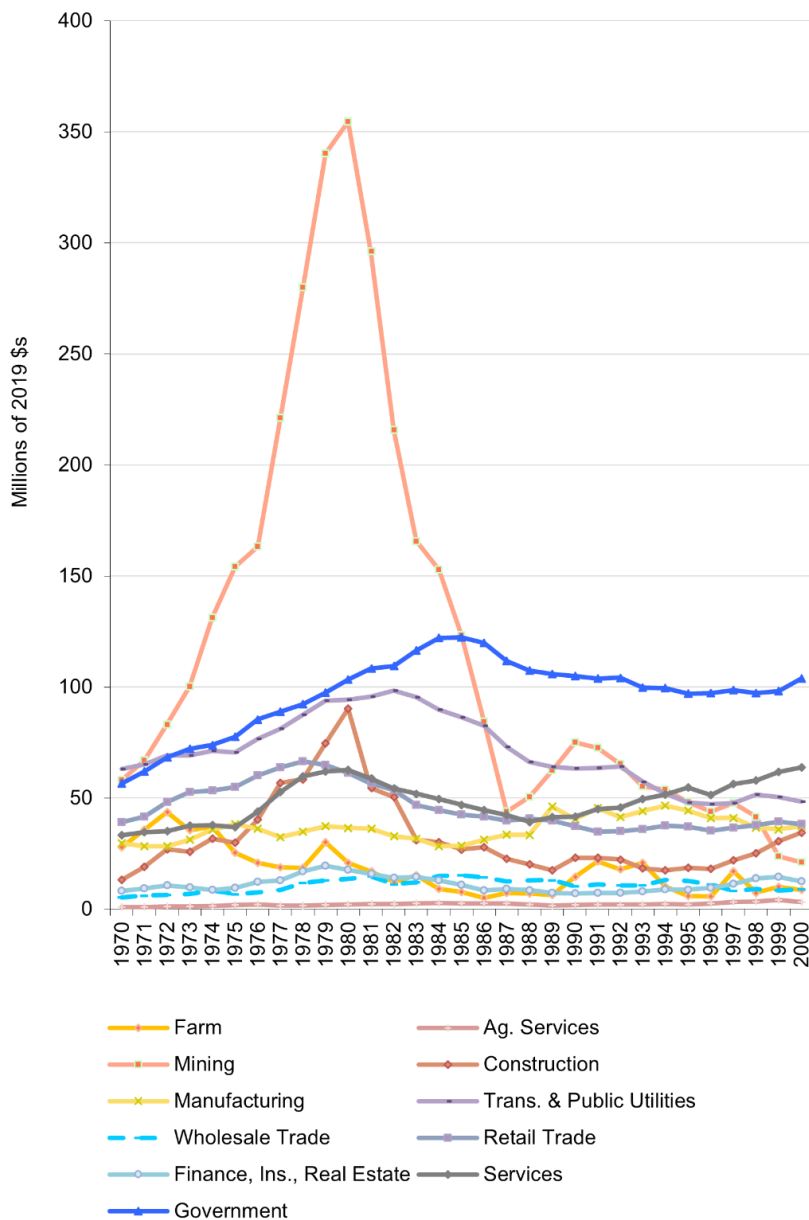


Figure 31. Earnings by Industry for Carbon County from 1970-2000 (Headwaters Economics, 2020b).

From 2001 through 2018, earnings in non-services-related industries grew from \$104.5 million to \$148.0 million, a 42% increase. Earnings in services-related industries grew from \$166.3 million to \$28.5 million, a 37% increase. In 2018, the three industry sectors with the largest earnings

were accommodation and food services, health care and social assistance, and government (Figure 32). (Headwaters Economics, 2020b)

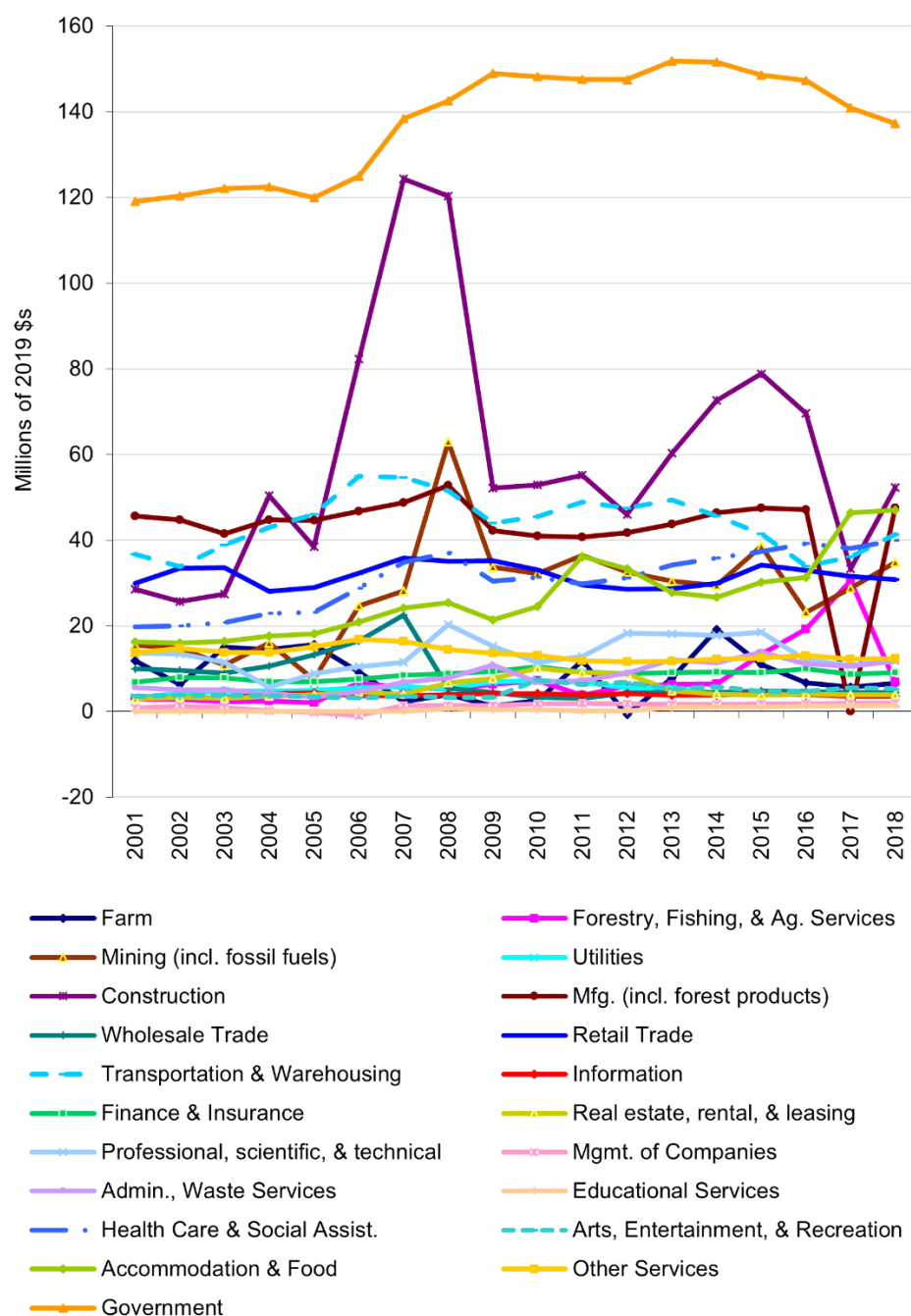


Figure 32. Earnings by Industry in Carbon County from 2001-2018 (Headwaters Economics, 2020b).

Employment and Wages by Industry (2019)

In 2019, 7,032 jobs had an average wage of \$49,886. Non-services-related jobs paid the highest (\$79,761) and services-related jobs paid the lowest (\$33,908). Trade, transportation, and utility

jobs employed the largest number of people (3,281) and the federal government employed the smallest (1,830 jobs) (Figure 33 and Figure 34). (Headwaters Economics, 2020b)

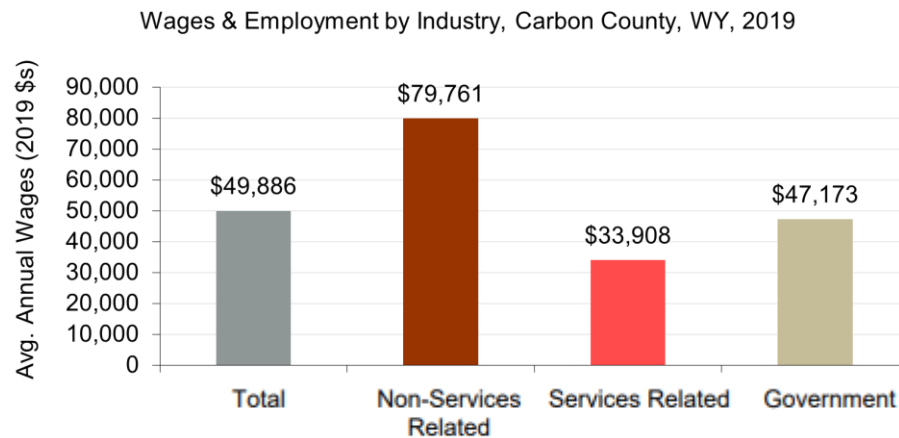


Figure 33. Wages and employment by industry for Carbon County in 2019 (Headwaters Economics, 2020b).

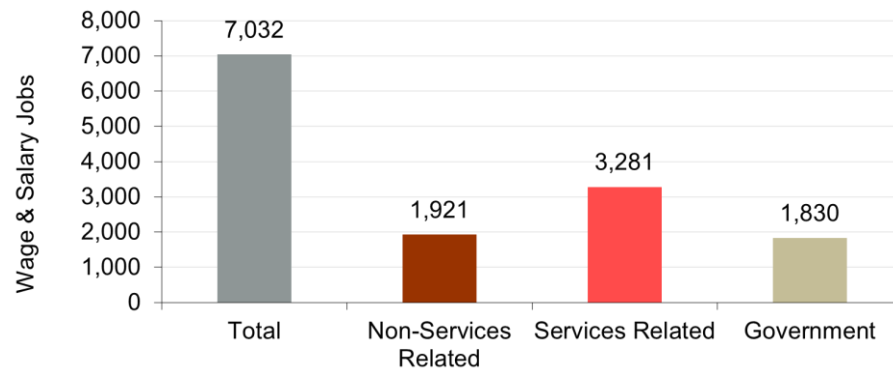


Figure 34. Wages and salary jobs for Carbon County in 2019 (Headwaters Economics, 2020b).

Employment Changes During Recessions (1976 – February 2020)

Five national recessions occurred between 1976 and 2010 and the most recent is occurring in 2020. From 1976 to February 2020, employment grew from 6,177 to 7,606 jobs, a 23% increase (Figure 35). (Headwaters Economics, 2020b)

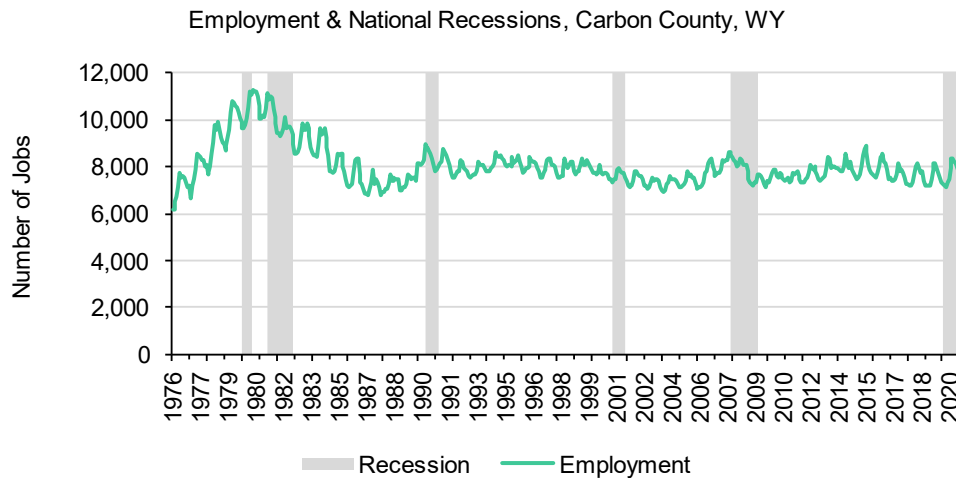


Figure 35. Employment trends during National Recessions for Carbon County (Headwaters Economics, 2020b).

Unemployment (1990-2020)

The annual unemployment rates from 1990 to 2020 are depicted in Figure 36 below. The highest unemployment rate over this time period was in 2010-2011, the lowest average annual unemployment was in 2007 (Headwaters Economics, 2020b).

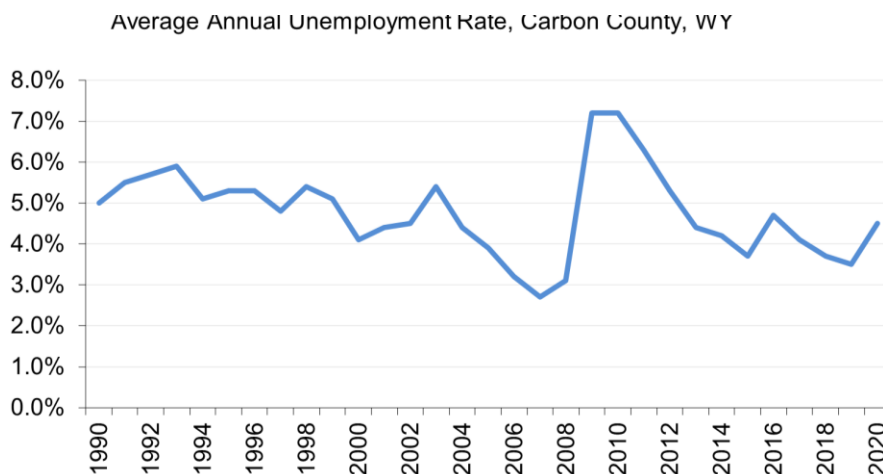


Figure 36. Average annual unemployment for Carbon County (Headwaters Economics, 2020b).

National Environmental Policy Act

NEPA can play a crucial role in the economic and socio-economic well-being of a community. NEPA applies to “every major Federal action significantly affecting the quality of the human environment” (42 U.S.C. § 4332(1)(C)). The courts have interpreted this to generally mean that every time the federal government decides for almost any action that may have an environmental impact, NEPA compliance is required. Some courts have even required agencies

to follow NEPA when the agency spends a small amount of money on a project or program that they are not the lead agency. *See e.g., Citizens Alert Regarding the Environment v. United States Environmental Protection Agency*, 259 F.Supp.2d 9, 20 (D.D.C. 2003). On July 16, 2020, the Council on Environmental Quality (CEQ) issued a final rule in the Federal Register finalizing major regulatory reforms to NEPA, including updated rules trying to clarify what is a “major federal action.”

On July 16, 2020, the Council on Environmental Quality announced major regulatory reforms to NEPA, including new rules trying to clarify what is a “major federal action.” *See* 85 F.R. 43304 (July 16, 2020). The CEQ regulations define a “Major Federal Action” as “an activity or decision subject to Federal control and responsibility” (40 C.F.R. § 1508.1(q)). However, those activities and decisions are limited to those decisions that are discretionary or in which the federal government has sufficient control and responsibility over the outcome of the project. *See id.* This means that those projects that the government has a minor role in are not included. Further, minor actions that typically do not have a significant effect on the human environment (such as allowing certain range improvements on a grazing allotment) are categorically exempt from NEPA (40 C.F.R. § 1508.1(d)).

NEPA requires that agencies undertake an environmental analysis to determine whether a federal action has the potential to cause significant environmental effects. If a proposed major federal action is determined to significantly affect the quality of the human environment, federal agencies are required to prepare an EIS. The regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA. NEPA does not mandate results or substantive outcomes. Instead, NEPA’s purpose is to “provide for informed decision making and foster excellent action” (40 C.F.R. § 1500.1(a)). Thus, NEPA ultimately does not require a specific result, but should be utilized to ensure that federal agencies “conduct environmental reviews in a coordinated, consistent, predictable, and timely manner, and to reduce unnecessary burdens and delay.” *Id.* at (b). Therefore, for an agency to be NEPA compliant, they need to make timely and coordinated decisions that are based on informed decision-making.

One of the greatest economic harms for a local community is the typical several-year delay of an important project due to NEPA. Since 2010, the average EIS completion time was approximately 4.5 years and averaged more than 600 pages. Even more disturbing, over a quarter of the EISs during that time span took more than 6 years to complete (Council on Environmental Quality, 2010). CEQ regulations now require that EAs not exceed 75 pages and one year to complete unless a senior agency official of the lead agency approves a longer period in writing and establishes a new time and page limit (40 C.F.R. § 1501.5, 1501.10). Similarly, CEQ regulations now require that EISs not exceed 150 pages (300 for proposals of unusual scope or complexity) and two years to complete, unless a senior agency official of the lead agency approves a longer period in writing and establishes a new time and page limit (40 C.F.R. § 1502.7).

To increase efficiency in the NEPA process, agencies are supposed to include cooperating agencies at the earliest time practicable to participate. Additionally, agencies are supposed to eliminate duplication of efforts by cooperating with local governments and form (1) joint

planning processes; (2) joint environmental research and studies; (3) joint public hearings; (4) joint environmental assessments (40 C.F.R. § 1506.2(b)). Further, agencies, unless specifically prohibited by law, allow local governments to be joint lead agencies in certain NEPA decisions and cooperate in fulfilling local government requirements that may not conflict with federal law. *Id.* at (c).

Environmental Justice

In February of 1994, Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” was signed and directed each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations” including tribal populations. Environmental justice mitigation measures must be outlined or analyzed in EA, Findings of No Significant Impact (FONSIs), EISs, and Records of Decisions. (EPA, 2015)

8.3.3 Resource Management Objectives (Economics and Socioeconomics):

- A. Carbon County has a strong and diverse tax base.
- B. Carbon County has low unemployment and residents are self-sufficient.
- C. Carbon County retains and preserves quality jobs.
- D. Carbon County is business-friendly and supports improved education, training, and advancing employment opportunities for people who choose to work in Carbon County.
- E. Federal agencies abide by the July 16, 2020, National Environmental Policy Act Guideline Standards.
- F. Federal agencies consider Carbon County’s socioeconomic and economic viability in all federal decisions.
- G. The socioeconomic and economic viability of Carbon County is protected and enhanced.
- H. Carbon County is consulted and coordinated with whenever an enforcement or management decision will impact the economy, tax base, or employment within the County.
- I. Federal agencies acknowledge Carbon County as an expert regarding the economic and social impacts of decisions and coordinate early with the County as a cooperating agency.

8.3.4 Priorities (Economics and Socioeconomics):

- 1. Carbon County should be consulted and coordinated with at the earliest time possible for any proposed action, change of existing activities, newly permitted activities, or changes in regulations that may affect the economic basis of the County.
- 2. Carbon County should be consulted by agencies or governmental entities setting any regulations or any proposed action to ascertain and more fully analyze the impacts to the individual communities and County.
- 3. Carbon County is an expert regarding the economic and social impacts of a decision and should be given the opportunity to be a cooperating agency and join the interdisciplinary team whenever a decision could impact the socioeconomic viability of the County.
- 4. Support continued access to natural resources development/use on federal lands to maintain economically viable communities in Carbon County.
- 5. Support “no net loss” in Carbon County’s economic base due to federal agency decisions.



