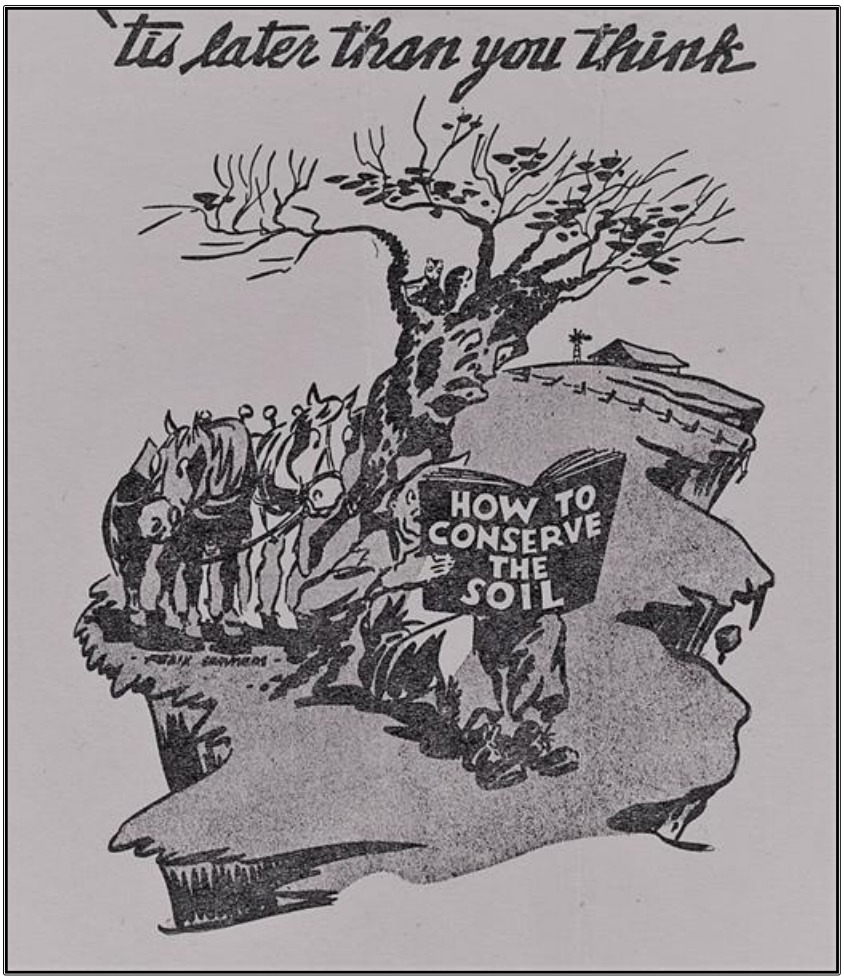

Saratoga-Encampment-Rawlins
Conservation District
101 Cypress Avenue
PO Box 633
Saratoga WY 82331-0633
Phone: 307-326-8156
Fax: 307-326-8572

LONG RANGE LAND USE AND NATURAL RESOURCE MANAGEMENT PLAN

Saratoga-Encampment-Rawlins Conservation District
2022 – 2026

Adopted: ???

PUBLIC COMMENT VERSION: 12-17-21 to 01-31-22

Acknowledgments

We offer our gratitude to those who contributed their insights during the development of this plan. The expertise and advice provided throughout the process was instrumental in producing a superior product. We greatly appreciate the logistical support and cooperation provided by all who were involved. Special thanks and acknowledgment go to the following:

Carbon County:	The recent updates to the Carbon County Natural Resource Management Plan provided a good basis from which to draw upon in updating the 2017 SER Long Range and Natural Resource Management Plan.
David “Tex” Taylor:	University of Wyoming Professor of Agricultural & Applied Economics provided Carbon County economic data and contributed to the socio-economic narratives.
Dick Perue:	Provided historical expertise and granted permission to use historical photos: Bob Martin/Dick Perue Collection -Historical Reproductions by Perue
Karen Budd-Falen:	Developed guidance and provided a template to the Wyoming Association of Conservation Districts in her 2013 Memorandum.
Conner Nicklas	Budd-Falen Law Office. Conner provided input and comments during the plan development.
Wyoming Game & Fish Dept:	Information regarding wildlife in the District in addition to beneficial review and feedback during the development of the plan.

SARATOGA-ENCAMPMENT-RAWLINS
CONSERVATION DISTRICT

PUBLIC COMMENT VERSION: 12-17-21 to 01-31-22

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1. Resolution of Adoption

After resolution of public comments, the Saratoga-Encampment-Rawlins Conservation District will adopt a resolution for the plan and in the final document, it will be included on this page.

2. Introduction

2.1 Wyoming Conservation Districts

The Saratoga-Encampment-Rawlins Conservation District (hereafter District) is one of thirty-four conservation districts in Wyoming operating as a legal subdivision of the state of Wyoming, Wyo. Stat. §§ 11- 16-102(a)(v), 11-16-113(c). Each conservation district is governed by a board of five locally elected supervisors who serve without pay (hereafter Board). These supervisors have the authority to hire and direct staff to carry out the day-to-day operations. By Wyoming state statute three members are rural, one is urban, and one is designated as at large. They are elected to staggered four-year terms. Conservation districts are the only local government, charged specifically by state statute, with natural resource management. District supervisors serve as the grass roots representatives of private landowners and the general public providing leadership and direction in natural resource conservation programs. Accountability for meeting goals and objectives is documented in the District's Annual Plan of Work that specifically identifies Goals and Objectives for the year. The Annual Plan of Work is included in the yearly Annual Report. A copy of the District Annual Report can be obtained from the Office in Saratoga or downloaded from the website, http://www.sercd.org/

2.2 Saratoga-Encampment-Rawlins Conservation District

2.2.1 History

The Saratoga-Encampment-Rawlins Conservation District local government agency was organized in 1945, under Wyoming Conservation District Law, by members of the ranching community. Its charge is to exercise responsibility for the conservation of soil, water, and natural resources within its boundaries. The current expanded District was formed in 1972 to take in all lands and people in an effort to address any natural resource issues people find important. The District is a microcosm of the state. It encompasses the same vast diversity of landscapes, wildlife, and industry. The natural resource issues facing the Board and District resources are just as diverse—wind energy and its impacts, preservation of open spaces, agriculture, and its contribution to the economic stability of the communities within the District, cooperatively providing input to Federal agencies managing public lands for the purpose of multiple use, and conservation issues facing producers, recreationists, and municipal users.

"Develop and direct programs to promote long-term conservation and enhancement of our natural resources while contributing to the economic stability of the District and its residents."
~Saratoga-Encampment-Rawlins Conservation District Mission Statement

The Board and its staff have conducted more than 75 years of conservation work in central Carbon County. It is the largest of three conservation districts in Carbon County. The Board partners with the other Carbon County conservation districts, Little Snake River and Medicine Bow, as appropriate and feasible. Even though District issues have become more complex over the years, the Board mission remains the same: "Develop and direct programs to promote long-term conservation and enhancement of our natural resources while contributing to the economic stability of the District and its residents."

The Board declares its interest in maintaining, protecting, and enhancing soil and water resources within the District, and where applicable, on related public lands. We intend to develop and direct programs to promote

long-term conservation and enhancement of our natural resources while contributing to the economic stability of the District and its residents. Issues of concern connected to soil and water resources such as wildlife resources, vegetation resources, private property rights, and agriculture are included where feasible and appropriate.

2.2.2 General Description

The District runs the length of Carbon County from the Colorado State line north to the Natrona County, Wyoming line and occupies the center of Carbon County, Wyoming (Figure 1).

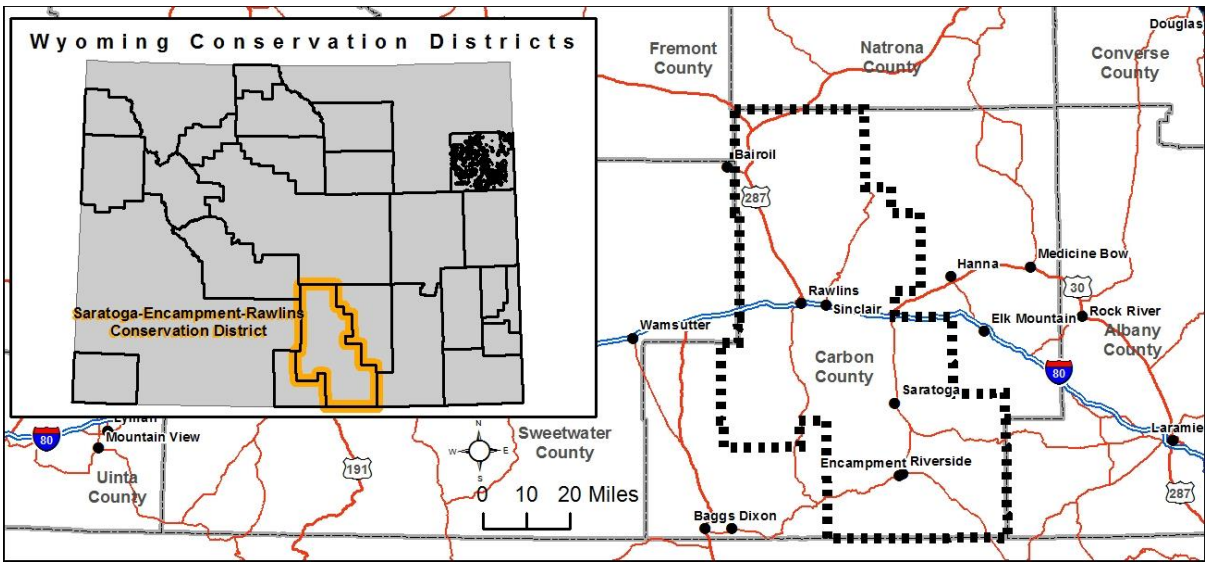

Figure 1: Saratoga-Encampment-Rawlins Conservation District

The District includes approximately 2.7 million acres. Of this total, approximately 37% is privately owned, 57% federally managed, and 6% owned by the State of Wyoming (Table 1).

Table 1: District surface ownership

Surface Ownership	Acres	% of Total Ownership
Bureau of Land Management	1,087,985	39.9%
Private	996,645	36.5%
Forest Service	431,126	15.8%
State	156,449	5.7%
Bureau of Reclamation	29,040	1.1%
Water	25,183	0.9%
U.S. Fish & Wildlife Service	1,468	0.1%
Total	2,727,897	100%

The historical development of the transcontinental railroad through Carbon County established the "Wyoming Checkerboard," with is a 40-mile-wide band (20 miles either side of the Union Pacific Railroad line) of alternating sections of private and federal land. The disproportionate amount of federal land as well as the Wyoming Checkerboard in the District means that any change in federal land management policy also influences private land use decisions, and these policy changes have an even greater effect on the District's economy.

Federal law, in particular, establishes national policies that focus on national interests, rather than local interests. While federal land use and planning decisions may create benefits for state and national citizens outside of the County, they may also transfer a disproportionate amount of the costs and responsibilities to local communities and citizens.

The surface ownership pattern, including the "checkerboard" land pattern, presents a unique set of land management challenges in the District (Figure 2). Some of these challenges include the mutual dependency of the Bureau of Land Management, state, and private landowners when it comes to access, land uses, and land use decisions; water rights usage; and grazing rights. Although land may be privately owned, it may be included in a federally managed grazing allotment where the landowner/permittee is restricted as to how and when the private land can be grazed by a federal land management agency. Timely installation of rangeland improvements on private land is difficult if it is needing installed within a federal allotment.

Federal agencies prefer to manage land in contiguous blocks and, from time to time, have proposed land exchanges in the Wyoming Checkerboard to create contiguous blocks of federal land. Land exchanges may not fully compensate the landowners and may reduce the total private land base in the District.

The Wyoming Eminent Domain Act, Wyo. Stat. 1-26-501 *et seq.*, authorizes the condemnation of land only for public use and only as set forth in state law. Nevertheless, it is possible that eminent domain power may be used to acquire land needed by private corporations for projects deemed to serve the public good, such as electrical transmission lines. *Bridle Bit Ranch Co. v. Basin Elec. Power Co-op*, 118 P.3d 996, 1011-16 (Wyo. 2005). Wyoming condemnation authority is not as extreme as the case of *Kelo v. City of New London*, 545 U.S. 469 (2005) which involved the use of eminent domain to pave the way for a private developer to build urban mixed-use housing and retail on the basis that the local government had determined this was in the city's best interests. Nevertheless, the power of eminent domain should be used sparingly, especially when the ultimate land owner is not a local or state government agency.

Ultimately, cooperative management and communication between the private landowner, Bureau of Land Management, and the State of Wyoming is necessary to foster successful land, water, and natural resource use. This use has both direct and indirect impacts on the local communities and the sustained health of these valuable resources.

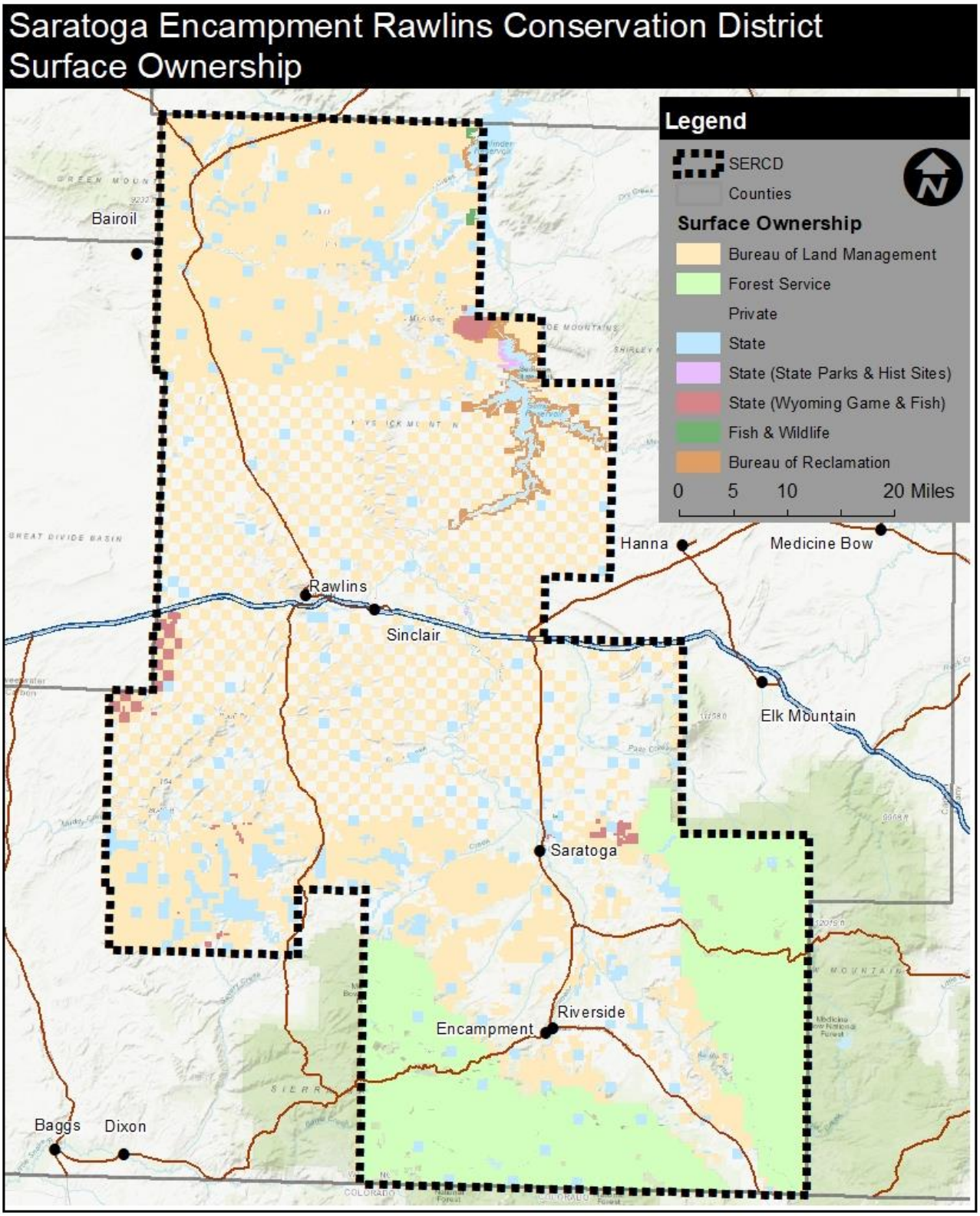

Figure 2: District Surface Ownership

2.2.3 Board of Supervisors (2022)

Arla Strasser – Chair
Dan Mika – Vice Chair
Chris Williams – Secretary
Randy Arnold – Treasurer
Scott Kerbs – Member
Dan Runner – Associate Member
Jack Berger – Associate Member (2007 – 2016 Chairman)

2.2.4 Conservation District Staff (2022)

Joe Parsons – District Manager
Jean Runner – Office Manager
Garrett Pantle – Resource Specialist
Leanne Correll – Education/NEPA Coordinator

2.2.5 Natural Resources Conservation Service Staff (2022)

Mark Shirley – District Conservationist
Luke Paludan – Civil Engineering Technician
Vacant – Soil Conservation Technician

2.2.6 Environmental Conditions

Most of the District is quite arid, and the temperature and precipitation vary with elevation. Elevations range from the 12,000-foot alpine tundra of the Snowy Range to 5,800 feet at the extreme northern edge of the District near Pathfinder Reservoir. The vegetation ranges from alpine to desert and is a result of the climate and growing seasons. The wide range of temperatures and precipitation resulting from occasional violent summer and winter storms, usually coupled with strong winds, creates an environment that is often harsh and unpredictable. Temperatures are quite variable depending on elevation and slope. Recorded temperature extremes within the District are -46°F at Encampment and 100°F recorded at both Saratoga and Muddy Gap. In the mountains, temperatures can range from highs near 89°F to lows of -50°F.

Precipitation in the District averages about 10” annually. In the higher elevations of the Sierra Madre Mountains the precipitation averages over 52” annually. The majority of arable irrigated land in the District receives only about 12” to 18” annually, with most occurring at the lower end of that range. Strong winds, water availability, frost-free period, or growing season, which is about 90 days per year, all limit plant growth.

There are seven 8-digit hydrologic unit (subbasin) watersheds in the District. The dominant watershed in the District is the upper North Platte River. Other watersheds that make up a significant portion of the District are the Great Divide Closed Basin, Sweetwater, and Pathfinder-Seminoe Reservoirs (see Watershed Map on page 113). Small portions of three other watersheds are also within the District boundaries.

The grasslands, sagebrush deserts, riparian corridors, forests, lakes, rivers, streams, and all the areas in between that provide us with room to roam, wildlife to view, and an opportunity to “get away from it all”, are natural resources that everyone values and appreciates. The District is committed to the enhancement, conservation and preservation of these resources that make this part of Wyoming special.

3. Land Use Planning Process and Legal Framework

Locally elected government elected officials have far reaching and important responsibilities to their constituents, described by state statutes as protecting their "health, safety and welfare." That responsibility includes specifically interacting with federal agencies on all federal issues impacting the local community, county, or conservation district(s). To give the locally elected government the strongest voice it can have during this "government-to-government" interaction, local governments can adopt "local land use plans" or "resource plans" to set local policy regarding the use and management of federal lands and the adoptions of federal policies, programs, and other types of federal decision-making. These local land use policies are not zoning and do not regulate the use of private lands. This plan is intended to protect the local citizens' use of and access to federal and public lands and resources.

Federal agencies and departments are mandated by various federal statutes to engage local governments in federal decision-making processes related to federal plans, policies, and programs that will impact the local land use, management of natural resources, the citizens, and the local tax base. The *"Making A Difference in Federal Decision Making, Plans, Policies and Programs – Substantive Participation by Local Governments In Federal Agency Decision Making – Template and Procedures for Adoption of Local Land or Resource Plans"* was used extensively in the development of this Plan. As the Wyoming attorney The September 3, 2013, Memorandum to the Wyoming Association of Conservation Districts, from attorney author, Karen Budd-Falen, notes:

> The adoption of a local land use or resource plan by a local government is a critical tool allowing a local government to have a substantive impact on federal decisions, plans, policies, and programs. In fact, federal agency consideration of a local land use plan, resource plan or "officially adopted policy" plays a key role in the success of a local government engaging as a cooperating agency or with consistency review under the National Environmental Policy Act, coordination under the Federal Lands Policy and Management Act or the National Forest Management Act and in assisting in the Governor's consistency review process.

The National Environmental Policy Act (NEPA) requires all federal agencies to cooperate to the fullest extent possible with state and local governments. The Board has taken an active role in developing working relationships with the various federal agencies through Memorandums of Understanding and seeking cooperating agency status on federal planning documents which impact the District.

Figure 3: A beaver slide stacker in use in the 1940s.

The team with the sweep is to the right of the stack. The plunger that pushes the hay up the beaver slide and over to the man stacking is not shown. Photo provided by Marion Berger.

3.1 Purpose

The primary purpose of this Long Range Land Use and Natural Resource Management Plan (hereafter Plan) is to be a guide to efficiently and effectively use the resources while protecting the environment. This plan was developed based on issues scoped to the public and was modified by the Board and staff.

As required by the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA), the National Forest Management Act (NFMA) and other federal statutes, this Plan will be applied to federal regulatory frameworks that govern the management of public land in regard to the rangeland, soil, water, wildlife, air, energy, and other resources. Federal law requires federal agencies to give meaningful consideration to policies asserted in plans developed by local governments, including counties and conservation districts.

This updated five-year Plan identifies the Board's policies to facilitate, protect, and preserve the utilization and conservation of natural resources on public lands. Board policies also identify the Board's stance on natural resources impacted by regulations with the potential to impact private lands. These policies will support access to and wise use of natural resources on federal land; protect private property rights; protect and enhance the customs, cultures, and the economy; protect the tax base; assure the well-being of the people; and provide for the public health, safety, and welfare of the county citizens.

Adoption of this plan will strengthen the Board's ability to achieve Cooperating Agency status, coordinate with federal land management agencies, our commitment to work within the NEPA framework, and will provide direction and policies for "consistency review purposes". Cooperating agencies assist the lead federal agency in development of Environmental Impact Statements (EISs). Therefore, a secondary purpose for the Plan is to compel federal agencies to consider local strategies and coordinate with the Board and staff as required by federal law, regulation, and policy.

The Board purposely developed this plan in order to coordinate with federal land management planning and requests early notification of any opportunities for cooperating agency status by all federal agencies as a part of the National Environmental Policy Act (NEPA) process. When the Board is participating in a NEPA process, the policy statements can be thought of as the "desired future conditions." The Board asserts its interest and uses this Plan as a formal request to all federal agencies to be included as a Cooperating Agency.

The final purpose of this Plan is to identify issues and activities and serve as a broad outline identifying long range opportunities for the management and conservation of resources within the District for the next five years. The Plan lists the Board's goals and objectives to guide and prioritize work while participating in the federal land planning and NEPA processes to the fullest extent. The Plan will function as a practical guide for the planning and accomplishment of work by the Board, its cooperators, and associated agencies.

The Plan is available for public inspection and filed with County registrar of rules (Carbon County Clerk). The Plan reflects input from the public, Federal and State agencies, organizations, county commissioners, and legislators.

3.2 Local "Land Use Plan" Defined

When people think of local "land use plans," they typically have in mind the general planning document that counties use to determine zoning, public services and facilities, transportation, and the like. But these first types of plans apply to land that is largely within the county's jurisdiction and are based upon specific state authorization. By contrast, many rural counties and conservation districts have also officially adopted a

separate land use plan or natural resources management plan that contains policies relating to the surrounding federal land and reflects the local government's position on federal decisions. This second type of local plans also describe the local economic or tax base as well as local "customs and cultures" which the federal agencies are required to consider. It is this second type of planning that is being undertaken by the Board.

For those unfamiliar with local land use planning participation for federal decisions, the very idea may seem odd. Local governments do not have jurisdiction over the federal government, and local land use plans cannot require federal land managers to take specific actions. For example, a conservation district cannot dictate in its land use plan how many grazing animal unit months (AUMs) will be allocated for a given grazing allotment, or that wild horse populations shall be managed below appropriate management levels (AML) to provide more forage for livestock grazing. These decisions are within the authority of the federal agency. However, rural communities' socioeconomic wellbeing, health, safety, and culture can be strongly impacted by the management of the surrounding federal or public lands. Moreover, Wyoming law provides that conservation districts oversee the economic, social, general wellbeing of the people and natural resources that are within their jurisdictions and provide for the ongoing stability and health of soil and water resources. The reasons a local government would go through a process to develop this land use plan is to ensure the local socioeconomic wellbeing, the culture and customs of the constituents, and natural resource health are considered in federal decisions.

3.3 Plan Methodology

This Plan considers the history/customs/culture of the resource, current conditions of federal resources, Board desired conditions (policies) for each resource. For federal resources in the District, this Plan addresses the following:

- **Policies.** Describes the desired conditions in the form of policy statements regarding the use, development, and protection of each resource. Policies address the question, "What does the Board want for and from this resource?" The policies also give some direction to federal agencies as to "How the Board would like to see the desired conditions achieved."
- **Local Support Data.** The support information addresses the question, "What is the state of the resource now?" This section does not describe how the Board interprets or proposes to use a particular resource or topic. This section describes how federal agencies are interpreting federal laws, guidance, and handbooks. The support information for each of the resource chapters includes historical information on the resource and how that resource is important to the custom and culture of the District citizens. The support information includes background and detailed information on the resource, including qualitative as well as quantitative information with an evaluation of the importance of the resource to the District, location, quality, and size, as well as a map of the resource, where appropriate. The support information relies on the best data available at the time of publication. The District encompasses 53.5% of Carbon County, Wyoming and is well represented by county demographic, statistical, and economic data. Data used throughout the Plan as local support data is mostly based upon county data which is more readily available than data specific to the boundaries of the District. Statistical information was gathered from many sources and Geographic Information System (GIS) datasets. Specific information sources are identified throughout the Plan.

The Board has an ongoing interest in understanding and documenting the local stakeholder key resource issues. This Plan considers survey and census information from 2008, more refined and specific special interest data regarding energy development from 2009, and discussion with the Board and staff throughout Plan development. The key resource issues addressed in this Plan are the result of wide-ranging public input and Board priorities.

The Board held two public meetings in 2008—one on May 28 in Saratoga and one on May 29 in Encampment—to garner public comments and concerns regarding potential impacts of energy development and other issues important to the Board and public. During each meeting staff presented information about the Encampment watershed study completed in 2008 and potential issues associated with energy resource development in similar communities. At the end of each meeting, a survey was distributed to attendees to gain input from both the public and local government officials. A total of 72 participants provided comments at the meetings; 54 respondents were members of the public, and 18 were local government officials. The survey was a census of local governments, including members of the Saratoga, Encampment, and Riverside Town Councils, the Carbon County Commissioners, and Board. In addition, the survey was published as an insert in local newspapers and a version of the survey was posted online. The public was encouraged to either return the survey via mail or submit the online version.

Survey respondents were asked to select their top ten issues of concern from a list of 31 and then to rank their choices in order of importance. These rankings were then used to identify those issues most important to all survey participants (see Appendix A). The 2008 survey respondents indicated an overwhelming acceptance of moderate-intensity energy development within the region. However, respondents also indicated concern about the protection of important social and natural resources within the study area. For summary purposes, scores across several topics from the survey are combined within an index for comparison among participants. Results indicated that water quality, socioeconomic impacts, working landscape preservation (grazing), and wildlife habitat were among the topics of primary concern.

In 2009 fifty participants answered questions on resource priorities and their interest in resource priorities (Figure 4). In general, the consistent key resource issues of working landscapes, wildlife, water quality and quantity topped each survey. Informal discussions with Board staff support the survey information. The more recent data and discussions indicate a more cautious approach to energy development, particularly wind energy. The highest individual score on questions regarding wind energy supported the statement “wind energy should only be developed after consideration of natural resource conservation”.

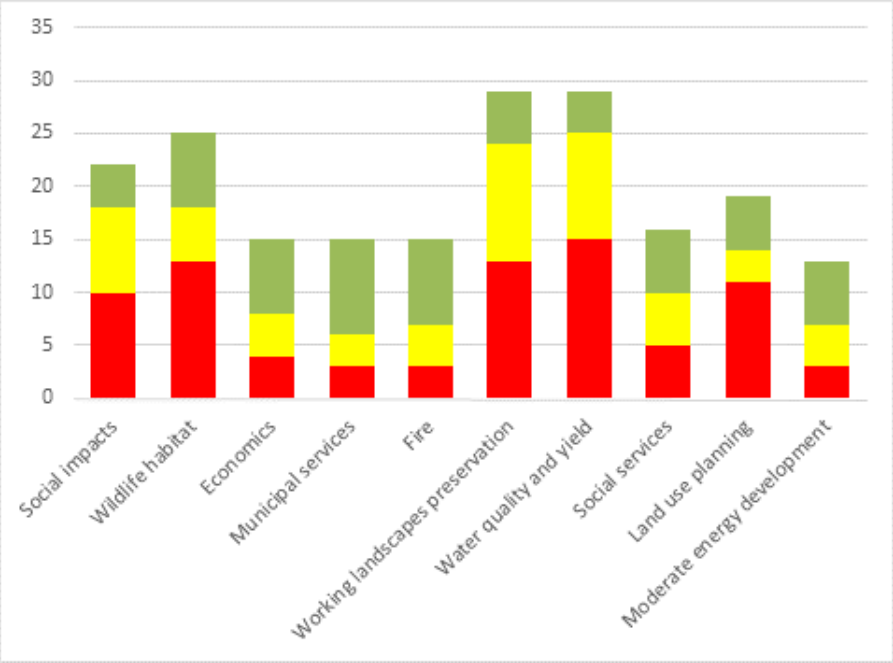

Figure 4: The importance of issues for 2009 survey participants. Red indicates issues rated as most important, yellow is somewhat less important, and green is of lesser importance.

3.4 Statutory Requirements and Legal Authorities

3.4.1 Wyoming Conservation District Statutory Authority

Wyoming's Conservation Districts were created in 1941 and Wyoming Conservation District Law is codified in Article 11, Chapter 16 of the Wyoming statutes (District Law). District Law describes, among other matters, the powers, purposes, and duties of a conservation district at WY Stat § 11-16-122. The law clearly states that conservation districts are legal subdivisions of the state of Wyoming. Wyo. Stat. §§ 11- 16-102(a)(v), 11-16-113(c). In Wyoming, conservation districts are not "home rule" political subdivisions. Therefore, a conservation district's powers are limited by its statutes, and they do not have any power other than that expressly granted by the constitution or statutes, as well as powers reasonably implied from the expressly granted powers.

District Law provides authority for conservation district land use or resource plans. Separately, Wyoming Conservation Districts have authority to develop long term strategic plans and watershed plans. See Wyo. Stat. §§ 11-16-103(b), 11-16-122(b)(v)(xvi)(xvii). Wyoming Statute (W.S.) § 11-16-122(b)(xvi) and (xix) gives conservation districts authority to:

> (xvi) Develop and implement comprehensive resource use and management plans for range improvement and stabilization, conservation of soil, water, and vegetative resources, control and prevention of soil erosion and for flood prevention or the conservation, development, utilization and disposal of water within the district, which plans shall include range management provisions and shall specify in detail the acts, procedures, performances and avoidances necessary or desirable to carry out the plans, including the specification of engineering operation, fence and stockwater developments,

> methods of cultivation, the growing of grass and other vegetation, cropping and range programs, tillage and grazing practices, and changes in use of lands.
>
> (xix) Manage, as agent of the United States or any of its agencies, and enter into agreements with the United States or any of its agencies, or this state or any of its agencies, to effect cooperation with the United States or any of its agencies under United States Public Law 566 approved August 4, 1954, or amendments thereto, in connection with the acquisition, construction, operation or administration of any land utilization, soil conservation, erosion control, erosion prevention, flood prevention projects, conservation of water, water utilization, disposal of water in watershed areas and other water projects within its boundaries.

Also, W.S. § 11-16-122(b)(xxvi) empowers a conservation district to:

> Make, amend, and repeal rules and regulations not inconsistent with this act, to implement its purposes and powers.

W.S. § 11-16-103. Legislative declarations and policy provide the reasons the Wyoming Legislature Enacted Conservation District law are as follows:

> (a) It is hereby declared that the farm and grazing lands of Wyoming are among the basic assets of the state; that improper land use practices cause and contribute to serious erosion of these lands by wind and water; that among the consequences which would result from such conditions are the deterioration of soil and its fertility and the silting and sedimentation of stream channels, reservoirs, dams, and ditches; that to conserve soil, and soil and water resources, and prevent and control soil erosion, it is necessary that land use practices contributing to soil erosion be discouraged and that appropriate soil conserving land use practices be adopted.
>
> (b) It is hereby declared to be the policy of the legislature to provide for the conservation of the soil, and soil and water resources of this state, and for the control and prevention of soil erosion and for flood prevention or the conservation, development, utilization, and disposal of water, and thereby to stabilize ranching and farming operations, to preserve natural resources, protect the tax base, control floods, prevent impairment of dams and reservoirs, preserve wildlife, protect public lands, and protect and promote health, safety and general welfare of the people of this state.

3.4.2 The National Environmental Policy Act (NEPA)

The 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 spends any amount of money for almost any action, NEPA compliance is required. 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 goal of the local government.

First, the local government can use its local land use or resource plan as part of the federal agency's "consistency review" process. Under this provision, if the federal agency, while writing an EIS, receives a local land use or resource plan, the 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)).

The NEPA also requires that copies of comments by State or local governments must accompany the EIS or Environmental Assessment (EA) throughout the review process (42 U.S.C. § 4332(c)). All comments submitted must be attached to the Final EIS for a project and maintained as a part of the project record for all EAs (40 CFR 1503.4(b)).

Second, local governments can separately participate in the NEPA process as a "cooperating agency" (40 C.F.R. § 1508.5). Pursuant to NEPA, an applicant for cooperating agency status must both (1) be a locally elected body such as a conservation district board of supervisors; and (2) possess "special expertise." A local government's special expertise is defined as the authority granted to a local governing body by state statute. Wyoming statutes provide conservation districts the special expertise to "cooperate, including but not limited to representing the conservation district as a cooperating agency with special expertise as provided by the NEPA and in federal land planning implementation. . ." Wyo. Stat. § 11-16-122(b)(viii).

For example, Wyoming conservation districts have state statutory authority related to the conservation of soil and water resources, control and prevention of erosion, conservation, development, utilization, and disposal of water, to stabilize the ranching or farming industry; preserve natural resources, protect the tax base, control floods, preserve wildlife, protect the public lands, and protect and promote the health, safety and general welfare of the people of the State. See Wyo. Stat. § 11-16-103(b).

The Board requests that all federal actions occurring within the District requiring NEPA documentation and processes include and invite the Board to be a part of that process as a Cooperating Agency. The Board at its discretion, within its authority and resources available will consider the federal invitation and respond in writing to those projects which we feel we can be a productive team member. In addition, Wyoming statutes also state:

> When representing a conservation district as a cooperating agency in matters related to the National Environmental Policy Act and in federal land planning, implementation and management actions, supervisors of a conservation district shall be deemed to have special expertise on all subject matters for which they have statutory responsibility as provided in W.S. 11-16-122, including but not limited to all subject matters directly or indirectly related to stabilization of the agriculture industry, protection of natural resources including but not limited to data and information, conservation of soil and water resources, control and prevention of soil erosion, flood prevention or the conservation, development, utilization and disposal of water within the district. W.S. § 11-16-135.

Thus, Wyoming statutes clearly provide conservation districts the special expertise to act as a "cooperating agency" in the NEPA process.

3.4.3 Council of Environmental Quality (CEQ)

In conjunction with the enabling legislation, the Board policy is to integrate to the maximum extent allowable the Council of Environmental Quality (CEQ) regulations for implementing the NEPA that pertain to local governments regarding coordination and in particular the Cooperating Agency directives noted in the Code of Federal Regulations (CFR) 1501.6. We include the CEQ language below to continually remind our federal partners of their responsibility.

§Sec. 1501.6 Cooperating agencies. a) The lead agency shall:

1. Request the participation of each cooperating agency in the NEPA process at the earliest possible time.

2. Use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise, to the maximum extent possible consistent with its responsibility as lead agency.
3. Meet with a cooperating agency at the latter's request.

The Board asserts it will fulfill its statutory requirements as provided in WY Stat § 11-16-122(b) (vii), (xvi), and (xx).

3.4.4 Federal Land Policy and Management Act (FLPMA)

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 (43 U.S.C. § 1712):

> To the extent consistent with laws governing the administration of the public lands, coordinate the inventory, planning and management activities for such lands with the land use planning and management programs of other Federal departments and agencies of the State and local governments within which the lands are located . . . considering the policies of approved State and tribal land resource management programs.

FLPMA both provides the directive that the BLM engage local governments in coordination, as well as specific instructions to the BLM as a means to accomplish "coordination." To achieve coordination:

- To the extent practical, the BLM must stay apprised of local land use plans (43 U.S.C. § 1712(c)(9)).
    - The BLM must assure that local land use plans germane to the development of BLM land use plans are given consideration.
    - To the extent practical, 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.

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: (43 U.S.C. § 1712(c)(9)).

> Land use plans of the Secretary [of the Interior, BLM] 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.

In other words, FLPMA requires both "coordination" and "consistency review." According to BLM's (2012) "Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners," 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. FLPMA's consistency review requirement states that 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.

Finally, FLPMA requires that the BLM also provide for a Governor's consistency review as part of the land use planning process (43 C.F.R. § 1610.3-2(e)).

3.4.5 The National Forest Management Act (NFMA)

NFMA, which governs the U.S. Forest Service (USFS), requires the agency to "coordinate". The NFMA requires:

> [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.

3.4.6 Governor's Consistency Review Process

State Governors are entitled to a separate consistency review of BLM and land use plans, revisions, and amendments as provided by FLPMA. Title 43 C.F.R. § 1610.3-2(e) provides an opportunity for the Governor to review all proposed plans 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.

3.5 Plan Process

The 2017 Saratoga-Encampment-Rawlins Conservation District Long Range Plan was the basis for updating this Plan and the recently updated July 6, 2021, Carbon County Natural Resource Management Plan was referenced in the development of this plan. A Board member and staff served on the Carbon County steering committee helping guide and develop the County's plan.

The draft Plan was released for public comment for 45 days beginning on December 17, 2021 and ending on January 31, 2022. Written comments received during the public comment period were incorporated into the final plan as appropriately determined by the Board. A public hearing was held during the public comment period on January 19, 2022, allowing the public to participate and contribute to the plan as well as ask questions regarding the plan. The public hearing was held at the Conservation District Office in Saratoga. Public comments received during the public comment period and the responses to those comments can be found in Appendix D. A resolution adopting the final plan was approved at the February 16, 2022 Saratoga-Encampment-Rawlins Conservation District Supervisor meeting.

3.6 Amending the Natural Resource Management Plan

This plan can be amended following the same process for public involvement and adoption as described in the previous section. The Board updates its plan every five years.

3.7 District Goals, Objectives & Land Management Policies

This Plan provides the Board guidance as it functions as a Cooperating Agency or during the coordination process with the Federal Agencies. We request the federal agencies to Communicate, Collaborate, Cooperate, and Consult with us, Carbon County, the various departments within the State of Wyoming, and the Governor's Office. Topics to address include rangeland health and wildlife habitat, fence, water, and forage related conflicts, and to develop and implement long-term management strategies that resolve conflicts while maintaining healthy and sustainable rangelands and forests.

3.7.1 Goals

The basis for Board work is the Wyoming Conservation Districts Law as discussed in Sections 2.1 and 3.4.1. Based on statutes and activities the supervisors deem necessary. The seven Board goals identify what the Board strives to accomplish through conducting actions as outlined by the respective objectives. These goals and objectives will guide the development of yearly Annual Plans of Work.

1) **Maintain accountability of all public funds and provide professional service to Saratoga-Encampment-Rawlins Conservation District residents within the constraints of our statutory authority in a timely and responsible manner.**
    a. Provide training and professional development to enable staff and board members to make informed decisions, develop policy and convey a consistent message.
    b. Pursue funding sources to expand and fulfill conservation needs within the District.
    c. Develop and adopt a fiscally responsible annual budget and submit it electronically to Wyoming Department of Audit and the Carbon County Clerk. W.S. 9-1-507(a)(viii)
    d. Provide for public comment by Notice of Budget Hearing. W.S. 16-12-406(c)
    e. Assessment of the Board's finances shall be subject to an annual audit in accordance with Wyoming Department of Audit requirements. W.S. 9-1-507(a)(iii)(A-D)
    f. Plan for emergency and capital expenditures for specified purposes in accordance with the Board's Reserve Policy. W.S 16-12-404

2) **Promote maintaining or improving natural resources within the District including but not limited to rangeland and forest management, wind and soil erosion, watershed health, engineering operations, flood prevention or the conservation, development, utilization, and disposal of water.**
    a. Promote forest, rangeland, and watershed health through the conservation of soil and water and the responsible use of natural resources to result in resilient landscapes, productive soils, optimum vegetation, and improved habitat.
    b. Encourage future timber harvest, thinning, and fuel reduction projects on federal and state managed lands as a necessary means to reduce the potential for unnaturally intense wildfires and to restore vibrant and healthy ecosystems to these areas.
    c. Encourage active management of our forests and rangelands to ensure healthy and vibrant forests and rangelands for current and future generations.
    d. Encourage land managers and land owners to seek technical assistance to mitigate surface disturbance to facilitate soil conservation and re-establishment of native or other desired vegetation.
    e. Continue working with NRCS and other partners to obtain a Soil Survey in Carbon County.
    f. Establish tree planting and living snow fences for natural resource conservation addressing erosion control, livestock shelter, wildlife habitat, etc.
    g. Advocate for responsible use and management of public lands to enhance their function and benefits for multiple use, sustained yield, and prevention of natural resource waste.
    h. Monitor present rangeland sites, install new transects, analyze data, and develop trends.
    i. Work with local, state, and federal partners along with private land owners to implement Best Management Practices (BMPs) and improvement projects.
    j. Consult with local, state, and federal partners to provide special expertise in the conservation of soil, water, and natural resources.

3) **Provide leadership to maintain or improve the quality of water within all watersheds in the District and promote the conservation and availability of water for all beneficial uses.**
    a. Support maintenance, protection and/or enhancement of existing water quality in the context of watershed management and development.
    b. Provide proactive support for conservation practices and programs to beneficially conserve, expand, and develop the water resources of the District.
    c. Provide technical assistance and cost-share dollars for the design and implementation of wells, windmills, solar pump systems, livestock and wildlife drinking tanks, and irrigation conveyance structures.
    d. Watersheds must be managed for water quality and quantity.

e. Protect all water rights as spelled out in Wyoming Water Law.

4) Advocate for private property rights and actions to maintain working ranches.

a. Encourage Federal planning-level and project-level NEPA documents to include proper characterization and analysis of the area, recognizing the benefit of ecosystem services provided by working ranches adjacent to or nearby public lands.
b. Engage in NEPA planning to protect private and state property rights in conformance with the United States and Wyoming Constitutions.
c. Educate and inform our collaborative partners about private property rights.
d. Educate landowners on their rights as they deal with split estate – surface ownership being different than mineral ownership. Assist landowners, if requested, in working to develop surface use agreements with mineral owners/leases.

5) Provide natural resource conservation education opportunities to all ages of District residents.

a. Provide technical information to the community on natural resources, land management practices, and funding programs.
b. Promote natural resource education programs in the schools by providing educational lessons that address resource issues and work toward the standards established by the Wyoming Department of Education.
c. Expand the opportunity for outdoor, place-based, and hands-on natural resource learning.
d. Inform policy makers of local issues, concerns, and opportunities.
e. Seek and incorporate public input for program development, assessment, and implementation.

6) Promote the sustainability of healthy wildlife and fisheries and their habitats that contribute to the economic stability of the District's residents.

a. Encourage wildlife management practices that sustain wildlife resources and habitat without measurably degrading other multiple use activities or private property rights.
b. Encourage fisheries management practices that sustain fishery resources and habitat without measurably degrading other multiple use activities or private property rights.
c. Promote and coordinate water distribution system installation and infrastructure improvements to benefit all wildlife and livestock health and welfare within the District.
d. Promote the use of wildlife escape ramps in livestock watering tanks.
e. Participate in local wildlife working groups (i.e., PVHP, PVMDI, SCSGWG, etc.)
f. Work with private landowners and public land managers to fund and implement practices/programs that enhance or increase habitat.

7) Carry out conservation district statutory authorities and promote conservation district Board policies when serving as a cooperating agency with special expertise.

a. Request Cooperating Agency status and coordinate with agencies at the earliest time in the planning process.
b. Participate as a Cooperating Agency with special expertise as provided by the National Environmental Policy Act and W.S. 11-16-135 in federal land planning and implementation.
c. Provide comment(s) for land use planning affecting the District and its residents in order to effectively represent and protect the District's natural resources, custom, culture, economy, and general welfare.
d. Participate during the Consistency Review process as appropriate for the Board's purposes,
e. All resource management plans and land use practice modifications proposed by governing agencies premised on water quality and quantity issues shall be coordinated through the Board and shall be consistent with the protection and preservation of private property rights.

f. Develop, implement, and adopt a comprehensive resource use and management plan pursuant to W.S. 11 16 122(b)(xvi) allowing the Board to coordinate with federal agencies as provided in the Federal Land Policy and Management Act of 1976, the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the national Forest Management Act of 1976 and any other federal statute which provides for coordination with local governments and federal regulations adopted pursuant to those acts.
g. Review subdivision site areas and plans within the District and make recommendations on soil suitability, potential soil erosion during and after construction, potential flooding or wetland concerns to the Carbon County Commissioners/Carbon County Planning Office as clarified in 18-5-306 (a)(xii)(B)(b) of the Wyoming State Statutes.

3.7.2 Policies

To develop broad issue-based policies, this Plan recognizes those priority issues of concern within the following list of resource area categories. Current specific policies of the Board are provided for each resource area, recognizing that significant programmatic overlap occurs. For example, education is a necessary component of all resource area categories to varying degrees.

