SEPTEMBER 15, 2020

Crook County DRAFT Natural Resource Management Plan

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CONTENTS

ACRONYMS

ACEC- Areas of Critical Environmental Concern

AF – Acre-Feet

AML – Appropriate Management Level

APHIS – Animal and Plant Health Inspection Service

ARPA – Archeological Resources Protection Act

AUM- Animal Unit Month

BJFTA – Bankhead-Jones Farm Tenant Act

BLM- Bureau of Land Management

BMP-Best Management Practice

BOR- Bureau of Reclamation

CCA – Candidate Conservation Agreements

CCAA – Candidate Conservation Agreements with Assurances

CCCD – Campbell County Conservation District

CCCLUP- Crook County Comprehensive Land Use Plan

CEQ- Council on Environmental Quality

CCNRD – Crook County Natural Resource District

CWA – Clean Water Act

CWPP – Community Wildfire Protection Plan

EA- Environmental Assessment

ECOS – Environmental Conservation Online System

EIS- Environmental Impact Statement

ENSO- El Niño-Southern Oscillation

EPA- Environmental Protection Agency

ERFO – Emergency Relief for Federally Owned Roads

ESA- 1973 Endangered Species Act

ESD – Ecological Site Description

FAR – Functioning-at-risk

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

FLH – Federal Lands Highway Division

FLMPA- 1976 Federal Land Management and Policy Act

FLTP – Federal Lands Transportation Program

FSH – Forest Service Handbook

GHG- Greenhouse Gas

GLO - General Lands Office

GPC—Groundwater Pollution Control

HMA – Herd Management Area

IMR – Intermountain Range

IRA – Inventoried Roadless Area

LNG – Liquified Natural Gas

LUP- Land Use Plan

LUPAs – Land Use Plan Amendments

LWC – Lands with Wilderness Characteristics

LWCF- Land and Water Conservation Fund Act of 1964

MCF – Million Cubic Feet

MHMP – Multi-Hazard Mitigation Plan

MOA - Memorandum of Agreement

MOU - Memorandum of Understanding

MUSY- 1960 Multiple Use Sustained Yield Act

NAAQS – National Ambient Air Quality Standards

NAO- North Atlantic Oscillation

NEPA- 1973 National Environmental Policy Act

NF – Non-functioning

NFHL – National Flood Hazard Layer

NFIP – National Flood Insurance Program

NFMA- 1976 National Forest Management Act

NFS – National Forest System

NGL – Natural Gas Liquid

NHPA – National Historic Preservation Act

NPS- National Park Service

NRCS – Natural Resource Conservation Service

NRMP- Natural Resource Management Plan

NSFLTP – Nationally Significant Federal Lands and Tribal Projects Program

NSS – Native Species Status

NWR – National Wildlife Refuge

OAA-1897 Organic Administration Act

OHV – Off-Highway Vehicle

OMB - Office of Management and Budget

PDO -Pacific Decadal Oscillation

PFC—Proper Functioning Condition

PILT- Payments In Lieu of Taxes

PRPA – Paleontological Resource Preservation Act

RNAs – Research Natural Areas

RTP – Recreational Trails Program

SHPO – State Historic Preservation Office

SIPs – State Implementation Plans

SWAP – State Wildlife Action Plan

TBGPEA - Thunder Basin Grasslands Prairie Ecosystem Association

TBNG – Thunder Basin National Grassland

USACE – U.S. Army Corps of Engineers

USDT – U.S. Department of Transportation

USFS- U.S. Forest Service

USFWS – U.S. Fish and Wildlife Service

USGS- U.S. Geological Survey

USRS- U.S. Reclamation Service

W&WP – Water & Wastewater Program

WAFWA – Western Association of Fish and Wildlife Agencies

WDEQ – Wyoming Department of Environmental Quality

WEQA – Wyoming Environmental Quality Act

WFRHBA – Wild and Free Roaming Horses and Burros Act

WGFD – Wyoming Game and Fish Department

WOGCC – Wyoming Oil and Gas Conservation Commission

WQD—Wyoming Quality Division

WSA – Wilderness Study Area

WSFR – Wildlife and Sport-Fish Restoration

WSGS – Wyoming State Geologic Survey

WWDC – Wyoming Water Development Commission

WWDO – Wyoming Water Development Office

WYDOT- Wyoming Department of Transportation

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INTRODUCTION

PURPOSE

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 state statute as protecting their "health, safety and welfare." 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 can be strongly impacted by the management of the surrounding federal and public lands. To give the locally elected government the strongest voice it can have during "government-to-government" interaction, local governments can formally adopt "local land use plans" (LUPs) or NRMPs. These plans establish local policy regarding the use and management of federal lands in their jurisdiction and can influence the development and implementation of federal policies, programs, and other types of federal decision-making regarding federal lands that affect a local community. NRMPs are intended to help protect the local citizens' use of, and access to, federal and public lands and resources and to ensure the socioeconomic wellbeing, culture, and customs of a local community are adequately considered in federal decisions (Budd-Falen, 2018).

This county natural resource plan serves as a basis for communicating and coordinating with the federal government and its agencies on land and natural resource management issues. Counties are particularly well-suited to understand the impacts that federal land management decisions may have 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)).

These local LUPs are not zoning and do not regulate the use of private lands. When people think of LUPs, they typically think of the general planning document that counties use to determine zoning on private lands. A 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 in the 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 land. 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 the decision-making process 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 to 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).

Statutory Requirements and Legal Framework

Federal agencies are required to identify and analyze the impacts to local economies and community cultures when making decisions. NRMPs outline the present economic and cultural conditions and desired future conditions of a local community and demonstrate how those conditions are tied to activities on adjoining federal and public lands. The plan establishes the local government's preferred policies for the planned use, management, protection, and preservation of the natural resources on the federal and public lands within its jurisdiction. The goal of a NRMP is 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 a 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 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).

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. 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 type of federal decision, the level of commitment of the local government, and the goals of the local government.

First, local governments can use these plans as part of the federal agency's "consistency review" process. Under this provision, if the federal agency receives a local plan in the course of 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 the local government to take advantage of the consistency review requirements, a written and adopted local plan is required. With a written plan, this analysis happens even when the local government does not know about the pending decision or action if the LUP 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 consideration than those tiered to an adopted NRMP.

Local governments can separately participate in the NEPA process as a "cooperating agency" (40 C.F.R. § 1508.5). 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 federal process at its inception, the government may request "cooperating agency status" to the deciding federal agency. "Cooperating agency status" requires federal agencies to work with local governments before any federal plan or proposal is presented to the public. It does not require a written land use plan 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. A NRMP, while not required, can aide this process and analysis. Cooperating agency status can be reserved for more significant federal decision 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. See Section 2.5 for County authority under state law.

Cooperating agency status can be an expensive, time consuming, and cumbersome process and may be particularly challenging for small rural communities with limited resources. A 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 U.S. 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 land use plans.

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 land use plans. With regard to 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, 2012b). 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)).

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 the governor's comments result in changes to the plan, the public should be re-engaged in the process. The governor may also use policies in the NRMP in their review of the proposed federal action.

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 time span the NPS had grown to solely oversee all of 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 the National Park System (Department of the Interior: National Park Service, n.d.).

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 interested in land and other natural resources" (*Executive Order 13352*, 2017). NPS is also expected to accommodate local participation in Federal decision-making (*Executive Order 13352*, 2017).

ORGANIZATION

This plan considers the current conditions of federal resources, 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:

- **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 resource or topic. This section 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 for each resource. Resource Management Objectives address the question, "What does the County want for and from this resource?"

- **Priorities**. 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.

PROCESS

Consistent with Wyo. Stat. § 9-4-218(a)(viii)(D), the County developed this plan in public meetings in accordance with Wyo. Stat. §§ 16-4-401 through 16-4-408, allowing for participation and contribution from the public. A steering committee has guided development of the draft document, including objective and priority development.

The draft document is being released for public comment for 30 days beginning on September 15, 2020. Comments received during the public comment period will be incorporated into the final plan as appropriate. The final plan is anticipated to be presented to the Crook County Board of County Commissioners for final adoption in December 2020.

This plan 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).

AMENDING THE NRMP

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.

COUNTY EXPECTATIONS FOR NATURAL RESOURCE MANAGEMENT PLAN

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

1. Within 30 days of the date of adoption of this plan, the County will inform the federal agencies of the date, time, and location of their regularly scheduled meetings with an open invitation that federal agency personnel should attend such meetings if there are issues to discuss. At a minimum, the County would like to meet with the agencies during their regularly scheduled meetings on a biannual basis.
2. Within 30 days of the date of adoption of this plan, the County will transmit a copy of this local land use plan to the state, regional, and local federal agency offices operating within Crook County for their consideration as part of any consistency review that is required pursuant to federal statute.
3. Within 30 days of the adoption of this plan, the County will contact the BLM, USFS, BOR, USACE, and NPS offices to determine a protocol for informal communication that should occur so that each is apprised of issues and concerns as early as possible.
4. In a timely manner, the 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 County supports establishment of a multi-agency stakeholder group hosted by the County Commissioners to review and discuss ongoing issues on federal lands and propose regular meetings on a schedule to be determined, but not less than quarterly.

Credible Data

To the greatest extent possible, data should drive all land use planning decisions. In this plan, "data" refers to information that meets, at a minimum, the Federal Data Quality Act (FDQA). 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. These elements include (66 Fed. Reg. at 49718):

a) Quality,
b) Utility (i.e., referring to the usefulness of the data for its intended purpose),
c) Objectivity (i.e., the data must be accurate, reliable, and unbiased), and
d) Integrity.

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 internal review.

Resource Management Objective:

A. Credible data has a universal meaning for all federal agencies and is the basis for all agency decisions that affect the County.

Priorities:

1. Federal agencies should include quantitative data in land use planning decisions that meet credible data criteria, even if the data were not produced by a federal agency.
2. Federal agencies should support the use of credible scientific data.
3. Federal agencies should give greater weight to data submitted that meet credible data criteria compared to data that fails to meet the credible data criteria.
4. Federal agencies should only use data that meets the minimum criteria described in their respective handbooks and manuals, as updated: BLM: BLM H-1283-1 Data Administration and Management (Public) (Bureau of Land Management, 2012a); USFS: FS FSH 1909.12, Chapter 40, Land Management Planning Handbook – Key Processes Supporting Land Management Planning (US Forest Service, 2013); BOR: BOR RMP, *Scientific Integrity* (CMP 13) (Bureau of Reclamation 2016) and BOR RMP, *Peer Review of Scientific Information and Assessments* (CMP 14) (Bureau of Reclamation 2019); NPS: NPS PM 07-03 *NPS Interim Guidance Document Governing Code of Conduct, Peer Review, and Information Quality Correction* (National Park Service 2008).

CHAPTER 1: CUSTOM AND CULTURE

1.1 COUNTY INTRODUCTION AND OVERVIEW

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 Crook County are inseparably tied to the use of and access to land and resources managed by federal agencies, the Board of County Commissioners (Board) will use the policies set forth in this NRMP to represent the vital interests of the County in federal natural resource planning efforts.

1.1.1 County Overview

Crook County is located in northeastern Wyoming, south of the Montana State border and west of the South Dakota Border (See Figure 1). The county was named after General George Crook who was a career U.S. Army officer who served from 1852 – 1890 in various locations. The lowest point, 3,101 feet, in the state of Wyoming is located on the Belle Fourche River in Crook County. The Missouri Buttes, at the northwestern end of the Black Hills are located in the County near the Devils Tower National Monument.

The settlement of present-day Crook County began in the 1880s, to supply food, resources, and lumber to the largest town in the area at that time: Deadwood, SD. In 1895 the Black Hills Coal Company was founded and began mining coal. Many European men immigrated to the U.S. in order to work at these trades. Once they became successful, they sent for their families to join them. Many of these descendants still make Crook County their home. Crook County was formally established in 1885, and in 1890 the Wyoming Legislature created Weston County from the southern half of Crook County and Campbell County from the western half. (Lebsack, 2014)

Crook County is the fourteenth largest county in Wyoming and spans approximately 1.8 million acres (2,865 square miles), making it larger than the states of Rhode Island and Delaware. Fifteen percent (15%) of the land in Crook County is federally owned, with the largest portions being held by the US Forest Service at 9% (168,978 acres), the BLM at 5% (88,663 acres), the Bureau of Reclamation at <1% (12,745 acres), the National Park Service at <1% (1,334 acres), and the Army Corps of Engineers at <1% (1,000 acres).

The total population of Crook County according to 2010 U.S. Census data is 7,155 persons. The population is largely rural, with a small number of the population living within the four incorporated towns: Hulett, Moorcroft, Pine Haven, and Sundance. There are several unincorporated communities within the County including Beulah, Aladdin, Alva, Colony, Devils Tower, Farrall, Mona, New Haven, Oshoto, Sand Creek , and Stroner. Crook County is Wyoming's second smallest county in population.

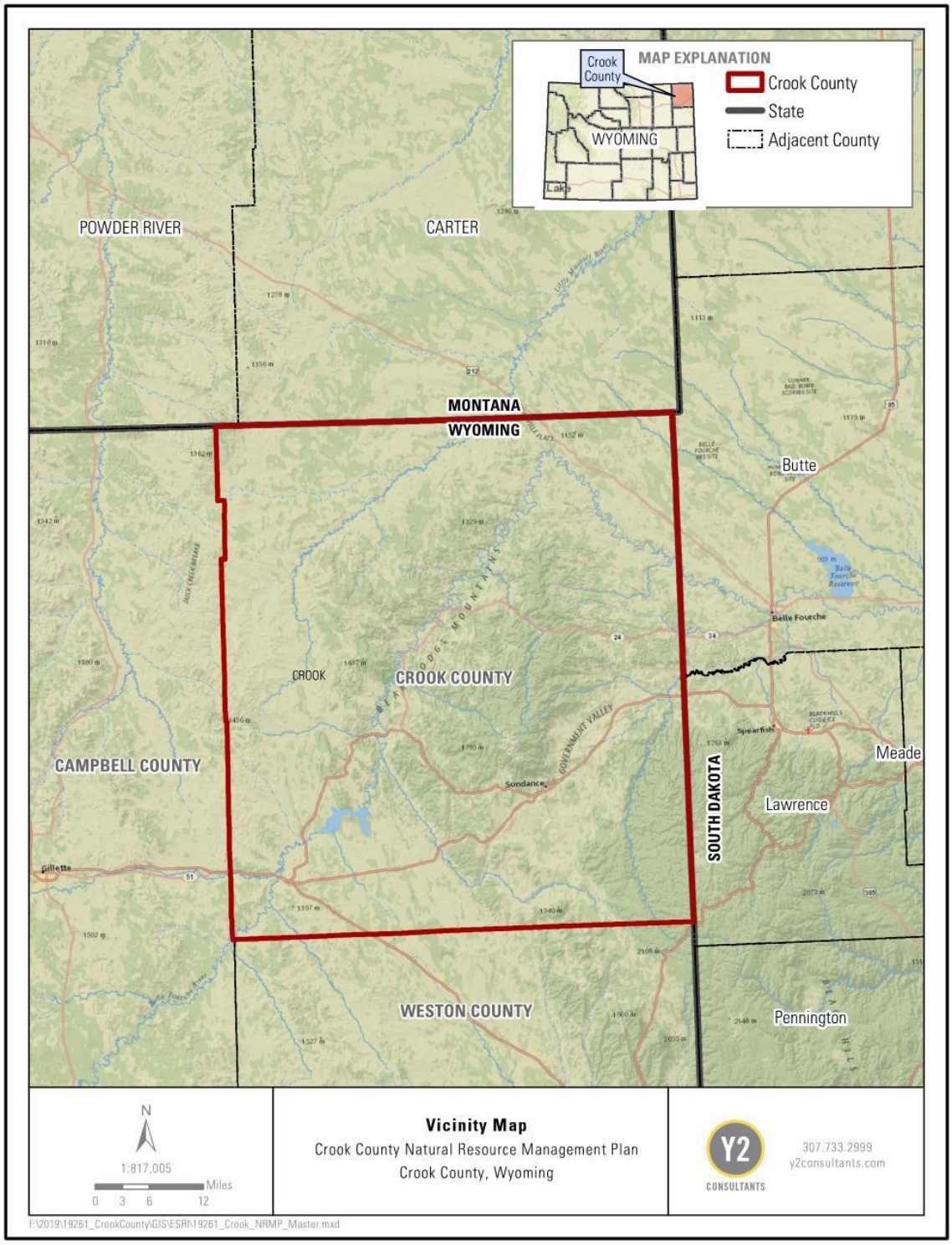

Figure 1. Crook County Natural Resource Management Plan area.

1.1.2 Crook County History, Customs, and Culture

Until the 1870s Northeastern Wyoming had been reserved as "Indian Territory." In 1874, the Custer Expedition explored the Black Hills and discovered gold on French Creek, South Dakota. This led to miners pouring into the territory thus opening the Black Hills for settlement. (Crook County, 2015) The official purpose of Custer's expedition was to locate a suitable site for any army post, however several miners who accompanied the soldiers went looking for the rumored gold in the area thus violating the 1868 Treaty of Fort Laramie which confirmed the Black Hills as Indian Domain and barred all white settlers from travelling into that part of the county. Over time tensions rose in these territories and in 1876 the Great Sioux War broke out and General Custer was one of the war's most famous casualties. (Custer Expedition Historical - Sundance - WY - US, n.d.)

The Sundance Creek Valley was a favored hunting ground for Indians, as an abundance of game, wild fruit, pasture, and firewood was present. Sundance Mountain was the "temple of the Sioux," where Indians practiced their religious sun dance. With the suppression of the Indians in the 1870s and 1880s, ranchers settled in the valley. The Fourth Legislative Assembly in 1875 created Crook County, naming it for General George Crook, who commanded the second Powder River Expedition against the Indians. The County included all the lands now making up Crook, Campbell, and Weston Counties. Sundance was incorporated in 1887 and Crook County originated in 1885 with Sundance as the County seat. The community became a social, government, and trading center. (Crook County, 2015)

Devils Tower was designated as the nation's first National Monument on September 24, 1906 by President Theodore Roosevelt. A total of 1,153 acres was set aside for the monument. Devils Tower became the prime attraction for Crook County's tourist industry. The hundreds of parallel cracks make the tower one of best crack climbing areas in North America. (National Park Service, n.d.) Devils Tower has always been a place for people to gather and continues to do so today. Local residents have picnicked and celebrated at Devils Tower ever since the first recorded climb on July 4, 1893; and they honor the Tower as an important part of their history. A large number of out-of-state hunters are drawn to the area in the fall due to the area's large white tail deer and turkey populations. (Crook County, 2015)

During the World War I timeframe, many homesteaders came to this area as moisture was greater than on the surrounding plains and dry-land farming could be practiced. The County grew and prospered from numerous small farms. Many homesteaders soon left in despair, however, and the livestock industry prevailed. (Crook County, 2015)

The sawmill industry has been and continues to be an important industry in Crook County. Several small mills have operated in South Dakota and Wyoming, and made timber for the Homestake mine in South Dakota and a coal mine near Aladdin, Wyoming. (Crook County, 2015) The now ghost town of Moskee was started in the early 1900s as a lumber and sawmill town first started by the McLaughlin Tie & Timber Company. In 1907, the company ceased operations and in 1921 the Homestake Mining Company developed the town further as a lumbering and sawmilling

community to provide timbers to the gold mine. The population within Moskee reached approximately 200 in the 1930s. During World War II, the town was shut down and never reopened. (GhostTowns, n.d.)The Neiman Enterprises, Inc. is a large sawmill that houses their Devils Tower Forest Products Division in Hulett and is one of the largest sawmill operations currently operating in Wyoming.

Uranium was discovered in Crook County in 1949 and the Homestake Mining Company soon opened its Hauber Mine north of Hulett. (Crook County, 2015)

In the late 1950s, the U.S. Air Force established a radar installation powered by the world's first air transportable atomic power plant atop Warren Peak, northwest of Sundance. Air Force personnel contributed greatly to the local economy until the facility was closed in 1963.

In recent years Sundance and Moorcroft have received overflow population from energy development near Gillette. (Crook County, 2015) Crook County is also in the middle of a pipeline corridor transporting oil and gas from the Bakken in North Dakota to Oklahoma and beyond. Since 2012 there have been at least three major interstate pipelines crossing through Crook County, including the Elk Creek Pipeline, Bakken Pipeline, and Equality Pipeline. These pipelines have in turn increased business opportunities and increased tax base in the County.

CHAPTER 2: LAND USE

2.1 LAND USE

2.1.1 Conservation Districts

During the 1930s, the Dust Bowl made the need to conserve natural resources, particularly soil, very clear. The Soil Conservation Act of 1935 created the Soil Conservation Service, now named the Natural Resource Conservation Service (NRCS), to develop and implement soil erosion control programs (About WACD, n.d.). In 1941, the Wyoming State Legislature passed an enabling act, which established conservation districts in Wyoming. Conservation districts were to direct programs protecting local renewable natural resources. Wyoming now has thirty-four conservation districts in twenty-three counties (About WACD, n.d.).

Crook County has one Conservation District: The Crook County Natural Resource District (CCNRD) in Sundance.

2.1.2 Bureau of Land Management (BLM)

The BLM manages approximately 5% of the land in Crook County. Crook County is included in the High Plains District Office. The closest field office is the Newcastle Field Office in Newcastle, Wyoming. The Newcastle Field Office encompasses approximately 292,000 acres between Crook, Weston, and Niobrara counties. The Newcastle Field Office Resource Management Plan was approved in a record of decision signed on August 25, 2000.

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 federal land sales, patents, and entries, was established within Treasury Department to oversee 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, 1976). FLPMA requires the BLM to administer federal lands "on the basis of multiple use and sustained yield" of all resources (FLPMA, 1976).

2.1.4 United States Forest Service (USFS)

The United State Forest Service (USFS) manages approximately 9% of the total land in Crook County. Responsibility for forest reserves was transferred to the Department of Agriculture with the Transfer Act of 1905 and the establishment of the 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)).

A small portion (approximately 320 acres) of the Thunder Basin National Grasslands (TBNG), part of the Medicine Bow-Routt National Forest & Thunder Basin National Grassland, lie within Crook County. The Thunder Basin National Grasslands are headquartered in Laramie, Wyoming with the Douglas, Wyoming Ranger District being the closest ranger district. The Black Hills National Forest is also within Crook County and is headquartered in Custer, South Dakota. This area falls within Region 2 of the USFS which is headquartered in Golden, CO. The Bearlodge Ranger District is located in Sundance, Wyoming and manages the Black Hills National Forest lands within the County.

The Land and Resource Management Plan for the Thunder Basin National Grassland was approved in 2001 but is currently undergoing an update. Two amendments have been made to the Land and Resource Management Plan, the 2001 TBNG Land and Resource Management Plan Amendment and the 2001 Teckla to Antelope Coal Mine 69kV Power Line Amendment. Currently TBNG is working on the TBNG Prairie Dog Management Strategy and Land and Resource Management Plan Amendment. The Thunder Basin National Grassland was initiated in 1934 as the Northeastern Wyoming Land Utilization Project under the Agricultural Adjustment Administration and eventually administered by the Soil Conservation Service which transferred its management of the grasslands to the USFS in 1954.

The Bearlodge District totals approximately 200,000 acres in the northern part of the Black Hills within Wyoming. The area currently the Black Hills National Forest within Crook County was designated in 1893 as the Black Hills Forest Reserve and in 1907 was renamed the Black Hills National Forest under the management of the USFS. The Land and Resource Management Plan for the Black Hills National Forest was approved in 1997 and a Phase II Amendment was approved in 2005. In 1876, United States forest management was formalized with the creation of the office of Special Agent within the Department of Agriculture for the purpose of assessing 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 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.

2.1.5 Bureau of Reclamation (BOR)

The Bureau of Reclamation (BOR) manages <1% (12,745 acres) of the land in Crook County. The BOR manages the Keyhole Dam and Reservoir which were completed in 1952 and are located north of Moorcroft.

The BOR began as the United Stated Reclamation Service (USRS) in 1902, as part of the United States Geological Survey (USGS). The USRS was established in accordance with 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 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).

2.1.6 National Park Service (NPS)

The NPS manages approximately 1% (1,334 acres) of the land in Crook County within the Devils Tower National Monument.

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 were designated as National Parks or Monuments by Congress. Some holdings have been designated by the President of the United States via the Antiquities Act.

The Devils Tower National Monument was the first U.S. National Monument established in 1906 by President Theodore Roosevelt. The grounds encompass approximately two square miles in the center of Crook County. This National Monument is the only NPS designation within Crook County. More than twenty tribes have established ties to the tower, and many visit the site to perform traditional ceremonies every year. The tower rises over 867 feet from the ground and 1,282 feet above the Belle Fourche River. (WyoHistory, n.d.)

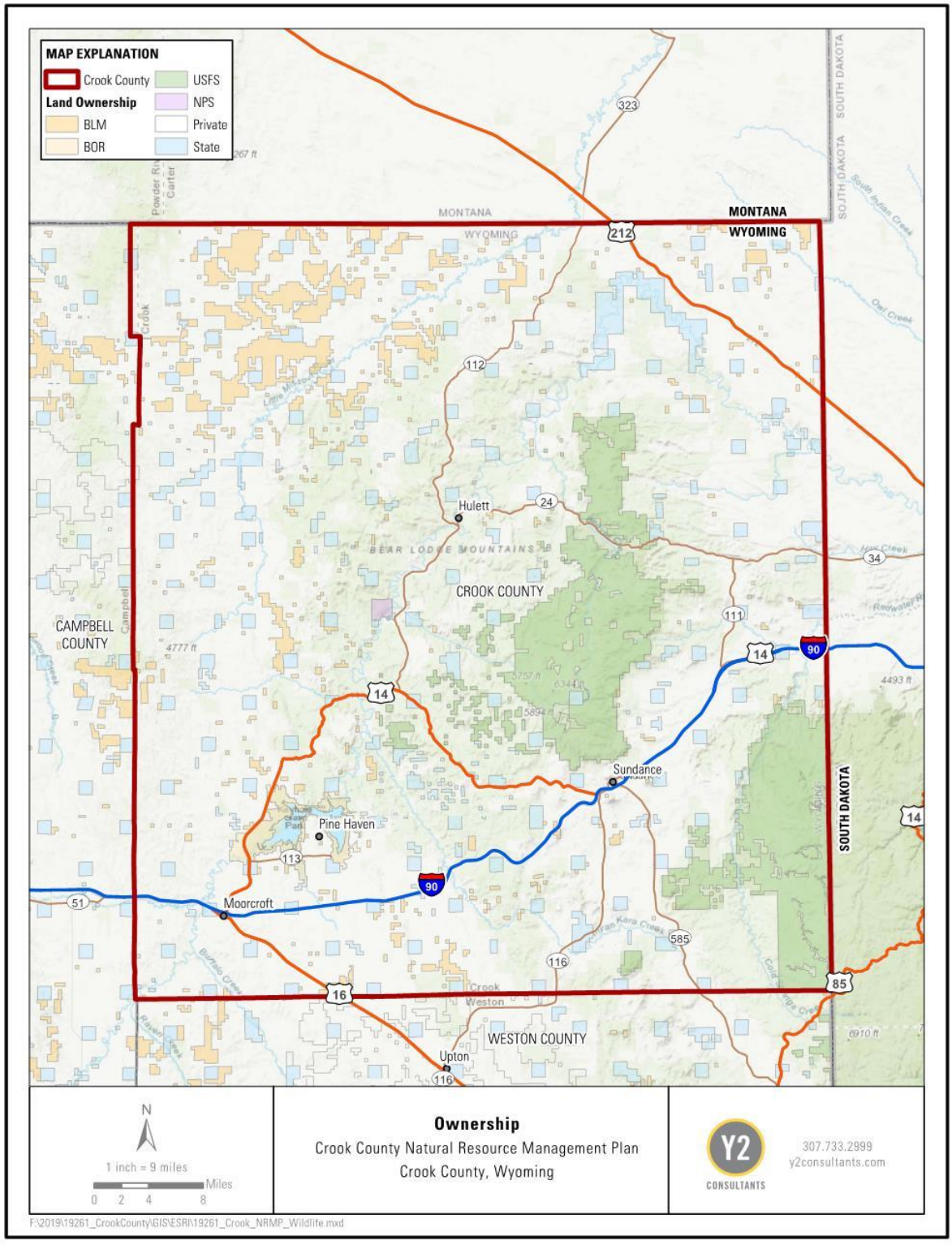

Figure 2. Crook County Ownership Map.

2.1.1 Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) Act of 1964 was permanently reauthorized as of 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." (US Department of the Interior, 2015) Through the FAST Act, 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 highly reliable sources for funding through grants and loans.

2.2 TRANSPORTATION AND LAND ACCESS

2.2.1 History, Custom, and Culture

The 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; including but not limited to fire protection, search and rescue, flood control, law enforcement, economic development, rural community access, and the maintenance of County improvements. Federal lands also provide rural access to schools, commuting to and from places of work, and for health care services.

Crook County's transportation corridors have long serviced diverse industries. The Black and Yellow Trail, now many parts of U.S. Highway 14, was one of the first historic trails that led travelers from Chicago all the way to the east entrance of Yellowstone National Park in Cody, WY. The name signified the links to the Black Hills and Yellowstone National Park. (Bailey, 2019) Tourists constantly travel through the County to various destinations including Devils Tower National Monument and even Yellowstone National Park. Historically settlers of Crook County would travel by horse and buggy from Devil's Tower to Sundance for supplies. The Texas Trail also ran through portions of Crook County moving cattle from Texas into Montana. It was estimated that in 1894, the height of traffic on the Texas Trail, that 32,000 steers passed across the trail on their way to Montana with each herd consisting of 2,000 to 3,000 head.

Several major highways serve Crook County including: Interstate 90; U.S. Highways 16 and 14; and State Highways 24, 110, 112, 113, 116, and 585. There are also two rail facilities that serve Crook County and provide railroad jobs within the county. The Burlington Northern Santa Fe Railway passes through Moorcroft and the southwestern corner of the county and the Dakota, Minnesota, and Eastern Railroad operates a rail spur which serves the bentonite facilities at Colony in the northeastern corner of the county. (Crook County, 2015)

It is vital to the sustainability of the livestock industry in Crook County that grazing areas, and the stock trails that connect them, be open and accessible. Many ranchers within the county use the state highways to trail their livestock from home pastures to their USFS allotments, or to move them from pasture to pasture. Livestock "trailed" from one grazing area to another must have

access to grazing areas on either side and must have lands in between to graze. 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. Agricultural machinery use the state highways to travel from field to fields; therefore keeping access for these slow moving vehicles is crucial to the county.