6. Include Carbon County in all discussions regarding mitigation if necessary, to protect the economic base of the County.
7. Support the analysis of social and economic factors at the lowest possible level, such as on a County-wide basis, in addition to consideration on a state-wide or national scale.
8. Promote the economic and socio-economic growth of Carbon County.
9. Promote consultation and coordination between federal agencies and Carbon County regarding any issues and activities on public land that affect or influence the economic and socioeconomic viability of the County.
10. Local, state, and federal agency plans or management recommendations shall include an appropriately detailed socio-economic impact description that addresses the effects on Carbon County natural resources, economies, and health and welfare of Carbon County citizens.
11. Carbon County supports impact assistance opportunities and funding (i.e., sewer, water, fire, law enforcement, emergency, natural resource mitigation, etc.) as early in the industrial development process as possible.
12. Subject experts should complete socioeconomic analyses for proposed projects; the experts should be familiar with and focus on Carbon County's unique history, culture, economy, and resources.
13. Socioeconomic analyses should include a description of existing social, demographic, and economic conditions; the analytical methodologies used; and the impacts to topics including (but not limited to) population, employment, income levels, industry activity, housing, community services, utility services, schools, fiscal impacts to Carbon County and local jurisdictions, public revenues and expenses, transportation, and quality of life.
14. Federal agencies should promote multiple uses that will increase the economic diversity of Carbon County and promote efforts to efficiently analyze and approve the permitting process for those uses.
15. All federal agencies should follow the July 16, 2020, Council on Environmental Quality National Environmental Policy Act regulations, including following all deadlines and page limits for Environmental Impact Statements and Environmental Assessments and abiding by their coordination and cooperation obligations with local governments.
16. Payment in lieu of taxes funds and other federal funding mechanisms should be used to offset any loss in tax income resulting from land exchanges or purchases from federal agencies.
17. A full analysis of the impact each alternative and subsequent "decision" will have on the local economy should be conducted. If it is determined that the alternative will have significant negative impact on the local economy, the alternative/decision is not supported.

CHAPTER 9: AGRICULTURE

9.1 AGRICULTURAL PRODUCTION

9.1.1 History, Custom, and Culture

In the 1880s, sheep and cattle ranches began to establish in Carbon County. Sheep ranches were especially well known near Rawlins and many sheep ranchers ran their herds on the ranges of the Red Desert and the Great Divide Basin. Today, cattle ranches greatly outnumber sheep operations within the County due to decreased demand for wool and meat from sheep and higher demand for beef (Van Pelt, 2014b). Ranching and agriculture are vital to the custom and culture of Carbon County and remain strong economic industries. The cowboy way of life is often reflected in communities throughout the County with family, hard work, and community being core values.

Agricultural lands contribute to Carbon County's landscape and scenic beauty, provide wildlife habitat, and offer recreational opportunities for residents and visitors alike for hunting, fishing, snowmobiling, and other tourism-related activities. The agricultural industry has traditionally been viewed strictly as a commodity producer of food and fiber. Farmers and ranchers can also produce a variety of non-commodity ecosystem services for which markets do not exist. Such services may be valued by society, but direct payments and markets are not available yet to receive payment for this value.

Agriculture also provides another important product – open space. Open space offers landscapes, lifestyles, and wildlife habitats that are highly valued in Wyoming. Open space is particularly important because it determines the character of the land surrounding our communities. Out of economic necessity, most agricultural operations in the West cover large areas, and thus agriculture contributes substantially to maintaining open spaces on private ranch and farmlands. Agriculture open space in Carbon County contributes to many ecosystem goods and services. (Taylor, 2003)

Ecosystem goods and services include regulation functions, habitat functions, provisioning functions, and information functions. They produce the many life-sustaining benefits received from nature—clean air and water, fertile soil for agriculture production, pollination, climate regulation, water supply, waste treatment, recreation, biodiversity, cultural information, and flood control. These ecosystem services are important to environmental and human health and well-being, yet they are limited and often taken for granted. Farmers and ranchers constitute the largest group of natural resource managers in the world. (FAO, 2007)

9.1.2 Resource Assessment and Legal Framework

Agricultural land and its operation are significant contributors to the economic and social well-being of Carbon County and as an important conservation strategy to maintain wide open spaces. The 2017 Carbon County Census of Agriculture ranked Carbon County as seventh in the state for the market value of all agricultural products sold. Carbon County ranks fifth in the state for the market value of all livestock products, ranks third for the value of cattle and calves, fifth in



aquaculture, and ninth for hogs and pigs. Most of the revenue from cropland comes from hay and pastureland production. According to the 2017 census, 96% of cropland market value was designated as hay and other crops. In 2012 there were 2,069,008 acres of pastureland, including permanent pasture and rangeland (2,029,679 acres) and pastured crop and woodland. (Census of Agriculture, 2012; USDA, 2017)

The 2017 Census of Agriculture conducted by the U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS) is the 29th federal census of agriculture (completed every 5 years) and provides a detailed picture of U.S. farms and ranches. It is the leading source of uniform, comprehensive agricultural data for every state and county. The census definition of a farm is any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. Most commodity data are comparable between the 2017 and 2012 censuses. Dollar figures are expressed in current dollars and have not been adjusted for inflation or deflation. The market value of agricultural products sold represents the gross market value before taxes and reproduction expenses of all agricultural products sold or removed from the place in 2017 regardless of who received the payment. The market value of agricultural products sold does not include payments received for participation in other federal farm programs. The value of agricultural products sold was requested of all producers. If producers failed to report this information, estimates were made based on the amount of crops harvested, livestock or poultry inventory, or number sold. (Census of Agriculture, 2012; USDA, 2017)

In 2012, there were 319 farms in Carbon County, this increased to 345 farms in 2017. In 2017, the farms by size were reported as follows: twenty-nine at 1 to 9 acres, thirty-six at 10 to 49 acres, seventy-two at 50 to 179 acres, forty at 180-499 acres, twenty-one at 500 to 999 acres, and one hundred forty-seven at 1,000 acres or more. The 2012 market value of agricultural products in Carbon County totaled \$78,578,000. The 2017 market value of agriculture products in Carbon County totaled \$73,241,000. The 2017 market value of agricultural products sold showed 68% of the farms with the value of sales below \$100,000, 9.5% of the farms with the value of sales from \$100,000 to \$249,999, 11.5% of the farms with the value of sales from \$250,000 to \$499,999, and 11% of the farms with the value of sales of \$500,000 or more. (Census of Agriculture, 2012; USDA, 2017)

The 2012 estimated market value of agricultural land and buildings was \$1,335,681,710 for Carbon County and the estimated market value of livestock products was \$67,358,000. The 2017 estimated market value of agricultural land and buildings was \$1,547,805,585 for Carbon County and the estimated market value of livestock products was \$67,079,000. In 2017, there were 2,811,832 acres of farmland in Carbon County. Between 2012 and 2017, the number of farms increased by 8% and the average farm size increased by 10%, with an 18% increase for farmland in Carbon County. During this time, while the market value of products sold declined by 7%, the total farm production expenses dropped 20%, government payments increased by 17%, and the net cash farm income increased 223%. (Census of Agriculture, 2012; USDA, 2017)



Irrigated agricultural lands rely on the distribution of water from streams, rivers, and reservoirs through canals and pipelines. Some or all of these may reside on or pass through federal and/or state lands where permitting issues are triggered for maintenance and expansion. According to the U.S. Census of Agriculture, Carbon County had 187,434 acres of irrigated land, or 7% of the total farmland in the County (USDA, 2017). Flood irrigation is a common practice in the County and is important to agriculture operations, as well as for maintaining cool water return flows late in the summer and creating artificial wetlands (Saratoga-Encampment-Rawlins Conservation District, 2017). This makes the retention and proper management of water rights a priority for irrigation and agricultural operations across Carbon County. Refer to Sections 5.2.2 Water Rights and 5.2.3 Irrigation and Related Infrastructure above for more information. (Census of Agriculture, 2012; USDA, 2017)

Right to Farm Law

Right to farm laws have been enacted in all fifty states. These laws seek to protect qualifying farmers and ranchers from nuisance lawsuits filed by individuals who move into a rural area where normal farming operations exist, and who later use nuisance actions to attempt to stop those ongoing operations. Wyoming's right to farm law is known as the "Wyoming Right to Farm and Ranch Act."

The basis for these policy statements in this NRMP is to carry out the state law mandate to protect agricultural practices through the 'Right-to-Farm' statutes as listed below.

To protect agriculture as a vital part of the economy of Wyoming, the rights of farmers and ranchers to engage in farm or ranch operations shall be forever guaranteed in this state. (W.S. 11-44-104(a)) (National Agricultural Law Center, n.d.)

9.1.3 Resource Management Objectives (Agricultural Production):

- A. Agricultural production is maintained as a viable and important component of the economy, custom, and culture of Carbon County.
- B. Federal actions affecting agriculture are made in consultation with Carbon County.
- C. Ranching and agriculture are retained as the preferred land uses in rural areas within Carbon County.
- D. The agriculture custom and culture - value opportunities, resources, and communities are preserved within Carbon County.
- E. Agricultural operations on private and state lands, neighboring federal lands, are protected from impacts resulting from federal actions, decisions, and regulations.

9.1.4 Priorities (Agricultural Production):

- 1. Support all plans and policies that promote increasing the stability and expansion of agriculture (directly or indirectly), as well as encouraging innovative techniques that improve the efficiency of agriculture production.
- 2. Federal agencies should analyze the impacts between federal land holdings and existing private operations during any National Environmental Policy Act analysis.



3. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation is done properly and locally.
4. Support federal agencies in quickly processing permits on federal lands for the construction, maintenance, or expansion of irrigation distribution systems to private lands, and allowing maintenance where those rights already exist through a range improvement agreement.
5. Federal agency actions shall be consistent with Right to Farm laws, to the extent applicable. Right to Farm laws shall be considered when coordinating on federal land-use decisions.
6. Support production agriculture and the conscientious use of natural resources to sustain agricultural enterprises.
7. Any agricultural property damage, crop loss, or livestock injury/loss caused by an escaped prescribed burn, unsuccessful fire suppression efforts, or damage caused by government agency action, resulting in economic loss in Carbon County shall be considered justification for economic compensation and restoration by the responsible agency to the impacted property owner at current market values.
8. Promote the use of watershed best management practices (BMPs) by federal agencies to mitigate water pollution from heavy erosion and sedimentation from public lands and permitted projects on public lands, and to work with local conservation districts in accomplishing these BMPs.
9. Encourage agricultural operations within Carbon County and promote their sustainability.
10. Federal agencies should, in conjunction with ranch owners/managers, local, state, and federal planning partners, develop economically sustainable strategies to maintain working ranches within Carbon County.
11. Federal planning-level and project-level National Environmental Policy Act documents will properly characterize and analyze the area, recognizing the benefit of ecosystem services provided by working ranches to adjacent or nearby public lands.
12. Any agricultural property damage, crop loss, or livestock injury/loss caused by a fire, resulting in economic loss in Carbon County shall be considered justification for economic compensation and restoration to the impacted property owner at current market values.
13. Federal agencies should conduct projects to remove conifers and/or sagebrush in areas where they have encroached to improve the diversity of vegetation.

9.2 LIVESTOCK AND GRAZING

9.2.1 History, Custom, and Culture

The rangeland resources in Carbon County have been heavily relied upon for livestock grazing, energy development, recreation, and other uses. In the early 1880s, sheep and cattle ranchers started to homestead throughout the County. Many sheep ranchers ran their herds on the ranges of the Red Desert and Great Divide Basin while cattle ranchers would utilize the lower elevation rangelands for spring and fall feed and move their herds into the more forested areas for summer. Energy development in the form of coal mining along with oil and gas development has also long occurred on the rangelands of Carbon County. The first coal mines in Carbon County were started in the 1880s and to this day energy development continues to be a significant economic factor in the area. (Van Pelt, 2014b)



The vegetation in Carbon County has evolved under grazing and periodic fire since the beginning of time. Grazing in the region began to shape the modern vegetation we see today around 18,000 years ago in the Pleistocene. These grazers included ancient muskox, pronghorn, Pleistocene bighorn sheep, ancient bison, camels, prehistoric horses as well as mammoths. Additionally, there were predators such as wolves, American cheetahs, American lions, wolverines, short-faced bears, and eventually humans who used fire to manage grazing. (Martin & Gilbert, 1978; US National Park Service, 2015)

Eventually, these species were replaced by the wildlife we know today. Wildlife, wildfire, and early humans continued to shape the vegetation across the state. In the late 1600s to mid-1700s, Indigenous Peoples obtained the modern horse from the Spanish and became pasture managers as well as wildlife managers, manipulating the vegetation and animal populations. Fire was an integral part of vegetation management and helped form the ecosystems of today.

Livestock grazing has been a major industry in Carbon County since early settlement. It continues to be a vital part of the custom and culture of the County as well as a critical economic driver. The most efficient operations use a combination of private and federal lands. Historically, ranchers across Wyoming have grazed animals on open ranges and mountains on federal and state lands during summer months and moved the stock to private lands during the winter months where livestock can be fed hay produced from the irrigated pastures. Such operations are some of the most efficient, sustainable, and economically productive for producing livestock. Permitted grazing on public lands is a critical piece of livestock operations in Carbon County. The intermingled BLM and private lands allow ranching to continue in the County. With less than 40% of the total land in the County under private ownership, access to public lands is critical to the continued ability to maintain the ranching community and the viability of the County.

The contribution of the ranching industry to the County goes beyond the critical economic livestock sales. Studies in similar counties have shown ranchers tend to spend most of their dollars in the County they reside in on fuel, food, supplies, and equipment. Ranchers are also highly involved in their communities. A thriving agriculture industry helps maintain local economies. (Miller & Heaton, 2015)

9.2.2 Resource Assessment and Legal Framework

There are 369 BLM and 44 USFS grazing allotments in Carbon County encompassing approximately 3.8 million acres and 661,034 acres respectively (Figure 37). Much of the federal land in the northern portion of the County is laid out in a checkerboard pattern of alternating sections of private and federal land or intermixed with private and state lands, the southern portion of the County has a few larger areas of block public lands. When federal land management policies are enacted, they influence the management of the associated private land. Many management challenges accompany the checkerboard federal and private lands, including access, land use, water rights, and grazing rights (Saratoga-Encampment-Rawlins Conservation District, 2017). Private lands that are encompassed in a grazing allotment have restrictions for use just like the federally managed land. Grazing management on public lands can vary greatly depending on special designations. Special designations such as wilderness, WSAs,



and national forests allow grazing. Refer to Section 3.3 Special Designation and Management Areas for additional information regarding special designation areas.

With the federal agencies managing most of the rangeland in the County, ranchers must rely on obtaining federal grazing leases. Most of the rangeland and riparian zones in the County support an understory or periodic cover of herbaceous or shrubland vegetation amenable to rangeland management principles or practices. The principal natural plant cover is composed of native grasses, forbs, and shrubs that are valuable as forage for livestock, big game, other wildlife, and pollinators. Rangelands in the County consist of sagebrush steppe, small grasslands, desert shrublands, riparian zones, and wet meadows. The soil and climate of Carbon County make most of the land best-suited for grass and shrub production, rather than farming.

Many of the forested grazing leases are highly productive but with limited forage available due to dead and downed timber causing accessibility issues for livestock and wildlife. Low-productivity rangelands make for a narrow profit margin. When agencies make a management decision without considering the economic impact on a rancher or a group of ranchers, operations and the community can be impacted. When federal agencies reduce permitted livestock numbers for any operator, their entire operation is impacted, especially economically. Any reduction in livestock on federal lands directly affects the economy and culture of Carbon County.

Reduction in livestock numbers on federal lands can be a result of natural factors, including wildfire and drought. The primary factors in determining livestock grazing capacity on public land are the availability of the resources. Proper grazing management is an important tool for the management of rangeland resources, and can be used to mitigate invasive species impact, wildfire impact, and can improve rangeland health. In addition to the widescale reduction of fuels that grazing can induce, the BLM has also shown success in using targeted grazing as a management tool to slow down and stop range fires, as well as reduce the size of fires in grazed areas. (Idaho Rangeland Resource Commission, 2016)

Livestock grazing, irrigated farming, and other intensive agriculture practices are integral to Carbon County's ability to remain viable with a diverse and sustainable economy. Ranching and agricultural operations maintain open space and large landscapes to support multiple uses.

Taylor Grazing Act

The Taylor Grazing Act (TGA) of 1934 (43 U.S.C. 315) established the Grazing Service, which eventually became known as the BLM. Local BLM grazing advisory boards created an adjudication process to determine where, when, and what type of livestock grazing could occur on public rangelands. To receive an allotment through this process, the stockman had to have (1) "commensurate base property" on which he could graze his livestock when they were not using the federal lands, (2) have an economically viable livestock operation, and (3) be members of the local community and support the local stability of the community (43 U.S.C. § 315b). The TGA gives individuals the right to apply for grazing permits on federal lands based upon the ownership of qualified base property (43 U.S.C. § 315(b)). The purpose of the TGA is "to stabilize, preserve, and protect the use of public lands for livestock grazing purposes..." (*Barton v. United States*, 609



F.2d 977 (10th Cir. 1979)). As the court in *Public Lands Council v. Babbitt*, explained, “Congress enacted the [TGA], establishing a threefold legislative goal to regulate the occupancy and use of the federal lands, to preserve the land and its resources from injury due to overgrazing, and ‘to provide for the orderly use, improvement, and development of the range’” (154 F.3d 1160, 1161 (10th Cir. 1998)). Once a grazing district is established, grazing must occur on the land (See generally, *Mountain States Legal Foundation v. Andrus*, 499 F.Supp. 383 (D. Wyo. 1980))(holding that the intent of FLPMA was to limit the ability of the Secretary of the Interior to remove large tracts of public land from the operation of the public land laws). Further, Congress intended that once the Secretary established a grazing district under the TGA, the primary use of that land should be grazing ((*Public Lands Council v. Babbitt*, 167 F.3d 1287, 1308 (10th Cir. 1999) *aff’d on other grounds*, 529 US 728 (2000)). The Secretary can modify the boundaries of a grazing district, but unless land is removed from designation as grazing, or the TGA designation is terminated, the Secretary must use it for grazing (43 U.S.C. § 315).

When modifying the boundaries of a grazing district or terminating the TGA designation of an allotment, the Secretary must classify the land as no longer “chiefly valuable for grazing” (May 13, 2003, Solicitor’s Memorandum to the Assistant Secretaries for Policy, Management and Budget, Land and Minerals Management and the Director, Bureau of Land Management, clarifying the Solicitor’s Memorandum M-37008 (issued October 4, 2002)). Thus, a permittee may relinquish a permit but, barring the Secretary determining that there is a better use for the land through land-use planning, the forage attached to the permit must be available for grazing. Thus, except upon the showing that the land is no longer “chiefly valuable for grazing,” the Secretary does not have the discretion to bar grazing within a grazing district and must therefore review applications for grazing permits and make a final decision in a timely fashion when they are filed.