- Agriculture
- Air Quality, Climate Change & Noise
- Custom/Culture/Heritage/Paleontological
- District Operations/Education
- Ecosystem Services
- Expectations (Cooperation, Credible Data, Private Property Rights)
- Land Use and Realty, Special Designations & Visual Resources
- Mineral and Energy Resources
- Recreation
- Socio-economics & Public Health and Safety
- Soils
- Transportation
- Vegetation – General, Noxious Weeds & Other Invasive Plants
- Vegetation – Silviculture, Fire & Fuels (Conservation Forestry)
- Vegetation – Rangeland Management & Rangeland Health
- Water/Hydrology Resources
- Wildlife & Fisheries
- Wild (Feral) Horses & Estray Livestock

4. Agriculture

4.1 Desired Conditions

Policy Agriculture #1: Ranching and agriculture are retained as the preferred land uses in rural areas and shall be maintained as a viable important component of the economy, custom, and culture within Carbon County.

Policy Agriculture #2: Federal agencies shall make decisions that maintain and enhance agriculture in the area, especially those working landscapes and hydrologic resources that provide economic, environmental, social, aesthetic, and wildlife values.

Policy Agriculture #3: Federal agencies should ensure agriculture custom, culture, and the value they provide to rural communities are preserved in any decision that is made.

Policy Agriculture #4: Federal actions affecting agriculture are made in consultation with the Saratoga-Encampment-Rawlins Conservation District.

Policy Agriculture #5: Agricultural operations on private and state lands neighboring federal lands are protected from impacts as a result of federal actions, decisions, or regulations.

Policy Agriculture #6: Federal agencies should work with local agricultural producers, Conservation Districts, and Counties to ensure mitigation is done properly and locally.

Policy Agriculture #7: Federal agency actions shall be consistent with Right to Farm laws, to the extent applicable. Right to Farm laws shall be considered when coordinating on federal land use decisions.

Policy Agriculture #8: Any agricultural property damage, crop loss, or livestock injury/loss caused by an escaped prescribed burn, unsuccessful fire suppression efforts, or damage caused by government agency action, resulting in economic loss in the Saratoga-Encampment-Rawlins Conservation District shall be considered justification for economic compensation and restoration by the responsible agency to the impacted property owner at current market values.

Policy Agriculture #9: Federal agencies should support and expand appropriate and properly managed grazing on federal lands.

Policy Agriculture #10: Federal and state agencies should encourage agricultural operations and promote their sustainability through and in all decisions made.

Policy Agriculture #11: Indirect impacts to agriculture shall not be undervalued or understated in every National Environmental Policy Act analysis.

4.2 Local Support Data

Agriculture is the foundational building block of Wyoming, Carbon County, and the District. Data used in this section as local support data is based upon county data which is more readily available than data specific to the boundaries of the District. The value added to Wyoming's economy by the agricultural sector was $1.83 billion in 2019 and has been above the $1 billion threshold since 2003. Of that total, animals and animal products accounted for $1.13 billion, crops totaled $419 million, and farm-related income accounted for $288 million. (USDA 2020) Wyoming ranks 11th in the nation for total land in farms and ranches (USDA 2020). Carbon County ranked second in Wyoming in 2020 for all cattle. The average rate for grazing cattle in Wyoming has

gone from $14.80 in 2005 to $22.50 in 2019; compared to $13.70 to $19.60 on average in the eleven western states. The District is clearly an important contributor to Wyoming's agricultural economics.

The following information about the agricultural economy in Carbon County is compared to the State of Wyoming, which is a more meaningful comparison for land use economics than comparing Carbon County to the U.S. as a whole. The US Census of Agriculture for 2017 reports total market value of agricultural products sold including direct sales in Carbon County, Wyoming decreased 6.8% from $78,578,000 in 2012 to $73,241,000 in 2017. Table 2 shows that, in Carbon County, the average farm size is over three times the size of the average farm in the state of Wyoming (Census of Agriculture, 2017). The percent of land area dedicated to farming is now about 8.5% larger for Carbon County than for the state as a whole which represents a 10.5% change in the past 5 years.

Table 2. Number and Average Size of Operations, Carbon County and Wyoming, 2017

Number of farms and ranches – Carbon County	345
Total acres in farms and ranches – Carbon County	2,811,832
Average size of farm or ranch in Carbon County	8,150
Average size of farm or ranch in Wyoming	2,430
Approximate Percent of Land Area in agriculture – Carbon County	54.8%
Approximate Percent of Land Area in agriculture – Wyoming	46.3%
Value of land and buildings (per farm) – Carbon County	$4,486,393
Source: 2017 Census of Agriculture	

In 2017, Carbon County had 345 farms and ranches, which was an increase from 2012 when there were 319. The total acres in farms and ranches increased by just over 18.4% yet the estimated market value of the land and buildings only increased by 12%.

There is a great deal of interest in preserving ranches as working landscapes along with their rural communities. Planners, foresters, range conservations, ecologists, botanists, and hydrologists have given serious thought to the important balance of assembling a viable economic livelihood with an understanding and appreciation for the natural world. The Board strives to put that concept into practice.

Table 3 shows that cropland makes up a smaller percentage of the total land in farms in Carbon County than in the state as a whole, while permanent pasture and rangeland makes up a bigger percentage of the total land in farms.

Table 3. Percentage of Land in Farms by type in 2017

	Carbon County	Wyoming
Cropland	5%	9%
Woodland	2%	2%
Permanent Pasture & Rangeland	92%	89%
Other	1%	1%

"Ranch land generally looks natural and can maintain many ecological processes depending on size and practice" states Brunson and Huntsinger (2008). They go on to say, "the public may view ranch land as akin to a park or preserve, with inherent public values that demand access and protection, while the rancher is equally if not more concerned about maintaining control of the property."

Some of the most influential research on the ecological value of ranches has been by Richard Knight and colleagues (Maestas et al. 2001, 2003; Lenth et al. 2006) who found that ranches can be more significant for protecting native biotic communities than even nature preserves. The size of the ranch can also be a contributing factor (Table 4).

Table 4. Farms by Size, Carbon County, 2007, 2012, and 2017

Size	2007	2012	2017
1 to 9 acres	12	16	29
10 to 49 acres	35	36	36
50 to 179 acres	55	45	72
180 to 499 acres	30	31	40
500 to 999 acres	23	38	21
1,000 acres or more	132	153	147
Source: 2017 Census of Agriculture			

The US Census of Agriculture defines land in farms and ranches as an operating unit that includes land owned and operated as well as land rented from others. There is one important exception though; all grazing land, except land used under government permits on a per-head basis, is included as 'land in farms' as long as it is part of a farm or ranch. This means it is possible to be identified as a ranch or farm with fewer acres than are actually required to run the operation. Ranchers often need to move their grazing cattle, for example, to an allotment of public land on a seasonal basis. Even though they are using the public land for private livestock, the allotted public land is not included in their farm or ranch acreage total.

Brunson and Huntsinger (2008) describe working ranches as a "means of private rangeland conservation because they can safeguard ecosystem services, protect open space and maintain traditional ranching culture." Federal seasonal grazing leases are vital to the sustainability of many ranches in the District.

Farm employment is 4.8% of Carbon County's total employment which is slightly greater than Wyoming's farm employment at 3.6%. (U.S. Department of Commerce, 2020). Carbon County average farm wages of $37,919 in 2020 have gone down from the $39,607 average in 2014. (U.S. Department of Labor, 2021) These figures do not include farm proprietor income.

Figure 5:. Farm proprietors as a percentage of farm jobs in Carbon County, 1970 to 2019, shows that farm proprietors has increased since 1970 with a peak in 2007 in Carbon County (U.S. Department of Commerce, 2020). In 2019, over half of all farm jobs were farm proprietors, whereas in 1970 just over 30% of farm jobs were proprietors. Carbon County's employment share of farm proprietor employment in 2019 was just 2.5% while Wyoming's was 2.6%.

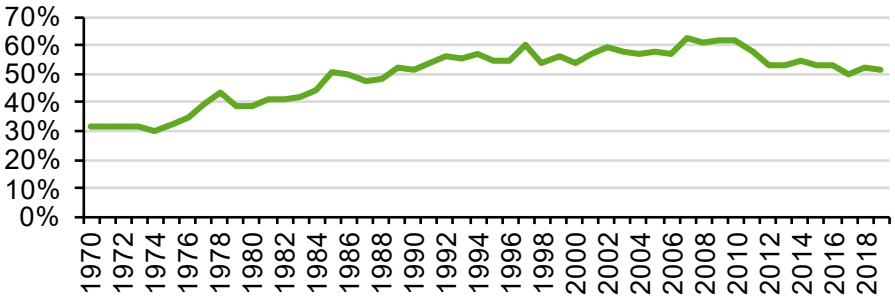

Figure 5:. Farm proprietors as a percentage of farm jobs in Carbon County, 1970 to 2019

Figure 6 shows that Carbon County has a higher percentage of farm earnings as a percent of total earnings than does the state.

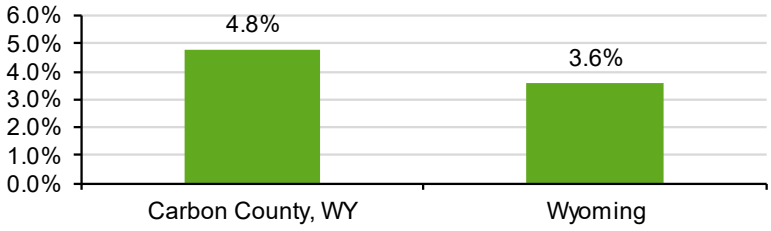

Figure 6:. Farm earnings as a percent of total earnings in 2019 (U.S. Department of Commerce, 2020)

Figure 7 shows that employment in farming peaked for the state in 1983, hit a low point in 2006 and almost recovered to 1970 levels by 2014. By contrast, Carbon County's peak employment in farming during this time period was in 1970, its low point was in 2006 and it has recovered some by 2019 but only to 65% of 1970 levels. Agricultural employment in most parts of the U.S. has been declining for most of the last century largely as a result of mechanization and other efficiencies of scale. Not all locations have lost or attracted farm employment at the same rate. An index makes it clear where the rate of farm decline or growth has been the fastest. Lines below 100 indicate absolute decline while those above 100 show absolute growth. The steeper the curve, the faster the rate of change. There are many factors that have influence on agriculture employment but drought and market price are the primary factors.

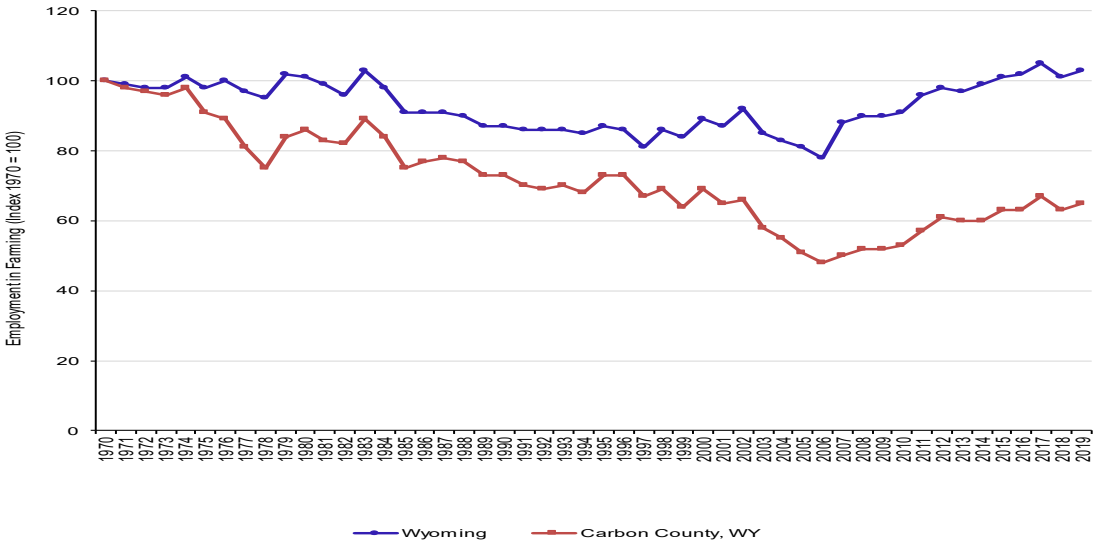

Figure 7: Trends in farming employment, 1970 to 2014 (U.S. Department of Commerce, 2020)

5. Air Quality, Climate Change & Noise

5.1 Desired Conditions

Policy Air Quality, Climate Change & Noise #1: Beneficial uses, such as prescribed burning, wood-burning for heat, historical agricultural practices, and other established activities within the custom and culture of the Saratoga-Encampment-Rawlins Conservation District are allowed to continue.

Policy Air Quality, Climate Change & Noise #2: Federal agencies should acknowledge that wood burning for heat is a "necessity of life" for Saratoga-Encampment-Rawlins Conservation District's citizens and should be maintained as an acceptable activity.

Policy Air Quality, Climate Change & Noise #3: Saratoga-Encampment-Rawlins Conservation District supports the promotion of clean air practices and limiting air pollution.

Policy Air Quality, Climate Change & Noise #4: Federal, state, and local agencies should work together to educate all stakeholders involved to develop best management practice concepts and plans to protect air quality.

Policy Air Quality, Climate Change & Noise #5: Clean air is vital and federal/state management actions are conducted to maintain clean air without expansion of regulations.

Policy Air Quality, Climate Change & Noise #6: Federal agencies should implement best management practices and take aggressive efforts with forest management including but not limited to prescribed burning, forest thinning, pruning, and removal of brush and insect-killed trees. The goal should be to decrease the size and impacts of wildfires to reduce wildfire impacts that protect air quality.

Policy Air Quality, Climate Change & Noise #7: Federal agencies shall evaluate economic impacts to the Saratoga-Encampment-Rawlins Conservation District (District) when considering management or enforcement decisions regarding clean air. If the negative impacts to the District's economy outweigh the positive effects to local clean air, then the management, enforcement, or alternative should not be utilized.

Policy Air Quality, Climate Change & Noise #8: Federal agencies should require dust mitigation plans and standards for all surface disturbing activities as defined in the 2008 Bureau of Land Management Rawlins Field Office Resource Management Plan.

Policy Air Quality, Climate Change & Noise #9: Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered.

Policy Air Quality, Climate Change & Noise #10: Climate change analysis should occur on a regional level; the region should be identified through consultation and coordination with Saratoga-Encampment-Rawlins Conservation District.

Policy Air Quality, Climate Change & Noise #11: Climate change analysis is conducted on a regional level that analyzes the direct harms the decision may have to the Saratoga-Encampment-Rawlins Conservation District including economic impacts in comparison to the probability that the decision will contribute to a reduction of the long-term effects of climate change.

Policy Air Quality, Climate Change & Noise #12: Saratoga-Encampment-Rawlins Conservation District encourages inclusion of additional climate change scientific data in all National Environmental Policy Act planning processes that meet the credible data criteria, even if not produced by a federal agency.

Policy Air Quality, Climate Change & Noise #13: A full analysis of the impact each alternative and subsequent "decision" will have on the local economy should be conducted. If it is determined that the alternative/decision will have a significant negative impact on the local economy, the alternative/decision is not supported.

Policy Air Quality, Climate Change & Noise #14: Regulation of greenhouse gas emissions using the Clean Air Act is not supported by the Saratoga-Encampment-Rawlins Conservation District.

Policy Air Quality, Climate Change & Noise #15: Carbon dioxide should not be considered or treated as a pollutant under the Clean Air Act.

Policy Air Quality, Climate Change & Noise #16: Federal agencies should acknowledge that sustainable rangeland management has a positive effect on carbon sequestration.

Policy Air Quality, Climate Change & Noise #17: Federal agencies should work cooperatively with the Wyoming Department of Environmental Quality - Air Quality Division to manage emissions from wildland and prescribed fire activities.

Policy Air Quality, Climate Change & Noise #18: Federal and state agencies regulating, and monitoring ozone shall use the 2015 Ozone National Ambient Air Quality Standards when classifying area attainment standards.

Policy Air Quality, Climate Change & Noise #19: Federal and state agencies shall coordinate with the Saratoga-Encampment-Rawlins Conservation District (District) on any proposal to utilize an Air Quality Standards monitoring station within the District regardless of whether it is a permanent or mobile unit.

Policy Air Quality, Climate Change & Noise #20: Entities with de minimis amounts of emissions/particulate matter shall not be required to apply for Wyoming Department of Environmental Quality air quality permits.

Policy Air Quality, Climate Change & Noise #21: Federal agencies should place stipulations on energy project development to limit noise to not exceed 70 decibels (as measured by the A-weighted sound level [dBA] system of measurement) within 1/4 mile of residential and developed recreation interface areas. Stipulations apply only to production operations, and do not apply to short-term maintenance operations, or reclamation activities.

Policy Air Quality, Climate Change & Noise #22: Federal agencies shall analyze noise and shadow flicker on humans and wildlife using recent peer-reviewed scientific data for all wind energy development projects.

Policy Air Quality, Climate Change & Noise #23: All regulatory government agencies shall analyze construction and operation noise on wildlife using recent peer-reviewed scientific data for all projects.

5.2 Local Support Data

5.2.1 Air Quality

Clean air is important to citizens and visitors of the District. Wildfires can create air quality issues in the summer and fall. Dust from unpaved roads can negatively impact air quality, particularly during drought conditions.

Under the Clean Air Act of 1970 (42 U.S.C. §7401 et seq.), the United States 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. The Clean Air Act requires states to develop a plan for the attainment of air quality standards in their state. These plans are called State Implementation Plans. (O. EPA, 2014)

The Environmental Quality Council (EQC) serves as an independent entity that reviews matters concerning the prevention, reduction, and elimination of pollution - and preservation of Wyoming's water, air and land quality.

The EQC was created in 1973 when the Environmental Quality Act (the Act) became law §§35-11-101, et seq. 1997, as amended. The Act has always provided that the EQC operates as an independent entity. However, the Wyoming State Legislature formally declared the EQC as a separate operating agency in 1992, when all state agencies concerned with natural resources were reorganized. Members of the EQC are appointed by the Governor with Senate confirmation of the appointments.

In Wyoming, local enforcement of many air pollutant regulations is delegated to the WDEQ (R. 08 EPA, 2014) that established Wyoming Air Quality Standards and Regulations (WAQSR). Chapter 6, Section 2 and Chapter 3, Section 6 of those regulations apply to all oil and natural gas exploration, production, and transmission operations; well production facilities; natural gas compressor stations; and natural gas processing plants in

Wyoming. These rules adopt emissions control standards established in 40 CFR Part 60, Subpart OOOO. Controls are required for pneumatic controllers, venting and flaring, tank truck loading, storage vessels, dehydrators, VOC control devices, stationary natural gas engines, and leak detection and repair requirements.

The WAQSRs are for ambient air quality necessary to protect public health and welfare. Ambient air refers to that portion of the atmosphere, external to buildings, to which the general public has access (WDEQ, 2018b). WDEQ has also established limits on the quantity, rate, and concentration of emissions of various air pollutants from various sources including, but not limited to:

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

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

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

Air quality is important to the health, safety, and welfare of Carbon County's residents. Currently, Carbon County has good air quality with no nonattainment issues. Sulfur dioxide (SO2) is one of a group of highly reactive gasses known as "oxides of sulfur," and are emitted into the air as a result of fossil fuel combustion and other industrial processes. There is one WDEQ air quality monitoring station in Carbon County in the town of Sinclair. This station began operating in December 2015 and the objective is to monitor air quality and meteorological data in a populated area near a large SO2 source. (WDEQ, 2020b)

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

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

5.2.2 Climate Change

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

Climate change has been defined as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate

variability observed over comparable time periods. Climates are defined by long-term patterns of temperature, humidity, atmospheric pressure, precipitation, and airflow generally over years, decades, and/or centuries.

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

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

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

5.2.3 Noise

The traditional definition of noise is “unwanted or disturbing sound”. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one’s quality of life. It is a very subjective term as what is described as a sound to one person may be considered as a noise to someone else. The fact that you can’t see, taste or smell it may help explain why it has not received as much attention as other types of pollution, such as air pollution, or water pollution. The air around us is constantly filled with sounds, yet most of us would probably not say we are surrounded by noise. Though for some, the persistent and escalating sources of sound can often be considered an annoyance. This “annoyance” can have major consequences, primarily to one’s overall health.

Background, or ambient, noise consists of all noise sources other than the noise source of concern. This can include traffic, animals, machinery, voices, and other sounds. Wind is often a major source of ambient noise and can frequently be a problem when trying to monitor a specific source of noise.

Inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population, particularly in urban areas. The major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products in commerce.

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare at 42 U.S.C. §4901. The Act also serves to:

1. establish a means for effective coordination of Federal research and activities in noise control,
2. authorize the establishment of Federal noise emission standards for products distributed in commerce, and

3. provide information to the public respecting the noise emission and noise reduction characteristics of such products.

While primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce, control of which require national uniformity of treatment. EPA is directed by Congress to coordinate the programs of all Federal agencies relating to noise research and noise control.

The Medicine Bow National Forest Revised Land and Resource Management Plan (USFS, 2003a) includes a noise stipulation in residential and developed recreation interface areas. It stipulates that "noise from oil and gas production facilities will not exceed 70 decibels (as measured by the A-weighted sound level [dBA] system of measurement) at the edge of identified residential and developed recreation interface areas." The objective is to prevent unacceptable noise levels in adjacent residential interface and recreation areas. Less restrictive stipulations could subject residents and visitors to unacceptable noise levels.

The BLM is required to "use and observe the principles of multiple-use and sustained-yield" just as the Forest Service, must "use a systematic and interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences" in the preparation of its plans. 43 U.S.C. § 1712(c)(1) and (2). The BLM must also "consider present and potential uses of the public lands" and "provide for the compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans." 43 U.S.C. § 1712(c)(5) and (8).

6. Custom/Culture/Heritage/Paleontological

6.1 Desired Conditions

Policy Custom/Culture/Heritage/Paleontological #1: Federal actions affecting cultural, historical, and paleontological resources are made in consultation with the Saratoga-Encampment-Rawlins Conservation District.

Policy Custom/Culture/Heritage/Paleontological #2: Federal agencies shall consider a balance between preservation of cultural, historical, and paleontological resources with existing uses and property rights in coordination with the Saratoga-Encampment-Rawlins Conservation District.

Policy Custom/Culture/Heritage/Paleontological #3: The Saratoga-Encampment-Rawlins Conservation District does not support excessive buffer zones around historical and cultural resources. Buffer zones should be determined on a case-by-case basis and shall not exceed one-quarter mile in width in most circumstances.

Policy Custom/Culture/Heritage/Paleontological #4: Federal and State agencies shall honor private property rights as paramount for cultural, historical, geological, and paleontological resources thought to be on private lands.

Policy Custom/Culture/Heritage/Paleontological #5: Federal agencies should ensure agriculture custom, culture and the value they provide to rural communities are preserved in any decision that is made.

Policy Custom/Culture/Heritage/Paleontological #6: Federal agencies should support decisions that protect the custom and culture of the citizens of the Saratoga-Encampment-Rawlins Conservation District (District) to

provide for community stability, ensure the socioeconomic well-being of District constituents, maintain the culture and customs of the constituents, and consider natural resource health.

Policy Custom/Culture/Heritage/Paleontological #7: Promote responsible tourism and recreation through signage that explains the historical significance of areas, sites, and roads.

6.2 Local Support Data

6.2.1 Custom and Culture

Custom and culture describes the character of the citizens of the District through history and current practices.

Custom is a usage or practice of the people, which by long and unvarying habit, has become compulsory and has acquired the force of law with respect to the place or subject-matter to which it relates (Bouvier's Law Dictionary 1867). Culture is defined as the customary beliefs, social forms and material traits of a group; an integrated pattern of human behavior passed to succeeding generations (Webster's New Colligate Dictionary 1975).

> *Carbon County was organized in 1868. Prior to that, about 3,400 square miles in the center of the county were once part of the Republic of Texas and then part of the State of Texas until 1852.*

Carbon County was one of five original counties of the Wyoming Territory in 1868. The county has a rich, diverse history. Indigenous peoples and then trappers, mountain men, soldiers, ranchers, sportsmen, railroad workers , guest ranchers, and miners appreciated the vast abundance of natural resources present.

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

In the 1860s, emigrants were heading west through the area utilizing the Overland Trail that goes through the middle of the District. Due to hostility with Indigenous peoples, Fort Halleck was built in 1862 at the foot of Elk Mountain to serve as a base for soldiers to protect settlers journeying west. (Van Pelt, 2014b)

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

Logging began in the late 1860s when log ties from the mountains were floated down the North Platte River to supply ties for building the Union Pacific Railroad. Logging and timber production continued after the railroad was built to provide lumber for those who were settling the area and making it their home. (Van Pelt, 2014b)

Figure 8 : Tie hacks in the Sierra Madras to deliver railroad ties for building the Union Pacific Railroad.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

Hunting and fishing were prized in the area and throughout the 1870s sportsmen came from as far away as England and Scotland (Van Pelt, 2014b). The first black-faced sheep were brought to the area in 1868 by a government trapper. The Red Desert, Great Divide Basin, and Rawlins, Wyoming became well-known for sheep production. In the 1880s, sheep and cattle ranches sprang up throughout the county. The Pick Ranch, located near Saratoga, was one of the first large cattle ranches in the area and several large cattle ranches still exist in this area today. (Van Pelt, 2014b)

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

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

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

Figure 9 : Saratoga Experiment Farm in 1891

The Saratoga Experiment Farm, pictured in 1891, was one of the early day endeavors of the University of Wyoming's Agricultural Experiment Station and is no longer in existence.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

Figure 10 : Grain research at the Saratoga Experiment Farm

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

Agriculture opportunities in the District were expanding in the late nineteenth century along with the population. With a need for research to improve production agriculture, a University of Wyoming Agricultural Experiment Station (AES) was developed close to Saratoga. Today, agriculture within the District consists primarily of ranching. The predominant livestock operations are cow-calf and yearling. While sheep ranches were once prevalent in Carbon County with a record number of sheep and lambs in 1932 of 3,972,000, 2020 holds the record low for total inventory of sheep and lambs at 340,000 head. (USDA, 2020) Hay production consists mostly of grass hay from meadows with a small amount of alfalfa hay. Most irrigation for the hay is provided by direct flow diversions from the North Platte River and its tributaries.

Hunting and fishing have always been a part of the history of the County. The Ute Indians lived off the game before any settlers arrived. The numbers have fluctuated with changes in forage resources and bad winters, but most years the herds of deer, antelope, and elk attract hunters from many states. Fishermen from all over the world come to fish Blue Ribbon streams.

The custom and culture of the District was developed through the tenacity of the early emigrants and settlers who developed the area. Utilizing the natural resources available, the pioneers developed stable local economies for the residents and communities. Early ranching operations were a major contributor to the

economic viability of each community. Residents pride themselves in maintaining a lifestyle rooted in stewardship of the land and its resources.

Today, while agriculture still remains as a cornerstone to the economic stability of the District, expansion in energy development including oil, natural gas, and wind is becoming a larger driving force in the economy and includes the possibility for growth in the current population of the area. Local land users (agriculture, timber, recreation, and mining) are dependent upon the federal lands to varying degrees for commodity use and recreational enjoyment. Local economies derive a significant source of income from these public lands - from industry to agriculture to recreation.

The connection and access to the abundant natural resources in the area along with the ability to engage in recreation, including both motorized and non-motorized activities are important to residents. Maintaining traditional historical land uses – ranching, livestock grazing, energy development, and recreation such as hunting and fishing, etc. – which all contribute to the economic viability of the area, is crucial to sustaining the District communities.

6.2.2 Heritage/Historic and Archeological Resources

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

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

The NHPA was passed in 1966 and authorizes the Secretary of the Interior to maintain and expand a National Register of Historic Places. This act established policy for the protection and preservation of sites (e.g., districts, buildings, structures, and objects) that are placed on the National Register of Historic Places. The National Register of Historic Places is managed by the National Park Service. Under NHPA, federal agencies are required to evaluate the effects of actions on any designated 'historic properties' and follow the regulations set by the Advisory Council on Historic Preservation (ACHP) (36 C.F.R. § 800). In 2014 the NHPA was amended, and the codified law was moved from Title 16 to Title 54 and retitled the Historic Preservation Act. However, the substance of the act remained the same, including the listing criteria for placement of sites in the National Historic Register and the requirements under Section 106.

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

1) Are associated with events that have made a significant contribution to the broad patterns of our history; or

2) Are associated with the lives of persons significant in our past; or

3) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4) Have yielded or may be likely to yield, information important in prehistory or history. (Wyoming SHPO, n.d.)

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

Currently, there are 46 sites in Carbon County listed in the National Register (Wyoming SHPO, n.d.). The sites and additional information about the site are listed on the Wyoming State Historic Preservation website.

6.2.3 Paleontological Resources

A paleontological resource is any fossilized remains, traces, or imprints of organisms, preserved in or on the Earth's crust, that are of paleontological interest and provide information about the history of life on Earth. The Paleontological Resource Preservation Act (PRPA) was enacted in 2009, directing multiple federal agencies to establish a coordinated approach to the management of paleontological resources on public lands. The rule clarifies how bureaus will manage paleontological resources to ensure they are available for current and future generations to enjoy as part of America's national heritage. PRPA applies to the USFS, BLM, BOR, National Park Service (NPS), and the United States Fish and Wildlife Service (USFWS). For information concerning each agency's plan regarding paleontological resources refer to their websites below. (BLM, 2016a)

- Forest Service, fossils, and paleontology
- Bureau of Reclamation, fossil resources
- U.S. Fish and Wildlife Service, historic preservation
- Bureau of Land Management, Paleontology
- National Park Service, Fossils and Paleontology

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

7. District Operations/Education

7.1 Desired Conditions

Policy District Operations/Education #1: The Saratoga-Encampment-Rawlins Conservation District will provide agriculture and natural resource education outreach in all schools within its jurisdiction. Classroom lessons will incorporate knowledge of where food is produced, the role agriculturists play in natural resource conservation, food production, and the customs and culture of the area.

Policy District Operations/Education #2: The Saratoga-Encampment-Rawlins Conservation District (SERCD), when appropriate, will cooperate and consult with SERCD residents, agencies, and public institutions as provided by statutory authority that includes the stabilization of the agriculture industry; protection of natural resources including but not limited to data and information; conservation of soil and water resources; control

and prevention of soil erosion; flood prevention or the conservation, development, utilization; and disposal of water per Wyoming Statutes § 11-16-122.

Policy District Operations/Education #3: The Saratoga-Encampment-Rawlins Conservation District will provide technical and material assistance in an equitable fashion within budgetary constraints when working with individual, local, state, and/or federal partners to carryout conservation projects.

Policy District Operations/Education #4: The Saratoga-Encampment-Rawlins Conservation District (SERCD) will review, analyze, and comment, when appropriate, on local, state and federal legislation, rules and regulations that have an effect on our cooperators or resources identified in the SERCD Long Range Land Use and Natural Resource Management Plan.

7.2 Local Support Data

It is important for the Board to provide services within its statutory authority in a fiscally sound manner. The Board continues to be a leader in natural resource issues to carry out its mission as demonstrated by the development of this long range land use and natural resource management plan.

We often hear about the disconnect between Americans and their food. With the increasing industrialization and consolidation of agriculture in the U.S. and globally, American consumers are getting further and further away from their food — physically, psychologically, and emotionally. A 2017 Michigan State University Food Literacy Poll reported that 35% of the people surveyed rarely look into where their food comes from, and 13% never do.[1] There is a need for improved education of the general public about soil and water conservation and the benefits agricultural lands provide in the way of open space and ecosystem conservation.

The public does not have an adequate understanding of agriculture and the conservation measures many farmers and ranchers already employ, since media attention is generally focused on negative stories. This lack of understanding has increased greatly during the past 50 years of increasing urbanization, as fewer and fewer people make their living directly from agriculture or have any connections to agriculture. The lack of understanding can lead to misperceptions about the industry and environmental impacts and can contribute to the communications gap between the agricultural community and urban/environmental interests, reducing their ability to work together constructively to address current issues.

The custom and culture of the District and its citizens was originally developed in the 19th century. It has been passed down through the succeeding generations and adapted to what we know today. It is important to continue educating and providing outreach to ensure those living, working, and growing up in the District have the knowledge to understand how agriculture, logging, energy development, and urbanization are inter-related. It is through the maintenance of open spaces provided by agriculture that recreation and tourism, the number 2 industry in Wyoming, are thriving.

The resource production component includes the things you have or need to produce to retain or attain the desired quality of life. The quality of life the Board strives for will be achieved by responsible use and management of resources and by support and enhancement of economic opportunity and education. The resource base includes the people, land, and community we live in and the services available, and what we will need to sustain and enhance our quality of life and forms of production. The Board believes that through the efforts of cooperation and communication among the local people, our community will have a beneficial

[1] 2017 Michigan State University Food Literacy and Engagement Poll: Wave I

impact on sustaining a strong and viable multiple-use of our lands, including agricultural, industrial, mineral production, commercial, recreational, and historical uses, which together will provide the continued ability to generate wealth and growth and needs of our community.

The Board serves an important role by supplementing school natural resource education programs and through targeted community education. It strives to increase public awareness and understanding of local agriculture, successful conservation measures currently employed by local farmers and ranchers, and their efforts to be good stewards of the land, and how these practices can help the landowner's operations, while protecting local watersheds, and wildlife habitats. The Board partners with other entities including Big Brothers Big Sisters, Big Shoulders Foundation, Brush Creek Ranch, Carbon County School Districts #1&2, Carbon County Weed & Pest, Medicine Bow Conservation District, Snowy Range CattleWomen, Trout Unlimited, University of Wyoming Extension, and Wyoming Game & Fish Department for education and outreach.

8. Ecosystem Services

8.1 Desired Conditions

Policy Ecosystem Services #1: Federal agencies shall fully analyze ecosystem services as defined and outlined by the National Agricultural Statistics Service, Wyoming Agricultural Statistics Report, within all National Environmental Policy Act documents and subsequent actions.

Policy Ecosystem Services #2: The Saratoga-Encampment-Rawlins Conservation District (Board) supports "clustering" of new residential and commercial sites in or adjacent to areas currently zoned as residential or commercial in the district. Further, if a landowner chooses to convert areas currently zoned as "Ranching, Agriculture, Mining" to "Rural Residential Agriculture", the Board concurs with the Carbon County Zoning Resolution statement that, "In all cases, agricultural uses shall have supremacy over residential uses." The Board encourages the developer to consider all available options such as clustering development and the use of conservation easements to minimize erosion and soil loss and create open space near clustered developments for agriculture/wildlife benefits.

Policy Ecosystem Services #3: Scenic areas, wildlife habitat, water quantity and quality, and other important open spaces are sustained.

Policy Ecosystem Services #4: Federal agencies shall, in conjunction with local, state, and federal planning partners, develop economically sustainable strategies to maintain working ranches. Federal planning-level and project-level National Environmental Policy Act documents shall present an accurate characterization and analysis of the area, recognizing working ranches provide ecosystem services benefits.

8.2 Local Support Data

Ecosystem services includes the multitude of benefits people obtain from ecosystems. The concept is not new and acknowledges human dependence on the Earth's ecosystems. While modern ideas of ecosystem services date back to the mid-1800s, it was not until the late 1940s that recognition of human dependence on the environment was promoted. The ecosystem services concept has continued to gain relevance in society and federal land use planning and management.

Nature provides humans with many things of value. Not only the water we drink and the air we breathe, but also the crop pollination accomplished by bees, the flood protection afforded by wetlands, and the sense of peace we might find standing in a quiet forest. Nature's benefits include environmental commodities that are consumed as well as places in which people live, recreate, and work. They also include the knowledge that other species, wilderness, and natural beauty will exist for future generations. Ecosystem services is shorthand for all of these aspects of nature that contribute to our health, wealth, and well-being. Ecosystem services analysis describes how natural resource management options affect the well-being of people, communities, and economies through their effect on ecological conditions and processes. (NESP, 2016)

An ecosystem services approach to natural resource planning and management provides an analytical framework for integrating ecological, social, and management factors in a way that is both specific to the local context and reflective of the larger physical and human landscape within which planning and analysis takes place. Such an approach can identify and incorporate a broad spectrum of desired benefits. It can account for difficult-to-value benefits and incorporate them into analyses that allow robust assessment of alternatives, tradeoffs, and opportunities.

The Millennium Ecosystem Assessment, carried out between 2001 and 2005, offers a classification system for ecosystem services (Millennium Ecosystem Assessment, 2005):

• *Provisioning services*, such as food, fiber, fresh water, timber, and pharmaceuticals. The water supply for the city of Cheyenne, Wyoming, originates on the Sierra Madre Mountains of the Medicine Bow National Forest. The forest is valued for many other reasons as well, including recreational opportunities, wildlife habitat, timber, and scenery.

• *Regulating services* that affect climate, floods, disease, wastes, erosion, diseases, pests, pollination, air quality, water quality, and natural hazard regulation.

• *Cultural services* that provide recreational, educational, aesthetic, and spiritual benefits that enrich and revitalize the human experience.

• Supporting services, such as nutrient cycling, photosynthesis, and soil formation.

Federal land management agencies can apply the ecosystem services concept to meet mandates handed down from Congress and ecosystem services are being inserted into the federal land management regulatory framework. Statements have been made that natural assets such as rivers, forests, grasslands, and wetlands benefit society through the ecosystem services they provide, including water purification, air quality improvements, and flood protection, among other benefits. However, these services are frequently left out of resource management decisions because they are not easily quantified or assigned a monetary value. As a result, society undervalues these environmental benefits, contributing to the loss of natural systems.

The National Environmental Policy Act of 1969, the Multiple-Use Sustained-Yield Act of 1960, and the Federal Land Policy and Management Act (FLPMA) at 43 U.S.C. 1701(a)(7) mandate that the BLM and Forest Service must compare the benefits and costs and the tradeoffs associated with various management alternatives and coordinate and consider the multiple uses of National Forest lands to best meet the needs of society. These mandates are supported by the application of the ecosystem services concept.

National Forest planning is directed by mandates from the Final Planning Rule of 2012 and the National Forest Management Act of 1976. These mandates require that the Forest Service provide for ecological sustainability and contribute to social and economic sustainability and comprehensively assess present and anticipated use,

demand, and supply of benefits coming from public and private forests. Again, the ecosystem services concept is being used by the Forest Service to fulfill these mandates.

A white paper titled, "Application of an Ecosystem Services Framework for BLM Land Use Planning" (Smyth, 2014) suggests that the BLM has the legal authority to manage for the preservation and use of ecosystem services and ecosystem services could be incorporated into resource management plans and decision making within the agency. Most pertinent to the District, this paper determined that, in the long term, the BLM could incorporate ecosystem service concepts into their calculations of the fair market value for use of public lands and their resources.

To support the application of the ecosystem services concept to federal land management planning, various federal agencies partnered with Duke University's Nicholas Institute to produce the Federal Resource Management and Ecosystem Services Guidebook (NESP, 2016). This guidebook has paved the path for natural resource managers to implement the ecosystem services concept in support of land management planning and decision-making.

Recognizing the utility of the ecosystem services concept in federal agency decision-making, on October 7, 2015 the Executive Office of the President issued Memorandum M-16-01, instructing all federal agencies to incorporate the ecosystem services concept into decision-making regarding federal planning, investments, and regulations.

The ecosystem services concept appeals to industries, governments, and non-governmental organizations as a way to account for the use of natural assets for sustaining human well-being. As a result, federal land management agencies continue to trend toward the ecosystem services concept in planning and decision-making, as evidenced by the background provided above.

The District produces a suite of ecosystem services that benefit local, regional, and national populations. Most of these ecosystem services have not been brought to market and are often ignored or undervalued when accounting for the costs and benefits of various land uses (Costanza et al. 1997). The social and economic well-being and the quality of life of the local and regional communities are linked to the ecosystem services that flow from the District. The information obtained by the Board acting as the clearinghouse could then be used to support natural resource decisions that sustain the economies, ecosystems, and customs and cultures of the area.

The ecosystem services concept is relatively new and under-developed, with few well established terminologies, methodologies, and principles, but the Federal Resource Management and Ecosystem Services Guidebook (NESP, 2016) has paved the way for federal agencies to begin incorporating ecosystem services into their decision-making. The guidebook provides tremendous opportunity for the Board and other conservation districts to put ourselves at the forefront of applying the ecosystem services concept and for becoming clearinghouses of information regarding the local production and value of ecosystem services.

9. Expectations (Cooperation, Credible Data, Private Property Rights)

9.1 Desired Conditions

Policy Expectations #1: Federal agencies abide by the July 16, 2020, Council on Environmental Quality National Environmental Policy Act regulations, including following all deadlines and page limits for Environmental

Impact Statements and Environmental Assessments and abiding by their coordination and cooperation obligations with local governments.

Policy Expectations #2: Federal agencies regularly coordinate and offer the ability for the Saratoga-Encampment-Rawlins Conservation District (Board) to participate as a cooperating agency for any federal action occurring within the district requiring National Environmental Policy Act analysis. The Board at its discretion, within its authority and resources available will consider the federal invitation and respond in writing to those projects which we feel we can be a productive team member.

Policy Expectations #3: Federal agencies shall conduct a consistency review with the Saratoga-Encampment-Rawlins Conservation District Long Range Land Use and Natural Resource Management Plan for every proposed National Environmental Policy Act decision an agency makes that may affect the District, the natural resources within the district, or its residents.

Policy Expectations #4: Federal agencies shall coordinate with the Saratoga-Encampment-Rawlins Conservation District when implementing the Wyoming Governor's Policies for local management actions.

Policy Expectations #5: All Constitutional private property rights in local, state, and federal agency policies, regulations, rules, and actions shall be followed.

Policy Expectations #6: Compensation shall be provided to private property owners for all regulatory actions constituting a partial taking of any person's property, including but not limited to water rights, by any local, state, or federal agency. and that the proposed action is modified to avoid the taking, either in whole or in part.

Policy Expectations #7: Legal remedies are provided when federal or state governmental action operates to take property rights or some portion of the property right.

Policy Expectations #8: Federal agencies shall conduct a full analysis of the impact each alternative and subsequent "decision" will have on the entire project area. If it is determined that the alternative/decision will have an action constituting a partial taking of any person's property, the alternative/decision is not supported.

Policy Expectations #9: Local, state, and federal agencies shall ensure procedural due process rights by providing adequate public notice and the opportunity for a hearing, including an evidentiary hearing, when granted by statute.

Policy Expectations #10: Federal and state agencies should reject submission of resource data collected while trespassing. Anyone found guilty of trespassing to unlawfully collect resource data should be prosecuted.

Policy Expectations #11: Federal agencies should, in conjunction with local, state, and federal planning partners, develop economically sustainable strategies to maintain working ranches. Federal planning-level and project-level National Environmental Policy Act documents shall encourage proper characterization and analysis of the area, recognizing the benefit of ecosystem services provided by working ranches adjacent to or near public lands.

Policy Expectations #12: Saratoga-Encampment-Rawlins Conservation District's special expertise is acknowledged regarding the natural resources as these policies are a key factor in proposed decisions.

Policy Expectations #13: Cooperation and open communication between the federal agencies and Saratoga-Encampment-Rawlins Conservation District is achieved when assessing the effects of proposed federal actions within the district.

Policy Expectations #14: The federal agencies shall notify the Saratoga-Encampment-Rawlins Conservation District and conduct a consistency review with its Natural Resource Management Plan for every proposed National Environmental Policy Act decision agencies make that may affect the district, the natural resources within the district, or its citizens as appropriate, pursuant to the Federal Land Policy Management Act and the National Environmental Policy Act.

Policy Expectations #15: Federal agencies consider the economic well-being and custom and culture of Saratoga-Encampment-Rawlins Conservation District and its citizens when making decisions affecting natural resources.

Policy Expectations #16: Federal agencies should achieve a sustainable land use balance between economic growth, energy development, recreation, agriculture, wildlife, conservation use of lands, quality of life, Saratoga-Encampment-Rawlins Conservation District's (Board) custom and culture, and the environment by coordinating with the Board on all decisions.

Policy Expectations #17: Federal agencies shall support traditional multiple land uses to maintain continuity in the local economy and assure the sustainability of existing agricultural, recreational, and industrial interests while maintaining or improving the present environmental quality of life.

Policy Expectations #18: Federal agencies should maintain the Saratoga-Encampment-Rawlins Conservation District's culture of open access, multiple use, agriculture, and rural communities.

Policy Expectations #19: Credible data has a universal meaning for all federal agencies and is the basis for all agency decisions affecting public lands.

Policy Expectations #20: Federal agencies should adopt a universal definition of credible data consistent with the Saratoga-Encampment-Rawlins Conservation District Long Range Land Use and Natural Resource Management Plan and federal law.

Policy Expectations #21: Federal and state agencies should only use and consider data that meets the minimum criteria described in their respective handbooks when making land management decisions, unless other criteria are agreed upon between Saratoga-Encampment-Rawlins Conservation District and federal agencies.

Policy Expectations #22: Federal and state agencies should only consider and use credible scientific data in all federal land-use decisions.

Policy Expectations #23: Federal agencies should work with cooperating agencies in making sound natural resource decisions that are scientifically based, legally defensible, sensitive to resource health, and responsive to multiple-interest users.

Policy Expectations #24: Federal agencies should be transparent in all decisions and show the source for all data and studies used in agency decisions.

Policy Expectations #25: Federal and state agencies should include quantitative data in land use planning processes that meet credible data criteria, even if the data were not produced by a federal agency.

Policy Expectations #26: All property owners/managers, including state, federal, and private owners/managers 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.

Policy Expectations #27: When a federal agency is conducting a National Environmental Policy Act analysis that is triggered by a project applicant, the agency shall base the purpose and need on the goals of the applicant in coordination with the local government agencies and the federal agency's statutory authority.

Policy Expectations #28: An "effect" when conducting a National Environmental Policy Act analysis should not be considered "significant" if the effect is remote in time, geographically remote, or the result of a lengthy causal chain.

Policy Expectations #29: When determining the effects of any proposed action, those effects should be reasonably foreseeable and have a reasonably close causal relationship to the proposed action, including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives.

Policy Expectations #30: Effects should not be considered if the agency has no ability to prevent the effect due to its limited statutory water authority or the effect would occur regardless of the proposed action.