2.2.2. Resource Assessment and Legal Framework

Congress, as the constitutional manager of the federal lands, has made it clear through natural resource statutes that the public must have use of and access to the federal lands. It is vital to the County's interests and performance of duties that full and complete access to the federal lands continue.

The BLM and USFS both have specific provisions they must follow when considering the closure of roads and trails. A requirement of these provisions is that such activity be conducted in coordination with the County prior to such action being taken. Road closures have occurred in the County by federal agencies without prior coordination, despite the requirement by federal law for coordination prior to a final decision. This has caused economic harm and negatively impacted citizen and visitor enjoyment of the 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.

The Taylor Grazing Act provides for the establishment, maintenance, and use of stock driveways within established grazing districts. 43 U.S.C. § 315. 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 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.

Federal Highway Administration

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation (USDT) 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 wholistic

network. Directly, the FHWA provides grants to the local Department 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 (FLH) to specifically service certain groups and were reauthorized under the Fixing America's Surface Transportation (FAST) Act. These programs are:

- Federal Lands Access Program (FLAP): "established in 23 U.S.C. 204 to improve transportation facilities that provide access to, are adjacent to, or are located within, Federal lands. The Access Program 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 (FLTP): "established in 23 U.S.C. 203 to improve the transportation infrastructure owned and maintained by federal land management agencies including NPS, U.S. Fish and Wildlife Service (USFWS), USFS, BLM, U.S. Army Corps of Engineers (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 (NSFLTP): "…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 (ERFO): "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 annually. Through the FLAP program alone, Wyoming has secured $73.3 million spread across 16 projects from 2013 to 2022.

National Park Service

The NPS created national and regional guidance for developing infrastructure on or servicing park lands. Crook County is a part of the Intermountain Range (IMR), and although there are not any specified national parks within the County, Devils Tower has been designated as a National Monument and therefore falls under the guidelines laid out by the NPS. Development in this area should take the IMR Long-Range Transportation Plan into consideration. (U.S. National Park Service, 2018)

United States Forest Service

The federal lands managed by the USFS in the County are to be managed for multiple-use and sustained-yield uses (16 U.S.C. § 529) (Multiple-Use Sustained-Yield Act of 1960) 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, etc.); 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.

The USFS is directed to coordinate the preparation of travel management plans with the 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)*

The travel management plan for the Medicine Bow-Routt National Forests and Thunder Basin National Grassland was approved in 2005 (USFS, 2005b). The Black Hills National Forest Travel Management Plan Final Environmental Impact Statement was approved in 2010 and designates which routes within the National Forest are open to motorized travel (USFS, 2010).

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 federal lands. 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 (FLPMA, 1976). 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 USC § 1712) (FLPMA, 1976).

R.S. 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 an 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 Federal Land Policy and Management Act of 1976 ("FLPMA"), 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 prior to October 21, 1976 are valid even after the repeal of R.S. 2477.

The courts have clearly established that the states have the 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 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). In relation to the roads at issue here, this scope would be access to, and between private land sections.

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).

2.2.3 Resource Management Objective:

A. There is full and open access to and across Crook County federal lands for local purposes such as safety, health, rural access to population centers, use of agriculture, timber, forest management, mining/ oil and gas industries, recreational purposes, and communication infrastructure.

2.2.4 Priorities:

1. Federal agencies should support designation of all currently open motorized and non-motorized trails, rights-of-way, and roads as open transportation networks.
2. No road, trail, or R.S. 2477 right of way shall be closed unless public safety or health demands its closing and the proper analysis and disclosure, in consultation with the County, and private property owners, is completed prior to closure.
3. Federal agencies shall notify the County of any actions which could potentially affect the historic rights to travel within and across Crook County. Specifically, agencies should notify the County of any planning process or activity that restricts, eliminates, or increases, or decreases access to federal or state lands and allow the County to initiate coordination and cooperation to resolve any potential conflicts with the County's objectives, principles, and policies, prior to taking action.
4. Federal agencies should support legal public access to the federal lands for all beneficial uses as long as it does not infringe on private property rights.
5. The right to travel over established rights-of-way and perform any maintenance necessary to continue the historic use should be allowed.
6. Federal agencies should designate historic stock trails as valid access routes for the purpose of trailing livestock between grazing areas.
7. The County considers all stock trails to be R.S. 2477 roads and these roads are not to be abandoned unless abandonment is explicitly established by the County.
8. Roads on federal lands shall remain open to provide for the economic benefit, use, and safety of the public. Where road closures are proposed, specific justification for the proposal shall be given on a case-by-case basis, and the proposal shall be discussed in coordination with Crook County.
9. Federal agencies should support recognition of valid R.S. 2477 claims without requiring adjudication.
10. Federal agencies should expedite beneficial land exchanges that seek to provide public access to landlocked federal lands.
11. Unfettered access through federal lands for emergency services and law enforcement shall be granted.
12. The County considers any long term (greater than one year) road closure a major federal action that significantly affects the quality of the human environment. Thus, a road on federal lands may not be closed until a full NEPA analysis has been completed including

public review and coordination with the County. Should the agency believe that a road closure falls under a categorical exemption, the County shall be consulted.

13. Federal agencies should notify and coordinate with the County in the event of any proposed temporary road closures.
14. Federal agencies should support access on federal lands for development and maintenance of communication infrastructure.

2.3 SPECIAL DESIGNATION AREAS AND SCENIC BYWAYS AND VIEWSHEDS

2.3.1 History, Custom, and Culture

Crook County has very few special designated lands within its borders, except for Devils Tower National Monument. Devils Tower was designated in 1906 by Theodore Roosevelt and was the first national monument in the nation. It is a magnificent geologic feature called a laccolith that protrudes out of the prairie surrounding the Black Hills. Devils Tower is considered sacred by Northern Plains Indians and other indigenous people. The Arapahoe, Cheyenne, Crow, Kiowa, and Lakota tribes all have their own oral history of Devils Tower.

2.3.2 Resource Assessment and Legal Framework

National Monuments

The Antiquities Act of 1906 (54 U.S.C. §§ 320301-320303) authorizes the President to proclaim national monuments on federal lands that contain historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest. The act was designed to protect federal lands and resources quickly. National monuments are managed by the NPS. (Vincent, 2018). The Antiquities Act specifically limits the extension or establishment of national monuments in Wyoming without the express authorization of Congress. 54 U.S.C. § 320301(d).

Devils Tower is the only National Monument in Crook County.

Areas of Critical Environmental Concern (ACEC)

Areas of Critical Environmental Concern (ACEC) are BLM-managed areas “where special management attention is needed to protect important historical, cultural, and scenic values, or fish and wildlife or other natural resources (Bureau of Land Management, 2016c). ACEC designations include Wilderness Study Areas (WSA), fossil sites, tracksites, Wilderness Areas, National Monuments, National Conservation Lands, Wild and Scenic Rivers, and National Scenic and Historic Trails. An ACEC may also be designated to protect human life and safety from natural hazards (Bureau of Land Management, 2016c). An ACEC designation must go through the NEPA land use planning process. An ACEC designation may be revisited through subsequent land use planning, revision, or amendment. ACECs and other special designations may compete with the natural resource-based businesses that are important to the County’s economy, like grazing and mining.

There are no ACECs within Crook County.

Wilderness and Wilderness Study Areas (WSA)

The Wilderness Act of 1964 established the National Wilderness Preservation System to be managed by the USFS, NPS, and the USFWS. The passage of FLPMA in 1976 added the BLM as a wilderness management authority to the Wilderness Act. The Act defines Wilderness, in part, as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." 16 U.S.C. § 1131(c). The definition states that a wilderness thus was in "contrast with those areas where man and his own works dominate the landscape." *Id.* Wilderness Study Areas (WSAs) are places that have wilderness characteristics; (i.e.: untrammeled, natural, undeveloped, and outstanding opportunities for recreation) which make them eligible for future designation as wilderness (Bureau of Land Management, 2016d). Wilderness areas and WSAs must have "wilderness character," which is described with four qualities: 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.

1. 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.
2. 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.
3. 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 three different ways: they are identified by the wilderness review as required by Section 603 of FLPMA; they are identified during the land use planning process under Section 202 of FLPMA; or they are established by Congress. Wilderness areas are designated 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 (Bureau of Land Management, 2016d). However, the FLPMA also requires that mining, livestock grazing, and mineral leasing (e.g., grandfathered uses) continue in the manner and degree as they were being conducted in 1976. Therefore, to the extent that grazing was allowed in the wilderness prior to 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]).

There are no designated Wilderness areas or WSAs within Crook County.

Inventoried Roadless Areas

Inventoried Roadless Areas (IRA) are portions of National Forest that were identified in the USFS 2001 Roadless Area Conservation FEIS as lands without roads that are worthy of protection. Construction and reconstruction of roads is 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 help preserve the characteristics of Roadless Areas, logging is greatly restricted.

Within Crook County there are two inventoried roadless area, the Sand Creek Roadless Area and the Inyan Kara Mountain roadless area.

Lands with Wilderness Characteristics

Section 201 of Federal Land Management Policy Act (FLPMA) requires the BLM to maintain, on a continuing basis, an inventory of all federal 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, change or prevent change of the management or use of federal lands. It does not address or affect policy related to Congressionally designated Wilderness or existing Wilderness Study Areas.

The BLM uses the land use planning process to determine how to manage lands with wilderness characteristics (LWC) 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 LWC lands designated in Crook County.

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 provide protection for 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)

There are approximately 4,264 acres on the Bearlodge Ranger District that are designated as RNA in Crook County. They include: Cranberry Springs, 1,840 acres; Geis Spring, 577 acres; Sheep Nose Mountain, 1,007 acres; and Upper Sand Creek, 840 acres. (USFS, 2004)

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 Crook County designated as wild, scenic, or recreational within the National Wild and Scenic Rivers System (National Wild and Scenic Rivers System, n.d.-a).

2.3.3 Resource Management Objective:

A. Designation and management of special designation or management lands are coordinated with Crook County and adjacent landowners.
B. Special designation and management areas are decreased or eliminated throughout the County.
C. Management of special designation and management areas within the County will allow for multiple use.

2.3.4 Priorities:

1. The County supports decreasing or eliminating special designation/management areas when allowed by law.
2. Federal agencies shall consult and coordination with Crook County as early as possible when considering the designation of new special designation areas, including, Areas of Critical Environmental Concern (ACEC), Wild and Scenic Rivers, National Monuments, Wilderness and Wilderness Study Areas (WSAs), Roadless Areas, and Lands with Wilderness Characteristics (LWCs).
3. Any proposed special management area designation shall analyze the impact to the County's custom, culture, and economy.
4. Federal management of special designation areas shall be coordinated with the County and consistent to the maximum degree with the Crook County NRMP.
5. Federal agencies should support the use and various application methods of herbicides to control noxious weeds in special designation and management areas as appropriate.
6. The County does not support additional research natural areas within the Bearlodge District of the Black Hills National Forest.
7. Federal agencies should promptly release any area under consideration for wilderness or set aside special designations should Congress recommend not to designate said area as Wilderness or set aside.
8. Any expansion of Devil's Tower National Monument is considered an extension of a national monument in Wyoming and must have express authorization from Congress.

Federal agencies should notify and coordinate with the County in the event of any proposed extension.

9. The County does not support any proposed name change for Devils Tower.
10. The County does not support any future designations of Wild and Scenic Rivers and any proposed designation shall be coordinated with the County and analyze the impact to Crook County's economy.
11. The County supports State efforts to petition the USFS for a Wyoming specific Roadless Rule.
12. Restrictive management of roadless areas is discouraged and multiple uses should instead be allowed.
13. Responsible development of natural resources within roadless areas is encouraged.
14. The County supports construction of temporary roads necessary to service natural resource development.

2.4 WILDFIRE SUPPRESSION, FUELS MANAGEMENT, FIRE REHABILITATION AND COMMUNITY WILDFIRE PLANNING

2.4.1 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 burns, and naturally occurring fires.

Wildfires have occurred in Crook County and caused detrimental effects to the County's watershed, timber, grazing lands, wildlife habitat, and recreational activities that rely on healthy forests, rangelands, and grasslands (Figure 6).

2.4.2 Resource Assessment and Legal Framework

Proactive planning to respond to a wildland fire event is critical to the protection of Crook 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 maximal prevention and suppression of wildfire.

Crook County has a Community Wildfire Protection Plan (CWPP) that was developed by Crook County Fire Department in 2005. The CWPP serves as a tool to coordinate the resource management of lands within Crook County in a manner that protects communities and local values at risk from wildfire. The plan outlines the goals and objectives for wildfire management across the County. The CWPP describes management for each section of the County, and further evaluates action items and previous mitigation efforts. The goals for management include:

- Promote wildfire awareness and public safety;
- Improve survivability to people, homes, and the environment when wildfire occurs;
- Access and utilize federal and other grant dollars;
- Identify and prioritize actions for fire protection;

- Develop evacuation plans if appropriate;
- Monitor the changing conditions of wildfire risk and community action;
- Continue to use harvests and thinning to maintain diversity in both age classes and stand densities to mitigate epidemic insect and disease outbreaks and to reduce the potential for large scale stand replacement wildfires;
- Implement and complete fuel reduction and firebreak projects in appropriate areas; and
- Continue to implement prescribe burning to facilitate fuels reduction. (Crook County Fire Department, 2005)

As of February 2019, the CWPP was undergoing an update but it not yet finalized.

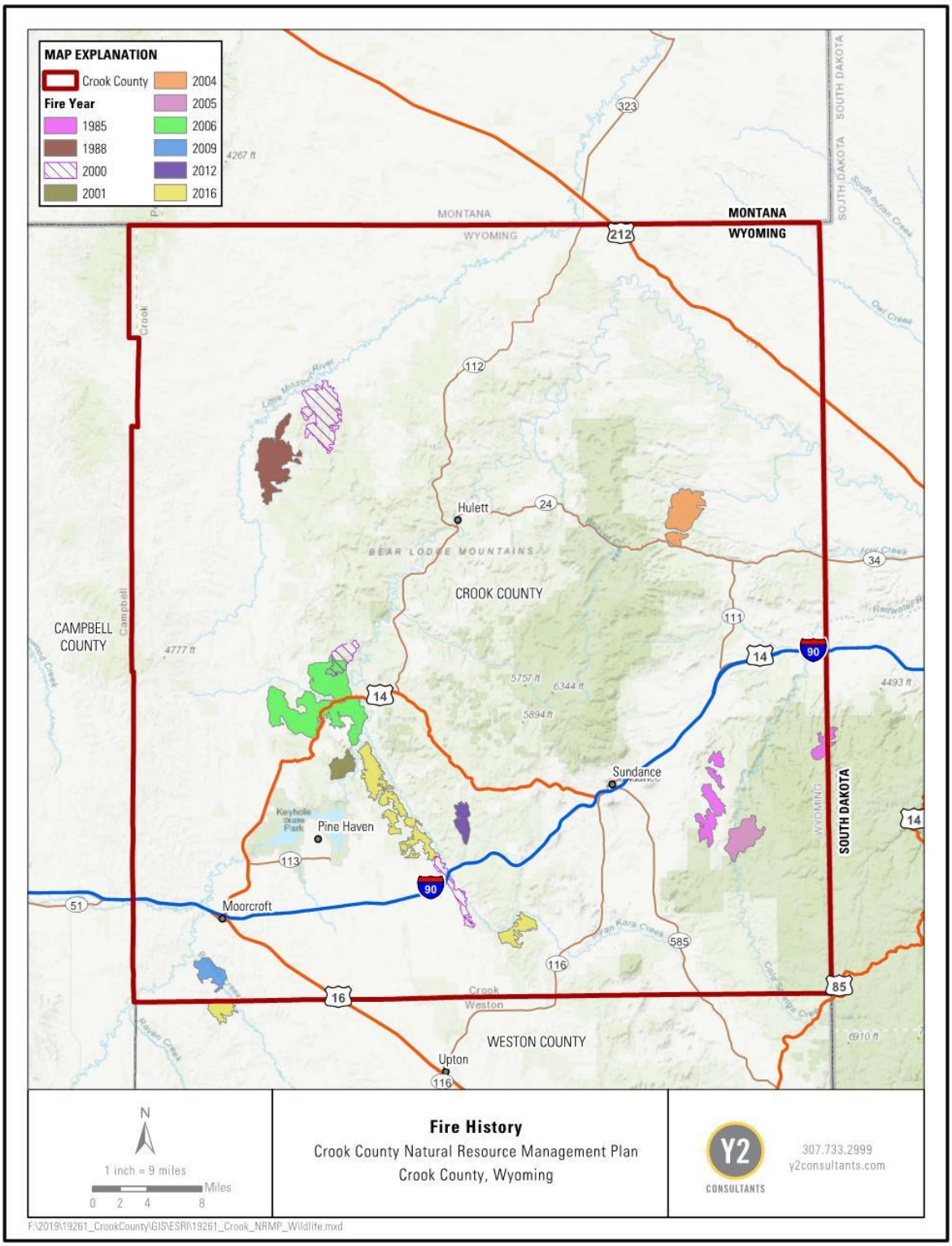

Figure 3. Wildfires within Crook County 1985-2016**.**

2.4.3 Resource Management Objective:

A. Wildfire, fuels, and fire rehabilitation are managed promptly and effectively using credible data, as defined above, in coordination with the Crook County Community Wildfire Protection Plan.

2.4.4 Priorities:

1. Federal agencies shall coordinate with local fire agencies.
2. The USFS shall adhere to all requirements set forth in the Cooperative Forestry Assistance Act 16 USC § 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 providing assistance to state and local rural fire prevention and control programs, the Secretary 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.
3. Federal agencies shall incorporate local fire association plans (Crook County Community Wildfire Protection Plan) into their fire suppression and control plans and will support efforts of local fire departments in wildfire suppression activities.
4. Fire suppression efforts will be maximized through full coordination, communication, and cooperation between federal, state, and local fire-suppression units and follow the Annual Operating Plan (AOP).
5. Federal agencies should support the development of a Master Good Neighbor Agreement between federal, state, and local fire-suppression units.
6. Federal agencies should coordinate with State and local agencies to implement insecticide and herbicide treatments, livestock grazing, encouraging knowledgeable and prepared practices to create defensible space around buildings, biomass fuel removal, slash pile burning, and prescribed burning as fire control tools.
7. Federal agencies should coordinate and communicate temporary fire restrictions based on fire hazard designations to minimize the potential for human caused wildfires.
8. Federal agencies should support the Department of Interior's Secretarial Order 3336-Rangeland Fire Prevention, Management, and Restoration and require the BLM to comply with the order and all subsequent revisions, reports, and instructional memos.
9. Federal agencies should promote the prompt rehabilitation of harvested areas and areas affected by wildfire, including salvage logging operations.
10. The County encourages the Secretaries of Agriculture and Interior to develop fire management policies that utilize and acknowledge the beneficial effects of planned grazing as a fuels management tool.
11. The County encourages federal agencies to promptly manage weed infestations in fire damaged areas.

12. The County discourages a 'let burn' policy during seasons of high fire risk.
13. The federal agencies should consult and coordinate with Crook County on proposed changes and updates to the Fire Management Plans on federal lands.
14. Post-fire objectives shall be consistent with site potential as defined in approved Desired Future Conditions or Ecological Site Descriptions. The County requires the use of credible data as previously defined to make these determinations.
15. Federal agencies should rehabilitate forests and rangelands damaged by wildfires as soon as possible for habitat and wildlife and to reduce the potential for erosion and introduction of invasive or noxious weeds.
16. Federal agencies should allow for adaptive grazing management practices and include these practices in term permits to allow for flexible management practices that will decrease fuel loads on the landscape particularly in areas with heavy grass understory.
17. Grazing rest prescriptions related to either wildfires or prescribed burns, will be determined on a site-specific basis. Post fire grazing will not be limited when scientific post fire monitoring and evaluation produces relevant, accurate data demonstrating that grazing will not unduly harm the range.

2.5 FOREST MANAGEMENT

2.5.1 History, Custom, and Culture

The beneficial use of forest natural resources has always been a part of Crook County's customs and culture. Historically, forest resources in Crook County have been used for fuel, tools, weapons, lodge poles, travois, and other purposes by Native Americans and for commercial and domestic uses since the settlement by European settlers in the 1800s. Early citizens relied on forest resources for timber for buildings, corrals, fences, and fuel. Logging occurred through the years on both federal and private lands. Crook County recognizes that historic logging took place within the County as part of a historic stable timber-harvesting program. A healthy forest ecosystem provides employment and economic benefit for individuals and businesses in the County.

In 1897, President Grover Cleveland established the Black Hills Forest Reserve. This land was protected against fires, wasteful lumbering practices, and timber fraud. In 1905, the Black Hills Forest Reserve was transferred to the Forest Service and two years later was renamed the Black Hills National Forest. (USFS, n.d.-a) A significant portion of Crook County's economy and tax base is based on the harvest and processing of timber from private, state, and federal property.

Logging has been a long-time large industry in Crook County. Neiman Sawmill Inc., founded in 1936 still operates in Hulett (Lebsack, 2014)

2.5.2 Resource Assessment and Legal Framework

The Bear Lodge and Moskee areas of Crook County contain most of the federally managed commercial timber acreage. The USFS is the single largest land manager of Crook County's timber resources. Private, BLM, and state school lands comprise the additional forest resources.

The Black Hill National Forest is being managed for multiple use of the forest by the USFS and under the Black Hills National Forest Land and Resource Management Plan (USFS, 2006). In 2005, Crook County provided approximately 58% of Wyoming's timber, with more than 38,000,000 board feet produced. (Lebsack, 2014)

The largest threat for forest resources within the county has been the invasion of the mountain pine beetle which has decimated thousands of acres of forest lands throughout the west. Several large, coordinated forest projects have taken place with full support from both State governments on both the Wyoming and South Dakota state lines to reduce beetle killed timber to reduce wildfire hazard and risk of further infestation.

2.5.3 Resource Management Objective:

A. Forest lands within Crook County are managed under multiple use that promotes the timber industry, grazing, fuels management, recreation, and benefits the economy and custom and culture of the County.

2.5.4 Priorities:

1. The County encourages federal agency policies that support the timber industry to allow for the timber industry's continued economic benefit to the citizens of Crook County.
2. Forest management on public lands shall follow the mandates of the Organic Administration Act (OAA) and adhere to MUSY, as well as the NFMA, NEPA, and the ESA.
3. Forest management on public lands shall 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 Crook County for future generations.
4. Access to forest products on public lands shall be ongoing and access to these sites shall be through an open roads and cross-country travel system.
5. Federal agencies shall coordinate with Crook County on any vegetative treatment, prescribed burning, or set-aside on public land.
6. The County encourages active management of forest resources on public lands to reduce further invasion of mountain pine beetle.
7. Federal agencies should support the management of forest resources that have been degraded due to insect infestation.
8. Federal agencies should support weed management and mitigation on forested federal lands within the County and support the creation of play, clean, go areas.
9. The County requires that all federal timber permits include a weed management/mitigation plan.
10. Federal agencies should support salvage harvest when necessary due to insect/disease epidemic, blowdown, or post fire situations using the appropriate categorical exclusions.
11. The County supports federal Payments in Lieu of Taxes (PILT) to Crook County.
12. The federal agencies within the County should use the authority 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 economically and efficiently treat and protect timber resources within Crook County.

13. Federal agencies should notify and coordinate forest management projects with the County, state and local agencies, and private landowners in order to improve upon the scale and scope of each project.
14. Federal agencies should support the use of the *Wyoming Forestry's Best Management Practices: Forestry BMP Water Quality Protection Guidelines* document for all vegetation treatments.

2.6 NATURAL DISASTER MANAGEMENT

2.6.1 History, Custom, and Culture

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, and 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.)

2.6.2 Resource Assessment and Legal Framework

Crook County has implemented a Multi-Hazard Mitigation Plan (MHMP) that looks at natural hazards that the County, Sundance, Moorcroft, Pine Haven, and Hulett may be susceptible to and ways to lessen the potential disasters caused by those hazards. The plan is updated every five years to comply with state and FEMA requirements. Hazards that have been identified within the county include: dam failures, drought, earthquakes, expansive soil, flood, hail, hazardous materials, high winds and downbursts, landslide/rockfall/debris flow, lightning, mine and land subsidence, severe winter weather, tornado, and wildfire. (Crook County, 2018)

2.6.3 Resource Management Objective:

A. Natural disaster (i.e. tornadoes, severe winter storms, floods, etc.) management and response is coordinated with the County.

2.6.4 Priorities:

1. Federal agencies shall coordinate with Crook County should a natural disaster occur within the County.
2. The County encourages the continuation of the USFS streamlined mitigation and salvage process of timber following tornadoes and other high wind events.
3. Federal agencies should support the development of communication technologies (i.e. cell phone towers, internet, etc.) on public lands to ensure communications are available during natural disaster events.

2.7 LAND EXCHANGES

2.7.1 History, Custom, and Culture

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:

- Acquisitions must be consistent with the mission and land use plans of the agency
- Public interests must be served by the land exchange
- An agency may accept title to non-federal land if the land is located 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
- 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
- Land may not be exchanged with anyone who is not a U.S. citizen or a corporation who is not subject to U.S. laws (BLM Handbook, 1-1, 1-2)

The process for land exchanges begins with a proposal (by an agency or private landowner) of an 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 Guide to Land Exchanges)

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 Forest Service usually pays for appraisals. (USFS Handbook, 27-28). However, the BLM may share in some of these specific expenses as long as the total costs are apportioned in an equitable manner. (BLM Handbook, 3-1 through 3-8).

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 environmental impacts of the exchange, including scoping, environmental assessment, notice and comment, and appeals. (USFS Guide to Land Exchanges).

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 requires 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 Handbook, 21).

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 ground. This allows for a more uniform management plan of USFS and BLM land and can create public access opportunities that were previously impossible due 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.

2.7.2 Resource Assessment and Legal Framework

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

In 2011, the Black Hill National Forest exchanged approximately 798 acres of USFS lands to Moskee Land Company, Inc in exchange for approximately 700 acres of land held by Moskee Land Company. The need for this exchange was to simplify land ownership boundaries, reduce the amount of non-federal inholding in the Black Hills National Forest, secure public access, reduce administrative issues arising from the management of federal lands adjacent to non-federal lands, and protect resource values on the non-federal parcels by placing them under the administrative control of the USFS. (USFS, 2011)

2.7.3 Resource Management Objective:

A. Land exchanges that are mutually beneficial to private landowners, the federal agencies, and the public are completed in a timely and cost-efficient manner.

2.7.4 Priorities:

1. Federal agencies should proactively identify potential land exchanges that will consolidate land ownership type and reduce federal land from being isolated from other public lands.
2. Federal agencies should prioritize land exchanges in areas where there may be resource or management conflicts between the federal managers and the neighboring private or state landowners.
3. 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.

4. 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.

CHAPTER 3: GEOLOGY, MINING, AND AIR

3.1 GEOLOGY

3.1.1 History, Custom, and Culture

The area that is now Crook County was once covered by a prehistoric ocean. This can be observed through the sea-plant imprints, shellfish, and shark fossils that have been found in the County. The fossils date back 110 million years to the Cretaceous Period. (Lebsack, 2014)

The Black Hills were formed from a domal uplift that is of board anticline/nose whose axis plunges at a low angle northward. The erosion of this dome-shaped uplift created the mountains during the Laramide Orogeny and consist of Precambrian core flanked by younger Paleozoic and Mesozoic sedimentary rocks. The Black Hills uplift is separated from the Powder River Basin by the Black Hills monocline, a steep west-ward-dipping flexure which trends northwest across Weston and Crook Counties. The general configuration of the Powder River Basin developed in early Permian time with local structures in the Powder River Basin forming soon afterward. The present structure of the basin is the result of the late Cretaceous to early tertiary Laramide Orogeny. The basin is bounded by zones of stronger deformation along the margins of the Black Hills and Hartville uplifts and the Big Horn Mountains. (BLM, 1999)

Bedrock geology in Crook County include the following major underlying bedrock units, listed in order from youngest to oldest: Inyan Kara Group, Morrison Formation, Sundance Formation, and Gypsum Springs Formation. On the geologic map below Inyan Kara and Morrison formations are lumped as KJ while Sundance and Gypsum Springs formations are mapped as Jsg (Figure **4**).

The Inyan Kara Group can be found in the northeastern part of the Powder River basin. The 150-foot to 350-foot thick Inyan Kara Group includes the uppermost Fall River Sandstone, the underlying Fuson Shale, and the basal Lakota Sandstone. This variable group contains beds of sandstone, sandy shale, conglomerate, lignite, and variegated siltstone. In the southern Black Hills of South Dakota and Wyoming the Cretaceous-age Inyan Kara Group is 135-feet to 900-feet thick and consists of the Lakota Formation and overlying Fall River Formation. (Erathem-Vanir Geological, 2013)

The Morrison Formation is found in twelve states. The Morrison Formation is predominately made up of sandstone and mudstone but incorporates a variety of other lithologies including conglomerate, claystone, tuff and bentonite beds, limestone, dolomite, gypsum, anhydrite, and coal. (Erathem-Vanir Geological, 2013)

The Sundance Formation consists of alternating sequences of greenish-gray shale, light gray to yellowish-brown sandstone and siltstone, and gray limestone. The formation crops out above the gypsum and red shales of the Gypsum Spring Formation on the bluffs and rolling hills that surround Devils Tower. (Erathem-Vanir Geological, 2013)

The Gypsum Spring Formation, formed during the Middle Jurassic, crops out for about 150 miles along the western and northern flanks of the Black Hills in northeastern Wyoming. The formation is about 125 feet thick at its northwestern exposure about ten miles northeast of Hulett, Wyoming. The lower sequence of the formation consists of gypsum and red claystone about seventy-five feet thick while the upper sequence consists of interbedded light gray limestone and red and gray claystone about fifty feet thick. (Erathem-Vanir Geological, 2013)

The geologic formations have led to an expanse of mineral resources and oil and gas production in Crook County.