Wyoming Standards for Healthy Rangelands

According to the Department of the Interior’s final rule for grazing administration, effective August 21, 1995, the Wyoming BLM State Director is responsible for the development of standards for healthy rangelands and guidelines for livestock grazing management on 18 million acres of Wyoming’s public rangelands. The development and application of these standards and guidelines are to achieve the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR § 4180.1). Those four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets State standards; and (4) habitat for special status species is protected. (BLM, 1997)

Standards address the health, productivity, and sustainability of the BLM administered public rangelands and represent the minimum acceptable conditions for the public rangelands. The standards apply to all resource uses on public lands. Their application will be determined as use-specific guidelines are developed. Standards are synonymous with goals and are observed on a landscape scale. They describe healthy rangelands rather than important rangeland byproducts. The achievement of a standard is determined by observing, measuring, and monitoring appropriate indicators. An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles (BLM, 1997). Guidelines provide for and guide the development and



implementation of, reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM-administered public lands. (BLM, 1997)

These management practices will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes. Appropriate guidelines will ensure that the resultant management practices reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, like standards, apply statewide. (BLM, 1997)

Implementation of the Wyoming standards and guidelines will generally be done in the following manner: Grazing allotments or groups of allotments in a watershed will be reviewed based on the BLM's current allotment categorization and prioritization process. Allotments with existing management plans and high-priority allotments will be reviewed first. Lower priority allotments will be reviewed as time allows or when it becomes necessary for BLM to review the permit/lease for other reasons such as permit/lease transfers, permittee/lessee requests for change in use, etc. The permittees and interested public will be notified when allotments are scheduled for review and encouraged to participate in the review. (BLM, 1997)

The review will first determine if an allotment meets each of the six standards. If it does, no further action will be necessary. If any of the standards are not being met, then a rationale explaining the contributing factors will be prepared. If livestock grazing practices are found to be among the contributing factors, corrective actions consistent with the guidelines will be developed and implemented before the next grazing season in accordance with 43 CFR 4180. If a lack of data prohibits the reviewers from determining if a standard is being met, then a strategy will be developed to acquire the data in a timely manner. (BLM, 1997)

Continuingly, the Standards for Healthy Rangelands will direct on-the-ground management on the public lands. They will serve to focus the ongoing development and implementation of activity plans toward the maintenance or the attainment of healthy rangelands. (BLM, 1997)

Quantifiable resource objectives and specific management practices to maintain or achieve the standards will be developed at the local BLM District and Resource Area levels and will consider all reasonable and practical options available to achieve desired results on a watershed or grazing allotment scale. The objectives shall be reflected in site-specific activity or implementation plans as well as in livestock grazing permits/leases for the public lands. These objectives and practices may be developed formally or informally through mechanisms available and suited to local needs (such as Coordinated Resource Management efforts). (BLM, 1997)

The development and implementation of standards and guidelines will enable on-the-ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This



development and implementation will also enable immediate attention to be brought to bear on existing resource concerns. (BLM, 1997)

Grazing Flexibility

Flexibility for grazing is allowed under 43 CFR § 4130.3-2 (f) which states “Provision for livestock grazing temporarily to be delayed, discontinued or modified to allow for the reproduction, establishment, or restoration of the vigor of plants, provide for the improvement of riparian areas to achieve proper functioning condition or for the protection of other rangeland resources and values consistent with objectives of applicable land use plans, or to prevent compaction of wet soils, such as where delay of spring turnout is required because of weather conditions or lack of plant growth”. Grazing flexibility is conducted through individual grazing permits and coordination with the local permitting authority.

The BLM recently implemented an initiative known as Outcome-Based Grazing Authorizations (OBGAs). The initiative is designed to offer a more collaborative approach between the BLM and its partners within the livestock grazing community when issuing grazing authorizations. The purpose behind OBGAs is to improve BLM’s management of grazing on public lands by offering livestock operators greater flexibility to respond more readily to changing on-the-ground conditions, such as drought or wildfire. This will better ensure their ability to manage ranching operations that are economically sustainable while also providing healthy rangelands and high-quality wildlife habitat. Decreasing the response time to changing field conditions is one of the primary goals of the demonstration project. The program highlights BLM’s commitment to partnerships, vital to managing sustainable, working public lands.

The flexibility outcome-based grazing provides is to support:

- Enhanced partnerships for managing livestock grazing;
- Implement grazing based on conservation performance and ecological outcomes rather than hardline metrics;
- Improvement, management, and/or protection of public lands within a grazing allotment or specified geographic area; and,
- Continued achievement or attainment of positive economic and social outcomes.

As part of the initial implementation program, eleven ranches across the west were selected as pilot projects for OBGAs. The projects on these specific ranches are being used to share experience and demonstrate or develop best practices to be considered in other BLM grazing permit renewals. One of the pilot projects is located in Carbon County. As part of the process, the pilot projects developed goals and objectives as part of their permit (often including goals and objectives for ecological, social, and economic aspects of the operation). A monitoring plan was also required for the pilot projects that laid out short-term and long-term monitoring objectives to capture the results of the increased flexibility. Range improvements were also identified as part of the OBGA pilot projects to help with the ability to become more flexible on the different operations. Several of the pilot projects are into the implementation phase, while several others are still working through the NEPA process for approved grazing permits. The

information acquired through these pilot projects will allow for recommendations for regulatory modifications that could better provide for the ability to issue OBGAs that maximize and normalize the use of flexibility to address changing conditions. The BLM and its partners will not only share the responsibility for reaching the mutual objectives of this project but also for monitoring its success.

Range Improvements

BLM Range Improvements

All range improvements on BLM lands must be authorized by the agency. There are two options for authorization: A Cooperative Range Improvement Agreement or a Range Improvement Permit. The Cooperative Range Improvement Agreement identifies how the costs of labor, materials, and maintenance are divided between the agency and the permittee. Range Improvement Funds can be used for labor, materials, and final survey and design of projects to improve rangelands. The Range Improvement Permit requires the permittee or lessee to provide full funding for the construction and maintenance of the improvement. NEPA analysis is not required for normal repair and maintenance of range improvements that are listed on a term grazing permit; permission of the authorized officer is also not required. However, for the reconstruction of a range improvement or construction of new improvements, NEPA analysis and a decision by the authorized officer are required. Range improvements such as water developments benefit wildlife in addition to livestock. (43 C.F.R. Part 4100)

USFS Range Improvements

All range improvements on USFS lands must be authorized by the agency. The USFS allows structural improvements (e.g., fencing) and non-structural improvements (e.g., change in management practices). Any requirements for permittee construction or development of range improvements are identified in the grazing permit with credits for improvements (if any) to be allowed toward the annual grazing fee. It is a common practice for the USFS to furnish materials and the permittee to provide labor for structural improvements. If significant costs are expected, the permittee can assume responsibility for the improvement (maintenance) but the USFS generally holds title to the improvement. Should the improvement not be adequately maintained, the USFS can take action against the permittee for non-compliance with their grazing permit. Range Betterment Funds are available for planning and building rangeland improvements. (USFS, 2005)

9.2.3 Resource Management Objectives (Livestock Grazing):

- A. Livestock grazing is maintained as a viable major component of the economy, custom, and culture of Carbon County.
- B. Wyoming Standards for Healthy Rangelands are used as the basis for administering livestock grazing on Bureau of Land Management and United States Forest Service managed lands within Carbon County.
- C. Range improvement projects are approved in a timely manner.
- D. Conservation Districts within Carbon County are consulted early in the scoping process whenever a proposed decision will impact grazing, local agriculture producers, or the economy.



- E. Federal lands within Carbon County are managed for multiple-use and sustained yields, which includes continued grazing as intended by Congress in the passage of the Taylor Grazing Act, Federal Land Policy and Management Act, Multiple Use-Sustained Yield Act, and the National Forest Management Act.
- F. Federal decisions affecting grazing use the best available credible data, with localized baseline and monitoring data given heavier weight than regional, state, or national data.
- G. Support the use of grazing flexibility and outcome-based grazing for all grazing permit renewals and allotment decisions where appropriate within Carbon County.
- H. The full amount of animal units months on Bureau of Land Management and United States Forest Service lands within Carbon County are available.

9.2.4 Priorities (Livestock and Grazing):

1. Federal agencies should recognize the Society for Range Management as the professional organization for rangeland management expertise.
2. Any allotments that have been turned back to a federal agency should be reissued within 1-year in coordination with Carbon County and local conservation districts.
3. Livestock grazing management decisions shall be made based solely on the best available scientific information that is applicable to the rangeland resources in Carbon County. The scientific information and credible data used shall be consistent with standards of the Data Quality Act and legally collected.
4. Livestock grazing management plans should incorporate goals and objectives that maintain the health, safety, and general welfare of Carbon County's agricultural interests culturally and economically.
5. Support livestock grazing on all federally owned and operated lands within Carbon County as an integral part of habitat management.
6. Federal agencies should utilize adaptive and flexible grazing management practices and include them in term permits to allow for management practices that will decrease fuel loads on the landscape, particularly in areas with a heavy grass understory.
7. When a grazing allotment is in non-use, it shall be made readily available for other permittees to utilize. If there is a resource concern on that allotment, the grazing plan should acknowledge the concern and utilize the livestock as a tool to help in recovery if feasible. If the allotment is in non-use and the range is in good condition, the grazing plan must fully utilize all adjudicated grazing animal unit months.
8. Range improvements should not be considered a major federal action and therefore not require detailed National Environmental Policy Act analysis and should fit within a categorical exclusion. Proposed range improvements should be approved in six months or less.
9. The individual that files for an improvement/development permit on the Bureau of Land Management shall be allowed to manage the resource and the permit shall be in their name if it is approved.
10. The individual that files for an improvement/development permit on United States Forest Service should be allowed to manage the resource and the permit should be in their name if it is approved.



11. Support creation of adaptive grazing management plans that allow permittees to respond to changes in resource conditions. These plans should include focused monitoring, triggers and responses, and alternative management actions.
12. The reduction of domestic livestock grazing animal unit months to provide additional forage for another species or strictly for conservation purposes is not supported.
13. The reduction of domestic livestock grazing animal unit months for the benefit of another “multiple-use” is not supported.
14. Animal unit months on federal lands shall not be reduced unless a documented resource condition indicates a need for temporary reduction to improve rangeland condition as determined by a Wyoming Standards for Healthy Rangelands and Guidelines Assessment.
15. Any reduction in animal unit months (AUMs) should include a plan to reinstate AUMs when the resource condition has been addressed.
16. Fully processing all term grazing permit renewals in a timely manner is a priority of the citizens of Carbon County.
17. All federal and state land management agencies shall use the most current ecological site descriptions developed by the Natural Resource Conservation Service as they become available for all livestock grazing management decisions.
18. When evaluating an alternative and decision, federal agencies should analyze impacts to neighboring private and state grazing operations.
19. Support consultation, cooperation, and collaborative efforts to ensure that overall rangeland health is being maintained through monitoring and implementation of well-designed livestock grazing management plans on all public land allotments.
20. Carbon County recommends no loss of adjudicated preferential grazing rights, including but not limited to, active and suspended animal unit months of state and federal lands while maintaining and improving the resource.
21. Carbon County supports proper and appropriate livestock grazing practices as a tool for the sound management of private, state, and federal lands.
22. Carbon County supports the use of cooperative monitoring Memorandums of Understanding so that private or consultant data can be collected and approved by the land management agency if the land management agency is unable to collect data or the supplementary data would prove beneficial.
23. Support reclamation of disturbed range and pastureland sites using best available practices, which may include the seeding of non-native species depending on the circumstance where appropriate and beneficial for soil and land conservation.
24. Support proper grazing practices and stocking rates to help improve watershed conditions in rangeland settings.
25. Support use of all valid animal unit months (AUMs) on federally managed lands and support increased AUMs when warranted.
26. Any allotment not formally removed from grazing with the Secretarial classifications as no longer “chiefly valuable for grazing” shall be used for grazing.
27. Support continued use of livestock grazing in Wilderness Areas, Wilderness Study Areas, and all special use designation areas where appropriate.
28. Support the continuation or reinstatement of prior existing grazing lease rights in Wilderness Areas and Wilderness Study Areas as required by Federal Land Policy and



Management Act.

29. Support continuation of all currently grazed federal lands regardless of future special lands designations.
30. Federal agencies' National Environmental Policy Act analysis should acknowledge and recognize that proper livestock grazing management is a beneficial habitat management tool.
31. Encourage Bureau of Land Management grazing permit renewals to incorporate increased grazing flexibility while maintaining the condition of the range to Wyoming Standards for Healthy Rangelands.
32. Support Bureau of Land Management grazing permit renewals to use outcome-based grazing authorizations where appropriate.
33. Support and expand appropriate and proper grazing practices on federal lands outlined in the Taylor Grazing Act and set forth in local Bureau of Land Management Resource Management Plans or United States Forest Service Land and Resource Management Plans.

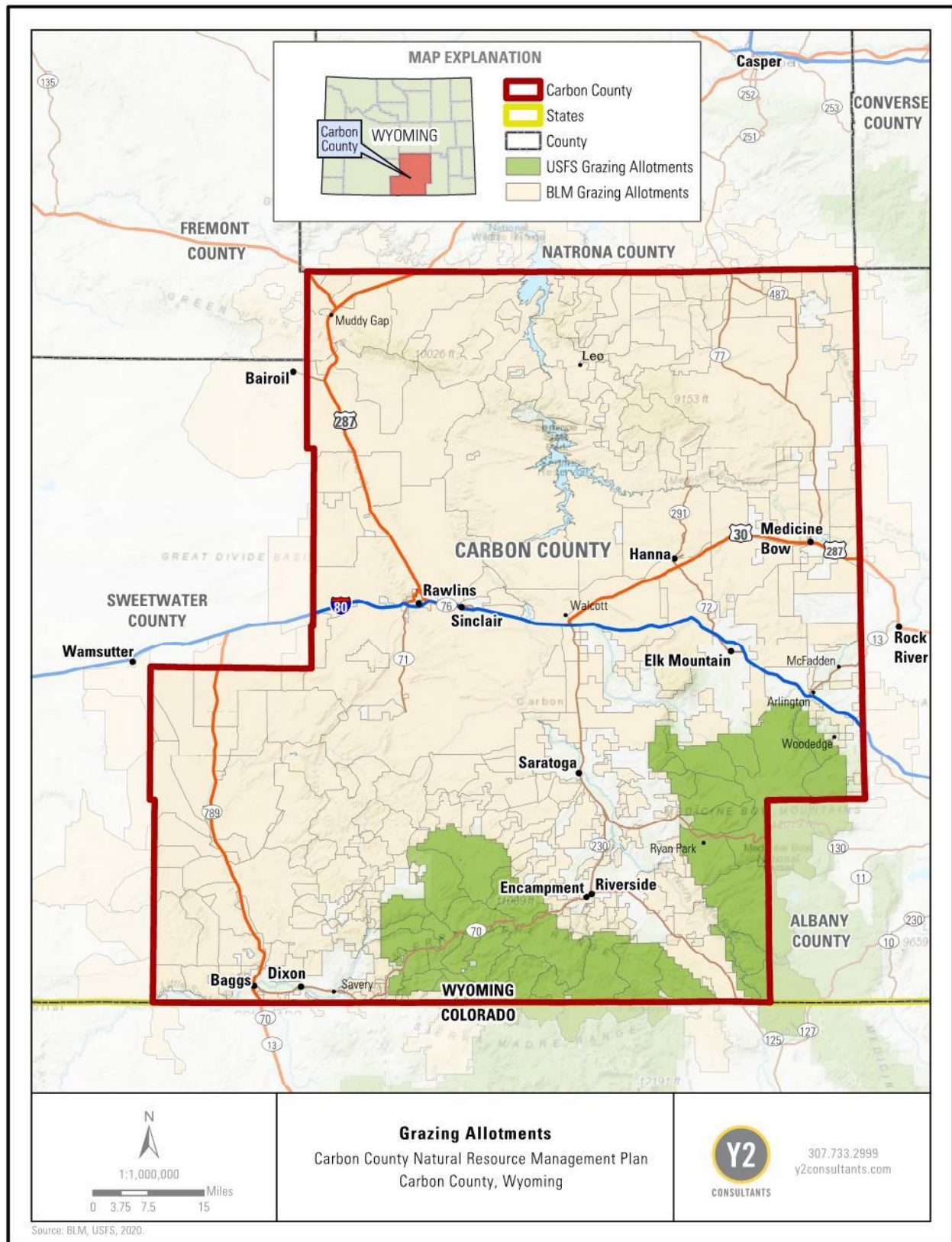


Figure 37. Carbon County grazing allotments (2020).

9.3 NOXIOUS WEEDS/INVASIVE SPECIES/PESTS

9.3.1 History, Custom, and Culture

Carbon County has traditionally practiced weed and pest control to increase the productivity of the various lands within the County and to promote the health, safety, and general welfare of the residents of the County. To do so, a fundamental goal of weed and pest management has been to hold each of the various property owners and managers in the County responsible for the control of the weeds and pests on their land.

Carbon County, by and through the Carbon County Weed and Pest (CCWP), has cooperative agreements and MOUs with the state and federal agencies. Various programs are being directed to weed and pest management; including, but not limited to the National Undesirable Plant Management Act (7 U.S.C. § 2814).

9.3.2 Resource Assessment and Legal Framework

Invasive species and pest management is defined as the ability to control species and pests (plant and animal) that interfere with management objectives. An invasive species can be a native or non-native species that is occurring where it is not wanted, in unwanted numbers that may result in negative economic impacts. Species that are native to an area can act as an invasive when growing rapidly within, or taking over, an ecosystem or environment that they do not belong.

The term Noxious Weed is a legal term indicating that by law the species must be controlled. Failure to comply with the Noxious Weed laws may result in legal action. Ongoing programs to identify locations of all noxious weeds and pests and initiate management and/or eradication efforts will continue. State law provides for cooperation with the federal agencies in controlling noxious weeds and pests on all federally managed lands. Current control tactics include but are not limited to: education (plant identification, life cycles, mapping infestations, etc.); prevention (cleaning equipment, buying quality seed, rangeland management, early detection, and control, etc.); mechanical and physical controls (burning, mowing, cultivation, rotating land uses, establishment of desirable competitive plants, etc.); biological (grazing, parasites, pathogens, etc.); chemical (herbicides, weed oils, plant growth regulators, etc.); law enforcement (remedial requirements, hearings, etc.); training (private and commercial applicator training and certification, etc.); rodent control (minimize disease threats and control losses); and Board of County Commissioners actions (emergency declarations, budgeting, public meetings, etc.) (Wyoming Weed and Pest Council, n.d.). Cooperative agreements and legal actions, if warranted, may be utilized to assure the protection of vital land resources from noxious weed and pest occupation or invasion.

The Wyoming Weed and Pest Act of 1973, as enacted by the legislature of Wyoming, establishes the guidelines for creating Weed and Pest Control Districts and the regulations which govern the districts. Within the Act, the composition of districts is defined at W.S. § 11-5-103:

“All land within the boundaries of Wyoming including all Federal, State, private and municipally owned lands, is hereby included in the weed and pest districts within the County in which the land is located.”



The act also specifically defines which weeds and pests are designated as weeds and pests in W.S. § 11-5-102. The Weed and Pest Act of 1973 in W.S. § 11-5-109 also spells out enforcement provisions that could result in heavy fines if persons are convicted.

“A landowner who is responsible for an infestation and fails or refuses to perform the remedial requirements for the control of the weed or pest [...] may be fined. [...] Any person accused under this act is entitled to a trial by jury.” (W.S. §11-5-109e)

Funding for a long-term strategy implementing weed and pest control tactics has been lacking. Various state and federal agencies support weed and pest management by utilizing funds from discretionary or general fund sources. This only secures short-term funding for specific weed and pest infestations that generally last no more than one season. In recent years drought conditions have led state and federal agencies to focus funds on fighting and protecting against wildfires rather than weed and pest management.

CCWP is working to suppress and eradicate all federally-designated, state-designated, and Carbon County declared weeds and pests. CCWP also manages programs for hay and gravel weed-free certifications, chemical cost share, equipment rental, mosquito abatement, biocontrol, spray days, and Early Detection and Rapid Response. Additionally, CCWP is pursuing efforts to educate the public about invasive species and pests that are a threat to Carbon County. (CCWP, 2019b)

The declared noxious weed species for Carbon County are:

- Wyeth Lupine (*Lupinus wyethii*)
- Halogeton (*Halogeton glomeratus*)
- Geyer Larkspur (*Delphinium geberi*)
- Common Cocklebur (*Xanthium strumarium*)
- Prickly Pear (*Opuntia* spp.)
- Mosquito (*Culicidae* family) (CCWP, 2019a)

The current federal noxious weeds list is maintained on the [USDA Plants Database](#)⁸³ (NRCS, 2019).

While not listed as a noxious species in the state due to its widespread distribution, cheatgrass (*Bromus tectorum*) and other annual bromes lumped under this common name are a serious threat in Carbon County. This annual grass has reduced the productivity of native range plants and accelerated fire cycles within the County. While widespread control of the species is impossible, all efforts should be made to minimize its potential to take new footholds.