9.2 Local Support Data

9.2.1 Expectations for Cooperation

The Plan purpose, statutes, regulations, and Plan methodology specified in Chapter 3 spells out the legal requirements of federal agencies in their duties in dealing with local governments. The Board recognizes that part of this land-use planning process is to develop a solid working relationship with the federal agencies operating in the District. The Board also recognizes that “coordination,” “cooperating agency status,” and “consistency review” require actions on behalf of both federal agencies and local governments. To that end, the District commits to the following actions:

1) Within 60 days of the date of adoption of this Plan, the Board will inform the federal agencies of the date, time, and location of their regularly scheduled Board meetings with an open invitation for federal agency personnel to attend such meetings if there are proposed decisions or issues to discuss. At a minimum, the District would like a yearly update from the federal agencies on the following topics:
   a) Minerals
   b) Wildlife
   c) Livestock grazing
   d) Invasive species management
   e) Road improvements
   f) Any proposed changes to access of public lands
   g) Any decisions that may affect water quality, water rights, or obligations to current interstate water compacts
   h) Proposed land exchanges or purchases
   i) An update on all permits or management decisions awaiting a final decision from the agency, including the length of time the permittee has waited on a decision and proposed timelines for the agency to make those pending decisions.
2) Within 60 days of the date of adoption of this plan, the Board will transmit a copy of this local Long Range Land Use and Natural Resource Management Plan to federal and appropriate state agency offices

operating within the District for their consideration as part of any consistency review that is required pursuant to federal statute.

3) In a timely manner, the Board 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 Board 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 Saratoga-Encampment-Rawlins Conservation District Board of Supervisors invite and welcome all agencies to their monthly Board meetings to give an update on any items that need to be discussed. Citizens of the District are also welcome to Board meetings. The Board of Supervisor meetings are typically held on the third Wednesday of every month and are noticed in the Rawlins Daily Times and the Saratoga Sun. To assist in keeping an open line of communication and simplify coordination and scheduling between Board and the federal agencies, all correspondences between the agency and the Board will be initially directed to a Board point of contact. That point of contact will be identified to the agencies in a letter following the adoption of this Long Range Land Use and Natural Resource Management Plan and agencies will be notified via letter within two weeks if a new Board point of contact is assigned.

9.2.2 The Need for Credible Data

To the greatest extent possible, credible data should drive all land use planning decisions. In this plan, "credible data" refers to information that meets, at a minimum, the Federal Data Quality Act (FDQA). Credible scientific data is defined as rigorously reviewed, scientifically valid chemical, physical, and/or biological monitoring data, collected in a timely manner under an accepted sampling and analysis plan's confirmed written approval by the federal/state agency, including quality control and assurance procedures and available historical data (Law Insider, n.d.).

The FDQA directs the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility and integrity of information (including statistical information) disseminated by Federal agencies" (Sec. 552(a) Pub. Law. 106-554; HR 5658; 114 Stat. 2763 (2000)).

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

This "standard of quality" essentially requires that data used and published by all Federal agencies meet four elements. 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 (66 Fed. Reg. at 49718).

In addition to following the OMB guidelines, all federal agencies were also 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.

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

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

9.2.3 Private Property Rights

The United States and Wyoming Constitutions provide protections to hold the ownership and protection of private property in high regard. Section 32 of the Wyoming Constitution addresses eminent domain and states "*Private property shall not be taken for private use unless by consent of the owner, except for private ways of necessity, and for reservoirs, drains, flumes or ditches on or across the lands of others for agricultural, mining, milling, domestic or sanitary purposes, nor in any case without due compensation.*" Additionally, Section 33 compensation for property taken states "*Private property shall not be taken or damaged for public or private use without just compensation.*" Private property rights include the right to exclude third parties and trespassing is illegal. Private property is also protected in Wyoming Statute (W.S.) where W.S. §§ 9-1-33 states:

> *Private property shall not be taken or damaged for public or private use without just compensation.*

Regulatory actions, such as designation of critical habitat under the Endangered Species Act or denial of surface access across federal land, operate to inversely condemn private property without providing just compensation.

Wyoming law also makes it unlawful to trespass to unlawfully collect resource data in W.S. §§ 6-3-414. Estimation and professional opinion have been challenged and replaced by the science of collecting repeatable and recordable data. Quantifiable credible data is necessary for all resource management decisions, which means scientifically valid collection of chemical, physical, and biological monitoring data collected under an accepted sampling and analysis plan, including quality control, quality assurance procedures and available historical data. Any resource data to be collected on private lands should only be done after contacting the landowner and obtaining written permission. The written permission documentation should include what will be collected, where the collection will occur, when the data will be collected (duration of the permission), how (the methods) the data will be collected, how the data in anticipated to be used, and who will have access to the data collected. All resource data collection should be done in cooperation with the landowner.

10. Land Use & Realty – Special Designations & Visual Resources

10.1 Desired Conditions

Policy Land Use & Realty #1: The basis for management of all public lands is multiple-use management.

Policy Land Use & Realty #2: Federal agencies should conduct any National Environmental Policy Act analysis using multiple-use principles that take into consideration all the resources such as, but not limited to, agriculture, air, energy, mineral extraction, range, recreation, socioeconomics, timber, tourism, wildlife, and water.

Policy Land Use & Realty #3: Federal agencies consider the direct and indirect effects on private and state lands on a local region wide basis rather than only analyzing the impacts on federal lands.

Policy Land Use & Realty #4: Federal agency decisions on federal public lands minimally impact neighboring state and private lands with impacts considered during any National Environmental Policy Act analysis.

Policy Land Use & Realty #5: Federal land use projects in mixed land ownership areas are coordinated and rely heavily on input from neighboring private landowners.

Policy Land Use & Realty #6: Effective reclamation plans that protect existing uses are a primary requisite when approving projects in mixed land ownership projects.

Policy Land Use & Realty #7: Federal agencies should support decisions that ensure the socioeconomic wellbeing of Saratoga-Encampment-Rawlins Conservation District citizens, maintain the culture and customs of the constituents, and consider natural resource health.

Policy Land Use & Realty #8: When an agency decision or proposed alternative will negatively impact the current use of neighboring lands, that proposed decision or alternative is not supported by the Saratoga-Encampment-Rawlins Conservation District.

Policy Land Use & Realty #9: Federal agencies should coordinate with and accommodate the reclamation needs of neighboring landowners whenever a project will affect neighboring lands.

Policy Land Use & Realty #10: Federal agencies should coordinate with and accommodate the reclamation needs of neighboring landowners whenever a project will affect split estate lands.

Policy Land Use & Realty #11: Saratoga-Encampment-Rawlins Conservation District is coordinated with on current management strategies on lands currently listed or proposed for listing as special designation or special management areas.

Policy Land Use & Realty #12: Historic uses are maintained on lands already designated as Wilderness, Wilderness Study Areas, Areas of Critical Environmental Concern, other special designation areas, or areas inventoried as lands with wilderness characteristics.

Policy Land Use & Realty #13: Special land use designations are applied only when the management is consistent with surrounding management and contributes to the sound policies of multiple use, economic viability and county custom and culture.

Policy Land Use & Realty #14: The 2008 Bureau of Land Management Rawlins Field Office Resource Management Plan and 2003 United States Forest Service Medicine Bow National Forest Land Use Plan

management continue to be implemented by the agencies and there is no expansion or creation of new special use areas.

Policy Land Use & Realty #15: Federal agencies responsible for making wilderness recommendations to Congress shall comply with their respective coordination mandates with the Saratoga-Encampment-Rawlins Conservation District when making wilderness determinations and developing wilderness inventories.

Policy Land Use & Realty #16: The Bureau of Land Management should coordinate with the Saratoga-Encampment-Rawlins Conservation District early and allow the County to participate as a cooperating agency whenever there is an Area of Critical Environmental Concern proposal on land managed by the Bureau of Land Management.

Policy Land Use & Realty #17: Proposals for Areas of Critical Environmental Concern designations shall strictly adhere to the relevance and importance criteria, and the Bureau of Land Management must demonstrate, using credible data, the need for an Area of Critical Environmental Concern designation to protect the area in question and prevent irreparable damage to resources, natural systems, or the economy of the local area.

Policy Land Use & Realty #18: Any Area of Critical Environmental Concern designation should address the reason for designation and not extend beyond the reason for designation.

Policy Land Use & Realty #19: Wilderness Study Area designations after 2020 by Congress should be expedited to achieve a decision within 2-years from the proposal of the designation; should the designation not be made within this timeframe, the Saratoga-Encampment-Rawlins Conservation District requests that the area be returned to multiple use.

Policy Land Use & Realty #20: Management of special designation areas should be coordinated with the Saratoga-Encampment-Rawlins Conservation District and consistent to the maximum degree with its Long Range Land Use and Natural Resource Management Plan.

Policy Land Use & Realty #21: Federal agencies should allow for the use of herbicides to control noxious weeds in special designation and management areas.

Policy Land Use & Realty #22: The Saratoga-Encampment-Rawlins Conservation District supports continued use of livestock grazing in all special management or designation areas unless prohibited by law.

Policy Land Use & Realty #23: Federal land management agencies should apply wilderness area management techniques exclusively to those lands officially designated as Wilderness areas.

Policy Land Use & Realty #24: Historic access routes should be included in all special designation areas.

Policy Land Use & Realty #25: Prior or existing lease rights should continue or be reinstated in Wilderness Areas and Wilderness Study Areas as required by the Federal Lands Policy and Management Act.

Policy Land Use & Realty #26: Federal agencies should not curtail the installment of necessary rangeland improvements in Wilderness or Wilderness Study Areas (i.e., fences and water developments) to maintain and encourage use of the prior existing rights in the area.

Policy Land Use & Realty #27: On-the-ground mapping of the roads, fences, rangeland improvements, and any other anthropogenic influence in lands under consideration for lands with wilderness characteristics or Wilderness Study Area designations should occur to ensure accurate representations of the area.

Policy Land Use & Realty #28: Economic and environmental cumulative impacts analysis should be conducted for all existing and proposed designations of any specially designated areas before any new areas are designated or expanded.

Policy Land Use & Realty #29: Wilderness Study Areas should be released or removed from consideration that contain non-wilderness characteristics, such as roads or active oil/gas wells within 2 years.

Policy Land Use & Realty #30: The Saratoga-Encampment-Rawlins Conservation District should be a cooperating agency on any future designation of any action to analyze any current or proposed special land use designation.

Policy Land Use & Realty #31: Wild and Scenic River designations should not occur that will economically harm existing uses within the Saratoga-Encampment-Rawlins Conservation District.

Policy Land Use & Realty #32: Federal agencies should conduct surveys of special management or designation area lands affected by fire in a timely manner following a fire to identify invasive and noxious weed presence or potential.

Policy Land Use & Realty #33: Land exchanges within the Saratoga-Encampment-Rawlins Conservation District that are mutually beneficial to private landowners, federal agencies, and the public are completed in a timely and cost-efficient manner.

Policy Land Use & Realty #34: There is no net loss of private or state land based on acreage and fair market value in exchange for federal lands within the Saratoga-Encampment-Rawlins Conservation District.

Policy Land Use & Realty #35: Federal agencies should proactively identify potential land exchanges that will consolidate land ownership type and reduce federal land from being isolated from other federal lands.

Policy Land Use & Realty #36: 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.

Policy Land Use & Realty #37: Payment in lieu of taxes funds and other federal funding mechanisms should be used to offset any loss in tax income resulting from land exchanges or purchases from federal agencies.

Policy Land Use & Realty #38: Wildfire management, wildfire, fuels, and fire rehabilitation are managed promptly and effectively using credible data, as defined above, in coordination with the Saratoga-Encampment-Rawlins Conservation District.

Policy Land Use & Realty #39: Fire suppression efforts are implemented effectively as appropriately determined through full coordination, communication, and cooperation between federal, state, and local fire-suppression units.

Policy Land Use & Realty #40: Multiple fuels management techniques are utilized to reduce fuels including but not limited to, logging, grazing, vegetation treatments, etc.

Policy Land Use & Realty #41: Post-fire resource objectives are coordinated with the Saratoga-Encampment-Rawlins Conservation District and applicable permittees.

Policy Land Use & Realty #42: In conjunction with local, state, and federal planning partners, strategies are developed to help enhance vegetative conditions, encourage historic fire regimes, and reduce the potential risk for large wildland fires via fuels treatments and controlled burning.

Policy Land Use & Realty #43: The Secretaries of Agriculture and Interior and local agencies develop fire management policies and resource management plans that utilize and acknowledge the beneficial effects of planned grazing as a fuels management tool.

Policy Land Use & Realty #44: Federal agencies should coordinate with the Saratoga-Encampment-Rawlins Conservation District and other agencies to implement insecticide and herbicide treatments, livestock grazing, biomass fuel removal and reduction, slash pile burning, and prescribed burning as proactive fire mitigation tools.

Policy Land Use & Realty #45: Federal agencies should utilize adaptive and flexible grazing management practices and include them in term permits to allow for management practices that will decrease fuel loads on the landscape, particularly in areas with heavy grass understory.

Policy Land Use & Realty #46: Use of the authorities granted under the Healthy Forests Restoration Act, Healthy Forests Initiative, and Good Neighbor Authority should be facilitated to expedite cross-boundary/agency planning, collaboration processes, and project implementation to treat and protect the resources economically and efficiently.

Policy Land Use & Realty #47: If grazing on federal lands is temporarily suspended due to fire, grazing should be recommenced based on monitoring and site-specific rangeland health determinations and objectives rather than solely on fixed timelines.

Policy Land Use & Realty #48: Authorized livestock grazing should be returned to pre-fire levels when post-fire monitoring data shows established objectives have been met or have been achieved to an extent allowed by the site potential. The use of credible data should be used as previously defined to make these determinations and permittees should be notified within 60-days of the permitted turn out date.

Policy Land Use & Realty #49: Federal agencies should rehabilitate forests and rangelands damaged by wildfires as soon as possible to reduce the potential for erosion and the introduction of invasive or noxious weeds.

Policy Land Use & Realty #50: Federal agencies should manage invasive and noxious weeds after wildland fire events as a way to reduce fire fuels on federal lands, using tools including (but not limited to) targeted livestock grazing, chemical, and mechanical controls that promote ecosystem health and as a management tool for vegetation manipulation.

Policy Land Use & Realty #51: Federal agencies should support the use of ongoing research and experimental options for developing new and alternative treatments for the management of invasive and noxious weeds after wildland fire events on federal lands.

Policy Land Use & Realty #52: Federal agencies should conduct surveys of lands affected by fire in a timely manner following a fire to identify invasive and noxious weed presence or potential.

Policy Land Use & Realty #53: Post-fire objectives should be consistent with site potential as defined in approved Desired Future Conditions or Ecological Site Descriptions. The Saratoga-Encampment-Rawlins Conservation District requires the use of credible data as previously defined to make these determinations.

Policy Land Use & Realty #54: Federal agencies should promote the prompt rehabilitation of forested lands whether those areas are harvested or affected by wildfire, including salvage logging operations.

Policy Land Use & Realty #55: Federal agencies should support exposing aspen stands to periodic fire or manmade disturbance that mimics wildfire to remove competing conifers.

Policy Land Use & Realty #56: Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered.

Policy Land Use & Realty #57: Encourage the use of free dead wood, in approved areas, for private use to help reduce the fuel loads on federal lands.

Policy Land Use & Realty #58: All full viewshed determinations should be analyzed on a case-by-case basis based on topography, vegetation cover type, and local viewshed conditions without 30 mile viewshed limit restrictions.

Policy Land Use & Realty #59: Baseline water testing should be completed using state water quality standards in coordination with the Saratoga-Encampment-Rawlins Conservation District before a proponent is issued a permit for energy or mineral development within the district.

10.2 Local Support Data

Support data important regarding 'Land Use & Realty" are scattered throughout this Plan as most federal actions on federally-managed lands could have direct and indirect impacts on federal, state, private lands. In addition to the specific local support data that follows, more support data can be found in Section 3.4 Statutory Requirements and Legal Authorities, Chapter 12-Recreation, Chapter 15-Transportation, and Chapter 16-Vegetation.

10.2.1 Special Designation and Management Areas

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

The BLM in Wyoming issued its Wyoming report identifying lands with "wilderness characteristics" in 1991. There were three Wilderness Study Areas (WSA) identified in the District, Encampment River Canyon, Ferris Mountains, and Prospect Mountain covering a total of 27,937 acres. Bennett Mountain is an additional WSA of 6,003 acres split between the District and Medicine Bow Conservation District. One of the four WSAs, 1145 acres, was recommended for release to multiple uses. Congress, with sole authority to declare wilderness or release these areas, has not acted on the recommendations of the report.

Figure 11 displays the ACECs, the BLM-managed WSAs, and the USFS-managed wilderness areas within the District. Each of the special designation areas is described below.

Wyoming Public Lands Initiative

Carbon County participated in the Wyoming Public Lands Initiative (WPLI) from 2017 – 2018. The WPLI was a voluntary, collaborative, county-led process that intended to result in one, multi-county legislative lands package broadly supported by public lands stakeholders in Wyoming. The ultimate goal of WPLI was to develop a new federal law that governs the designation and management of Wyoming's WSAs and, where possible, address and pursue other public land management issues and opportunities affecting Wyoming's landscapes (WPLI, n.d.). Carbon County formed a WPLI Advisory Committee that provided recommendations for the designation and management of WSAs within Carbon County to the Carbon County Board of County Commissioners. The WPLI recommendations within Carbon County can be found here. It is important to note that a management or status change of these WSAs cannot change until Congress acts. The bill has been drafted but these areas will remain as their designated status until Congress takes action. Regardless of any proposed action, it is vital to the economy of the District that wilderness areas and wilderness study areas continue allowing livestock grazing.

Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are BLM-managed areas "where special management attention is needed to protect important historical, cultural, and scenic values, fish and wildlife, or other natural resources. An ACEC may also be designated to protect human life and safety from natural hazards. ACEC designations must go through the NEPA land use planning process. An ACEC designation may be revisited through subsequent land use planning, revision, or amendment. Figure 3 displays the ACECs within Carbon County and each of the ACECs is described below. (BLM, 2016b)

Sand Hills/JO Ranch ACEC

The JO Ranch Rural Historic Landscape is part of the Sand Hills ACEC and is approximately 11,980 acres. This ACEC is located in both the Saratoga-Encampment-Rawlins Conservation District and the neighboring Little Snake River Conservation District. The JO Ranch served as a sheep ranching operation from its establishment in 1885 into the 1990s. The ranch is listed in the National Register of Historic Places. (BLM, 2016e)

Blowout Penstemon ACEC

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

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

1. The Blowout Penstemon ACEC will be expanded to 29,312 acres and managed as an endangered plant habitat area. (Note: Maintenance Change No. 22-1 dated December 2, 2019, adjusted the boundary by removing non-habitat areas of three grazing allotments. This adjustment resulted in an approximately 29,150-acre Blowout Penstemon ACEC. (BLM, 2019))
2. The ACEC will be open to locatable mineral entry and closed to mineral material disposals.
3. Plans of Operation will be required for locatable federal mineral exploration and development (except casual use), regardless of the number of acres disturbed.

4. The ACEC will be closed to new oil and gas leasing. The existing No Surface Occupancy (NSO) stipulation within 0.25 miles of occupied blowout penstemon habitat will apply to proposed projects on existing leases. Surface disturbances on existing leases outside the 0.25-mile NSO will be intensively managed.
5. Fire suppression activities will be based on Appropriate Management Response with an emphasis on maintaining early successional plant communities.
6. The BLM will actively pursue land tenure adjustments, including acquisition of lands, easements, or exchanges, to meet the ACEC management goals and objectives.
7. BLM-administered public lands containing occupied blowout penstemon habitat will not be exchanged or sold.

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

8. Limiting the use of off-highway vehicles (OHVs) to designated roads and trails (with certain allowed exceptions for authorized necessary tasks related to firefighting, hazardous material cleanup, access to existing rights-of-ways for maintenance and inspection, and fence maintenance).
9. Motorized vehicle use will be limited to existing roads and trails, until they are designated. OHV use to retrieve big game kills or access camp sites is prohibited off of existing roads and vehicle routes, until they are designated.
10. Roads that are not required for routine operations or maintenance of developed projects, or that lead to abandoned projects, will be reclaimed.
11. No OHV competitive events will be allowed within the ACEC.
12. Surface disturbing activities will not be authorized within 0.25 miles of occupied habitat. Surface disturbing activities will be intensively managed outside of the 0.25 mile of occupied habitat within the ACEC.
13. Mineral supplements, or new water sources (permanent or temporary), for livestock, wild horses, or wildlife will be placed at least 1.0 mile from known blowout penstemon populations. Supplemental feed for livestock, wildlife, or wild horses will not be placed within 1.0 mile of known blowout penstemon populations. Straw or other feed must be certified weed-free. This requirement will be added to the grazing permit/lease renewal or Allotment Management Plan in allotments with known blowout penstemon populations.
14. Livestock grazing permits/leases will not be increased in any allotment with pastures containing blowout penstemon populations. This management action will be added to the grazing permit/lease renewal or Allotment Management Plan in allotments with known blowout penstemon populations.
15. Introduction of biological controls for noxious and invasive plant species is prohibited in blowout penstemon habitat until the impacts of the control agent have been fully evaluated and determined not to adversely affect the plant populations. The BLM will monitor biological control vectors (RMP ROD 2008, Appendix I of Appendix 14).
16. Herbicide treatments (aerial, vehicle, and ground) of noxious and invasive weeds are prohibited within 0.5 miles of occupied blowout penstemon habitat. Insecticide treatments are prohibited within 1.0 mile of occupied habitat in areas where treatments have the potential to impact blowout penstemon pollinators, Preliminary Final Blowout Penstemon Statewide Programmatic Biological Opinion.

17. For insecticide treatments, no aerial applications of malathion or carbaryl would occur within 3.0 miles of occupied habitats; only carbaryl bran bait or diflubenzuron combined with Reduced Agent Area Treatment methodology will be used within the 3-mile buffer; and no application of carbaryl bran bait will be applied within a 0.25-mile buffer of occupied blowout penstemon habitats.
18. The ACEC is an exclusion area for wind energy development.
19. All proposed right-of-way projects will be designed and locations selected at least 0.25 miles from any occupied habitat.
20. Revegetation projects are not authorized within 0.25 miles of occupied blowout penstemon habitat. (BLM, 2018)

Additional information on the Blowout Penstemon ACEC, and the current area boundary, can be found in the 2018 Blowout Penstemon ACEC Decision Record.

Wilderness Areas and Wilderness Study Areas

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

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

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

WSAs are established in three different ways:

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

Section 603(c) of the FLMPA requires that WSAs are managed so as not to impair their suitability for preservation as wilderness and strives to retain their primeval character and influence, without permanent improvements or human habitation (BLM, 2016c). However, the FLPMA also requires that mining, livestock grazing, and mineral leasing (e.g., grandfathered uses) continue in the manner and to the degree as they were

being conducted in 1976. Therefore, to the extent that grazing was allowed in the wilderness before 1976, its use, specifically including allowing the same number of livestock as existed in 1976, should be continued. Grandfathered uses are protected and must be maintained in the same manner and degree as they were being conducted on October 21, 1976, even if they impair wilderness characteristics according to *Rocky Mountain Oil and Gas Association v. Watt, 696 F.2d 734, 749 (10th Cir. 1982). This requirement includes the authority to develop livestock-related improvements (Utah v. Andrus, 486 F. Supp. 995 [D. Utah 1979]).*

BLM Managed Wilderness Study Areas

Bennett Mountain WSA

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

Encampment River Canyon WSA

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

Ferris Mountain WSA

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

Prospect Mountain WSA

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

Medicine Bow-Routt National Forest Managed Wilderness Areas

Huston Park Wilderness

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

Encampment River Wilderness

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

Savage Run Wilderness

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

Platte River Wilderness

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

Lands with Wilderness Characteristics

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

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

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

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

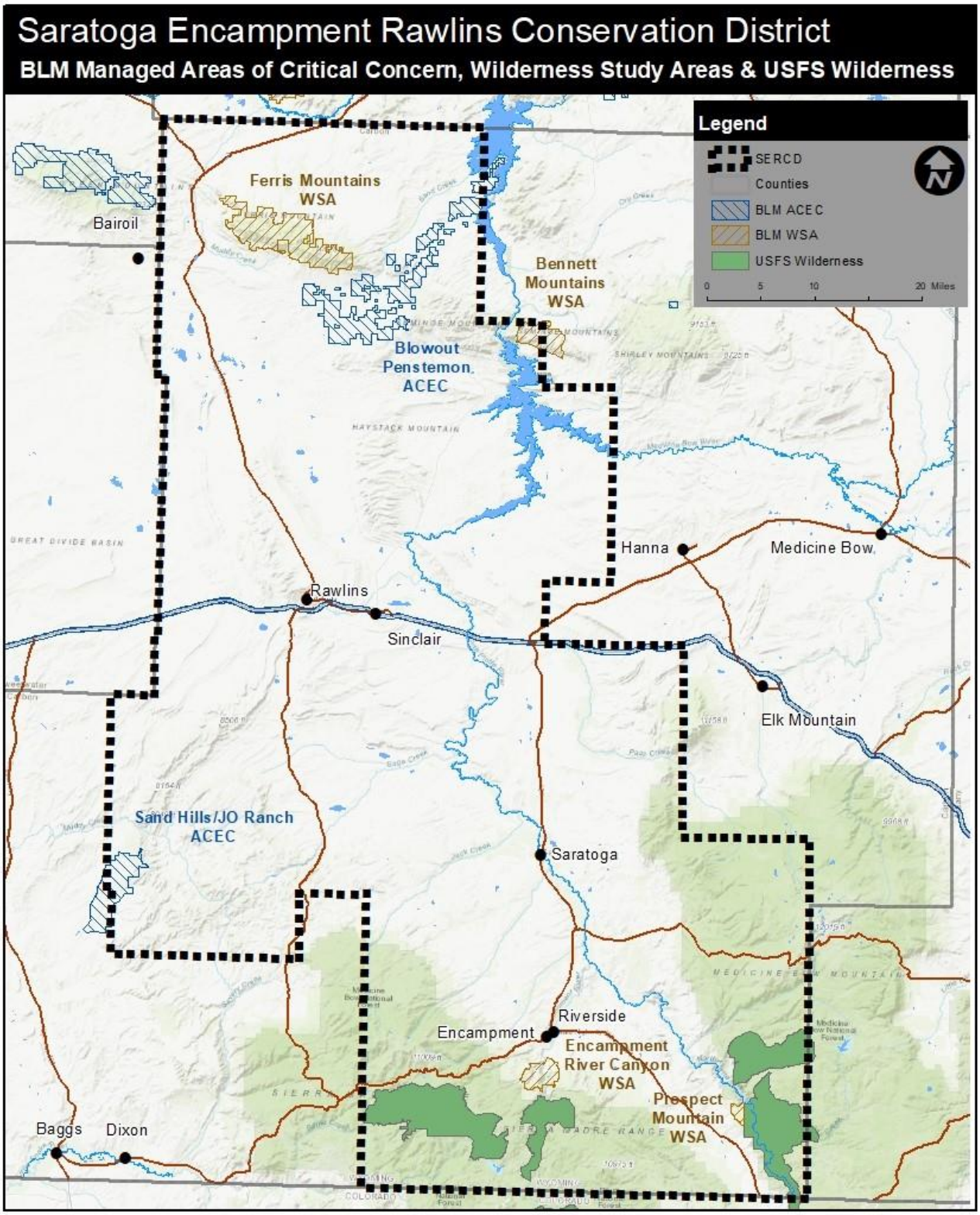

Figure 11: BLM Areas of Critical Environmental Concern, Wilderness Study Areas & USFS Wilderness Areas

10.2.2 Land Exchanges

Land exchanges can be used to alter the checkerboard of federal and private land, allowing lands to be consolidated by ownership type and reducing the amount of federal land that is isolated from other public lands. This allows for more uniform management of USFS and BLM lands and can create public access opportunities that were previously impossible due to the landlocked nature of such parcels and the lack of easements on neighboring private lands. Land exchanges can also be used to allow community development or other purposes that provide great value to the public interest. Exchanges usually take two to four years, but the process can be extended considerably if complications arise with NEPA, land valuation, or ESA.

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

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

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

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

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

Next, an appraisal must be done on each parcel to determine their respective values and assure that the properties are capable of being exchanged. At this point, the agency and private landowner sign a formal exchange agreement binding them to the exchange. The plan is then subject to final review before being completed. During the exchange process, NEPA review must also be completed. The exchange must follow NEPA procedures to determine the environmental impacts of the exchange, including scoping, environmental assessment, notice and comment, and appeals. (USFS, 2004)

The USFS can also perform land exchanges under Title III of the Bankhead-Jones Farm Tenant Act (BJFTA) for parcels situated in National Grasslands. These lands are commonly called “Title III Lands.” Title III lands require

the USFS to determine that an exchange will not conflict with the purposes of the BJFTA and that the values of the properties are "substantially equal." If the USFS can show through a determination of consistency that the exchange does not conflict with the purpose of the BJFTA, it "may be completed without a 'public purpose' reversionary clause." (USFS, 2004)

10.2.3 Payments in Lieu of Taxes

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

11. Mineral and Energy Resources

11.1 Desired Conditions

Policy Mineral & Energy #1: Mineral resources are extracted within the Saratoga-Encampment-Rawlins Conservation District while maintaining a sustainable balance with other resources.

Policy Mineral & Energy #2: All energy development should be industry-self-supporting without governmental subsidies and with minimal impacts to the agricultural community and the environment.

Policy Mineral & Energy #3: Social, cultural, and environmental impacts of energy and industrial mineral development shall be fully analyzed during all National Environmental Policy Act analyses.

Policy Mineral & Energy #4: Federal, state, and local regulatory entities should require proper construction, maintenance, and reclamation of transportation corridors such as access roads, pipelines, transmission lines, etc. to prevent resource deterioration.

Policy Mineral & Energy #5: Federal agencies should require all operators to obtain an executed surface use agreement providing for compensation to the surface owner for damages to the land and improvements as provided in W.S. 30-5-405(a) for all oil and gas operations where a split estate between mineral rights and surface ownership exists. Further, the Saratoga-Encampment-Rawlins Conservation District directs that a surface use agreement includes information on the protection of the surface resources, reclamation activities,

timely completion of reclamation of the disturbed areas, and payment for damages caused by the oil and gas operations.

Policy Mineral & Energy #6: There should be clear standards setting forth what is considered "good faith negotiations" when an operator is negotiating a surface use agreement with a surface user or owner as appropriate.

Policy Mineral & Energy #7: In instances of split estate minerals, federal agencies should ask for input from the surface owner and take the surface owner's requests into great consideration when developing a surface use plan.

Policy Mineral & Energy #8: Federal and state agencies should hold all energy development operators to a very high standard of reclamation success measured against criteria established prior to project implementation.

Policy Mineral & Energy #9: Federal, state, and local agencies should implement the setbacks and standards as set in the Carbon County Zoning Resolution OF2015 as the minimum acceptable distances for commercial Wind Energy Conversion System projects.

Policy Mineral & Energy #10: Federal, state, and local agencies should update setbacks and standards for commercial Wind Energy Conversion System projects based upon best available science to maximize distances from property lines and residents.

Policy Mineral & Energy #11: Drill mud should be removed from drill sites to designated waste sites.

Policy Mineral & Energy #12: Geological studies and research occurs to promote the economic viability of potential new mining and energy activities while maintaining the custom and culture of the Saratoga-Encampment-Rawlins Conservation District.

Policy Mineral & Energy #13: All mining, mineral exploration, and energy development activities protect the municipal water supplies within the Saratoga-Encampment-Rawlins Conservation District.

Policy Mineral & Energy #14: The federal agency's permitting process for new mineral and energy activities within the Saratoga-Encampment-Rawlins Conservation District should be efficient and timelines should follow National Environmental Policy Act guidelines.

Policy Mineral & Energy #15: Federal agencies shall require that "public lands will be managed in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, energy production, and fiber from the public lands, including implementation of the Mining and Minerals Policy Act of 1970," as stated in the Federal Lands Policy and Management Act.

Policy Mineral & Energy #16: Local, state, and federal land use and management plans should contain a thorough discussion and evaluation of energy and mineral development, including the implications such development may have on surface land uses and Carbon County economy. Additionally, all plans must demonstrate an understanding of the Saratoga-Encampment-Rawlins Conservation District's plans and policies and resolve any conflicts.

Policy Mineral & Energy #17: Federal agencies should encourage all projects where soil disturbance requires reclamation to use best management practices.

Policy Mineral & Energy #18: Consider nonnative seeding where appropriate and beneficial for soil and land conservation.

Policy Mineral & Energy #19: Federal agencies should support mitigation plans for mining projects that will minimize habitat loss and fragmentation or degradation of habitat values. The amount and location of mitigation should correspond to the quantity and quality of the habitat at risk and should be conducted locally. Federal agencies should work with local agricultural producers, Conservation Districts, and Carbon County to ensure mitigation is done properly.

Policy Mineral & Energy #20: Private landowners (surface estate owners) are coordinated with during the development and reclamation after a mineral or energy development project.

Policy Mineral & Energy #21: Lease sales for eligible lands in Carbon County are held at least quarterly.

Policy Mineral & Energy #22: New roads and utility rights-of-way should be co-located in existing corridors and where there has been previous disturbance to minimize new ground disturbance associated with energy development. When co-location is not possible, locate new roads outside of important wildlife habitats.

Policy Mineral & Energy #23: Linear soil disturbance projects should be placed in or adjacent to previously disturbed corridors. Prevention of additional habitat fragmentation is encouraged and surface occupancy of energy development should occur in already disturbed areas or habitat edges.

Policy Mineral & Energy #24: Federal agencies should protect water quality, aquatic habitat, and fish and wildlife habitat by conserving water bodies and associated wetland and riparian areas. Minimize disturbance of these areas from associated energy developments such as buildings, roads, and other structures.

Policy Mineral & Energy #25: Federal agencies should conduct pre-construction surveys in coordination with the appropriate state agencies for a minimum of twelve months on important wildlife species for new energy developments, including: big game surveys, migratory bird surveys, raptor nest surveys, Greater sage-grouse surveys, any known Endangered Species Act and sensitive species list surveys, and bat surveys (resident and migratory).

Policy Mineral & Energy #26: Federal agencies should conduct a minimum of twelve months of post-construction monitoring to assess displacement of wildlife and the effectiveness of mitigation measures. Monitoring should cover all seasons of operation and should follow credible data criteria.

Policy Mineral & Energy #27: Baseline water testing should be completed using state water quality standards in coordination with the Saratoga-Encampment-Rawlins Conservation District before a proponent is issued a permit for development within the district.

Policy Mineral & Energy #28: Affordable and reliable electricity is available and accessible to Carbon County without unnecessary regulatory or management impedances.

Policy Mineral & Energy #29: Federal agencies should support the continued responsible use of coal as an energy source.

Policy Mineral & Energy #30: All wind projects, regardless of when they were permitted follow the current Carbon County and Wyoming State guidelines for decommissioning and abandoning wind turbines.

Policy Mineral & Energy #31: All pipeline, traditional and renewable energy projects, and transmission line development minimize habitat fragmentation, collocate disturbances with existing projects, following existing energy corridors, and conduct successful reclamation.

Policy Mineral & Energy #32: Federal agencies should evaluate the development of renewable energy in coordination with stakeholders.

Policy Mineral & Energy #33: Federal agencies should support diversification to further develop energy infrastructure and energy independence.

Policy Mineral & Energy #34: Absent a conflict with federal law or federal agencies' written reclamation requirements, reclamation requirements should be permitted at the higher of the two standards (Carbon County or federal agency) if there are discrepancies before projects are approved.

Policy Mineral & Energy #35: Federal agencies should develop and determine reclamation standards for proposed actions in coordination with stakeholders.

Policy Mineral & Energy #36: When conflicting with other uses, renewable energy should be a lower priority than other multiple uses in Carbon County.

Policy Mineral & Energy #37: Wind and solar developments should be located on lands with high energy potential and low-value habitats such as previously disturbed lands or areas where impacts on native plant or wildlife species are minimal.

Policy Mineral & Energy #38: Federal, state, and local agencies should discourage locating wind energy projects within migration areas.

Policy Mineral & Energy #39: Federal agencies should follow Carbon County Zoning Resolution Chapter 6.1.C limiting the location of commercial-scale wind or solar energy systems within sage-grouse core areas.

Policy Mineral & Energy #40: Energy corridors, development of pipelines, and development of transmission lines from all energy sources are created within Carbon County while a sustainable balance is maintained with other resources to achieve a high quality of life for County residents.

Policy Mineral & Energy #41: Linear soil disturbance projects use the most efficient route and avoid the use of eminent domain within Carbon County.

Policy Mineral & Energy #42: Future and existing energy corridor, pipeline, and transmission line infrastructure for the transmission of energy and/or materials in and through Carbon County should be developed and improved when it will not affect pre-existing uses or rights.

Policy Mineral & Energy #43: Pipelines should avoid water crossings and placement in river systems. Should a pipeline cross water bodies, boring and other methods that would reduce disturbance to the water body or riverbed should be required.

Policy Mineral & Energy #44: All potentially hazardous materials best management practices shall be required to prevent water quality impairments from occurring from the development of pipelines.

Policy Mineral & Energy #45: Federal agencies should support all localized energy development projects where the energy produced is used in the County.

Policy Mineral & Energy #46: Federal agencies should support the responsible use of uranium and further expand and explore nuclear power as an energy source.

11.2 Local Support Data

Energy development is an important component of Wyoming's economy, but large-scale development often has long-term impacts on the District's natural resources, wildlife populations, and local economy. Given the effects that energy projects may have on area resources, it is essential that potential impacts are fully understood so that development may move forward while adverse effects are limited or avoided. This requires that the level of development be based on decisions founded through analyses using the best available science and data. In addition, future development should be considered along with existing development patterns (Figure 12) and with input from the public regarding desired level of expansion. The Wyoming Game and Fish Department (WGFD) and Wyoming Game and Fish Commission (WGF Commission) offer recommendations for alternatives for consideration by companies and jurisdictional agencies to ameliorate conflicts between energy development and wildlife resources. The reports containing these recommendations include *Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats* and *Wildlife Protection Recommendations for Wind Energy Development in Wyoming*. An additional WGFD developed resource that should be used during all wind energy project analysis is *The Governor's Wind Conflict Map* (Figure 13)(accessed 10/28/2021).

The Wyoming State Geological Survey's Mines and Minerals Map can be found here. The map was developed as an aid to researching and understanding Wyoming's mines and mineral resources. It is a work in progress that will continue to be updated.

While Figure 2 shows the land ownership patterns, Figure 14 shows the mineral ownership patterns in the District. There is a substantial amount of private land with federally held mineral ownership or estate. This split in surface and mineral ownership is what is known as "split estate". Given this land pattern, it is critical to evaluate the effects of federal and local management actions across all ownerships. The BLM manages all minerals owned by the federal government including those split estate minerals.

Split estate is defined as a tract of land where title to the surface estate is separate from title to some or all the mineral rights. Split estates are common in the western United States because private land conveyed under the homestead or stock raising homestead acts reserved the mineral rights to the United States. Under common law, the mineral estate is dominant and can be developed over the objections of the surface owner. Generally, and as set forth in Wyoming law, mineral rights often take precedence over other rights and the owner of the mineral estate has an overriding right to use the land to explore for and develop minerals. Many situations of split estate minerals in which the federal government owns the mineral estate originate back to the Stock Raising Homestead Act of 1916 in which the federal government reserved everything to the government besides what was necessary to farming and raising livestock. 43 U.S.C. §§ 291 and 299; *see also Watt v. Western Nuclear Inc.,* 462 US 36, 53-55 (1983).

Thus, the federal government owns the minerals of any lands in which the patent is after 1916. Modern laws and case decisions have modified the rule but still recognize the right of the mineral owner to develop the mineral estate, even when the surface owner objects. If the United States owns the surface, it will require the mineral owner to reclaim the surface, secure permits to build roads and other facilities and post reclamation bonds. If the surface is owned by a private landowner, then federal reclamation laws do not apply but state laws will.

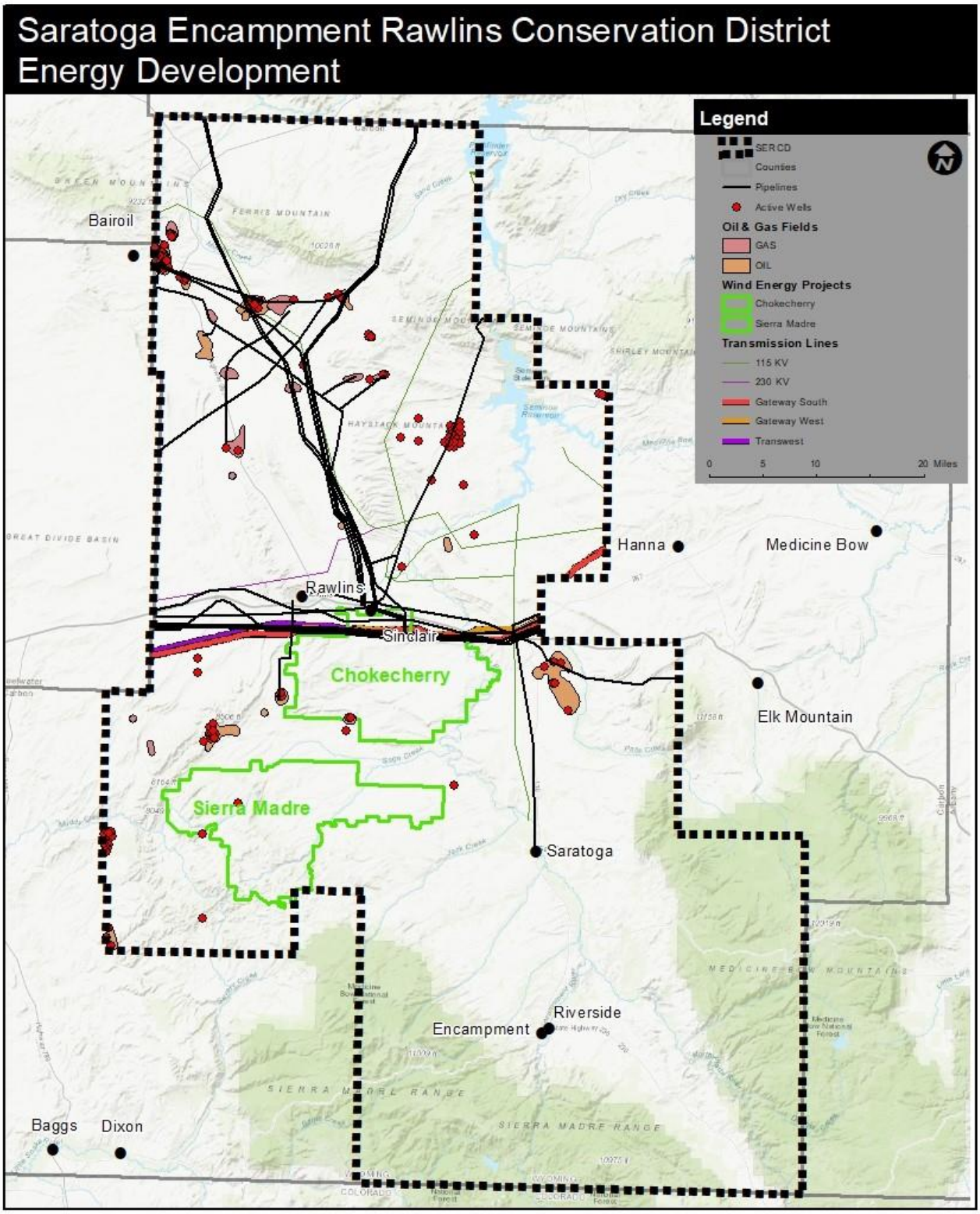

Figure 12: Existing energy development

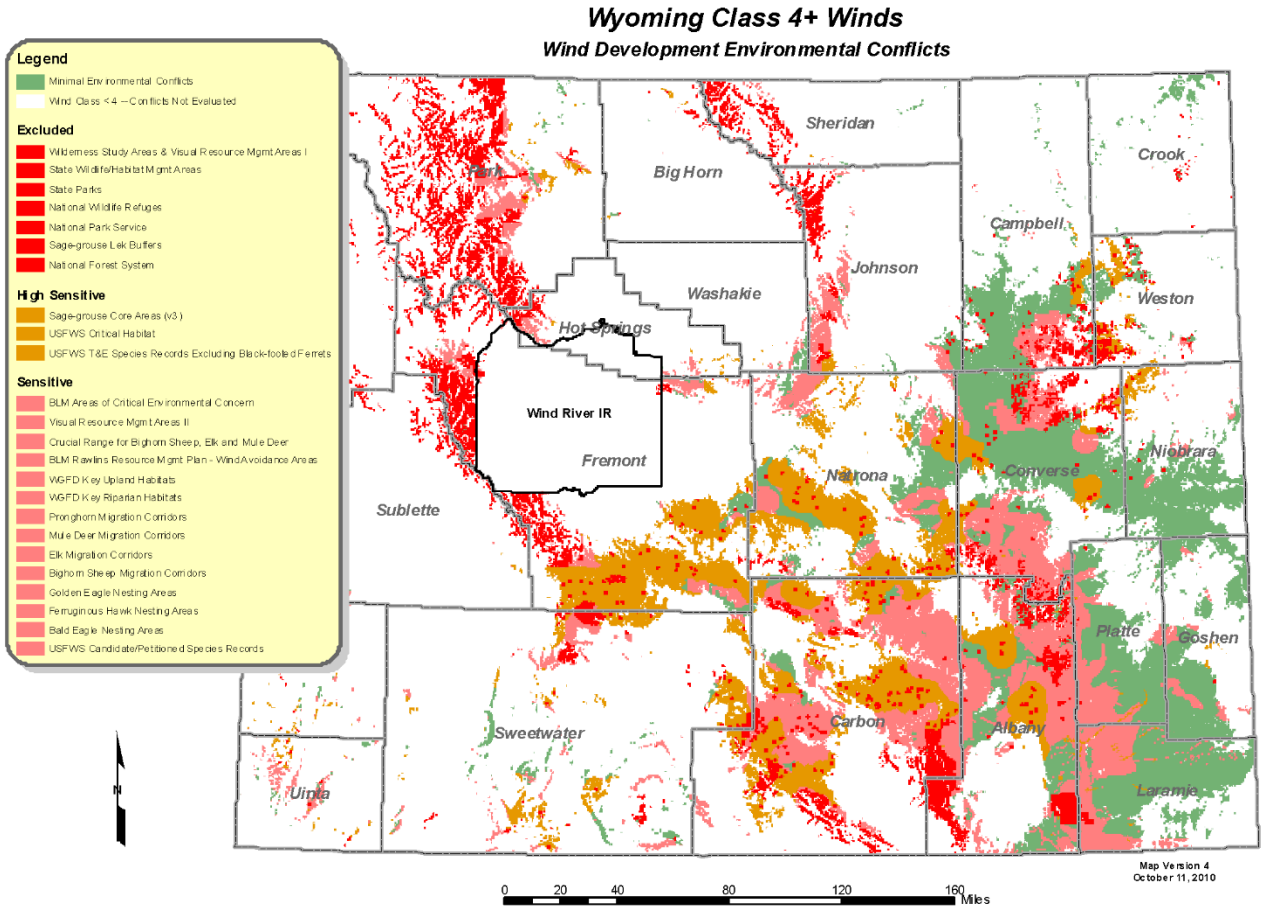

Figure 13: Wyoming Class 4+ Winds Wind Development Environmental Conflicts

When oil and gas operations occur, the surface owner has the potential for significant impacts to their property if they do not also own the mineral rights. While guidance says that 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), there are very few options for the surface owner. Wyoming Statute (W.S.) 30-5-401 thru 30-5-410 includes provisions that the oil and gas operator and the surface owner shall attempt good faith negotiations to reach a surface use agreement for the protection of the surface resources, reclamation activities, timely completion of disturbed area reclamation, and payment for damages caused by the oil and gas operations. 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.*

Additionally, W.S. 30-5-405 "Surface damage and disruption payments; penalty for late payment" outlines that these payments only cover land directly affected by oil and gas operations for damages sustained by the surface owner for loss of production and income, loss of land value, and loss of value of improvements caused

by oil and gas operations. It is vital not only for the surface owner to see that the oil and gas operator conducts reclamation activities for the protection of the surface resources but also for the conservation of the resource. Timely and successful reclamation is key in preventing wind and water soil erosion, degrading water quality, and reducing the quality of the habitat.