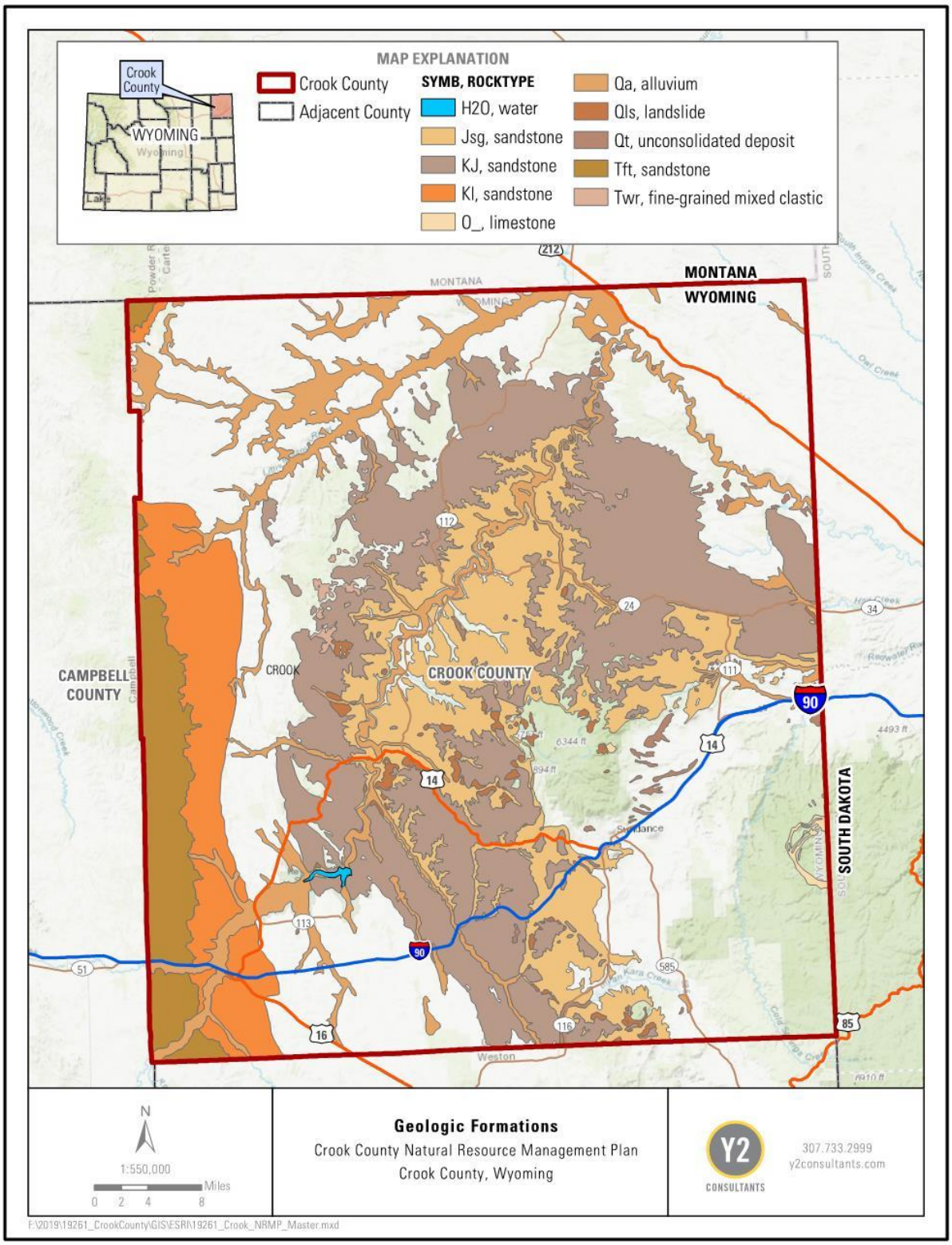

Figure 4. Geologic formations in Crook County.

3.2 MINING & MINERAL RESOURCES

3.2.1 History, Custom, and Culture

Mineral production has been part of Crook 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. Bentonite, uranium, and coal production have historically provided important contributions to the County's economy. Mineral resource production is a large corner of industry in Crook County and provides jobs to hundreds of people throughout the region. (Crook County, 2014)

The production of minerals and the associated economic and cultural activities have historically waxed and waned with demand and pricing, but mining remains an important industry to Crook County's tax base, domestic production, and employment. The mining industry makes up an important part of the property tax base of the County, and the payrolls and expenditures for equipment, materials, and supplies are important to the economic stability of the County. (Crook County, 2014; Data USA, n.d.)

Another unique form of federal land ownership in the West comes from split mineral estates. A split mineral estate occurs when the ownership of the minerals (or subsurface rights) in a certain area is different from the ownership of the surface estate. 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.

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. United States Department of the Interior and United States Department of Agriculture. 2007. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. (BLM/WO/ST-06/021+3071/REV 07 Bureau of Land Management. Denver, Colorado. 84 p. 12). 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. *Id.*

3.2.3 Resource Assessment and Legal Framework

There are a total of 12,676 mining claims on public land in Crook County. Of those 1,852 or 14.6% are active and 10,824 or 85.4% are closed. There are 135 mines in the County of which 57 are occurrence mines, meaning they have had some type of mineral surveyed/observed. Of those 57 occurrence mines uranium is the top commodity but tin, manganese, gold, and

iron have also been discovered. (The Diggings, 2020) The development and production of extractable resources are vital to the economic stability of Crook County. Mineral resources support a multitude of local jobs, industries, and activities. Development of these resources occurs on private, state, and federal land. Because of the split-estate nature of mineral and land ownership within the County, many stakeholders have an interest in these developments.

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. The BLM is a multiple use agency and therefore must balance the development of mineral resources in the best interests of the country as well as managing 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 to apply stipulations on a lease and conduct environmental analysis of leasing and permitting on USFS lands.

Crook County produces a variety of minerals including (Crook County, 2014):

- Alum
- Barite
- Bentonite
- Calcite
- Coal
- Columbite
- Copper
- Fluorite
- Garnet
- Gold
- Gypsum
- Iron-Pyrite
- Lead
- Limestone
- Manganese
- Nepheline-syenite
- Oil and Gas
- Quartz-agates
- Rare Earths
- Sand & Gravel
- Sandstone
- Tourmaline
- Tripolite
- Uranium
- Vanadium
- Zinc

Bentonite is produced around the Black Hills from Colony to Moorcroft. The Hauber Uranium mine, located north of Hulett, was the state's first uranium mine and was owned by Homestake Mining Company. In-situ uranium mining by Strata is occurring near Oshoto, and Crook County has the potential for sizable uranium production. Limestone quarries, sand, and gravel mining operations in Crook County produce quality aggregate for Crook County and neighboring counties and states. Granite is located within the Missouri Buttes and there is potential for the further development of rare earth and hardrock minerals within the County.

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 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 the County, these challenges and interface issues need to be streamlined. Crook County will endeavor to enhance and streamline coordination with all agencies involved in the regulatory process of mineral extraction as provided for by federal and state law.

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 locatable minerals including gold, silver, copper, and other hard rock minerals. Leasable minerals, such as coal and other commodities, are subject to various Mineral Leasing Acts as described in the BLM's Mineral Leasing Act of 1920, as amended. Saleable minerals, such as sand and gravel that are essential to construction and road building, are subject to the Materials Act of 1947, as amended. (BLM, 2016). Every mining law or act enacted since then has contained a "savings clause" that guarantees that the originally granted rights will not be rescinded. Crook County's policies for mineral development are structured to responsibly increase the exploration, development, and production of mineral and energy resources within the political jurisdiction of the County.

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. Withdrawal of minerals cannot prohibit 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 a 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*. The withdrawal will expire after 90 days if both bodies of Congress draft concurrent resolutions that they do not approve the withdrawal within 90 days of being notified by the Secretary of Interior. *Id*. In order 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).

3.2.3 Resource Management Objective:

A. The extraction of coal, oil and gas, bentonite, uranium, and all other minerals within Crook County are continued in a sustainable and ecologically healthy way.
B. All mining operations in the County reclaim the land reasonably back to its original condition.
C. The County is given meaningful participation in the permitting process for all mining activities in the area.

3.2.4 Priorities:

1. Federal agencies should support streamlining the permitting process for new activities within Crook County to allow for more exploratory drilling and mining and improved access to reserves.
2. Federal agency decisions to withdraw lands from mineral exploration or extraction shall be coordinated with the County prior to withdrawal to consider the impact such withdrawal would have on the County's economic viability.
3. Federal agency decisions pertaining to mining and energy resources within the County affect the health, safety, and welfare of its citizens and the County requests to be notified and allowed to join as a cooperating agency for any decision affecting mining and mineral resources as early in the process as is allowed by federal law.
4. The County requires that public lands 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.
5. Federal agency land use and management plans shall contain a thorough discussion and evaluation of energy and mineral development, including the implications such development may have on surface land uses and the County economy.
6. All exploration, development, and mining on public lands in the County with mineral or energy potential shall be governed by adherence to all laws which pertain to mining and energy development and production, including but not limited to the General Mining Law of 1872, as amended, FLMPA, and 43 C.F.R. §3809.
7. All public lands not lawfully withdrawn from mineral exploration and development shall remain available for their designated use. These lands should be developed in an orderly manner to accommodate exploration, development, and production.
8. All relevant federal agencies shall protect the rights of access, occupation, and property of anyone prospecting and/or developing minerals within Crook County as required by federal and state law so long as protection of such rights do not infringe upon the rights of surface owners through the Wyoming Split Estate Act.
9. The County shall be notified early of any proposed closures of prospect and mining of mineral resources and any closures shall be coordinated with the County as a cooperating agency.
10. The County encourages simultaneous or sequential mineral development with other resource uses in accordance with multiple use management principles in Crook County, weighing and balancing established mineral rights with other multiple uses in the development coordination process.

11. The County encourages proper mitigation of closed mines and reclamation practices throughout the County using existing ecological site descriptions to help determine the mitigation and reclamation methods of the area.
12. All mining and reclamation plans on public lands should consult with the Crook County Weed and Pest District to develop a weed management plan.
13. The County shall be informed as to proposed timelines for all federal agency decisions involving minerals.
14. The County supports the following of Secretary of Interior Order 3355 – Streamlining National Environmental Policy Act.
15. Federal agencies should ensure that existing air, water, and land quality be maintained and not diminished as a result of new mineral development activities.
16. The County encourages all federal agencies to inform the County of all mining claims, exploration permits, and applications for permits to drill to the extent allowed by law.
17. All federal permits should require road management and repair agreements with the County.
18. All public lands not lawfully withdrawn from mineral exploration and development should remain available for their designated use. 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.
19. In instances of split estate minerals, the agencies should take the surface owner's requests into great consideration when developing a surface use plan.
20. There should be clear standards setting forth what is "good faith negotiations" when an operator is negotiating a surface use agreement with a surface user.
21. The County encourages negotiation of surface use agreements on split estates and support siting of oil and gas facilities off of irrigated lands, unless otherwise agreed by surface user.

3.3 ENERGY RESOURCES

3.3.1 Oil and Gas

3.3.1.1 History, Custom, and Culture

Oil and gas production have contributed to Crook County's taxable income for over 100 years. Starting in the late 1970s, overall production decreased, negatively impacting County revenue. This is illustrated in trending of countywide production records from the WOGCC.

Decreased production of oil and gas in Crook County has been the result of a series of factors. Extraction of hydrocarbons is dependent on the economic and regulatory feasibility of the reservoir and the location from which they are produced. Throughout the County, fields have been abandoned due to short production lives. Many of these fields could potentially go back into production using enhanced oil recovery methods. Additional permitting requirements from the WDEQ and WOGCC for development on state and federal lands have limited the development and expansion of fields. (Crook County, 2014)

3.3.1.2 Resource Assessment and Legal Framework:

In the past 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. Conversely, overall natural gas production has declined. The County has seen gradual decreasing trends in overall oil and gas production since 1990. The peak for gas production was 307,810 million cubic feet (MCF) in 1981, and for oil was 5.8 million BBL (blue barrels) in 1985. In 2019 gas production was 18,607 MCF and oil production was just over 925,000 BBL. This decline in growth is tied to existing economic conditions at the County, state, and national levels (see Figure 5 and 6). (DrillingEdge, 2020)

Wyoming Oil Production for 1978-2018

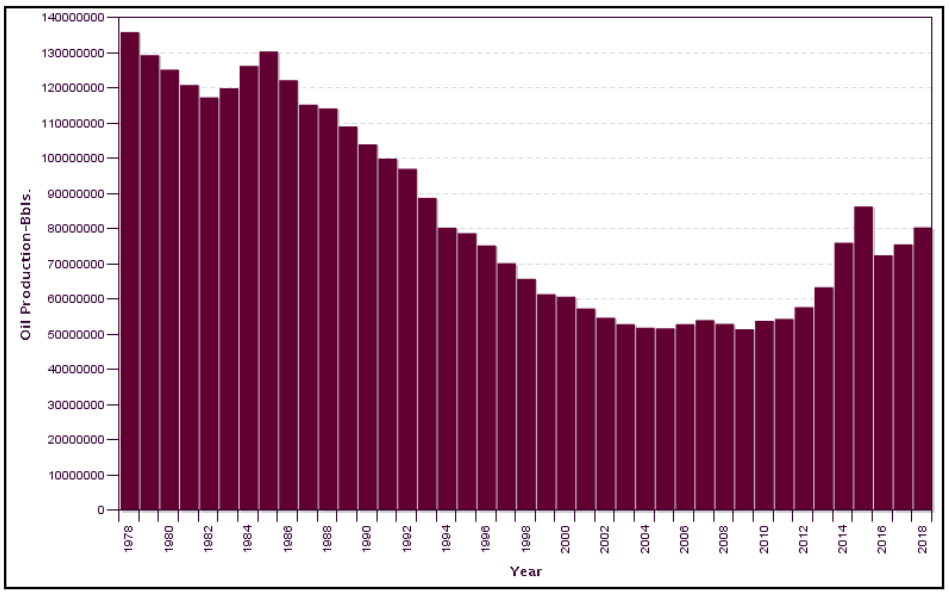

Figure 5: State of Wyoming Oil Production Trends (1978-2018). (Oil Graph, n.d.)

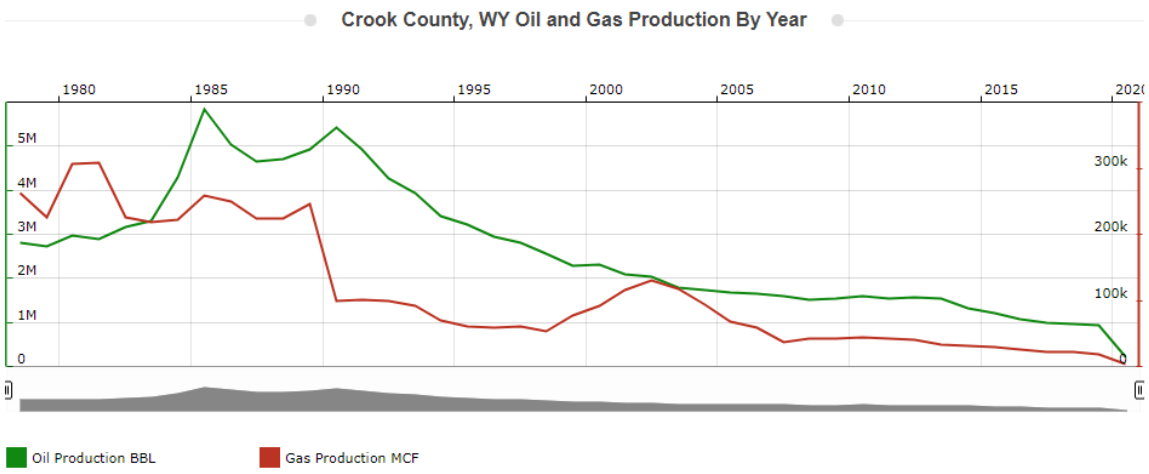

Figure 6. Oil and gas production in Crook County from 1980 to 2020.

It is known that substantial reserves of crude oil and natural gas are present in the County. The County's objective is to reverse declining oil and gas production by reducing lease restrictions and land withdrawals. This is intended to create a climate where the use of new technological advancements on existing production leases within the County is encouraged. Advancements in production methods are now more environmentally conscious and strive to mitigate environmental impact on the production area.

Wyoming Gas Production for 1978-2018

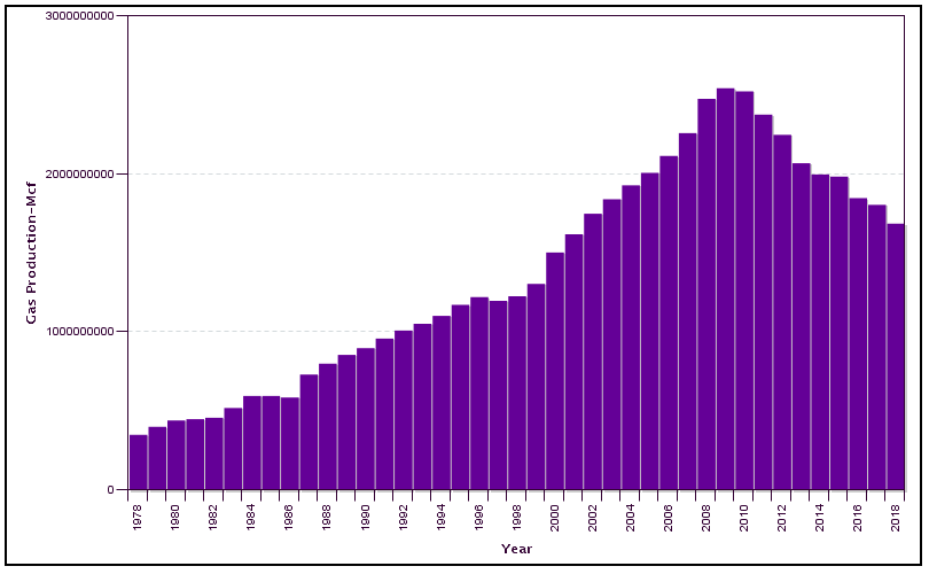

Figure 7: State of Wyoming Gas Production Trends (1978-2018). (State Gas Production Graph, n.d.)

3.3.1.3 Resource Management Objective:

A. Oil and gas extraction are managed in a responsible way that promotes Crook County's economic viability along with the health of both ecosystems and citizens of the County.
B. The County is given meaningful participation in the permitting process for all extraction activities in the area.

3.3.1.4 Priorities:

1. Federal agencies should support streamlining the permitting process for new drilling activities within Crook County to allow for more exploratory drilling and improved access to reserves.
2. Crook County should be informed of all potential uses of county roads and resources from oil and agas activities and the associated impacts to those resources.
3. The County encourages the nomination of more leases for sale.
4. Federal agencies are encouraged to prioritize approval of secondary and enhanced (tertiary) 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 for agricultural and domestic use.
5. The County encourages implementation of new technology and advanced production techniques to improve access to reserves in place, including long length horizontal wells.
6. The County encourages coordination among the various federal agencies to facilitate hydrocarbon production permits in a timely manner, as prescribed in federal law.
7. Federal agencies should support the use of enhanced production techniques and the development of infrastructure to provide material supply and support to ensure further development throughout Crook County.
8. The County encourages federal agencies to approve oil and gas leases in a timely manner and encourage justification in deferring lease applications.
9. The County discourages the disposal of oil and gas produced water into surface waters of Crook County.
10. The County encourages alternatives to flaring such as the use of pipelines, storage, etc.
11. Road agreements should be made with Crook County for all oil and gas permits within the County.
12. Dust mitigation plans should be made for all roads associated with oil and gas developments within the County.
13. So long as such activities will not harm private property rights, federal agencies should allow operators to capture, use, and/or store carbon dioxide during extraction activities on public lands.
14. In instances of split estate minerals, the agencies should take the surface owner's requests into great consideration when developing a surface use plan.
15. There should be clear standards setting forth what is "good faith negotiations" when an operator is negotiating a surface use agreement with a surface user.

3.3.2 Coal

3.3.2.1 History, Custom, and Culture

Coal became an industry in Crook County around the 1870s where coal deposits were discovered about twenty miles northeast of Sundance, near what would eventually become Aladdin, Wyoming. Coal mined in the area was destined for the gold smelters in Deadwood, SD. In 1895, the Black Hills Coal Company was founded and began mining coal in Crook County. To more efficiently haul coal the Black Hills Coal Company built the Wyoming and Missouri River Railroad to haul coal from the Aladdin area eighteen miles to the east to the main Chicago and Northwestern Railroad line in Belle Fourche, South Dakota. The Aladdin mine began operation in the late 1800s and coal was mined until it was abandoned in 1942. The original wooden Tipple still stands after it was preserved using Wyoming Abandoned Mine Land (a division of WDEQ) funds in 1994 and 2018. The railroad line ran from 1899 to 1927 carrying people, commodities, and livestock along with coal. However, coal transport was rare after 1910. (Lebsack, 2014; Pfingsten, 2016)

3.3.2.2 Resource Assessment and Legal Framework

Coal mining is not currently a viable industry in Crook County. Many county residents find employment in the coal mines near Gillette and Wright, Wyoming (Campbell County).

3.3.2.3 Resource Management Objective:

A. Clean and efficient coal powered electricity continues to be used in the County.
B. Alternative uses of coal are encouraged and utilized when discovered.

3.3.2.4 Priorities:

1. Federal agencies should support the continued responsible use of coal as an energy source and its transmission into the area.
2. The County encourages implementation of new technologies to provide for cleaner, more efficient use of coal in the refinement process.
3. The County supports and encourages research and development of other uses for coal besides energy.

4. Energy generated from coal should be transmitted and stored in ways that limit risks to the environment and residents of the County.
5. The County shall be involved as a cooperating agency as early as possible in federal agency actions to downsize the coal industry within Crook County.
6. All federal agencies shall make the County aware of any decisions or actions that could limit, impeded, or increase the cost of coal energy being brought into Crook County and allow the County to participate as a cooperating agency early in the process for all such decisions.
7. The County does not support any restrictions to the exportation of coal and considers any such restriction a violation of the Dormant Commerce Clause.

3.3.3 Renewable Energy

3.3.3.1 History, Custom, and Culture

Crook County does not have an extensive history or culture associated with renewable energy, though the renewable energy industry is growing across the state. The development of renewable energy is a component of energy infrastructure development throughout the County. Wyoming does not have a renewable portfolio standard goal, as some other states like Colorado do, to generate a certain amount of the state's electricity from renewable energy by a certain timeframe (National Conference of State Legislatures, 2019).

3.3.3.2 Resource Assessment and Legal Framework

There is potential across the County for renewable energy development, including wind and solar power. There have been some small solar energy developments on private lands within the county and Atlas Solar Innovations operates in Hulett and Moorcroft. Wind energy is also a potential within the county. Figure 8 shows the wind resources within Wyoming and much of the area around Crook County has higher wind speeds for wind energy development. New development of renewable energy resources in Crook County will be considered on the basis of expanding available energy infrastructure.

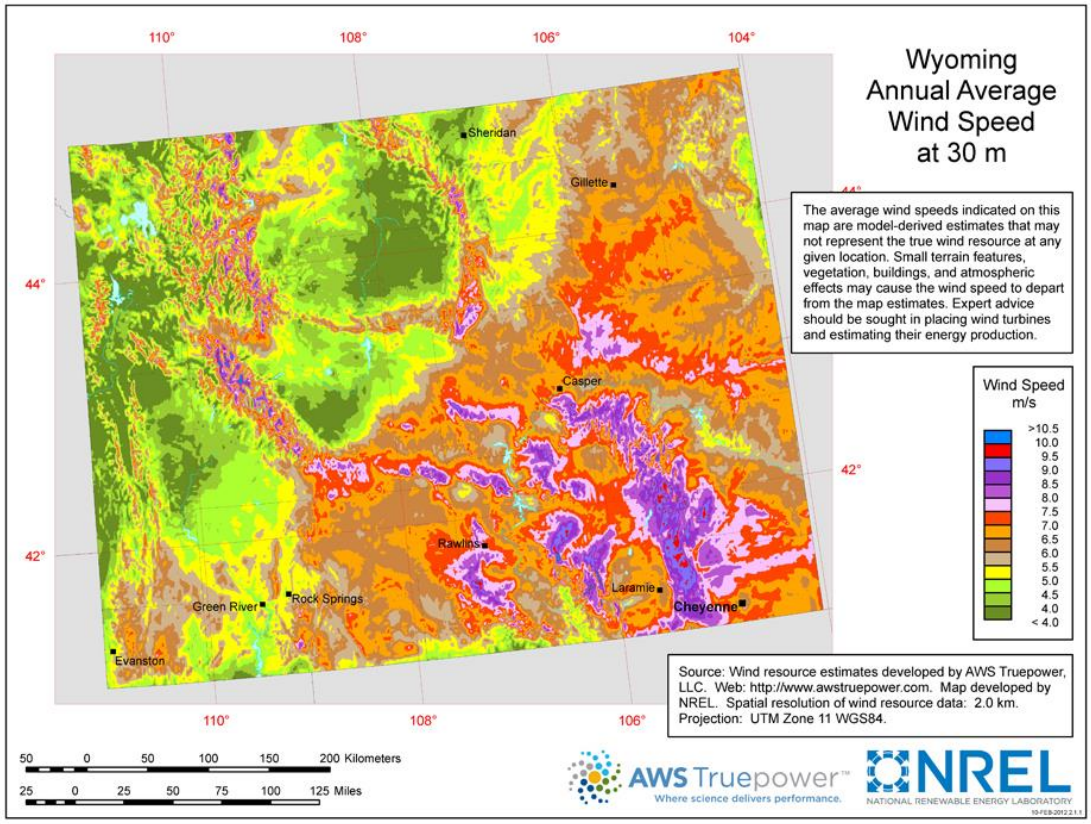

Figure 8. Wind resource map for the State of Wyoming.

3.3.3.3 Resource Management Objective:

A. The development and management of renewable energy within Crook County is done in a responsible manner that takes into consideration the economic viability and custom and culture of the County along with the health, safety, and welfare of the County's citizens and natural resources.

3.3.3.4 Priorities

1. Renewable energy structures on public lands must be coordinated with the County regarding siting and protecting pre-existing uses.
2. Federal agencies should coordinate with Crook County regarding any regulatory processes for renewable energy that impacts the cultural and economic stability of the County.
3. Federal agencies should consider the development of renewable energy in coordination with the County and stakeholders.
4. The County supports renewable energy to further develop energy infrastructure and energy independence without encumbering the underlying mineral estate.

5. A reclamation plan must be designed before any renewable energy projects are approved on public lands.
6. Renewable energy should be a lower priority than other multiple uses in the County. Federal agencies should consider the effects of renewable energy developments on other land uses and the potential nuisances to neighboring properties before approving any proposed projects.
7. Federal agencies permitting wind energy projects shall consider the 2012 Crook County Wind Energy Facility Resolution.

3.3.4 Pipelines

3.3.4.1 History, Custom, and Culture

Due to the development of oil and gas within Crook County, there has been significant development of oil and gas transmission pipelines throughout the County, primarily along the north-south axis. Most of the pipelines are in the southwest quadrant of the County. The County has long been a proponent of pipeline development throughout Crook County. (WSGS, n.d.)

3.3.4.2 Resource Assessment and Legal Framework

Pipeline infrastructure plays a crucial role in the development and transmission of hydrocarbons as well as other materials (ie. helium, water, CO_2, etc.) at the national, state, and county levels. It is crucial that these avenues for transmission can continue to thrive and develop within Crook 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).

There is very little federal regulation of most pipelines. Permitting for interstate natural gas pipelines and interstate liquified natural gas (LNG) 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, natural gas liquid (NGL).

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 Federal Energy Regulatory Commission “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 company to comply with local regulations through conditions in 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 (PHSMA). 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"). In order 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.

The Crook County Commissioners have passed a policy on the installation of commercial pipelines along or across county roads. There is a several step process that a licensee must go through in order to install a commercial pipeline. The policy can be found here:

https://www.crookcounty.wy.gov/elected_officials/commissioners/docs/RulesRegsCC/Policy_on_the_Installation_of_Commercial_Pipelines_Along_or_Across_County_Roads.pdf

3.3.4.3 Resource Management Objective:

A. Pipeline development is managed responsibly and takes into consideration the health, safety, and welfare of the County's citizens and natural resources.

3.3.4.4 Priorities:

1. Federal agencies should support the development and improvement of future and existing pipeline infrastructure for the transmission of materials in and through Crook County when it will not affect pre-existing uses or rights.
2. The County supports the development of pipelines throughout the County as an alternative to flaring.
3. The County supports streamlined decisions regarding pipelines so long as it does not harm pre-existing uses or rights.
4. The County encourages pipeline development to be in the most direct path regardless of land ownership, with a preference to placement on federal lands.
5. The County encourages the reclamation of surface disturbance after pipeline construction using weed free native or weed free introduced seed mixes appropriate to the ecological site. Weed mitigation plans for reclamation sites are encouraged.

6. Federal agencies should coordinate with surface users when determining location and reclamation requirements for pipeline rights-of-way permits.
7. Federal agencies should recognize the pipeline policies created by Crook County.
8. The County does not support the use of eminent domain on private property owners to acquire rights-of-way for pipelines.
9. Pipelines should avoid water crossings and placing 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.