In addition to these plants, aquatic plants like hydrilla (*Hydrilla verticillata*), Eurasian watermilfoil (*Myriophyllum spicatum*), curly pondweed (*Potamogeton crispus*), and didymo (rock snot) (*Didymosphenia geminata*) are of concern. Several animal species are also of concern such as aquatic invasive species like zebra and quagga mussels (*Dreissena polymorpha*, *Dreissena bugensis*), New Zealand mudsnail (*Potamopyrgus antipodarum*), Asian carp (*Cyprinus* spp.), and



rusty crayfish (*Orconectes rusticus*). Almost all of these species can have a negative impact on irrigation structures if they become established and they can clog up or break down irrigation structures (ISAC, 2016). White pine blister rust (*Cronartium ribicola*), pine borers (*Dendroctonus* spp.), and spruce bud worms (*Choristoneura* spp.) can also be problematic invaders in the forested regions of the County. Several agricultural pests exist that can negatively impact the agricultural regions of the County.

Juniper encroachment is also of concern within Carbon County, as juniper are expanding into the sagebrush ecosystem. The encroachment of conifers into rangeland can reduce rangeland diversity and productivity thus affecting wildlife habitat and grazing. This can reduce important sagebrush habitat for species such as sage-grouse and mule deer. To a lesser extent, sagebrush encroaches into riparian areas and can alter riparian ecosystems as well, affecting wildlife habitat. The expansion of decadent and older age class sagebrush can also be harmful to rangelands as it affects diversity and productivity.

Invasive species can outcompete native species reducing rangeland health. Invasive species can also create monocultures that cause an increase in fine fuel loads thus increasing the risk of fire. Intensive management of these vegetation communities will enhance and sustain multiple uses and increase rangeland productivity.

United States Forest Service

The USFS has a [National Strategic Framework for Invasive Species Management](#)⁸⁴ that provides broad and consistent strategic direction across all USFS Deputy Areas and agency programs. It also describes how the National and Regional Invasive Species Issue Teams will coordinate activities with the USFS and with Federal, State, and local partners. It lays out the framework for prevention, detection, control and management, and restoration and rehabilitation on USFS lands. (USFS, 2013a)

Bureau of Land Management

The BLM has a Record of Decision (ROD) for [a Final Programmatic EIS for National Vegetation Treatments using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM lands](#)⁸⁵ completed in 2016 and tiers to the [2007 Final Programmatic EIS for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States](#)⁸⁶. The BLM keeps the National Invasive Species Information Management System database which provides a comprehensive tool for managers to use to standardize the collection of invasive species and treatment data. The database can be found [here](#)⁸⁷.

The BLM also recognizes the PlayCleanGo Campaign which is an educational outreach program to protect valuable natural resources while encouraging the public to enjoy the great outdoors. PlayCleanGo promotes awareness, understanding, and cooperation by providing a clear call to action to be informed, attentive, and accountable for stopping the spread of all invasive species. (NAISMA, n.d.)

9.3.3 Resource Management Objectives (Noxious Weeds/Invasive Species/Pests):

- A. Noxious and invasive species are managed, in coordination with Carbon County Weed and Pest District, in a sustainable and effective manner that uses credible data addressing the biology and ecology of the pest and system.
- B. Federal agency projects include actions for the prevention, early identification, detection, and aggressive treatments for noxious and invasive species throughout Carbon County.
- C. Federal agencies coordinate and communicate all invasive, noxious, pest, or weed management actions with the Carbon County Weed and Pest District.
- D. Carbon County Weed and Pest District are consulted on all federal projects' weed management plans.

9.3.4 Priorities (Noxious Weeds/Invasive Species/Pests):

- 1. Federal agencies should identify that invasive species can be native or nonnative plants, animals, aquatic species, or insects.
- 2. Federal agencies should support and encourage control efforts to be focused on the control of all federal, state, and Carbon County declared weeds and pests.
- 3. Carbon County requires coordination with other local, state, and federal agencies to allow Carbon County Weed and Pest District road access across state and federal lands to access infestations on public and private lands, as is required for the suppression of invasive species and pests.
- 4. Federal agencies should support and encourage cooperative efforts with state, other federal, and private landowners/managers to enhance efficient cooperative weed and pest management efforts countywide as required by agency mandates; coordinated with, and primarily managed by, the Carbon County Weed and Pest District.
- 5. All property owners/managers, including state, federal, and private owners/managers within Carbon County, shall be responsible for controlling invasive species and pests on their property to minimize movement onto adjacent lands to the extent required by federal law and the Wyoming Weed and Pest Act.
- 6. Federal agencies should encourage prescribed grazing to control invasive, noxious, and nuisance plant species within Carbon County.
- 7. Federal agencies should support habitat enhancement projects that have a defined and funded weed control and monitoring plan for the anticipated life of the enhancement.
- 8. Support the federal agencies' development of environmental analysis to expand weed and pest control options.
- 9. Encourage implementation of federal and local Weed Management Plans, including mapping of all noxious weed populations and pest populations.
- 10. Support federal monitoring efforts to accurately identify the extent of noxious weed infestations, and the identification of dispersal mechanisms where possible.
- 11. Support the prevention and management of aquatic nuisance species (i.e., zebra mussels, quagga mussels) and other invasive species on all waters within Carbon County.
- 12. Support education programs for public and private land users regarding all possible vectors of weed spread.
- 13. Support preparation and compliance with a plan including ensuring adequate funding to control noxious weeds on federal lands.

14. Support the use of aerial devices (i.e., drones, fixed-wing, helicopters, and other aircraft) for weed monitoring and control where feasible.
15. Support herbicide use in Wilderness Areas and Wilderness Study Areas within Carbon County.
16. Support cooperative efforts with state, federal, and private land managers to enhance cooperative weed management efforts countywide, coordinated with and primarily managed by the Carbon County Weed and Pest District.
17. Encourage all federal actions to include a weed management plan that prevents weed seed and aquatic invaders from being brought on-site and includes monitoring and treatment from pre-construction through operational phases.
18. Federal agencies should develop or incorporate an invasive and noxious species list that corresponds with the State of Wyoming and Carbon County including prairie dogs.
19. Invasive, noxious, and pest species as listed by the State of Wyoming should be managed to maintain the Wyoming Standards for Healthy Rangeland.
20. Federal agencies should conduct projects to remove conifers and/or sagebrush in areas where they have encroached to improve the diversity of vegetation.
21. Aquatic weeds (example Elodea, Coontail, Algae, etc.) that restrict waterways, canals, ditches, and recreational waters should be managed and controlled.

REFERENCES

- Albany & Carbon County Emergency Management, & Wyoming Office of Homeland Security. (2019). *2019 Wyoming Region 3 Hazard Mitigation Plan*. http://www.carbonwy.com/DocumentCenter/View/5340/WY-R3-2019-HMP_Final
- APHIS. (n.d.). *USDA APHIS | Wildlife Services*. Retrieved September 18, 2019, from https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_Program_Overview
- ASWM. (n.d.-a). *Law & Policy*. Associate of State Wetland Managers. Retrieved March 10, 2020, from <https://www.aswm.org/wetlands-law>
- ASWM. (n.d.-b). *Wetland Programs*. Associate of State Wetland Managers. Retrieved March 10, 2020, from <https://www.aswm.org/wetland-programs>
- Bartos, T. T., Hallberg, L. L., Mason, J. P., Norris, J. R., & Miller, K. A. (2006). *Water Resources of Carbon County, Wyoming*. 206.
- BLM. (n.d.-a). *Programs: Public Safety and Fire: Law Enforcement: Laws and Regulations | Bureau of Land Management*. Retrieved November 20, 2020, from <https://www.blm.gov/programs/public-safety-and-fire/law-enforcement/laws-and-regulations>
- BLM. (n.d.-b). *Programs: Wild Horse and Burro: About the Program: Myths and Facts | Bureau of Land Management*. Retrieved December 18, 2020, from <https://www.blm.gov/programs/wild-horse-and-burro/about-the-program/myths-and-facts>
- BLM. (n.d.-c). *Seminole to Alcova Backcountry Byway* [Text]. Retrieved August 21, 2020, from <https://www.blm.gov/visit/seminole-to-alcova-backcountry-byway>
- BLM. (1997). *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management*. [file:///C:/Users/BreeL/Downloads/PublicRoom_Wyoming_StandardsandGuidelinesforHealthyRangelands1997%20\(1\).pdf](file:///C:/Users/BreeL/Downloads/PublicRoom_Wyoming_StandardsandGuidelinesforHealthyRangelands1997%20(1).pdf)
- BLM. (2006). *Roads and Trails Terminology Technical Note 422*. https://www.blm.gov/sites/blm.gov/files/documents/files/Library_BLMTechnicalNote422.pdf
- BLM. (2007, March). *Atlantic Rim Natural Gas Development Project—Wyoming—Rawlins FO*. <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=64748>
- BLM. (2008). *Rawlins BLM Record of Decision and Approved Resource Management Plan*. https://eplanning.blm.gov/public_projects/lup/63197/78288/250011200/05_Record_of_Decision_and_Approved_Rawlins_RMP.pdf
- BLM. (2011). *Cave Creek Cave ACEC mgt plan.pdf*. https://eplanning.blm.gov/epl-front-office/projects/lup/63197/94661/114318/Cave_Creek_Cave_ACEC_mgt_plan.pdf
- BLM. (2013). *RMP_Maint_action_BlowoutPenst_BO_2013.pdf*. Google Docs. https://drive.google.com/file/d/1HxLyvLyWFk7DuLnX6LNzBml36tpjDC36/view?usp=drive_web&usp=embed_facebook
- BLM. (2016a). *Continental Divide-Creston Natural Gas Development Project ROD*.



- BLM. (2016b, September 11). *Programs: Planning and NEPA: Planning 101: Special Planning Designations: Areas of Critical Environmental Concern* [Text]. <https://www.blm.gov/programs/planning-and-nepa/planning-101/special-planning-designations/acec>
- BLM. (2016c, September 30). *Programs: National Conservation Lands: About: Wilderness* [Text]. <https://www.blm.gov/programs/national-conservation-lands/wilderness>
- BLM. (2016d, October 2). *Programs: Natural Resources: Wetlands and Riparian: Riparian Health* [Text]. <https://www.blm.gov/programs/natural-resources/wetlands-and-riparian/riparian-health>
- BLM. (2016e, November 3). *Programs: Cultural Heritage and Paleontology: Archaeology: What We Manage: Wyoming* [Text]. <https://www.blm.gov/programs/cultural-heritage-and-paleontology/archaeology/what-we-manage/wyoming>
- BLM. (2016f, November 22). *Programs: Wild Horse and Burro: Herd Management: Herd Management Areas: Wyoming: Green Mountain HMA* [Text]. <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/herd-management-areas/wyoming/green-mountain>
- BLM. (2016g, November 22). *Programs: Wild Horse and Burro: Herd Management: Herd Management Areas: Wyoming: Stewart Creek HMA* [Text]. <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/herd-management-areas/wyoming/stewart-creek>
- BLM. (2017a, June 19). *Programs: National Conservation Lands: Wyoming: Bennett Mountain WSA* [Text]. <https://www.blm.gov/programs/national-conservation-lands/wyoming/bennett-mountain-wsa>
- BLM. (2017b, June 20). *Programs: National Conservation Lands: Wyoming: Encampment River Canyon WSA* [Text]. <https://www.blm.gov/Programs/National-Conservation-Lands/Wyoming/Encampment-River-Canyon-WSA>
- BLM. (2017c, June 20). *Programs: National Conservation Lands: Wyoming: Ferris Mountain WSA* [Text]. <https://www.blm.gov/programs/national-conservation-lands/wyoming/ferris-mountain-wsa>
- BLM. (2017d, June 20). *Programs: National Conservation Lands: Wyoming: Prospect Mountain WSA* [Text]. <https://www.blm.gov/programs/national-conservation-lands/wyoming/prospect-mountain-wsa>
- BLM. (2018). *Rawlins BLM Blow Out Penstamon ACEC Final Decision Record*.
- BLM. (2019a, May 2). *2019 Herd Area Herd Management Area Statistics*. https://www.blm.gov/sites/blm.gov/files/2019_Final_HAHMA_Stats_05022019_final_508.pdf
- BLM. (2019b, October 21). *Bureau of Land Management announces another milestone for Chokecherry and Sierra Madre Wind Energy Project* [Text]. <https://www.blm.gov/press-release/bureau-land-management-announces-another-milestone-chokecherry-and-sierra-madre-wind>
- BLM. (2020). *Wyoming Pipeline Corridor Initiative Project*. <https://eplanning.blm.gov/eplanning-ui/project/1502028/510>
- BOR. (n.d.-a). *Kortes Dam*. Retrieved June 4, 2020, from <https://www.usbr.gov/projects/index.php?id=114>



- BOR. (n.d.-b). *Pathfinder Dam*. Retrieved February 2, 2021, from <https://www.usbr.gov/projects/index.php?id=212>
- BOR. (n.d.-c). *Seminole Dam*. Retrieved June 4, 2020, from <https://www.usbr.gov/projects/index.php?id=233>
- Budd-Falen, K. (2018). *Local Government Participation in Federal Agency Decision Making*.
- Bureau of Reclamation. (2018, August 5). *The Bureau of Reclamation- A Very Brief History [Government]*. Reclamation History. <https://www.usbr.gov/history/borhist.html>
- Bureau of Land Management. (2005). *BLM Handbook 2200-1 Land Exchange Handbook*. <https://www.blm.gov/sites/blm.gov/files/h2200-1.pdf>
- Bureau of Land Management. (2007). *The Gold Book—4th Ed—Revised 2007.pdf*. <https://www.blm.gov/sites/blm.gov/files/uploads/The%20Gold%20Book%20-%204th%20Ed%20-%20Revised%202007.pdf>
- Bureau of Land Management. (2010). *Update of the BLM Wyoming Sensitive Species List—2010 / Bureau of Land Management*. <https://www.blm.gov/policy/im-wy-2010-027>
- Bureau of Land Management. (2012). *A Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners*. Bureau of Land Management Division of Decision Support, Planning and NEPA. https://www.ntc.blm.gov/krc/uploads/623/BLM_DeskGuide_CA_Relationships_2012.pdf
- Bureau of Land Management. (2015). *Environmental Assessment DOI-BLM-MT-C030-2014-189-EA*. https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20NDFO_July2015_LeaseSaleEA_DRAFT_9Feb2015.pdf
- Bureau of Land Management. (2016a, August 15). *About: History of BLM: National Timeline [Text]*. <https://www.blm.gov/about/history/timeline>
- Bureau of Land Management. (2016b, November 22). *Programs: Wild Horse and Burro: Herd Management: Herd Management Areas: Wyoming: Adobe Town HMA [Text]*. <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/herd-management-areas/wyoming/adobe-town>
- Bureau of Land Management. (2017, September 14). *Programs: Wild Horse and Burro: Herd Management: Gathers and Removals: Wyoming: 2017 Adobe Town, Salt Wells Creek and Great Divide Basin [Text]*. <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/gathers-and-removals/wyoming/2017-at-swc-gdb-wild-horse-gather>
- Bureau of Land Management. (2018, July 5). *Programs: Wild Horse and Burro: Herd Management: Gathers and Removals: Wyoming: 2018 Red Desert Complex Wild Horse Gather [Text]*. <https://blm-dev.opengov.ibmcloud.com/programs/wild-horse-and-burro/herd-management/gathers-and-removals/wyoming/2018/red-desert/gather>
- Bureau of Reclamation—About Us. (2019, January 30). Bureau of Reclamation. <https://www.usbr.gov/main/about/>
- Carbon County. (n.d.). *Predator Management District Board | Carbon County, WY - Official Website*. Retrieved April 13, 2020, from <https://www.carbonwy.com/911/Predator-Management-District-Board>
- Carbon County. (2015). *Carbon County Zoning Regulations*.
- Carbon County CWPP. (2016). *Carbon County Community Wildfire Protection Plan*.



- Carbon County Economic Development Corporation. (2016). *Carbon County History – Carbon County Economic Development Corporation*. <http://www.ccwyed.net/carbon-county-history/>
- Carbon County Visitors Council. (n.d.). *Discover Dinos*. Retrieved June 4, 2020, from <https://www.wyomingcarboncounty.com/things-to-do/discover-wyoming-dinosaurs>
- Carbon County, Wyoming | WyoHistory.org*. (n.d.). Retrieved May 19, 2020, from <https://www.wyohistory.org/encyclopedia/carbon-county-wyoming>
- CCWP. (2019a). *County Declared Weeds and Pests – Carbon County Weed and Pest*. https://www.carboncountyweed.com/?page_id=545
- CCWP. (2019b). *Programs – Carbon County Weed and Pest*. https://www.carboncountyweed.com/?page_id=64
- Census of Agriculture. (2012). *2012 Census of Agriculture* (Wyoming State and County Data). https://www.nass.usda.gov/Publications/AgCensus/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Wyoming/wyv1.pdf
- Colorado Parks and Wildlife. (2020). *Colorado Parks and Wildlife- Gray Wolf Management*. Colorado Parks and Wildlife. <https://cpw.state.co.us>
- Commission of the European Communities. (1986). *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): EC Annual Report*. Office for Official Publications of the European Communities.
- Continental Divide Trail Coalition. (n.d.). *Wyoming | Continental Divide Trail Coalition*. Retrieved August 21, 2020, from <https://continentaldividetrail.org/explore-by-state/wyoming/>
- Cordell, H. K., Betz, C. J., Green, G. T., & Stephens, B. (2008). *Off-Highway Vehicle Recreation in the United States and its Regions and States: An Update National Report from the National Survey on Recreation and the Environment (NSRE)*. <https://www.fs.fed.us/recreation/programs/ohv/IrisRec1rpt.pdf>
- Council on Environmental Quality. (2010). *Fact Sheet: CEQ Report on Environmental Impact Statement Timelines (2010—2018)*. 1.
- Dean Runyan Associates. (2018). *Wyoming Travel Impacts: 2004-2017, Prepared for Wyoming Office of Tourism, Cheyenne, Wyoming*.
- Department of the Interior. (2019). *Interior Extends Platte River Recovery Implementation Program to Protect Endangered Species*. <https://www.doi.gov/pressreleases/interior-extends-platte-river-recovery-implementation-program-protect-endangered>
- Department of the Interior. (2020). *Secretary Bernhardt Designates Fee Free Day for Public Lands to Commemorate President Trump’s Signing of the Great American Outdoors Act*. <https://www.doi.gov/pressreleases/secretary-bernhardt-designates-fee-free-day-public-lands-commemorate-president-trumps>
- DrillingEdge. (2020). *Carbon County, WY Permits, Production, Wells & Operators*. <http://www.drillingedge.com/wyoming/carbon-county>
- Edmunds, D. R., Kauffman, M. J., Schumaker, B. A., Lindzey, F. G., Cook, W. E., Kreeger, T. J., Grogan, R. G., & Cornish, T. E. (2016). Chronic Wasting Disease Drives Population Decline of White-Tailed Deer. *PLOS ONE*, 11(8), e0161127. <https://doi.org/10.1371/journal.pone.0161127>