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

A small amount of REE-bearing minerals were mined from an igneous rock bearing pegmatite in Carbon County during the 1950s (King and Harris, 2002). The Wyoming State Geological Survey recently investigated, analyzed, and produced maps showing there are deposits of REE in Carbon County. The development of REE in Carbon County would contribute to the diversification of the economy and benefit the national supply. Two mapped REE districts fall within Carbon County, the Southern Medicine Bow Mountains District and the Sierra Madre District. The map of REE for the state is shown in Figure 15: REE sample locations across Wyoming from previous studies and the most current study..

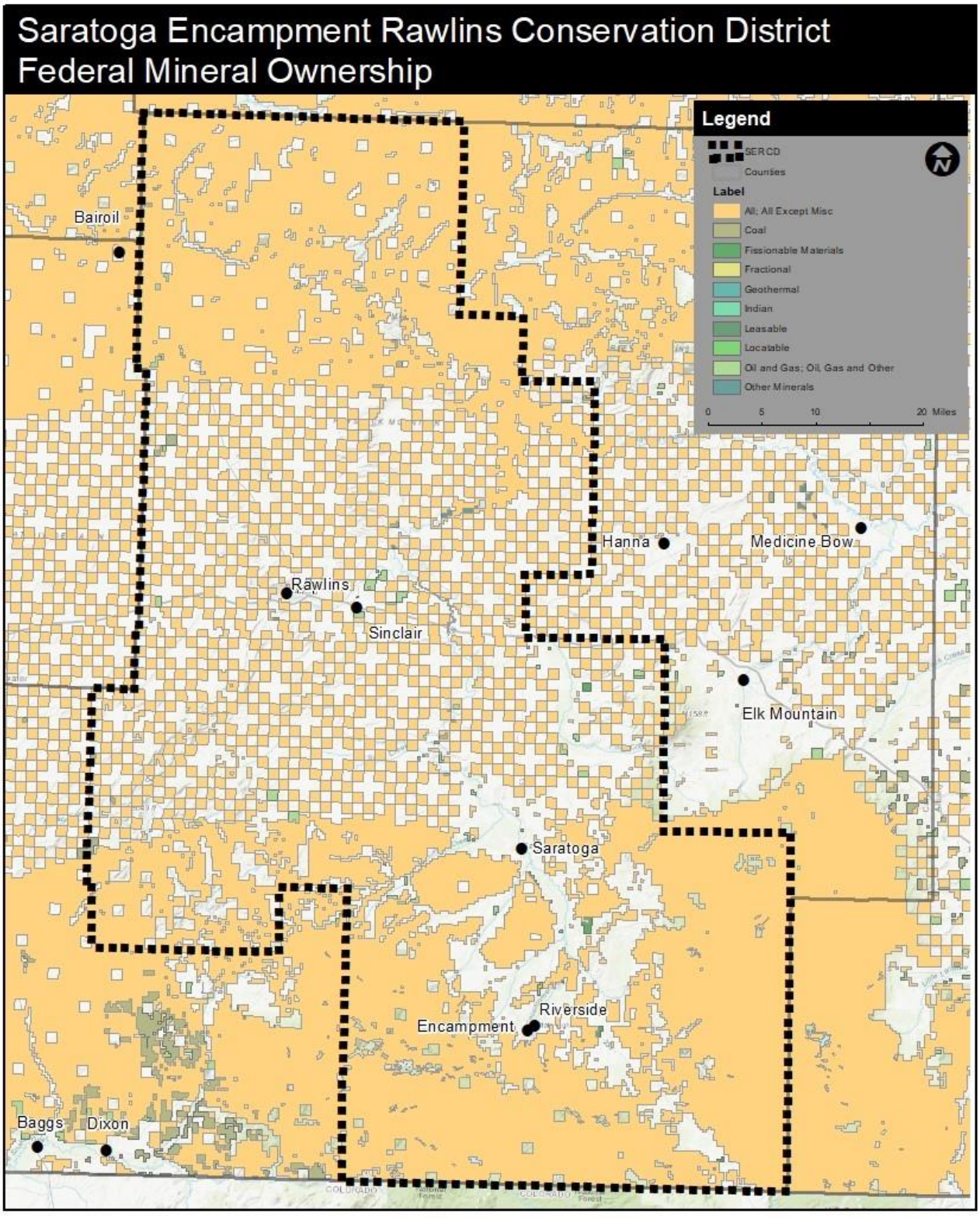

Figure 14: Mineral ownership

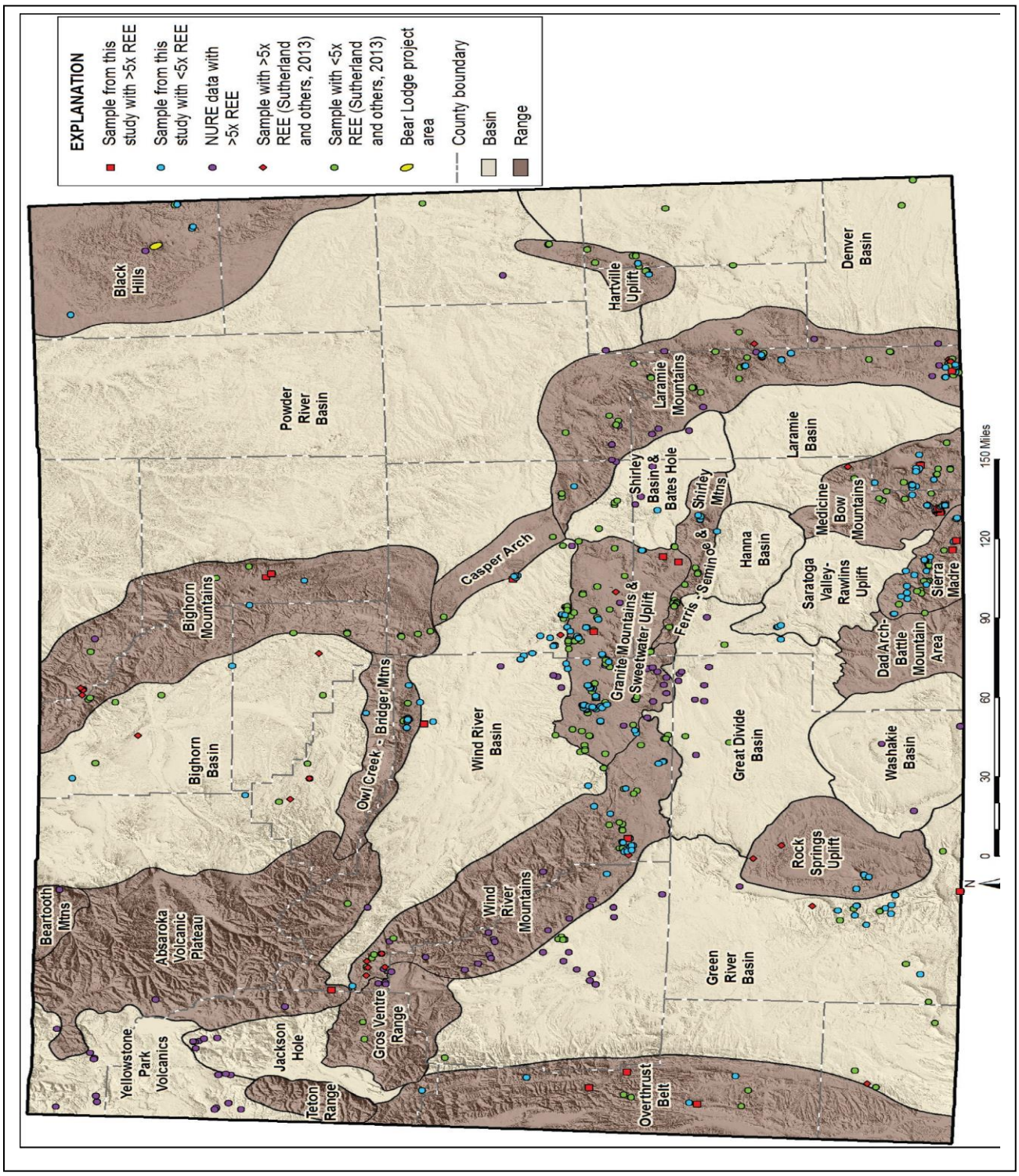

Figure 15: REE sample locations across Wyoming from previous studies and the most current study.

12. Recreation

12.1 Desired Conditions

Policy Recreation #1: Recreational resources are managed to promote public access and availability to the public for both tourism and recreational uses while balancing sustainable resource health and taking other industries and uses into consideration.

Policy Recreation #2: Saratoga-Encampment-Rawlins Conservation District is coordinated with regarding the conversion or creation of access roads and timber roads into recreational use or the closing or decommissioning of any road.

Policy Recreation #3: Federal and state agencies should promote responsible tourism and recreation through signage that explains the historical significance of areas, sites, and roads.

Policy Recreation #4: Federal and state agencies shall enforce lawful motorized off-road access to protect the natural resources and other permitted multiple uses.

Policy Recreation #5: Saratoga-Encampment-Rawlins Conservation District should be notified and given an opportunity to be a cooperating agency for all special recreation permit approvals and renewals.

Policy Recreation #6: Recreational hunting and fishing, including big game hunting, small game hunting, fur trapping, and other recreational hunting that is a part of Saratoga-Encampment-Rawlins Conservation District's custom and culture is maintained at its traditional levels.

12.2 Local Support Data

Tourism and recreation on public lands in Carbon County are significant contributors to the custom, culture, and economy of the area. Residents consider the area their recreational haven. Visitors from the state, nation, and around the world come to enjoy the outdoor amenities and culture that is unique to the rural area. Peace, solitude, and quiet of the rivers, mountains, and deserts are what draws residents and visitors alike.

In the early days of Carbon County, both recreation and tourism revolved around camping, hunting, and fishing. Today, snow activities such as cross-country skiing, snowshoeing, and snowmobiling make the County a year-round playground. The wide-open spaces and diverse landscapes provide places to explore pristine mountains, high deserts, and blue-ribbon fisheries. Hiking, biking, and horseback riding trails including the Continental Divide Trail, can also be found. Additional year-round recreational activities include boating and rafting, rock climbing, bird watching, backpacking, horseback riding, ice fishing, soaking in mineral hot springs, and even skijoring.

Guest ranches and resorts are becoming more popular tourist attractions. One of the oldest and largest guest ranches in the country is in the District. The demand for quality big game hunting and fishing experiences has increased business for local outfitters and guides. Some agricultural operations have diversified to include recreation and tourism to capture earning potential.

The use of motorized off-highway vehicles (OHVs) has significantly increased in the County for use as transportation to get to other recreational activities and as a recreational activity itself. They are popular with outdoor enthusiasts and provide a means of transportation for those who camp, hunt, and fish. The use of OHVs increased 42% between 2001 and 2007 and has continued to increase since then. Between 1999 and 2001 Wyoming recorded the highest rates of OHV recreation in the country (Cordell et al., 2008). The

increased use of such vehicles can bring in additional recreational revenue to the County but can also incur additional costs to public land managers for trail maintenance and the County for increased emergency management services and potential search and rescue services. Motorized vehicle (including OHVs, ATVs, and ORVs) use on public lands present unique challenges for management, including additional maintenance, increased fire potential, resource degradation, and trail user designations and management.

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

Trapping of furbearers is another form of recreation and rich history of the District. Trappers working in the Sierra Madres in the early 1830s held a rendezvous at the base of the mountains in the upper North Platte River Valley. This meeting place became known as the Grand Encampment. (Van Pelt, 2014b)

Camping is an extremely popular activity within the District particularly during the spring, summer, and fall months. There are numerous campgrounds in the area managed by a variety of federal, state, and local agencies with some being privately owned. Dispersed camping is also very popular and without any registration, makes it difficult to quantify the benefits and impacts.

13. Socio-economics and Public Health & Safety

13.1 Desired Conditions

Policy Socio-economics #1: Federal agencies shall base all management decisions on the public land multiple use mandate of our public lands and implement actions that balances multiple uses for sustainable land health.

Policy Socio-economics #2: Achieve an economic balance between multiple land use impacts and quality of life.

Policy Socio-economics #3: The custom and culture of the citizens of the Saratoga-Encampment-Rawlins Conservation District is protected to provide for community stability.

Policy Socio-economics #4: Wildlife conservation and sustainability of healthy wildlife habitat and populations is promoted and recognized for their contributions to the local economy.

Policy Socio-economics #5: Federal, state, and local agency plans or management recommendations shall include an appropriately detailed socio-economic impact description that addresses the effects on the Saratoga-Encampment-Rawlins Conservation District's natural resources, economies, and health and welfare of the its citizens.

Policy Socio-economics #6: Impact assistance opportunities and funding (i.e. sewer, water, habitat impacts, water quality and quantity, etc.) should occur as early in the industrial development process as possible.

Policy Socio-economics #7: Recreational resources within Carbon County are managed to promote access and availability to the public for both tourism and recreational uses while balancing sustainable resource health and taking other industries and uses into consideration.

Policy Socio-economics #8: Access to public lands for tourism and recreation is continued within Carbon County.

Policy Socio-economics #9: Federal and State agencies should implement a funding mechanism from off-highway vehicles for improved enforcement and emergency response efforts.

Policy Socio-economics #10: Federal and state agencies should coordinate with the Saratoga-Encampment-Rawlins Conservation District regarding fees for public land use areas within the district.

Policy Socio-economics #11: Recreational hunting and fishing, including big game hunting, small game hunting, fur trapping, and other recreational hunting that is a part of Carbon County's custom and culture is maintained at its traditional levels.

Policy Socio-economics #12: Federal agencies shall abide by the July 16, 2020 National Environmental Policy Act Guideline Standards (Act Standards). All federal agencies should follow the Act Standards, including following all deadlines and page limits for Environmental Impact Statements and Environmental Assessments and abiding by their coordination and cooperation obligations with local governments.

Policy Socio-economics #13: Federal agencies consider Carbon County's socioeconomic and economic viability in all federal decisions.

Policy Socio-economics #14: The socioeconomic and economic viability of Carbon County is protected and enhanced.

Policy Socio-economics #15: The Saratoga-Encampment-Rawlins Conservation District is consulted and coordinated with whenever an enforcement or management decision will impact the economy, tax base, or employment within the district.

Policy Socio-economics #16: Federal agencies acknowledge local governments (i.e. Counties, Conservation Districts) as experts regarding the economic and social impacts of decisions.

Policy Socio-economics #17: Federal agencies should conduct analysis of social and economic factors at the smallest scale, such as on a County-wide basis, in addition to analysis on a state-wide or national scale.

Policy Socio-economics #18: Socioeconomic analyses should include a description of existing social, demographic, and economic conditions; the analytical methodologies used; and the impacts to topics including (but not limited to) population, employment, income levels, industry activity, housing, community services, utility services, schools, fiscal impacts to Carbon County and local jurisdictions, public revenues and expenses, transportation, and quality of life.

Policy Socio-economics #19: Federal agencies should promote multiple uses that will increase the economic diversity of Carbon County and promote efforts to efficiently analyze and approve the permitting process for those uses.

Policy Socio-economics #20: Payment in lieu of taxes funds and other federal funding mechanisms should be used to offset any loss in tax income resulting from land exchanges or purchases from federal agencies.

Policy Socio-economics #21: A full analysis of the impact each alternative and subsequent "decision" will have on the local economy should be conducted. If it is determined that an alternative will have significant negative impact on the local economy, the alternative/decision is not supported by the Saratoga-Encampment-Rawlins Conservation District.

13.2 Local Support Data

The data in the following socioeconomic subsections form a baseline of information for evaluating the impact of federal plans and projects on local socioeconomic indicators. Counties are a widely-used scale for collecting and publishing socioeconomic measures and information included here uses counties as the basic unit of analysis. Data sources that publish on this scale include the National Agricultural Statistics Service, U.S. Bureau of Economic Analysis, the U.S. Census Bureau, the U.S. Census of Agriculture, the U.S. Department of Commerce, Wyoming Department of Revenue, and Headwaters Economics. Therefore, some of the measures of socioeconomic indicators included here may differ from the measures for the District alone. Future comparisons of socioeconomic indicators in the District with similar areas are greatly facilitated by using this almost universal scale for data collection and analysis.

Socioeconomic data has no way of adequately reflecting the reliance to access of federal lands and the natural resources they contain for the overall socioeconomic profile of Carbon County. This profile provides a baseline of measures for the socioeconomic indicators of industry, employment, and income. It then provides more detailed measures of indicators for the agriculture, timber, and tourism industries. The greater detail provided for these industries, which are vitally important to the customs, culture, and economy of the District, will be useful for project comparisons, especially when the goal is to maintain or enhance the sustainability, resilience, and diversity of the District's customs, culture, and economy.

Carbon County has experienced periodic ups and downs of its local economy, caused in part by the local and regional impact of energy development. Natural and mineral resources have and continue to be important economic factors in Carbon County. The local economy has a few stabilizing influences such as employment opportunities created by the Wyoming State Penitentiary, the presence of a major east-west Interstate, and the continued operation of the Union Pacific Railroad.

For more information on how Carbon County's socioeconomic profile compares to Wyoming or the United States, refer to the data sources that publish on this scale and as listed in the References section.

13.2.1 Industry

Agriculture

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

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

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

Farm employment share in Carbon County in 2019 was 4.8% compared to Wyoming's 3.6%.

Timber

The timber industry once was a large economic driver for Carbon County as timber was harvested for the railroad and transported down the river to make it easier to access. The timber industry has decreased significantly in more recent years, however, the sawmill in Saratoga, Saratoga Forest Management, remains open and a large employer to that community. The sawmill provides lumber products and wood by-products.

The timber industry is still important to the economic stability of the District and vital component of proactive management of the forests in the District. To sustain a viable timber industry, it is imperative for access to economically feasible quantities of timber. As timber prices, extraction expenses, labor costs, and other costs fluctuate, the parameters for being economically feasible also fluctuate. During any federal forest land use planning, it is imperative to do a thorough socio-economic analysis based on current (at the time of the planning) and projected figures for these parameters. Lack of proactive forest management and logging can lead to less than ideal environmental conditions as experienced over the last 30 years. If logging of the beetle-killed trees isn't done in a timely manner, consequences include forest-user safety and lack of access by humans, livestock, and wildlife to name a couple.

Figure 16 shows that employment in the timber industry in Carbon County has been volatile since at least the late nineties and was below one-half percent of total employment between 2003 and 2012. (Headwaters Economics, 2016) In 2013, private employment in the timber industry grew to almost 2% of all private employment in the County. The Saratoga sawmill closed in 2002 and reopened in 2012 once again increasing timber employment. Starting with 2017 data, Headwaters Economics states that County Business Patterns no longer reports records for counties with three or fewer establishments to avoid the release of potentially confidential information. Since Carbon County only has one sawmill, data is not available from 2017 to date.

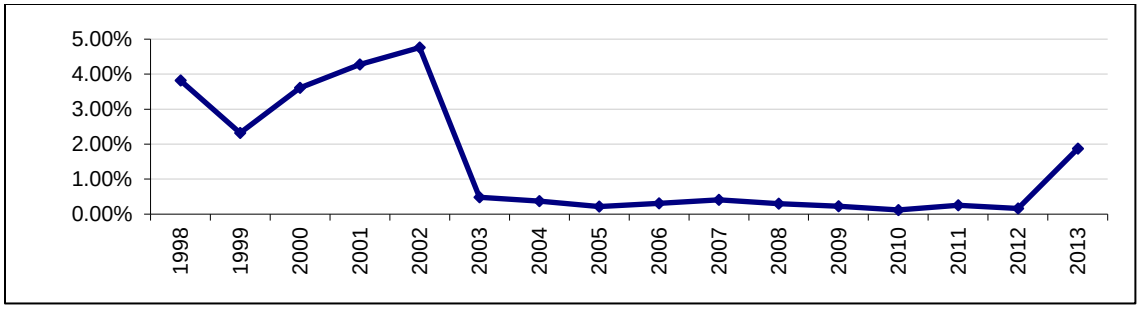

Figure 16: Trends in total private employment in the timber industry, 1998 to 2013

Tourism

Over time, tourism and recreation have remained centered around outdoor activities but have changed some in the County. Guest ranches, resorts, outfitters, and guides are now popular tourism attractions. Some agricultural operations have diversified to include recreation and tourism including outfitting. Hunting, fishing, wildlife viewing, and outdoor recreation have always been a key part of Carbon County.

Recent studies of 2011 surveys have shown that hunters and anglers spend an estimated $788 million in Wyoming with values adjusted for inflation to 2015 dollars. This equates to a total economic importance of up to $1 billion in business activity. Combined total hunting and fishing related spending related to Carbon County in 2015 is estimated to be $26.7 million. (Taylor, et.al., 2016) In addition, those dollars that are spent locally generate secondary impacts in various other support sectors within the local economy. These types of economic contributions become particularly important during times of economic downturn in the state's energy sector. The popularity of hunting and fishing with both residents and nonresidents indicates that these recreational activities are important in terms of both contributions to the local economy and contributions to the residents' quality of life.

Table 5 shows the percent of total employment in Carbon County and Wyoming in 2019 associated with travel and tourism (Headwaters Economics 2021). Travel and tourism related employment makes up over one-quarter of total employment in the county about one-fifth of total state employment.

Table 5: Percent of total employment in travel and tourism for 2019

	Carbon County	Wyoming
Travel and Tourism Related	28.5%	20.1%
Retail Trade	6.5%	3.6%
Gasoline Stations	6.2%	1.8%
Clothing and Accessory Stores	0.0%	1.1%
Miscellaneous Store Retailers	0.3%	0.6%
Passenger Transportation	NA	0.3%
Air Transportation	NA	0.3%
Arts, Entertainment, and Recreation	1.0%	2.5%
Performing Arts and Spectator Sports	0.2%	0.2%
Museums, Parks, and Historic Sites	0.1%	0.2%
Amusement, Gambling, and Recreation	0.7%	2.2%
Accommodation and Food	20.9%	13.7%
Accommodation	9.0%	4.1%
Food Services and Drinking Places	11.9%	9.6%
Non-Travel and Tourism	71.5%	79.9%

Table 6 shows the average annual wages for occupations by sector in Carbon County and the State. (Headwaters Economics 2021) Of note is the relatively low average wages in the travel and tourism sector when compared to the average for all sectors or the average for the private sector. Also of note is the much higher wages in Carbon County for the arts, entertainment, and recreation sector and the amusement, gambling, and recreation sector. Lastly, miscellaneous store retailer wages are significantly higher in the State than in Carbon County.

Table 6: Average annual wages by sector for 2020 and in 2020 dollars

	Carbon County, WY	Wyoming
All Sectors	$52,422	$50,990
Private	$53,192	$50,241
Travel & Tourism	$25,035	$23,713
Retail Trade	$24,536	$25,451
Gasoline Stations	$25,295	$25,526
Clothing & Accessories	Not available	$24,630
Misc. Store Retailers	$15,474	$25,910
Passenger Transportation	$0	$56,777
Air Transportation	$0	$56,777
Scenic & Sightseeing	$0	Not available
Arts, Entertainment, & Rec.	$37,987	$22,894
Performing Arts & Spectator Sports	Not available	$33,845
Museums, Parks, & Historic Sites	Not available	$35,835
Amusement, Gambling, & Rec.	$37,987	$22,894
Accommodations & Food	$24,471	$22,741
Accommodation	$31,760	$30,974
Food Services & Drinking Places	$16,564	$18,671
Non-Travel & Tourism	$52,681	$56,889
Government	$50,271	$53,290

13.2.2 Income & Employment

In 2019, there were 10,098 full and part-time jobs in Carbon County. From 2001 to 2019, jobs in nonservices related industries grew from 2,075 to 2,416, a 16% increase; jobs in services related industries grew from 5,061 to 5,366, a 6% increase; and government jobs shrank from 2,235 to 1,926, a 14% decrease (Figure 17). (Headwaters Economics 2021)

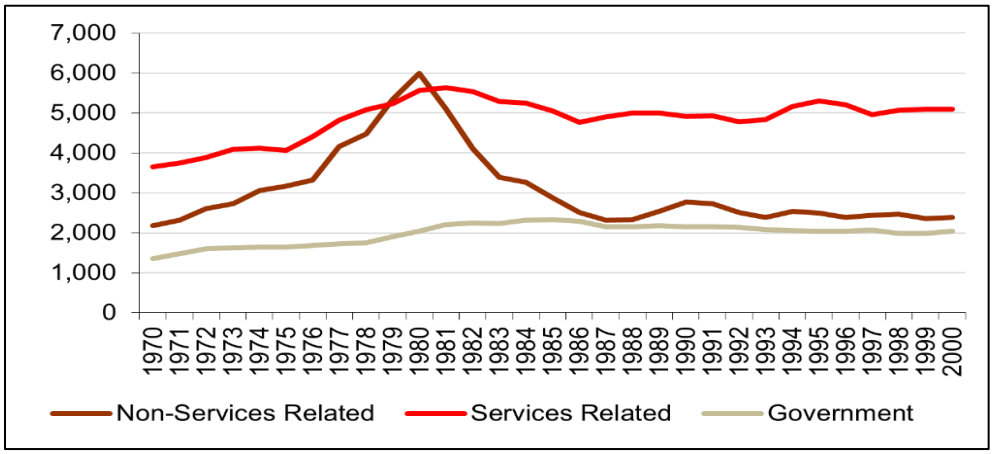

Figure 17: Employment by Major Industry Category, Carbon County, WY

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

Figure 18: Employment by Industry in Carbon County since 2000shows the changes in employment industry sectors from 2000.

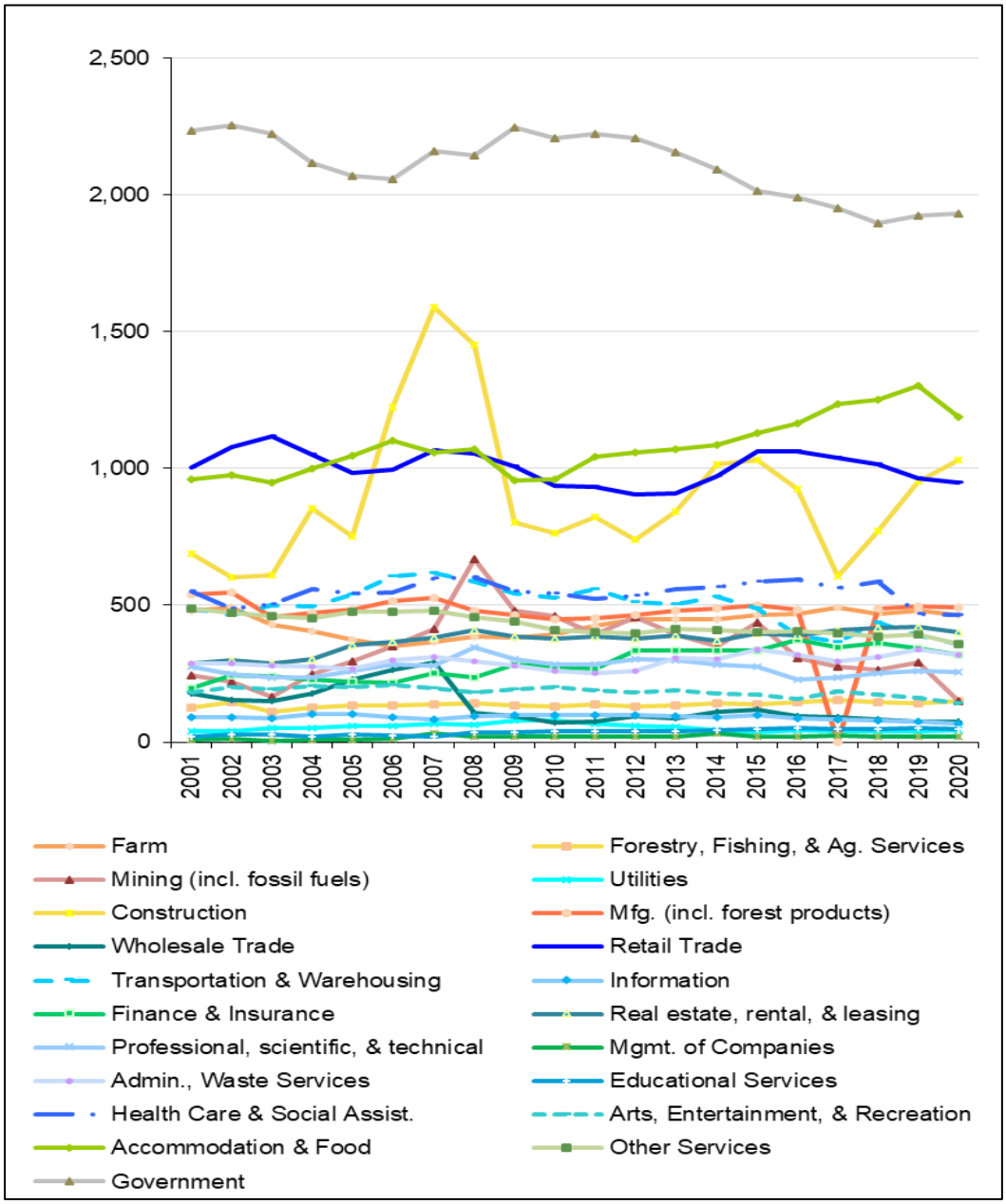

Figure 18: Employment by Industry in Carbon County since 2000

Table 7. shows the Carbon County per capita income in 2019 and the median household income (Headwaters Economics 2021).

Table 7. Per capita and median household income in 2019

	Carbon County	Wyoming
Per Capita Income (2019 $s)	$29,552	$33,366
Median Household Income (2019 $s)	$60,161	$64,049

Table 8 shows the percent of the population below the poverty line for 2019 in Carbon County. Carbon County is higher in both people and families below poverty than Wyoming. (Id)

Table 8. Percent of people and families below the poverty line for 2019

	Carbon County	Wyoming
People below poverty	12.4%	11.0%
Families below poverty	8.9%	6.8%

Table 9 shows the percent of households receiving earnings by source for 2019. Carbon County has a higher percentage of Food Stamp/SNAP than the Wyoming comparison and has a lower percentage for the remaining categories. (Id)

Table 9. Percent of households receiving earnings by source for 2019

	Carbon County	Wyoming
Labor earnings	78.7%	79.9%
Social Security (SS)	30.2%	30.7%
Retirement income	11.6%	20.0%
Supplemental Security Income (SSI)	3.1%	3.4%
Cash public assistance income	0.7%	1.6%
Food Stamp/SNAP	5.9%	5.4%

Table 10 shows the percent employment by North American Industry Classification System category for Carbon County in 2019. (Id)

Table 10: Percent employment by industry in 2019

Industry	Carbon County	Wyoming
Ag, forestry, fishing & hunting, mining	14.6%	11.0%
Construction	7.7%	8.2%
Manufacturing	9.3%	4.1%
Wholesale trade	1.2%	1.9%
Retail trade	11.0%	11.0%
Transportation, warehousing, and utilities	8.2%	6.2%
Information	0.8%	1.5%
Finance and insurance, and real estate	2.3%	4.1%
Professional, scientific, management, administrative, & waste management	3.1%	6.8%
Education, health care, & social assistance	16.6%	24.3%
Arts, entertainment, recreation, accommodation, and food	10.9%	10.5%

Industry	Carbon County	Wyoming
Other services, except public administration	3.0%	4.6%
Public administration	11.3%	5.8%

14. Soils

14.1 Desired Conditions

Policy Soils #1: Natural Resources Conservation Service shall develop, complete, digitize, and publicize a Level III soil survey on range and Level II soil survey on irrigated lands for all lands within Carbon County.

Policy Soils #2: A partnership between county, state, and federal agencies is formed to fund a Natural Resource Conservation Service accepted Level III Soil Survey on range and Level II soil survey on irrigated lands (digitized/published) for all lands within Carbon County.

Policy Soils #3: Federal agencies should assist in maintaining the resilience of our soil resources and encouraging practices that support soil health and reduce or eliminate soil loss.

Policy Soils #4: The Natural Resource Conservation Service (NRCS) is the primary source for soils data and other soils data is used only when NRCS soils data is unavailable for a site and the data is approved by NRCS before determining it as an appropriate Ecological Site Description.

Policy Soils #5: The Saratoga-Encampment-Rawlins Conservation District supports the use of soils and range site data to create site-specific objectives for livestock, wildlife, etc. until Ecological Site Descriptions are developed and available.

Policy Soils #6: All federal projects or actions disturbing topsoil will preserve the topsoil and are required to have topsoil reclamation and management plans.

Policy Soils #7: Federal agencies should support and encourage the use of mechanical, natural, or a combination of treatments, including livestock grazing with hoof action, as key to site reclamation for soil health and biodiversity.

Policy Soils #8: Topsoil in Carbon County shall be considered a non-renewable resource and conserved during any soil disturbing activity.

14.2 Local Support Data

Most natural resource work whether for agriculture, energy, or wildlife purposes begins with the evaluation of the soils to determine site potential. Managing soils so they are healthy and sustainable for future generations is important. One Natural Resources Conservation Service (NRCS) definition of soil health, also referred to as soil quality, is "the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans." (NRCS, n.d.-c) Soil has inherent properties like the soil's natural ability to function that does not change easily. For example, sandy soil drains faster than clayey soil. Dynamic soil quality on the other hand can change more easily and is dependent on how it is managed. Management choices affect the amount of soil organic matter, soil structure, soil depth, and water and nutrient holding capacity. Soils respond differently to management depending on the inherent properties of the soil and the surrounding landscape. (NRCS, n.d.-c)

To facilitate soils meeting their range of ecosystem functions requires a combination of soil physical, chemical, and biological properties that are a stable reflection of the environmental forces that formed the soil, including the climate, parent material, topography, and vegetation acting over a long period of time. Disturbances to the fragile soils in the District can be very detrimental and reclamation success is limited mostly due to edaphic reasons. In other words, related to or caused by particular soil conditions, as of texture or drainage, rather than by physiographic or climatic factors.

Normally, NRCS soil surveys are done at a Level 3 for rangelands and at a Level 2 for irrigated hay lands. The Level 2 survey is more intensive and detailed. For Carbon County, the basic level 3 soil survey has not been completed and only preliminary soil survey data is available for most of the District (Figure 19). Most District soil information available is very general and lacks the level of detail necessary to provide sufficient support for management decisions. The lack of basic soil survey data creates project limitations for implementing BMPs.

The BLM has done some soils work in certain areas for specific projects, but the information is not readily shared and does not necessarily correlate with the standard soils data compiled by NRCS. The U.S. Forest Service, Medicine Bow National Forest recently posted level 3 soil survey data for National Forest Service managed lands in the District, Figure 20, to web soil survey.

Ecological sites are defined as “a distinctive kind of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances.” (The Jornada, n.d.-a) Ecological sites are the basic units of soils and associated plant communities, and they provide the basis for setting vegetative management objectives, monitoring, and extrapolations of management impact to other areas. Information and data pertaining to a particular ecological site are organized into a reference document known as an Ecological Site Description (ESD). ESDs function as a primary repository of ecological knowledge regarding an ecological site. The uniform use of ESDs should be used as the foundation for the inventory, evaluation, setting of monitoring objectives, and management of rangeland, pasture, and forestland.

The District has very few finalized ESDs since Level 3 soil survey data is required before an accurate ESD can be developed. More detailed soils information is necessary for accurate analysis of disturbance impacts, reclamation, and rangeland health evaluations to name a few.

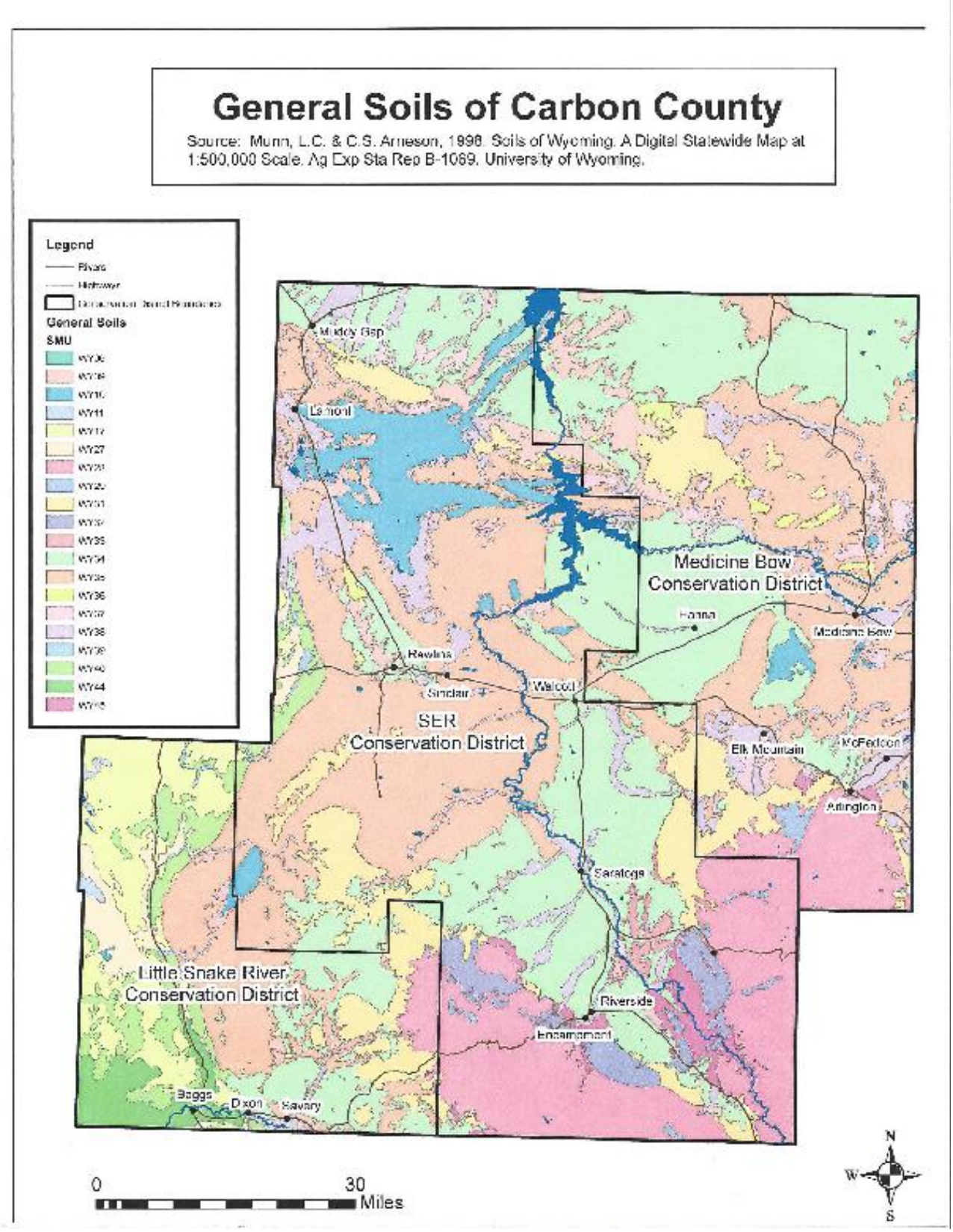

Figure 19: Preliminary Soils Data for Carbon County

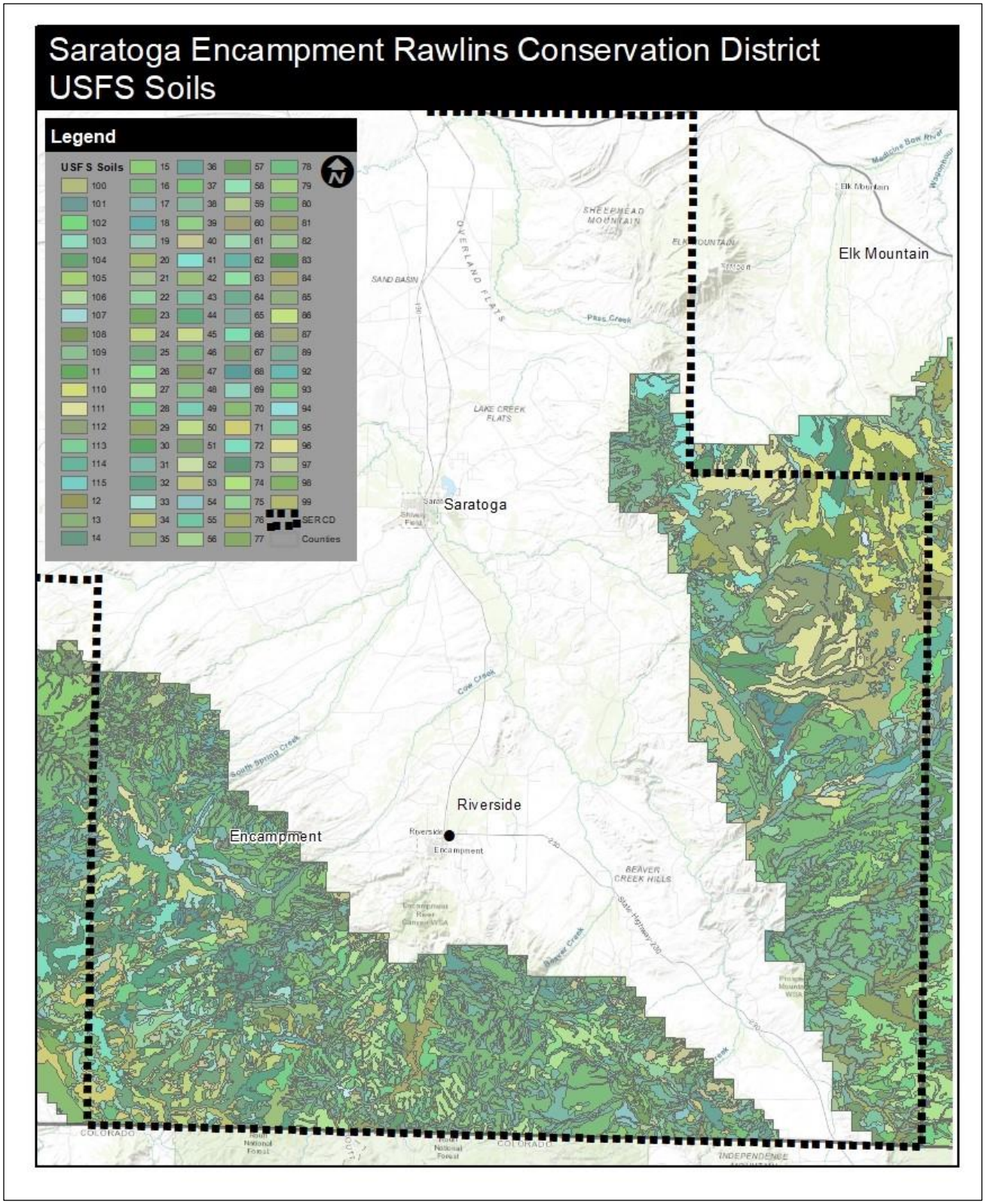

Figure 20: US Forest Service Level 3 Soils Survey

15. Transportation

15.1 Desired Conditions

Policy Transportation #1: Federal agencies should require proper construction, maintenance, and reclamation of transportation corridors such as access roads, pipelines, transmission lines, etc. to prevent resource deterioration.

Policy Transportation #2: Historic access routes should be allowed for consumptive uses such as hunting, grazing, and logging and for the maintenance of water developments, fences, or other infrastructure in special land use designated areas i.e., designated wilderness, wilderness study areas, areas of environmental concern and other special status areas.

Policy Transportation #3: Full and open access to federal lands for purposes such as safety, health, and welfare of citizens is maintained and expanded where possible and coordinated with county/local governments.

Policy Transportation #4: Roads are maintained for economic uses, such as agriculture, mining/oil and gas industries, energy industries, communication infrastructure, and recreation where possible so long as such access, maintenance, or expansion does not harm private property rights.

Policy Transportation #5: Current and future designated motorized and non-motorized access to public lands is maintained where possible so long as such access, maintenance, or expansion does not negatively impact water quality.

Policy Transportation #6: Transportation corridors (Interstate 80, state highways, and county roads) are maintained to ensure efficient movement of products (agricultural, industrial, other supplies) across Carbon County, the State of Wyoming, and the Nation.

Policy Transportation #7: All federal agencies' travel management planning efforts affecting the Saratoga-Encampment-Rawlins Conservation District (SERCD) are coordinated with the SERCD.

Policy Transportation #8: Saratoga-Encampment-Rawlins Conservation District (Board) should be notified in advance of any planning process or activity that has the potential to restrict, eliminate, or expand access from federal to state or private lands and allow the Board to initiate coordination and cooperation to resolve any potential conflicts with the Board's objectives, principles, and policies, prior to acting.

Policy Transportation #9: Should a federal agency believe that a road closure falls under a categorical exemption/exclusion (CE/CX), the Saratoga-Encampment-Rawlins Conservation District shall be consulted before completing the CE/CX.