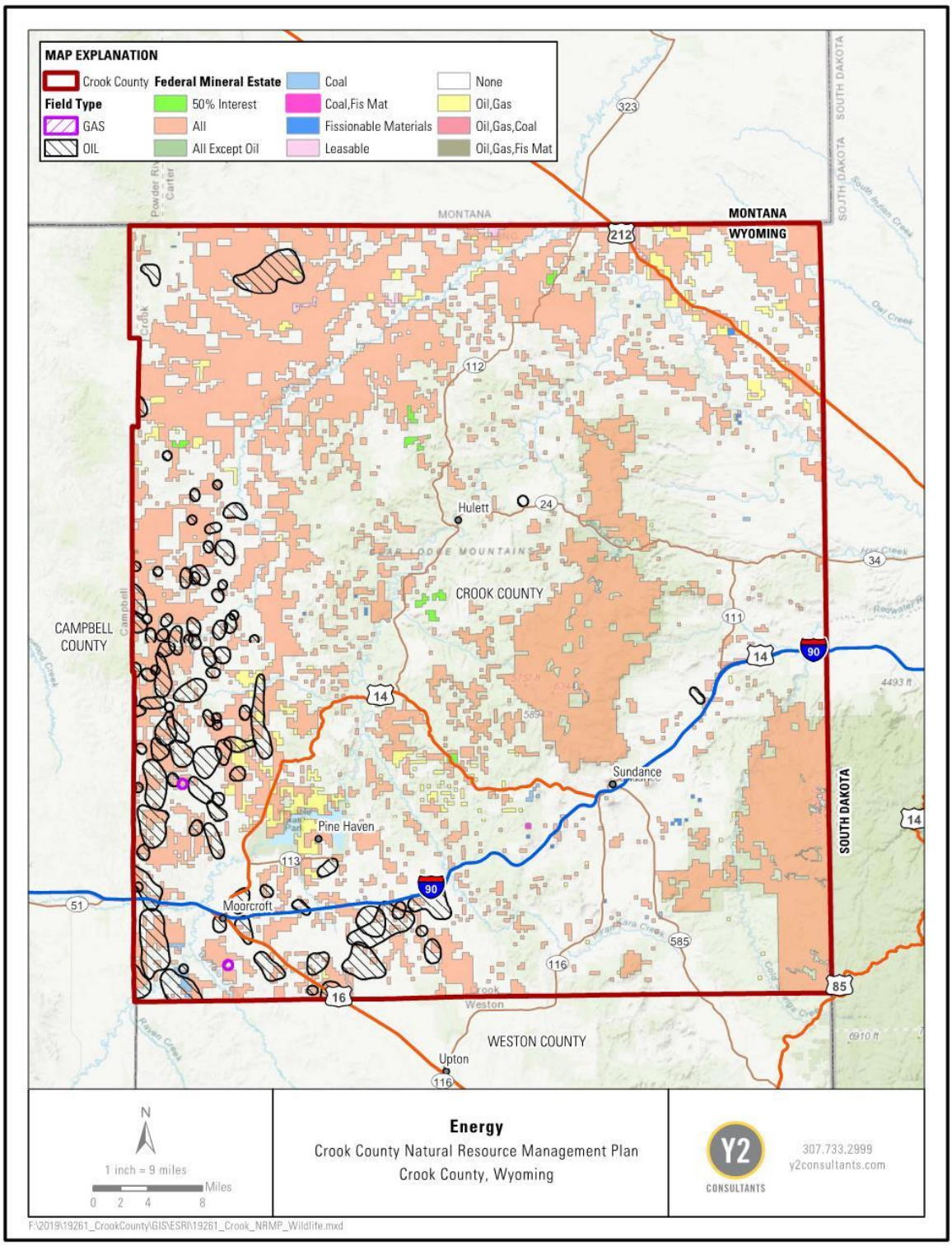

Figure 9. Energy resources within Crook County (information for this map came from USGS, BLM, WSGS, and WOGCC).

3.4 AIR QUALITY

3.4.1 History, Custom, and Culture

Clean air in the County is important to citizens and visitors. Wildfires burning on federal lands can create air quality issues in the summer and fall. Dust from roads and rangelands can negatively impact air quality, mostly during drought conditions. Clean air is key to people living in this County and to those who visit and wish to live here.

3.4.2 Resource Assessment and Legal Framework

Air quality is important to the health, safety, and welfare of Crook County's residents. Under the Clean Air Act of 1970 (42 U.S.C. §7401 et seq.), the U.S. Environmental Protection Agency (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 standards. The Clean Air Act requires states to develop a plan to attain air quality standards in their state. These plans are called State Implementation Plans (SIPs) (O. US EPA, 2014). The Regional Haze and Visibility Rule requires states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, the U.S. Forest Service, and other interested parties to develop and implement air quality protection plans to reduce the pollution that causes visibility impairment. (WDEQ, 2017)

In Wyoming, local enforcement of many air pollutant regulations is delegated to the Department of Environmental Quality (WDEQ) (R. 08 US 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 (Wyoming Department of Environmental Quality, 2018). 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
- Flaring
- Dust
- Construction/Demolition activities (asbestos)
- Processing
- Handling and transport of materials
- Agricultural practices
- Fuel-burning equipment
- Oil and gas operations
- Manufacturing operations
- Gravel excavation, processing, handling, and transportation

The degradation of air quality in Crook County comes from both natural and man-made sources:

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

3.4.3 Resource Management Objective:

A. Clean air management and practices limit air pollution within Crook County without expansion of rules and policies that would act as an impediment to economic development.

3.4.4 Priorities:

1. Federal, state, and local agencies should work together to educate all stakeholders involved to develop best management practices (BMP) concepts and plans to protect the air quality in the County.
2. Federal agencies should support the development and implementation of educational programs to provide best management practices on burning to improve air quality in the County.
3. The County encourages federal agencies to implement BMPs for forest management to decrease the number of summer wildfires.
4. Federal agencies should acknowledge that wood burning is a "necessity of life" for the health, safety, and welfare of the County's citizens and should be maintained as an acceptable activity.
5. The County discourages the creation of permitting for wood burning.
6. The County encourages federal agencies to take aggressive efforts with forest management to decrease the number of wildfires.
7. Federal agencies should ensure that there is a balance in which air quality is not compromised at the expense of economic development activities (i.e. mining, oil and gas development) without harming business within the County.
8. Federal agencies should require dust mitigation in all development and reclamation plans.
9. The County supports reasonable alternatives to flaring to decrease its impact on air quality within the County.

3.5 CLIMATE CHANGE

3.5.1 History, Custom, and Culture

Crook County relies heavily upon the agriculture and energy industries to support the local economy. Climate change, including increased temperatures, reduced precipitation, and changes in airflow have the potential to drastically affect the economy of Crook County. Increased occurrence of severe fires over the past decade have led to reduced air quality and various health issues across Wyoming. Federal actions and legislation related to climate change can also affect industry production and the economy of the County. Crook County is committed to preserving

the health of its citizens and its economy and, as such, is requiring cooperation and open communication with federal agencies when assessing the effects of proposed federal actions within Crook County.

3.5.2 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, sediment cores, etc., has shown that climates vary naturally over time and are subject to the cyclical phenomena of El Niño-Southern Oscillation (ENSO), Pacific Decadal Oscillation (PDO), and North Atlantic Oscillation (NAO). These phenomena, among others, cause yearly variations in precipitation, temperature, and temperatures.

Although Executive Order 13783 withdrew guidance on the consideration of the effects of climate change and greenhouse gas (GHG) emissions, in favor of promoting energy independence and economic growth, federal agencies must still assess the effects of major federal actions on the environment. 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 GHG emissions; (2) the effect of a changing climate over the life of 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 (Exec. Order No. 13783, 3 C.F.R., 2017).

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).

Council on Environmental Quality (CEQ) recognizes that land management practices such as prescribed burning, timber stand improvements, fuel load reductions, scheduled harvesting, and grazing can result in both carbon emissions and carbon sequestration.

3.5.3 Resource Management Objective:

A. Climate change analysis is conducted on a regional level that does not give deference to potential long-term effects of climate change compared to immediate harms that the decision may have to the community.

3.5.4 Priorities:

1. The County encourages inclusion of additional climate change scientific data in all NEPA planning processes that meets the credible data criteria, even if not produced by a federal agency.
2. When climate change analysis is required to occur on a regional level; the region shall be identified through consultation and coordination with the County.
3. The County supports the requirement for a full analysis of the impact each "decision" will have on the local economy. If it is determined that the decision will have significant negative impact on the local economy, the alternative/decision is not supported.
4. The County does not support the regulation of greenhouse gases through climate change analysis.

3.6 SOILS

3.6.1 History, Custom, and Culture

Healthy soils sustain plant communities and keep sediment out of streams and dust out of the air. Land managers of federal lands are mandated to manage soils and vegetation to ensure land-health standards are maintained and to safeguard sustainable plant and animal populations (Natural Resource Conservation Service, 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 as well as 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. (Natural Resource Conservation Service, 2018)

The CCNRD works to promote the conservation of soil and water resources within the district. (See Section 2.1 Land Use for more information).

3.6.2 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. There are five levels or "Orders" of soil surveys depending on the level of detail involved. Order three is typical for most federal lands projects which do require onsite investigations by expert soil scientists for site specific project related activities or projects (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 USDA NRCS and are available online through Web Soil Survey (USDA NRCS, n.d.). The soil survey mapping of Crook County was initially completed in 1978, and is now available on Web Soil Survey (NRCS, n.d.). The general soil map units for Crook County are depicted in Figure 10below.

Ecological Sites provide a consistent framework for classifying and describing rangeland and forestland soils and vegetation. Ecological Site Descriptions (ESDs) are reports that provide detailed information about a particular type of land. ESDs are used for assessing vegetation states and often used in reclamation and rehabilitation of an area to know how the site reacts to disturbances and potential vegetation that could be reclaimed on the site.

3.6.3 Resource Management Objective:

A. Soil quality and health is maintained and conserved through best management practices.

3.6.4 Priorities:

1. Federal agencies should support projects and policies which improve soil quality and ecology.
2. Federal agencies should support erosion control as a means of flood control.
3. For new soil disturbing projects or permits, federal agencies should support implementation of BMPs to manage runoff, preservation and maintenance of topsoil, and stabilize soils on site.
4. The County does not support land use designations or management objectives that eliminate or reduce the opportunity for implementation of practices that can improve soil health.
5. Crook County supports and encourages the use of natural processes including livestock grazing as key to site reclamation for soil health and biodiversity. Encourage the implementation of BMPs for watershed management.
6. The County encourages the removal of drill mud from drill sites to designated waste sites.

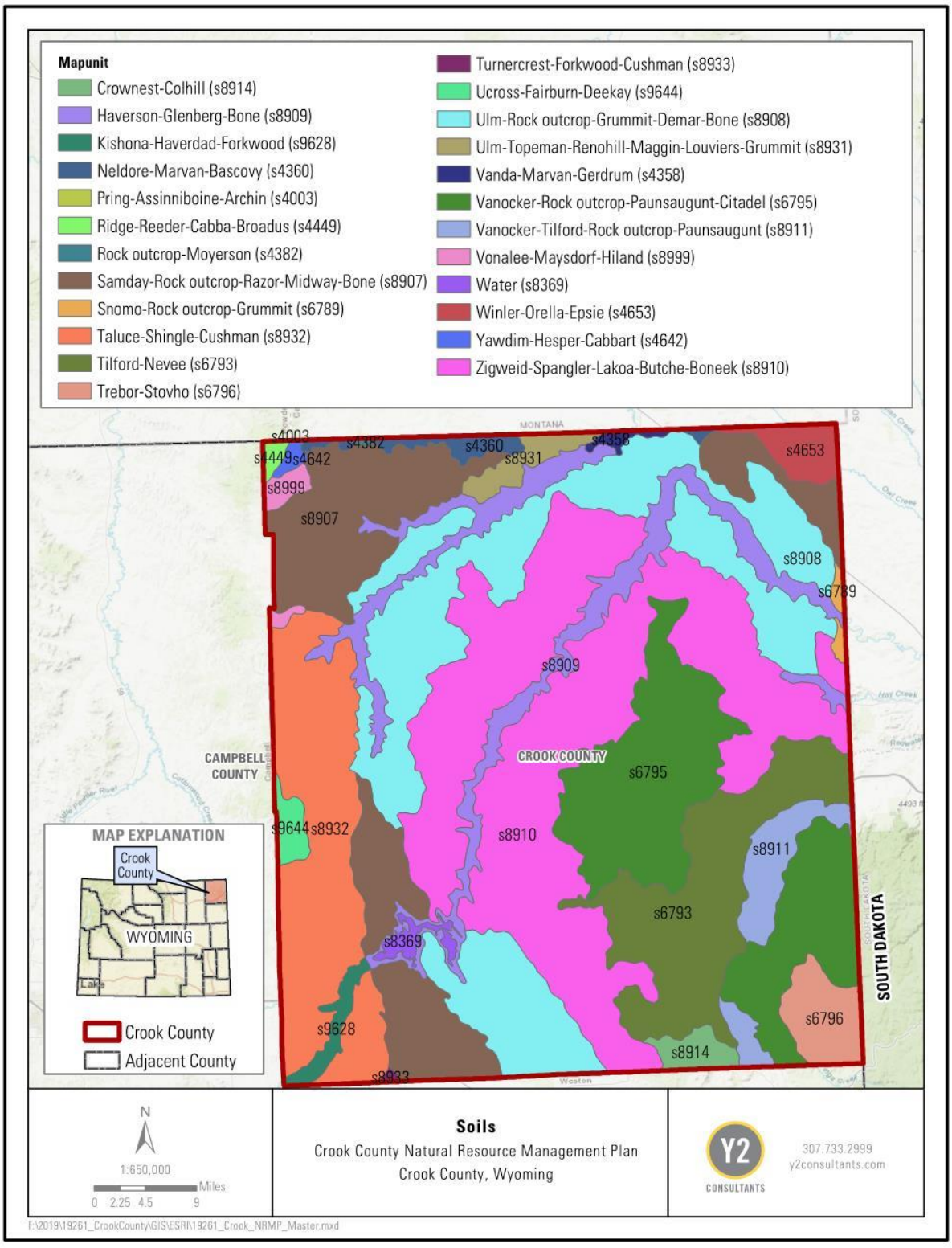

Figure 10. Soils of Crook County.

CHAPTER 4: WATER RESOURCES

Overview

Healthy watersheds contain forests and plant communities 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 development. Healthy watersheds provide water resources with sustainable quantity and quality, recreation opportunities for residents and visitors, serve cultural needs, and provide habitat for native plants, wildlife, and fisheries. The health of Crook 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.

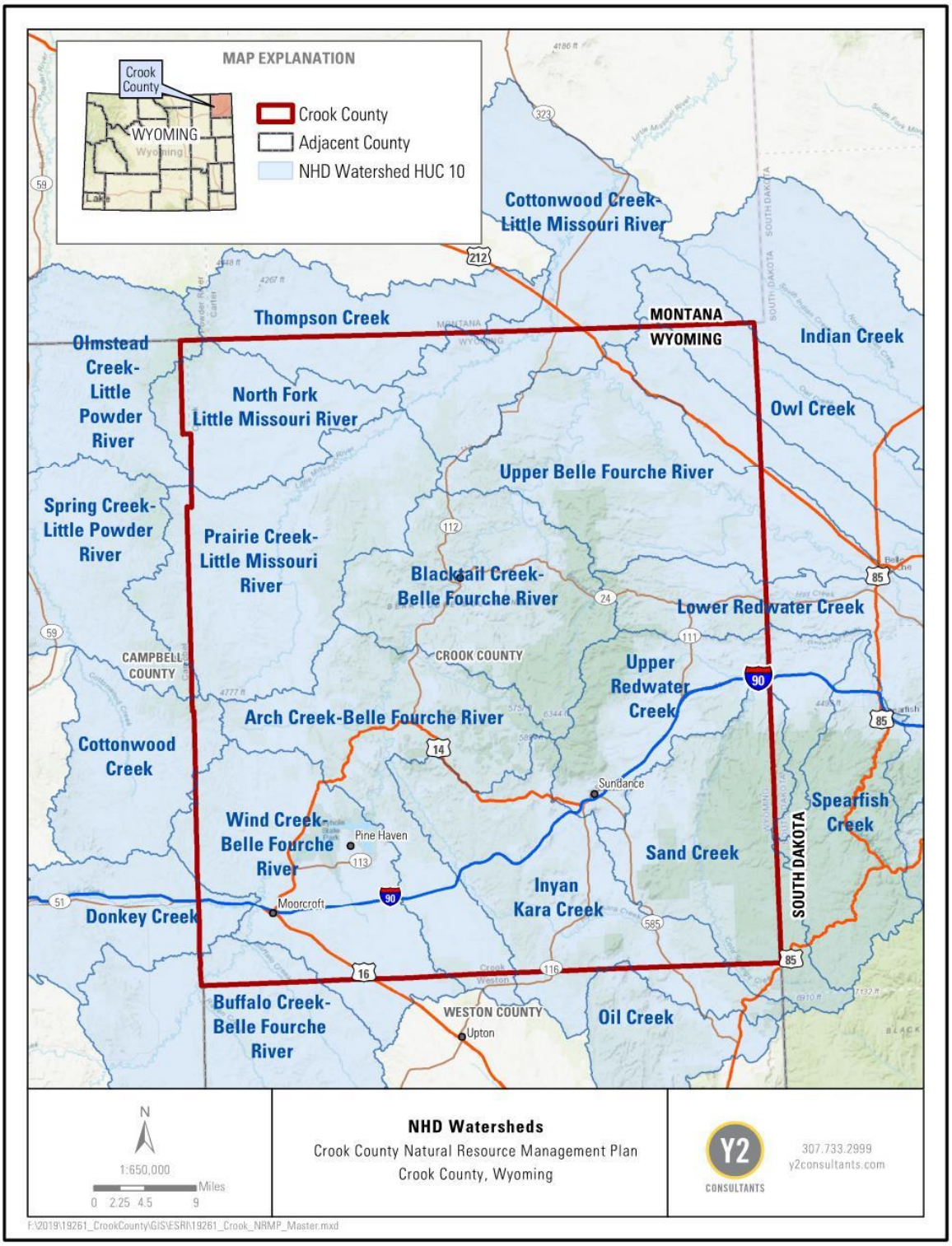

Figure 11. Watershed map of Crook County.

4.1 IRRIGATION AND RELATED INFRASTRUCTURE

4.1.1 History, Custom, and Culture

Irrigation began in the Northeast Wyoming River Basins as the livestock industry expanded in 1875 following the Black Hills Gold Rush. The primary use of irrigated land in the Northeast Wyoming River Basins is for forage production. Many ranchers in the area have depended on irrigated forage production for winter feed since the early development of irrigation in the basin. By the late 1800s bottomland irrigation for forage production was relatively common. In 1972 over 80% of water use in northeast Wyoming was for irrigation. (HKM Engineering Inc., 2002) There are several historical ditches throughout the county including the Beulah historic irrigation ditch. There is one irrigation district in the county that is made up of 16 members and was formed with the purpose to purchase 10% of the storage space of Keyhole Reservoir.

In 2002 there were 18,791 acres of full-service irrigated land and 23,085 acres of partial service irrigated land (typically receiving reduced water supply) within the Northeast Wyoming River Basins. Including all lands receiving irrigation benefit, irrigation acres totaled 86,882. Most of the irrigation water is sourced from surface waters; about 20% of irrigated lands in the basin use ground water. Within the Upper Belle Fourche River Basin and the Upper Little Missouri River Basin (the two basins covering Crook County) forage crops dominated the active irrigated acres. In the Upper Little Missouri River Basin 100% of active irrigated acres produce grass. Within the Upper Belle Fourche River Basin grass production makes up 89% and alfalfa makes up 9% of active irrigated acres. (HKM Engineering Inc., 2002)

Additional information on crop production is available in section 7.1 Agriculture Production.

4.1.2 Resource Assessment and Legal Framework

The largest portion of crops produced with irrigation in Crook County are, alfalfa, grass and other hay and feed grains that are produced for the livestock industry (Crook County, 2014).

Irrigation influences the flow rates and timing of both perennial and ephemeral streams in the 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 prior to 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 habitat. (Whitcomb & Morris, 1964)

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

4.1.3 Resource Management Objective:

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

4.1.4 Priorities:

1. The County supports the update and improvement of irrigation infrastructure throughout the County to improve overall watershed health.
2. Federal agencies should support the development, improvement, and continued use of irrigation and related infrastructure.
3. Federal agencies should work with appropriate partners and other agencies to promote the efficient delivery and use of irrigation water.
4. Federal agencies should support the development of off channel storage facilities that would allow excess spring runoff to be captured and used later in the growing season with support from surrounding landowners and water users.
5. Agencies should allow and guarantee that consumptive water right owners have the right to improve water quality and water-use efficiency to provide additional water for economic development and agriculture.
6. Federal agencies should support consideration of the effects of irrigation infrastructure while allowing for other multiple uses on public land.
7. The County encourages negotiation of surface use agreements on split estates and support siting of oil and gas facilities off of irrigated lands, unless otherwise agreed by surface user.
8. Federal agencies should allow for the continued use and protection of historical irrigation ditch rights-of-way through public lands whether those rights are permanent or require periodic renewal.
9. Any renewal of rights-of-way for irrigation ditches crossing public land should be done expeditiously with as little impact to the historical use as is allowed by law.
10. The County does not support the imposition of instream flows as a condition precedent for renewal of historical irrigation ditch rights-of-way.

4.2 DAMS AND RESERVOIRS

4.2.1 History, Custom, and Culture

Multiple dams and reservoirs are located within Crook County and are used for various functions, including storage for irrigation, livestock use, development of springs, creation of livestock dams, recreation, industrial, municipal, flood control, and fish propagation. Surface water development began within the County in 1875 with the expansion of the livestock industry. There are several dams on USFS lands for livestock use including the Hemler Dam.

The Wyoming Water Development Office's (WWDO) Dam and Reservoir Planning division works to promote dam and reservoir maintenance and improvement. Funding from the Dam and Reservoir Division account is available for the development of new reservoirs that are 2,000 acre-

feet (AF) or larger, or the enlargement of currently existing reservoirs (minimum of 1,000 AF increased capacity). Funding is also available to Level I and Level II feasibility studies identifying possible water storage projects. (HKM Engineering Inc., 2002; Wyoming Water Development Office, n.d.-b)

4.2.2 Resource Assessment and Legal Framework

The Northeast Wyoming River Basins Water Plan evaluated all reservoirs considered 'major reservoirs' within the surface water assessment. Major reservoirs are defined as reservoirs with equal to or greater storage capacity than 500 AF. Of the ten designated reservoirs three are located within Crook County. Below is a description of the major reservoirs within the County and nearby key storage reservoirs (HKM Engineering Inc., 2002)

Keyhole Reservoir:

The Keyhole Reservoir is located on the Belle Fourche River northeast of Moorcroft. The dam was constructed in 1952 to store water for late-season irrigation in the surrounding areas and provide livestock water. The reservoir now also serves as a large recreational resource for the County. The Keyhole Reservoir has a storage capacity of 185,800 AF with a surface area of 13,686 acres. This reservoir is considered a 'key storage reservoir' within the Northeast Wyoming River Basins area and is key infrastructure in Wyoming to uphold the agreements under the Belle Fourche River Compact. The outflows of Keyhole Reservoir drain into South Dakota. (HKM Engineering Inc., 2002; Linenberger, 1996)

Tract 37 Reservoir

Tract 37 Reservoir is located on the North Fork Little Missouri River. The surface area of the reservoir is 302 acres and the storage capacity is 2,454 AF. The Tract 37 Reservoir is also considered a 'key storage reservoir' for the region.(HKM Engineering Inc., 2002)

Gillette Reservoir

The Gillette Reservoir is located approximately ten miles west of the Crook County border on Donkey Creek. This reservoir stores 2,080 AF of water and has a surface area of 145 acres. While not within the County, this reservoir is a 'key storage reservoir' that holds a significant amount of water just outside of the County. (HKM Engineering Inc., 2002)

Cook Lake

Cook Lake is a 31-acre reservoir located in the Black Hills National Forest, north of Sundance. The reservoir provides recreational opportunities such as fishing and small watercrafts. There is also camping available within the area. In 2020, the spillway was reconstructed. (USFS, 2020)

4.2.3 Resource Management Objective:

A. Quality of all dams and reservoirs is preserved and water resources are developed responsibly to provide well maintained, accessible, and functional dams and reservoirs.

4.2.4 Priorities:

1. Crook County shall be consulted regarding federal land management decisions for their potential impact on water quality, yields and timing of those yields; impacts on facilities such as dams, reservoirs, delivery systems, or monitoring facilities; and any other water-related concerns.
2. Federal agencies should support the construction of water storage.
3. Federal agencies should support the proper management and maintenance of dams that are listed as high hazard.
4. All reservoirs and dams within the County should maintain their primary use for the purpose for which they were originally intended.
5. Federal agencies should support the recreational and consumptive use of water to support the local economy in a manner that maintains the quality and quantity of the resource.

4.3 WATER RIGHTS

4.3.1 History, Custom, and Culture

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

4.3.2 Resource Assessment and Legal Framework

Wyoming is a Prior Appropriation Doctrine state, meaning that water rights are established by actual use of the water, and maintained by continued use and need (FindLaw, n.d.). Wyoming prioritizes water uses as "preferred uses" and all other uses. Wyo. Stat. § 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 for 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, the measure and limit of the right to use water always. Thus, in Wyoming, a person must (1) obtain a permit; demonstrate a Beneficial Use and (3) use the water in conformity with the permit to have a valid water right. Wyo. Stat. § 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 temporary change in water use of a currently valid water right for up to

two years with approval from the Wyoming State Engineers Office, so water right users may transfer their water rights for other uses on a temporary basis. Wyo. Stat. § 41-3-110.

Crook County is affected by the Belle Fourche River Compact of 1943 which is between the states of Wyoming and South Dakota. This compact allows for unlimited use for domestic and stock water. Stock water reservoirs not to exceed 20 acre feet in capacity and all prior adjudicated rights in Wyoming shall be satisfied before allocating new use after the 1943 compact's ratification with 10% to Wyoming and 90% to South Dakota. (Wyoming Water Development Office, n.d.-a)

4.3.3 Resource Management Objective:

A. State water law and policy is supported for all waters on public and private lands within Crook County.

4.3.4 Priorities:

1. Federal agencies should support the preservation and improved management of Crook County's groundwater resources.
2. Federal agencies should support protection of prior existing (pre 1943) water rights and take steps to ensure that those water rights are not abandoned.
3. Placing water rights in the name of any state or federal agency when the water right is applied for and put to beneficial use by a private individual or corporation as the condition of any permit is not supported.
4. Federal agencies should support recognition of water rights as a private property right that may be owned separately from public lands.
5. Federal agencies should support the state of Wyoming's prior appropriation principle for water right allocation.
6. Water rights shall not be acquired through exactions, including claims of beneficial use by a federal agency or as a condition for right-of-way and ditch permits. It is the position of the County that in stream flow requirements are exactions.
7. The reduction of water districts and senior water right holders' allocations below historic levels is not supported by the County.
8. Federal agencies should support protection of senior water right holders' allocations.
9. The County encourages the federal agencies to protect water rights in relation to the Belle Fourche River Compacts and other future compacts that may be formed within the County.
10. Crook County opposes over-reaching federal regulations on Wyoming Waters; the state of Wyoming should be the governing authority of water rights within the state.

4.4 WATER QUALITY

4.4.1 History, Custom, and Culture

The EPA and WDEQ establish, administer, and monitor standards, policies, rules, and regulations for ground and surface water quality. Crook County is in the NE WDEQ District.

4.4.2 Resource Assessment and Legal Framework

Surface Water Quality

The Clean Water Act (CWA) is the federal regulatory mechanism that regulates mostly surface water quality. The CWA gives the EPA and Army Corps of Engineers regulatory jurisdiction over all "navigable waters" also known as "Waters of the United States." The CWA makes it illegal to discharge a pollutant from a point source into a navigable water unless a permit is obtained. The definitions surrounding what a "navigable water" or "Water of the United States" 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 Waters of the United States and what qualifies as a "point source." From the earliest rulemaking efforts following adoption of the CWA in 1972 to the agencies' most recent attempts to define "Waters of the United States" 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). As of the writing of this Plan, the EPA is finalizing new CWA regulations that are intended to clarify some of the definitions and clearly set forth the jurisdictional limits of the CWA. *Id*. The goal of the final regulations is to (1) include four simple categories of jurisdictional waters; (2) provide clear exclusions for many water features that traditionally have not been regulated; and (3) defines terms in the regulatory text that have never been defined before. The new regulations are set to be implemented on June 26, 2020. Plainly, under the new CWA regulations, (1) territorial seas and navigable waters, (2) tributaries of jurisdictional waters, (3) lakes ponds and impoundments that contribute surface water flow to a jurisdictional water in a typical year, and (4) wetlands adjacent to non-wetland jurisdictional waters all fall under the jurisdiction of the CWA. *Id*. at 2281.

Wyoming surface water quality standards (Water Quality Rules and Regulations, Chapter One) are developed with the federal CWA and the Wyoming Environmental Quality Act (WEQA). These standards include water quality criteria, antidegradation provisions, and designated surface water uses (WDEQ, 2018). The Wyoming Water Quality Assessment Program prepares and submits the Integrated 305(b) and 303(d) *Report to the EPA* biennially to maintain compliance with the CWA (WDEQ, n.d.-e). Policies for antidegradation were last updated in September 2013; Surface Water Quality Standards were last updated in April 2018. Surface Water Quality Standards are reviewed triennially as per the requirements of the CWA (WDEQ, n.d.-d). Surface water designated uses are separated into classes and recreational designated uses. For more information on these classifications refer to the Wyoming Surface Water Classification List and the Recreation Designated Uses Web Map (WDEQ, n.d.-b, 2013).

The CCNRD has conducted water quality monitoring in the Belle Fourche River Watershed since the late 1990s. In 2013, the Environmental Protection Agency finalized a pollutant load reduction plan for Donkey Creek from Gillette to its confluence with the Belle Fourche River. The plan also included provisions for the Belle Fourche River, which is impaired approximately 6 miles north of Moorcroft to 85 miles downstream beyond Hulett. In addition to recording stream flow and other basic physical and chemical water quality parameters, staff monitor pollutants for which Total Maximum Daily Loads were established: *Escherichia coli* (E. coli), total coliform, ammonia, and chloride. The CCNRD also works closely with the Campbell County Conservation District (CCCD) to monitor water quality conditions and coordinate on watershed improvement projects. The CCCD has multiple sampling points in the Donkey Creek drainage which meets the Belle Fourche River just outside the town of Moorcroft. In addition to regular communication between District staff regarding monitoring efforts, outreach, and project planning, both District Boards convene annually. In accordance with a Memorandum of Understanding between the Districts, the Board of Supervisors for each District meets to review the previous year's monitoring results, discuss opportunities for continuing collaboration, and provide feedback to District staff on future monitoring activities. The collaboration between the neighboring Districts promotes the synergy necessary to collectively identify and work with landowners to address impairment issues on a watershed-level scale. (W. Burget, personal communication, 2020)

Groundwater Quality

The Water Quality Division (WQD) Groundwater Program works to protect and preserve Wyoming's groundwater by permitting facilities to prevent contamination and investigating and cleaning up known releases.

Groundwater Pollution Control Program

The WQD Groundwater Pollution Control (GPC) Program tracks potential impacts to Wyoming's groundwater through 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 also assists private landowners with suspected contamination of their wells. The GPC Program also 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, under the current direction of the United States Supreme Court there can be some circumstances in which some groundwater discharges may require CWA permitting.

Subdivision Review

Subdivision reviews are governed by Water Quality Rules and Regulations, Chapter 23 and Wyoming Statutes 18-5-301 to 315. The WDEQ/WQD Water & Wastewater Program (W&WP) works to ensure safe and adequate supplies of drinking water and the proper disposal of wastewater. Crook County has local delegated authority over Small Wastewater Systems (SWS). The review, permitting, installation, repair, replacement, and maintenance of a SWS fall under this authority. Subdivision review requires all WQD, W&WP, and GPC standards are complied with during the review, for approval, and during construction of subdivisions. Crook County reviews minor subdivisions with one to five lots.(WDEQ, n.d.-c)

4.4.3 Resource Management Objective:

A. Water quality within Crook County is maintained or improved for current and/or future uses using legally obtained credible data.
B. Water quality management and practices do not overregulate or restrict the local economy.