- EPA. (2015). *Environmental Justice and National Environmental Policy Act* [Other Policies and Guidance]. US EPA. <https://www.epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act>
- EPA, O. (2014, April 11). *Process of Reviewing the National Ambient Air Quality Standards* [Policies and Guidance]. US EPA. <https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards>
- EPA, R. 08. (2014, February 25). *Delegations of Authority for NSPS and NESHAP Standards to States and Tribes in Region 8* [Announcements and Schedules]. US EPA. <https://www.epa.gov/region8/delegations-authority-nsps-and-neshap-standards-states-and-tribes-region-8>
- Executive Order 13352. (2004, August 26). FedCenter. <https://www.fedcenter.gov/Bookmarks/index.cfm?id=57>
- FAO (Ed.). (2007). *Paying farmers for environmental services*. FAO.
- Federal Land Ownership: Overview and Data*. (2018, March 22). https://www.everycrsreport.com/reports/R42346.html#_Toc476565242
- Federal Land Policy and Management Act, Pub. L. No. 94–579 (1976).
- Federal Register. (n.d.). *Agencies—Federal Emergency Management Agency*. Federal Register. Retrieved August 13, 2020, from <https://www.federalregister.gov/agencies/federal-emergency-management-agency>
- FEMA. (n.d.-a). *Community Assistance Program—State Support Services Element*. Retrieved December 16, 2019, from <https://www.fema.gov/community-assistance-program-state-support-services-element>
- FEMA. (n.d.-b). *FEMA’s National Flood Hazard Layer (NFHL) Viewer*. Retrieved December 16, 2019, from <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>
- FEMA. (n.d.-c). *Risk Map Progress—Mapping Information Platform Studies Tracker*. ArcGIS. Retrieved February 15, 2019, from <http://www.arcgis.com/home/webmap/viewer.html?webmap=6331cc6b45734c4eabfd e6102d5fc0b1&extent=-148.9197,13.1588,-46.0876,55.5312>
- FEMA. (n.d.-d). *Risk Mapping, Assessment and Planning (Risk MAP)*. Retrieved December 16, 2019, from <https://www.fema.gov/risk-mapping-assessment-and-planning-risk-map>
- Forest Industry Research Program, U. of M. (2018). *Wyoming’s Forest Products Industry and Timber Harvest Report*. <http://www.bber.umt.edu/pubs/forest/fidacs/WY2018%20Tables.pdf>
- Geology and ground-water resources of the Rawlins area, Carbon County, Wyoming*. (1960). <https://doi.org/10.3133/wsp1458>
- GFD. (2020). *Sage-Grouse Local Working Groups*. Wyoming Game and Fish Department. <https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management/Sage-Grouse-Local-Working-Groups>
- Global Energy Institute. (2013, February 1). *Benefits of Keystone XL*. Global Energy Institute. <https://www.globalenergyinstitute.org/benefits-keystone-xl>

- Headwaters Economics. (2019). *Summary Profile Headwaters Economics for the Central Region of Wyoming (Carbon, Converse, Fremont, Natrona Counties)*. http://eadiv.state.wy.us/wef/Summary_CE.pdf
- Headwaters Economics. (2020a). *Economic Profile System (EPS)*. Headwaters Economics. <https://headwaterseconomics.org/tools/economic-profile-system/>
- Headwaters Economics. (2020b). *Socioeconomic Trends Carbon County, WY*. <file:///C:/Users/BreeL/Downloads/SocioeconomicTrends.pdf>
- Hein, A. (2014). *History of Seminoe and Kortez Dams* | [WyoHistory.org](https://www.wyohistory.org/encyclopedia/history-seminoe-and-kortez-dams). <https://www.wyohistory.org/encyclopedia/history-seminoe-and-kortez-dams>
- Hoover, K. (2017). *PILT (Payments in Lieu of Taxes): Somewhat Simplified*. 27.
- Idaho Rangeland Resource Commission. (2016). *Targeted grazing with cattle to create fire breaks*. <https://idrange.org/range-stories/southwest-idaho/targeted-grazing-with-cattle-to-create-fire-breaks/>
- ISAC. (2016). *Invasive Species Impacts on Infrastructure*. https://www.doi.gov/sites/doi.gov/files/uploads/isac_infrastructure_white_paper.pdf
- Law Insider. (n.d.). *Law Insider*. Law Insider. Retrieved February 3, 2021, from <https://www.lawinsider.com/dictionary/logging-road>
- Martin, L. D., & Gilbert, B. M. (1978). *Excavations at Natural Trap Cave*. 11.
- Miller, G., & Heaton, K. (2015). *Livestock Grazing on the Grand Staircase Escalante National Monument: Its Importance to the Local Economy*. 2.
- NAISMA, P. |. (n.d.). *About PlayCleanGo*. Retrieved October 26, 2020, from <https://www.playcleango.org/about>
- National Agricultural Law Center. (n.d.). *State's Right-To-Farm Statutes State of Wyoming*. Retrieved December 21, 2020, from <https://nationalaglawcenter.org/wp-content/uploads/assets/righttofarm/Wyoming.pdf>
- National Conference of State Legislatures. (2019, February 1). *State Renewable Portfolio Standards and Goals*. National Conference of State Legislatures. <http://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx>
- National Horse & Burro Rangeland Management Coalition. (2015). *Terms and Definitions*. National Horse and Burro Rangeland Management Coalition. <http://www.wildhorserange.org/terms-and-definitions.html>
- National Wild and Scenic Rivers System. (n.d.-a). *About the WSR Act*. Retrieved September 17, 2019, from <https://www.rivers.gov/wsr-act.php>
- National Wild and Scenic Rivers System. (n.d.-b). *Wyoming Wild and Scenic Rivers*. Wild And Scenic Rivers System. Retrieved March 23, 2020, from <https://www.rivers.gov/wyoming.php>
- National Environmental Policy Act 1969, Pub. L. No. 91–190 (1969).
- NPS. (n.d.-a). *National Natural Landmarks (U.S. National Park Service)*. Retrieved May 19, 2020, from <https://www.nps.gov/subjects/nnlandmarks/index.htm>
- NPS. (n.d.-b). *National Park Service History: National Park System Timeline*. History E-Library. Retrieved November 13, 2018, from https://www.nps.gov/parkhistory/hisnps/npshistory/timeline_annotated.htm
- NRCS. (n.d.-a). *Soil Surveys by State | NRCS Soils*. Retrieved December 16, 2019, from <https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=WY>



- NRCS. (n.d.-b). *Web Soil Survey*. Retrieved February 25, 2019, from <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- NRCS. (2018, March 17). *Soil Health | NRCS Soils*. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>
- NRCS. (2019, August). *Welcome to the PLANTS Database | USDA PLANTS*. <https://plants.sc.egov.usda.gov/java/>
- Office of Federal Lands Highway. (2018, July). *Office of Federal Lands Highway- About*. US Department of Transportation Federal Highway Administration. <https://flh.fhwa.dot.gov/about/>
- Office of Management and Budget. (2004). *Memorandum: Issuance of OMB's "final Information Quality Bulletin for Peer Review."* https://www.cio.noaa.gov/services_programs/pdfs/OMB_Peer_Review_Bulletin_m05-03.pdf
- Platte River Recovery Implementation Program. (n.d.). *Platte River Recovery Implementation Program Components*. Platte River Recovery Implementation Program. Retrieved November 13, 2020, from <https://platteriverprogram.org/about/program-components>
- Power Company of Wyoming. (2020). *Chokecherry and Sierra Madre Wind Energy Project*. <http://www.powercompanyofwyoming.com/about/index.shtml>
- Robertson, M. S. (2011). *Water Management Unit Plan and Stream Prioritization*. 38.
- Roedel, J. & 2020. (2020, May 29). *Hog Park Reservoir to fill—Cheyenne, WY Cap City News*. Cap City News. <https://capcity.news/community/2020/05/29/hog-park-reservoir-to-fill/>
- Saratoga Forest Management. (n.d.). *Saratoga Forest Management*. Saratoga.fm.Com. Retrieved August 21, 2020, from <http://saratoga.fm.com/about/>
- Saratoga-Encampment-Rawlins Conservation District. (2017). *Saratoga-Encampment-Rawlins Conservation District Long Range Land Use and Natural Resource Management Plan*. 132.
- Shaffer, B. N., Pierce, P. E., Kinney, S. A., Olea, R. A., & Luppens, J. A. (2019). Assessment of coal resources and reserves in the Little Snake River coal field and Red Desert assessment area, Greater Green River Basin, Wyoming. In *Assessment of coal resources and reserves in the Little Snake River coal field and Red Desert assessment area, Greater Green River Basin, Wyoming* (USGS Numbered Series No. 2019–3053; Fact Sheet, Vols. 2019–3053, p. 16). U.S. Geological Survey. <https://doi.org/10.3133/fs20193053>
- Star Valley Conservation District, & WDA. (2020). *Subdivision Review Training Presentation*. http://www.conservewy.com/wp-content/uploads/Training_2020/4-Subdivision-Review-2_2020.pdf
- State of Wyoming. (2020, February 13). *Wyoming Mule Deer and Antelope Migration Corridor Protection Executive Order 2020-01*. Google Docs. https://drive.google.com/file/d/1TLuj1UGcRTjOvBklmP4qwjehSVmGjch8/view?usp=sharing&usp=embed_facebook
- States West Water Resources Corporation, & WWDC. (2001). *Green River Basin Water Planning Process*. 178.
- Taylor, D. T. "Tex." (2003). *The Role of Agriculture in Maintaining Open Spaces in Wyoming*. http://www.uwyo.edu/haub/_files/_docs/ruckelshaus/open-spaces/2003-role-of-ag-in-open-space.pdf

- Tessmann, S., Tator, I., Boulevard, B., Grenier, M., Smith, N., & Collins, F. (2018a). *Prepared by Wyoming Game and Fish Department and Ducks Unlimited, Inc.* 14.
- Tessmann, S., Tator, I., Boulevard, B., Grenier, M., Smith, N., & Collins, F. (2018b). *Wyoming Wetland Program Plan 2018-2023.* 14.
- The Diggings. (2020). *Carbon County, Wyoming Mining Trends.* The Diggings™. <https://thediggings.com/usa/wyoming/carbon-wy007/trends>
- The North Platte River Basin: A Natural History* | WyoHistory.org. (n.d.). Retrieved November 30, 2020, from <https://www.wyohistory.org/encyclopedia/north-platte-river-basin>
- Tyrrell, P., & States West Water Resources Corporation. (n.d.). *Wyoming Water Law Summary.* University of Wyoming. (n.d.). *Wyoming Floods.* Retrieved December 16, 2019, from <http://wyofloods.wrds.uwyo.edu/>
- US Department of the Interior. (2015, May 31). *Land and Water Conservation Fund* [Government]. U.S. Department of the Interior. <https://www.doi.gov/lwcf>
- U.S. Department of the Interior. (2020). *Fiscal Year 2020 Payments in Lieu of Taxes.* <https://www.doi.gov/sites/doi.gov/files/uploads/fiscal-year-2020-payments-in-lieu-of-taxes-national-summary-annual-report.pdf>
- U.S. Energy Information Administration. (2020). *Frequently Asked Questions (FAQs)—U.S. Energy Information Administration (EIA).* <https://www.eia.gov/tools/faqs/faq.php>
- U.S. Fire Administration. (2020). *Wildland urban interface (WUI).* U.S. Fire Administration. <https://www.usfa.fema.gov/wui/index.html>
- U.S. Fish and Wildlife Service. (n.d.). *Species By County Report: Carbon County.* Retrieved April 8, 2020, from <https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=56007>
- U.S. Forest Service. (2020). *Greater Sage-Grouse Home Page.* USDA Forest Service Intermountain Region (Region 4). <https://www.fs.usda.gov/detail/r4/home/?cid=stelprd3843381>
- US National Park Service. (2015, February 24). *Natural Trap Cave—Bighorn Canyon National Recreation Area.* <https://www.nps.gov/bica/learn/nature/natural-trap-cave.htm>
- U.S. Supreme Court. (2000). *Appendix F Amendment of the 1953 Order to Provide for the Modification of Pathfinder Reservoir.* <https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/water-planning/upper-platte/north-platte-river-settlement/amendment-1953-pathfinder.pdf>
- USDA. (2017). *2017 Census of Agriculture County Profile: Carbon County.* https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Wyoming/cp56007.pdf
- USDA FS. (2008). *Southern Rockies Lynx Management Direction ROD.* https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5357379.pdf
- USDA: Soil Science Division Staff. (2017). *Soil Survey Manual (SSM).* https://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs142p2_054262
- USFS. (n.d.-a). *Enforcement—What We Do—LEI | USDA Forest Service.* Retrieved November 20, 2020, from <https://www.fs.fed.us/lei/enforcement.php>
- USFS. (n.d.-b). *Grand Mesa Uncompahgre and Gunnison National Forests—Special Places.* Retrieved June 29, 2020, from <https://www.fs.usda.gov/detail/gmug/specialplaces/?cid=stelprdb5181324>



- USFS. (n.d.-c). *Snowy Range Byway*. Retrieved May 19, 2020, from https://www.fs.fed.us/wildflowers/regions/Rocky_Mountain/SnowyRangeByway/index.shtml
- USFS. (2000). *USDA Forest Service Roads*. https://www.fs.fed.us/eng/road_mgt/qanda.shtml
- USFS. (2003a). *Medicine Bow National Forest Revised Land and Resource Management Plan*. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5163440.pdf
- USFS. (2003b). *Medicine Bow National Forest Revised Land and Resource Management Plan FEIS Appendix E Wild and Scenic Rivers*. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5165733.pdf
- USFS. (2004). *Forest Service Handbook 5409.13—Land Acquisition Handbook*. <https://www.resolutionmineeis.us/sites/default/files/references/usfs-land-acquisition-handbook-2004.pdf>
- USFS. (2005). *Forest Service Handbook 2209.13*. https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?2209.13!..
- USFS. (2006). *Forest Service Handbook Rocky Mountain Region (Region 2) FSH 2509.25—Watershed Conservation Practices Handbook*. https://www.fs.usda.gov/nfs/11558/www/nepa/91137_FSPLT3_2552970.pdf
- USFS. (2013a). *Forest Service National Strategic Framework for Invasive Species Management / US Forest Service*. <https://www.fs.usda.gov/managing-land/invasive-species-management/strategic-framework>
- USFS. (2013b). *Medicine Bow National Forest Routt National Forest 2013 Comprehensive Monitoring and Evaluation Report*. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3821454.pdf
- USFS. (2016). *Greater Sage Grouse Habitat*. <https://hub.arcgis.com/datasets/c436a3d49b204edbbab5ac14e9216d8f>
- USFS. (2020a). *Medicine Bow Landscape Vegetation Analysis Project*. https://www.fs.usda.gov/nfs/11558/www/nepa/106251_FSPLT3_5334953.pdf
- USFS. (2020b). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Districts*. https://www.fs.usda.gov/detail/mbr/about-forest/districts/?cid=fswdev3_008655
- USFS. (2020c). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Encampment River Wilderness*. <https://www.fs.usda.gov/recarea/mbr/recarea/?recid=80843>
- USFS. (2020d). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Huston Park Wilderness*. <https://www.fs.usda.gov/recarea/mbr/recarea/?recid=80840>
- USFS. (2020e). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Planning*. https://www.fs.usda.gov/detail/mbr/landmanagement/planning/?cid=fsbdev3_025109
- USFS. (2020f). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Platte River Wilderness*. <https://www.fs.usda.gov/recarea/mbr/recarea/?recid=80837>
- USFS. (2020g). *Medicine Bow-Routt National Forests & Thunder Basin National Grassland—Savage Run Wilderness*. <https://www.fs.usda.gov/recarea/mbr/recarea/?recid=80846>
- USFWS. (n.d.). *USFWS-WSFR State Wildlife Grant Program*. Retrieved March 12, 2019, from <https://wsfrprograms.fws.gov/subpages/grantprograms/swg/swg.htm>

- USFWS. (1973). *Endangered Species Act of 1973*.
<https://www.fws.gov/laws/lawsdigest/esact.html>
- USFWS. (2014). *Wildlife & Habitat—Pathfinder—U.S. Fish and Wildlife Service*.
https://www.fws.gov/refuge/Pathfinder/wildlife_and_habitat/index.html
- USFWS. (2017). *Fish and Wildlife Service Transportation Program | National Wildlife Refuge System*. <https://www.fws.gov/refuges/roads/>
- USFWS. (2018a). *2018 Annual Report of Lands Data Tables*.
- USFWS. (2018b, March 16). *Endangered Species | What We Do | Listing and Critical Habitat | Critical Habitat | FAQ*. <https://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html>
- USFWS. (2018c, March 22). *About: Mission | National Wildlife Refuge System*.
<https://www.fws.gov/refuges/about/mission.html>
- USFWS. (2020a). *Fish and Wildlife Service*. https://www.fws.gov/help/about_us.html
- USFWS. (2020b, September). *Saratoga National Fish Hatchery*. U.S. Fish and Wildlife Service.
<https://www.fws.gov/mountain-prairie/fisheries/saratoga.php>
- USFWS. (2021, January 7). *Regulations Governing Take of Migratory Birds*. Federal Register.
<https://www.federalregister.gov/documents/2021/01/07/2021-00054/regulations-governing-take-of-migratory-birds>
- USGS. (n.d.). *National Hydrography—Watershed Boundary Dataset*. Retrieved January 29, 2021, from
https://www.usgs.gov/core-science-systems/ngp/national-hydrography/watershed-boundary-dataset?qt-science_support_page_related_con=4#qt-science_support_page_related_con
- USGS. (2020). *Water Resources: About USGS Water Resources*.
<https://water.usgs.gov/GIS/huc.html>
- UW Extension. (2016, August 18). *Wyoming Greater Sage-Grouse Conservation Efforts*. Sage-Grouse Conservation.
<https://www.wyoextension.org/sagegrouseconservation/wyoming-greater-sage-grouse-conservation-efforts/>
- Van Pelt. (2014a). *Encampment, Wyoming: Copper, Lumber and Rendezvous | WyoHistory.org*.
<https://www.wyohistory.org/encyclopedia/encampment-wyoming>
- Van Pelt, L. (2014b). *Carbon County, Wyoming | WyoHistory.org*.
<https://www.wyohistory.org/encyclopedia/carbon-county-wyoming>
- WACD. (n.d.). *About WACD*. Retrieved September 26, 2019, from
<http://www.conservewy.com/ABOUT.html>
- Water Education Colorado. (2015, February 27). Call it a compact: Why examining the limits of Colorado River sharing is key to a successful state water plan. *Water Education Colorado*.
<https://www.watereducationcolorado.org/publications-and-radio/blog/call-it-a-compact-why-examining-the-limits-of-colorado-river-sharing-is-key-to-a-successful-state-water-plan/>
- WDEQ. (n.d.-a). *Groundwater Pollution Control (GPC) Program | Wyoming Water Quality*. Retrieved December 16, 2019, from <http://deq.wyoming.gov/wqd/gpc/>
- WDEQ. (n.d.-b). *Subdivision Review | Wyoming Water Quality*. Retrieved December 16, 2019, from <http://deq.wyoming.gov/wqd/subdivision-review/>

- WDEQ. (n.d.-c). *Surface Water Quality Standards*. Retrieved December 16, 2019, from <http://deq.wyoming.gov/wqd/surface-water-quality-standards-2/>
- WDEQ. (n.d.-d). *Water Quality Assessment | Water Quality*. Retrieved December 16, 2019, from <http://deq.wyoming.gov/wqd/water-quality-assessment/>
- WDEQ. (n.d.-e). *Why are Riparian Areas Important?* Retrieved December 19, 2019, from <http://deq.wyoming.gov/wqd/non-point-source/resources/why-are-riparian-areas-important/>
- WDEQ. (2018a). *Water Quality Rules and Regulations Chapter 1: Wyoming Surface Water Quality Standards*.
- WDEQ. (2018b). *Wyoming Department of Environmental Quality Air Quality Division Standards and Regulations- Chapter 2: Ambient Standards*. WY Department of Environmental Quality.
- WDEQ. (2020). *Sinclair In-Town—Wyoming Air Quality Monitoring Network—Wyoming Air Quality Monitoring Network*. <http://www.wyvisnet.com/Sites/Site.aspx?site=SINC1>
- WGFC. (2019). *Chapter 4: Furbearing Animal Hunting or Trapping Seasons*. https://wgfd.wyo.gov/Regulations/Regulation-PDFs/REGULATIONS_CH4.pdf
- WGFD. (n.d.-a). *Black bear*. Wyoming Game and Fish Department. Retrieved March 26, 2021, from <https://wgfd.wyo.gov/Regional-Offices/Green-River-Region/Critter-Spotlight/Black-bear>
- WGFD. (n.d.-b). *Wyoming Game and Fish Department Mountain Lion Education and Identification*. Retrieved March 26, 2021, from https://wgfd.wyo.gov/WGFD/media/content/PDF/Education/WY_MTNLION_ID_INFORMATION.pdf
- WGFD. (n.d.-c). *Wyoming Game and Fish Department—About the Department*. Retrieved March 27, 2019, from <https://wgfd.wyo.gov/About-Us/About-the-Department>
- WGFD. (n.d.-d). *Wyoming Game and Fish Department—Game and Fish Commission*. Retrieved March 27, 2019, from <https://wgfd.wyo.gov/about-us/game-and-fish-commission>
- WGFD. (n.d.-e). *Wyoming Game and Fish Department—Nongame Birds and Mammals*. Retrieved March 26, 2021, from <https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Nongame-Birds>
- WGFD. (n.d.-f). *Wyoming Game and Fish Department—Riparian Information*. Retrieved December 19, 2019, from <https://wgfd.wyo.gov/Habitat/Habitat-Information/Riparian-Information>
- WGFD. (n.d.-g). *Wyoming Game And Fish Stream Classifications*. Retrieved December 14, 2020, from <https://wgfd.maps.arcgis.com/apps/MapTools/index.html?appid=31c38ed91cf04fb7bb8aebd29515e108>
- WGFD. (n.d.-h). *Wyoming's Wetland Complexes*. Retrieved November 13, 2020, from <https://wgfd.maps.arcgis.com/apps/Cascade/index.html?appid=0f3c1773a62d4202b3128362dfaa3a7f>
- WGFD. (2006, September 7). *Mountain Lion Management Plan*. https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Large%20Carnivore/MTNLION_MGMTPLAN.pdf
- WGFD. (2007). *Wyoming Black Bear Management Plan*. 63.