Policy Transportation #10: Historic stock trails should be designated in all applicable planning documents as valid access routes for the purpose of trailing livestock between grazing areas so long as it does not infringe upon private property rights.

Policy Transportation #11: The Saratoga-Encampment-Rawlins Conservation District considers all stock trails to be roads and these roads should not be abandoned unless abandonment is explicitly established by the Wyoming Carbon County Commissioners.

Policy Transportation #12: Access to forest products via logging roads within the Saratoga-Encampment-Rawlins Conservation District should be ongoing, and access to these sites should be through a cross-country travel system so long as it does not infringe upon private property rights.

15.2 Local Support Data

Interstates, highways, county roads, and railroads all allow products and services to move throughout the county, state, and nation. There is also a significant amount of oil and gas traffic utilizing these corridors to convey production across the District and state. County roads are extremely important for moving agricultural, timber, and industrial products for industries important to the District. Products and supplies are heavily transported using this network of roads.

It is vital to the sustainability of the District's livestock industry that grazing areas and the stock trails that connect them, be open and accessible. Livestock "trailed" from one grazing area to another must access the grazing areas on both ends of the process and the lands in between. Historical use of stock trails and grazing areas has fluctuated over the years, depending on market prices and weather conditions, but the need for access availability has remained constant.

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

The BLM and USFS both have specific provisions they must follow when considering the closure of roads and trails. These provisions require that such activity be conducted in coordination with the Board prior to such action being taken (43 CFR subpart 8364; 36 CFR part 212). Road closures have occurred in the District by both federal and state agencies without prior coordination, despite requirements by federal law for coordination before a final decision.

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

- Road: A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.
- Primitive Road: A linear route managed for use by four-wheel-drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards.

- Trail: A linear route managed for human-powered, stock, off-highway vehicle forms of transportation, or historical or heritage values. Trails are not generally managed for use by four-wheel-drive or high-clearance vehicles.
- Designated Roads and Trails: Specific roads and trails identified by the BLM (or other agencies) where some type of motorized vehicle use is appropriate and allowed either seasonally or yearlong. (BLM, 2006)
- Temporary routes (roads): Short-term overland roads, primitive roads, or trails authorized or acquired for the development, construction, or staging of a project or event that has a finite lifespan (definition from BLM Instruction Memorandum 2007-176).
- Logging road: Any new or existing road that is mechanically shaped where the road will be specifically used to facilitate the management or harvesting of timber. (USFS, 2000)

15.2.1 Transportation and Access Acts

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

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

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

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

15.2.2 Federal Highway Administration

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

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

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

15.2.3 Federal Agencies Transportation and Access

Bureau of Land Management

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

United States Forest Service

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

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

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

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

United States Fish and Wildlife Service

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

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

15.2.4 Revised Statute 2477

Revised statute 2477 (R.S. 2477) provided that "the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted." The Act of July 26, 1866, § 8, ch. 262, 14 STAT. 251, 253 (1866) (formerly codified at 43 U.S.C. § 932). Congress enacted a grant of rights-of-way over unreserved

public lands for the construction of highways. The grant was originally Section 8 of the Mining Act of 1866, which became section 2477 of the Revised Statutes; hence the grant is commonly referred to as R.S. 2477.

The grant is self-executing and a R.S. 2477 right-of-way comes into existence "automatically" when the requisite elements are met (*See*, *Shultz v. Dep't of Army*, 10 F.3d 649, 655 (9th Cir. 1993)). One hundred and ten years after its enactment, R.S. 2477 was repealed with the passage of the FLMPA, 43 U.S.C. § 1701 et seq (*See*, 43 U.S.C. § 932, repealed by Pub. L. No. 94-579, § 706(a), 90 STAT. 2743, 2793 (1976)). Even though FLPMA repealed R.S. 2477, FLPMA explicitly preserved any rights-of-way that existed before October 21, 1976, the date of FLPMA's enactment (*See*, 43 U.S.C. § 1769(a) (stating that nothing "in this subchapter shall have the effect of terminating any right-of-way or right-of-use heretofore issued, granted, or permitted"); *see also*, 43 U.S.C. § 1701, Savings Provision (a) and (h)). Therefore, R.S. 2477 rights-of-way which were perfected before October 21, 1976, are valid even after the repeal of R.S. 2477. In order for a road to qualify as an R.S. 2477 right-of-way in Wyoming, the road must have been established by a board of county commissioners under the procedures established in Wyoming's county road statutes (*See* Yeager v. Forbes, 78 P.3d at 254).

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

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

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

As discussed earlier, an R.S. 2477 grant is self-executing, and the right-of-way comes into existence "automatically" when the requisite state law elements are met (*See*, *Shultz v. Dep't of Army*, 10 F.3d 649, 655

(9th Cir. 1993)). Thus, adjudication of R.S. 2477 rights is not a prerequisite to their existence unless the agency contests the existence of the grant. In cases where the federal agency contests the existence of an R.S. 2477 right-of-way, a claim against the United States would need to be made under the Quiet Title Act (28 U.S.C.A. § 2409a). The Quiet Title Act provides that the United States may be named as a party defendant in a civil action to adjudicate a disputed title to real property in which the United States claims an interest, other than a security interest or water right (28 U.S.C.A. § 2409a(a)). In such an action, a plaintiff must demonstrate with particularity the nature of the right, title, or interest which the plaintiff claims in the real property, the circumstances under which it was acquired, and the right, title, or interest claimed by the United States (28 U.S.C.A. § 2409a(d)).

16. Vegetation

16.1 General / Noxious Weeds & Other Invasive Plants

16.1.1 Desired Conditions

Policy Vegetation - General #1: Federal and state land managers should implement proper management of forest and other public lands through Best Management Practices (BMPs) including, but not limited to, timbering, select cutting, fire management, and managed grazing practices for the prevention of catastrophic wildfires.

Policy Vegetation - General #2: Federal land management agencies should support the continued use of livestock grazing as a part of all US Forest Service management area prescriptions and in all Bureau of Land Management special designation and management areas unless prohibited by law.

Policy Vegetation - General #3: Federal land management agencies should apply wilderness area management techniques exclusively to those lands officially designated as Wilderness areas.

Policy Vegetation - General #4: Historic access routes should be included in all special designation areas for consumptive uses such as hunting, grazing, and logging and for the maintenance of water developments, fences, or other infrastructure.

Policy Vegetation – General #5: The Federal land management agencies shall maintain or reinstate prior existing lease rights in Wilderness Areas and Wilderness Study Areas as required by Federal Land Policy Management Act (FLPMA).

Policy Vegetation – General #6: The Federal land management agencies shall not curtail the installment of necessary rangeland improvements in a Wilderness or Wilderness Study Area (i.e., fences and water developments) to maintain and encourage use of the prior existing rights in the area.

Policy Vegetation – General #7: The Federal land management agencies should provide for accurate representation through on-the-ground mapping of roads, fences, rangeland improvement and any other anthropogenic influence in lands under consideration for Lands with Wilderness Characteristics or Wilderness Study Area designations and by not mapping around existing, known infrastructure such as roads or tanks.

Policy Vegetation – General #8: The Federal land management agencies shall conduct an economic and environmental cumulative impacts analysis of existing and proposed designations of wilderness lands before any new areas are designated.

Policy Vegetation – General #9: Removal or release of all Wilderness Study Areas from consideration that contain non-wilderness characteristics, such as roads or active oil/gas wells, should occur in a timely manner.

Policy Vegetation – General #10: Special land use designations should only be considered when they are consistent with surrounding management and contribute to the sound policy of multiple use, economic viability, and community stability.

Policy Vegetation – General #11: All property owners/managers, including state, federal, and private owners/managers 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.

Policy Vegetation – General #12: Federal agencies should support and encourage control efforts to be focused on the control of all federal, state, and Carbon County declared weeds and pests.

Policy Vegetation – General #13: Federal agencies should encourage prescribed grazing to control invasive, noxious, and nuisance plant species.

Policy Vegetation – General #14: Federal agencies should support biological control methods in Wilderness Areas and Wilderness Study Areas to control invasive, noxious, and nuisance plant species.

Policy Vegetation – General #15: Federal agencies should conduct projects to remove conifers and/or sagebrush in areas where they have encroached to improve diversity of age class, fuel breaks, and increase grass / forb understory the health of the ecosystem.

Policy Vegetation – General #16: Federal agencies should recognize the Society for Range Management as the professional organization for rangeland management expertise.

Policy Vegetation – General #17: Any allotments that have been turned back to a federal agency should be reissued within 1-year in coordination with the Saratoga-Encampment-Rawlins Conservation District.

Policy Vegetation – General #18: Noxious and invasive species are managed, in coordination with Carbon County Weed and Pest District, in a sustainable and effective manner that uses credible data addressing the biology and ecology of the pest and system.

Policy Vegetation – General #19: Federal agency projects include actions for the prevention, early identification, detection, and aggressive treatments for noxious and invasive species.

Policy Vegetation – General #20: Federal agencies coordinate and communicate all invasive, noxious, pest, or weed management actions with the Carbon County Weed and Pest District.

Policy Vegetation – General #21: Carbon County Weed and Pest District are consulted on all federal projects' weed management plans.

Policy Vegetation – General #22: Federal agencies should identify that invasive species can be native or nonnative plants, animals, aquatic species, or insects.

Policy Vegetation – General #23: Federal decisions affecting grazing use shall be made based on the best available scientific information that is applicable to the rangeland resources in the local Bureau of Land Management Field Office or US Forest Service Ranger District. The scientific information and credible data used shall be consistent with standards of the Data Quality Act and legally collected.

16.1.2 Local Support Data

The National Land Cover Dataset (NLCD) is a national dataset that specializes in maps showing changes in vegetation and land use. NLCD includes data that is updated about every five years and has data for 2001, 2006, 2011, 2016, and 2019. In general, the District vegetation and land use changes are minimal over the past 20 years. The pine beetle epidemic and Mullen Fire (see Figure 24) have had the greatest impact on land cover in the District over the past fifteen years. Table 11 shows the percentage of each land cover type. (NRCS, n.d.-d)

Table 11: Land Cover Data from NRCS

Land Cover	Percent
Wyoming big sagebrush	39.51%
Lodgepole pine	13.05%
Mountain big sagebrush	12.33%
Desert shrub	5.30%
Aspen forest	4.07%
Irrigated crops	3.48%
Saltbush fans and flats	3.15%
Greasewood fans and flats	3.13%
Black sagebrush steppe	2.64%
Spruce-fir	2.51%
Clearcut conifer	2.23%
Basin exposed rock/soil	1.46%
Vegetated dunes	1.24%
Dry-land crops	1.24%
Open water	1.10%
Limber pine and woodland	1.02%
Human settlements	0.41%
Alpine exposed rock/soil	0.40%
Forest-dominated riparian	0.35%
Subalpine meadow	0.30%
Active sand dunes	0.23%
Shrub-dominated riparian	0.22%
Juniper woodland	0.21%
Unvegetated playa	0.11%
Surface mining operations	0.10%
Xeric upland shrub	0.08%
Bitterbrush shrub steppe	0.06%
Ponderosa pine	0.04%
Mixed grass prairie	0.02%
Mesic upland shrub	0.02%

Figure 21 : Dragging the fields to remove shrubs.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

LANDFIRE, Landscape Fire and Resource Management Planning Tools, is a multi-partner program that produces consistent, comprehensive, geospatial data and databases that describe vegetation, wildland fuel, and fire regimes across the United States and insular areas. (LANDFIRE, 2019) LANDFIRE's developed state-and-transition models represent pre-settlement reference conditions and compare these to current conditions. The tool indicates there has been a significant shift in the vegetation across the District since pre-European settlement.

The most dominant vegetation type in the District is Wyoming Big Sagebrush Shrubland that has a departure from reference in the form of altered age class distribution. There has been a shift to older stands of sagebrush and this is most likely due to wildfire suppression allowing shrub communities to succeed to later development conditions and not allowing areas to be reset to an early development stage.

Both BLM and USFS have adopted policies to ensure that agency actions do not drive rare taxa towards listing as Threatened or Endangered under the Endangered Species Act.

The BLM Wyoming State Office has established and updated over time a list of "Sensitive" Species warranting special attention on BLM lands. BLM sensitive species are defined as "species that could easily become endangered or extinct in the state", including:

a) species under status review by the FWS/ National Marine and Fisheries Service,
b) species whose numbers are declining so rapidly that Federal listing may become necessary,
c) species with typically small or fragmented populations, and
d) species inhabiting specialized refugia or other unique habitats.

The USFS, Region 2 developed and updated over time lists of "Sensitive Species" that warrant special attention on USFS lands. USFS sensitive species are defined as plant and animal species identified by the Regional Forester for which population viability is a concern as evidenced by:

a) significant current or predicted downward trends in population numbers or density, and/or
b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

In addition to regional lists, some individual National Forests also maintain a list of Species of Local Concern (SOLC). Wyoming Natural Diversity Database (WYNDD) offers the most complete information for species and habitats of conservation concern. (WYNDD, n.d.-a) Special status plants in the District are listed in Table 12.

Table 12. Special status plants

Agency	Type	Common Name	Scientific Name
USFWS	Listed Endangered	Blowout penstemon	*Penstemon haydenii*
BLM	Sensitive	Cedar Rim thistle	*Cirsium pulcherrimum var. aridum*
		Fremont County twinpod	*Physaria saximontana*
		Fremont County twinpod	*Physaria saximontana var. saximontana*
		Gibbens' beardtongue	*Penstemon gibbensii*
		Laramie chickensage	*Artemisia simplex*
		Limber pine	*Pinus flexilis*
		Meadow milkvetch	*Astragalus diversifolius*
		Persistent sepal yellowcress	*Rorippa calycina*
		Slender spiderflower	*Peritoma multicaulis*
USFS Region 2	Sensitive	Colorado tansyaster	*Xanthisma coloradoense*
		Cushion Townsend daisy	*Townsendia condensata var. anomala*
		Dropleaf buckwheat	*Eriogonum exilifolium*
		Dwarf raspberry	*Rubus arcticus*
		Dwarf raspberry	*Rubus arcticus var. acaulis*
		Greater yellow lady's slipper	*Cypripedium parviflorum var. pubescens*
		Lesser bladderwort	*Utricularia minor*
		Lesser panicled sedge	*Carex diandra*
		Park milkvetch	*Astragalus leptaleus*
		Plains rough fescue	*Festuca hallii*
		Sageleaf willow	*Salix candida*
		Slender cottongrass	*Eriophorum gracile*
		Weber's ipomopsis	*Ipomopsis aggregata ssp. weberi*
USFS - Med Bow NF	Species of Local Concern (SOLC)	Alpine besseya	*Besseya alpina*
		Boreal bog sedge	*Carex magellanica*
		Broadlipped twayblade	*Listera convallarioides*
		Clustered lady's slipper	*Cypripedium fasciculatum*
		Curlyhead goldenweed	*Pyrrocoma crocea var. crocea*
		Falsegold groundsel	*Packera pseudaurea var. flavula*
		Hall's ragwort	*Senecio bigelovii var. hallii*
		Idaho licorice-root	*Ligusticum tenuifolium*
		Marsh felwort	*Lomatogonium rotatum*
		Mud sedge	*Carex limosa*
		Narrowleaf bladderpod	*Physaria parvula*
		No Common Name Available	*Carex magellanica var. irrigua*

Agency	Type	Common Name	Scientific Name
		Ragleaf bahia	*Amauriopsis dissecta*
		Saffron ragwort	*Packera crocata*
		Sagebrush beardtongue	*Penstemon cyathophorus*
		Smooth goosefoot	*Chenopodium subglabrum*
		Thread rush	*Juncus filiformis*
		Western oakfern	*Gymnocarpium dryopteris*
		Whitestem pondweed	*Potamogeton praelongus*

Noxious Weeds, Invasive Species and Pests

The Board supports weed and pest control to increase the productivity of lands and to promote the health, safety, and general welfare of the residents of the County. The Board encourages each of the various property owners and land managers should be responsible for the control of the weeds and pests on their land.

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

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

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

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

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

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

> *"A landowner who is responsible for an infestation and fails or refuses to perform the remedial requirements for the control of the weed or pest [...] may be fined. [...] Any person accused under this act is entitled to a trial by jury." (W.S. §11-5-109e)*

CCWP is working to suppress and eradicate all federally-designated, state-designated (CCWP, 2021b), and Carbon County declared weeds and pests. CCWP also manages programs for hay and gravel weed-free certifications, chemical cost share, equipment rental, mosquito abatement, biocontrol, spray days, and Early Detection and Rapid Response. Additionally, CCWP is pursuing efforts to educate the public about invasive species and pests that are a threat. (CCWP, 2021b)

The declared noxious weed species for Carbon County are:

- Common Cocklebur (*Xanthium strumarium*)
- Halogeton (*Halogeton glomeratus*)
- Mosquito (*Culicidae* spp.)
- Geyer Larkspur (*Delphinium geyeri*)
- Wyeth Lupine (*Lupinus wyethii*) (CCWP, 2021a)

The current federal noxious weeds list is maintained on the USDA Plants Database (NRCS, 2019).

While not listed as a noxious species in the state due to its widespread distribution, cheatgrass (*Bromus tectorum*) and other annual bromes lumped under this common name are a serious threat. This annual grass has reduced the productivity of native range plants and accelerated fire cycles within the District. While widespread control of the species is impossible, all efforts should be made to minimize its potential to take new footholds.

In addition to these plants, aquatic plants like hydrilla (*Hydrilla verticillata*), Eurasian watermilfoil (*Myriopyllum spicatum*), curly pondweed (*Potamogeton crispus*), and didymo (rock snot) (*Didymosphenia geminate*) are of concern. Several animal species are also of concern such as aquatic invasive species like zebra and quagga mussels (*Dreissena polymorpha, Dreissena bugensis*), New Zealand mudsnail (*Potamopyrgus antipodarum*), Asian carp (*Cyprinus* spp.), and rusty crayfish (*Orconectes rusticus*). Almost all of these species can have a negative impact on irrigation structures if they become established and they can clog up or break down irrigation structures (ISAC, 2016). White pine blister rust (*Cronartium ribicola*), pine borers (*Dendroctonus* spp.), and spruce bud worms (*Choristoneura* spp.) can also be problematic invaders in

the forested regions of the District. Several agricultural pests exist that can negatively impact the agricultural regions of the District.

Juniper encroachment is also of concern within the District, as juniper are expanding into the sagebrush ecosystem. The encroachment of conifers into rangeland can reduce rangeland diversity and productivity thus affecting wildlife habitat and grazing. This can reduce important sagebrush habitat for species such as sage-grouse and mule deer. To a lesser extent, sagebrush encroaches into riparian areas and can alter riparian ecosystems as well, affecting wildlife habitat. The expansion of decadent and older age class sagebrush can also be harmful to rangelands as it affects diversity and productivity.

Invasive species can outcompete native species reducing rangeland health. Invasive species can also create monocultures that cause an increase in fine fuel loads thus increasing the risk of fire. Intensive management of these vegetation communities will enhance and sustain multiple uses and increase rangeland productivity.

United States Forest Service

The USFS has a National Strategic Framework for Invasive Species Management that provides broad and consistent strategic direction across all USFS Deputy Areas and agency programs. It also describes how the National and Regional Invasive Species Issue Teams will coordinate activities with the USFS and with Federal, State, and local partners. It lays out the framework for prevention, detection, control and management, and restoration and rehabilitation on USFS lands. (USFS, 2013a)

Bureau of Land Management

The BLM has a Record of Decision (ROD) for a Final Programmatic EIS for National Vegetation Treatments using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM lands completed in 2016 and tiers to the 2007 Final Programmatic EIS for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States. The BLM keeps the National Invasive Species Information Management System database which provides a comprehensive tool for managers to use to standardize the collection of invasive species and treatment data. The database can be found here.

The BLM also recognizes the PlayCleanGo Campaign which is an educational outreach program to protect valuable natural resources while encouraging the public to enjoy the great outdoors. It is a 501 (c)3 non-profit corporation including the USFWS, NPS, USFS, USDA, and Wyoming Weed and Pest Council as major supporters. PlayCleanGo promotes awareness, understanding, and cooperation by providing a clear call to action to be informed, attentive, and accountable for stopping the spread of all invasive species. (NAISMA, n.d.)

16.2 Silviculture, Fire and Fuels (Conservation Forestry)

16.2.1 Desired Conditions

Policy - Silviculture, Fire and Fuels #1: Forest vegetation should be managed for a mosaic of vegetative communities, focusing on the Medicine Bow National Forest Historic Range of Variability, resulting in a diversity of age class distribution, patch size, and vegetation composition as allowed per elevation, edaphic, and topographic influences.

Policy - Silviculture, Fire and Fuels #2: Active management of forested lands should consider timber yield, health of timber stands, provide wildlife habitat, minimize erosion, and promote soil stability.

Policy - Silviculture, Fire and Fuels #3: Forest managers shall use the multiple use mandate for sustainable management of all national forests and other public forests.

Policy - Silviculture, Fire and Fuels #4: The United States Forest Service should support salvage timber sales and other sales to maintain a healthy, viable forest and to reduce the amount of dead wood accumulation within the Medicine Bow National Forest.

Policy - Silviculture, Fire and Fuels #5: Secretaries of Agriculture and Interior should conduct fuel reduction treatments in the wildland-urban interface on federal lands to reduce the potential for wildfire.

Policy - Silviculture, Fire and Fuels #6: Optimize the benefits of forest thinning with timely, large-scale treatments to improve the water balance and resilience of forests and sustain the ecosystem services they provide.

Policy - Silviculture, Fire and Fuels #7: Federal and state land managers should implement proper management of forest and other public lands through Best Management Practices (BMPs) including, but not limited to, timbering, select cutting, fire management, and managed grazing practices for the prevention of catastrophic wildfires.

Policy - Silviculture, Fire and Fuels #8: Forest resources are managed to benefit the health of the ecosystem, economy of the communities, support a strong agriculture industry, and maintain recreational availability along with custom and culture.

Policy - Silviculture, Fire and Fuels #9: Forest management within the Saratoga-Encampment-Rawlins Conservation District is conducted on a watershed level in cooperation, consultation, and coordination with landowners and land managers.

Policy - Silviculture, Fire and Fuels #10: Forest management should support a coordinated timber harvesting and thinning method to promote forest health, reduce disease and insect infestation, reduce wildfire impacts, and prevent waste of forest products.

Policy - Silviculture, Fire and Fuels #11: Forests within the Saratoga-Encampment-Rawlins Conservation District are actively managed to naturally optimize carbon sequestration.

Policy - Silviculture, Fire and Fuels #12: Federal agencies should support natural forest regeneration where appropriate to accelerate carbon sequestration, but it should not be the only method considered for regeneration.

Policy - Silviculture, Fire and Fuels #13: Federal agencies should conduct projects to remove conifers and/or sagebrush in areas where they have encroached as a result of fire suppression to improve diversity of age class, fuel breaks, and increase grass/forb understory.

Policy - Silviculture, Fire and Fuels #14: Federal agencies should coordinate with the Saratoga-Encampment-Rawlins Conservation District, Carbon County, and Wyoming Game and Fish Department on areas where conifer and/or sagebrush should be removed due to encroachment as a result of fire suppression to improve diversity of age class, fuel breaks, and increase grass/forb understory.

Policy - Silviculture, Fire and Fuels #15: All fire rehabilitation efforts in the Saratoga-Encampment-Rawlins Conservation District (SERCD) are done in coordination with the SERCD Board of Supervisors on a case-by-case basis.

Policy - Silviculture, Fire and Fuels #16: Federal agencies should promote the prompt rehabilitation of harvested forest areas and areas affected by wildfire, including salvage logging operations.

Policy - Silviculture, Fire and Fuels #17: Forest management shall follow the mandates of the Organic Administration Act and adhere to the Multiple-Use Sustained Yield Act of 1960, as well as the National Forest Management Act, and the National Environmental Policy Act.

Policy - Silviculture, Fire and Fuels #18: Federal agencies should utilize livestock grazing and fuels management programs to promote forest health and reduce wildfire risk.

Policy - Silviculture, Fire and Fuels #19: Aspen stands should be exposed to periodic fire or manmade disturbance that mimics wildfire to remove competing conifers.

Policy - Silviculture, Fire and Fuels #20: The United States Forest Service timber land managers should offer timely timber sales (post and pole, hazard tree removal, large scale logging operations, etc.) and forest products permits to help sustain the timber industry and ensure that forest conifer age classes are diverse and include both substantial amounts of seedling-sapling stands and mature stands.

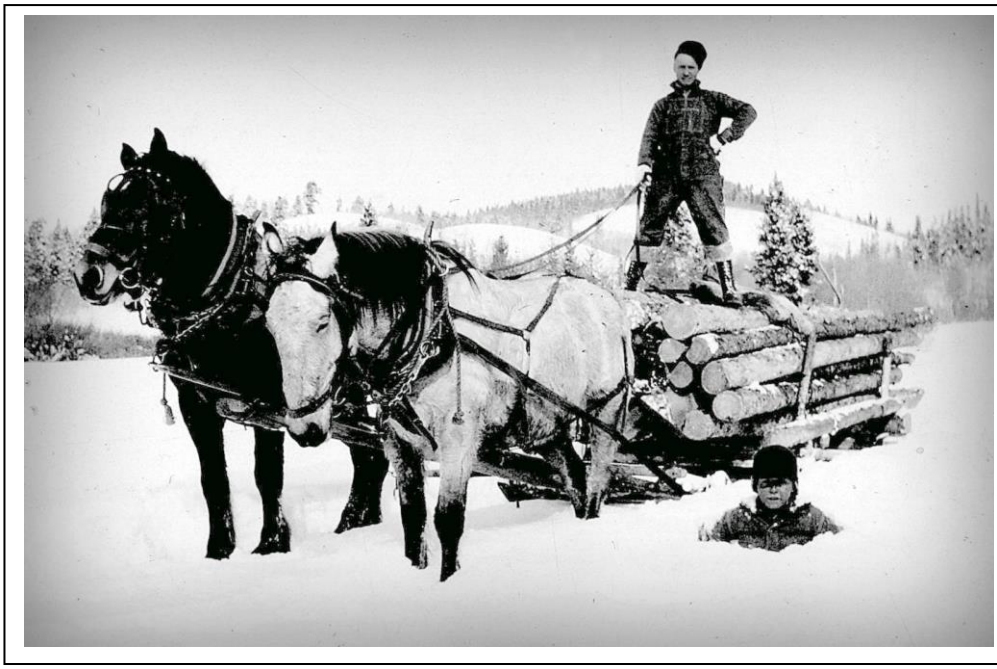

Figure 22: Scott and Dick Barkhurst logging to build a house.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

16.2.2 Local Support Data

Conservation forestry encompasses those measures concerned with the protection, and use of forest lands and resources. Taking care of our forests is fundamental if we want to address the modern challenges including invasive species, pests, disease, habitat fragmentation, and climate change that have taken their toll

on our forests. Conservation forestry includes any conservation-minded practice or activity on forested lands within the District.

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

SFM commercially harvests from the Medicine Bow National Forest and has a history of producing straight, strong, framing lumber from the high-altitude lodgepole and Engelmann spruce forests within the area. The mill has expanded its customer base by adding animal bedding, certified playground material, and landscaping material to the list of products. It is the only company within the region that has the infrastructure necessary to provide large-scale forest restoration on a commercially viable basis. SFM is the largest operating sawmill within a 300-mile radius and has a customer base that extends throughout the western half of the United States. SFM also provides much-needed revenue through direct payment to federal, state, and municipal agencies to treat ecosystems devastated by fire, pathogens, or invasive species. (Saratoga Forest Management, n.d.)

Figure 23: Medicine Bow Forest Landscape

A healthy forest ecosystem provides employment, ecosystem services, and economic benefit for individuals and businesses. Proper forest management ensures the protection of natural resources as well as human health and safety by reducing risk in Wildland Urban Interface (WUI) areas and to communities at risk of

wildfire. Forest products also increase the economic potential as a revenue source. Forest management includes proactive measures to maintain the health of forests, provide enhancement opportunities for forest succession, promote optimum timber species on forested areas identified in the Medicine Bow LRMP for forest products or maintenances and restoration considering the historic range of variability.

Healthy watersheds exhibit good stream health supporting productive, diverse, and stable populations of aquatic life and displaying a natural range of habitat features such as depth of pools, composition of substrate, and sequence of pools and riffles for the aquatic organisms. (USFS, 2020a) The regional Watershed Conservation Practices (WCP) Handbook (FSH 2509.25) contains management measures and design criteria to protect water quality in compliance with the Clean Water Act. The WCP standards address actions on National Forest System lands, including timber, range, water development, engineering, recreation, and all other actions that have the potential to affect water resources. (USFS, 2006)

The Medicine Bow National Forest Land and Resource Management Plan (Forest Plan) provides management direction and standards and guidelines for the vegetation management activities. The Forest Plan provides management direction based on water influence zones, including standards and guidelines and riparian conservation objectives found in the environmental impact statement. Standard 3 of the Forest Plan states: *Manage land treatments to maintain enough organic ground cover in each activity area to prevent harmful increased runoff*. There are many other best management practices and design criteria from the Forestwide standards and guidelines, in addition to Forest Service handbook direction that are relevant and designed to protect water resources and meet the intent of the Clean Water Act. (USFS, 2003a)

Table 2-2 in the Forest Plan describes the selected activities that are permitted or restricted according to management area prescriptions. (USFS, 2003a) Management practices can enhance forest resilience and have positive impacts on watershed-scale runoff even during drought periods. Timely, accelerated forest thinning at large scales in areas where permitted could improve the water balance and resilience of forests and sustain the ecosystem services they provide. (Robles et. al., 2014)

Harvesting of forest products in the District includes firewood, posts and pole, Christmas trees, and commercial harvesting. Carbon County ranked second in percent of total timber harvested in Wyoming at 14%. Timber sales contracts have been issued in recent years and fuels mitigation projects in the WUI are being conducted. In 2018, approximately 8,779,000 board feet came out of the National Forest in Carbon County, 500,000 board feet came off State lands, 2,000,000 came off BLM lands (Forest Industry Research Program, 2018).

The vegetation in Carbon County has evolved under grazing and periodic fire since the beginning of time. The fire return interval has been significantly altered on the landscape since European settlers came to this area. Wildfires were a common part of the natural environment and the historical disturbance regime. It was the main factor driving vegetation succession and creating habitat mosaics. Wildfire is perceived much differently now.

Wildfire is defined as an unplanned, unwanted fire that spreads rapidly and is difficult to extinguish. This includes accidental human-caused fires, unauthorized human-caused fires, escaped prescribed fires, and naturally occurring fires. Wildfires have had catastrophic effects in the District, including damage to the watersheds, timber resources, grazing lands, wildlife habitat, and recreational activities that rely on healthy forests and rangelands (Figure 24). A high degree of coordination between federal, state, and local agencies is necessary for the management of wildfires. Some wildfires are suppressed immediately to prevent resource

damage, but other fires are controlled to carry out specific land health objectives, such as habitat enhancement.

Many areas of Carbon County fall within a Wildland Urban Interface (WUI). A WUI is an area where human-made structures and infrastructure (e.g., cell towers, schools, water supply facilities, oil and gas pads, etc.) are in or adjacent to areas prone to wildfire (U.S. Fire Administration, 2020). WUI areas are typically private forestlands that are within 500 meters of public forestlands. The 500-meter buffer is used to identify the existing and potential WUI area because guidelines for defensible space necessary to protect homes from wildfire range from 40 to 500 meters around a home. Between 2000 and 2019 Carbon County experienced a 23.5% increase in land developed within the WUI. (Headwaters Economics, 2019) Carbon County has a Community Wildfire Protection Plan (CWPP) that was last updated in 2016 and can be found here. The purpose of the plan is to identify at-risk communities, prioritize these communities based on fire risk, and make recommendations for reducing the chances of unplanned fire threatening these communities.

Forested areas have experienced drastic changes since pre-European settlement occurred. LANDFIRE's developed state-and-transition models were analyzed to represent what may have been pre-European settlement reference. It relies on estimating historical range and variation of landscape patch dynamics. Pre-settlement conditions for the most dominant forest cover type in the District, Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland, is estimated to have a more even distribution of successional classes across the landscape than what currently exists. There are nearly double the amount of late succession forested conditions compared to estimated pre-settlement conditions. (LANDFIRE,2019)

The second most dominant forest cover type, Rocky Mountain Lodgepole Pine Forest. Historically only 50% of the spruce-fir and 40% of the lodgepole pine stands were in a later development condition and currently 97% of the spruce-fir and 63% of the lodgepole pine stands are late development. (LANDFIRE, 2019) These lodgepole pine forests have had some areas reset to earlier development stages due to insect caused mortality and recent fires, but still have a buildup of late development stands. Similar to the rangelands there has been a drastic shift to later developed stands.

Forests in the District have been the most drastically affected cover type. Western spruce budworm has decimated Douglas-fir stands and mountain pine beetle has killed much of the lodgepole pine component resulting in a homogeneous landscape of highly flammable fuels. There are tools that can be used to inform evaluations of wildfire risk or prioritization of fuels management needs across large landscapes.

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

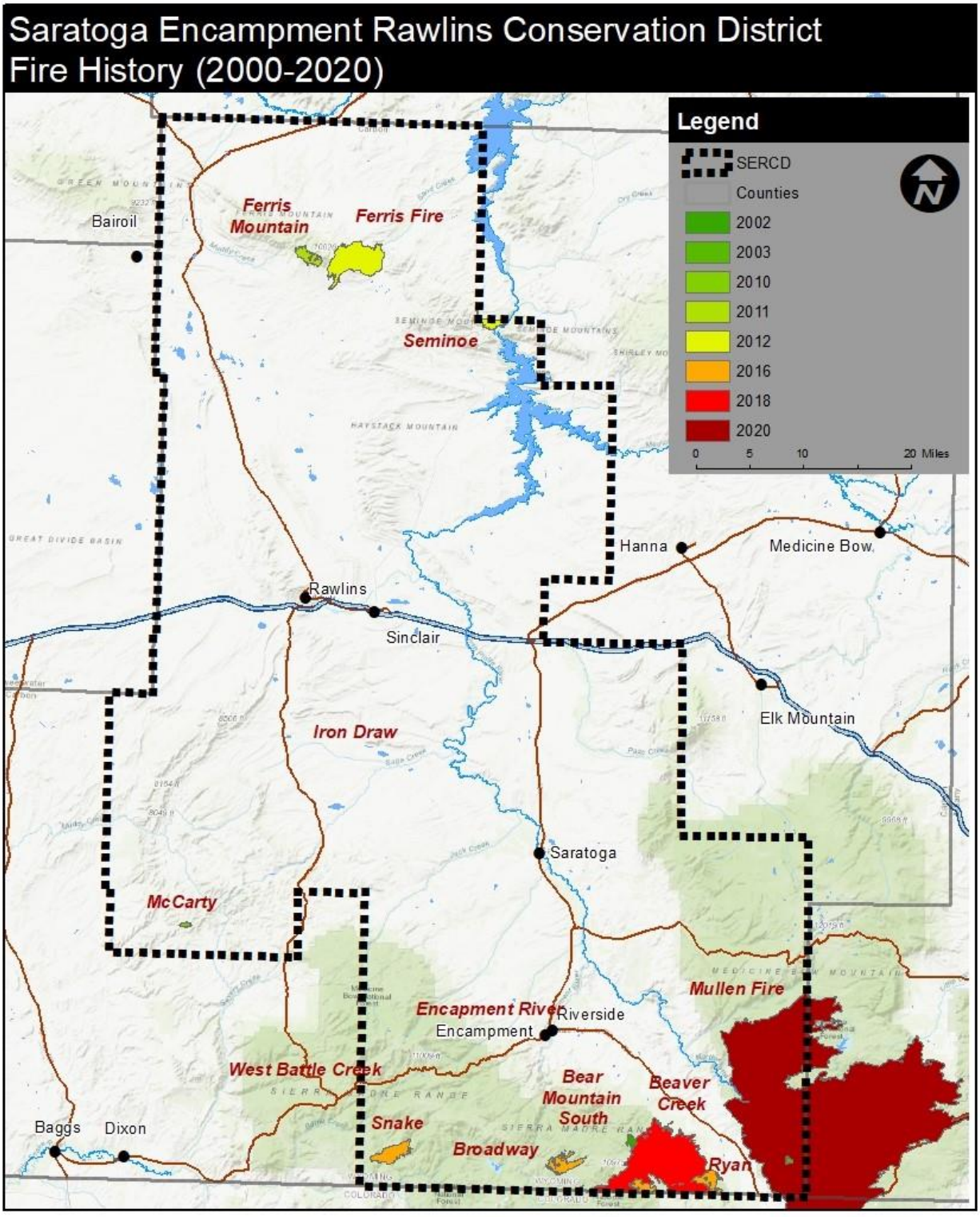

Figure 24: ***Wildfires within Carbon County larger than 100 acres from 2000 to 2020.***

16.3 Rangeland Management & Rangeland Health

16.3.1 Desired Conditions

Policy Range #1: The land management agencies should support maintaining and improving existing conditions to promote optimum ecosystem function.

Policy Range #2: The Bureau of Land Management shall respect private landowner rights to manage grazing using the greatest amount of flexibility allowed by43 CFR § 4130.3-2 (f).

Policy Range #3: The US Forest Service shall respect private landowner rights to manage grazing using the greatest amount of flexibility allowed by statutes, regulations, and USFS policy.

Policy Range #4: Rangeland monitoring and data collection should be utilized for managing rangeland conditions based upon a cooperatively developed monitoring plan that clearly identifies rangeland goals and goal-appropriate monitoring methods.

Policy Range #5: Federal land management agencies should use cooperative monitoring Memorandums of Understanding so that private or consultant data can be collected and approved by the land management agency if the land management agency is unable to collect data or the supplementary data would prove beneficial.

Policy Range #6: Land management agencies should authorize the full adjudicated preferential grazing rights, including but not limited to, active and suspended Animal Unit Months (AUMs) on state and federal lands while maintaining and improving the resource.

Policy Range #7: Proper and appropriate livestock grazing practices should be used as a tool for the sound management of private, state, and federal lands.

Policy Range #8: The Secretaries of Agriculture and Interior should develop fire management policies that utilize and acknowledge the beneficial effects of planned grazing as a fire management tool.

Policy Range #9: Livestock grazing is maintained as a viable major component of the economy, custom, and culture of Carbon County.

Policy Range #10: Wyoming Standards for Healthy Rangelands are used as the basis for administering livestock grazing on Bureau of Land Management and United States Forest Service lands.

Policy Range #11: Range improvement projects are approved in a timely manner.

Policy Range #12: The Saratoga-Encampment-Rawlins Conservation District within Carbon County are consulted early in the scoping process whenever a proposed decision will impact grazing, local agriculture producers, or the economy.

Policy Range #13: Federal lands within Carbon County are managed for multiple-use and sustained yields, which includes continued grazing as intended by Congress in the passage of the Taylor Grazing Act, Federal Land Policy and Management Act, Multiple Use-Sustained Yield Act, and the National Forest Management Act.

Policy Range #14: Federal decisions affecting grazing use shall be made based on the best available scientific information that is applicable to the rangeland resources in the local Bureau of Land Management Field Office or US Forest Service Ranger District. The scientific information and credible data used shall be consistent with standards of the Data Quality Act and legally collected.

Policy Range #15: Federal decisions affecting grazing use the best available credible data, with localized baseline and monitoring data given heavier weight than regional, state, or national data.

Policy Range #16: The Bureau of Land Management shall support the use of grazing flexibility and outcome-based grazing for all grazing permit renewals and allotment decisions where appropriate.

Policy Range #17: The US Forest Service shall support grazing permit administration that allows for a more flexible livestock operation in responding to environmental and economic conditions while maintaining proper use and management of rangeland vegetation.

Policy Range #18: The Federal land management agencies should acknowledge the current types of entities eligible to hold term grazing permits for economic stability of our conservation district, county, state, and nation to promote generational operation succession.

Policy Range #19: The US Forest Service may establish Forage Reserves as an official type of grazing allotment making allotments available for occasional use and preventing the allotment being vacated or closed provided it allows for maximum flexibility consistent with the available forage resources. When the reserve is created, it should not have a confining set of criteria for its use, e.g., on-off dates, species of livestock.

Policy Range #20: Validation of a term grazing permit requires that at least 90% of the permitted number of livestock must be grazed on the allotment for at least the majority of the grazing season in the first year following permit issuance.

Policy Range #21: The US Forest Service shall ensure grazing permit validation occurs before the permittee has the ability to request non-use or to waive the permit to another entity.

Policy Range #22: Responses to requests for grazing permit buyouts by all US Forest Service (USFS) authorized officers must be consistent with statutes, regulations, and USFS policy on Third Party Arrangements or Permit Buyouts by External Groups of April 3, 2014, regarding permit buyouts by external groups and requested closure of active grazing allotments.

Policy Range #23: The spring grazing permittee meeting shall not be open to the public. This meeting is a business meeting between the land management agency and the permittee to discuss Annual Operating Instructions.

16.3.2 Local Support Data

The history of domestic livestock grazing in the Carbon County goes back over 150 years, although native herbivores have grazed the area for centuries prior to that time. Settlers brought sheep into the area beginning in the late 1860s. Livestock production has been a critical component of the economy and lifestyle of the County, and proper grazing management can positively influence the ecosystem health. Proper utilization of the range resources in the District is vital to the economy of the local communities (see Section 4.2 for more economic support data).

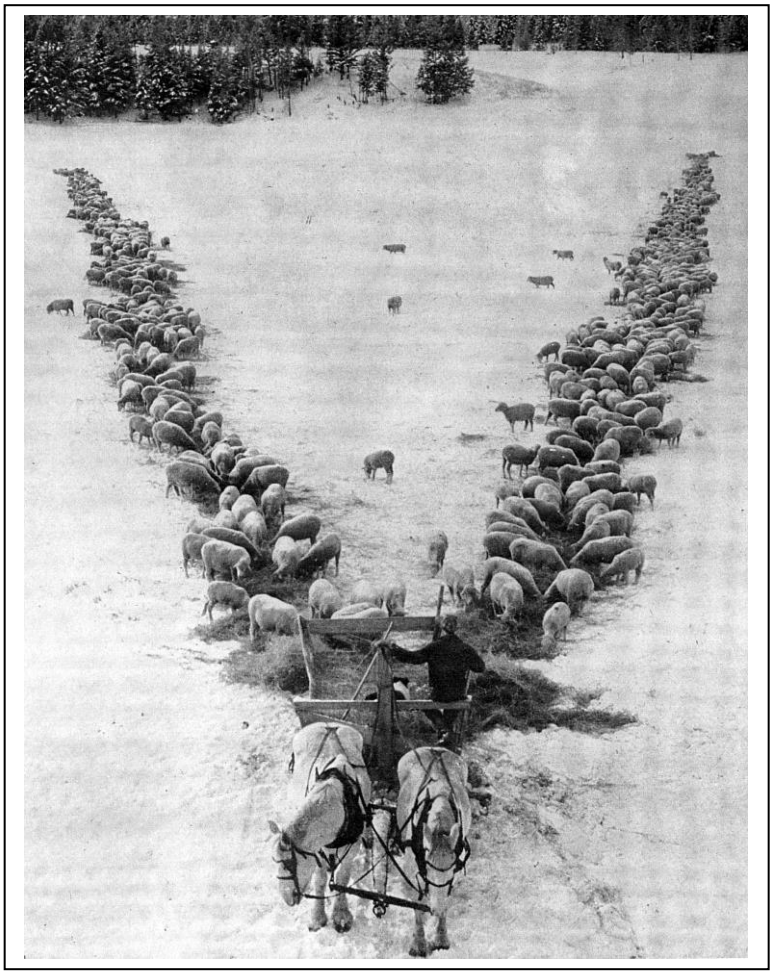

Figure 25: Feeding sheep.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

Utilizing livestock grazing animal unit months (AUMs) on public lands is vital to sustainability for most of the ranching operations in the District. A recent study provides an economic analysis and projected economic consequences of federal land use policy changes with the potential reduction in Animal Unit Months (AUMs). Torrel et al. (2014) found there were negative impacts from AUM reductions to ranching operations utilizing public lands for grazing. The Wyoming Ranch Model in the study revealed a greater negative impact from reducing spring grazing AUMS than reducing fall grazing AUMs. Spring forage was the most expensive to replace and generally had the highest economic value. Additionally, as the percentage of reduced AUMs increased the value of economic impact per AUM reduced also increased (Torrel et al. 2014).

Taylor Grazing Act

The Taylor Grazing Act (TGA) of 1934 (43 U.S.C. 315) established the Grazing Service, which eventually became known as the BLM, which reserved unclaimed public lands for agricultural production. BLM land is intended to benefit the public by ensuring an adequate and affordable food supply for the country. Local BLM grazing advisory boards created an adjudication process to determine where, when, and what type of livestock grazing could occur on public rangelands. To receive an allotment through this process, the stockman had to have (1) "commensurate base property" on which he could graze his livestock when they were not using the federal lands, (2) have an economically viable livestock operation, and (3) be members of the local community and support the local stability of the community (43 U.S.C. § 315b). The TGA gives individuals the right to apply for grazing permits on federal lands based upon the ownership of qualified base property (43 U.S.C. § 315(b)).

The purpose of the TGA is "to stabilize, preserve, and protect the use of public lands for livestock grazing purposes…" (*Barton v. United States*, 609 F.2d 977 (10th Cir. 1979)). As the court in *Public Lands Council v. Babbitt*, explained, "Congress enacted the [TGA], establishing a threefold legislative goal to regulate the occupancy and use of the federal lands, to preserve the land and its resources from injury due to overgrazing, and 'to provide for the orderly use, improvement, and development of the range" (154 F.3d 1160, 1161 (10th Cir. 1998)). Once a grazing district is established, grazing must occur on the land (*See generally, Mountain States Legal Foundation v. Andrus*, 499 F.Supp. 383 (D. Wyo. 1980))(holding that the intent of FLPMA was to limit the ability of the Secretary of the Interior to remove large tracts of public land from the operation of the public land laws). Further, Congress intended that once the Secretary established a grazing district under the TGA, the primary use of that land should be grazing ((*Public Lands Council v. Babbitt*, 167 F.3d 1287, 1308 (10th Cir. 1999) *aff'd on other grounds*, 529 US 728 (2000)). The Secretary can modify the boundaries of a grazing district, but unless land is removed from designation as grazing, or the TGA designation is terminated, the Secretary must use it for grazing (43 U.S.C. § 315). Commonly referred to as a "preference" by the TGA and a "first priority" by FLPMA, both give an existing permit holder the right to stand first in line when it comes time to renew that permit or when passing the permit to a family member.