4.4.4 Priorities:

1. The County reserves the right to refer subdivision water quality reviews to the WDEQ in special circumstances.
2. Federal agencies should prioritize locally led efforts to monitor and improve water quality, and where feasible, complete in conjunction with existing state and federal agencies with the same mandate.
3. Federal agencies should require baseline water quality sampling and cataloguing of all collected data for wells (including injection wells) drilled on public lands.
4. Federal agencies should consult Crook County regarding federal land management decisions for their potential impact on water quality, yields and timing of those yields; impacts on facilities such as dams, reservoirs, delivery systems, or monitoring facilities; and any other water-related proposal.
5. All water quality data considered by federal agencies should be credible data as is specified in each of their agency handbooks.
6. The County supports the Data Trespass Act, and any data collected via trespass should not be considered by federal agencies.
7. The County does not support any action, or lack of action, or permitted use on public lands that results in a significant or long-term decrease in water quality or quantity.
8. Federal agencies should support implementation of land management actions and practices that contribute to or maintain healthy drainages and watersheds.
9. The County encourages federal agencies to practice good management and maintenance of watersheds to retain and slowly release water for desired plant, animal, and human uses, and to reduce the risk of flash floods.
10. The County encourages coordination with the USFS, BLM, BOR, EPA, DEQ, and other relevant public agencies to ensure that management of watersheds, including municipal watersheds, meets the multiple needs of residents and promotes healthy forests and rangelands.

11. Federal agencies should support reclamation activities on mined lands that improve soil productivity and water quality and the function of streams channels, floodplains and wetlands for better productivity.
12. Federal agencies should support construction and management of roads, bridges, culverts, cut slopes, fill slopes, and artificial surfaces to minimize water concentration, erosion, and delivery of polluted water and sediment to streams on public lands.
13. Federal agencies are encouraged to implement land use improvements and practices which promote healthy drainages and watersheds.
14. Federal agencies should implement already established state BMPs in coordination with the County and other local governments to mitigate water pollution caused by heavy erosion and sedimentation from public lands under their management, and work with the County, local conservation districts, and other local governments in accomplishing these BMPs. Those BMPs can be found on the DEQ's website via http://deq.wyoming.gov/wqd/non-point-source/resources/mgt-practices/
15. The County encourages federal agencies to allow consumptive water right owners to improve water quality and water-use efficiency to provide additional water for economic development and agriculture.
16. Federal agencies should support policies to improve groundwater health for consumptive use.
17. Federal agencies should ensure any recovery plan, habitat management plan, critical habitat designation or any other plan proposing an "in stream flow" requirement adequately considers local existing and anticipated future water uses, local custom and culture, local economic and individual needs and is consistent with Wyoming water laws.
18. Point sources, as defined under the CWA,should only be considered those areas that directly discharge into a navigable water and should not be considered those sources that are difficult to trace a direct connection to pollution on a navigable water.
19. Because of the difficulties of tracing pollution sources from groundwater, groundwater should not be considered a point source unless there is a clear and immediate connection to the pollution to a navigable water.

4.5 FLOOD PLAINS

4.5.1 History, Custom, and Culture

Federal Emergency Management Agency's (FEMA)

Multiple communities within Crook County participate in the National Flood Insurance Program (NFIP). At the time this document was written these include Moorcroft, Sundance, and Hulett (FEMA, 2020). 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 develops plans to reduce risk (*Risk Mapping, Assessment and Planning (Risk MAP)*, n.d.). There are currently active Risk MAP projects within Crook County (Risk Map Progress - Mapping Information Platform Studies Tracker, n.d.). For more information on flood hazard mapping within Crook County refer to FEMA's National Flood Hazard Layer (NFHL) viewer (FEMA, n.d.-b).

4.5.2 Resource Assessment and Legal Framework

Flood and floodplain management are important to the safety, economy, and ecological health of Crook County. Flooding is a significant natural hazard within the state of Wyoming and can cause significant damage. From 1905 to present there have been approximately $126.7 million in damages across the state from flood damage (University of Wyoming, n.d.). Between 1960 and 2015 Crook County experienced seven flood events which incurred $708,406 in total property damage. Crook County is categorized as 'Medium Risk' for flooding in the Wyoming State Mitigation Plan (Wyoming Office of Homeland Security, n.d.).

4.5.3 Resource Management Objective:

A. Storm water is managed to ensure the health, safety, and welfare of all residents within the County.

4.5.4 Priorities:

1. Federal agencies should support projects and encourage policies which manage storm water, run-off, and flooding on public lands.
2. The County shall be consulted where flooding and storm water run-off could impact the County and its citizens.
3. The County encourages compliance with floodplain management on public lands.
4. Federal agencies should support accessibility to FEMA resources within the County.
5. Federal agencies should support streamlining of FEMA funds within the County.
6. Oil and gas facilities on public lands should be developed outside of flood plains.

4.6 RIVERS AND STREAMS

4.6.1 History, Custom, and Culture

Rivers and streams are important surface water resources for Crook County. The County's surface water quality 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 Crook County. (HKM Engineering Inc., 2002)

4.6.2 Resource Assessment and Legal Framework

Wyoming has approximately 108,767 miles of rivers. There are two main perennial rivers that several creeks branch off within the County. These rivers are the Belle Fourche River and the Little Missouri River. There are ephemeral streams in the County that only flow for short periods of time during runoff periods from precipitation or snow melt. Perennial streams originating from high mountain aquifers and snowpacks 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)

Belle Fourche River

The Belle Fourche River enters the County from the southwest corner and flows diagonally across the county to the northeast from its origin in central Wyoming. The river flows into the Keyhole Reservoir at Pine Haven before leaving the County at the northeast corner. The Belle Fourche is the largest river in Crook County and provides substantial habitat, irrigation, and recreation resources across the County. (HKM Engineering Inc., 2002) The Belle Fourche is impaired approximately 6 miles north of Moorcroft to 85 miles downstream beyond Hulett.

Little Missouri River

The Little Missouri River enters the County from the south and flows northeast across the northwestern corner of the County. The North Fork and Prairie Creek feed into it, providing water to the northwestern quarter of Crook County. (HKM Engineering Inc., 2002)

Streams

There are three major streams within Crook County: Beaver Creek (east of Alva), Sand Creek, and Redwater Creek. All are located near the South Dakota Border and provide recreational opportunities through fishing. Sand Creek is rated as a Blue-Ribbon trout stream.

4.6.3 Resource Management Objective:

A. Rivers and streams are managed to maintain water quality, maintain proper ecologic function, managed for municipal use to control flooding, and managed for recreation use and industrial use including irrigation.

4.6.4 Priorities:

1. Any new or changed priorities regarding in-stream flows should be coordinated with the County.
2. The County does not support the use of water rights to allow for instream flows.
3. Federal agencies should support continued use of rivers and streams by all users.
4. Federal agencies should support ongoing monitoring and implementation of BMPs through the Crook County Natural Resource District.
5. The County shall be consulted when impacts to rivers and streams are a potential outcome of a federal action or decision.
6. Federal agencies should support projects and policies which improve or maintain the current ecological function of rivers and streams within the County.
7. The County does not support any new interstate water diversions, transfers, or obligations outside of those originally agreed to in the Court Decree of the Belle Fourche River Compact.
8. Federal agencies should support the recreational and consumptive use of water to support the local economy.

4.7 WETLANDS AND RIPARIAN AREAS

4.7.1 History, Custom, and Culture

Riparian and wetland areas only make up 4% of the state, however they support over 80% of Wyoming's wildlife (Bureau of Land Management, 2016f). These areas are very important to the health and quality of watersheds and their ecological function. Riparian areas are characterized by vegetation that is adapted to the wetter environments along bodies of water. These areas provide a buffer between open water and upland sites, protecting stream banks from erosion, maintaining stream channel morphology and water table access, filtering runoff sediment and nutrients, and improving stream habitat through lowering stream temperatures and increasing oxygen levels. Wetland areas filter sediment and nutrients, improving water quality, and play an important role in maintaining habitat. Riparian and wetland areas play large roles in a streams ability to release energy from floods onto surrounding floodplain areas, greatly reducing flood damage downstream. (WDEQ, n.d.-f)

4.7.2 Resource Assessment and Legal Framework

There are multiple anthropogenic processes that 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.-f; WGFD, n.d.)

The Association of State Wetland Managers maintain resources regarding voluntary wetland restoration work, wetland programs, and law and policy. Federally wetlands are protected under the CWA. The definition of wetlands protected under CWA have been specified further through the supreme court rulings in 1985 *Riverside Bayview*, 2003 *Solid Waste Agency of Northern Cook County* (*SWANCC*), and 2008 *Rapanos*. (ASWM, n.d.-a, n.d.-b). As of the writing of this Plan, the EPA and Army Corps of Engineers recently published new CWA regulations 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.

Riparian and wetland areas are an integral part of the health and resilience of water resources within Crook County.

Bureau of Land Management

The BLM is 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. (Bureau of Land Management, 2016e)

4.7.3 Resource Management Objective:

A. Wetlands and riparian areas are healthy and function properly.
B. Wetlands are clearly defined and identified within the County using credible data.

4.7.4 Priorities:

1. Federal agencies should support the management, maintenance, protection, and restoration of wetland and riparian areas to proper functioning condition.
2. Federal agencies should support the use of responsible grazing and vegetation management as a tool to maintain wetlands/riparian areas when and where appropriate.
3. Federal agencies should manage riparian areas damaged by non-native species (i.e. salt cedar and Russian olives) to decrease the impact of these species on the watershed, including water quality and to restore the areas to a proper functioning condition.
4. Federal agencies should use appropriate methods and practices to maintain and restore riparian areas to proper functioning condition.
5. Federal agencies should support the use of credible data and scientific standards for wetland designation.
6. The County does not support any CWA jurisdictional wetland designations for any wetlands not located immediately adjacent to a navigable water in the County
7. The County supports the use of Wyoming Forestry Best Management Practices for any treatments within wetland and riparian areas on public lands.
8. The maintenance of the custom, culture, and economic stability of the County and private property rights and interests including investment backed expectations should be considered of high importance in the application of any riparian area management plans, including USFS and BLM allotments or grazing plans, point source, and non-point source pollution laws.
9. The County shall be notified of new wetland designations or activities within riparian areas.

CHAPTER 5: WILDLIFE

Overview

U.S. Fish and Wildlife Service

The 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 is in Cheyenne, WY. There are seven National Wildlife Refuges totaling 86,681 acres in Wyoming, as of the 2018 Annual Lands Report (USFWS, 2018). There are no Wetland Management Districts and no Waterfowl Production Areas in the state (USFWS, 2018).

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. (Wyoming Game and Fish Department, n.d.-a)

The Wyoming Game and Fish 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 Director, department, and citizens, the board provides a flexible system of control, propagation, management, protection, and regulation of all wildlife in Wyoming. WGFDs commission is a board of seven citizens where not more than five can be from the same political party. (Wyoming Game and Fish Department, n.d.-b) The WGFDs mission is 'Conserving Wildlife, Serving People'.

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 (Wyoming Game and Fish Department, 2017). 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 government on the development and implementation of the strategy; and
- Involve broad public participation.

The species 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 based on the essential elements listed above. (Wyoming Game and Fish Department, 2017)

Wyoming's List of Species of Greatest Conservation Need 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 (NSS); Wyoming's contribution to the species' overall conservation; regulatory/monetary impacts of the species' listing under the Endangered Species Act; 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-WSFR State Wildlife Grant Program, n.d.; Wyoming Game and Fish Department, 2017)

The WGFD updates the species on the Conservation Priority List in conjunction with the State Wildlife Action Plan. The current list of species at the writing of this plan is provided in Table 1, Table 2, and Table 3 in the appendices. The Wyoming Species of Conservation Priority List can also be found on the WGFD website (WGFD, 2017).

5.1 THREATENED AND ENDANGERED SPECIES

5.1.1 History, Custom, and Culture

Endangered Species Act

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 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 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 (Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1986). As a follow-up, Congress passed the 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. (US Fish and Wildlife Service, 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)).

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. US Fish and Wildlife Service,* 139 S. Ct. 361, 368 (2018). Neither the ESA nor USFWS regulations currently define "habitat." *Id*. However, the USFWS is currently proposing new rules to better define habitat and specifically limiting unoccupied habitat for a species to areas "where the necessary attributes to support the species presently exist." Federal Register Vol. 85 No. 151 47334 (August 5, 2020). Thus, under the proposed definition, "habitat" may only exist under the ESA when a listed species could currently

survive within the habitat as of the day of the listing. *Id*. 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.

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.
- Candidate Conservation Agreements (CCA) and CCAs with Assurances (CCAA) (private landowner arrangements for the protection of Candidate species that provides the landowner with protection if the species is listed) and Species of Concern. (Endangered Species | What We Do | Listing and Critical Habitat | Critical Habitat | FAQ, 2018)

5.1.2 Resource Assessment and Legal Framework

Candidate, Threatened, and Endangered Species in Crook County

Currently listed threatened and endangered species can be found on the USFWS Environmental Conservation Online System (ECOS) (U.S. Fish and Wildlife Service, n.d.-b). At the writing of this Plan, there were two endangered, threatened, candidate, and proposed species and no critical habitats identified for Crook County. Those species are:

- Northern Long- Eared Bat (*Myotis septentrionalis*)- Threatened wherever found.
- Ute ladies' tresses (*Spiranthes diluvialis*)- Threatened wherever found.

5.1.3 Resource Management Objective:

A. Threatened and endangered species are managed using credible data and in conjunction with multiple use mandates in coordination with the County and other stakeholders.
B. Threatened and endangered species are delisted at the earliest point allowed by law.
C. Federal agencies find alternatives to listing candidate threatened or endangered species that will be less burdensome to the County's economy, custom, and culture.
D. Critical habitat designations do not overly burden the County's economy and is excluded whenever allowed by law.

5.1.4 Priorities:

1. The County requests that the federal agencies, to the fullest extent not prohibited by federal law, coordinate with and give actual notice to the County, at the earliest possible time, of the intent to consider or propose any species listings, any critical habitat designations and conservation actions (including recover plans or proposals regarding introduction of experimental populations) regarding specific species residing in or having critical habitat within Crook County.
2. In connection with any action related to threatened or endangered plant or animal species in Crook County, the USFWS agency shall:
    a. Base the listing of a species on the best scientific and commercial data relating specifically to Crook County and not generalized over geographic areas.
    b. List a species as threatened or endangered only after considering the efforts of Crook County, private property owners, state and federal agencies, and governments to conserve the species.
    c. Only implement a recovery plan if it will provide for conservation of a species.
    d. Complete and forward to Crook County in a timely manner all documentation required by law when designating critical habitat.
    e. Consider and directly respond to comments submitted by Crook County.
    f. Protect the species through alternatives with the least impact on the custom, culture, and economic stability and preservation and use of the environment of Crook County; and to the extent permitted by law, take appropriate mitigation measures adopted with the agreement of the County to mitigate adequately any impact on custom, culture, economic stability, and protection and use of the environment, including any impact on public use and access and private property rights.
    g. Involve Crook County to the fullest extent allowed by law in any introduction or reintroduction programs for threatened species.
3. Critical habitat shall be only those areas where the listed species could currently survive and should not include any areas that are missing an essential feature for the survival of the species or would require some degree of modification to support a sustainable population of the species.
4. The County supports delisting of any species with insufficient, unsupported, or questionable data not meeting the minimum criteria for its listing or protection level.
5. Upon conducting a robust and full local economic analysis of all proposed critical habitat designations in the County, if the analysis indicates that the economic harm to County and its citizens outweigh the benefit of the critical habitat to the listed species, the FWS should immediately exclude such habitat from critical habitat designation.
6. Federal agencies should support the participation of the County and other local governments as a cooperating agency and/or in coordination in federal rulemaking, including any NEPA analysis related to the designation of critical habitat, economic analysis for exclusion of critical habitat, and development of recovery plans.

7. The County does not support the introduction or reintroduction of listed species into Crook County, unless the County consents to terms and conditions or standard operating criteria that avoid disrupting current land uses.
    a. Should an agreement not be reached on the potential introduction or reintroduction, and the species is introduced anyway, support the species being introduced only as a non-essential or experimental population.

8. Federal agencies should support participation of the County and other local governments as cooperating agencies in all decisions and proposed actions which affect the County regarding sensitive, threatened, or endangered species; critical habitat designation and exclusion; the reintroduction or introduction of listed species; habitat conservation plans; conservation agreements or plans; and candidate conservation agreements.
9. Federal agencies should develop recovery plans within 18 months of listing that include clear objectives to reach for delisting to occur; for species already listed support the development of a recovery plan within 18 months of this document.
10. Federal agencies should petition for the immediate delisting of a species when population or recovery plan objectives have been met, in accordance with the ESA.
11. Federal agencies should develop local solutions (e.g., habitat management plans, conservation plans, or conservation plans with assurances) on federal lands to keep a species from being listed under ESA or as species of concern/species of special concern so long as such management considers multiple uses already established within the area.
12. Single-species management shall be avoided in all federal planning efforts. Multiple uses and sustained yield of lands and resources is supported and shall be implemented as required by federal law.
13. The data used in any listing decision shall meet the minimum criteria defined in Data Administration and Management (Bureau of Land Management, 2006) and Forest Service Handbooks (FSH) 1909.12, (United States Forest Service, 2013) Supporting Land Management Planning.
14. Federal agencies should control predators negatively impacting special status, candidate, or listed species before restricting other multiple uses that could be seen as conflicting.
15. Federal agencies should implement plans consisting of proven and efficient control of zoonotic and vector borne diseases negatively impacting special status, candidate, or listed species before restricting other multiple uses that could be seen as conflicting.
16. Management actions which increase the population of any listed species in the County without an approved recovery plan is not supported. Without a recovery plan, management cannot focus on increasing the species population or habitat and cannot move closer to a potential delisting.
17. The County supports the continued use of existing valid permits and lease rights on lands with listed species wherever possible.
18. At a minimum, copies of legal descriptions showing the exact boundaries of all designated critical habitat shall be provided to local governments in Crook County by the proper federal agency.

19. The designation of potential habitat as critical habitat is not supported by the County unless quantifiable data showing when and how features necessary for species recovery will be achieved on the property.
20. The County requests that an exclusion analysis shall be completed for all lands within Crook County.

5.2 WILDLIFE

5.2.1 History, Custom, and Culture

Crook County has a diversity of habitat that hosts several large wildlife species that are important to the recreational industry of the region. Virtually all the County is habitat of some importance. Crook County's big game species include elk, mountain lion, mule deer, pronghorn antelope, wild turkey, and white-tailed deer.

See the Overview section for this chapter for additional information on the history, custom, and culture of wildlife in the County.

5.2.2 Resource Assessment and Legal Framework

Wildlife Refuges in Crook County

In 1903, President Theodore Roosevelt designated the first National Wildlife Refuge by executive order. It was not until 1966 that the refuges were put into the NWR and administered by the USFWS. 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 National Wildlife Refuges 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. A number of activities take place on Refuges including hunting, fishing, ice fishing, bird-watching, hiking, bicycling, and water recreation (About: Mission | National Wildlife Refuge System, 2018).

There are seven National Wildlife Refuges in Wyoming (U.S. Fish and Wildlife Service, n.d.-a), however, none are found within Crook County.

Thunder Basin Grasslands Prairie Ecosystem Association Conservation Agreement (TBGPEA CCAA/CCA/CA)

In 2017 the TBGPEA finalized a conservation agreement (CCAA/CCA/CA) spanning 13.2 million acres of sagebrush and shortgrass prairie. The agreement spans five counties, including Crook County, promoting landscape management and proactive habitat conservation with economic growth in mind. The species included in the agreement are the sagebrush sparrow, Brewer's sparrow, sage thrasher, black-tailed prairie dog, mountain plover, burrowing owl, ferruginous hawk, and greater sage-grouse. For additional information on TBGPEA's work refer to their website: https://www.tbgpea.org/. (TBGPEA, 2020; US Fish and Wildlife Service, 2019)

Greater Sage-Grouse

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 Greater 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 Greater Sage-Grouse and its habitats. BLM has broad responsibilities to manage federal lands and resources for the public benefit. Nearly half of Greater Sage-Grouse habitat is managed by the BLM.

In September 2015, the UWFWS determined that the Greater Sage-Grouse did not warrant listing under the ESA of 1973. 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 Greater Sage-Grouse land use plan amendments (LUPAs) 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. Western Association of Fish and Wildlife Agencies (WAFWA) published a range-wide Greater Sage-Grouse Comprehensive Conservation Strategy in 2006. The plan is due to be re-evaluated in 2020 and 2025. (National Sage-grouse Conservation Planning Framework Team & Western Association of Fish and Wildlife Agencies, 2006)

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

A small portion of the Thunder Basin Sage-Grouse Core Area extends into the southwestern corner of Crook County. Also, the North Gillette Connectivity Corridor is located in the northwestern corner of Crook County. (Whitford, 2015)

Bureau of Land Management

Special Status Species are designated by the BLM and include 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 federal 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 which may be better conserved through application of the BLM Sensitive Species Status. (Bureau of Land Management, 2015)

The Wyoming State BLM Office identifies 82 species as sensitive. These species are included in Table 4 in the appendices.

U.S. Forest Service

Regulations in 36 § C.F.R. 219.19 and § 219.20 call for the selection, evaluation, and monitoring of management indicator species and their habitat. Management indicator species may be "plant or animal species and are selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality" (US Forest Service, 1982). These regulations do not imply that the population dynamics of management indicator species directly represent the population dynamics of other species. Criteria that direct management indicator species consideration include:

- Species is indigenous.
- Species is a year-long resident of the vicinity (non-migratory), or population trends of the species in the local or regional vicinity are closely tied to habitat conditions resulting from land uses on National Forest System (NFS) lands in the same area.
- Species is considered a keystone species or habitat specialist.
- Species is sensitive to management activities on NFS lands in the local or regional vicinity. Population trends of the species are assumed to be related to changes in habitat composition, structure, ecological processes, and/or human activities.
- Species is appropriate for the scale that best represents the key issues or management concerns.
- Biologically and economically feasible to monitor populations and habitat of the species at similar spatial scales. Populations are of sufficient size or density to be reasonably detected and monitored. Accepted survey protocols exist. Analysis and interpretation of inventory data should produce meaningful and reliable trend information. Species that require high investment for low returns or suspect results should be avoided.
- Species where the scientific literature supports the assumed limiting factors and habitat associations. (USDA Forest Service, 2001)

Thunder Basin National Grassland

The TBNG lies in a small portion of Crook County (320 acres). In recent years, the TBNG has been developing a Grassland Land and Resource Management Plan to most specifically address prairie

dog management on the TBNG. Prairie dog colonies have grown significantly and have the ability to cause significant resource damage.

Rocky Mountain Region

The Rocky Mountain Region (Region 2) of the USFS has 173 identified sensitive species. These species are included in Table 5 and **Error! Unknown switch argument.** in the appendices.

Population Objectives

There are population objectives set for big game animals within Crook County. As of the 2014 Comprehensive Land Use Plan the population objectives were:

- Black Hills White-Tailed Deer Herd Unit – 40,000
- Black Hills Mule Deer Herd Unit – 20,000
- Pronghorn- Crook County is split by two large herd units that include parts of Campbell and Weston Counties
- Black Hills Elk Herd Unit – objective is based on hunter and landowner satisfaction and the age of harvested bulls
- Northeast Mountain Lion Management Unit – currently managed as a "sink area" to reduce the population

5.2.3 Resource Management Objective:

A. Wildlife is managed sustainably using credible data as defined above and management plans are developed in coordination with the County and other stakeholders.
B. Wildlife management on federal lands allows for multiple use and avoids single species management.
C. The Wyoming Game and Fish Department is the primary authority regulating the management of wildlife in the state and federal agencies follow the policies set by the Wyoming Game and Fish Department.

5.2.4 Priorities:

1. Wildlife habitat management on public lands shall be coordinated with Crook County to achieve balanced multiple use.
2. The County requests that the Wyoming Game and Fish Department and the federal land management agencies responsible for wildlife habitat hold local meetings to allow for input from the public.
3. The County supports the use of credible data as information BLM and USFS 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.
4. The management of non-ESA listed species (e.g., species of concern, species of special concern, or any other non-ESA designation) as though they are protected by the rules of the Endangered Species Act is not supported.

5. The County shall be consulted and coordinated with in the species of concern and sensitive species review process, including the determination of what shall be included as a species of concern, special status species, indicator species, or sensitive species.
6. The County promotes wildlife conservation, sustainability of healthy wildlife habitat and populations, and their contributions to the local economy.
7. The County believes ecosystem management should be utilized when managing for wildlife species rather than implementing single-species management.
8. The County encourages using livestock as a tool to improve wildlife habitat.
9. The County does not support the USFS or BLM managing wildlife populations on public lands. Wildlife populations should only be managed by the WGFD. Federal agencies should focus on habitat management for species of importance identified by the State.
10. The County encourages the enhancement of wildlife habitat through a robust public input process incorporating concerns and proper management in the planning, programs, and projects.
11. The County supports cooperative efforts between federal agencies and WGFD on their respective projects to avoid or mitigate adverse impacts to wildlife species and habitats.
12. Federal agencies should encourage the use of tools such as grazing, plantings, water development, fire, chemical application, and other best management practices to improve wildlife habitat.
13. The management of non-ESA listed species (e.g., species of concern, species of special concern, or any other non-ESA designation) as though they are protected by the rules of the Endangered Species Act is not supported by the County.
14. Federal agencies should coordinate with Crook County to develop one list of Species of Concern/Management Indicator Species and Sensitive Species rather than each agency having its own list that is reviewed and updated on different timelines.
15. The County supports the State of Wyoming's Sage-Grouse Conservation Strategy.
16. Federal agencies should encourage creation of management objectives based on the carrying capacity of the habitat including all multiple use mandates (e.g. livestock grazing, mineral extraction, etc.) on federal lands.
17. Federal agencies should support habitat monitoring efforts and refine available habitat data.
18. Wildlife management should not take precedence over other multiple uses.
19. The County should be notified of any expansions or reductions of sage-grouse core area.
20. The County should be notified at the earliest time possible and be included as a cooperating agency regarding sage-grouse core areas.

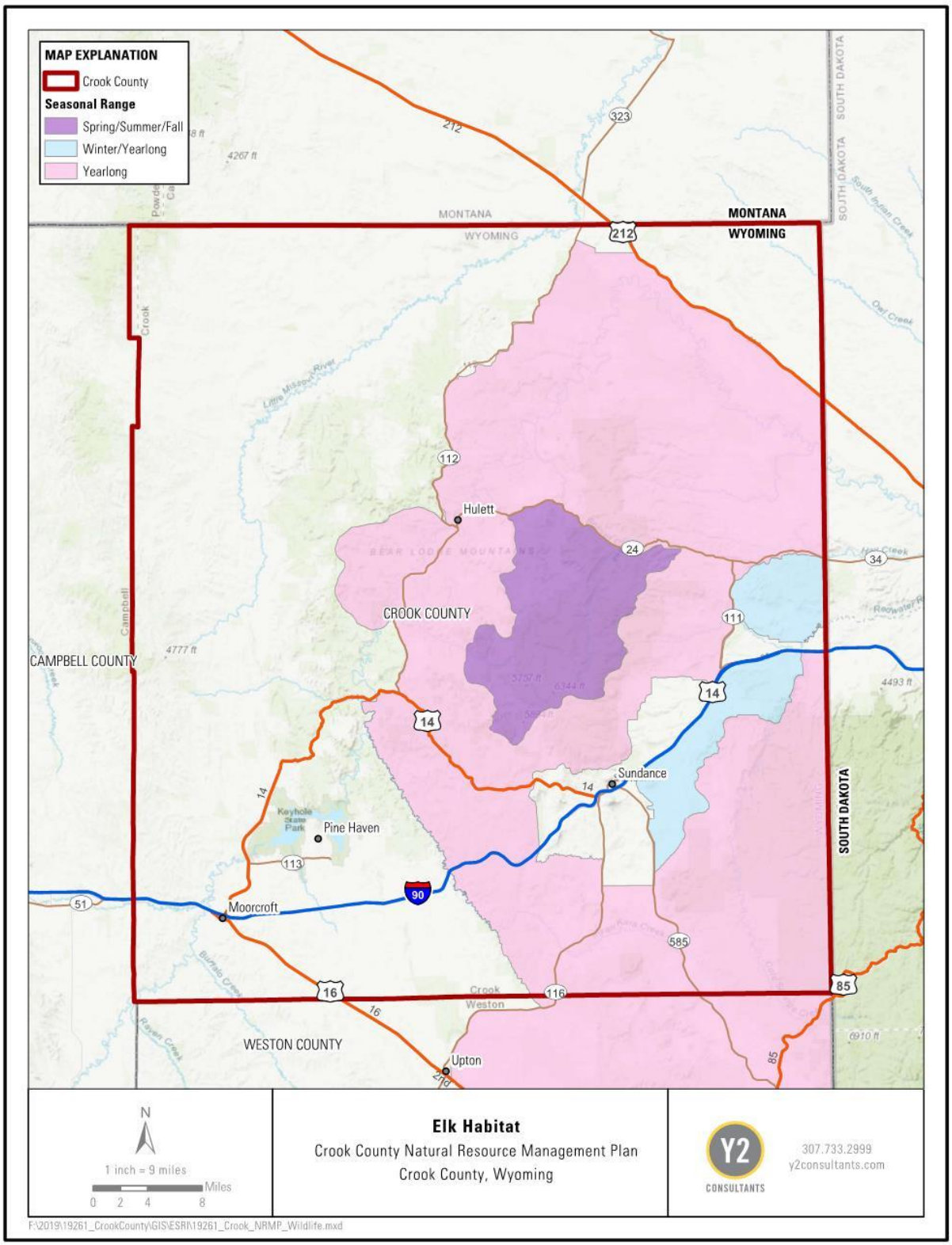

Figure 12. Elk seasonal habitat in Crook County.