- WGFD. (2015). *Wyoming Game and Fish Department Habitat Priority Areas: Aquatic and Combined Crucial Areas* [Map]. https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Habitat%20Priority%20Areas/Statewide_AandC_Crucial.pdf
- WGFD. (2017a). *2017 Species of Greatest Conservation Need*. <https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/SWAP/Wyoming-SGCN.pdf>
- WGFD. (2017b). *Species of Greatest Conservation Need: Wyoming State Wildlife Action Plan*. <https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/SWAP/SGCN-Introduction.pdf>
- WGFD. (2017c). *Wyoming State Wildlife Action Plan*. <https://drive.google.com/open?id=0B1iN5AyJdrYPa2JMMjh6Q2RseVE>
- WGFD. (2019a). *Annual Report of Small Game, Upland Game Birds, Migratory Game Birds, Furbearer, Wild Turkey & Falconry Harvest*. https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/Harvest%20Reports/HR2018_SMUGReport.pdf
- WGFD. (2019b, October 12). *Sage Grouse Local Working Groups Map*. https://wyoming-wgfd.opendata.arcgis.com/datasets/de10419d193a4210ad3fa14a3c8bebe3_0
- WGFD. (2020a). *Statewide Habitat Plan*. https://wgfd.wyo.gov/getmedia/8ba62756-6d1c-4257-8644-82383dfa605a/SHP2020_Final
- WGFD. (2020b). *Wyoming Game and Fish Department—Statewide Habitat Priority Areas*. Wyoming Game and Fish Department. <https://wgfd.wyo.gov/Habitat/Habitat-Plans/Habitat-Priority-Areas/Statewide-Maps>
- WGFD. (2020c). *Wyoming Chronic Wasting Disease Management Plan*. <https://wgfd.wyo.gov/WGFD/media/content/PDF/Get%20Involved/CWD/Final-WGFD-CWD-Management-Plan-7-2020-with-appendices.pdf>
- WGFD. (2021). *Density Disturbance Calculation Tool*. Wyoming Game and Fish Department. <https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management/Density-Disturbance-Calculation-Tool>
- Exec. Order No. 13783- Promoting Energy Independence and Economic Growth, Pub. L. No. Exec. Order No. 13783, 3C.F.R., 16093 (2017). <https://www.federalregister.gov/documents/2017/03/31/2017-06576/promoting-energy-independence-and-economic-growth>
- Wilson, R. K. (2014). *America's Public Lands: From Yellowstone to Smokey Bear and Beyond*. Rowman & Littlefield.
- WLC Engineering, Surveying & Planning, MMI Planning, Joanne Garnett, FACIP, & Carbon County Planning Staff. (2010, November 9). *Carbon County Comprehensive Land Use Plan*. https://y2consultantsinc.sharepoint.com/sites/NaturalResourcePlans-Y2Falen/Shared%20Documents/19317-Carbon%20County/References/191223_19317_Carbon_Co_Complete_Land_Use_Plan-AMD190403.PDF?CT=1586362293318&OR=ItemsView
- WOGCC. (n.d.-a). *Oil Graph*. Retrieved February 7, 2019, from <http://pipeline.wyo.gov/StateOilGraph.cfm?oops=ID42052>
- WOGCC. (n.d.-b). *State Gas Production Graph*. Retrieved February 7, 2019, from <http://pipeline.wyo.gov/StateGasGraph.cfm?oops=ID42052>



- WPLI. (n.d.). *Wyoming Public Lands Initiative*. Retrieved August 24, 2020, from <https://wcca.wygisc.org/wpli/homepage/index.html>
- WSGS. (2020). *Interactive Oil and Gas Map of Wyoming- Carbon County*. <https://www.arcgis.com/apps/webappviewer/index.html?id=3f7ab99343c34bd3ac5ae6ac8c04d95a/>
- WWC Engineering, AECOM, & ERO Resources Corp. (2010). *Green River Basin Plan*. <https://waterplan.state.wy.us/plan/green/2010/finalrept/finalrept-GRB.pdf>
- WWDC. (n.d.). *Wyoming Water Development Commission Dam and Reservoir Planning*. Retrieved December 19, 2019, from http://wwdc.state.wy.us/dam_reservoir/dam_reservoir.html
- WWDC. (2006, May). *Platte River Basin Plan*. http://waterplan.state.wy.us/plan/platte/2006/finalrept/Final_report.pdf
- Wyoming District Court. (2003). *2003 Consent Decree*.
- Wyoming District Court. (2013). *2013 Consent Decree between Rock Springs Grazing Association and BLM*. <https://www.doi.gov/sites/doi.gov/files/agreements-settlements/document/consent-decree-rock-springs-grazing-assoc-v-salazar-101818.pdf>
- Wyoming Mining Association. (2013). *Coal*. Wyoming Mining Association. <https://www.wyomingmining.org/minerals/coal/>
- Wyoming Office of Homeland Security. (n.d.). *Wyoming State Mitigation Plan 2016-2021*. Google Docs. Retrieved December 16, 2019, from https://drive.google.com/file/d/1zuwfOHq_sVsUWzA8c14n_YYV3cuxAoYv/view?usp=embed_facebook
- Wyoming Office of Tourism. (2018). *Wyoming Continental Divide Trail*. Travel Wyoming. <https://travelwyoming.com/wyoming-continental-divide-trail/>
- Wyoming Office of Tourism. (2019). *Wyoming Travel Impacts*. https://ss-usa.s3.amazonaws.com/c/308476362/media/22765e8c93a7c87be89825314693547/WY19_Impacts%20%281%29.pdf
- Wyoming Water Development Office. (2019). *Wyoming Water Development Commission 2019 Wyoming Irrigation Systems Report*. <http://wwdc.state.wy.us/irrsys/2019/raterept.html>
- Wyoming Water Quality Division. (2020). *2020-0326_Wyoming-Surface-Water-Classification-List.pdf*. http://deq.wyoming.gov/media/attachments/Water%20Quality/Surface%20Water%20Quality%20Standards/2020-0326_Wyoming-Surface-Water-Classification-List.pdf
- Wyoming Weed and Pest Council. (n.d.). *Management Programs – Wyoming Weed & Pest*. Retrieved March 21, 2019, from <https://wyoweed.org/noxious-species/management-programs/>
- Wyoming Wildlife Federation. (2015). *Wyoming County-by-County Economic Impact of Hunting and Fishing*. Wyoming Wildlife Federation. <https://wyomingwildlife.org/public-lands/wpli/economic-impact/>

APPENDICES

APPENDIX A: WEBSITE LINKS IN DOCUMENT

1. <https://www.carbonwy.com/319/Commissioners>
2. https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual1283.pdf
3. <https://www.usbr.gov/main/qoi/>
4. <https://www.epa.gov/quality/about-epas-quality-system>
5. https://www.publications.usace.army.mil/Portals/76/Publications/EngineerRegulations/ER_25-1-110.pdf
6. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5409879.pdf
7. <https://www.fws.gov/stand/>
8. <http://deq.wyoming.gov/wqd/surface-water-quality-standards-2/>
9. <https://wyoshpo.wyo.gov/index.php/nr-by-county-test/9-carbon-county?limitstart=0>
10. <https://www.fs.usda.gov/science-technology/geology/paleontology>
11. <https://www.usbr.gov/cultural/>
12. <https://www.fws.gov/historicPreservation/crp/index.html>
13. <https://www.blm.gov/paleontology>
14. <https://www.nps.gov/subjects/fossils/fossil-protection.htm>
15. <https://www.blm.gov/policy/im-2007-176>
16. <https://www.blm.gov/documents/wyoming/directors-protest-resolutions/protest-resolution-report/rawlins-vrm-and-blowout>
17. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsmrs_072450.pdf
18. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5165734.pdf
19. https://eplanning.blm.gov/public_projects/lup/63197/78288/250011200/05_Record_of_Decision_and_Approved_Rawlins_RMP.pdf
20. https://eplanning.blm.gov/public_projects/lup/63197/78288/250011200/05_Record_of_Decision_and_Approved_Rawlins_RMP.pdf
21. https://eplanning.blm.gov/public_projects/lup/63197/78290/88577/39_Map2-17_Rec_Management_Areas.pdf
22. https://eplanning.blm.gov/public_projects/lup/63197/78290/88577/39_Map2-17_Rec_Management_Areas.pdf
23. https://eplanning.blm.gov/public_projects/lup/63197/78290/88579/41_Map2-17b_North_Platte_River_SRMA.pdf
24. https://eplanning.blm.gov/public_projects/lup/63197/78290/88580/42_Map2-17c_Shirley_Mountain_SRMA.pdf
25. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5165733.pdf
26. https://drive.google.com/drive/folders/1HYGrmkG0kCslQPD8mLw-wm-bllgT9_cx
27. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5163440.pdf
28. https://www.fs.usda.gov/nfs/11558/www/nepa/106251_FSPLT3_5334953.pdf

29. <https://wsgs.maps.arcgis.com/apps/webappviewer/index.html?id=af948a51f4954a81adeae8935440cd28>
30. <https://www.carbonwy.com/1111/Zoning-Resolution-and-Map>
31. <https://www.carbonwy.com/DocumentCenter/View/5578/Carbon-County-Zoning-Resolution-of-2015-Amended-07-07-2020?bidId=>
32. <https://bogi.evs.anl.gov/section368/abstracts/corridor-78-138.pdf>
33. <https://bogi.evs.anl.gov/section368/abstracts/corridor-138-143.pdf>
34. <https://bogi.evs.anl.gov/section368/abstracts/corridor-78-255.pdf>
35. <https://bogi.evs.anl.gov/section368/abstracts/corridor-78-85.pdf>
36. <https://www.arcgis.com/apps/webappviewer/index.html?id=3f7ab99343c34bd3ac5ae6ac8c04d95a/>
37. <https://www.federalregister.gov/documents/2020/10/27/2020-23761/notice-of-availability-of-the-final-environmental-impact-statement-for-the-wyoming-pipeline-corridor>
38. <http://library.wrds.uwyo.edu/wwdcrept/wwdcrept.html>
39. <https://wyoleg.gov/statutes/compress/title41.pdf>
40. <https://wgfd.wyo.gov/Fishing-and-Boating/Instream-Flow-XStream-Angler/Instream-Flow-Map>
41. <https://wwdc.state.wy.us/weathermod/weathermod.html>
42. <https://wwdc.state.wy.us/surveys/surveys.html>
43. https://www.google.com/search?rlz=1C1GCEA_enUS870US871&tbs=lf:1,lf_ui:1&tbm=lc&sxsrf=ALeKk02QEJhj_yHLSI3SEdL8FsqUzsQ0kg:1605300342673&q=map+of+reservoirs+in+Carbon+County+Wyoming&rflfq=1&num=10&sa=X&ved=2ahUKEwjkrzrlsYDtAhXfIDQIHVQTCvkQjGp6BAgBEBs&biw=1086&bih=632
44. <https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/water-planning/upper-platte/north-platte-river-settlement/amendment-1953-pathfinder.pdf>
45. <https://www.federalregister.gov/documents/2015/06/29/2015-13435/clean-water-rule-definition-of-waters-of-the-united-states>
46. <http://deq.wyoming.gov/wqd/>
47. <http://sgirt.webfactional.com/wqd/water-quality-assessment/resources/reports/>
48. <https://www.fws.gov/wetlands/data/Mapper.html>
49. https://www.fs.usda.gov/nfs/11558/www/nepa/91137_FSPLT3_2552970.pdf
50. <https://www.fws.gov/refuge/Pathfinder/map.html>
51. https://www.fws.gov/refuge/Pathfinder/wildlife_and_habitat/index.html
52. https://www.epa.gov/sites/production/files/2018-02/documents/wy_wpp_1-26-2018_final.pdf
53. http://migrationinitiative.org/sites/migration.wygisc.org/themes/responsive_blog/images/SIWG_FINALREPORT.PDF
54. https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Large%20Carnivore/BLKBEAR_MGMTPLAN.pdf

55. https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Large%20Carnivore/MTNLION_MGMTPLAN.pdf
56. https://wgfd.wyo.gov/Regulations/Regulation-PDFs/REGULATIONS_CH4.pdf
57. https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/Harvest%20Reports/HR2018_SMUGReport.pdf
58. <https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Nongame-Birds>
59. https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Sage%20Grouse/Governor-Gordon-Greater-Sage-Grouse-EO-2019-3_August-21-2019_Final-Signed_2.pdf
60. <https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management/Sage-Grouse-Local-Working-Groups>
61. <https://onesteppe.wygisc.org/>
62. <https://drive.google.com/file/d/1TLuj1UGcRTjOvBklmP4qwjehSVmGich8/view>
63. <https://wgfd.wyo.gov/WGFD/media/content/PDF/Vet%20Services/Approved-CWD-Mgmt-Plan-July-16-2020.pdf>
64. <https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Wildlife-Disease/Brucellosis>
65. <https://ecos.fws.gov/ecp/>
66. <https://www.fws.gov/endangered/esa-library/pdf/RPI.pdf>
67. <https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/SWAP/Wyoming-SGCN.pdf>
68. <https://www.blm.gov/policy/im-wy-2010-027>
69. <https://www.fs.usda.gov/detail/r2/landmanagement/?cid=stelprdb5390116>
70. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5165737.pdf
71. <https://wgfd.wyo.gov/Habitat/Aquatic-Habitat/Water-Strategy>
72. <https://wgfd.maps.arcgis.com/apps/MapTools/index.html?appid=31c38ed91cf04fb7bb8aebd29515e108>
73. <https://wgfd.wyo.gov/Habitat/Habitat-Priority-Areas/Statewide-Maps>
74. <https://waterplan.state.wy.us/plan/green/techmemos/gwdeterm.html>
75. <https://waterplan.state.wy.us/plan/platte/platte-plan.html>
76. <https://wgfd.wyo.gov/wildlife-in-wyoming/more-wildlife/large-carnivore/wolves-in-wyoming>
77. [https://law.justia.com/codes/wyoming/2010/Title11/chapter24.html#:~:text=\(a\)%20No%20person%20shall%20take,or%20his%20duly%20authorized%20agents.](https://law.justia.com/codes/wyoming/2010/Title11/chapter24.html#:~:text=(a)%20No%20person%20shall%20take,or%20his%20duly%20authorized%20agents.)
78. <https://www.wyomingcarboncounty.com/downloads/visitors-guide.pdf>
79. http://www.carbonwy.com/DocumentCenter/View/5340/WY-R3-2019-HMP_Final
80. <https://www.carbonwy.com/955/Multi-Hazard-Mitigation-Plan>
81. <https://www.arcgis.com/apps/MapSeries/index.html?appid=42fd398fa8f449fb930f2d3755c5a1bb>
82. <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>
83. <https://plants.usda.gov/java/noxious>

84. [https://www.fs.fed.us/foresthealth/publications/Framework for Invasive Species FS-1017.pdf](https://www.fs.fed.us/foresthealth/publications/Framework%20for%20Invasive%20Species%20FS-1017.pdf)
85. <https://eplanning.blm.gov/eplanning-ui/project/70301>
86. <https://eplanning.blm.gov/eplanning-ui/project/70300/510>
87. [https://webmaps.blm.gov/Geocortex/Html5Viewer/index.html?viewer=NISIMS Publication HTML51](https://webmaps.blm.gov/Geocortex/Html5Viewer/index.html?viewer=NISIMS_Publication.NISIMS_Publication_HTML51)

APPENDIX B: STEERING COMMITTEE

Member	Affiliation
Travis Moore	Carbon County Commissioner
Joe Parsons	SER Conservation District
Leanne Correll	SER Conservation District
Dan Mika	SER Conservation District
Joan McGraw	Medicine-Bow Conservation District
Shanon Sims	Medicine-Bow Conservation District
Dawn Arnell	Little Snake River Conservation District
Trent Arnell	Little Snake River Conservation District
Marlin Johnson	Carbon County Planning Director
Sarah Brugger	Carbon County Planner/GIS Specialist
Kristy Rowan	Deputy Zoning Administrator
Sidney Fox	Carbon County Planner (retired in June 2020)

APPENDIX C: PUBLIC COMMENTS RECEIVED

NOTE: Public comments received during the public comment period will be placed here.

Comment Received From	Comment Received	Response
Ron P.	Plan should include a clear statement that says: Carbon County has special expertise on the natural resources of this county and that local government will be a key factor in decisions made affecting federal and state resource plans, policies and programs that will impact the management of land and natural resources within Carbon County.	Statement was added to section 1.3.4.1 as a Resource Management Objective for County Expectations.
Ron P.	Carbon county supports establishment of a multi-agency stakeholder group (insert) - With a minimum of 2 at large Carbon Co. expert citizens as voting members, - hosted by the Co. Comm.	This statement was removed prior to the final draft. Added statement that citizens of Carbon County are welcome to commissioner meetings.
Ron P.	No mention of mining activities in the Encampment area. Towns were established in the Mtn's. (now abandoned), a railroad came to Encampment, The 2nd longest tramway in the world was built to haul ore to a smelter in town. Some miners became settlers and homesteaded. Encampment was truly a BOOM TOWN. This information could be in a little more detailed and included on page 24; 2.2.1. Don't forget trapping. History, Custom, and Culture.	Information was added to section 2.2.1 regarding copper mining in Encampment and the tramway and railroad.
Ron P.	Typing error bottom line reads I-10, should read I-80.	Correction was made to document.
Ron P.	Fourth paragraph, last two lines. Following the words - after possible management need.	Examples were added to this section.



	LIST EXAMPLES OF THOSE NEEDS SUCH AS a) wildfires b) plane crash c) etc.	
Ron P.	Second line typing error- should read uranium MINE 30 miles.	Comment was addressed in document
Ron P.	elk- First line is a false statement. The words FEW NUMBERS should read GREATER NUMBERS.	Comment was addressed in document
Ron P.	2nd paragraph, last line. After Wyoming and States add COUNTRIES.	Comment was addressed in document.
Ron P.	Resource Management Objective - add: E. Any federal prohibition, occupancy and use restrictions or closures will not be sanctioned without Carbon County approval.	Edits were made to Resource Management Objective D to include closing or decommissioning of any road.
Ron P.	2nd paragraph, 2nd sentence. I really question the number "estimated market Value of Agriculture land" was \$4,187,090 for the county in 2112. Today some individual ranches would be listed for sale at or above the 4 million dollar proce. The inflation rate wouldn't equal this change.	The phrase "excluding pasture and rangeland" after the words "agricultural land" was added to help clarify this sentence.
Ron P.	add item 20 to say: 20. Support and encourage the control of aquatic weeds (example Elodea, Coontail, Algae, Etc.) that restrict water ways, canals, ditches and recreational waters.	Priority 20 as stated in comment was added to section 9.3.4.
Justin H.	Paragraph starting: "The county supports"— Would it not also be advantageous to leave the option for an open seat for the public?	This statement was updated in the final draft to include that all agencies and citizens are welcome to attend County Commissioner meetings.
Justin H.	Paragraph starting: "Carbon County was one"—second sentence references Indians, but the remainder of the document used Native Americans.	Updated references in document to state Indigenous People.