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

Wyoming Standards for Healthy Rangelands

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

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

level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM-administered public lands. (BLM, 1997)

Figure 26: Feeding cows in the valley

A frosty morning feeding the cattle with a team and sled. Pitching the loose hay by hand was a time-consuming chore. Now one person using a tractor with heated cab can feed several hundred head of cattle in a couple hours. Photo provided by Marion Berger.

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

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

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

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

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

The development and implementation of standards and guidelines will enable on-the-ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This development and implementation will also enable immediate attention to be brought to bear on existing resource concerns. (BLM, 1997)

Grazing Flexibility

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

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

The flexibility outcome-based grazing provides is to support:

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

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

BLM and its partners will not only share the responsibility for reaching the mutual objectives of this project but also for monitoring its success.

Range Improvements

BLM Range Improvements

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

USFS Range Improvements

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

17. Water/Hydrology Resources

17.1 Desired Conditions

Policy Water Resources #1: Any new demand for water needed under the Platte River Cooperative Agreement in the central Nebraska habitat area would need to come from non-traditional sources, i.e., cloud seeding, to protect the current water use system in the Saratoga-Encampment-Rawlins Conservation District and should only occur once a policy, particularly dealing with low water years, is established after public input.

Policy Water Resources #2: The Saratoga-Encampment-Rawlins Conservation District requests coordination or involvement as a cooperating agency in any proposed amendments or discussions regarding the Platte River Recovery Implementation Program and associated Cooperative Agreement.

Policy Water Resources #3: The use, sale or lease by the state, of any Wyoming basin water should not occur unless the water and storage needs of the affected basin(s) have been met and mitigated. Any sale or lease of water out of basin or out of state will be mitigated by storage within the respective basin or state, before the transaction is approved.

Policy Water Resources #4: No new trans-basin diversions occur within the Saratoga-Encampment-Rawlins Conservation District (District). The District water is used in the District or flows out through the natural river/stream system.

Policy Water Resources #5: Interstate water transfers should not occur as they have adverse impacts on Wyoming water rights, existing commitments to maintain flows in the North Platte River system, and adverse impacts to future water development in Wyoming.

Policy Water Resources #6: No new interstate water compacts are developed without Saratoga-Encampment-Rawlins Conservation District 's involvement.

Policy Water Resources #7: Current water uses, water compacts, and other water agreements and expectations are protected.

Policy Water Resources #8: Protection of existing water rights and water uses within the Saratoga-Encampment-Rawlins Conservation District for long-term conservation and enhancement of our natural resources is of paramount importance to the economic stability of the district.

Policy Water Resources #9: Water storage facilities are increased or developed where they are cost-effective and provide an economic benefit to the State of Wyoming and its citizens.

Policy Water Resources #10: Unless required in an interstate water compact or existing water agreement, water stored in the Saratoga-Encampment-Rawlins Conservation District should be exclusively used within the State of Wyoming.

Policy Water Resources #11: The Saratoga-Encampment-Rawlins Conservation District opposes the use, sale, or lease by the State of any Wyoming basin water unless the water and storage needs of the affected basin(s) have been met. Any sale or lease of water out of basin or out of state shall be mitigated by storage before the transaction is approved.

Policy Water Resources #12: Wyoming water law and policy controls all water rights within the Saratoga-Encampment-Rawlins Conservation District and is supreme to any federal policy or regulation.

Policy Water Resources #13: Historic and customary beneficial water uses under Wyoming state law and policy is to take precedence over all in-stream flow use designations.

Policy Water Resources #14: Federal agencies shall recognize Wyoming state water law and the state's right to administer all water.

Policy Water Resources #15: The Saratoga-Encampment-Rawlins Conservation District is opposed to any federal government action which adversely affects the State of Wyoming's water rights and water law.

Policy Water Resources #16: Water right takings for any environmental or wildlife purposes should not occur. If such a taking does occur, just monetary compensation for the water rights taken should be paid.

Policy Water Resources #17: Beneficial uses of water as defined by Wyoming statutes are protected and prioritized in all water management.

Policy Water Resources #18: Federal agencies never acquire water rights outside of Wyoming water law.

Policy Water Resources #19: Federal agencies never use exactions to acquire water rights.

Policy Water Resources #20: Water right exactions should never be a condition for any right-of-way or ditch permit. It is the position of the Saratoga-Encampment-Rawlins Conservation District that instream flow requirements as a condition for a permit are water rights exactions.

Policy Water Resources #21: Water rights should be recognized as a private property right that may be owned separately from federal land when allowed by Wyoming law.

Policy Water Resources #22: Federal agencies should work with local, state, and other federal agencies to encourage and support state control of water rights and to maintain opportunities for future water right allocations.

Policy Water Resources #23: Federal agencies should recognize the conservation districts' water and water quality expertise and encourage their continued involvement in any water or water quality issue that may arise.

Policy Water Resources #24: The Saratoga-Encampment-Rawlins Conservation District is consulted regarding federal land management decisions that impact water quality; water yields and timing of those yields; impacts on facilities such as dams, reservoirs, delivery systems, or monitoring facilities; and any other water-related issues.

Policy Water Resources #25: Federal agencies should require water quality monitoring as a part of all soil disturbing projects in coordination with the Saratoga-Encampment-Rawlins Conservation District to ensure groundwater and surface water quality is not degraded.

Policy Water Resources #26: Baseline water testing should be completed using state water quality standards in coordination with the Conservation District before a proponent is issued a permit for energy or mineral development within Carbon County.

Policy Water Resources #27: Geological studies and research occurs to promote the economic viability of potential new mining and energy activities while maintaining the custom and culture of the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #28: Federal agencies should encourage maintenance, protection, and enhancement of water quality in the Saratoga-Encampment-Rawlins Conservation District to sustain the beneficial uses and ecological health of the watershed.

Policy Water Resources #29: Federal agencies should support stream restoration projects that will provide long-term benefits for healthy aquatic habitat and watershed health and have specific goals for habitat improvement.

Policy Water Resources #30: Federal agencies should participate in watershed studies and plans.

Policy Water Resources #31: In conjunction with local, state, and federal planning partners, federal agencies should develop strategies to improve watershed conditions.

Policy Water Resources #32: Federal agencies adopt and consistently implement the September 11, 2020, Clean Water Act, "Navigable Waters Protection Rule" final rule defining Waters of the United States rule in water quality, water quantity, permitting, management, and Clean Water Act jurisdictional decisions.

Policy Water Resources #33: The Saratoga-Encampment-Rawlins Conservation District supports the September 11, 2020, Waters of the United States (US) definition as presented by the Environmental Protection Agency and the US Army Corp of Engineers.

Policy Water Resources #34: Clean Water Act implementation rules prior to the September 11, 2020, "Navigable Waters Protection Rule" are not supported.

Policy Water Resources #35: The definition of "Waters of the United States" shall provide clarity, predictability, and consistency so that regulators and the public can understand where the Clean Water Act applies and where it does not.

Policy Water Resources #36: Jurisdictional waters under the Clean Water Act should only include interstate waters that are navigable in-fact and currently used or susceptible to use in interstate or foreign commerce and include the territorial seas.

Policy Water Resources #37: Any rule to implement the Clean Water Act and provide a definition of "Waters of the United States" should not include any of the following water features as jurisdictional: dry washes, ephemeral streams, irrigation ditches, roadside ditches, manmade conveyances, isolated wetlands, bodies of water without a surface connection to navigable waters, prior converted cropland, artificial lakes and ponds constructed in upland locations, stormwater runoff, or waste treatment systems.

Policy Water Resources #38: The Environmental Protection Agency and the Department of the Army, Corps of Engineers shall acknowledge a clear distinction between federal waters and water subject to the sole control of the states, their governmental subdivisions, and tribes when developing and implementing a Clean Water Act rule defining the "Waters of the United States."

Policy Water Resources #39: Definitions for "typical year", "tributary", "lakes and ponds, and impoundments of jurisdictional waters", "adjacent wetlands", "prior converted cropland", "upland", and "waste treatment system" as provided in the September 11, 2020, "Navigable Waters Protection Rule" should be used in any rule to implement the Clean Water Act.

Policy Water Resources #40: The definition for the purpose of implementing the Clean Water Act or a rule defining the "Waters of the United States" of tributary should state that it has perennial or intermittent flow, not just flow after a single precipitation event, and directly connect to a traditional navigable water or territorial sea.

Policy Water Resources #41: The "Wyoming Environmental Quality Act" and Wyoming Department of Environmental Quality maintain state control over all surface water, groundwater, and wetlands, within Wyoming to protect and enhance water quality regardless of Clean Water Act jurisdiction.

Policy Water Resources #42: The Saratoga-Encampment-Rawlins Conservation District does not support an interpretation of the Clean Water Act (CWA) that broadly views groundwater as a functional equivalent to a point source and only those occurrences when a pollutant travels a small time and distance through groundwater to surface water should be considered for permitting under the CWA.

Policy Water Resources #43: Wetlands not located immediately adjacent to a navigable water and bodies of water not connected to navigable waters should not be designated as a Clean Water Act jurisdictional wetland.

Policy Water Resources #44: Federal and state agencies should only use the guidance set forth in the 1987 Army Corps of Engineers Wetland Delineation Manual to determine whether an area is considered a "wetland."

Policy Water Resources #45: Regulation of wetlands is managed where wetland quality is protected or mitigated if the wetlands are degraded.

Policy Water Resources #46: Federal agencies should use credible data and scientific standards for wetland designation.

Policy Water Resources #47: The Saratoga-Encampment-Rawlins Conservation District should be notified of any planned Clean Water Act jurisdictional wetland designations within the district.

Policy Water Resources #48: Permitting agencies should coordinate with the Saratoga-Encampment-Rawlins Conservation District when making determinations as to when groundwater should be considered a point source.

Policy Water Resources #49: The Wyoming Department of Environmental Quality should hold primacy in determining whether groundwater is a point source.

Policy Water Resources #50: Pollution sources traditionally exempt from regulations under the Clean Water Act should not be regulated when it enters groundwater that may be determined to be a point source.

Policy Water Resources #45: Storm water should be managed to ensure the health, safety, and welfare of all residents.

Policy Water Resources #48: Private landowners' rights are maintained regarding the administration of riparian or wetland areas.

Policy Water Resources #49: Wetlands and riparian areas are healthy and function properly while maintaining a balance with other resource uses.

Policy Water Resources #50: Federal agencies should use responsible grazing and vegetation management as a tool to maintain and restore wetlands/riparian areas.

Policy Water Resources #51: Federal agencies should manage, maintain, protect, and restore wetland areas to proper functioning condition.

Policy Water Resources #52: Federal agencies should expeditiously process permits on federal lands for the construction, maintenance, or expansion of irrigation distribution systems to private lands, and allowing maintenance where those rights already exist through a range improvement agreement.

Policy Water Resources #53: Federal agencies should promote the use of watershed best management practices (BMPs) to mitigate water pollution from heavy erosion and sedimentation from public lands and permitted projects on public lands, and to work with local conservation districts in accomplishing these BMPs.

Policy Water Resources #54: Federal and state agencies should support the protection of senior water rights.

Policy Water Resources #55: Abandonment of water rights must be officially performed through Wyoming law. Federal agencies and interstate compact authorities shall not unilaterally abandon water rights or impede the use of water right.

Policy Water Resources #56: The Saratoga-Encampment-Rawlins Conservation District should be included in discussions regarding cloud seeding.

Policy Water Resources #57: Cloud seeding is discouraged when the use of cloud seeding could harm or bypass certain interstate water compact obligations.

Policy Water Resources #58: Federal agencies should not allow cloud seeding to induce trans basin transfers of Saratoga-Encampment-Rawlins Conservation District water.

Policy Water Resources #59: Irrigation and water systems are managed to ensure future access to irrigation water and to promote the health and longevity of water systems and supply.

Policy Water Resources #60: Flood irrigation is an approved method of irrigation for agricultural meadows within the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #61: Historical irrigation ditch rights-of-way should continue to be used and protected through federal lands whether those rights are permanent or require periodic renewal.

Policy Water Resources #62: Any renewal of rights-of-way for irrigation ditches crossing federal lands should be done expeditiously with little impact to the historical use.

Policy Water Resources #63: Water conveyance rights-of-way are guaranteed, and access is uninhibited for irrigation practices within the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #64: The Saratoga-Encampment-Rawlins Conservation District is involved in any water resources action.

Policy Water Resources #65: Federal agencies should work with appropriate partners and agencies to promote the effective delivery and use of irrigation water.

Policy Water Resources #66: Federal agencies should encourage and allow consumptive water right owners to improve water quality and water-use efficiency.

Policy Water Resources #67: Federal and state agencies should recognize the importance of irrigation systems that make up a critical part of the water cycle within the Saratoga-Encampment-Rawlins Conservation District and protect their continued use.

Policy Water Resources #68: Federal agencies should support the implementation of local irrigation best management practices.

Policy Water Resources #69: Instream flow requirements should not be a precedent condition for the renewal of irrigation ditch rights-of-way.

Policy Water Resources #70: The quality of all dams and reservoirs within the Saratoga-Encampment-Rawlins Conservation District is preserved and water resources are developed responsibly in coordination with the district.

Policy Water Resources #71: The primary use of all reservoirs within Carbon County is maintained for the purpose for which they were originally intended.

Policy Water Resources #72: Hydroelectricity projects including micro hydroelectricity projects within existing structures are developed within the Saratoga-Encampment-Rawlins Conservation District where they may be useful and appropriate.

Policy Water Resources #73: Federal agencies should recognize and consider primary and preexisting uses of water facilities in all decisions impacting such.

Policy Water Resources #74: Federal agencies should support the consumptive and recreational use of water to support the local economy.

Policy Water Resources #75: The Saratoga-Encampment-Rawlins Conservation District should be informed early of any potential decisions that may impact water use, yield, or development of dams, reservoirs, and other water storage methods and is coordinated with and given the opportunity to participate as a cooperating agency.

Policy Water Resources #76: Rivers and streams are managed to maintain or improve water quality and to maintain or improve proper ecologic function.

Policy Water Resources #77: Rivers and streams are managed for municipal use, flood mitigation, and for agricultural, recreational, and industrial use.

Policy Water Resources #78: Rivers and streams are protected to allow continued historical uses that contribute to the custom and culture of the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #79: Federal agencies should support the management of rivers and streams to meet existing designated "in-stream" flow and interstate water compact requirements.

Policy Water Resources #80: Rivers and streams should be managed in a holistic, ecosystem-level approach rather than for a single species.

Policy Water Resources #81: The Saratoga-Encampment-Rawlins Conservation District should be consulted and coordinated with whenever federal agencies make waterway management decisions regarding endangered species.

Policy Water Resources #82: Federal agencies should promote best management practices that maximize stream bank stability, habitat restoration, and riparian health.

Policy Water Resources #83: The Saratoga-Encampment-Rawlins Conservation District is informed and coordinated with regarding all water quality issues and proposed actions within the district.

Policy Water Resources #84: Federal agencies, industries, and local governments form partnerships that focus on water quality within the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #85: A clear definition of point source and non-point source is created that is supported by the Saratoga-Encampment-Rawlins Conservation District, federal agencies, and the State.

Policy Water Resources #86: Federal agencies should support efforts to maintain or improve the quality of water in all watersheds and coordinate with the Conservation Districts to protect the quality of water supplies of established users using the best available science.

Policy Water Resources #87: All mining, mineral exploration, and energy development activities protect the municipal water supplies within the Saratoga-Encampment-Rawlins Conservation District.

Policy Water Resources #88: Federal agencies should support efforts to improve any waters listed on the 303(d) Impaired Waters list to remove them from the list.

Policy Water Resources #89: Only credible data that, at a minimum, meet the standards set forth in this Plan and meet the Federal Data Quality Act and legally collected should be recognized when assessing water quality.

Policy Water Resources #90: Storm water should be managed to ensure the health, safety, and welfare of all residents.

17.2 Local Support Data

17.2.1 Water Rights

Wyoming's first surface water laws were enacted in 1875. More comprehensive laws were adopted along with the state constitution in 1890. The Wyoming Constitution, Article 8 Irrigation and Water Rights, Section 1 states, "The water of all natural streams, springs, lakes, or other collections of still water, withing the boundaries of the state, are hereby declared to be the property of the State." Wyoming water law is contained in Title 41 of the Wyoming Statutes. It is founded on the doctrine of prior appropriation. The first person to put the water to a beneficial use has the first right, or "first in time, first in right" (Jacobs et al. 2003). Wyoming is a headwaters' state providing water to water users in Wyoming and many other states downstream. The first Wyoming groundwater laws were enacted in 1945 which was later amended and then repealed and replaced in 1958. Major amendments were made to the March 1, 1958, law in 1969.

The state engineer is the chief administrator of Wyoming waters. Prior to Wyoming statehood in 1890, a water right could be established by a procedure predicated on the use of water and the filing of a claim with territorial officials. Water rights with priority dates before 1890 are termed "territorial" water rights. After 1890, the only way to acquire a water right is by securing a permit from the state engineer through a specified procedure. To manage waters, the state is divided into four water divisions. The District is in Water District 1 based out of Torrington.

Water resources are vital to all District residences and the local economy. Both water quantity and water quality are of the utmost importance to the Board. Conservation Districts are given specific statutory authority for water conservation and other water responsibilities per W.S. § 11-16-122(b)(xvi). The headwaters of many streams lie within the District. Surface waters in the District have far-reaching impacts both to the east and the west as the Continental Divide transects through the western side of the District. On the east side of the Continental Divide, the North Platte River flows from south to north through most of the District before entering Seminoe reservoir, the first reservoir on the North Platte River. Flooding is nearly a yearly concern for the residents upstream of Seminoe.

The District intersects three 6-digit hydrologic units (basins), seven 8-digit hydrologic units (sub-basins, 4 on the east side of the Continental Divide and 3 on the west), 29 10-digit hydrologic units (watersheds), and 139 12-digit hydrologic units (sub-watersheds) as shown in Figure 28. Protection of water resources (water quality, yield, and supply) was identified as the most important issue in the Encampment Areas Watersheds Study Survey completed by the Board in 2009 (SERCD 2009). The Encampment-area watersheds form the headwaters for the Encampment and North Platte Rivers, which provide critical surface water resources for local and downstream municipal, agriculture, tourism, and industrial purposes. The uplifted Sierra Madre and Medicine Bow Mountains surrounding the North Platte Valley are important recharge areas for the ground water aquifers, which provide domestic and stock water to many rural areas in Wyoming. Normal annual

precipitation ranges from over 50 inches a year on the crest of the Sierra Madres to 10 inches or less in the vicinity of Rawlins.

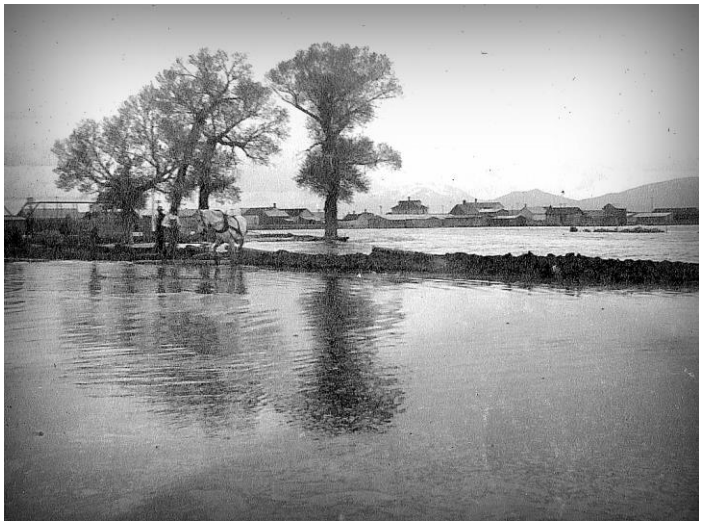

Figure 27: Building dikes with horse & slip to keep Saratoga from more flooding in the worst flood on record, 1917.
S&E railroad bridge on left looking northeast with Elk Mountain, Coed and Pennock Peak in background. 1917 flood completely covered what is now Veterans Island and where the Saratoga Inn was built. Photo from Yoakum/Pilot Family Album.

Photo Credit: *Bob Martin/Dick Perue Collection - Historical Reproductions by Perue*

Watersheds that are functioning properly have terrestrial, riparian, and aquatic ecosystems that capture, store, and release water, sediment, wood, and nutrients within their range of natural variability for these processes (USDA 2011). The Board's goal is to have all watersheds within the District functioning properly.

Instream Flow

Instream flow refers to water flowing in streams. An instream flow water right refers to the legal means to protect water in streams for the benefit of fish based on the same laws used for other kinds of water rights. In 1986, legislation was passed that extended the same opportunity to manage water in stream channels for fish as had been allowed for uses of water out of the stream. Wyoming statute identifies instream flow as a beneficial use of water and requires the Wyoming Game and Fish Commission to identify opportunities to protect or restore flows 0(W.S. 41-3-1001 to 41-3-1014).

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

The Platte River Cooperative Agreement (PRCA) and endangered species which are downstream in Nebraska impact the amount of instream flow required in the North Platter River and therefore have significant impacts to the District water users. United States Fish and Wildlife Service (FWS) had originally identified that an additional flow of 417,000 Ac-Ft was needed in the habitat area in central Nebraska. During the first increment of the program, which expired in 2019, all three states in the PRCA and FWS agreed to provide 150,000 Ac-Ft of additional flows to the target area. There is concern that more water will be requested in the future, beyond what was originally agreed. This could have negative impacts on District agricultural sustainability and local economies.

Therefore, changes in water uses for federal, state, or local purposes that will potentially reduce the available water or adversely affect existing water rights should be carefully considered in relation to the effects on rangeland resources, soil, and water and the agriculture industry, as well as the history, traditions, and custom and culture of the District.

Cloud Seeding

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

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

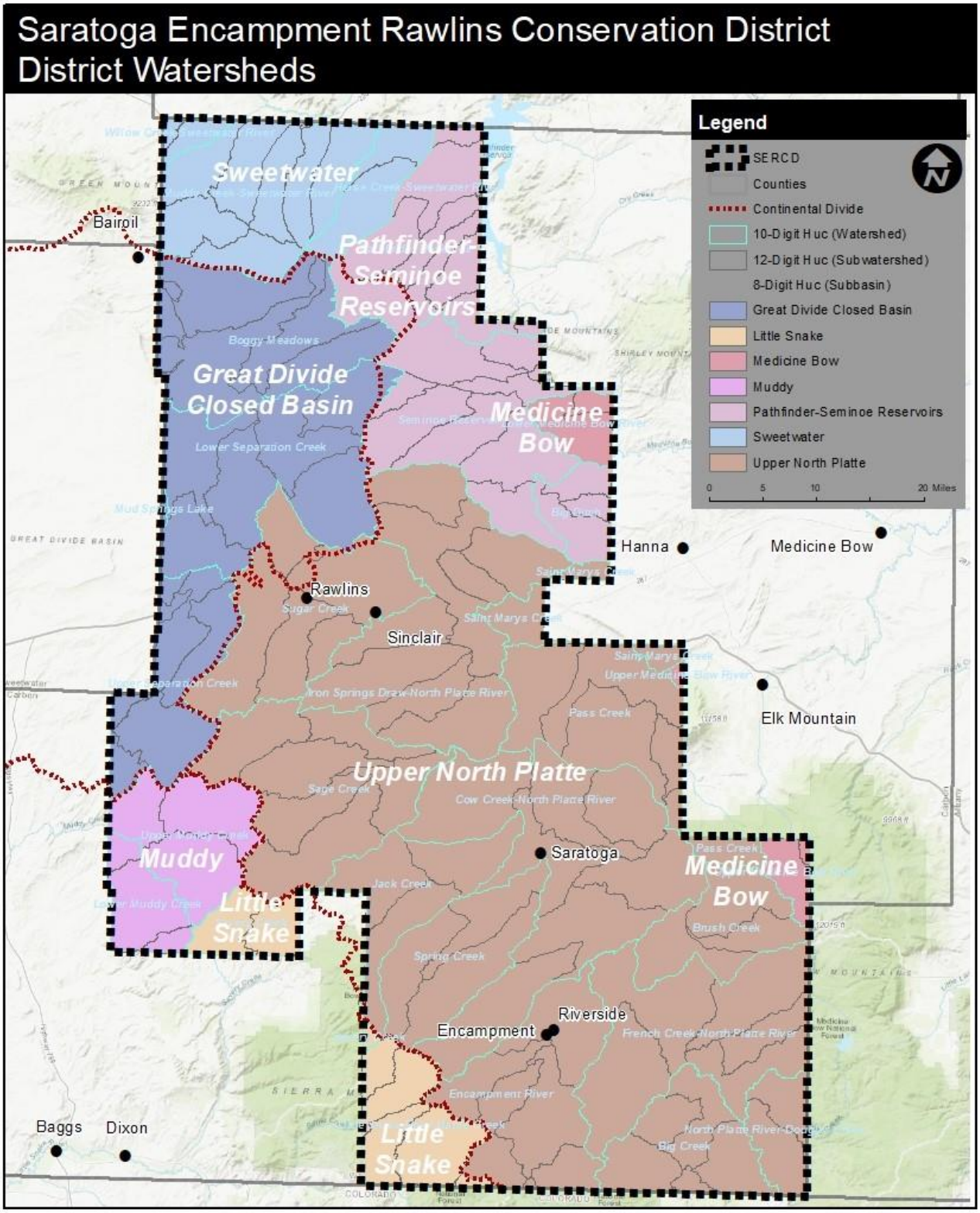

Figure 28: District Watersheds

Therefore, changes in water uses for federal, state, or local purposes that will potentially reduce the available water or adversely affect existing water rights should be carefully considered in relation to the effects on rangeland resources, soil, and water and the agriculture industry, as well as the history, traditions, and custom and culture of the District.

17.2.2 Clean Water Act

The Clean Water Act (CWA) is the federal regulatory mechanism that regulates surface water quality. The CWA gives the United States Environmental Protection Agency (EPA) and United States Army Corp of Engineers (USACE) regulatory jurisdiction over all "navigable waters" also known as "Waters of the United States or WOTUS." The CWA makes it illegal to discharge a pollutant from a point source into navigable water unless a permit is obtained. The definitions surrounding what a "navigable water", or WOTUS has been a creature of controversy in the past several years and there is still some uncertainty as to what bodies of water constitute as WOTUS and what qualifies as a "point source." From the earliest rulemaking efforts following the adoption of the CWA in 1972 to the agencies' most recent rule making effort to define WOTUS in 2020, 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). Prior to the 2020 regulations, the regulations being followed were the 2015 Clean Water Rule: Definition of "Waters of the U.S." which can be found here.

On September 11, 2020, the EPA published final CWA regulations titled the "Navigable Waters Protection Rule" that was intended to clarify some of the definitions and clearly set forth the jurisdictional limits of the CWA. The goal of the final regulations was to:

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

The Navigable Waters Protection Rule was challenged in a Federal District Court where an order vacating and remanding the Rule occurred. In light of this order, the agencies have halted implementation of the Navigable Waters Protection Rule nationwide and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. The agencies are working expeditiously to move forward with the rulemakings announced on June 9, 2021. On November 18, 2021, the U.S. Environmental Protection Agency and the Department of the Army ("the agencies") announced the signing of a proposed rule to revise the definition of "waters of the United States." The agencies propose to put back into place the pre-2015 definition of "waters of the United States," updated to reflect consideration of Supreme Court decisions. (EPA, n.d.)

The role of states becomes increasingly important in a revised definition of WOTUS. The CWA and subsequent rule defining jurisdictional waters needs to take into account states' primacy. It is important to remember that regulation by states does not mean lack of regulation; states do and will provide the necessary protections to ensure that water quality is protected and restored.

17.2.3 Surface and Ground Water Quality

Surface Water

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

The Wyoming Department of Environmental Quality (WDEQ) in consultation with the United States Environmental Protection Agency (EPA) through the Clean Water Act have established water quality criteria to support designated uses; to evaluate whether water quality standards are met or if they are exceeded (303(d) List of Impaired Waters); and to establish goals for restoration plans such as total maximum daily loads (TMDLs). Streams in Wyoming and the District are assigned designated uses based on a classification system established by the WDEQ. The uses that are protected on Wyoming waters include agriculture, fisheries, aquatic life other than fish, industry, drinking water, fish consumption, recreation, scenic value, and wildlife (WDEQ, 2020c).

Notably, the District contains numerous Class 1 waterbodies, which are "Outstanding Waters" that receive the highest level of water quality protection. Waterbodies within the District are also designated for either primary or secondary contact recreation use based on flow conditions and other factors related to recreational use. Different water quality standards will apply to different waterbodies, depending on their classification and associated designated uses (Figure 32).

WDEQ Water Quality Rules and Regulations identifies Class 1 waters as being waters specifically designated by the Environmental Quality Council considering “water quality, aesthetic, scenic, recreational, ecological, agricultural, botanical, zoological, municipal, industrial, historical, geological, cultural, archaeological, fish and wildlife, the presence of significant quantities of developable water and other values of present and future benefit to the people.” Class 1 waters include all surface waters located within the boundaries of national parks and congressionally designated wilderness areas as of January 1, 1999.

Primary contact recreation waters are those where recreational activities are expected to result in full body immersion in the water (e.g., swimming, water skiing, etc.) or a level of contact with the water equivalent to swimming (i.e., activities of similar duration, intensity, and exposure to the water as swimming) during the summer recreation season. Secondary contact recreation waters are those where recreational activities are not expected to result in full body immersion in the water or a level of contact with the water equivalent to swimming (e.g., wading, fishing, hunting, etc.). During the winter recreation season (October 1 through April 30), waters designated for primary contact recreation are protected for secondary contact recreation.

Wyoming’s 2020 Integrated 305(b) and 303(d) Report prepared by the Wyoming Department of Environmental Quality describes present and past conditions for three District stream segments identified as having or previously having impairments or threats. (WDEQ, 2020a)

The headwaters of the Sage Creek watershed are located along the eastern edge of the continental divide within the northern foothills of the Sierra Madre Mountains. Sage Creek has a naturally high sediment load due to the highly erosive soils and the arid climate in the watershed. WDEQ placed a 14.7-mile segment of the creek on the 303(d) List for this elevated sedimentation in 1996 using data collected by WDEQ; a final report

was not written for this study. Dam failures, road construction and historic grazing practices resulted in increased erosion and sediment loading to Sage Creek, especially in the lower portion of the watershed. In 1997, the District, in cooperation with land owners, BLM, WDEQ, NRCS and WGFD, initiated two Sage Creek Watershed Section 319 projects, which together included the entire Sage Creek watershed. Resulting BMPs consisted of short duration grazing, riparian, and snowdrift fencing, off channel water development, improved road management, grade control structures and water diversion, and vegetation filtering. These BMPs were expected to reduce sediment loading from Sage Creek to the North Platte River. Monitoring data collected as part of these projects resulted in reduced sediment loading to the North Platte River and improved riparian and range condition within the Sage Creek watershed. Data indicate that the aquatic life other than fish and coldwater fisheries uses are now fully supported on Sage Creek, and therefore it was removed from the 303(d) List in 2008. A USEPA Section 319 Nonpoint Source Success Story has been written for Sage Creek (Appendix C).

Haggarty Creek's headwaters are located along the continental divide within the Medicine Bow-Routt National Forest in the very western edge of the District. A 5.6-mile reach of Haggarty Creek had elevated levels of cadmium, copper, and silver and also placed on the 303(d) list in 1998. The listed reach of Haggarty Creek was from the Ferris-Haggarty Mine (FHM) downstream to the confluence with West Fork Battle Creek and the source was identified as the historical mining from the FHM. Total Maximum Daily Loads (TMDLs) were initiated by WDEQ and approved by USEPA in 2011.

Most recently, 1.8 miles of the Roaring Fork Little Snake River was added as a new 303(d) listing for copper in 2014. The Roaring Fork Little Snake River's (RFLSR) headwaters originate just inside the District's west boundary, within the Sierra Madre Mountains of southern Wyoming. Recent study results indicated that the coldwater fishery and aquatic life other than fish uses on the identified reach of the RFLSR are not supported from the confluence with a tributary draining the Standard Mine downstream 1.8 miles to the confluence with an unnamed tributary; the cause and source of these impairments have been identified as elevated copper and hardrock mining, respectively. This segment was listed in 2014 and has a TMDL date of 2027.

Figure 29: Early Irrigator in the Platte Valley

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

Groundwater

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

The WQD Groundwater Pollution Control (GPC) Program tracks potential impacts to Wyoming's groundwater through the evaluation of activities permitted at federal, state, and local levels. The GPC Program assists

federal agencies with the NEPA process on large projects. This program assists private landowners with suspected contamination of their wells. The GPC Program evaluates the adequacy of water supply sources and wastewater collection and treatment facilities during subdivision applications to ensure groundwater will not be impacted. (WDEQ, n.d.-a)

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

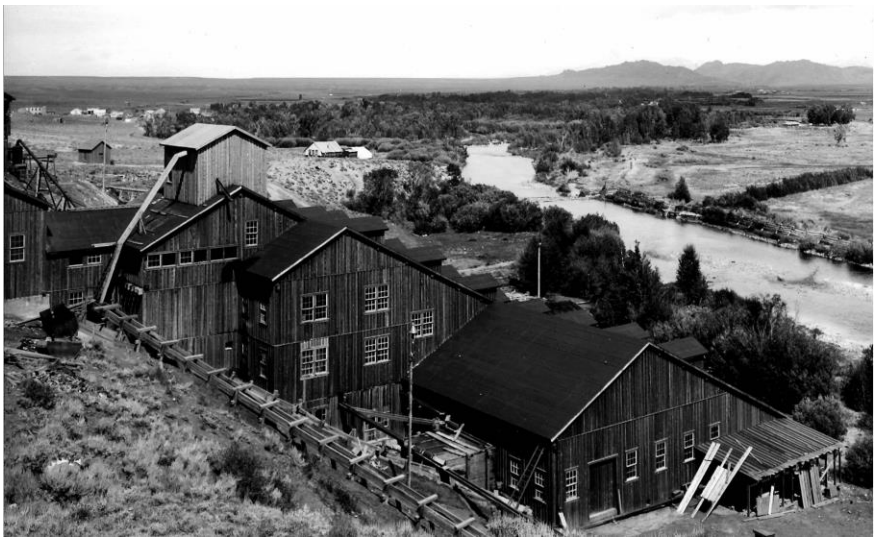

Figure 30: Part of the first copper smelter in the area was built in Riverside
This photo offers a grand view of the Encampment River, upper valley, Baggott Rocks, and the Town of Riverside.
Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

17.2.4 Subdivision Review

Subdivision reviews are governed by WDEQ Water Quality Rules and Regulations, Chapter 23 and Wyoming Statutes 18-5-301 to 315. The WQD Water & Wastewater Program (W&WP) works to ensure safe and adequate supplies of drinking water and the proper disposal of wastewater. Subdivision review requires that all WQD, W&WP, and GPC standards are complied with during the review for approval, and during the construction of subdivisions. The Conservation Districts within Carbon County are mandated to review subdivision proposals within the unincorporated areas within the Conservation District boundaries. A subdivision review provides recommendations to planning and zoning staff, Carbon County Planning and Zoning Commission, and Carbon County Commissioners for natural resource concerns specific to the development. The review is also an educational tool for land developers and future

homeowners and can provide information from other agencies including the Weed and Pest, WGFD, SHPO, and others. According to statute 18-5-306(b) a subdivision review should include soil suitability, erosion control, sedimentation, flooding concerns, and other issues that are a concern to the Conservation District (i.e. noxious weeds, small acreage grazing/livestock management, wildlife concerns). (Wyoming Department of Agriculture, 2020; WDEQ, n.d.-b)

17.2.5 Water Features

Dams and Reservoirs

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

Major reservoirs are defined as reservoirs with equal to or greater storage capacity than 500-acre feet. Major District reservoirs include the Kortes, Seminoe, Hog Park, Saratoga, Turpin, and a small portion of the Pathfinder Reservoir. There are many small reservoirs throughout the county that provide stock water and recreational opportunities. These reservoirs can be found here.

Figure 31: Irrigation Headgate near Brush Creek.

Photo Credit: *Bob Martin/Dick Perue Collection -Historical Reproductions by Perue*

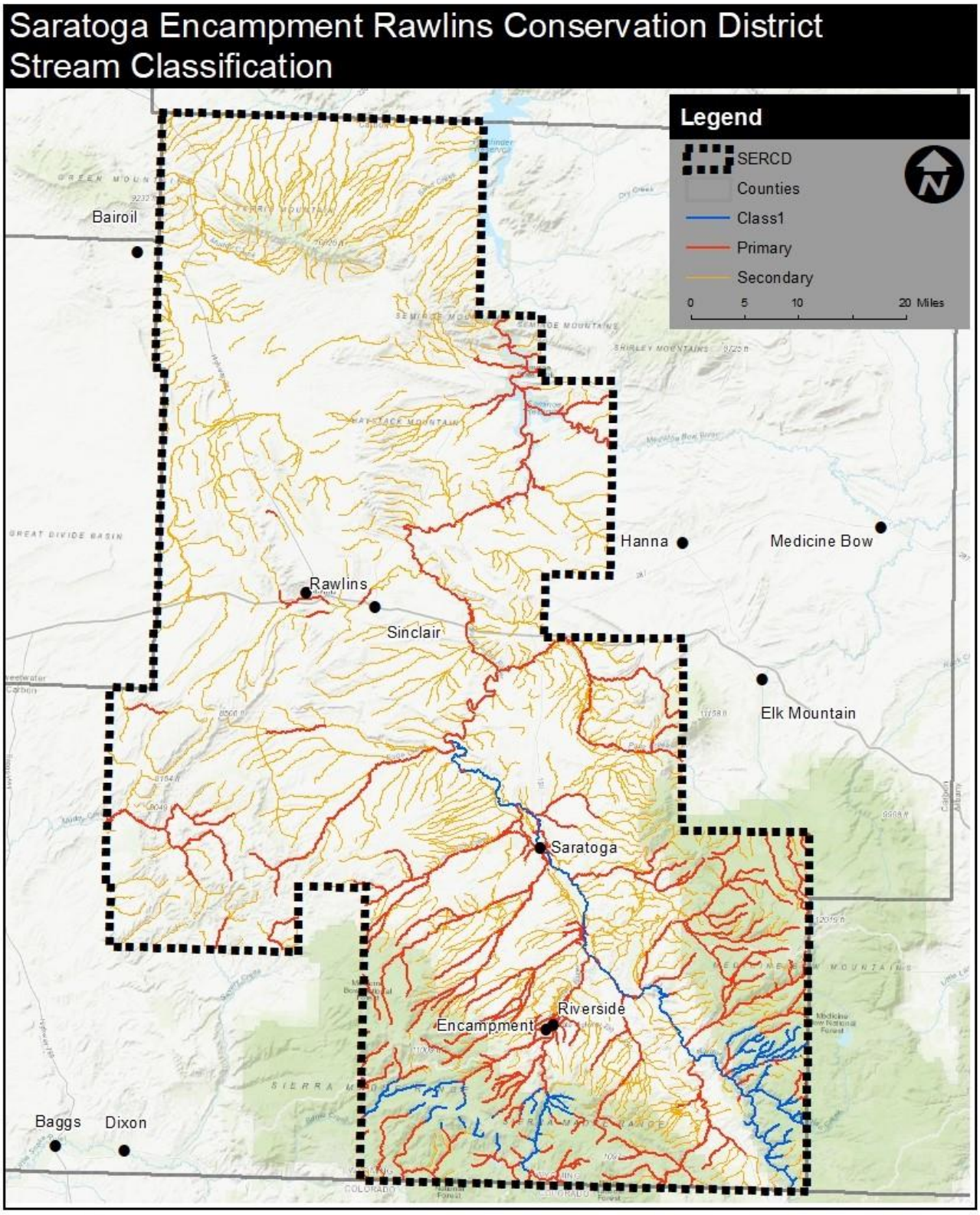

Figure 32: Stream Classifications

Rivers and Streams

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

Perennial streams originating from high mountain aquifers and snowpack are fed throughout the year and experience maximum discharge during the spring and early summer snowmelt. Although snow is an important resource for tourism in the District, melting snowpack is the life blood for water users in the District and beyond. Figure 33 is a schematic of the surface aquifer return flow hydrologic cycle. Precipitation at the higher elevations flows down into streams, rivers, and through groundwater inflow. Water flowing on the surface travels much faster through the system and warms up both directly and indirectly from the sun. Groundwater inflow moves through the underground system much slower, stays cool, and comes to the surface through various means which provides a cooling effect for the surface water streams and rivers.

Many of the irrigated acres within the District utilize flood irrigation. Flood irrigation contributes water to the return flow portion of the cycle to aid in maintaining cool water return flows to streams late in the summer. This method of irrigation is not only part of the custom and culture of the District, but also vital to the conservation of the cool water fisheries in the District. Irrigation within the District is vital to provide stable agriculture operations, to maintain cool water return flows late in the summer, for the creation of artificial wetlands, and to benefit a wide variety of wildlife.

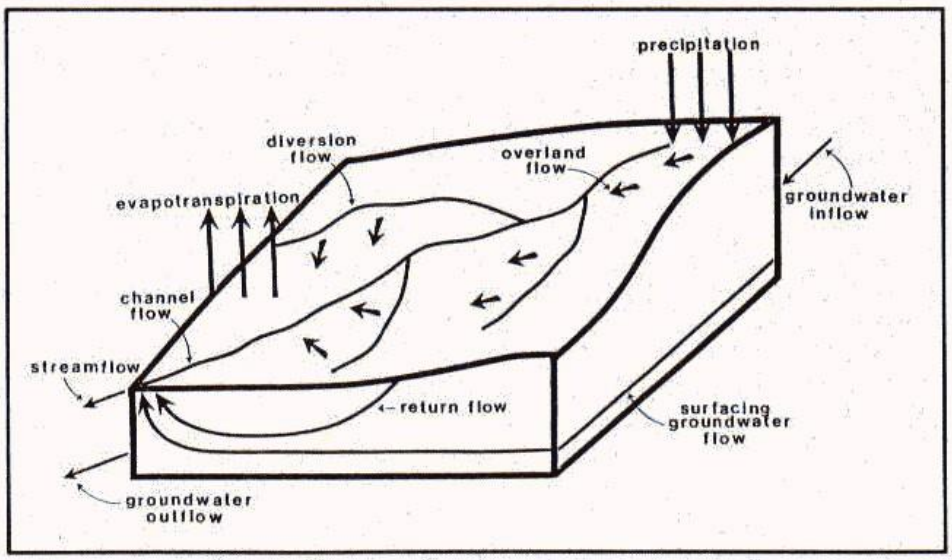

Figure 33: Surface aquifer return flow hydrologic cycle schematic

The North Platte River is the largest river in the District and is a major tributary of the Platte River in Nebraska. The North Platte's headwaters are in Jackson County, Colorado, and then flow into southeast Carbon County, through the town of Saratoga and north toward Casper. The Encampment River flows north from Colorado into Wyoming through the Encampment River Wilderness and passes by the town of Encampment and

through the town of Riverside until its confluence with the North Platte River just northeast of Riverside. A small segment of the Encampment River is managed for inclusion as a Wild and Scenic River (BLM, 2008).

Water Influence Areas

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

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

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

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

Riparian and wetland standards for the USFS lands within Carbon County state that “in the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those land treatments that maintain or improve long-term stream health and riparian ecosystem condition.” Wetlands are included in riparian monitoring for the USFS because wetland complexes often occur in or adjacent to riparian complexes. Forest Service Handbook 2509.2549 discusses the watershed conservation practices for USFS Rocky Mountain Region (Region 2). (USFS, 2006, 2013b).

18. Wildlife & Fisheries

18.1 Desired Conditions

Policy Wildlife & Fisheries #1: Federal agencies should promote wildlife conservation, sustainability of healthy wildlife habitat and populations, and recognize their contributions to the local economy.

Policy Wildlife & Fisheries #2: Ecosystem management should be utilized when managing for wildlife species. Single-species management should not be supported.

Policy Wildlife & Fisheries #3: Wildlife and their habitats are managed sustainably using credible data and management plans for wildlife that are developed in coordination with local stakeholders.

Policy Wildlife & Fisheries #4: Threatened, Endangered, and Sensitive species are managed as a part of an ecosystem using credible data and in conjunction with multiple use mandates in coordination with the Saratoga-Encampment-Rawlins Conservation District and other stakeholders.

Policy Wildlife & Fisheries #5: Endangered Species Act threatened and endangered species listings should be based on clear, convincing, peer-reviewed, credible scientific data.

Policy Wildlife & Fisheries #6: The Federal Government should be responsible for the financial burden imposed upon private landowners from the listing of threatened or endangered species and associated critical habitat designations.

Policy Wildlife & Fisheries #7: Critical habitat designations are excluded in areas in which the harm outweighs the benefit of designating the habitat.

Policy Wildlife & Fisheries #8: Critical habitat exclusion analysis is completed for all land during the critical habitat designation process.

Policy Wildlife & Fisheries #9: Critical habitat within the Saratoga-Encampment-Rawlins Conservation District is only designated in those locations where the endangered species could currently survive.

Policy Wildlife & Fisheries #10: Sub-species are not listed as threatened or endangered.

Policy Wildlife & Fisheries #11: Immediate and expedited delisting of a species occurs when the benchmarks of the species recovery plan are met.

Policy Wildlife & Fisheries #12: The United States Fish and Wildlife Service uses the critical habitat definition in the Endangered and Threatened Wildlife and Plants; Regulations for Designating Critical Habitat published in December of 2020.

Policy Wildlife & Fisheries #13: The United States Fish and Wildlife Service uses the rules for critical habitat exclusion as finalized in the December 2020 Endangered and Threatened Wildlife and Plants; Regulations for Designating Critical Habitat.

Policy Wildlife & Fisheries #14: Federal agencies should develop recovery plans within 18 months of listing that include clear objectives to reach for delisting to occur.

Policy Wildlife & Fisheries #15: Recovery plans should be approved and in place before management actions intended to increase the population are conducted.

Policy Wildlife & Fisheries #16: Federal agencies should support the development of local solutions (e.g., habitat projects, habitat management plans, conservation plans, or candidate conservation agreements) to keep a species from being listed under Endangered Species Act or as species of concern/species of special concern.