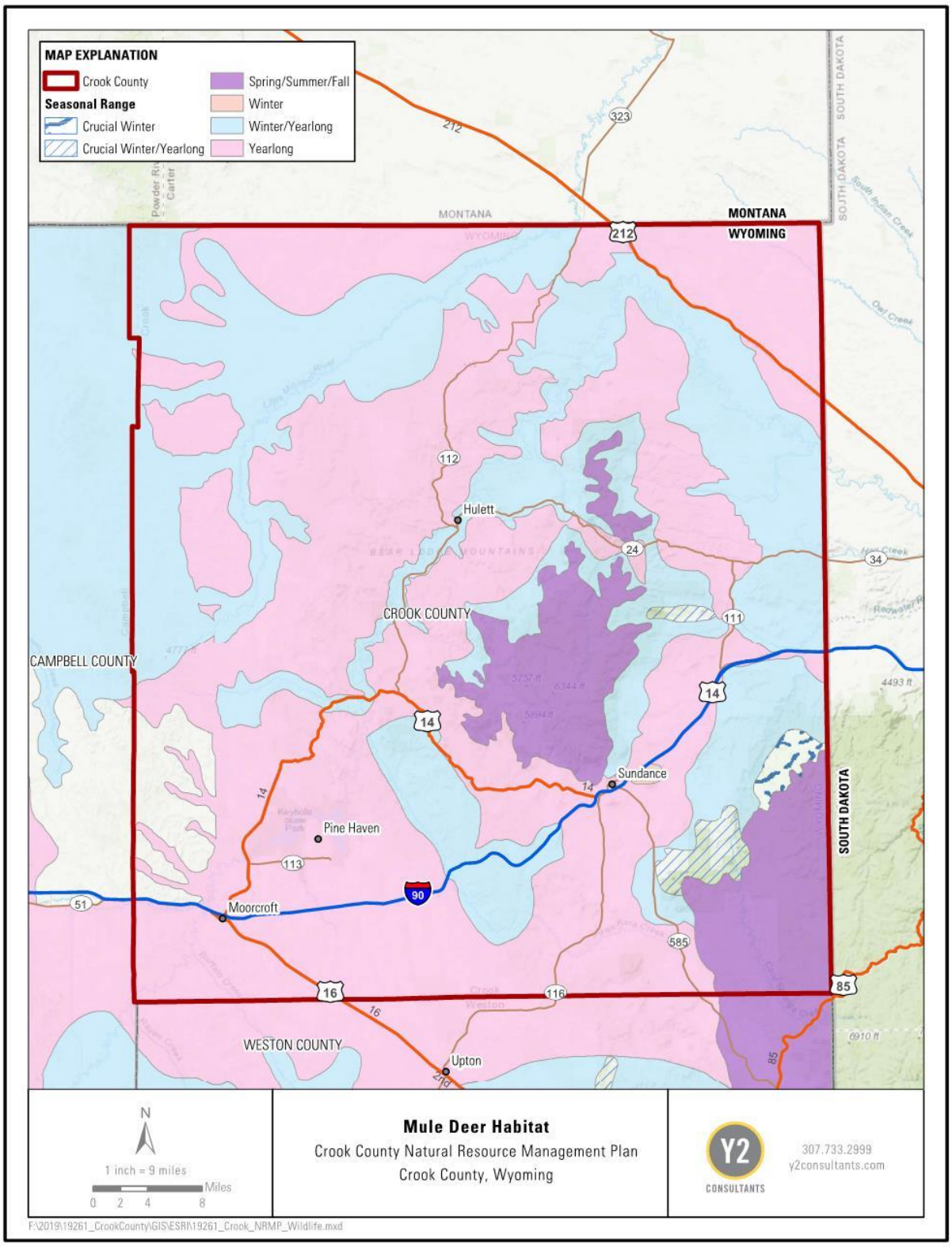

Figure 13. Mule deer seasonal habitat in Crook County.

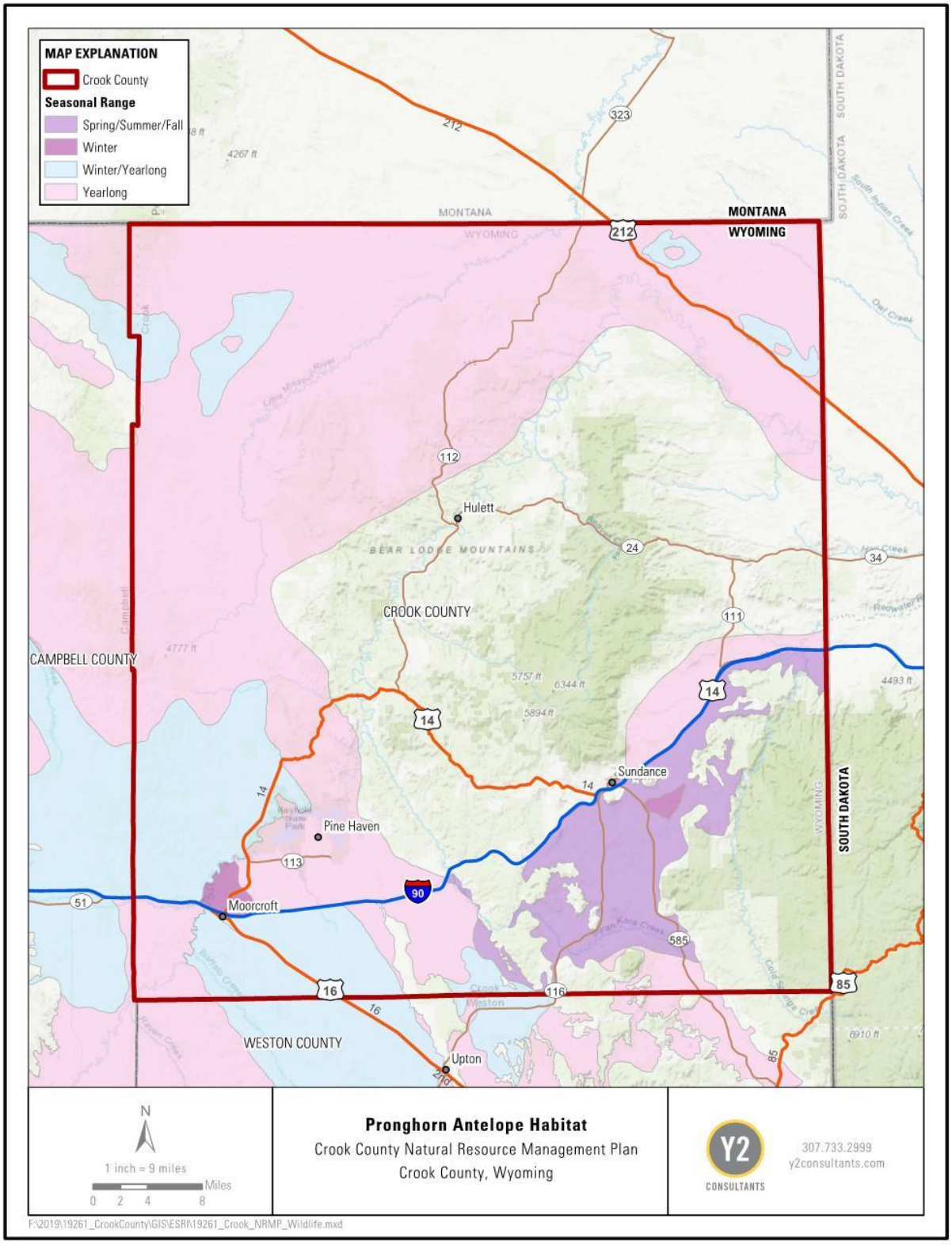

Figure 14. Pronghorn seasonal habitat in Crook County.

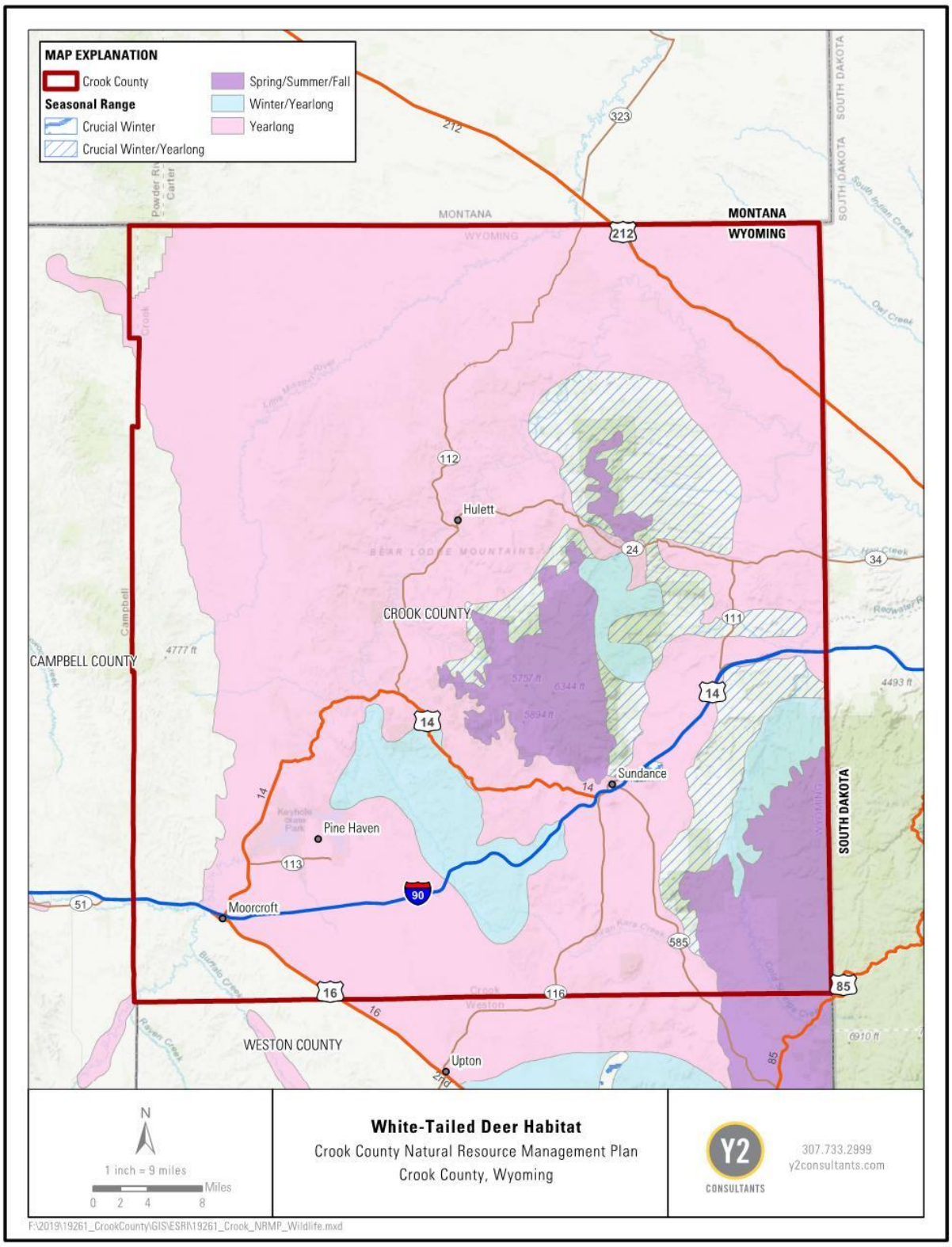

Figure 15. White-tailed deer seasonal habitat in Crook County.

5.3 FISHERIES

5.3.1 History, Custom and Culture

Fisheries support recreation and tourism in Crook County. The combination of healthy fisheries and public access throughout the County's reservoirs, lakes, and rivers provide diverse fishing opportunities that attract recreators. Fishing within the County varies from fly fishing trout species to sport fishing the reservoirs. Keyhole Reservoir is stocked by WFGD regularly and is managed primarily for Walleye. (HKM Engineering Inc., 2002) Sand Creek is classified as a Blue-Ribbon trout stream.

5.3.2 Resource Assessment and Legal Framework

The WGFD manages and monitors fishing activity throughout the state. The State of Wyoming classifies trout streams into five separate designations listed below.

- Class 1 – Premium trout waters – fisheries of national importance
- Class 2 – Very good trout waters – fisheries of statewide importance
- Class 3 – Important trout waters – fisheries of regional importance
- Class 4 – Low production trout waters – fisheries frequently of local importance, but generally incapable of sustaining substantial fishing pressure
- Class 5 – Very low production waters – often incapable of sustaining a trout fishery

According to the Northeast Wyoming River Basins Water Plan, the basin contains many flat drainages with highly erodible soils. These conditions are not conducive to trout fisheries. Within the Northeast Wyoming River Basins there are only two sections of Class 1 stream and one section of Class 2 stream within the Belle Fourche River Basin. Crook County falls nearly entirely within the Northeast Wyoming River Basins and contains both the Class1 and Class 2 stream sections. (HKM Engineering Inc., 2002)

WGFD tracked 13,500 angler days annually on streams and 48,700 angler days annually on ponds, lakes, and reservoirs within the Northeast Wyoming River Basins in records prior to 2002. Crook County falls within the Little Missouri River Drainage and the Belle Fourche River Drainage. The average annual angler-days for the drainages are summarized below. (HKM Engineering Inc., 2002)

Little Missouri River Drainage

- Streams: 90 angler-days/year
- Standing Water: 2,377 angler-days/year

Belle Fourche River Drainage

- Streams: 12,231 angler-days/year
- Standing Water*: 15,699 angler-days/year
- Keyhole Reservoir: 5,467 angler-days/year

*excluding Keyhole Reservoir

5.3.3 Resource Management Objective:

A. Fishery resources are managed for healthy and biodiverse fisheries that support recreation and tourism.

5.3.4 Priorities:

1. Federal agency management plans shall be generated to protect the overall health of surface water and fishery resources, not specifically managed for one individual species.
2. So long as private rights are protected, federal agencies should support the improvement of irrigation structures and in-stream improvements for fisheries without additional instream water rights or permitting requirements for instream flows.
3. Federal agencies should support fisheries habitat monitoring efforts and refine available fisheries habitat data.
4. Federal agency management plans will use independent scientific data, peer-reviewed science, and/or those data meeting the 'credible data' agency specifications to generate fisheries plans.

5.4 PREDATOR CONTROL & LIVESTOCK PREDATION

5.4.1 History, Custom, and Culture

Predatory wildlife is important to the ecology of an ecosystem. However, predators have negative impacts on livestock operations, developing communities, safety of citizens within the County, and other agriculture operations. For these reasons, it is important to properly manage predators to ensure safe communities and stock, and healthy functioning ecosystems.

During the settlement of the western states, depredation was an issue across livestock operations. Predators were controlled on an individual basis until the early 1900s, when stockgrowers began asking for government assistance.

5.4.2 Resource Assessment and Legal Framework

The Animal and Plant Health Inspection Service (APHIS) is located within the 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 (USDA APHIS, n.d.). The Wyoming State Legislature established predator control statutes in Title 11, Chapter 6. The statutes provide for general provisions, district boards, and the Wyoming State Animal Damage Management Board. The district for the County is the Crook County Predator Management District.

Wildlife population management through sportsman hunting and trapping also occurs throughout the County. Predator control within the County affects the economic stability of the livestock industry and the sport hunting/fishing industry. Predator control has been used to protect the health and safety of the public by reducing human-wildlife conflict and the spread of diseases commonly carried by predators. The more common predators in Crook County and the surrounding area include mountain lion, bobcat, coyote, fox, skunk, raccoon, and multiple birds

of prey. It is important to recognize that changes in wildlife population dynamics and management in surrounding areas (i.e., Montana to the north or South Dakota to the east), are likely to influence wildlife populations and behavior in Crook County. (Crook County, 2014)

5.4.3 Resource Management Objective:

A. Predator populations are managed to maintain healthy ecological levels, while still prioritizing reducing the occurrence of livestock depredation and the health and welfare of citizens of Crook County.

5.4.4 Priorities:

1. Federal agencies should support selective predator control as a valid method of attaining sustainability of the wildlife and domestic livestock populations.
2. Current predator control measures are supported by the County on all lands within the County and should not be restricted.
3. Federal agencies should support recognized proactive efforts such as aerial hunting, snares, and leg traps to control predator populations.
4. Predator species such as grizzly bears and wolves shall be deterred from migrating or re-locating to the County as they would impact the health, safety, and welfare of the people.
5. When addressing a decline in sensitive species, predator control shall be employed prior to placing any restrictions on resource-based industries like livestock grazing. Only when predation is determined to not be the cause of decline shall restrictions on the resource industries be considered prior to predator management.
6. Federal agencies should coordinate with the 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 the County.
7. Federal agencies should support predator control as an effective method for protecting ESA listed species and game bird populations to include, but not limited to, sage-grouse, chukars, quail, Hungarian partridges, pheasants, turkeys, ducks, geese, doves, and swans.
8. Federal agencies should support predator control as a valid method of increasing the productivity of the public lands upon which the economy of the County is dependent. Productivity includes higher survivability of the offspring of wildlife and livestock.
9. The County supports all approved methods of predator control.

5.5 WILD HORSE, BURROS AND ESTRAY LIVESTOCK

5.5.1 History, Custom, and Culture

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 the purpose of management. (16 U.S.C. § 1333(a)). The act 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). The WFRHBA was specifically amended, then, to require "immediate" removal of excess horses. 16 U.S.C. § 1333(b)(2).

5.5.2 Resource Assessment and Legal Framework

Herd Management Areas (HMAs)

There are 16 wild horse HMAs covering nearly five million acres of the state of Wyoming. There are no wild horse areas on USFS lands in Wyoming. There are currently no HMAs within Crook County. (BLM, n.d., 2011)

Herd Areas

There are currently no Herd Areas designated within Crook County. (BLM, n.d., 2011)

Estray

"Estray" means any animal found running at large upon public or private lands, fenced or unfenced, in Wyoming whose owner is unknown, whose owner cannot be found, or that is branded with two or more disputed brands for which neither party holds a bill of sale. An estray includes any animal for which there is no sufficient proof of ownership found upon inspection (W.S. 11-24-101 through 11-24-115).

5.5.3 Resource Management Objective:

A. No Herd Management Areas or Herd Areas will be designated or created in Crook County.
B. Any livestock in the County without sufficient proof of ownership will continue to be treated as an estray under the laws of Wyoming.

5.5.4 Priorities:

1. The County opposes any proposed creation, enlargement, or expansion of the current HMA boundaries and the designation of any additional new HMAs or HAs.
2. The County shall be notified if there are any intentions to designate or create Herd Management Areas or Herd Areas within Crook County.
3. Any equine animal released from private individuals, tribes, or neighboring lands onto public lands after 1971 shall be considered as estray and be removed.

CHAPTER 6: ECONOMICS & SOCIETY

6.1 TOURISM AND RECREATION ON PUBLIC LANDS

6.1.1 History, Custom, and Culture

Crook County offers a variety of recreational opportunities, many of which generate revenue for the local economy. Recreationalists enjoy access to activities on public lands in Crook County but are expected to demonstrate ethical behavior that respects and maintains the sustainability of the County's natural resources. There is no charge for some of these activities and, consequently, the costs to provide these services are picked up by all taxpayers. (Crook County, 2014)

6.1.2 Resource Assessment and Legal Framework

Tourism and recreation sites within Crook County include Devils Tower National Monument, Keyhole State Park, Bear Lodge Mountains, the Vore Buffalo Jump, Missouri Buttes, Sand Creek, Cook Lake, the Aladdin Tipple Historical Interpretive Park, as well as various roadside historical markers.

Recreational activities in Crook County include, but are not limited to: hunting, fishing, four-wheeling, snowmobiling, rock climbing, spelunking, hiking, motor biking, camping, biking, golfing, berry picking, sightseeing, bird-and-wildlife watching, picnicking, swimming, geo-caching, horseback riding, boating, waterskiing, kiteboarding and windsurfing, snowshoeing, cross-country skiing, rock hounding, trapping, target shooting, rodeo, and flying (Crook County, 2014). There are 60 miles of groomed snowmobile trails and 19,000 acres of public walk-in hunting areas. (Sundance Wyoming, 2020) The recreational opportunities provided in Crook County benefit county residents' quality of life.

Winter sports in Crook County have grown in popularity over the years. There are approximately 67 miles of groomed snowmobile trails. Fat biking (mountain biking with fat tires that allow riders to peddle through the snow on groomed trails) has also become a more popular winter sport in more recent years. There is one established fat bike trail in Fish Canyon. Fat biking is prohibited both in Wyoming and South Dakota on groomed cross-country ski and snowmobile trails so a designated trail for fat biking was needed for the sport within the county. (SCGMBA, n.d.)

The Bearlodge Mountains and Black Buttes have public access and camping available for all different outdoor recreational opportunities. Wildlife viewing and hunting are plentiful here with the opportunity to see elk, mountain lion, pronghorn, mule deer, whitetail deer, and turkeys. The Sand Creek area is home to a blue-ribbon trout stream for brown and rainbow trout but also is accessible to tubing, swimming, and camping. Keyhole State Park allows for boating, fishing, swimming, and camping. (Sundance Wyoming, 2020) Cook Lake is a quiet mountain lake.

The Bearlodge District of the Black Hills National Forest covers over 200,000 acres and has some very diverse ATV trails and forest roads. There are two off-road trailheads in the Bearlodge: Blacktail Creek Trailhead near Hulett and Reuter Campground Trailhead near Sundance. There are two improved campgrounds as well as dispersed camping throughout the forest. (Sundance

Wyoming, 2020) There is also a horse camp off Government Valley Road that has corrals and water available.

6.1.3 Resource Management Objective:

A. Recreational resources are managed to promote access and availability to the public for both tourism and recreational uses, while maintaining benefit to the County's economy across important industries including agriculture and mineral development.
B. New and current recreational activities are developed and protected in order to benefit the County's economy.

6.1.4 Priorities:

1. The County shall be notified and be given the opportunity to participate as a cooperating agency at the earliest time possible for any federal agency actions or decisions affecting recreational opportunities in Crook County.
2. Federal agencies shall notify the county and provide the opportunity for the county to participate in any decision to close recreation areas on the Bearlodge National Forest.
3. Federal agencies should support access to recreational opportunities on public lands within the county.
4. Federal agencies are encouraged to promote responsible tourism through educational outreach that explains the historical significance of areas, sites, and roads.
5. The County supports and encourages a year-round multiple use management approach to be used on public lands as a means of continuing and enhancing recreation opportunities within the County while supporting all other approved uses and associated private land rights.
6. Federal agencies should coordinate with the County when implementing land use fees and/or fee increases, or the creation of new fees for the recreational use of federal lands or State Parks within the County.
7. Federal agencies should support improved accessibility, maintenance, and development of motorized and non-motorized trails to facilitate recreation and access to natural resources for residents and visitors, in coordination with adjacent landowners.
8. Federal agencies should coordinate and consult with the County to manage tourist and recreational activities based on the ability of the natural resources to sustainably handle the level of impact.
9. Federal agencies should coordinate and consult with the County to minimize the impact from dispersed camping especially in riparian areas.
10. Federal agencies should coordinate with the County when new special recreation permits are requested.
11. Federal agencies should coordinate with the County to actively manage recreation uses to ensure resource protection.
12. Recreational activities around Devils Tower should be encouraged and expanded when appropriate.

6.2 LAW ENFORCEMENT

6.2.1 History, Custom, and Culture

Law enforcement is critically important to the citizens of Crook County. The Wyoming Livestock Board partners with the Crook County Sheriff's Department to aid in cases that transcend County and state boundaries. In general, cases regarding livestock theft are prosecuted through the County attorney's office.

6.2.3 Resource Assessment and Legal Framework

Law enforcement in Crook County includes actions on both public and private lands. Public lands within Crook County are subject to law enforcement coordination when issues related to natural resource management and federal lands arise, such as livestock theft or search and rescue operations. State law enforcement officials operating in Crook County include Wyoming Highway Patrol, Wyoming Game and Fish, Wyoming Department of Agriculture, Wyoming Livestock Investigation Bureau, and State Park Rangers. As the use of federal lands has increased, so has the need for law enforcement and coordination of federal law enforcement agents with the County Sheriff.

6.2.3 Resource Management Objective:

A. Public lands are managed for orderly use and management in coordination with the County Sheriff's office.
B. Law enforcement and emergency services have unfettered access to public lands in order to protect the health, safety, and welfare of the residents and visitors of the County.
C. Communication infrastructure is developed on public lands that ensure emergency communications services are throughout the County and citizens and visitors to the County are able to seek emergency assistance throughout the entire County.

6.2.4 Priorities:

1. All federal law enforcement actions within the County shall be coordinated through the County Sheriff's Office.
2. Promote federal agency recognition of the County Sheriff as the primary law enforcement official in the County.
3. The County Sheriff's Office shall be notified immediately when there is a life-threatening situation, criminal act, project structure failure, resource contamination, natural phenomenon (landslide, flood, or fire), and/or cultural resources site disturbance on public lands.
4. The County requires that federal agencies allow safe and unrestricted access to federal land for law enforcement and emergency services.
5. Federal agencies should support the maintenance and development of communication infrastructure within the County to ensure health and safety of its citizens.

6.3 CULTURAL, HISTORICAL, GEOLOGICAL, & PALEONTOLOGICAL RESOURCES

6.3.1 History, Custom, and Culture

Petroglyphs and pictographs still can be seen in several areas, usually on sandstone cliffs facing south. These petroglyphs and pictographs paint a picture of the cultural past of nomadic ancient people, living in the area several hundred years ago. Some of these sites may be vulnerable to vandalism and destruction because of the remote areas in which they are located. Teepee rings and stone circles can still be seen in some areas and identify ancient campsites. (Crook County, 2014)

Buffalo jumps within the County tell the story of the cultural past of these ancient people. There are several jumps in Crook County, but the most significant and the only one open to the public is the Vore Buffalo Jump. For over three hundred years, Plains Indian groups stampeded bison over the rim and into the deep natural sink hole. The buffalo provided Native Americans food and was the source of many other materials, including, tools, weapons, clothing, and housing used in their culture. (Crook County, 2014)

When settlers came into Crook County the schools became cultural sites both in the established towns and out in the country. Many are still used today as Community Halls and polling locations. (Crook County, 2014) Early settlers also carved names and dates in sandstone rimrocks around the county and many are still legible in many places.

Devils Tower was the site for early cultural and social events and was established as the nation's first national monument in 1906 and continues to be of great important spiritually, culturally, and economically today. (Crook County, 2014)

Warren Peak and Cement Ridge are both fire lookouts administered by the USFS and part of Crook County's cultural development. The U.S. Air Force Radar Site on Warren Peak, built in the 1960s, was the world's first air transportable nuclear power plant. This highly sophisticated device was tested on Warren Peak for several years and was removed at the end of the test period in 1968. (Crook County, 2014)

Crook County has many other cultural aspects that affect different areas and groups of citizens that should be recognized and considered by federal agencies. (Crook County, 2014)

There are several sites in Crook County that contain significant fossilized remains.

6.3.2 Resource Assessment and Legal Framework

Crook County offers a unique expression of human occupation which can be divided into two categories: prehistoric and historic. Included in the prehistoric resources are game and Indian trails, individual tepee rings, petroglyphs, camp and chipping sites and game traps.

Historic sites add to the evidence of Crook County's long and significant history. They include cemeteries, stage station sites, ghost towns, and rock quarrying sites. Crook County's traditional

lifestyle has centered on agricultural pursuits and resource-based industries for generations. Preservation of the remaining historic sites is important to maintain and preserve the cultures of historic and present Crook County. Historic preservation of property enhances economic values and provides the basis for heritage tourism.

Historic and Archeological Resources

There are two acts that primarily protect historic and archeological resources. The National Historic Preservation Act (NHPA) was passed in 1966 and it authorized the Secretary of 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. 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 must usually 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 are as follows:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That 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
- That 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 eligible in its opinion 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, Indian tribes, applicants for federal assistance, and members of the public and 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 (THPO), the federal agency, and any other involved parties. The ACHP may participate in controversial or precedent-setting situations.

In 2014 the act 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, so the listing criteria for placement of sites in the National Historic Register and the requirements under Section 106 remain.

Currently Crook County has 13 sites listed in the National Register (Wyoming SHPO, n.d.). Refer to the online County register for an updated list of National Register sites here: https://wyoshpo.wyo.gov/index.php/nr-by-county-test/2-crook

Archaeological Resources Protection Act (ARPA) of 1979 provides regulations on the management of historic sites on federal land and the issuance of permits to excavate archeological discoveries.

Paleontological Resources

There are multiple sites within Crook County that contain significant paleontological resources. These include the Little Houston Quarry between Moorcroft and Sundance and the Hawken Site south of Sundance. (Crook County, 2014)

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: https://www.fs.fed.us/science-technology/geology/paleontology
- Bureau of Reclamation, fossil resources https://www.blm.gov/programs/cultural-resources/paleontology
- U.S. Fish and Wildlife Service, historic preservation https://www.fws.gov/historicPreservation/crp/index.html
- Bureau of Land Management, Paleontology https://www.blm.gov/paleontology
- National Park Service, Fossils and Paleontology https://www.nps.gov/subjects/fossils/fossil-protection.htm

6.3.3 Resource Management Objective:

A. Cultural, historical, geological, and paleontological resources are preserved and protected for current and future public education and enjoyment.
B. Existing property rights are considered when managing cultural, historical, geological, and paleontological resources.
C. The County is coordinated with concerning the designation and management of all cultural, historical, geological, and paleontological resources.

6.3.4 Priorities:

1. Federal agencies should cooperate with state and federal authorities in identifying significant cultural resources in the County and evaluate the significance of proposed land use actions and their impact on cultural resources.
2. All federal agencies should communicate with the County on known or potential significant cultural resources in order for County to have input into the management and protection of the resource.
3. The County supports and encourages making significant local cultural resources available for research and education, and strongly urge the protection of those cultural resources. However, the County does not support excessive buffer zones around historical and cultural resources. Buffer zones shall be determined on a case-by-case basis and shall not exceed one-quarter mile in width in most circumstances.
4. The County supports private property rights as paramount for cultural, historical, geological, and paleontological resources thought to be on private lands.
5. The County requires a full analysis by the federal agencies of the impact each "decision" or federal action will have on the local economy. If it is determined that the decision will have significant negative impact on the local economy, the alternative/decision is not supported.

6.4 SOCIOECONOMIC AND ECONOMIC VIABILITY

6.4.1 History, Custom, and Culture

Crook County is 15% federally owned land with over 273,000 acres of land under federal management. One of the main drivers of the Crook County economy is agriculture. Some cattle ranchers are heavily reliant upon grazing leases for federal lands to maintain healthy and productive land and stock. The livestock and timber industries account for a substantial portion of Crook County's income, the oldest continuing industries in the county, and are still the single largest user of public lands within the county.

Mineral and materials mining is another long-standing sector of the Crook County economy.