Justin H.	In the final full paragraph it references historic land uses farming, grazing, energy development, hunting, and fishing. Dude ranching has also been a part of this community since the early 1900s and three of the largest guest ranches in the country are located in Carbon County. (A Bar A, Three Forks, and Brush Creek). They are major employers in the area.	Language was added to include guest ranches and recreation.
Justin H.	Suggest adding dude ranches to the first paragraph. Alternatively, reference could be added on page 25 that discusses the oil refinery started in 1922. That is the same year A Bar A opened to guests.	Language was added to include guest ranches in first paragraph.
Justin H.	Suggest adding dude ranches to the first paragraph. Alternatively, reference could be added on page 25 that discusses the oil refinery started in 1922. That is the same year A Bar A opened to guests.	Language was added to this section to discuss guest ranches and A Bar A being one of the oldest guest ranches in the country.
Justin H.	says that the traditional lifestyle has centered on agriculture and resource-based industries for generations. Suggest adding recreation to this list.	Recreational activities was added to this list.
Justin H.	Lands with Wilderness Characteristics. Note that the North Platte by Black Cat and Prospect Creek was deemed eligible for designation as a “Scenic River” under the Wild and Scenic Rivers Act. (Appendix E of the FEIS)	Information was added from the Rawlins RMP and Medicine Bow LUP analysis for wild and scenic.
Justin H.	Error in paragraph just above 3.1.4	Comment was addressed in document
Justin H.	Change Canadian goose to Canada goose, which is proper name.	Comment was addressed in document
Justin H.	Typo in 6.5.3.B “monitoring”	Comment was addressed in document
Justin H.	Citation missing)	Comment was addressed in document

Justin H.	last bullet of first section of bullets. “BLLM” typo	Comment was addressed in document
Justin H.	Add reference to guest ranches and hunting lodges	Comment was addressed in document
Justin H.	Add reference to horseback riding in first sentence	Comment was addressed in document
Justin H.	Item six reference to motorized off-highway access to culture sites is problematic. Cultural sites are ill defined and this could allow a free-for-all. Suggest removing reference or clarifying.	Comment was addressed in document
Richard K.	Public comments submitted. Who filters these comments? In your opinion how “thoughtfully” are these comments considered and evaluated. Obviously not a changes in the draft document but would appreciate your response/opinion.	All comments received from the public were thoroughly reviewed by the steering committee and recommendations for changes based upon public comment have been addressed after the public comment period and are applied to this final draft of the document.
Richard K.	Last paragraph. “Stakeholder Group”. Should “The County supports the establishment” be changed to “The County WILL establish”. I would like a clearer definition of “Stakeholder”. I agree with the intent but I can see it getting swept under the rug by disinterested Commissioners/govt. red tape.	This paragraph was updated in the final draft by request of the steering committee and Commissioners.
Richard K.	Last full paragraph. Guest Ranching is a significant economic driver of local business. Food, lodging, Aviation fuel etc. Also hunting and fishing guide services and associated shops are traditional, important add ons to our economy and western tradition.	Information was added to paragraph.
Richard K.	Top partial paragraph. To parenthesis’s listing commodities add CATTLE GRAZING.	The word livestock grazing was added to the list of commodities.

	The term agriculture may already cover this but it would be a descriptive add on.	
Richard K.	Top paragraph, after rich history, include Guest Ranches.	Guest ranches was added to the sentence.
Richard K.	Last paragraph. "Emergency situations" is perhaps beyond the scope of this NRMP but why is fire fighting not an emergency? If the Mullen fire had been attacked in its early stages the overall destruction to land and private property could have been prevented. Joe would appreciate your thoughts.	Emergency management for wildfires is addressed in section 8.2 Law Enforcement and Emergency Response.
Richard K.	Lands with Wilderness Characteristics. In conversations with other locals I understand that the North Platte by Black Cat/ Prospect Creek were to be designated "Scenic River" as per the Wild and Scenic Rivers Act. Is this correct?	The North Platte and Prospect Creek are not designated as "wild and scenic river" and there are no proposals to do so at this time.
Richard K.	Special Recreation Management Areas/Extensive Recreational Management Areas. First paragraph. Add to recreational opportunities: "Horseback riding".	Comment was addressed in document
Richard K.	I do not understand the sentence just above 3.1.4.	Comment was addressed in document
Richard K.	#B change monitoring to monitored.	Comment was addressed in document
Richard K.	Last bullet point. Change BLLM to BLM.	Comment was addressed in document
Richard K.	Resource Assessment etc. Suggest adding after "numerous historic sites"... GUEST RANCHES, HUNTING LODGES AND RESORTS. I am not sure if Brush Creek considers themselves a resort or Guest Ranch?	Comment was addressed in document
Richard K.	First sentence. Add horseback riding or trail riding.	Comment was addressed in document

Richard K.	Reference 42. A map of recent SAR missions. Am sure this will be in the finaldraft but would like to see it. Not major at this point.	The link to the map of Search and Rescue missions is presented in the draft. This will ensure that the most up to date information is available for those who are interested whereas a map in the document could become outdated quickly.
Gary and Judy R.	Some of the language on this page-- taken from 2008 & 2013 BLM documents—has been replaced with language in this later BLM document: Decision Record for the Rawlins RMP Amendment for VRM (BLM/WY/PL-13-003+1020, signed Sept.24, 2018). This 2018 document lists conservation measures as “Management Decisions” (MD) and is more stringent in some cases. For example, even though the definition of “Necessary Tasks” is given on page G-12 of the Dec 2008 RECORD OF DECISION and Approved Rawlins Resource Management Plan, the Management Decision MD 8 disallows some of the tasks, such as using a motorcycle for managing livestock. This change was decisioned by the BLM, and we wonder if those affected by the ACEC are even aware of it. If the ACEC were expanded to include part of our allotment, this seemingly small difference would be extremely burdensome to us. This is an example of where there is a consistency conflict with the BLM’s plans vs. the county’s, that never got addressed even though it is required by FLPMA.	Language was updated to the 2018 BLM Decision Document to ensure that the most recent information is presented in the document.
Gary and Judy R.	Also, regarding your pg. 44 as it is currently written, item j. should list “bran” not “brain” bait; and item	Comment was addressed in document

Gary and Judy R.	item I. needs to be worded according to MD 8 in the 2018 document.	Language was updated to the 2018 BLM Decision Document to ensure that the most recent information is presented in the document.
Gary and Judy R.	Please add PHMA and GHMA to your list of ACRONYMS at the front of the plan.	PHMA and GHMA were added to the list of acronymns.
Gary and Judy R.	The text in the middle of pg. 144 says, “There are 2,195,978 acres of sage-grouse PHMA and 4,300,409 acres of GHMA designated within Carbon County.” That’s a ratio of approximately 1:2. However, the map (Fig. 23 on pg. 153) at first glance has a ratio closer to 1:1. Why the discrepancy?	Information was checked and updated for clarity.
Gary and Judy R.	The last paragraph puts the total acres in the county at “over 5 million”. But if you turn to pg. 144, the numbers given there add up to 6,496,387 (that’s 2,195,978ac. of sage grouse PHMA + 4,300,409ac.of GHMA), AND turn over to the map on page 153 to see that there are even more acres that have not been added in: those outside of the PHMA & GHMA. The map on pg.153 (Fig. 23) shows probably a total of about 7,000,000 ac.—Just so you know that there’s a discrepancy in the total # acres in the county	Information was checked and updated in the document for clarity and accuracy.
Gary and Judy R.	Please add the words “or expanded” at the end of the sentence in #14. Otherwise, there could be loss of critically important winter forage for cattle.	Addition of suggested words were included in this section.
Gary and Judy R.	In item F., we recommend replacing the phrase “best available scientific information” with the word “credible” since there is plenty of scientific info out there that has NOT been	The phrase was replaced with credible.

	peer reviewed by outside, non-subjective interests.	
Leanne C., SERCD	Duplicate of #2 – delete.	Comment was addressed in document
Leanne C., SERCD	We believe data submitted that does not meet the credible data criteria should be removed from the file and not kept. It should not be evaluated with lesser weight.	Comment was addressed in document
Leanne C., SERCD	Needs clarification. Suggest adding the words “Federal land use” before the word “Projects”.	Comment was addressed in document
Leanne C., SERCD	The words “permit status” should be “project status”.	Comment was addressed in document
Leanne C., SERCD	We discussed the split estate issues as a Steering Committee. There was to be a “split estate” priority added that was mirrored after the current #6 priority.	Policy statement was added to include split estate.
Leanne C., SERCD	We still have several concerns with RMOs and priorities in this section as they are currently written. The Steering Committee had significant discussion here and we think there are still language clarifications needing made dealing with private property issues, federal and state roads, temporary vs forest system roads, converting old logging roads to recreational use, and access to forest products priority.	The RMOs and priorities in this section were reviewed by the steering committee and updated to reflect the private property issues.
Leanne C., SERCD	The Potential RNAs section should be removed from this document as those were fully analyzed in either the BLM or FS documents and do not need to be in this document.	This section was removed from the document.

Leanne C., SERCD	The Steering Committee discussed the WSAs and the WPLI process. Clarification is still warranted here.	A separate section on WPLI was added to help with clarification between WSAs and recommendations presented by WPLI.
Leanne C., SERCD	This priority should be duplicated in the Agriculture Production section also.	The priority was duplicated to the agricultural production section.
Leanne C., SERCD	We are wondering why 'Rangeland' was added to this section? All the rangeland info from pages 64-66 should be in section 9.2.1. There aren't RMOs or Priorities dealing with range in this section.	The rangeland section was taken out of this section and moved to section 9.2 Livestock Grazing.
Leanne C., SERCD	The narrative on page 69 for PILT should be before here. Place in section 3.5.2.	This was moved and PILT is discussed in Section 3.6 Land Exchanges.
Leanne C., SERCD	Third paragraph is still missing the correct Citation. It just says {Citation}.	Comment was addressed in document
Leanne C., SERCD	We changed language in during the committee review but didn't quite get it right. Add the word "pre development" between "its" and "productivity".	Language was updated for clarity.
Leanne C., SERCD	This one was added through committee discussion and would suggest a wording change. Replace the word "degrade" with "have short-term negative impacts on".	Language was updated in priority.
Leanne C., SERCD	Suggest splitting this into 2 RMOs.	This RMO was split into two separate RMOs.
Leanne C., SERCD	There are 2 different topics in this priority. May split into 2.	This priority was split into two priorities.
Leanne C., SERCD	Duplicate of number 12. Delete.	Duplicate was deleted.
Leanne C., SERCD	We talked about this priority during the committee review but didn't quite the wording right. The last few words "their decision" need clarifying. Decisions for what	Comment was addressed in document
Leanne C., SERCD	There are 2 separate RMOs combined in this one. Each sentence was and should be a different RMO – D and E.	The resource management objective was split into two separate statements.

Leanne C., SERCD	The numbering is off in this section. Should be 6.1.4 and says 3.1.4.	Numbering in section was reviewed and updated.
Leanne C., SERCD	Suggest removing “within Carbon County” from A and “in Carbon County” in D since the HMAs that are in Carbon County span into neighboring counties so that we aren’t confining the statement to only prescribe this management in the County.	Suggested edits were made to statements.
Leanne C., SERCD	It states 1 year. That was under the EO and now under rule it should be 2 years as stated in the Legal framework narrative.	Correction was made from 1 year to 2 years per the Executive Order wording.
Leanne C., SERCD	We discussed the language in during the committee review but did not make the clarifications. Suggest updating for clarification before the final.	Significant updates were made to agricultural production section for final draft.
Leanne C., SERCD	The Steering Committee discussed the encroachment issue for conifers and sagebrush. We were going to add a RMO to broadly address support for this type of project.	Resource management objective to address encroachment was added to this section.
Leanne C., SERCD	The Steering Committee discussed the encroachment issue for conifers and sagebrush. We were going to add a priority for each issue to broadly address support for projects addressing species encroachment causing impediments to ecosystems.	Priority statement was added for encroachment.
Ron P.	Mule Deer- I believe the wording is backward saying mule deer have "began to encroach into developing areas". Mule deer were here long before "white man" and man's developing of areas within Carbon County have encroached on the Mule Deer.	Comment was addressed in document

Leanne C., SERCD	To address small game hunting, trophy game hunting, and trapping, add the following RMO: "Federal agencies consider the economic well-being and custom and culture of the County and its citizens when making decisions affecting wildlife within the County." This one is from the "Expectations" section with slight modification.	Suggested resource management objective was added to this section.
Ron P.	These pages have examples for only using the word "county". To make it very clear, in every instance that the word county is referring to Carbon County, it should read Carbon County.	Document was reviewed for these instances and updated where appropriate.
Leanne C., SERCD	NPS was added to the Table after the Steering Committee Draft. What is this? Please clarify and explain as it is not on the Figure 2 map either.	NPS was taken out of table 1. There are no NPS lands within Carbon County. This was also updated in section 3.1.2.7.
Richard K.	Priorities. #5 Completely agree. Perhaps the following thought is covered elsewhere but private property rights when accessing government lands, the Platte River etc. by going through private land. Same concern holds for #11. Private property rights are sacred.	Language was updated for clarity for private property rights.
Justin H.	Highlights that agencies need to allow full and complete access to federal lands. This line is problematic for many landowners that find them selves between public roads and public land. It could be read that the county believes public should be allowed to cross private land to access public land— something I do not believe the county is in support of.	Language was updated in section and in objectives and priorities to clarify that infringement upon private property rights is not supported.

Justin H.	Suggest adding to section A “Unless it infringes on the rights of private landowners.”	The suggested phrase was added to objective B as it was split from A and was more applicable.
Richard K.	Resource Management Objective. “A”. Protection of private property rights should be included. As written someone might surmise that private property could be used to access federal lands when , in fact, that is not the case. Some people love to read between the lines.	The suggested phrase was added to objective B as it was split from A and was more applicable.
Ron P.	5 Change the words "from the proposal" to read FROM THE DATE THIS NRMP IS APPROVED BY THE COUNTY.	Clarified language in priority statement to include after 2020 as the recommendations have been set forth by the WPLI committee prior to 2020.
Trout Unlimited, Jeff S.	<p>“Wilderness Study Area designations by Congress should be expedited to achieve a decision within 2-years from the proposal of the designation; should the designation not be made within this timeframe, the County requests that the area be returned to multiple use.”</p> <p>After the recommendations, arrived at by consensus of the WPLI Committee, there remains one BLM Wilderness Study Area that meets this criterium, the Ferris Mountains. The Ferris Mountains have remained a rugged, difficult to access, and unique mountain range within Carbon County. Their wilderness characteristics reflect the history and culture on our county. To anyone who has hunted or hiked in the Ferris, it is a very special place.</p> <p>Determining a future management strategy</p>	Clarified language in priority statement to include after 2020 as the recommendations have been set forth by the WPLI committee prior to 2020.

	for the Ferris Mountains remains a challenge. To designate the entire mountain range as multiple use is side-stepping that challenge. Trout Unlimited strongly suggests the Ferris Mountains be made an exception to this Priority.	
Richard K.	Resource Assessment and Legal Framework. Is it possible within this document to prioritize and make compelling the proactive fire mitigation of public lands? Joe, I may be off topic but given the most recent fires (Mullen etc.) and our drought conditions, mitigation should be a clear priority. Would appreciate your response to this suggestion. My comments would apply to 3.4.3 and 3.4.4 on page 56 and 3.5 Forest Management pg. 58.	Fire mitigation is addressed in priorities 3, 4, 5, and 10 in the wildfire management section.
Ron P.	I add ENCOURAGE THE USE OF "FREE (IN APPROVED AREAS) DEAD WOOD" (no size limit) FOR PRIVATE USE TO REDUCE THE FUEL LOAD ON PUBLIC LAND.	Priority statement added to section 3.4.3

Leanne C., SERCD	This Priority deals with the Secretarial Order 3336. Information on what this order is should be included in the legal framework if the plan is going to have this priority.	Upon further review this really applies to the Great Basin and therefore does not completely apply to Carbon County, therefore the priority statement was taken out.
Ron P.	Remove number 14. This is the natural way for forests to expand. Aspens continue to move "out" expanding as conifers get established. This is natural forest regeneration that the plan supports in item 17.	The steering committee reviewed this comment and decided to leave the priority statement in the document.
Trout Unlimited, Jeff S.	<p>"Federal agencies should support coal energy as the primary source of electric power until other sources become more economically feasible and more efficient."</p> <p>Recognizing the history, custom, and culture of the County is intertwined with coal production, Carbon County has enthusiastically endorsed renewable energy, specifically wind as a source of revenue, and jobs. All indications are that the electrical grid will, in the future, rely more on renewable energy sources at the detriment of fossil fuels. There already exists parity of efficiency between coal and renewable energy sources in some markets. Does the quote above suggest that once parity is attained, federal agencies should no longer support coal production?</p>	Updated language in priority statement to reflect that the County Commissioners supports all sources of energy.
Gary and Judy R.	We are glad to see that "credible data criteria" is mentioned in Priorities item#1. We also want to comment, here, that Carbon County must really stand firm on these issues	Comment received and taken into consideration. The steering committee and County Commissioners agree that these issues must stand firm and be enforced.

	and count on enforcing their statements on these pages.	
Gary and Judy R.	Re; Item #12...We just wonder how the county will handle the case if the fed. gov. DOES rule irrigation ditches as “navigable waters.”	The scope of this NRMP is to work within the current legal regulatory parameters. The plan is a living document and will be updated regularly to reflect changes in policy.
Leanne C., SERCD	Unemployment: Discussed in Steering Committee. In one statement is says the 2020 data isn’t available yet and then it states the highest monthly unemployment rate was May of 2020. Please update for consistency.	Information was updated to include 2020 numbers as they are now available.
Ron P.	items 11 and 12; The county does not have the information or resources to do this, thus it becomes subjective. Not acceptable. Both No. 11 and 12 should be taken out of the NRMP. Both could put an added hardship on permit holders and effect the economy of this county. This looks like a Money Grab and no consideration of the added work load to county employees. The only way this could be acceptable is if the county has sole authority on permits and State lands and State boards, Wy G&F, BLM, Parks, and USFS no longer are involved.	The steering committee reviewed these statements and agreed that they should be left in. Clarifying language was added of "should coordinate" so that it allows the County and its employees to participate and coordinate as they see applicable.
Leanne C., SERCD	The narrative date and Priority # 5 date do not match for the CEQ regulation. July 15 vs July 16.	Sections were updated to have July 16th as the date.
Justin H.	Item 10. Suggest adding verbiage that sets a timeline for notifying lease holders of grazing plan.	A timeline of 60-days prior to permitted turn out date was added to priority statement.