Policy Wildlife & Fisheries #17: Federal agencies should assist in controlling zoonotic and vector-borne diseases negatively impacting special status, candidate, or listed species before restricting other multiple uses that could be conflicting.

Policy Wildlife & Fisheries #18: Federal agencies should support the continued use of existing valid permits and lease rights on lands with listed species.

Policy Wildlife & Fisheries #19: Federal agencies should support private property rights on lands with Endangered Species Act listed species.

Policy Wildlife & Fisheries #20: Non-Endangered Species Act listed wildlife populations are exclusively managed by the Wyoming Game and Fish Department.

Policy Wildlife & Fisheries #21: Federal and state agencies should support proactive management of candidate and sensitive species in coordination with other multiple-use users to avoid further Endangered Species Act listing protections.

Policy Wildlife & Fisheries #22: Federal and state agencies should promote the critical role agricultural producers have in providing habitat for wildlife and encourage the use of livestock as a tool to improve wildlife habitat.

Policy Wildlife & Fisheries #23: Regulatory entities should discourage locating wind energy projects within bird, bat, pronghorn, and mule deer migration areas.

Policy Wildlife & Fisheries #24: Federal agencies should use Wyoming's Bighorn-Domestic Sheep Management Plan as the basis for all management decisions impacting Bighorn/domestic sheep interactions.

Policy Wildlife & Fisheries #25: Federal agencies should recognize the Wyoming Governor's Executive Order 2019-3 on Greater Sage-Grouse (GRSG) Core Area Protection in conserving sage-grouse and their habitats and use it as the standard for GRSG management in Wyoming.

Policy Wildlife & Fisheries #26: U.S. Fish and Wildlife Service Policy should be maintained and not modified to increase the length of the current five (5) year review period for Endangered Species Act Incidental Take Permits.

Policy Wildlife & Fisheries #27: The U.S. Forest Service should not manage for species viability of wildlife on Forest Service managed lands as wildlife should only be managed by a wildlife management agency.

Policy Wildlife & Fisheries #28: The Wyoming Game and Fish Department is the primary agency responsible for managing all wildlife species in Wyoming not listed as threatened or endangered per the Endangered Species Act.

Policy Wildlife & Fisheries #29: The United States Forest Service and Bureau of Land Management should focus on habitat management for species of importance identified by the State and only consult with and defer to the Wyoming Game and Fish Department for wildlife management.

Policy Wildlife & Fisheries #30: Species and habitat are not managed above their legal designation.

Policy Wildlife & Fisheries #31: Recreational hunting, including big & small game hunting, fur trapping, fishing, and outdoor recreation involving wildlife that is a part of Carbon County's custom and culture is maintained at its traditional levels.

Policy Wildlife & Fisheries #32: Federal agencies consider the economic well-being and custom and culture of the Saratoga-Encampment-Rawlins Conservation District (District) and its citizens when making decisions affecting wildlife within the District.

Policy Wildlife & Fisheries #33: Peer-reviewed science, and/or those data meeting the 'credible data' agency specifications, shall be used in the management of disease spread between wildlife and domestic species, with consultation and coordination of local government.

Policy Wildlife & Fisheries #34: Coordination with the Saratoga-Encampment-Rawlins Conservation District (District) should occur whenever there are proposed adjustments to core sage-grouse habitat boundaries or policies affecting said habitat.

Policy Wildlife & Fisheries #35: All mapped Greater Sage-Grouse priority habitat management areas and general habitat management areas should match state plans.

Policy Wildlife & Fisheries #36: The use of sagebrush focal areas for Greater Sage-Grouse habitat classification is not supported by the Saratoga-Encampment-Rawlins Conservation District.

Policy Wildlife & Fisheries #37: Federal agencies should support wildlife habitat improvement projects and tools with appropriate consultation and coordination including but not limited to grazing, plantings, water development, fire, chemical application, wildlife-friendly fencing, and other best management practices that improve the quality of riparian and upland habitats.

Policy Wildlife & Fisheries #38: Federal agencies should work with local agricultural producers, and the Saratoga-Encampment-Rawlins Conservation District to ensure mitigation is done properly and locally.

Policy Wildlife & Fisheries #39: Federal and state wildlife agencies should continue surveillance for brucellosis in elk, chronic wasting disease in cervids, and any other disease that could have health or economic impacts on citizens or their livelihoods.

Policy Wildlife & Fisheries #40: Federal agencies promote actions that maintain or enhance functioning stream habitat, functioning riparian communities, functioning wetland habitats, and functioning upland communities to support watershed health within Carbon County.

Policy Wildlife & Fisheries #41: Aquatic resources in the Saratoga-Encampment-Rawlins Conservation District are managed for healthy and biodiverse fisheries.

Policy Wildlife & Fisheries #42: Aquatic invasive species are aggressively controlled through proactive management to prevent introduction.

Policy Wildlife & Fisheries #43: All management plans that may impact aquatic resources in the Saratoga-Encampment-Rawlins Conservation District should take a holistic approach and protect the overall health of natural resources.

Policy Wildlife & Fisheries #44: Federal and state agencies should support a requirement for water quality monitoring before, during, and after all projects that may have impacts on aquatic resources.

Policy Wildlife & Fisheries #45: Agriculture use water rights should not be converted to instream flow use.

Policy Wildlife & Fisheries #46: Federal agencies should support stream restoration projects that will provide long-term benefits for healthy aquatic habitat and watershed health and have specific goals for habitat improvement.

Policy Wildlife & Fisheries #47: Predator populations are managed to maintain healthy ecological levels, while prioritizing the reduction in the occurrence of livestock depredation and the health and welfare of citizens.

Policy Wildlife & Fisheries #48: Federal land managers follow Wyoming Game and Fish Department and Wyoming State Animal Damage Management Board predator policies.

18.2 Local Support Data - General

Wildlife resources on lands within the District are extraordinary and represent a national treasure in terms of opportunities to view and hunt. Wildlife habitats in the District occur on forested lands and rangelands and on federal, state, and private lands. Challenges exist in sustaining these wildlife resources and habitats when balancing the needs for a growing population using multiple land use management.

In general, wildlife in the State of Wyoming are managed by the Wyoming Game and Fish Department (WGFD). Wildlife species that are on the Endangered Species List as threatened or endangered are managed by the U.S. Fish and Wildlife Service (USFWS). The responsibilities of the WGFD are defined in Wyo. Stat. §. 23-1-103. The WGFD is charged with providing..."an adequate and flexible system for the control, management, protection, and regulation of all Wyoming wildlife." The WGFD *State Wildlife Action Plan 2017* and the WGFD *Statewide Habitat Plan 2020*, are guiding documents for District habitat management projects and partnership priorities moving forward.

Habitat for 95% of all federally threatened and endangered flora and fauna is on private land in the United States, and 262 of these species (19%) survive only on private parcels (Wilcove et al. 1996). Appendix B provides a table of federally Endangered Species Act (ESA) listed, USFS and BLM sensitive species, and SGCN within the District.

18.3 Local Support Data – Big Game

The District has a diversity of habitat that supports several large wildlife species that are important to the recreational industry of the region. Virtually all of the District is habitat of importance to one or more wildlife species at some life stage. Mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), bighorn sheep (*Ovis canadensis*), moose (*Alces alces*), pronghorn (*Antilocapra americana*), and white-tailed deer (*Odocoileus virginianus*) are big game animals that reside within the District. The WGFD maps special habitat areas by herd unit for each big game species. Figure 35 through Figure 4041 display the WGFD seasonal range, crucial range, and parturition areas (birthing areas) where available for mule deer, elk, bighorn sheep, moose, pronghorn, and white-tailed deer.

Challenges to managing big game and the habitats on which they rely include:

- Assuring that forestlands contain a mix of both productive foraging habitat (meadows, seedling/sapling stands) and security (dense, mature stands somewhat removed from motorized access);
- Assuring that winter ranges in bunchgrass/sagebrush habitat are both productive and contain sufficient stubble heights to support elk through the winter;
- Assuring that elk that winter on private lands are managed within Wyoming Game and Fish Department objectives, and that elk/landowner conflicts are managed to minimize those conflicts;
- A rapidly changing forest ecosystem as a result of 30+ years of reduced logging and the subsequent forest die off from disease and insect infestations;
- Hunter access in areas of mixed private-public landownership significantly influences the ability to manage elk and other big game populations.

- Timing and amount of precipitation is the leading factor for crucial habitat quality and availability. Crucial habitat can determine winter mortality, health of the herd and recruitment.

Mule Deer

The Platte Valley mule deer (*Odocoileus hemionus*) herd unit is managed by the WGFD. The once abundant deer herd went through a major decline in the late 1900s and has been the focus of collaborative efforts in recent years. Mule deer populations are slowly rebounding as a result of weather conditions and management actions including limited quota licenses, antlered only hunting licenses, and increased predator control.

The Platte Valley Habitat Partnership (PVHP) formed in May 2012 is a result of the Platte Valley Mule Deer Initiative (PVMDI) that the WGFD implemented in July 2011. "The PVHP was developed to establish effective partnerships in order to maintain and improve mule deer habitat throughout the Platte Valley. The PVHP is comprised of private landowners, concerned citizens, hunters, outfitters, members of the Saratoga-Encampment-Rawlins Conservation District and the staffs of the WGFD, Bureau of Land Management (BLM), University of Wyoming Extension, the U.S. Forest Service (USFS) and Non-Governmental Organizations (NGOs). One of the outcomes of the PVHP includes a comprehensive habitat management plan designed to be implemented collaboratively between all interested stakeholders." (WGFD 2013) These efforts in addition to the management actions help ensure the longevity of the species.

Habitat types within the Platte Valley vary from high elevation forests to sagebrush and desert shrub environments with irrigated meadows throughout the Valley floor (Figure 34). Wyoming big sagebrush is the dominant habitat covering approximately 33% of the Valley, followed by lodgepole pine (19%), Mountain big sagebrush communities (9%), and irrigated meadows (7%).

The PVHP Mule Deer Habitat Plan offered the following information as the basis for mule deer considerations in the Platte Valley. "There are several key habitat components all mule deer require: food, cover, water, and space. In addition to these components, their arrangement on the landscape is also important to be effectively utilized by mule deer. Seasonal migrations are common, with mule deer moving great distances from higher elevation summer ranges receiving more annual precipitation, falling mostly in the form of snow. Mule deer fawn production and survival is paramount to mule deer population stability and recovery. Efforts to improve habitat on summer and fall ranges are especially important to ensure maximum fawn production and survival is attained."

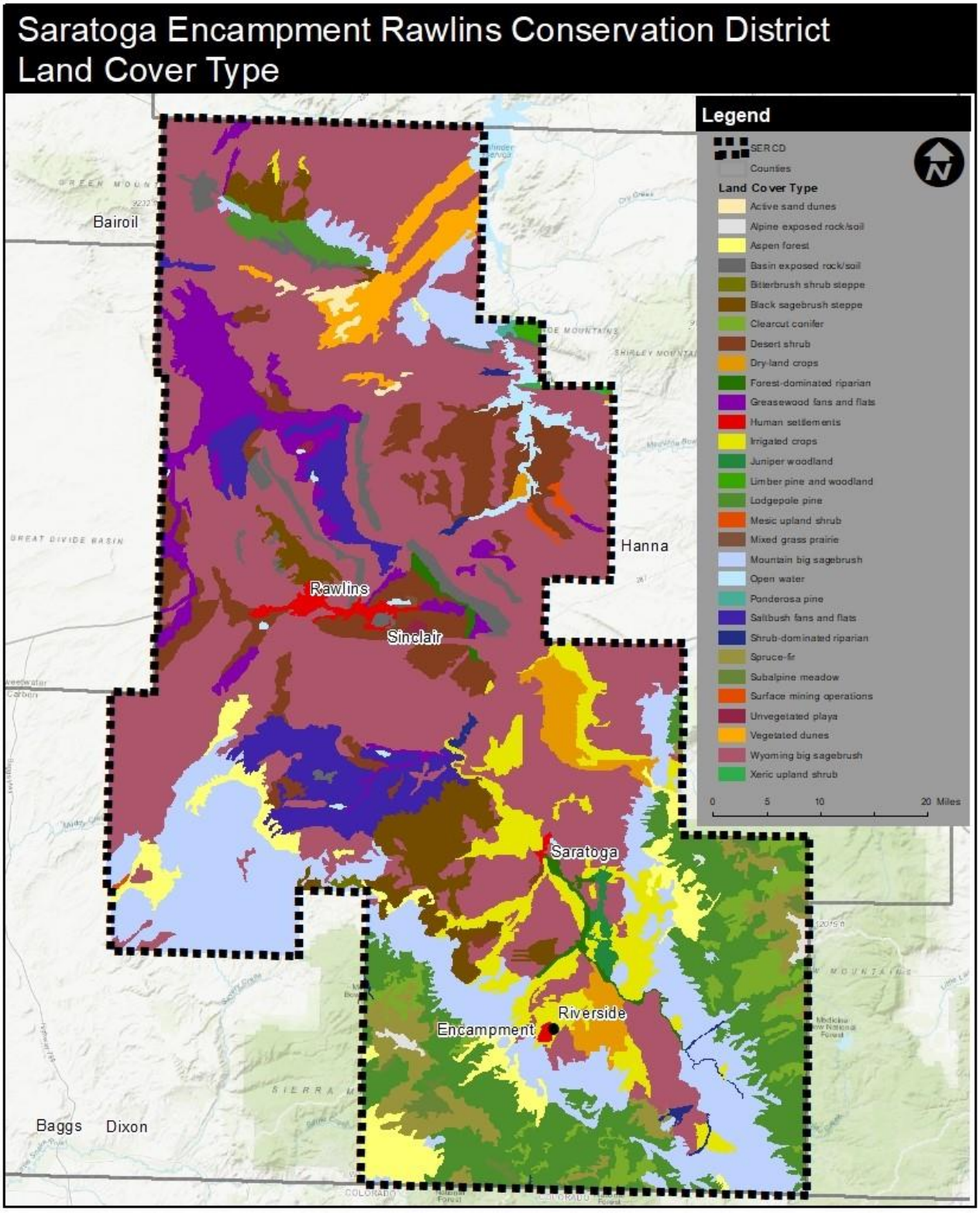

Figure 34: 2019 Land Cover by Type

Elk

Habitat for Rocky Mountain elk is abundant in the District with 219,034 acres of crucial winter range and an additional 554,309 acres of winter range. Elk are primarily grazers, or bulk foragers, though they will occasionally browse on willows and aspen. Elk winter on both public and private land. High densities of elk can pose a disease risk to livestock operations and can be destructive to winter feed reserves and crops. As shown in Figure 35 and Figure 37, mule deer seasonal range overlaps that of elk to some degree. Moose occupy portions of seasonal elk ranges including the wetlands and riparian habitats.

Bighorn Sheep

Bighorn sheep populations and domestic sheep populations have declined in Wyoming over the past hundred years. Conflicts and confrontation relative to interaction between bighorn sheep and domestic sheep escalated to the point where a meeting of interested parties was initiated in 2000. The Wyoming Bighorn/Domestic Sheep Interaction Working Group was created. At the initial meeting the diverse group of attendees agreed, "It is the goal of the Wyoming Bighorn/Domestic Sheep Interaction Working Group to maintain healthy bighorn sheep populations while sustaining an economically viable domestic sheep industry in Wyoming." Additional meetings were held to cooperatively find resolution to bighorn/domestic sheep interaction issues. A Final Report and Recommendations was completed in September 2004 and is known as "Wyoming's Sheep Plan". Its implementation continues today.

Wyoming's Sheep Plan identified issues, developed recommendations, and research gaps. Part of the recommendations included identification of four bighorn sheep management area levels. These include:

- Bighorn Sheep Core Native Herds – largest bighorn sheep populations, highest priority for bighorn sheep management, none lie within the District;
- Cooperative Review Areas – areas of suitable bighorn sheep range where proposed changes in bighorn sheep management or domestic sheep use will be cooperatively evaluated, the District has two of these distinct areas – at the very south end and at the very north end of the District;
- Bighorn Sheep Non-Emphasis Areas – lowest priority areas for bighorn sheep management, no effort to prioritize/emphasize bighorn sheep unless agreed to by the working group, existing bighorn sheep populations will not be protected at the expense of domestic sheep grazing; and
- Bighorn Sheep Non-Management Areas – all areas are outside of identified management areas, bighorn sheep permitted to occur but not actively encouraged, wandering bighorn sheep with known, suspected or potential contact with domestic sheep should be captured/removed from the wild.

The WGFD identified 24,901 acres of crucial winter/yearlong habitat near Seminoe State Park and along the edge of the Sierra Madre Range near Encampment. There are 148,543 acres (3%) of spring/summer/fall habitat designated, located in the Sierra Madre Range and the Medicine Bow Mountains in the southeast corner of the County. Approximately 82,456 acres (2%) of yearlong habitat is designated spanning between Muddy Gap and the Seminoe State Park. These areas lie within the Cooperative Review Areas identified by Wyoming's Sheep Plan.

Moose

The Snowy Range moose herd unit stretches across portions of the southern half of the District. Moose here descended from moose transplanted in Colorado and historically were not native to this area. Limited population monitoring has occurred on this herd unit. However, a noticeable increase in population has occurred since they were transplanted. Moose are considered primarily browsers but will forage on grasses

and forbs as well. Moose inhabit more riparian and wetland areas where willows and water are readily available.

Pronghorn

Pronghorn antelope and the sagebrush shrublands ecosystems they utilize are abundant in the District with 431,950 acres of crucial range identified by the WGFD. They are intermediate foragers, eating grasses, forbs, and shrubs. Pronghorn attain their highest population densities in the open sagebrush shrubland ecosystems. They use most of the District year-long at some level except for the developed areas and the upper elevations. Barring the mountain ranges, most of the District is designated as pronghorn habitat which are also utilized for livestock grazing, although dietary overlap between livestock and pronghorn is minimal.

White-tailed deer

Small numbers of white-tailed deer reside in riparian and agricultural areas along the North Platte River and lower elevation tributaries. Whitetail, like mule deer, are browsers, supplementing their diet with forbs and occasionally grass. In agricultural areas, they will feed on field and hay crops. White-tailed deer seasonal range is specified in the southern half of the District. As their population expands, so does their range.

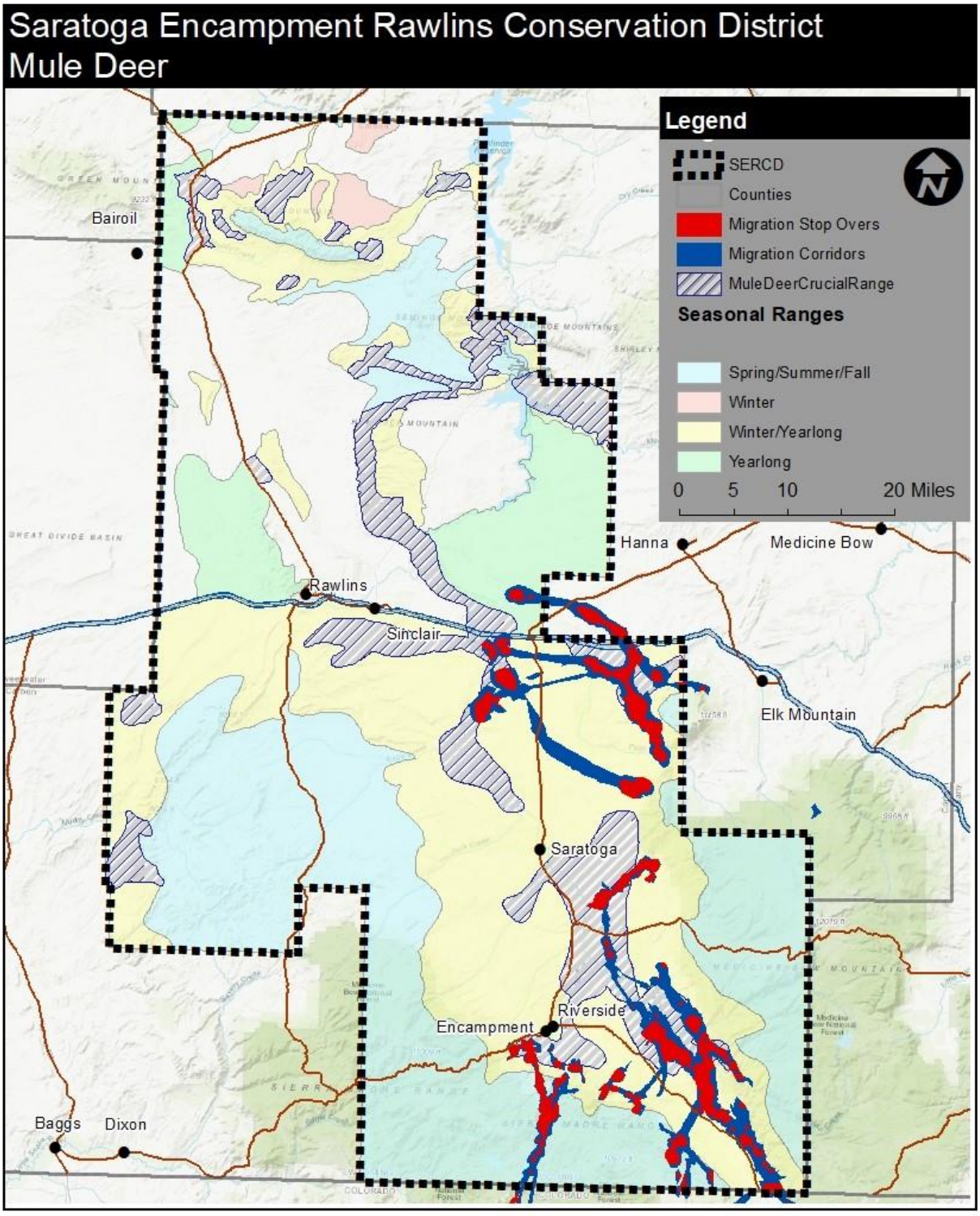

Figure 35: Mule deer crucial range, seasonal ranges, migration corridors, and stop over locations

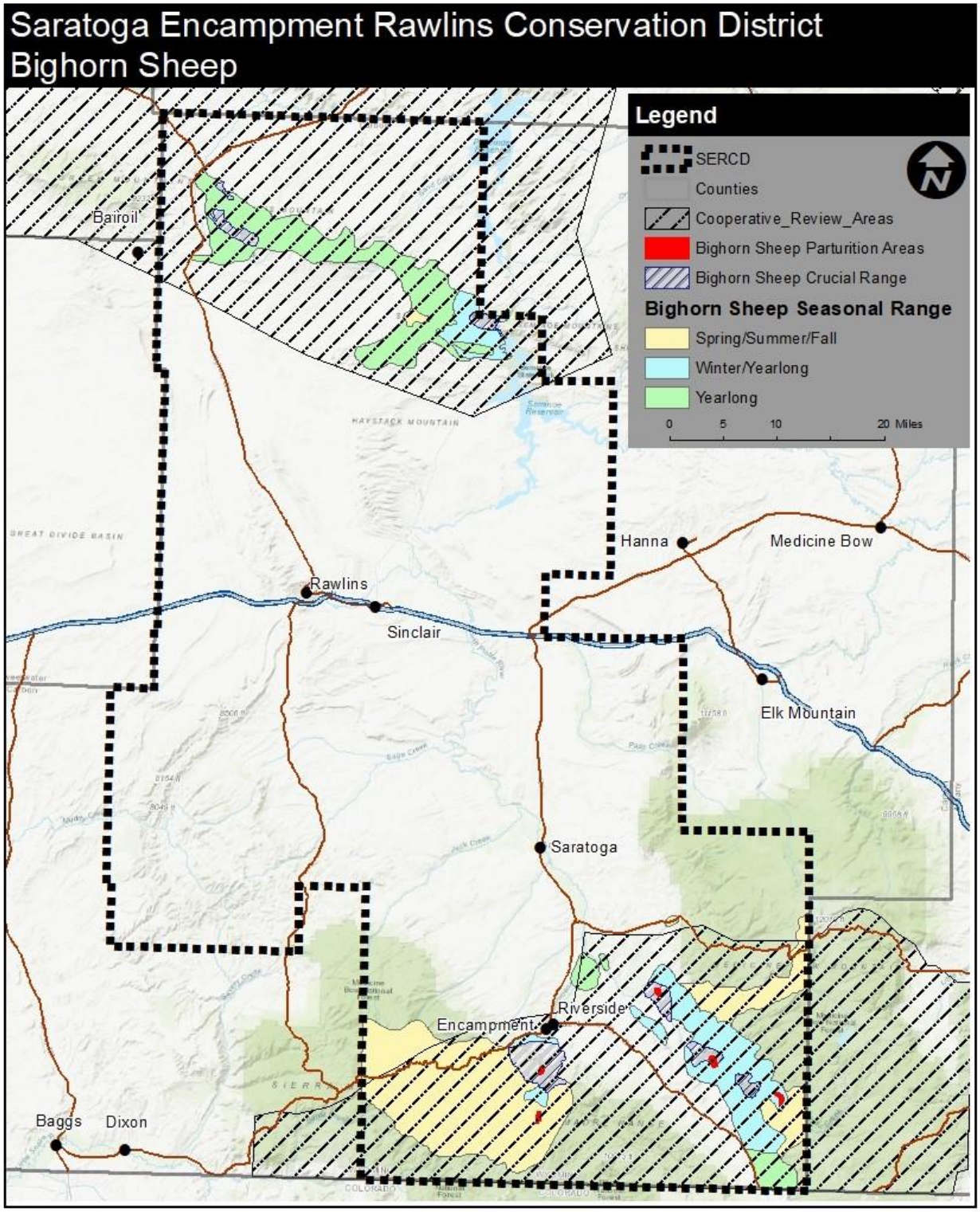

Figure 36: Saratoga-Encampment-Rawlins Conservation District bighorn sheep habitat

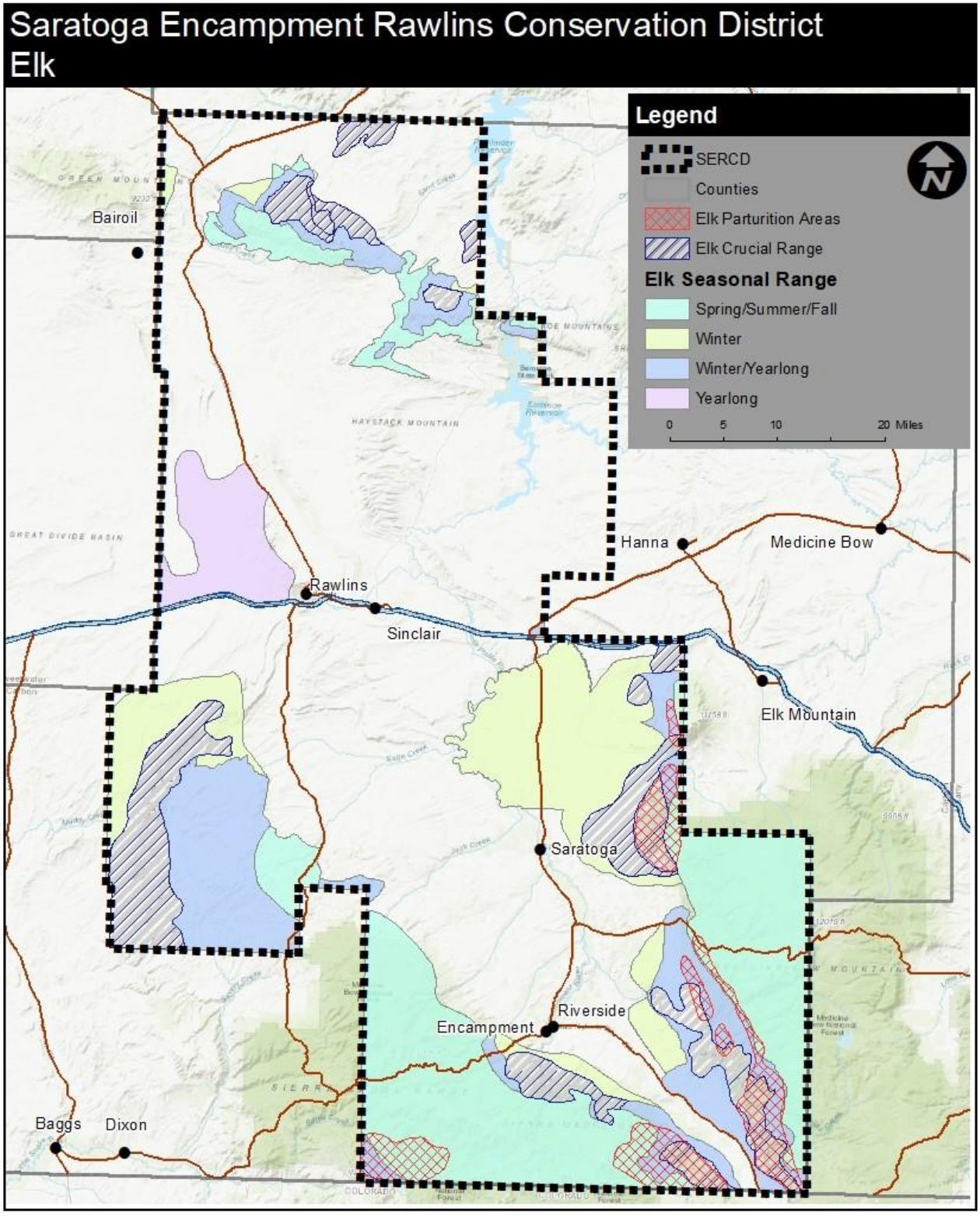

Figure 37: Saratoga-Encampment-Rawlins Conservation District elk habitat

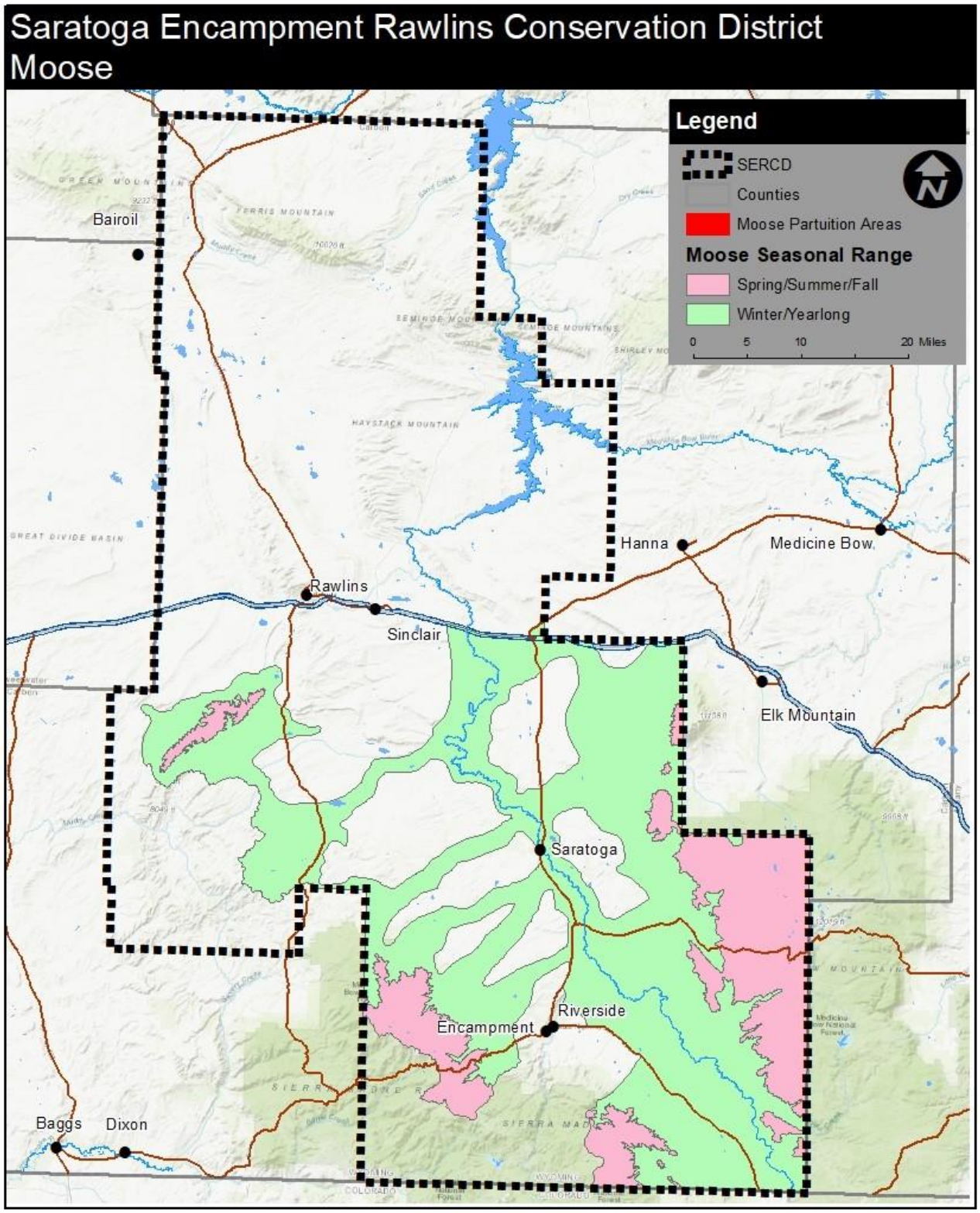

Figure 38: Saratoga-Encampment-Rawlins Conservation District moose habitat

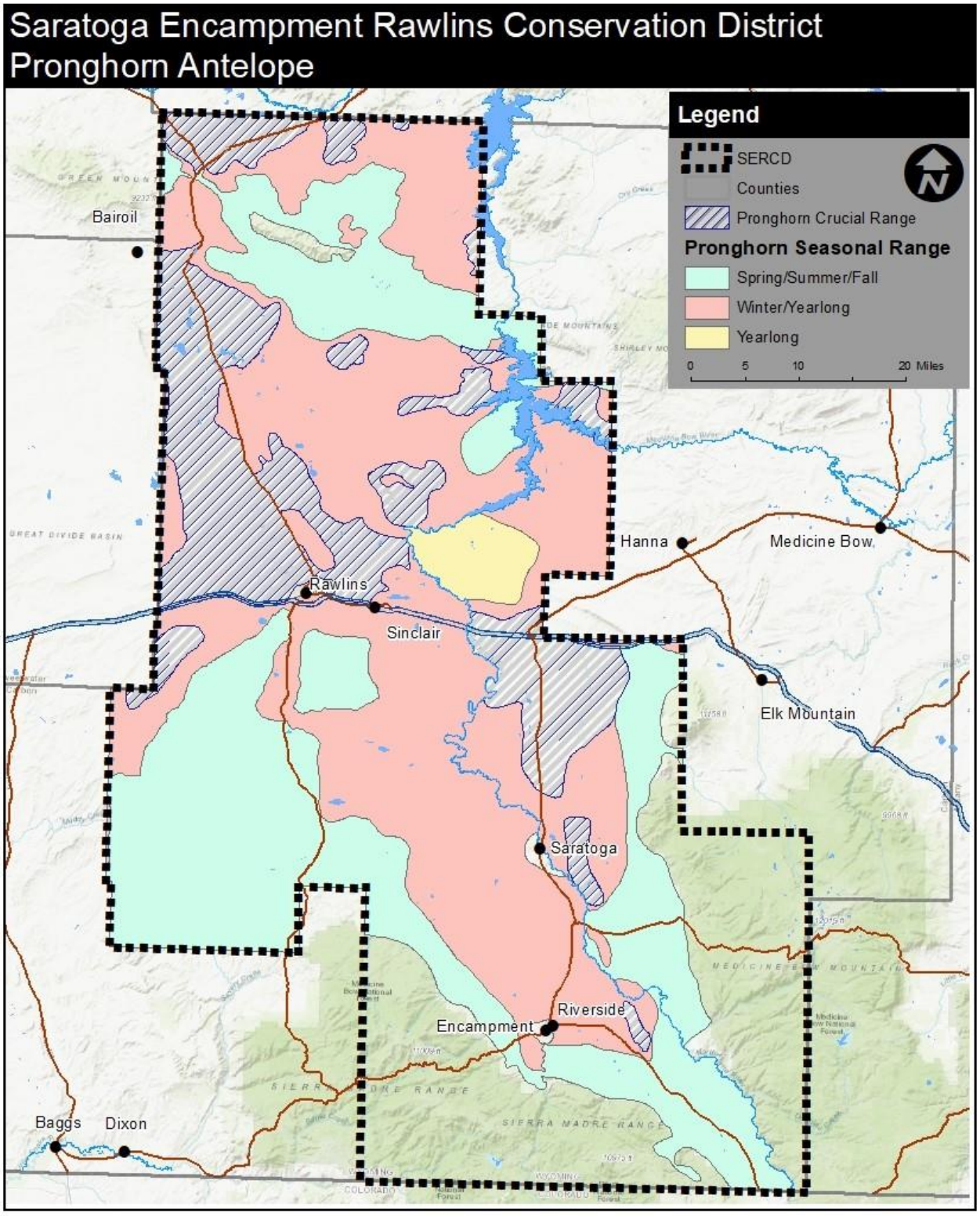

Figure 39: Saratoga-Encampment-Rawlins Conservation District pronghorn habitat

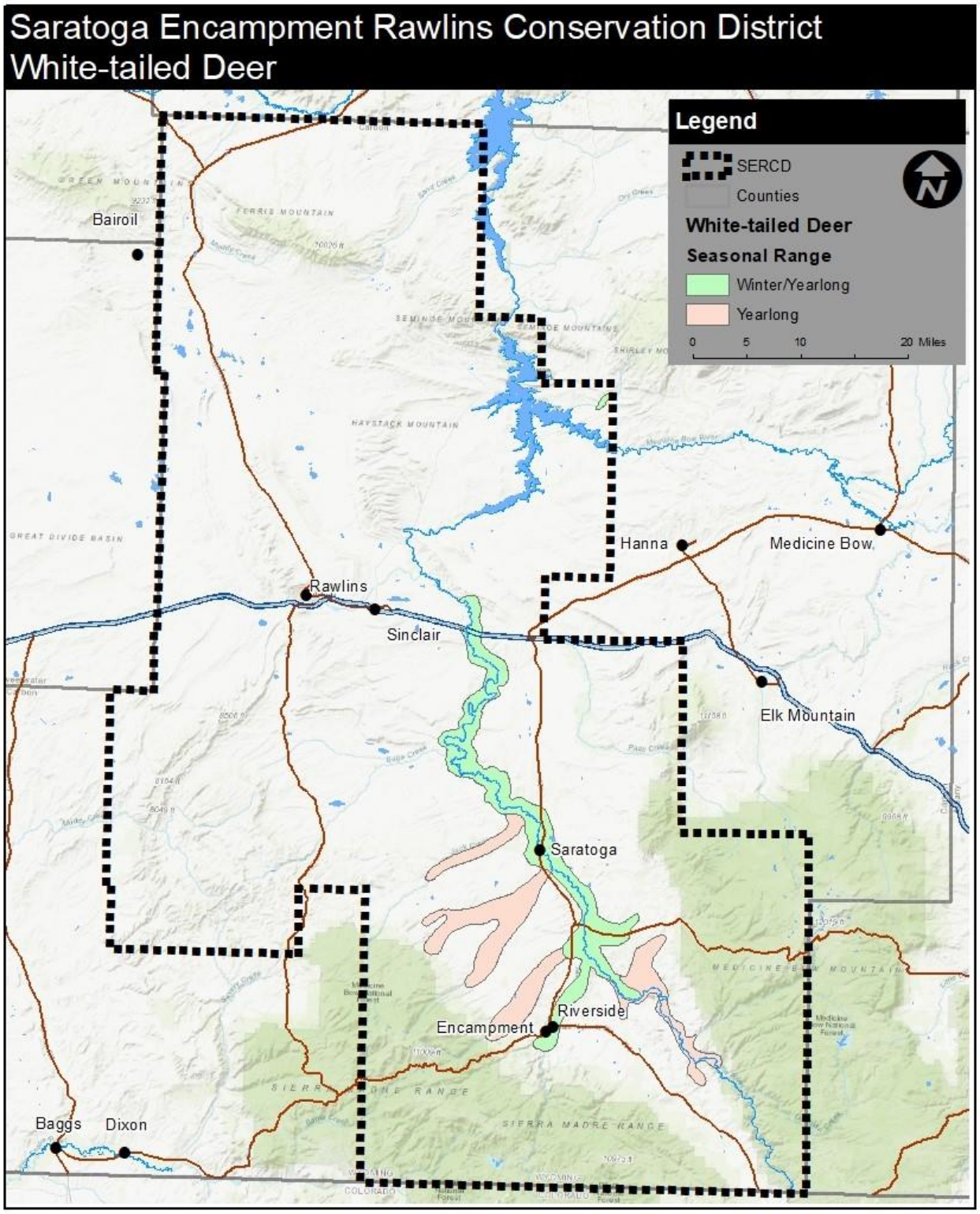

Figure 40: Saratoga-Encampment-Rawlins Conservation District white-tailed deer habitat

18.4 Local Support Data – Fisheries and Aquatic Habitat

As discussed in the 'Water Resources' Section 17, both water quantity and quality are important to the residents of the District. Functioning rivers, streams, and watersheds are vital to the economic stability of the District through agriculture and tourism use. Fish habitats in the District include perennial and intermittent streams, spring, lakes, and reservoirs.

Fishing on the major rivers and streams has contributed to the custom and culture of Carbon County since the first Indigenous People came to the area. Indigenous Peoples fished the rivers and streams to provide food, particularly in the summer months. As settlers moved into the area they began fishing as well. Carbon County has long been a destination for recreationists and tourists who want to partake in its incredible fisheries. The inventor Thomas Edison visited the area on a hunting and fishing trip in 1878. The Saratoga National Fish Hatchery opened in 1911 to stock various fish species both in Wyoming fisheries and fisheries throughout the country. (Carbon County Economic Development Corporation, 2016)

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

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

The Platte River Basin covers most of the District including the Platte and Encampment Rivers and the associated expansive network of high mountain stream systems. The District resides within the sub-basin designated 'Above the Pathfinder Dam'. The Pathfinder, Kortes, and Seminoe Reservoirs, as well as the 'Miracle Mile', are located in Carbon County within the Platte River Basin. (States West Water Resources Corporation & WWDC, 2001; WWDC, 2006)

The North Platte River and its tributaries provide a range of habitats and natural processes that support economically important wild trout populations. The area faces future threats from climate change and habitat fragmentation caused by residential and industrial energy development. Stream restoration "hot spot" watersheds for fisheries, wildlife, and water quality benefits are identified by the WGFD. Work in all of these places will benefit fisheries and wildlife resources and water quality, in addition to other values. They were identified largely based on Statewide Habitat Plan enhancement priority areas and State Wildlife Action Plan conservation areas. District "hot spot" watersheds include the Encampment River at Riverside and the North Platte River at Saratoga.

The District provides aquatic habitat for many native and non-native species. WGFD has a stream classification system first developed in 1961. (Figure 41) It is intended to identify and rank the most important coldwater recreational fisheries and assess the relative potential impacts of proposed development projects to streams. As used today, Wyoming streams are ranked according to the number of pounds of trout per mile measured in the stream segment. Categories based on pounds of trout per mile are: Blue Ribbon (national importance) >600 pounds per mile, Red Ribbon (statewide importance) 300 to 600 pounds per mile, Yellow Ribbon

(regional importance) 50-300 pounds per mile, Green Ribbon (local importance) <50 pounds per mile (Figure 41). The wild trout fishery of the North Platte River, Encampment River, and their tributaries are important to the economic stability of the District's communities. There are also stretches of red ribbon rivers along the North Platte River and across the southeastern corner of the County (WGFD, n.d.-a). The WGFD Fish Stream Classifications map can be found here.