6.4.2 Resource Assessment and Legal Framework

Earnings by IndustryIn 2018, the three non-service-related industries with the largest earnings in Crook County were farming ($600,000); forestry, fishing ,and agricultural services ($3,543,333); and mining (including fossil fuels) ($28,626,000). The three service-related industries with the

largest earnings were retail trade ($7,840,000), transportation and warehousing ($17,895,000), and information ($1,008,000). From 2001 to 2018, earnings in non-service related industries grew from $48.0 million to $68.0 million, a 42% increase while services related industries grew from $34.9 million to $68.4 million, a 96% increase. (Headwaters Economics, 2020)

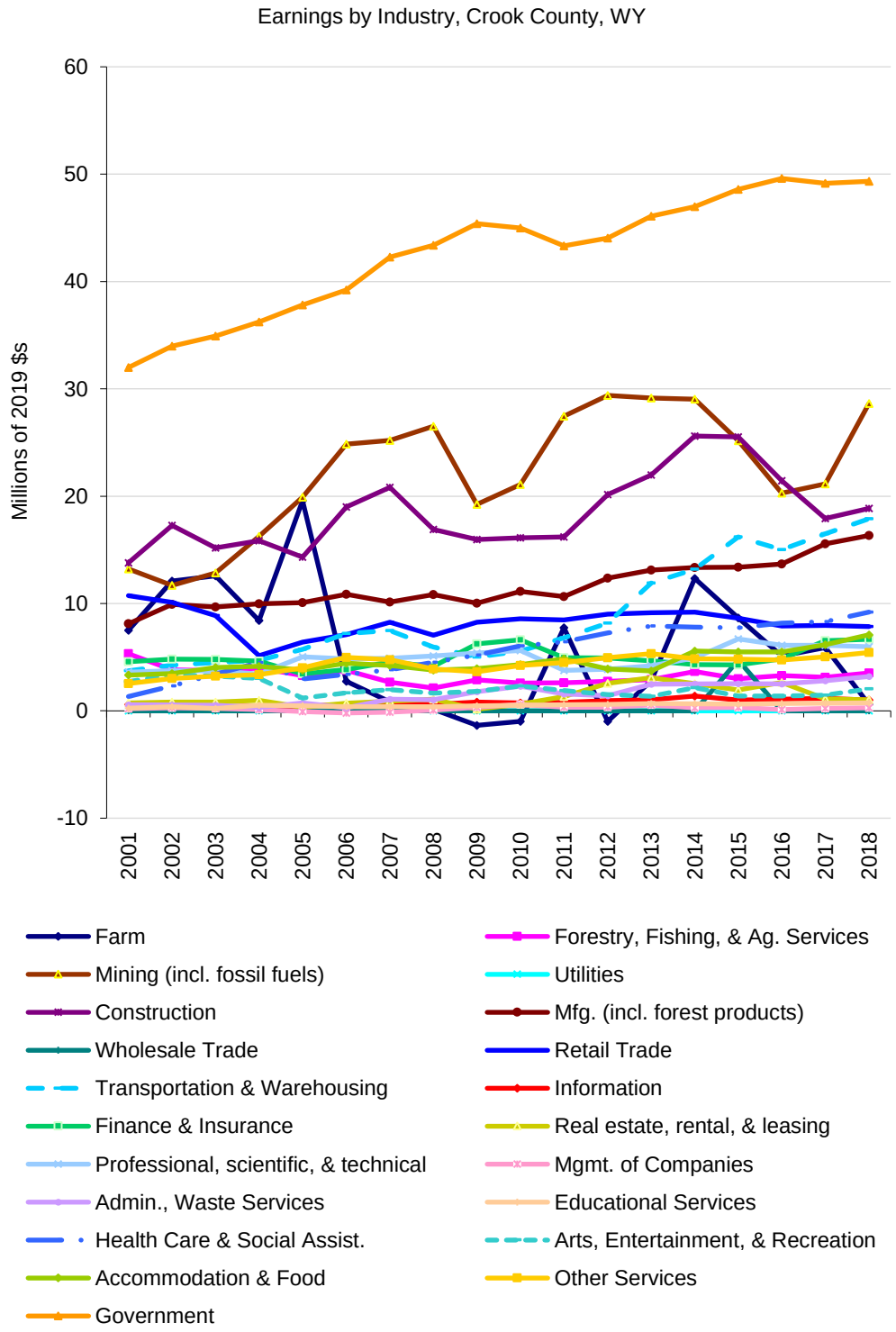

Figure 16. Change in earnings by industry in Crook County between 2001 and 2018. (Headwaters Economics, 2020)

Median Family Income

The median family income for Crook County was $62,500 in 2016 compared to Wyoming's median family income of $73,300 (Figure 21). Approximately 9.5% of households in Crook County reported incomes of less than $15,000 the same as the Wyoming average of 9.5%.

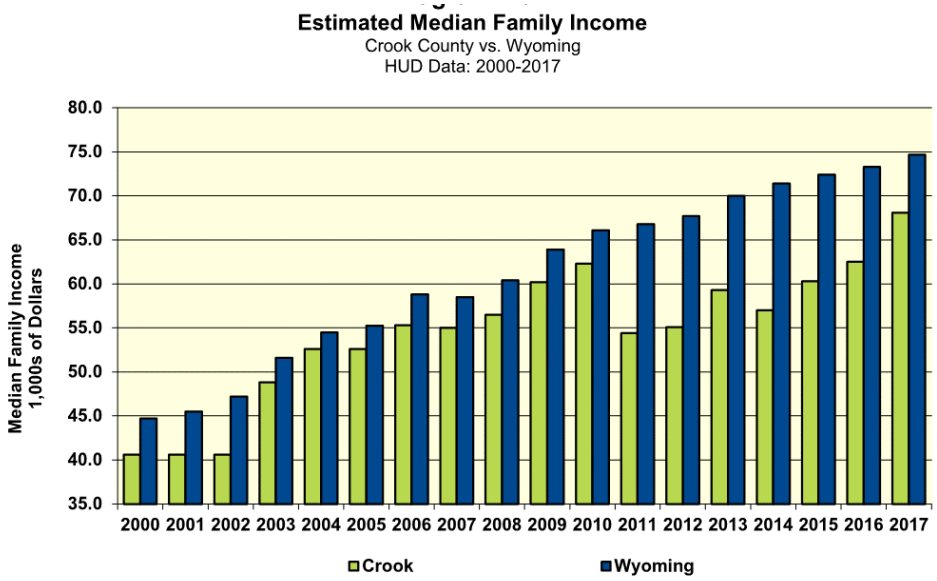

Figure 17. Median family income for Crook County. (Gaudin, n.d.)

Employment

Crook County's economy is highly reliant upon the abundant natural resources in the County. Figure 15 below shows the total number of jobs in each industry in 2018. There were an estimated 4,890 jobs within Crook County in 2018. Government, farm, mining (including fossil fuels), construction, and accommodation/food services were the top five employment industries in the county and employed approximately 2,620 or 54% of the county. Of natural resource industries the top three were farm, mining (including fossil fuels), and forestry/fishing/ag services. Those three industries employed approximately 1,280 or 26% of the county. (Headwaters Economics, 2020)

Total employment in the county increased from 2010 to 2018, increasing from 4,291 jobs in 2010 to 4,890 jobs in 2018 (up 599 jobs). The unemployment rate decreased slightly from 2010 to 2019 going from 5% unemployment in 2010 to 3.2% in 2019 (Figure 16). (Headwaters Economics, 2020)

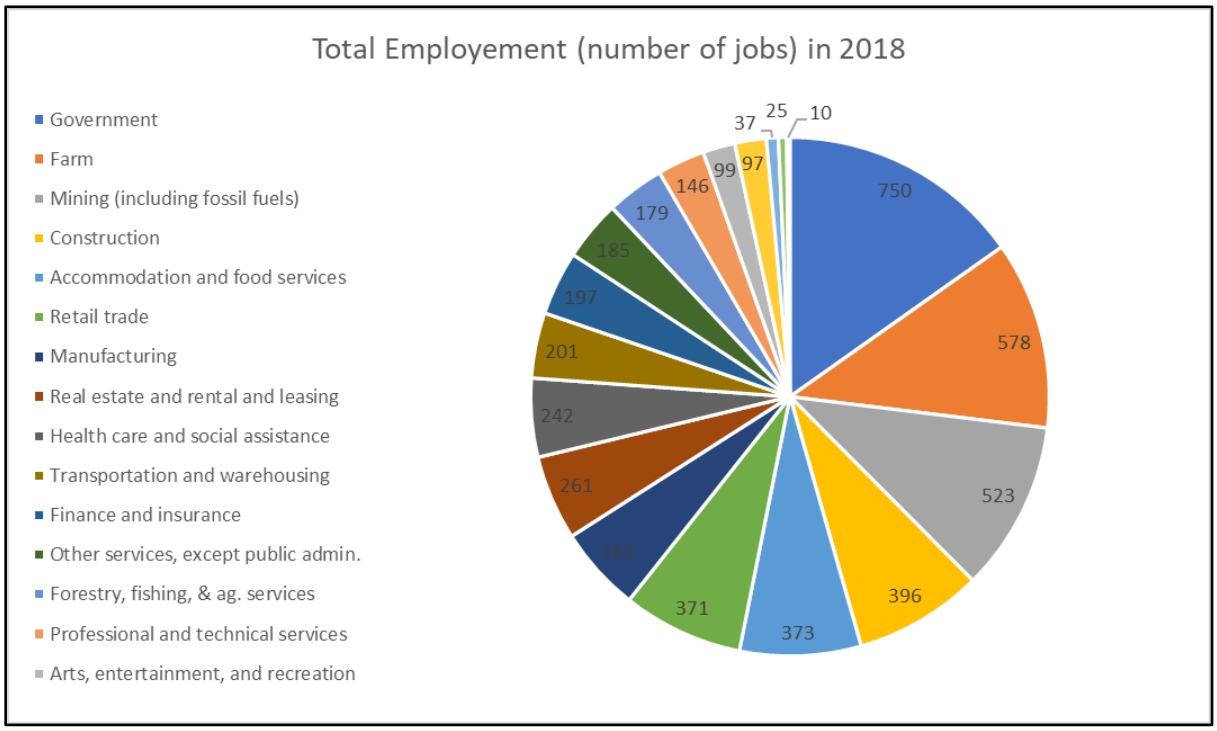

Figure 18. Employment by industry in 2018 in Crook County. (Headwaters Economics, 2020)

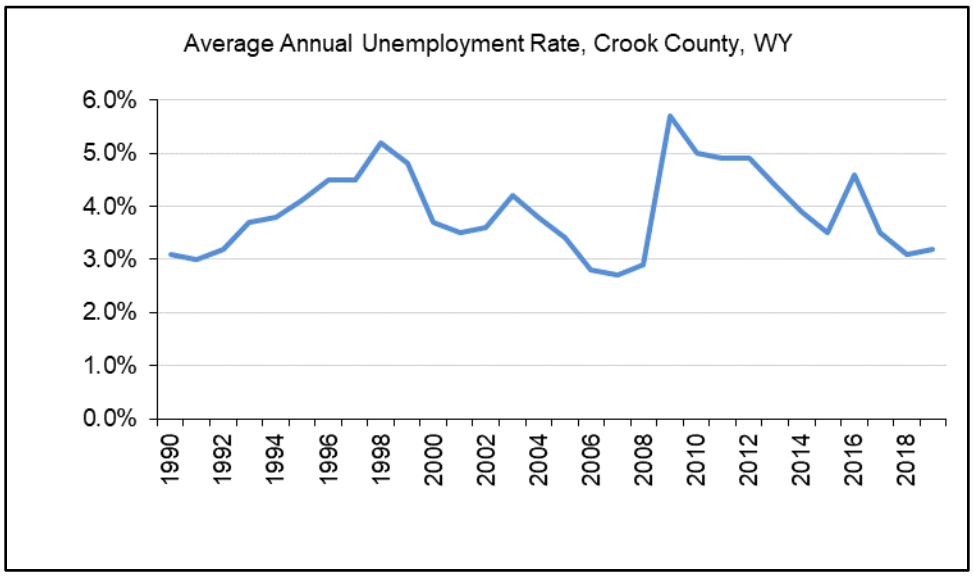

Figure 19. Average annual unemployment rate in Crook County between 1990 and 2019.(Headwaters Economics, 2020)

Sensitivity to Recessions

The reliance of the Crook County economy on mining and agriculture has caused recessions matching the United States national recessions. The 2009 recession caused a national unemployment rate of 10% and an unemployment rate of 6.9% in the state of Wyoming. While

Crook County unemployment was 6%, the unemployment rate has decreased with a small spike again in 2016 and likely another in 2020 due to the COVID-19 pandemic (Figure 22). (Headwaters Economics, 2020; Wyoming Department of Employment, 2009)

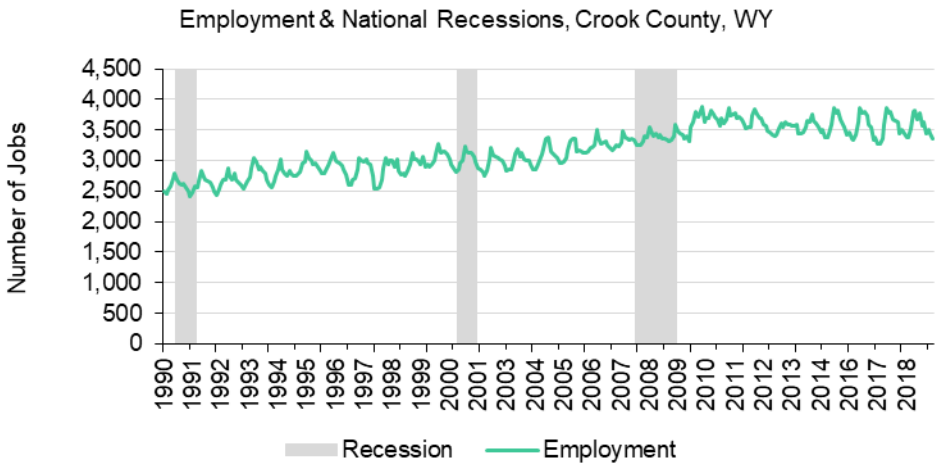

Figure 20. Employment During National Recessions in Crook County. (Headwaters Economics, 2020)

Population Growth

Crook County experienced an increase in population from 7,083 in 2010 to 7,410 in 2017 or 4.6%. The number of people from age 25 to ? years of age remained unchanged while the number of people from 55 to 64 increased by 15.9% and the number of people 65 and over increased by 26.7% (Figure 20). (Gaudin, n.d.)

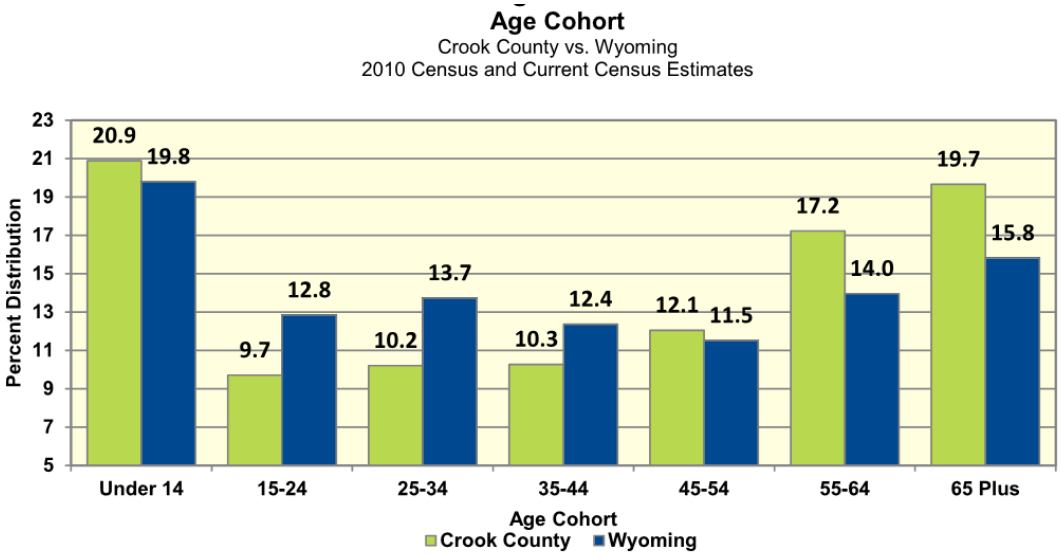

Figure 21. Age distribution in Crook County compared to State of Wyoming. (Gaudin, n.d.)

Communication Infrastructure

Communication infrastructure maintenance and development is vital to Crook County for health and safety of the citizens in the county, economic development, business development and equal education opportunities.

In January of 2019, Executive Order 13821 was signed which ordered to promote better broadband services in rural America. The order stated to accelerate the deployment and adoption of affordable, reliable, modern high-speed broadband connectivity in rural America for rural homes, farms, small businesses, manufacturing and production sites, tribal communities, transportation systems, healthcare facilities, and education facilities. Agencies should seek to reduce barriers to capital investment, remove obstacles to broadband services, and more efficiently employ Government resources.

6.4.3 Resource Management Objective:

A. The socioeconomic and economic viability of Crook County is prioritized, protected, and enhanced in all federal actions or decisions.

6.4.4 Priorities:

1. The County require consultation and coordination by the federal agencies with the County 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. Federal agencies should support continued access to natural resources development/use on federal lands to maintain economically viable communities in our County.
3. The County supports “no net loss” in the County economic base due to federal agency decisions.
4. Federal agencies should include the County in all discussions regarding mitigation if necessary, to protect the economic base of the County.
5. The County strongly supports expansion of high-speed internet and cell service to all underserved areas of the County.
6. Federal agencies should 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.
7. Promote the economic and socioeconomic growth of the County and consultation and coordination between federal agencies and the County regarding any issues and activities on public land that affect or influence the economic and socioeconomic viability of the County.
8. Local, state, and federal agency plans, or management recommendations shall include an appropriately detailed socio-economic impact description that addresses the effects on the County natural resources, economies, and health and welfare of Crook County citizens.

9. The 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.
10. Th County supports the achievement of a sustainable balance between economic, recreational, and conservation use of lands for economic growth and quality of life.

CHAPTER 7: AGRICULTURE

7.1 AGRICULTURAL PRODUCTION

7.1.1 History, Custom, and Culture

Agriculture is essential to the economic stability of Crook County. Agricultural lands contribute to the County's landscape and scenic beauty, provide wildlife habitat, and provide recreational opportunities for residents and visitors alike for hunting, fishing, snowmobiling and other tourism-related activities. Agriculture is an invaluable source of employment, affordable food, raw materials, and open space to the County. Agriculture also provides numerous opportunities for environmental stewardship to benefit local ecosystems and serves as key component of the County's sustainable economy.

7.1.2 Resource Assessment and Legal Framework

The 2017 Crook County Agriculture Census Profile ranked the County eighth in the state for total value of livestock products. A large portion of the crop production in the County is forage crops, hay, and silage (making up over 80% of crop production in the County). The 2017 market value for livestock products was $49,310,000 and for crop products was $3,626,000 (Department of Administration & Information Economic Analysis Division, 2017). In 2017 there were 1,465,641 acres of farmland in the County. Agriculture is a large source of revenue and employment for Crook County. (Crook County, 2014, 2014)

The climate of the region provides for a short growing season that is often dry and cold. Irrigated agriculture relies on the distribution of water from rivers and reservoirs through canals and pipelines. Some or all of these may reside on or pass through federal and state lands where permitting issues are triggered for maintenance and expansion. According to the U.S. Census of Agriculture, Crook County had 7,752 acres of irrigated land (United States Department of Agriculture National Agricultural Statistics Service et al., 2014). (United States Department of Agriculture National Agricultural Statistics Service et al., 2014)

The basis for these policy statements in this NRMP is to carry out the state mandate to protect agriculture.

> *"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))*

7.1.3 Resource Management Objective:

A. Agricultural production is maintained as a viable and major component of the economy, custom, and culture of the County.
B. Agriculture is not reduced in the County and is given the same or greater priority as other multiple uses as allowed by law.

7.1.4 Priorities:

1. The County supports development of all plans and policies that directly or indirectly affect agriculture with the intent of increasing the stability and expansion of the agricultural industry as well as encouraging innovative techniques that improve the efficiency of crop and livestock production.
2. Federal agencies should quickly process permits on public lands for the construction, maintenance, or expansion of water distribution systems to private lands, and allowing maintenance where those rights already exist through a range improvement agreement.
3. Federal agency actions shall be consistent with Right to Farm laws, to the extent applicable. Right to Farm laws shall be taken into account when coordinating on federal and state land use decisions.
4. Federal agencies should support production agriculture and the responsible use of natural resources to sustain agricultural enterprises.
5. The County supports the use of State Highways for farm equipment to move between agricultural fields.
6. Any agricultural property damage or crop loss caused by an escaped prescribed burn, fire suppression efforts, or damage caused by government agency action, resulting in economic loss in Crook County shall be considered justification for economic compensation and restoration by the responsible agency to the property owner at current market values.
7. Wildlife and federal lands managers, including but not limited to the BLM, USFS, USFWS, Army Corps of Engineers, BOR, and WGFD, are expected to coordinate with private property owners to minimize impacts to private property and property rights.
8. The County supports streamlining the application process for range improvements. Request proposed range improvements should be approved in six months or less.
9. The individual that files for an improvement/development permit shall be allowed to manage the resource and the permit shall be in their name if it is approved.
10. The County discourages the conversion of arable, productive agricultural lands from agricultural production into rural residential housing.

7.2 LIVESTOCK AND GRAZING

7.2.1 History, Custom, and Culture

The vegetation in Crook County evolved under tens of thousands of years of grazing and periodic fire. Grazing in the region began to shape the modern vegetation we see today around 18,000 years ago in the Pleistocene. Eventually these species were replaced by the wildlife we know today. Wildlife, wildfire, and early humans continued to shape the vegetation of the basin. In the late 1600's to mid-1700's Native Americans obtained the horse and became pasture managers as well as wildlife managers, manipulating the vegetation and animal populations.

Permitted grazing on federal lands is a critical piece of livestock operations in Crook County. The intermingled BLM and private lands allow ranching to continue in the County. Access to federal lands is critical to the continued ability to maintain the ranching community and the viability of

the County. For additional information regarding livestock grazing in Crook County refer to the Crook County Comprehensive Land Use Plan (CCCLUP).

Livestock grazing has been a major industry in Crook County since early settlement. It continues to be a vital part of the custom and culture of the County as well as an economic driver.

Bureau of Land Management

The Taylor Grazing Act (TGA) of 1934 (43 U.S.C. 315) established the Grazing Service, which eventually became known as the BLM, through local grazing advisory boards, who 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 Taylor Grazing Act 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 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.

There are 187 BLM grazing allotments in Crook County that encompass 10,981 acres.

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 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 reconstruction of a range improvement or construction of new improvements, NEPA analysis and a decision by the authorized officer is required. Range improvements such as water developments benefit wildlife in addition to livestock. 43 C.F.R Part 4100.

United States Forest Service

Within Crook County there are 29 USFS grazing allotments encompassing 180,315 acres.

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 act against the permittee for non-compliance with their grazing permit. Range Betterment Funds are available for planning and building rangeland improvements. (USFS, 2005a)

7.1.3 Resource Assessment and Legal Framework

With the federal agencies managing most of the rangeland in the County, ranchers must rely on obtaining federal grazing leases. A large part of the vegetation in the County is lower producing saltbush and sagebrush areas, while many of the forested leases are highly productive but with limited forage available due to dead and downed timber. Low-productivity rangelands makes for a narrow profit margin. When agencies make a management decision without considering the economic impact on a rancher or a group of ranchers they can be impacted along with the local community. 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 Crook County.

Reduction in livestock numbers on federal and state lands can be a result of natural factors, including wildfire and drought. The primary factors in determining livestock grazing capacity on

federal land is the quality and availability of the resources. Proper grazing management is an important tool for management of the resources, and can be used to mitigate invasive species impacts, wildfire impact, and can improve rangeland health.

Livestock grazing, irrigated farming and other intensive agriculture are integral to this community'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.

7.1.3 Resource Management Objective:

A. Livestock grazing is maintained as a viable major component of the economy, custom, and culture of the County.
B. Livestock grazing is not reduced in the County and is given the same or greater priority as other multiple uses as allowed by law.
C. Legal livestock grazing is allowed on all federal allotments that do not present a direct resource conflict with a preexisting use.

7.1.4 Priorities:

1. Public lands within Crook County shall continue to be managed for multiple-use and sustained yields, which includes continued grazing as intended by Congress in the passage of the Taylor Grazing Act, FLPMA, MUSY, and NFMA.
2. Livestock grazing management decisions on public lands shall be made based on the best available scientific information that is applicable to the rangeland resources in Crook County. The scientific information and credible data used will be consistent with standards of the Data Quality Act.
3. In the event that grazing on public lands is temporarily suspended due to fire, recommence grazing on the basis of monitoring and site-specific rangeland health determinations rather than solely on fixed timelines. Return authorized livestock grazing 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. Require the use of credible data as previously defined to make these determinations.
4. Livestock grazing management plans must incorporate standards and objectives that maintain the health, safety, and general welfare of the County's agricultural interests culturally and economically.
5. The County supports livestock grazing on all public lands as an integral part of habitat management.
6. 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 shall 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 AUMs.
7. Federal agencies should support creation of adaptive grazing management plans that allow permittees to respond to changes in resource conditions. These plans shall include focused monitoring, triggers and responses, and alternative management plans.

8. The reduction of domestic livestock grazing AUMs to provide additional forage for another species or strictly for conservation purposes is not supported by the County.
9. AUMs on federal lands shall not be reduced unless a documented resource condition indicates a need for temporary reduction to improve condition. Any reduction shall include a plan to reinstate AUMs when the resource condition has been addressed.
10. Timely processing of fully processing all term grazing permit renewals is a priority of the citizens of the County.
11. Maintain current AUMs level for a "zero net loss of AUM's" in the County.
12. All federal agencies shall use (if available) the most current Ecological Site Descriptions developed by the NRCS.
13. Federal agencies should support consultation, cooperation, coordination, 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.
14. The County recommends no loss of adjudicated preferential grazing rights, including but not limited to, active and suspended Animal Unit Months (AUMs) of state and federal lands while maintaining and improving the resource.
15. The County supports proper and appropriate livestock grazing practices as a tool for the sound management of private, state, and federal lands.
16. The County supports the use of cooperative monitoring Memorandums of Understanding (MOUs) 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.
17. The County supports reclamation of disturbed range and pastureland sites using best available practices, which may include non-native species depending on the circumstance.
18. Federal agencies should support proper grazing practices and stocking rates to help improve watershed conditions in rangeland settings.
19. The County supports the use of all adjudicated AUMs on public lands.
20. Federal agencies should support water development to enhance livestock grazing distribution opportunities that benefit maintenance of or increases to AUMs and enhance resident wildlife populations.

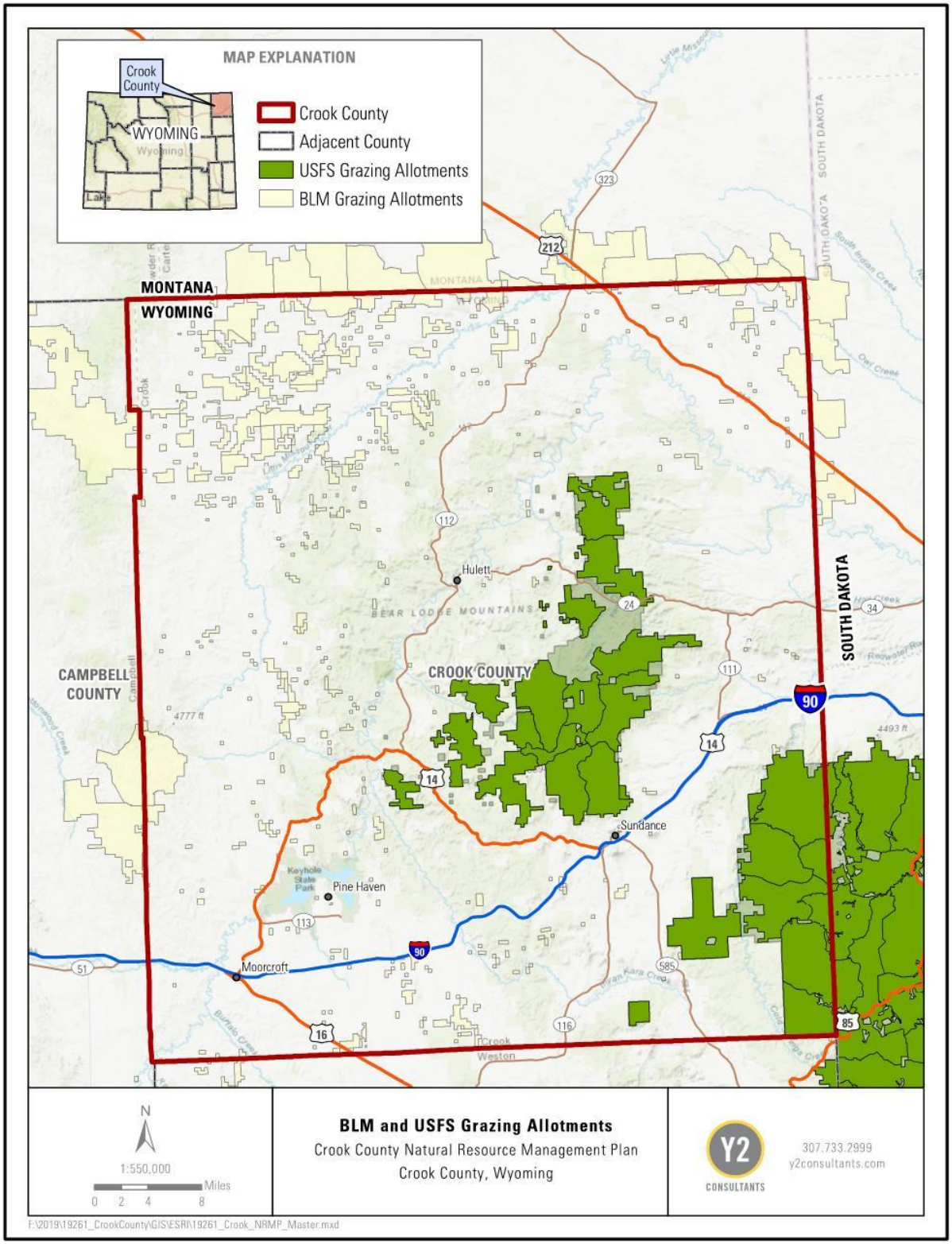

Figure 22. Crook County Grazing Allotments.