Justin H.	Economic support following wildfire is limited if the event was human caused—thus the Ryan Fire and Mullen Fire both had limited funds available to landowners. The impact on landowners is no less, but support is diminished. Suggest wording that states agencies should endeavor to assign economic compensation to landowners regardless of fire ignition source.	Priority statement was added to Section 9.1.4 stating "Any agricultural property damage, crop loss, or livestock injury/loss caused by a fire, resulting in economic loss in Carbon County shall be considered justification for economic compensation and restoration to the impacted property owner at current market values."
Trout Unlimited, Jeff S.	The Wyoming Public Lands Initiative (WPLI) Committee for Carbon County recommended by consensus that the Black Cat Area be designated a Special Management Area. This recommendation should be noted within the document.	The WSA section of the document was updated to include a section specific to WPLI, this information was included in that updated section.
Gary and Judy R.	<p>We strongly recommend that the first item to list under a “Management Objectives” section and under a “Priorities” section—all throughout the CCNRMP—is the following sentence: ANY FEDERAL AGENCY ACTION INCONSISTENT WITH ANY OF THE FOLLOWING OBJECTIVES [or PRIORITIES, as appropriate] REQUIRES NOTIFICATION OF SUCH AND A CONSISTENCY REVIEW PURSUANT TO FLPMA.</p> <p>For example, that sentence would be inserted above item “A” on page137, in Section 6.2.3 Resource Management Objectives.</p> <p>We feel that the requirement for consistency review is very important and must be kept prominent on federal agencies’ procedural radar. This ensures the greatest chance of CCNRMP effectiveness.</p>	Priority was added to section 1.3.4 County expectations.

Richard K.	Priorities. #2. Joe, Would Carbon Power and Light be a stakeholder? How do they fit into the overall Solar picture?	Thank you for your comment. The steering committee reviewed and kept the priority statement as worded.
Leanne C., SERCD	The 2 mule deer migration corridors in Carbon County are not identified on the map.	The Governor's migration corridors were added to the mule deer map.
Leanne C., SERCD	Can't distinguish the GRSR Core areas on the map as we printed due to the colors used.	The sage-grouse map was updated to have more distinguishing colors between GHMA/PHMA/and Core habitat areas.
Justin H.	The WPLI process in carbon county also recommended designation of the Black Cat Special Management Area along with the Prospect Creek Wilderness: See pages 1 and 2 of the document here. If preferred, reference to Black Cat SRMA could also be made on pg 46; however, connecting it with the WPLI section is preferable since that was a public process. Reference to Black Cat SRMA from the WPLI should also be made on the map on Pg 50.	The WPLI and WSA sections were split out for more clarity on what the WPLI process was and what recommendations came out of that collaborative.
Ron P.	1 insert the word IMMEDIATE between in and wildfire to read - in immediate wildfire suppression activities.	Comment was addressed in document
Ron P.	The word PRIORITY is used to list the County's position. I believe that it should read CARBON COUNTY'S PRIORITY. There should also be definition of priority in the plan and it should either be from Webster's New Collegiate Dictionary 1 (2): legal precedence in exercise of rights over the same subject matter; or Black's Law Dictionary; Precedence: going before. A legal preference or precedence. When two persons have	The description of priority statements as they are intended to be used in this document is presented in section 1.3.1. As explained in Section 1.3.1, priority statements are supposed describe specific priorities on how to achieve the County's Resource Management Objective for each resource. Priority statements tier to Resource Management Objectives for each resource and address the question, "How would the

	<p>similar rights in respect to the exclusion of the other, he is said to have priority. This definition is necessary to make the plan applicable to Carbon County and it's residents that would be a precedence for the use of their Natural Resources.</p>	<p>County like to see its objectives achieved?" The general agreement or disagreement with the interpretation described in the Resource Assessment section should be used as the defining direction for the priority statements. The definition of "priority statements" as set forth in Section 1.3.1 was derived from the Wyoming Governor's Office document on eligibility and criteria for Natural Resource Management Plans for Federal Natural Resource Policy Account Funding.</p>
<p>Gary and Judy R.</p>	<p>Several of these priorities invite federal government intrusion into our local "problems"—the very things this plan is designed to confront. Regulatory authority should remain local if at all possible. Also, such gov. intrusion spends taxpayer dollars and steals liberties.</p>	<p>The intent of this Natural Resource Management Plan (NRMP) is to have a specific document outlining on paper, the policies, objectives, and data needed by local government in order to effectively take advantage of the federal mandates to allow local governments to participate in consistency review, coordination, and cooperating agency status. The NRMP applies to the surrounding <i>federal land</i> and reflects the Carbon County's position on federal decisions that affect the local government and its constituents. Therefore, the NRMP has been narrowly tailored by both the Steering Committee and the County's consultants to address specifically naturally resource and economic issues that federal agencies already are involved in. The County agrees that regulatory authority should remain local if at all possible and this NRMP provides great emphasis on the special expertise of the County and Conservation Districts in addressing local natural resource</p>

		issues. To continue this goal of effectively and substantively participating in the agency decision making process, this plan may be amended by the County in the future. The County welcomes any and all comments or suggestions from the public of specific objectives or priorities that may invite government intrusion into Carbon County's local problems.
Gary and Judy R.	In the 3rd paragraph, "Coordination should include both regularly...." isn't a very strong demand & is definitely not binding. "Shall" is an imperative—it means something absolute, whereas "should" is just an opinion. "Should" is used numerous times in the plan, and guarantees no definitive action every time it's used.	The definition of "shall" is that the agency has "duty to; more is required to" do a specific action. <i>Blacks Law Dictionary</i> p. 689 (4 th Pocket Ed. 2011). "Shall" further intimates an absence of discretion. <i>In re MN</i> , 1717 P.3d 1077 (Wyo. 2007). Therefore, shall is only appropriate whenever there is a specific law or regulation that removes all discretion from an agency's decision and the County may legally require the agency follow the certain policy or objective. Absent a law or regulation removing such discretion, as advised by their consulting legal counsel, the Steering Committee chose to use the term "should" in order to convey a policy request to the agency that the County requests the agency accommodate as a part of its duty under consistency review.
Gary and Judy R.	If the OMB memorandum doesn't specifically require outside peer review, then any so-called scientific data that's flawed may not come to light as long as there is no objective, outside-the-agency peer review to challenge paradigms & apply different perspectives.	Comment considered and changes made to the Plan. Data transparency is essential to ensuring that federal agencies are making rational, data driven, decision. Priority 7 in Credible Data reflects this concern and request that federal agencies be transparent

		as to the source of all data and studies used in their decision.
Gary and Judy R.	If the executive order reversal of WOTUS were to cause us to have to obtain a permit to clean an irrigation ditch or reconstruct a diversion, that just wouldn't be feasible. When the snow melt comes off Ferris Mountain in the Spring, it's gone in a hurry and we've lost the good part of a year's worth of winter feed production if we were to delay because of waiting for a permit.	Carbon County supports the current definition created in the 2020 WOTUS ruling as reflected in this NRMP.
Gary and Judy R.	FLPMA's requirement of consistency review probably offers more convenient and impactful influence at the local level than anything else in the CCNRMP. –But only if there is involvement at the local level to engage the full benefit of any review. Ideally, any need, objective, or priority written within this plan, that is of importance to the county, should be framed in a manner that will require a consistency review if/when it is contradicted or negatively affected by any federally proposed action or decision. FLPMA's requirement of consistency review can be emphasized prominently, early, and often in this plan, and decisions by federal agencies need to be continually monitored by cooperating agencies to ensure compliance. When compliance is lacking, established time restraints & limitations specified in the CCNRMP need to be enforced.	The County agrees that consistency review as required in FLPMA and NEPA is a powerful way to impactfully influence local federal decisions, but effective consistency review will only happen if the County continually asserts its rights under FLPMA and NEPA. Therefore, upon adoption and publication of this NRMP, the County intends to use this actively use this NRMP as a tool for consistency review, and the County intends to continually assert that right whenever a decision is proposed.

Gary and Judy R.	This plan needs to do better than the last CCNRMP at requiring and enforcing consistency reviews, as evidenced by the last two sentences of the 3rd paragraph: “Road closures have occurred in the County by both federal and state agencies without prior coordination, despite requirement by federal law for coordination prior to a final decision. This has caused economic harm and impacted citizen and visitor enjoyment of the County’s natural resources.”	This Natural Resource Management Plan will be implemented to the maximum extent allowed by federal and state statute. It is important to note that the currently proposed NRMP is substantively a different document with a different purpose and scope from the last resource plan because it is a stand alone document. The document is intended to be a living document and will be updated regularly to reflect changes in natural resource policy. Additionally, the County fully intends to regularly promote and assert its rights to consistency review and coordination through this NRMP.
Gary and Judy R.	Each one of these local requirements, objectives, or priorities, when denied or restricted by federal regulations or policies (you judge)--- are they another “train car” added to the “...long train of abuses and usurpations...”? If so, they should be added to the record, made known, and should not be quietly dismissed from the court of local public opinion. The longer the train gets, the more vivid becomes the justification for restoration. An interesting yearly statistic to record and monitor is the number of Consistency Reviews the federal agencies have conducted and identified by issue.	This Natural Resource Management Plan will be implemented to the maximum extent allowed by federal and state statute. It is important to note that the currently proposed NRMP is substantively a different document with a different purpose and scope from the last resource plan because it is a stand alone document. The document is intended to be a living document and will be updated regularly to reflect changes in natural resource policy. Additionally, the County fully intends to regularly promote and assert its rights to consistency review and coordination through this NRMP.
Gary and Judy R.	Does the Carbon Co. Planning & Zoning Commission’s 2015 plan give “free rein” to the federal agencies to put in place regulations—however strict they want—regarding siting & location standards for	Comments regarding the 2015 plan is outside of the scope of this current notice and comment period. However, to the extent it is relevant to this NRMP, the general policy is that any regulations or management

	commercial scale energy systems regarding greater sage grouse?	decisions proposed by federal agencies affecting the economy, custom, and culture of Carbon County should be coordinated with the County Commissioners.
Gary and Judy R.	There are many “shoulds”—as mentioned above—that really pack no power behind them. We realize that that may be the strongest language that can be used in this document, under the circumstances. Contrastingly, a statement like #5 on pg. 101 may actually have an on-the-ground impact, as may page 18 #5 where “shall” is used—provided that it’s enforced in some way.	The definition of “shall” is that the agency has “duty to; more is required to” do a specific action. <i>Blacks Law Dictionary</i> p. 689 (4 th Pocket Ed. 2011). “Shall” further intimates an absence of discretion. <i>In re MN</i> , 1717 P.3d 1077 (Wyo. 2007). Therefore, shall is only appropriate whenever there is a specific law or regulation that removes all discretion from an agency’s decision and the County may legally require the agency follow the certain policy or objective. Absent a law or regulation removing such discretion, as advised by their consulting legal counsel, the Steering Committee chose to use the term “should” in order to convey a policy request to the agency that the County requests the agency accommodate as a part of its duty under consistency review.
Ron P.	2nd paragraph after the last sentence add - REQUEST THAT AS ANOTHER RELIABLE SOURCE OF FUNDING, SPECIAL USE PERMIT HOLDERS BE GIVEN CREDIT TO WORK ON RECREATIONAL TRAIL MAINTENANCE AND RECEIVE CREDIT OFF OF THEIR PERMIT FEES. This will reduce the Govt. need to generate funds for this, pay Govt. employees, and keep that money in the local economy.	Federal law would not allow for such a request at this time. However, the Special Use Permit holders are allowed to bid on trail maintenance opportunities and get compensated accordingly.

Ron P.	<p>add number 19</p> <p>19. Carbon County supports a change in federal laws that apply to fighting wildfires in designated wilderness and wilderness study areas. A) Fires that aren't an act of "mother nature" will receive immediate response for suppression. B) The use of all standard fire fighting practices and equipment for said fire. C) Removal of the dead fuel load on the perimeter of wilderness and wilderness study areas.</p> <p>We don't need a recreation of last falls MULLIN FIRE.</p>	<p>Requesting a change in federal law is outside the scope of this document. However, the County attempted to address this concern by creating firefighting Memorandum of Understanding objectives and priorities in Section 8.2.3. Specifically refer to Objectives F and J.</p>
Trout Unlimited, Jeff S.	<p>This very brief section on climate change seems to downplay the devastating long-term effects of this phenomena. Though often refuted, climate change resulting from human activity was first documented almost forty years ago. It is prudent to question scientific findings. It may prove short-sighted to dismiss them off-handily.</p>	<p>The steering committee looked closely at the legal background and custom and culture of Carbon County and tailored this section and the objectives and priorities based on what was felt to be the overall custom, culture, and policies of climate change within the County.</p>
Gary and Judy R.	<p>Fig. 3 needs to be corrected to show the actual Blowout Penstemon ACEC boundary that was decisioned in the DECISION RECORD FOR THE RAWLINS RMP AMENDMENT FOR VISUAL RESOURCE MANAGEMENT (BLM/WY/PL-13-003+1020 --See Map 2). The writers of this CCONRMP DRAFT may have been provided with a map showing the incorrect boundary. If not corrected, this could be one of those mistakes that mysteriously becomes "policy" and regulates areas that should never have been.</p>	<p>The accurate map for this area boundary was hyperlinked into the document for reference.</p>

Ron P.	Resource Assesment and Legal Framework: There is not mention of (by Wy. Law) the species of Black Bear, Mtn. Lion, etc. They are TROPHY GAME. They are only later mentioned as predators. These species play a role in the environment and provide recreation and economy to Carbon County. By legal definition they are not predators. True by thier prefered food source and life style they may act as predators just as man does.	Information on these species was added to the wildlife section.
Ron P.	First paragraph line 3: Wording should read Trophy Game animals. Also there isn't a section addressing the furbearer in Carbon County. Trapping was a big part of the early history. Fur prices fluctuate up and down and when up contribute to the economy of Carbon County. Beavers annually have effects on Agricultural production and must be removed for damage control.	Information was added on fur bearers and other small game species in the wildlife section.
Leanne C., SERCD	The Ag Statistics Data is confusing and needs some clarification. We will be sending some suggested language clarification before the Steering Committee meeting on Monday the 22nd.	Provided language was included in the section to help with clarification.

Gary and Judy R.	We believe that a true picture of Agriculture would be surprising and that not many who read this plan would have a clue as to what is occurring. We need a historical perspective of where Ag was & now is. Certain related data points are: number of farms (We know that's complicated by the fact that one large corporation owning what were formerly 8 family ranches, e.g., may still report 8 individual ranches existing. The BLM can help with accurate data.); size of farms (but accurate data involves same issue); livestock receipts vs. expenses; livestock & crops receipts listed separately; conservation mitigation credits receipts; conservation easement receipts; government subsidy receipts; recreation receipts. The UW Economics Dept. may have accurate data.	Agricultural production section was updated to help with clarification and explain a more accurate picture within the County.
Gary and Judy R.	At the bottom of page 188 is the statement , "Among Carbon County's top industries, agriculture cash receipts total nearly one billion dollars annually." Just WHAT is included in the cash receipts, then? Compare that statement to the statement on page 189 that says, "In 2012, the market value of agricultural products in Carbon County totaled \$78,578,000." In just eight years, did ag start bringing in one billion dollars annually instead of 78 million? Something is hidden in this data that needs to be explained or qualified.	Agricultural production section was updated to help with clarification and explain a more accurate picture within the County.

Gary and Judy R.	<p>Error: In the 2nd paragraph, it states, “The estimated market value of agricultural land was \$4,187,090 for the County.” According to the USDA.gov/Publications/AgCensus website, that \$4,187,090 figure is actually the average value of a farm in Carbon County in 2012. The correct figure for the total estimated market value of all agricultural land in Carbon County in 2017 was \$1,547,805,000. (USDA.gov/Publications/AgCensus). The 2012 figure is in their data, too, if you’d rather use that.</p>	This information was reviewed and corrected based on 2012 and 2017 ag census data.
Gary and Judy R.	<p>Errors on page 189. Ag land and its operation are no longer primarily responsible for the economic & social well-being of the county. The oil & gas industry and travel & tourism industry both generate much more income for the county, for example. (Another example: According to census.gov, the total retail sales in Carbon Co. in 2012 were \$305,454,000.00. The USDA.gov website gives the market value of all ag products sold in the county in 2012 as \$78,578.00, which is FAR LESS than retail sales.) And all of this doesn’t even mention the fact that more than half of the county’s farms had net losses in both 2012 and 2017, instead of net gains, (USDA census data), nor the fact that Wyoming is one of four states where “more than 35% of all net farm income for the year is tied to direct government payments.” (Farm Credit Services of America magazine Common Ground, Winter 2020) Please</p>	Information updated for accuracy and better clarification.

	include accurate statistics that reflect the truth of the current status of the relative contribution of the ag industry to the economy & the work force of Carbon county.	
Gary and Judy R.	<p>The entire 1st paragraph on this page seems to be trying to convey that Carbon Co. ranks high in the state with respect to ag production. But the complete picture shows that when taken with all industries in the county & state, ag is down at the bottom, as is shown in the “Earnings by Industry” graph on page 182. In Wyoming’s early history, it certainly wasn’t that way, but the trend over the last decades shows that ag in Carbon County is, and has been, shrinking (also see graph on pg. 181).</p> <p>The 2nd paragraph gives data that continues the rosy impression that the 1st paragraph conveyed, and even makes the entirely false statement, “Agriculture is a major source of revenue and employment for Carbon County.” Just focusing on ag employment, for example, the DataUSA website states on its Carbon County, WY “Employment by Industry” chart that Ag, Forestry, Fishing & Hunting all together employ only 7.9% of the workers in our county. Even though the Employment graph in the CC DRAFT NRMP (Fig. 29) shows a small, gradual increase in ag employment over the last decade, the employment by the ag industry is still a small percentage, not a major source.</p> <p>One may wonder why the number of people who choose to be employed in ag has</p>	Information was updated to reflect accurate information and provide better clarification.

	decreased over the decades. There are a few reasons, one of which is over-regulation—a reason some of the Sun family sold out after 100+ years of supporting this community.	
Gary and Judy R.	This sentence in the 2nd paragraph should be reworded, as it gives a wrong impression as to how the figure of 18% was arrived at: “Between 2012 and 2017, the number of farms increased by 8% and the average farm size increased by 10%, resulting in a [sic] 18% increase for farmland in the County.” And farther along in that paragraph, the 223% figure, though accurate, needs some explanation, as it is extremely out of the ordinary.	Sentence was updated for better clarification.
Gary and Judy R.	Overall Comment: For a more accurate “Resource Assessment” portrayal of ag in Carbon County, the following wording from BLM’s Environmental Assessment DOI-BLM-WY-D030-2018-0213-EA, page 20, sums it up very well: “Although these [ag] revenue levels may not contribute in total earnings as much as other sectors, agricultural production is still an important contributor to the state’s economy. For example, in a study conducted in 2000, economists from the University of Wyoming compared the income provided to county governments and public schools to the financial demands on community services from agricultural and residential developments. The study shows that on average in Wyoming, ranching activity generates nearly twice as much income for community services as it requires	Ag section was updated for better clarity to include language from the Census of Ag from 2012 and 2017.

	in expenditures on community services, whereas residential development generates about half as much income as it requires in expenditures (p.3-65, BLM 2008b). These findings underscore the importance of agricultural production in terms of its contribution to local economies.” That is a true and good reason to value agriculture and to see that the CCNRMP helps protect the industry from shrinking even further, over time. And that whole BLM quote would make an excellent addition to the 4th paragraph on page 191, section 9.2.1.	
Trout Unlimited, Jeff S.	I found some chapter sections difficult to understand. Though some shortcomings were simple typos, missing words, subject/verb disagreements, others were more complex. It is suggested that this document, prior to the final draft, be read aloud to catch and correct these numerous issues.	A thorough review of the final document was completed to correct for typos, missing words, and other grammatical errors.
Gary and Judy R.	Please consider breaking out the “Non-Services Related” bar on the bar graph into four separate categories (Ag, Timber, Mining, and Other), for a more accurate view of each. We feel like this is very important information for this plan.	The chart is directly out of the Headwaters report and the data is categorized/shown as 'Non-Services Related', there is no split out data. If you want we could create tables with data pulled from somewhere else (maybe the online program?) or leave it as is.
Leanne C., SERCD	As per previous Steering Committee discussions and the comments from other public, there needs to be some additional acknowledgement of black bear, mountain lion, small game, fur bearers, and trapping. At minimum an acknowledgement of laws and	Additional information on these species was added to the background section of wildlife .

	regulations that pertain to them, particularly trapping.	
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