7.3 NOXIOUS WEEDS AND INVASIVE SPECIES

7.3.1 History, Custom, and Culture

The Weed and Pest District in Crook County was one of the first weed and pest districts in the nation and was established somewhere around 1910 or 1911. Crook County has traditionally practiced weed and pest control to increase the productivity of the various lands within the County and as a means of promoting 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 cooperatively work with various property owners and agencies in the County to control weeds and pests. The Crook County Weed and Pest Control District provides programs and services to manage and prevent the spread of weeds and pests throughout the county. The Crook County Weed and Pest provides leadership and education for the long-term management of noxious weeds and pests through prevention, biological, cultural, mechanical, and chemical controls. The Weed and Pest District has programs for the management of noxious weeds and pests by promoting and coordinating management and control through integrated pest management techniques, cooperation with landowners, agencies, organizations, and by providing technical expertise and educational opportunities to all within the county. (Weeds, 2020a)

7.3.2 Resource Assessment and Legal Framework

Invasive species can be plants, animals, diseases, or insects. Invasive species and pest management is defined as the ability to control species and pests 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. 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. All State agencies are required to control noxious weeds and pests on State managed lands and state law provides for cooperation with the federal agencies in controlling noxious weeds and pests on all federally managed lands. Cooperative agreements and legal actions, if warranted, may be utilized to assure protection of vital land resources from noxious weed and pest occupation or invasion.

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 control, etc.).
- mechanical & 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 (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.)

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 which 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.

The current federal noxious weeds list is maintained on the USDA Plants Database (USDA NRCS, 2019). Refer to Crook County's Declared Species page for the current County declared weeds and pests (Weeds, 2020b).

In addition to these plants, aquatic plants like hydrilla (*Hydrilla verticillata*), Eurasian watermilfoil (*Myriopyllum spicatum*), curly pondweed (*Potamogeton crispus*) and didymo (rock snot) are of concern. Several animal species are also of concern such as aquatic invasive species like zebra and quagga mussels, New Zealand mudsnail, Asian carp and rusty crawfish. Almost all of these species can have a negative impact on irrigation structures if they become established. (ISAC, 2016) White pine blister rust, pine borers, and spruce bud worms can also be problem invaders in the forested regions of the County. Several agricultural pests exist that can negatively impact the farming regions of the County.

7.3.3 Resource Management Objective:

A. Noxious weeds and invasive species (both plants and animals) are managed to maintain healthy ecological levels using best management practices.
B. Noxious weeds, invasive species, and pests have a universal meaning within the County and are uniformly managed to maintain healthy ecological levels within the County.
C. Federal agencies adequately manage noxious weeds, invasive species, and pests in coordination and partnership with the Crook County Weed and Pest Control District.

7.3.4 Priorities:

1. The County supports and encourages federal agency control efforts to be focused on the control of all federal, state, and Crook County declared weeds and pests.
2. The County requires coordination with other local, state, and federal agencies to allow Weed and Pest Control 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.
3. The County supports and encourages federal agency cooperative efforts with state, federal, and private landowners/managers to enhance cooperative weed and pest management efforts countywide as required by agency mandates; coordinated with, and primarily managed by, the Crook County Weed and Pest Control District.
4. All property owners/managers, including state, federal, private, and tribal property 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.
5. Federal agencies within the County should adopt the State of Wyoming and County's list of designated noxious weeds, invasive species, and pests and manage said species as prescribed by the State and County.
6. Prescribed grazing should be used to control invasive, noxious, and nuisance plant species.
7. Habitat enhancement projects must have a defined and funded weed control and monitoring plan for the anticipated life of the enhancement to be supported.
8. Federal agencies should develop an environmental analysis to expand weed control options.
9. The County encourages implementation of federal and local Weed Management Plans, including mapping of all noxious weed populations.
10. Federal agencies should conduct monitoring efforts to accurately identify the extent of noxious weed infestations, and the identification of dispersal mechanisms where possible.
11. Federal agencies should support the prevention and management of aquatic nuisance species (i.e., zebra mussels, quagga mussels) and other invasive species on all waters within Crook County.
12. Federal agencies should support education programs for public and private land users regarding all possible vectors of weed spread.

13. Federal agencies should prepare and comply with a weed management plan that includes ensuring adequate funding to control noxious weeds on public lands.
14. Aerial devices (i.e., drones, fixed wing, helicopters and other aircraft) for weed monitoring and control should be allowed to be used on public lands where feasible.
15. Herbicides should be allowed to be used in wilderness areas.
16. Federal agencies should enroll in cooperative efforts with state, federal, and private land managers to enhance cooperative weed management efforts countywide, coordinated with and primarily managed by the Crook County Weed and Pest control.
17. All federal actions should 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.

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APPENDICES

APPENDIX A: TABLES

Table 1: Wyoming Tier 1 Species of Conservation Priority. (Wyoming Game and Fish Department, 2017)

Species	Common Name	Priority Tier
Amphibians		
Anaxyrus baxteri	Wyoming toad	I
Anaxyrus boreas	western toad	I
Birds		
Accipiter gentilis	Northern Goshawk	I
Athene cunicularia	Burrowing Owl	I
Charadrius montanus	Mountain Plover	I
Gavia immer	Common Loon	I
Fish		
Catostomus discobolus	bluehead sucker	I
Catostomus latipinnis	flannelmouth sucker	I
Gila robusta	roundtail chub	I
Nocomis biguttatus	hornyhead chub	I
Rhinichthys osculus thermalis	Kendall Warm Springs dace	I
Mammals		
Lynx canadensis	Canada lynx	I
Mustela nigripes	black-footed ferret	I
Thomomys clusius	Wyoming pocket gopher	I
Reptiles		
Crotalus oreganus concolor	midget faded rattlesnake	I
Mollusks		
Lampsilis cardium	plain pocketbook	I
Fluminicola coloradoensis	Green River pebblesnail	I
	mountainsnails (many species)	I

Table 2: Wyoming Tier 2 Species of Conservation Priority. (Wyoming Game and Fish Department, 2017)

Species	**Common Name**	**Priority Tier**
Amphibians		
Anaxyrus cognatus	Great Plains toad	II
Lithobates pipiens	northern leopard frog	II
Lithobates sylvaticus	wood frog	II
Rana luteiventris	Columbia spotted frog	II
Spea bombifrons	plains spadefoot	II
Spea intermontana	Great Basin spadefoot	II
Birds		
Aechmophorus clarkii	Clark's Grebe	II
Aechmophorus occidentalis	Western Grebe	II
Aegolius funereus	Boreal Owl	II
Ammodramus bairdii	Baird's Sparrow	II
Ammodramus savannarum	Grasshopper Sparrow	II
Aphelocoma woodhouseii	Woodhouse's Scrub-jay	II
Aquila chrysaetos	Golden Eagle	II
Archilochus alexandri	Black-chinned Hummingbird	II
Ardea herodias	Great Blue Heron	II
Artemisiospiza nevadensis	Sagebrush Sparrow	II
Asio flammeus	Short-eared Owl	II
Baeolophus ridgwayi	Juniper Titmouse	II
Bartramia longicauda	Upland Sandpiper	II
Botaurus lentiginosus	American Bittern	II
Bubulcus ibis	Cattle Egret	II
Buteo regalis	Ferruginous Hawk	II
Buteo swainsoni	Swainson's Hawk	II
Calcarius ornatus	Chestnut-collared Longspur	II
Centrocercus urophasianus	Greater Sage Grouse	II
Chlidonias niger	Black Tern	II
Coccyzus americanus	Yellow-billed Cuckoo	II
Coccyzus erythropthalmus	Black-billed Cuckoo	II
Cygnus buccinator	Trumpeter Swan	II
Dolichonyx oryzivorus	Bobolink	II
Egretta thula	Snowy Egret	II
Falco peregrinus	Peregrine Falcon	II
Geothlypis tolmiei	MacGillivray's Warbler	II
Glaucidium gnoma	Northern Pygmy Owl	II

Haliaeetus leucocephalus	Bald Eagle	II
Histrionicus histrionicus	Harlequin Duck	II
Hydroprogne caspia	Caspian Tern	II
Icterus parisorum	Scott's Oriole	II
Lanius ludovicianus	Loggerhead Shrike	II
Leucophaeus pipixcan	Franklin's Gull	II
Leucosticte atrata	Black Rosy-finch	II
Leucosticte australis	Brown-capped Rosy-finch	II
Loxia curvirostra	Red Crossbill	II
Melanerpes erythrocephalus	Red-headed Woodpecker	II
Melanerpes lewis	Lewis's Woodpecker	II
Myiarchus cinerascens	Ash-throated Flycatcher	II
Nucifraga columbiana	Clark's Nutcracker	II
Numenius americanus	Long-billed Curlew	II
Nycticorax nycticorax	Black-crowned Night-Heron	II
Oreoscoptes montanus	Sage Thrasher	II
Oreothlypis virginiae	Virginia's Warbler	II
Pelecanus erythrorhynchos	American White Pelican	II
Picoides arcticus	Black-backed Woodpecker	II
Plegadis chihi	White-faced Ibis	II
Psaltriparus minimus	Bushtit	II
Rhynchophanes mccownii	McCown's Longspur	II
Selasphorus calliope	Calliope Hummingbird	II
Selasphorus rufus	Rufous Hummingbird	II
Setophaga nigrescens	Black-throated Gray Warbler	II
Sitta pygmaea	Pygmy Nuthatch	II
Sphyrapicus thyroideus	Williamson's Sapsucker	II
Spiza americana	Dickcissel	II
Spizella breweri	Brewer's Sparrow	II
Sterna forsteri	Forster's Tern	II
Strix nebulosa	Great Gray Owl	II
Tympanuchus phasianellus columbianus	Columbian Sharp-tailed Grouse	II
Vireo olivaceus	Red-eyed Vireo	II
Vireo vicinior	Gray Vireo	II
Fish		
Chrosomus neogaeus	finescale dace	II
Etheostoma exile	Iowa darter	II
Etheostoma spectabile	orangethroat darter	II

Fundulus kansae	Northern Plains killifish	II
Fundulus sciadicus	plains topminnow	II
Hiodon alosoides	goldeye	II
Hybognathus argyritis	western silvery minnow	II
Hybognathus placitus	plains minnow	II
Lepidomeda copei	northern leatherside chub	II
Lota lota	burbot	II
Macrhybopsis gelida	sturgeon chub	II
Margariscus nachtriebi	northern pearl dace	II
Oncorhynchus clarkii bouvieri	Yellowstone cutthroat trout	II
Oncorhynchus clarkii pleuriticus	Colorado River cutthroat trout	II
Oncorhynchus clarkii spp.	Snake River cutthroat trout	II
Oncorhynchus clarkii utah	Bonneville cutthroat trout	II
Phenacobius mirabilis	suckermouth minnow	II
Sander canadensis	sauger	II
Scaphirhynchus platorynchus	shovelnose sturgeon	II
Mammals		
Alces americanus	moose	II
Antrozous pallidus	pallid bat	II
Brachylagus idahoensis	pygmy rabbit	II
Corynorhinus townsendii	Townsend's big-eared bat	II
Cynomys leucurus	white-tailed prairie dog	II
Cynomys ludovicianus	black-tailed prairie dog	II
Geomys lutescens	Sand Hills pocket gopher	II
Glaucomys sabrinus	northern flying squirrel	II
Gulo gulo	wolverine	II
Lemmiscus curtatus	sagebrush vole	II
Lontra canadensis	northern river otter	II
Microtus richardsoni	water vole	II
Myotis ciliolabrum	western small-footed myotis	II
Myotis lucifugus	little brown myotis	II
Myotis septentrionalis	northern long-eared myotis	II
Myotis thysanodes	fringed myotis	II
Ochotona princeps	American pika	II
Ovis canadensis	bighorn sheep	II
Peromyscus crinitus	canyon deermouse	II
Peromyscus truei	piñon deermouse	II
Reithrodontomys montanus	plains harvest mouse	II

Sorex nanus	dwarf shrew	II
Spilogale putorius	eastern spotted skunk	II
Tamias dorsalis	cliff chipmunk	II
Thomomys idahoensis	Idaho pocket gopher	II
Vulpes velox	swift fox	II
Zapus hudsonius preblei	Preble's meadow jumping mouse	II
Reptiles		
Apalone spinifera spinifera	eastern spiny softshell	II
Charina bottae	northern rubber boa	II
Lampropeltis triangulum multistriata	pale milksnake	II
Pituophis catenifer deserticola	Great Basin gophersnake	II
Urosaurus ornatus wrighti	northern tree lizard	II
Crustaceans		
Branchinecta constricta	constricted fairy shrimp	II
Orconectes neglectus	ringed crayfish	II
Pacifastacus gambelii	pilose crayfish	II
Streptocephalus mackini	Mackin fairy shrimp	II
Mollusks		
Anodonta californiensis	California floater	II
Anodontoides ferussacianus	cylindrical papershell	II
Oreohelix pygmaea	pygmy mountainsnail	II
Oreohelix strigosa cooperi	Cooper's rocky mountainsnail	II
Oreohelix yavapai	yavapai mountainsnail	II
Physa spelunca	cave physa	II
Pyrgulopsis robusta	Jackson Lake springsnail	II
	aquatic snails (many species)	II
	land snails (many species)	II

Table 3: Wyoming Tier 3 Species of Conservation Priority. (Wyoming Game and Fish Department, 2017)

Species	Common Name	Priority Tier
Amphibians		
Ambystoma mavortium	western tiger salamander	III
Birds		
Anthus rubescens	American Pipit	III
Catherpes mexicanus	Canyon Wren	III
Charadrius nivosus	Snowy Plover	III
Chordeiles minor	Common Nighthawk	III
Empidonax traillii	Willow Flycatcher	III
Falco columbarius	Merlin	III
Falco sparverius	American Kestrel	III
Geothlypis trichas	Common Yellowthroat	III
Passerina caerulea	Blue Grosbeak	III
Polioptila caerulea	Blue-gray Gnatcatcher	III
Progne subis	Purple Martin	III
Psiloscops flammeolus	Flammulated Owl	III
Rallus limicola	Virginia Rail	III
Thryomanes bewickii	Bewick's Wren	III
Fish		
Hybognathus hankinsoni	brassy minnow	III
Luxilus cornutus	common shiner	III
Notropis dorsalis	bigmouth shiner	III
Platygobio gracilis	flathead chub	III
Mammals		
Bassariscus astutus	ringtail	III
Chaetodipus hispidus	hispid pocket mouse	III
Euderma maculatum	spotted bat	III
Lasiurus borealis	eastern red bat	III
Mustela nivalis	least weasel	III
Myotis evotis	long-eared myotis	III
Myotis volans	long-legged myotis	III
Myotis yumanensis	yuma myotis	III
Perognathus fasciatus	olive-backed pocket mouse	III
Perognathus flavescens	plains pocket mouse	III
Perognathus flavus	silky pocket mouse	III
Perognathus mollipilosus	Great Basin pocket mouse	III
Sciurus aberti	Abert's squirrel	III

Sorex haydeni	Hayden's shrew	III
Sorex hoyi	American pygmy shrew	III
Sorex preblei	Preble's shrew	III
Spilogale gracilis	western spotted skunk	III
Tamias amoenus	yellow-pine chipmunk	III
Tamias umbrinus	Uinta chipmunk	III
Xerospermophilus spilosoma	spotted ground squirrel	III
Zapus hudsonius	meadow jumping mouse	III
Crustaceans		
Cambarus diogenes	devil crayfish	III
Orconectes immunis	calico/papershell crayfish	III
Thamnocephalus platyurus	beavertail fairy shrimp	III
	fairy, tadpole, and clam shrimp (many species)	III
Mollusks		
Gyraulus parvus	ash gyro	III
Ferrissia rivularis	creeping ancylid	III
Fossaria dalli	dusky fossaria	III
Discus whitneyi	forest disc	III
Pyganodon grandis	giant floater	III
Planorbella trivolvis	marsh rams-horn	III
Vallonia gracilicosta	multirib vallonia	III
Physa acuta	pewter physa	III
	pill or fingernail clams (many species)	III
Fossaria bulimoides	prairie fossaria	III
Zonitoides arboreus	quick gloss	III
Oreohelix strigosa	Rocky Mountain mountainsnail	III
	stagnicola pond snails (many species)	III
Oreohelix subrudis	subalpine mountainsnail	III
Physa gyrina	tadpole physa	III
Promenetus umbilicatellus	umbilicate sprite	III
Vitrina pellucida	western glass-snail	III

Table 4: BLM's Sensitive Species List for Wyoming. (Bureau of Land Management, 2010)

Species	**Common Name**
Amphibians	
Bufo boreas boreas	Boreal Toad (Northern Rocky Mountain Population)
Rana pipiens	Northern Leopard Frog
Rana luteiventris	Columbia Spotted Frog
Spea intermontana	Great Basin Spadefoot
Birds	
Accipiter gentilis	Northern Goshawk
Ammodramus bairdii	Baird's Sparrow
Amphispiza belli	Sage Sparrow
Athene cunicularia	Burrowing Owl
Buteo regalis	Ferruginous Hawk
Centrocercus urophasianus	Greater Sage-grouse
Charadrius montanus	Mountain Plover
Coccyzus americanus	Yellow-billed Cuckoo
Cygnus buccinator	Trumpeter Swan
Falco peregrinus	Peregrine Falcon
Haliaeetus leucocephalus	Bald Eagle
Lanius ludovicianus	Loggerhead Shrike
Numenius americanus	Long-billed Curlew
Oreoscoptes montanus	Sage Thrasher
Plegadis chichi	White-faced Ibis
Spizella breweri	Brewer's Sparrow
Tympanuchus phasianellus columbianus	Columbian Sharp-tailed Grouse
Fish	
Catostomus discobolus	Bluehead Sucker
Catostomus latipinnis	Flannelmouth Sucker
Lepidomeda copei	Northern Leatherside Chub
Gila robusta	Roundtail Chub
Oncorhynchus clarkii bouvieri	Yellowstone Cutthroat Trout
Oncorhyncus clarkii ssp. (O. c. behnkei)	Fine-spotted Snake River Cutthroat Trout
Oncorhynchus clarkii pleuriticus	Colorado River Cutthroat Trout
Oncorhynchus clarkii Utah	Bonneville Cutthroat Trout
Nocomis biguttatus	Hornyhead Chub
Mammals	
Brachylagus idahoensis	Pygmy Rabbit
Corynorhinus townsendii	Townsend's Big-eared Bat

Cynomys leucurus	White-tailed Prairie Dog
Cynomys ludovicianus	Black-tailed Prairie Dog
Euderma maculatum	Spotted Bat
Myotis evotis	Long-eared Myotis
Myotis thysanodes	Fringed Myotis
Thomomys clusius	Wyoming Pocket Gopher
Thomomys idahoensis	Idaho Pocket Gopher
Vulpes velox	Swift Fox
Zapus hudsonius preblei	Preble's Meadow Jumping Mouse
Reptiles	
Crotalus viridis concolor	Midget Faded Rattlesnake
Plants	
Antennaria arcuata	Meadow Pussytoes
Aquilegia laramiensis	Laramie Columbine
Artemisia porteri	Porter's Sagebrush
Astragalus diversifolius	Meadow Milkvetch
Astragalus gilviflorus var. purpureus	Dubois Milkvetch
Astragalus jejunus var. articulatus	Hyattville Milkvetch
Astragalus proimanthus	Precocious Milkvetch
Astragalus racemosus var. treleasei	Trelease's Milkvetch
Boechera (Arabis) pusilla	Small Rock Cress
Botrychium lineare	Slender Moonwort
Cirsium aridum	Cedar Rim Thistle
Cirsium ownbeyi	Ownbey's Thistle
Cleome multicaulis	Many-stemmed Spider-flower
Cryptantha subcapitata	Owl Creek Miner's Candle
Cymopterus evertii	Evert's Wafer-Parsnip
Cymopterus williamsii	Williams' Wafer-Parsnip
Descurainia torulosa	Wyoming Tansymustard
Elymus simplex var. luxurians	Dune Wildrye
Ericameria discoidea var. winwardii	Winward's narrow leaf goldenweed
Lepidium integrifolium var. integrifolium	Entire-Leaved Peppergrass
Lesquerella arenosa var. argillosa	Sidesaddle Bladderpod
Lesquerella fremontii	Fremont Bladderpod
Lesquerella macrocarpa	Large-fruited Bladderpod
Lesquerella prostrata	Prostrate Bladderpod
Penstemon absarokensis	Absaroka Beardtongue
Penstemon acaulis var. acaulis	Stemless Beardtongue
Penstemon gibbensii	Gibbens' Beardtongue

Phlox pungens	Beaver Rim Phlox
Physaria condensata	Tufted Twinpod
Physaria dornii	Dorn's Twinpod
Physaria saximontana var. saximontana	Rocky Mountain Twinpod
Pinus albicaulis	Whitebark Pine
Pinus flexilis	Limber Pine
Rorippa calycina	Persistent Sepal Yellowcress
Shoshonea pulvinata	Shoshonea
Sphaeromeria simplex	Laramie False Sagebrush
Thelesperma caespitosum	Green River Greenthread
Thelesperma pubescens	Uinta Greenthread
Townsendia microcephala	Cedar Mtn. Easter Daisy
Trifolium barnebyi	Barneby's Clover

Table 5: Regional Forester's Sensitive Animal Species List for the Rocky Mountain Region. (U.S. Forest Service, 2017)

Species	**Common Name**
Amphibians	
Anaxyrus boreas boreas	boreal toad
Lithobates blairi	plains leopard frog
Lithobates pipiens	northern leopard frog
Lithobates sylvaticus	wood frog
Rana luteiventris	Columbia spotted frog
Birds	
Accipiter gentilis	Northern Goshawk
Aegolius funereus	Boreal Owl
Ammodramus savannarum	Grasshopper Sparrow
Artemisiospiza nevadensis	Sagebrush Sparrow
Asio flammeus	Short-eared Owl
Athene cunicularia	Burrowing Owl
Botaurus lentiginosus	American Bittern
Buteo regalis	Ferruginous Hawk
Calcarius ornatus	Chestnut-collared Longspur
Centrocercus urophasianus	Greater Sage-Grouse
Charadrius montanus	Mountain Plover
Chlidonias niger	Black Tern
Circus cyaneus	Northern Harrier
Contopus cooperi	Olive-sided Flycatcher
Cygnus buccinator	Trumpeter Swan
Cypseloides niger	Black Swift
Falco peregrinus anatum	Peregrine Falcon
Haliaeetus leucocephalus	Bald Eagle
Histrionicus histrionicus	Harlequin Duck
Lagopus leucura	White-tailed Ptarmigan
Lanius ludovicianus	Loggerhead Shrike
Melanerpes lewis	Lewis's Woodpecker
Numenius americanus	Long-billed Curlew
Peucaea cassinii	Cassin's Sparrow
Picoides arcticus	Black-backed Woodpecker
Progne subis	Purple Martin
Psiloscops flammeolus	Flammulated Owl
Rhynchophanes mccownii	McCown's Longspur
Spizella breweri	Brewer's Sparrow
Tympanuchus cupido	Greater Prairie-Chicken

Tympanuchus phasianellus columbianus	Columbian Sharp-tailed Grouse
Fish	
Catostomus discobolus	bluehead sucker
Catostomus latipinnis	flannelmouth sucker
Catostomus platyrhynchus	mountain sucker
Catostomus plebeius	Rio Grande sucker
Chrosomus eos	northern redbelly dace
Chrosomus erythrogaster	southern redbelly dace
Chrosomus neogaeus	finescale dace
Couesius plumbeus	lake chub
Fundulus sciadicus	Plains topminnow
Gila pandora	Rio Grande chub
Gila robusta	roundtail chub
Hybognathus placitus	plains minnow
Macrhybopsis gelida	sturgeon chub
Margariscus nachtriebi	northern pearl dace
Nocomis biguttatus	hornyhead chub
Oncorhynchus clarkii bouvieri	Yellowstone cutthroat
Oncorhynchus clarkii pleuriticus	Colorado River cutthroat
Oncorhynchus clarkii virginalis	Rio Grande cutthroat
Platygobio gracilis	flathead chub
Insects	
Bombus occidentalis	western bumble bee
Capnia arapahoe	Arapahoe snowfly
Danaus plexippus plexippus	monarch
Hesperia ottoe	Ottoe skipper
Ochrotrichia susanae	Susan's purse-making caddisfly
Somatochlora hudsonica	Hudsonian emerald
Speyeria idalia	regal fritillary
Speyeria nokomis nokomis	Nokomis fritillary, Great Basin silverspot
Mammals	
Conepatus leuconotus	American hog-nosed skunk
Corynorhinus townsendii	Townsend's big-eared bat
Cynomys gunnisoni	Gunnison's prairie dog
Cynomys leucurus	white-tailed prairie dog
Cynomys ludovicianus	black-tailed prairie dog
Euderma maculatum	spotted bat
Gulo gulo	North American wolverine
Lasiurus cinereus	hoary bat
Lontra canadensis	river otter

Martes americana	American marten
Microtus richardsoni	water vole
Myotis thysanodes	fringed myotis
Ovis canadensis canadensis	Rocky Mountain bighorn sheep
Ovis canadensis nelsoni	desert bighorn sheep
Sorex hoyi	pygmy shrew
Thomomys clusius	Wyoming pocket gopher
Vulpes macrotis	kit fox
Vulpes velox	swift fox
Molluscs	
Acroloxus coloradensis	Rocky Mountain capshell
Oreohelix pygmaea	pygmy mountainsnail
Oreohelix strigosa cooperi	Cooper's Rocky Mountainsnail
Reptiles	
Sistrurus catenatus edwardsii	desert massasauga
Storeria occipitomaculata pahasapae	Black Hills redbelly snake

Table 6: Regional Forester's Sensitive Plant Species List for the Rocky Mountain Region. (U.S. Forest Service, 2017)

Species	**Common Name**
Non-Vascular	
Sphagnum angustifolium	sphagnum
Sphagnum balticum	Baltic sphagnum
Ferns & Allies	
Botrychium ascendens	trianglelobe moonwort
Botrychium campestre	Iowa moonwort, prairie moonwort
Botrychium paradoxum	peculiar moonwort
Lycopodium complanatum	groundcedar
Selaginella selaginoides	club spikemoss
Angiosperms - Monocots	
Calochortus flexuosus	winding mariposa lily
Carex alopecoidea	foxtail sedge
Carex diandra	lesser panicled sedge
Carex livida	livid sedge
Cypripedium montanum	mountain lady's slipper
Cypripedium parviflorum	lesser yellow lady's slipper
Eleocharis elliptica	elliptic spikerush, slender spikerush
Epipactis gigantea	stream orchid, giant helleborine
Eriophorum chamissonis	Chamisso's cottongrass
Eriophorum gracile	slender cottongrass
Festuca hallii	plains rough fescue
Galearis rotundifolia	roundleaf orchid
Kobresia simpliciuscula	simple bog sedge
Liparis loeselii	yellow widelip orchid
Malaxis monophyllos var. brachypoda	white adder's-mouth orchid
Platanthera orbiculata	lesser roundleaved orchid
Ptilagrostis porteri	Porter's false needlegrass
Schoenoplectus hallii	Hall's bulrush
Triteleia grandiflora	largeflower triteleia
Angiosperms - Dicots	
Aliciella sedifolia	stonecrop gilia
Aquilegia chrysantha	Rydberg's golden columbine
Aquilegia laramiensis	Laramie columbine
Armeria maritima ssp. sibirica	Siberian sea thrift
Asclepias uncialis	wheel milkweed
Astragalus barrii	Barr's milkvetch

Astragalus iodopetalus	violet milkvetch
Astragalus leptaleus	park milkvetch
Astragalus missouriensis var. humistratus	Missouri milkvetch, Archuleta milkvetch
Astragalus proximus	Aztec milkvetch
Astragalus ripleyi	Ripley's milkvetch
Braya glabella	smooth northern-rockcress
Chenopodium cycloides	sandhill goosefoot
Cuscuta plattensis	prairie dodder, Wyoming dodder
Descurainia torulosa	mountain tansymustard
Draba exunguiculata	clawless draba
Draba grayana	Gray's draba
Draba smithii	Smith's draba
Draba weberi	Weber's draba, Weber’s whitlowgrass
Drosera anglica	English sundew
Drosera rotundifolia	roundleaf sundew
Eriogonum brandegeei	Brandegee's buckwheat
Eriogonum exilifolium	dropleaf buckwheat
Eriogonum visheri	Visher's buckwheat, Dakota buckwheat
Gutierrezia elegans	Lone Mesa snakeweed
Ipomopsis aggregata ssp. weberi	scarlet gilia
Lesquerella fremontii	Fremont's bladderpod
Lesquerella pruinosa	Pagosa Springs bladderpod
Mimulus gemmiparus	Rocky Mountain monkeyflower, budding monkeyflower
Neoparrya lithophila	Bill's neoparrya
Oreoxis humilis	Pike’s Peak alpineparsley
Packera mancosana	Mancos shale packera
Parnassia kotzebuei	Kotzebue's grass of Parnassus
Penstemon absarokensis	Absaroka Range beardtongue
Penstemon caryi	Cary's beardtongue
Penstemon degeneri	Degener's beardtongue
Penstemon harringtonii	Harrington's beardtongue
Physaria didymocarpa var. lanata	common twinpod
Physaria pulvinata	cushion bladderpod
Physaria scrotiformis	west silver bladderpod
Potentilla rupincola	rock cinquefoil, Rocky Mountain cinquefoil
Primula egaliksensis	Greenland primrose
Pyrrocoma carthamoides var. subsquarrosa	largeflower goldenweed

Pyrrocoma clementis var. villosa	tranquil goldenweed
Pyrrocoma integrifolia	many-stemmed goldenweed
Ranunculus grayi	ice cold buttercup
Rubus arcticus ssp. acaulis	dwarf raspberry
Salix arizonica	Arizona willow
Salix barrattiana	Barratt's willow
Salix candida	sageleaf willow, sage willow
Salix myrtillifolia	blueberry willow
Salix serissima	autumn willow
Sanguinaria canadensis	bloodroot
Shoshonea pulvinata	Shoshone carrot
Thalictrum heliophilum	Cathedral Bluff meadow-rue
Townsendia condensata var. anomala	cushion Townsend daisy
Utricularia minor	lesser bladderwort
Viburnum opulus var. americanum	American cranberrybush, mooseberry
Viola selkirkii	Selkirk's violet
Xanthisma coloradoense	Colorado tansyaster
Gymnosperms	
Pinus albicaulis	whitebark pine