Saratoga Fish Hatchery

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

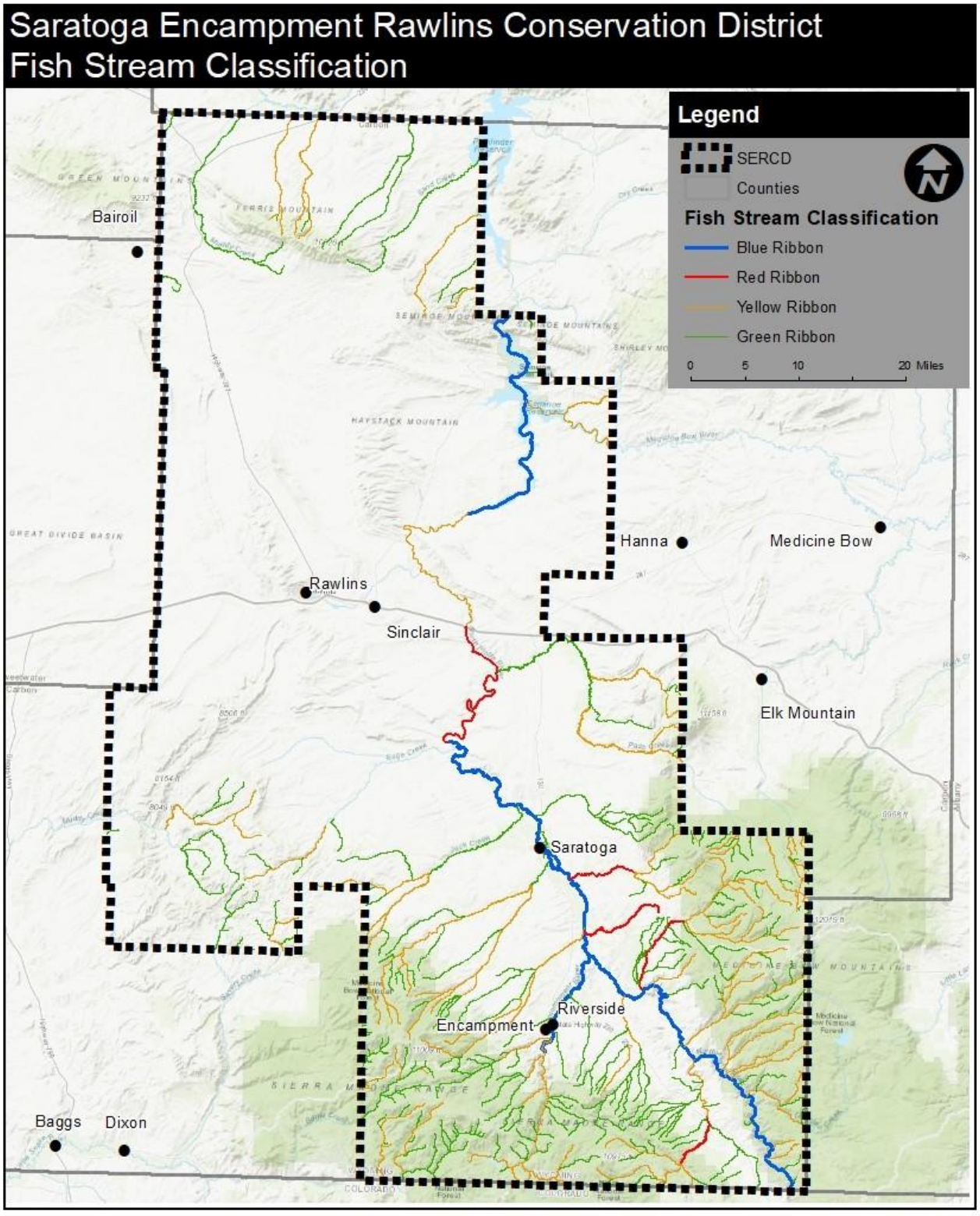

Figure 41: Fish Stream Classification

18.5 Local Support Data – Large Carnivores

Black Bear

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

Mountain Lion

Mountain lion (*Puma concolor*) inhabits a large geographic region and is known to live in a variety of climates and habitats, as long as adequate prey and cover are available. Across the western United States mountain lion are found in conifer or deciduous timber, riparian, and tall shrub habitats, generally at mid-elevations, and prefer steep or rugged terrain. Mountain lion are prevalent in the District. Mountain lion's primary diet consists of large vertebrates such as deer and other large ungulates, though smaller vertebrates are sometimes supplementary. Mountain lion are solitary and territorial, making them unique in management. The 2006 State Mountain Lion Management Plan was developed to provide guidelines and a framework for the sustainable management of the species within core habitats, including the management source and sink areas, and areas that young individuals expand into. (WGFD, 2006)

18.6 Local Support Data – Small Game and Furbearers

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

Small game and upland game birds in the District include cottontail rabbit, snowshoe hare, fox squirrels, pheasant, partridge, a variety of grouse, and mourning dove. Sandhill crane, turkey, duck, and geese are also game species and migratory species that are commonly harvested and managed. Furbearers are managed following the Furbearer Regulations (Chapter 4) and include mink, bobcat, muskrat, weasel, badger, marten, and beaver. Fur trapping is an important current, as well as cultural, practice that played important roles in the development of Carbon County. For additional information and data refer to the Annual Report of Small Game, Upland Game Birds, Migratory Game Birds, Furbearer, Wild Turkey, and Falconry Harvest. (WGFD, 2020)

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

Greater Sage-Grouse

The Greater sage-grouse is a charismatic bird of the West that has become an iconic symbol for the health of critical western sagebrush habitats that span 173 million acres. Sage-grouse are dependent on the sagebrush ecosystem for every life stage. They occupy large landscapes with some migratory birds moving tens of miles between seasonal ranges. Wyoming is a stronghold for this umbrella species with 25% of the range-wide

habitat and 37% of the known range-wide male populations – the most for any state. Wyoming also has more leks (i.e., strutting or breeding grounds) than any other state. From a ranch management standpoint, maintaining functioning sagebrush steppe is good for ranches, sage-grouse conservation, for rural western economies, and for many other sagebrush ecosystem organisms, such as songbirds and small mammals. Approximately 350 vertebrate wildlife species that inhabit sagebrush may also benefit from Greater sage-grouse conservation. (Correll et al., 2017)

Sagebrush ecosystems are complex and so are the efforts to conserve sage-grouse. The Greater sage-grouse is a state-managed species that is dependent on these sagebrush steppe ecosystems. These ecosystems are managed in partnership across the range of the sage-grouse by federal, state, and local authorities.

Efforts to conserve the species and its habitat date back to the 1950s. Over the past two decades, state wildlife agencies, federal agencies, and many others in the range of the species have been collaborating to conserve sage-grouse and its habitat. BLM has broad responsibilities to manage federal lands and resources for the public benefit. Nearly half of sage-grouse habitat is managed by the BLM. Habitat is managed based on the designation of Priority Habitat or General Habitat. Priority Habitat spans areas that have a high probability of use or are more critical to populations and therefore are managed with higher priority and restrictions than general habitat. General habitat spans areas of isolated habitat with low use (USFS, 2016). Habitat for Greater sage-grouse is abundant in the District at 1,359,422 acres (Figure 41).

Wyoming began sage-grouse management efforts in 2000, forming the Wyoming Sage-Grouse Working Group. In 2003, WGFD released the Wyoming Greater Sage-Grouse Conservation plan. To further maintain and enhance Greater sage-grouse populations and adequate sagebrush habitat, Wyoming developed and implemented a Greater sage-grouse Core Population Area Protection strategy. An extensive process was used to identify areas where Greater sage-grouse and their habitats would be most effectively conserved. The "Core Area" strategy was initiated in 2008 with updates in 2011, 2015, and 2019. Currently, Wyoming Governor's Executive Order (2019-3) on Greater Sage-Grouse Core Area Protection is supported by the District and being used as the basis for greater sage-grouse conservation.

The BLM recognizes its important role in conserving sagebrush habitats that support the Greater sage-grouse and have conducted several iterations of NEPA specific to the Greater sage-grouse over the past decade. Discussion with partners helped refine and provide policy update to help strengthen conservation efforts while providing increased economic opportunity to local communities. The BLM issued its Record of Decision for the Wyoming Greater Sage-Grouse Approved Resource Management Plan Amendment in March 2019 to update sage-grouse management. This document partially supersedes the 2015 Wyoming Greater Sage-Grouse Land Use Plan Amendment. The 2019 Plan Amendment is currently being litigated in the U.S. District Court for the District of Idaho and is being blocked from implementation under an injunction issued by that court. On November 22, 2021, a Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environmental Impact Statements was posted in the Federal Register to address the management of Greater sage-grouse and sagebrush habitat on BLM-managed public lands in ten western states.

The USFS developed standards and guidelines for sage-grouse conservation in 2015. After two years of monitoring, amendments were developed for Greater sage-grouse management on USFS-managed lands with the new EIS spanning Colorado, Idaho, Nevada, Utah, and Wyoming. The Final EIS and Draft Record of Decision was released in the fall of 2019 and went through an extensive objection resolution process. The final decision

and resolution outcomes were released in August 2020. Monitoring reports on sage-grouse populations and habitat within USFS Region 4 are released annually. The Final EIS was released in the fall of 2019. Following an objection resolution process, including a resolution meeting, the USFS released an objection response incorporating several edits to the Greater Sage-Grouse Plan Amendments. (USFS, 2020)

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

Figure 42: Landowner Conservation Efforts

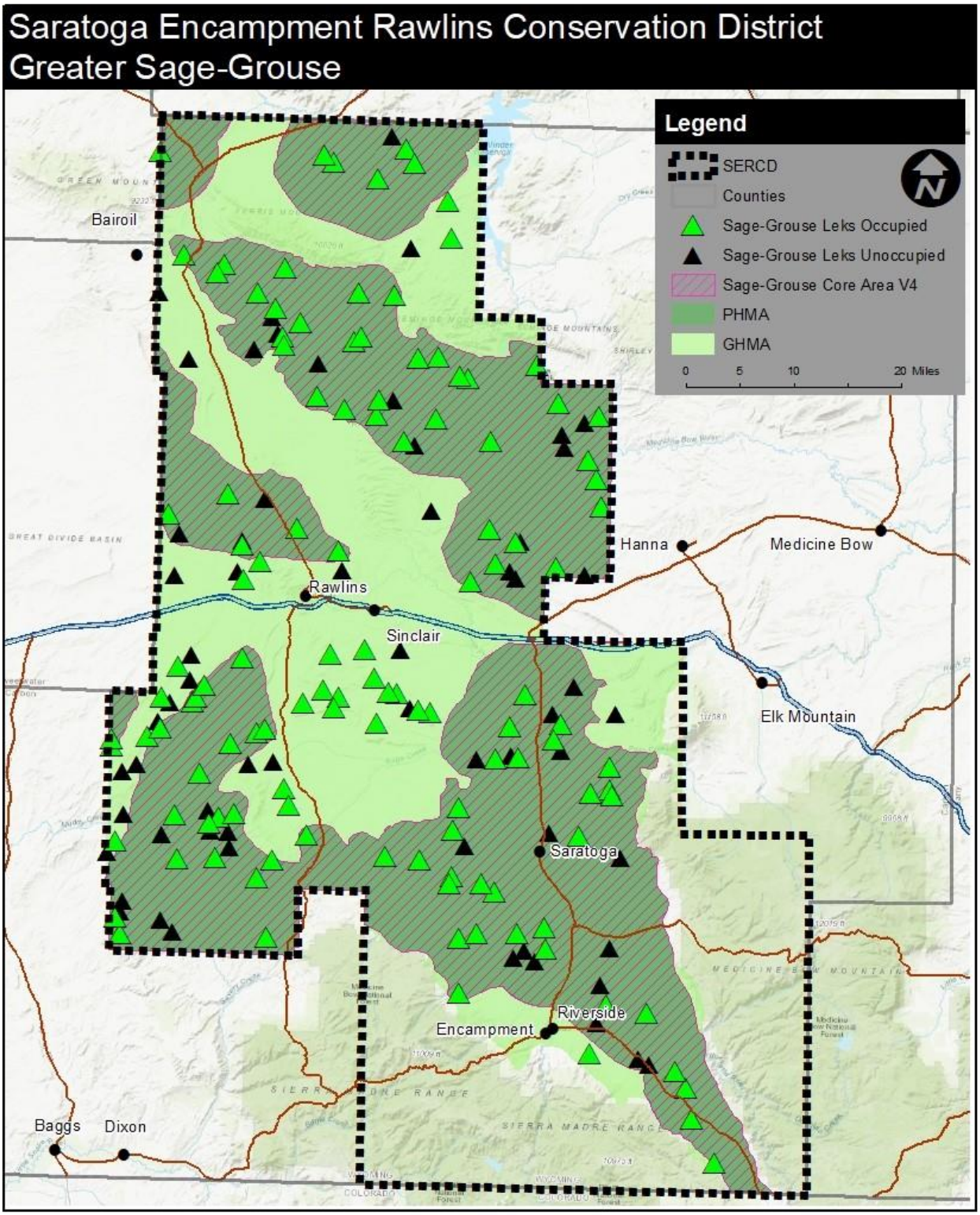

Figure 43: Greater sage-grouse Core Areas and lek status

18.7 Local Support Data – Other Wildlife Information

Bats

Bats occur nationwide and consume vast quantities of insects. Wyoming Natural Diversity Database (WYNDD) offers the most complete information for species and habitats of conservation concern and report that twelve species of bats are found in Carbon County. While challenges facing bats are many, wind energy projects create a local, substantial risk to them. Nearly 90% of bat fatalities occur in late summer and early fall, during the peak of fall migration (Keeley et al. 2001, Erickson et al. 2002, Johnson 2005). Migrating and commuting bats often follow linear features in the landscape and may be drawn to ridges where wind energy facilities are commonly located (Erickson et al. 2002, Kunz 2004). The physical characteristics of wind turbines might also attract bats. While the sonar that bats possess allows them to avoid collisions with wind turbines, the differences in air pressure caused by rapidly rotating blades, results in direct mortality to bats flying in close proximity. According to Johnson (2004), the overall average bat fatality rate for US wind projects is 3.4 fatalities per turbine per year. As more facilities with larger turbines are built, the cumulative effects of this rapidly growing industry may contribute to the decline of some bat populations. Because the current technology of wind generation has no solution to the problem, excessive bat mortality remains an issue.

The WGFD has *A Conservation Plan for Bats in Wyoming* (Bat Plan) (Hester, et al. 2005) that is primarily intended to be utilized by land and resource managers, biologists, bat researchers, and other interested parties as a technical cooperative framework to identify and coordinate actions to facilitate the conservation of bat species in Wyoming. The purpose of the Bat Plan is to: (1) identify early conservation measures to reduce, eliminate, or mitigate those factors considered to be limiting the well-being of bat species; (2) provide information to reduce the threats to bat populations and their habitats and to diminish the likelihood that any bat species in Wyoming will require protection under the Endangered Species Act; (3) encourage state and federal agencies, private landowners, and other interested parties to voluntarily maintain or enhance habitat for bat species; and (4) provide managers and researchers standardized methodologies and techniques for collecting, storing, and interpreting data, to ensure that data collected in Wyoming is compatible with ongoing efforts. (Id)

Burrowing Animals

Burrowing rodents including white-tailed and black-tailed prairie dogs, and several species of ground squirrels are considered *keystone species* in that they provide essential habitat for several at-risk species including burrowing owls, black-footed ferrets, and mountain plovers. Another group of burrowing animals important to habitats in the District is the gopher family (*Geomyidae*). The Wyoming pocket gopher is on the BLM and USFS sensitive species lists and Wyoming Game & Fish Department's Species of Greatest Conservation Needs list. Occupied prairie dog towns occur nationally at only ~2% of their historic range. Although prairie dog colonies provide essential habitat for several species of wildlife, they are often considered a pest on private lands and may complicate ranching and agricultural activities. Periodic disease outbreaks (i.e., plague) in prairie dog colonies further complicates long-term management issues. Challenges for prairie dogs and associated species include:

- Assuring that sufficient prairie dog colonies occur to avoid federal listing of burrowing owls and mountain plovers and are compatible with the recovery of black-footed ferrets (currently designated as experimental, non-essential populations).
- Assuring private landowners have both monetary incentives to either support prairie dog towns on private lands or control those prairie dog towns (including the use of rodenticides) when needed.

Migratory Birds

The United States has ratified international conventions regarding the protection of migratory birds. The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) implements the protective measures of these conventions. The MBTA prohibits "taking," which is the killing, possession, or transport of any migratory bird or its eggs, parts, or nests except as authorized by a valid permit. These actions may be permitted only for educational, scientific, and recreational purposes, and harvest is limited to levels that prevent overutilization. The list of the bird species protected by the MBTA is located in 50 CFR 10.13. Most of the bird species that occur in the District are protected under the MBTA.

Under the MBTA, permits can be issued by USFWS for the intentional take of specific birds and nests that have been identified prior to application for the permit; however, no permits can be issued for take that is incidental to the action being taken (i.e., incidental take). For example, if by constructing a livestock water development an active migratory bird nest is destroyed, the action would constitute an "incidental take" of the nest where the intent of the action was not to destroy the migratory bird nest but to construct a livestock water development. Therefore, taking the nest is incidental to constructing the development.

State of Wyoming Migration Corridor Protections

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

One of the three mule deer corridors is in the District and identified as the Platte Valley Mule Deer Migration Corridor. The Platte Valley Mule Deer Migration Corridor Local Working Group started meeting in fall 2020 with the first public meeting in December 2020 to review the existing designation of the Platte Valley Mule Deer Migration Corridor. The working group was tasked with reviewing the effectiveness of corridor designation on the migratory herd and evaluating the WGFD's Platte Valley Mule Deer Migration Corridor draft risk assessment report. The working group was also tasked with making recommendations about additional opportunities for conservation, along with examining the impacts of all restrictions on the development and use of lands encompassed in the designated corridor. The group was led by the Carbon County Board of County Commissioners and consists of members from agriculture, industry, wildlife/conservation/hunting, and motorized recreation constituents. State and federal governmental entities are not members of the working group but acted in an advisory capacity and included WGFD, other State of Wyoming agencies, USFS, BLM, and local elected officials (State of Wyoming, 2020). Click here to find out more about the local working group process and their recommendations.

Habitat for mule deer is abundant in the District with 323,246 acres of crucial winter range and additional acres heavily utilized as stopover locations during migration. The distribution of mule deer crucial winter range, seasonal ranges, migration corridors, and stopover locations is shown in Figure 37.

Wildlife Habitat Management Areas

The WGFD maintains approximately 450,000 acres of land under deed, lease, or by agreement for wildlife habitat management areas (WHMA). There are four WGFD WHMAs within the District (Table 5) totaling 73,124 acres. Wyoming statute provides for the Wyoming Game and Fish Commission (Commission) to acquire lands and waters in the name of the state for rearing and management of wildlife species, or to provide public hunting, fishing or trapping areas. The Commission also has the authority to regulate public use and special use of such lands and waters. There are general regulations for WHMAs and rules governing each unique WHMA.

Table 5. Wildlife habitat management areas in the District.

WHMA	Acres
Red Rim Daley	11,100
Red Rim - Grizzly	38,354
Morgan Creek	13,810
Pennock Mountain	9,860

Brucellosis

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

Contact between elk and cattle is discouraged especially late winter, spring, and up to the time of elk parturition. Elk numbers are over objective in most herds within the District. Hunting is one tool that allows for a reduction in numbers and is encouraged as a management tool to prevent the spread of wildlife diseases. Hunting elk also reduces numbers to prevent overuse on critical winter ranges.

Chronic Wasting Disease

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

19. Wild (Feral) Horses and Estray Livestock

19.1 Desired Conditions

Policy Wild Horses #1: Wild/feral horses are managed for a viable, healthy herd and a thriving natural ecological balance of all resources. This will include the use of the BLM Wyoming Standards for Healthy Rangelands and Guidelines Assessments and multiple-uses as required by the Wild Free-Roaming Horses and Burro Act of 1971.

Policy Wild Horses #2: Excess horses in herd management areas are gathered to the low end of appropriate management level, reducing the frequency of gathers while maintaining a thriving natural ecological balance.

Policy Wild Horses #3: The District opposes the reduction of any livestock animal unit months in managing for rangeland health in allotments within any Herd Management Area (HMA) unless wild/feral horses are at or below the Appropriate Management Level for the HMA.

Policy Wild Horses #4: When active use animal unit months (AUMs) are reduced in a grazing allotment due to drought or other resource condition, proportional reduction of horses should be implemented in conjunction with livestock AUM reductions.

Policy Wild Horses #5: The Bureau of Land Management will declare that a gather is necessary when wild horses are above appropriate management levels for a Herd Management Area.

Policy Wild Horses #6: Current herd management areas are not expanded and additional herd management areas will not be created.

Policy Wild Horses #7: No long-term holding facilities for animals managed under the Wild Horse and Burro Act are placed on public lands.

Policy Wild Horses #8: Any estray livestock from public or private lands are immediately gathered and removed per Wyoming Statutes §§11-24-101 et seq.

Policy Wild Horses #9: The Bureau of Land Management should encourage the creation of public education programs from non-biased sources to inform the public at large about the need to maintain healthy ecosystems and the differences between livestock, wild horse, and wildlife needs and impacts.

Policy Wild Horses #10: The Saratoga-Encampment-Rawlins Conservation District supports rulemaking to give the Bureau of Land Management (BLM), and those who adopt wild horses, additional options for the disposal of wild horses to allow BLM to meet existing statutory requirements.

Policy Wild Horses #11: Any reduction in herd management area size shall be completed with a proportional reduction in appropriate management level numbers.

Policy Wild Horses #12: If livestock grazing animal unit months (AUMs) are temporarily reduced due to excess wild horses, once excess horses are removed, livestock grazing AUMs shall be reinstated as soon as resources recover.

Policy Wild Horses #13: When a herd management area exceeds its appropriate management level, the Bureau of Land Management shall take the appropriate action to decide that overpopulation exists in the herd management area and within 60 days of discovery, determine that action is necessary to remove excess animals.

Policy Wild Horses #14: The Bureau of Land Management should perform a gather within 6-months of declaring a gather is needed.

Policy Wild Horses #15: The Bureau of Land Management should recognize and manage wild horses on private lands or public lands outside the boundaries of a herd management area as estray horses.

19.2 Local Support Data – Wild (Feral) Horses

Under the Wild Free-Roaming Horse and Burro Act (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)). That 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)

Under WFRHBA, BLM is required to maintain wild horse and burro population levels "in a manner that is designed to achieve and maintain a thriving natural ecological balance" and to establish appropriate management levels for the herd, considering the relationships with other uses of the public, and adjacent private lands (16 U.S.C. § 1333(a); 43 C.F.R. § 4710.3-1).

Wild horses, as they are now perceived, are not native to America's rangelands; they are feral animals. Current herds are descended from domestic horses, some of which were brought by the Spanish in the 15th and 16th centuries. Over this 500-year period, these horses have adapted successfully to the western range. Wild horses have occurred in the area for several hundred years and likely descended from released ranch horses and possibly some European descendent horses. Their vulnerability to predators is limited and their population growth rate is high. BLM estimates the growth rate of the wild horse population in the Green Mountain and Stewart Creek Herd Management Areas to be 20 percent annually with good years topping at 40%. Actual growth rates vary depending on condition of the horses and the condition of the natural resources on which they depend. When populations of wildlife, wild horses, and domestic livestock exceed the capabilities of their habitat, the environment begins to suffer and, over time, can lead to poor rangeland and the overall decline in the health of wildlife, horses, and domestic livestock. (BLM, n.d.-a)

When the WFRHBA was passed, the BLM's population survey methods indicated a population of 17,300 wild horses and 8,045 burros, as compared to the March 1, 2021, estimated populations of 71,735 horses and 14,454 burros With an additional 56,676 horses and burros in 'off-range' holding facilities as of October 2021. (BLM, n.d.-b)

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

The removal of wild horses from public rangelands is carried out to ensure rangeland health in accordance with land-use plans that are developed in an open, public process. These land-use plans are how the BLM

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

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

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

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

The termination of the 2003 Consent Decree led the Rock Springs Grazing Association (RSGA) to file a lawsuit against the BLM to remove wild horses from private lands within the checkerboard pattern of mixed land ownerships, specifically on RSGA's private lands. In 2013, the RSGA and the BLM entered into a new Consent Decree (RGSA/BLM Consent Decree) which was a result of settlement discussions on the lawsuit. While the RGSA/BLM Consent Decree does set a precedent standard for managing wild horses within checkerboard lands, it does not have direct impact on any HMAs in the District. (Wyoming District Court, 2013).

Portions of two Herd Management Areas (HMAs) (Figure 44) lie within the District boundaries. The Green Mountain HMA is part of the Red Desert Complex, managed jointly by the Rawlins and Lander BLM Field Offices. It spans 117,000, just over 99,000 acres of which are public. The Green Mountain HMA has an AML of 170-300 horses; March 1, 2021, estimated horse population is listed at 327 horses which is 9% over AML (BLM, n.d.-b). The Stewart Creek HMA is in the northwest portion of the District, south of Bairoil and northwest of Rawlins. It spans almost 168,000 acres and mostly encompasses BLM administered land with an AML of 125-175 horses; March 1, 2021, estimated horse population is listed at 150 horses which is within AML (BLM, n.d.-b). The last BLM gather on both of these HMAs was in August of 2020.

Although there is no federal statute requiring private land owners to allow wild horses to graze on their private lands, private landowners cannot remove the horses. The WFRHBA mandates that the BLM, once notified, must "immediately" remove excess wild horses from state and private land, although the removal rarely occurs.

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

19.3 Local Support Data – Estray Livestock

"Estray" means any animal found running at large upon public or private lands, fenced or unfenced, in Wyoming whose owner is unknown in the territory where found or the owner of which cannot with reasonable diligence be found, or that is branded with two (2) or more brands the ownership of which is disputed, neither party holding a bill of sale. An estray includes any animal for which there is no sufficient proof of ownership found upon inspection. Wyo. Stat. §§ 11- 24-101(a)(ii)

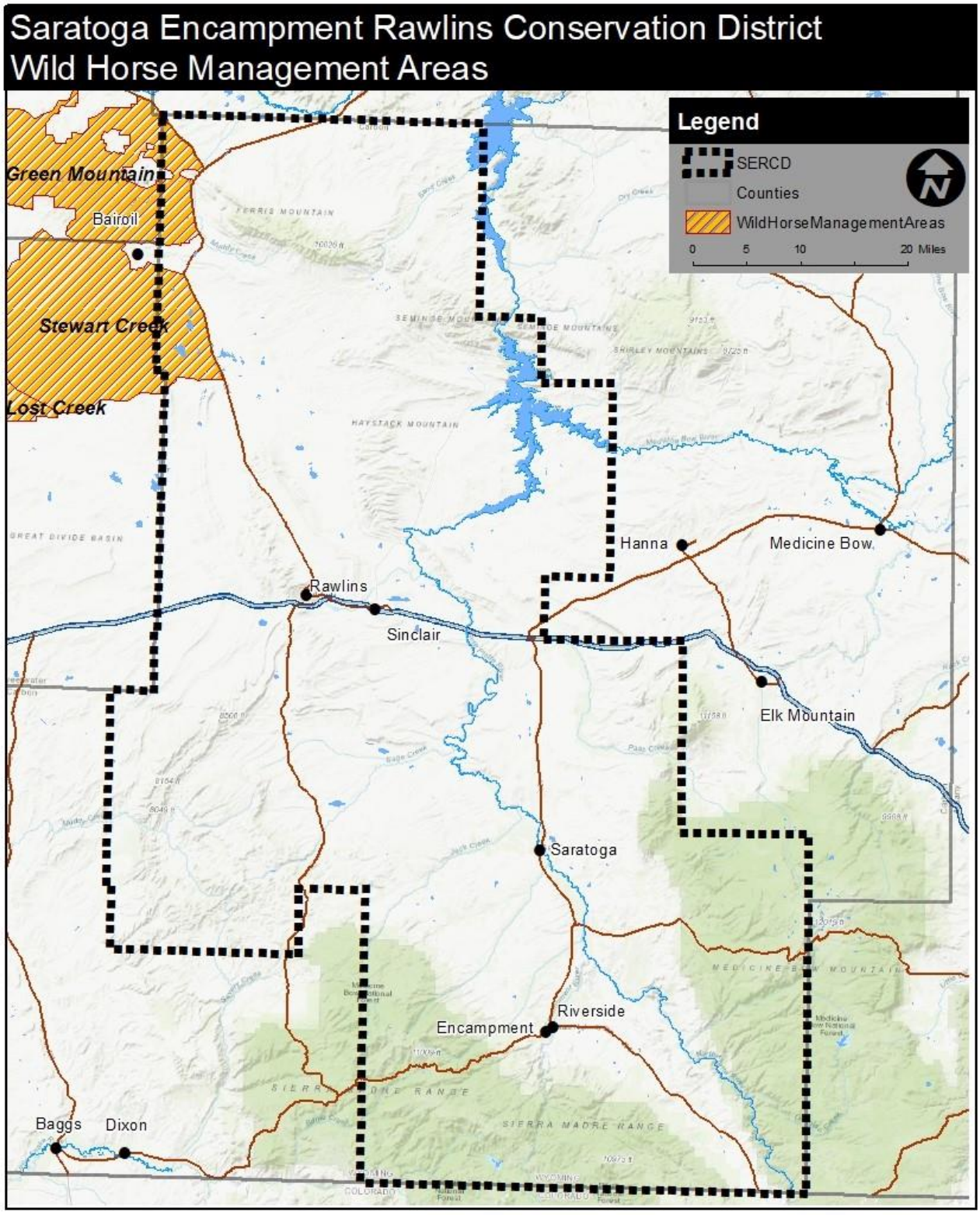

Figure 44: Wild Horse Herd Management Areas

20. Glossary of Terms

Access – A way of admittance, approach, entrance, passage, or ingress and egress.

Activity Plans – Allotment Management Plans ("AMPs"), Habitat Management Plans ("HMPs"), Watershed Management Plans ("WMPs"), Wild Horse Management Plans ("WHMPs"), and other plans developed at the local level to address specific concerns and accomplish specific objectives.

Agriculture – The art and science of growing crops and raising and breeding livestock. As per this Plan, activities which traditionally define agriculture in Carbon County include, but are not/ limited to, cattle and sheep ranching; hay, grain, and other small and large grain crop production; and alternative livestock (domestic and wild).

Animal Unit Month (AUM) – The quantity of forage required by one mature cow and her calf (or equivalent, in sheep or horses, for instance) for one month. The amount of forage needed to sustain one cow, five sheep, or five goats for a month. In the United States, a full AUMs fee is charged for each month of grazing by adult animals if the grazing animal (1) is weaned, (2) is 6 months old or older when entering public land, or (3) will become 12 months old during the period of use.

Appropriate Management Level (AML) – The number of wild horses and burros determined by the Secretary of the Interior that is appropriate for each Herd Management Area to ensure rangeland health.

Areas of Critical Environmental Concern (ACEC) – Defined as "areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards." 43 U.S.C. §1702(a).

Community Stability – Combination of factors to promote and sustain the viability of a community, including local economy, custom, and culture.

Conservation Plan – This term refers to situations when a state or states develop a management plan to protect a species that is proposed for listing under the ESA to persuade the USFWS not to list a species. The plan may be based on memorandum of agreement between federal and state agencies and may involve more than one state.

Cooperation – "[T]o act jointly or concurrently toward a common end." Black's Law 5th Ed. at 302.

Coordination – "[A]djusted to, in harmony with." *Id*. at 303.

Conservation Easement - Voluntary agreements that limit the amount and type of development on a property in perpetuity. The tool conserves the land's productive capacity and open character. Landowners continue to retain title to the property and all other rights of property ownership.

Consistency – "[H]aving agreement with itself or something else; harmonious; congruous; compatible; not contradictory." *Id*. at 279.

Consultation – A conference between two or more people to consider a particular question.

Core Area – The regions with the largest numbers of communal sage-grouse breeding grounds or leks and sage grouse as designated in the Wyoming Core Area Strategy.

Culture – The body of customary beliefs, social forms, and material traits including the traditions of racial, religious and social groups; their morals, knowledge, customs, religions, law, beliefs, superstitions and art.

Custom – As used in this Plan, custom is defined as the usage or practice of the people, which by common adoption and acquiescence, and by long and unvarying habit, has become compulsory, and has acquired the force of a law with respect to the place or subject-matter to which it relates, and a habitual practice, more or less widespread, which prevails within a geographic or sociological area.

Customs – The way people implement their culture—the way they traditionally use the land, make a living and act toward each other. Customs are the visible and tangible manifestations of the shared beliefs that bind a group of people into a community. In law, customs consist of "long established practice or usage, which constitutes the unwritten law, and long consent to which gives it authority. Customs are general, which extend over a state or kingdom, and particular, which are limited to a city or district."

Disruptive Activities – Human activities that directly interfere with key biological processes such as breeding, and which will have measurable and long-term impacts.

Disturbance – See 'Surface disturbing activity'.

Ecological Site – An area of land with specific physical characteristics that differs from other areas both in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

Economics – Pertaining to the development and management of the material wealth of a government or community.

Ecosystem Services – Ecosystem services are the multitude of benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, educational, spiritual, religious, and other nonmaterial benefits. (Ecosystems and Human Well-Being :Millennium Ecosystem Assessment, Aug 2003).

Erosion – (v.) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n.) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Estray – Any animal found running at large upon public or private lands, fenced or unfenced, in Wyoming whose owner is unknown in the territory where found or the owner of which cannot with reasonable diligence be found, or that is branded with two (2) or more brands the ownership of which is disputed, neither party holding a bill of sale. An estray includes any animal for which there is not sufficient proof of ownership found upon inspection.

Flora – The wild plants of a particular region, district, or geographical period; a description of such plants.

Forestland – Land that is now, or is capable of becoming, at least 10% stocked with forest trees and that has not been developed for non-timber use ("BLM"). As defined by the Forest Service is land that is at least ten percent covered with trees (Forested Landscapes in Perspective, 1998).

Forest Health – A measure of the robustness of forest ecosystems. Aspects of forest health include biological diversity; air and water productivity; natural disturbances; and the capacity of the forest to provide a sustaining flow of goods and service for people.

This term is often used to express a collection of concerns – with respect to the alleged deterioration in the forest conditions, including both current problems and (*e.g*. – insect and disease infestations, wildfires, and related tree mortality) and risks of future problems (*e.g.* – too many small-diameter trees) (overstocking), excess biomass in an unnatural mix of tree species in mixed stands.

General Habitat Management Areas – Sage-grouse habitat that is occupied (seasonal or year- round) habitat outside of priority habitat.

Grazing Management Practices – Grazing management practices include such things as grazing systems (rest-rotation, deferred rotation, etc.), timing and duration of grazing, herding, salting, etc. They do not include physical range improvements.

Guidelines (For Grazing Management) – Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management actions at the allotment and watershed level which move rangelands toward statewide standards or maintain existing desirable conditions. Appropriate guidelines will ensure that the resultant management actions reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, and, therefore, the management actions they engender, are based on sound science, past and present management experience, and public input.

Habitat Conservation Plan – The USFWS will approve a plan to protect habitat for a species listed under the ESA located on private land. The habitat conservation plan allows private landowners to use or develop the land, even though the activities may adversely affect a listed species. The plan will also include a "takings permit" which will permit the incidental loss of habitat or potential harm to a listed species.

Habitat Fragmentation – An event that creates a greater number of habitat patches that are smaller in size than the original contiguous tract(s) of habitat.

Habitat Loss – The permanent or effectively permanent removal of habitat cover needed by a particular wildlife species.

Herd Areas (HAs) – Federal lands identified in 1971 as places where wild horses and/or burros were found during the initial flights but not managed for wild horses and burros. As additional surveys were done and data gathered, it was determined that some of these lands and animals were actually on private lands and/or were private animals.

Herd Management Areas (HMAs) – Federal lands identified in 1971 and where specific laws and regulations pertaining to the management of wild horses and burros are applied.

Highway – Includes, but is not limited to, pedestrian trails, horse paths, livestock trails, wagon roads, jeep trails, logging roads, homestead roads, mine-to-market roads, alleys, tunnels, bridges, dirt or gravel roads, paved roads and all other ways and their attendant access for maintenance, reconstruction, and construction.

Indicator – An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be measured based on sound scientific principles. An indicator can be measured (monitored and evaluated) at a site- or species-specific level.

Measurement of an indicator must be able to show change within timeframes acceptable to management and be capable of showing how the health of the ecosystem is changing in response to specific management actions. Selection of the appropriate indicators to be monitored in a particular allotment is a critical aspect of early communication among the interests involved on the ground. The most useful indicators are those for which change or trend can be easily quantified and for which agreement as to the significance of the indicator is broad based.

Land Designation – The classification of tracts of land by Congress or a land managing agency to recognize distinctive and unique characteristics or uses.

Lands with Wilderness Characteristics – Section 201 of the Federal Land Policy and Management Act (FLPMA) requires that resource inventories on public lands be maintained, including inventories of lands with wilderness characteristics. This inventory does not designate an area as a wilderness area or study area or determine management direction for these lands. The inventory does provide the most current resource data on BLM

managed lands and assists in analyzing management action in these areas in the future. Lands with wilderness characteristics are inventoried based on four criteria:

1. Size. The area must be over 5,000 acres of roadless, contiguous BLM-managed lands, or areas smaller than 5,000 acres may qualify if it is practical to preserve and use them without damaging their current condition. In addition, roadless areas less than 5,000 acres that are connecting with lands that have been 1) formally determined to have wilderness or potential wilderness values, or 2) any federal lands already managed for the protection of wilderness characteristics (e.g., Wilderness Areas or Study Areas) may also qualify.
2. Naturalness. Must appear to have been affected primarily by the forces of nature and any work of human beings in the area must be substantially unnoticeable. Minor human impacts such as a water trough or fences may often be considered substantially unnoticeable.
3. Opportunities for Solitude or Primitive, Unconfined Recreation. The area must offer a visitor the chance to avoid evidence of other people or provide for outstanding opportunities for primitive and an unconfined type of recreation activity like hiking, fishing, etc. Solitude or outstanding primitive recreation opportunities do not have to be available in all portions of the area. An area may possess outstanding opportunities through either the diversity of possible recreation opportunities in the area or the outstanding quality of one opportunity.
4. Supplemental Values. If size, naturalness, and outstanding opportunities criteria are met, then ecological, geological, or other features of scientific, educational, scenic, or historical values must be considered, but are not required to qualify as lands with wilderness characteristics. See full criteria descriptions at: http://blm.gov/6yjd

"Let it Burn" – A land management policy (and philosophy) that limits or ends fire suppression in order to reintroduce the role of natural wildfire into an ecosystem. This policy is most often used in wilderness areas, where the use of firefighting equipment and tools is generally prohibited, or in the more remote areas of the National Park System. It also substitutes wildfire for logging or grazing to recreate pre-settlement environments.

Litter – The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

Management Actions – Management actions are the specific actions prescribed by the BLM to achieve resource objectives, land use allocations or other program or multiple use goals. Management actions include both grazing management practices and range improvements.

Memoranda of Understanding (MOU) – An instrument setting forth the terms of an informal agreement, most often between a state or local government and a federal agency to establish operational arrangements or information sharing. It may also regulate technical or detailed matters, such as terms for mutual maintenance of roads or other facilities. It is typically in the form of a single instrument and may not require ratification.

Memorandum of Agreement (MOA) – It is very similar to an MOU but will be worded as agreement rather than general understanding. Like an MOU, it will document an informal agreement between federal agencies, or divisions/units within an agency or department, or between a federal and state agency or unit of local government and will delineate tasks, jurisdiction, standard operating procedures, or other matters which the agencies or units are duly authorized and directed to conduct.

Minerals – Naturally occurring homogeneous substances formed by organic or inorganic processes found on the surface or in the earth; deposits having some resource values such as coal, sand and gravel, precious and semi-precious metals, fossils, and gemstones.

Multiple Land Use – Use of land for more than one purpose, for example, grazing of livestock, recreation, and timber production. The term may also apply to the use of associated bodies of water for recreational purposes, fish, and water supply. (UN).

Multiple-use – Multiple uses of the national forests means the "harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." Multiple Use and Sustained Yield Act of 1960 (P.L. 86-517, June 12, 1960) as amended. Multiple use implies a sustained yield of outdoor recreation, range, timber, watershed and wildlife and fish values.

Multiple use of the public lands managed by the Bureau of Land Management means: "the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." Federal Land Policy and Management Act, 43 U.S.C. §1702(c).

Multiple-use land – A combination of balanced and diverse resource uses that considers long term needs for renewable and nonrenewable resources including recreation, rangeland, timber, minerals, water shed and wildlife along with scenic, scientific, and cultural values.

Multiple-use Management – The management of all of the various renewable surface resources of national forest lands, for a variety of proposes such as recreation, range, timber, wildlife and fish habitat, and watershed.

Non-Core Areas – Those areas outside of Wyoming's designated greater sage-grouse Core Areas but inside the greater sage-grouse habitat range.

No surface occupancy (NSO) – This term refers to a condition attached to a mineral lease which prohibits surface occupancy or development activities on the land. NSO is not a recognized term for other land uses or permits.

Objective – An objective is a site-specific statement of a desired rangeland condition. It may contain qualitative (subjective) elements, but it must have quantitative (objective) elements so that it can be measured. Objectives frequently speak to change. They may measure the avoidance of negative changes or the accomplishment of positive changes. They are the focus of monitoring and evaluation activities at the local level. Objectives may measure the products of an area rather than its ability to produce them, but if they do so, it must be kept in mind that the lack of a product may not mean that the standards have not been met. Instead, the lack of a particular product may reflect other factors such as political or social constraints. Objectives often focus on indicators of greatest interest for the area in question.

Open Space – Any parcel or area of land or water that is essentially unimproved and is set aside, dedicated or reserved for public or private use for the enjoyment or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space, provided that such areas may be improved with only those

buildings, structures, streets, and off-street parking and other improvements that are designed to be incidental to the natural openness of the land. An area of a lot either left in a natural state or receiving permeable vegetative landscape treatment such as ponds and lakes, either natural or manmade; and water features, grass shrubs, flowers, trees, ground cover, etc.

Prescribed burn – The deliberate use of fire to improve vegetation conditions or to reduce fuel loads in forests, grassland, or rangeland areas.

Priority Habitat Management Areas – Areas that have been identified as having the highest conservation value to maintaining sustainable sage grouse populations. These areas include breeding, late brood-rearing, and winter concentration areas.

Public lands – The term "public lands" means "any land and interest in land owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except-- (1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts, and Eskimos." 43 U.S.C. §1702(e).

Range – Rangelands, forests, woodlands, and riparian zones that support and understory or periodic cover of herbaceous or shrubby vegetation amenable to rangeland management principals or practices. Land on which the principal natural plant cover is composed of native grasses, forbs, and shrubs that are valuable as forage for livestock and big game. Any land supporting vegetation suitable for wildlife or domestic livestock grazing, including grasslands, woodlands, shrublands and forest lands.

Range Condition – The current productivity of a rangeland relative to what the land could naturally produce based on the site's soil type, precipitation, geographic location, and climate.

Range Improvements – Range improvements include such things as corrals, fences, water developments (reservoirs, spring developments, pipelines, wells, etc.) and land treatments (prescribed fire, herbicide treatments, mechanical treatments, etc.).

Range Management – The art and science of planning and directing range use intended to use the sustained maximum animal production and perpetuation of the natural resources.

Rangeland – Land on which the native vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs. This includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.
The United States has 399 million acres *of non-federal rangeland, about 30% of all non-federal rural lands, according to the 1992 National Resources Inventory.* The BLM manages approximately 167 million acres of federal rangelands, and the Forest Service manages approximately 95 million acres of federal rangelands.

Rangeland Health – The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

Recreation – An action or lack thereof, which results in relaxation, entertainment, and is enjoyed by those who participate.

Rights-of-way – This term generally refers to "an easement, lease, permit, or license to occupy, use, or traverse lands" and such right may be created by federal or state statute, deed, contract or agreement, or permit. A right-of-way may also include: Any road, trail, access, or way upon which construction has been carried out to the standard in which public rights-of-way were built within historic context. These rights-of-

way may include, but not be limited to, horse paths, cattle trails, irrigation canals, waterways, ditches, pipelines or other means of water transmission and their attendant access for maintenance, wagon roads, jeep trails, logging roads, homestead roads, mine to market roads, and all other ways.

Riparian – An area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not have vegetation dependent on free water in the soil.

Riparian Area – An area along a watercourse or around a lake or pond.

"Riparian areas are ecosystems that occur along watercourses or water bodies. They are distinctly different from the surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by free or unbound water in the soil. Riparian ecosystems occupy the transitional area between the terrestrial and aquatic ecosystems. Typical examples would include floodplains, stream banks, and lakeshores." USDA NRCS.

"Riparian areas have one or both of the following characteristics: 1) distinctively different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between [river or] wetland and upland." US FWS.

Riparian landscapes occur in the saturated soils along the streams of the County. Riparian or streamside areas are a valuable natural resource and impacts to these areas should be avoided whenever possible. Riparian vegetation plays an important role in protecting streams, reducing erosion and sedimentation as well as improving water quality, maintaining water table, controlling flooding, and providing shade and cover.

Significantly – This term is used in the National Environmental Policy Act regulations, 40 C.F.R. §1508.27, to define when a proposed action may significantly affect the human environment. Significantly as used in NEPA requires considerations of both context and intensity:

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Sagebrush Focal Areas – Areas identified by the USFWS that represent recognized "strongholds" for sage grouse that have been noted and referenced by the conservation community as having the highest density of sage grouse and other criteria important for the persistence of sage grouse.

Special Land Use Designations – Refers to the classification or designation tracts of land by Congress or a federal agency to recognize and protect distinctive or unique characteristics.

Designations by Congress are permanent and may include national monuments, national parks, national park preserves, national wildlife refuges, national recreation areas, national seashores, wild, scenic or recreation rivers, national forests and wilderness. The President may also establish national monuments, which are permanent unless modified by another President or Congress.

Federal law may delegate the authority to various federal agencies to make special land use designations. The Interior Department Secretary may designate wildlife refuges; the Bureau of Land Management through its land use plans may establish special recreation areas, areas of critical environmental concern, resource natural areas, and until 1991, wilderness study areas. The Forest Service through its land use plans establishes special interest areas and research natural areas.

There are more than 40 recognized special land designations exist nationwide. Pursuant to this Plan, multiple use is not a special land designation, rather it is a concept and management practice for most lands in Carbon County not assigned a special land use designation.

Species of Concern or Special Status Species – This term includes species that have been proposed for listing under the Endangered Species Act or have already been listed as threatened or endangered, as well as species that are on the candidate list published in the *Federal Register*. The term also includes any state-listed species or any "sensitive species" identified by the BLM State Director, which includes the above categories and might also include species undergoing downward trends due to changes in habitat capability or populations or which occupy specialized habitats.

Split Estate – A tract of land where title to the surface estate is separate from title to some or all of the mineral rights. Split estates are common in the western United States because private land conveyed under the homestead or stockraising homestead acts reserved the mineral rights to the United States. Under common law, the mineral estate is dominant and can be developed over the objections of the surface owner. Modern laws and case decisions have modified the rule but still recognize the right of the mineral owner to develop the mineral estate, even when the surface owner objects. If the United States owns the surface, it will require the mineral owner to reclaim the surface, secure permits to build roads and other facilities and post reclamation bonds. If the surface is owned by a private landowner, then federal reclamation laws do not apply but state laws will.

Standards – Standards are synonymous with goals and are observed on a landscape scale. Standards apply to rangeland health and not to the important by-products of healthy rangelands. Standards relate to the current capability or realistic potential of a specific site to produce these by- products, not to the presence or absence of the products themselves. It is the sustainability of the processes, or rangeland health, which produces these by-products.

Surface disturbing activity – Refers to development activities that involve the removal of vegetation, topsoil, or overburden where there is a physical change to the surface, such as activities associated with mineral or energy development, rights-of-way, road construction or reconstruction. It does not include incidental disturbances associated with the construction, reconstruction, or maintenance of fences or corrals or stock tanks, livestock or wildlife grazing, or recreation uses.

Sustainable Yield – The yield from a renewable resource that can produce continuously at a given intensity of management.

Takings in context of Endangered Species Act – Includes harm to a protected species when an act actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. 50 C.F.R. §17.3.

Takings in context of property and right to compensation – A 'taking' of property is generally defined as to deprivation of the right of use and enjoyment of the property. The ownership of property is often described as a "bundle of sticks" which includes mineral rights, rights of access, rights to use the surface, and rights to use the fruits raised from the surface, such as crops or grass. When land use regulation by federal, state or local government interferes with one of those rights in the bundle of sticks, a taking occurs only if it deprives the owner of all of his bundle of sticks or "investment-backed expectations." More recent decisions will find a taking when the deprivation is total but temporary or when the deprivation precludes an essential element of the property right, such as the right to exclude others. Federal land agencies enjoy a much greater presumption of authority to limit the exercise of private property rights and successful takings cases more often involve disputes with a local government or state agency.

Terms and Conditions – Terms and conditions are very specific land use requirements that are made a part of the land use authorization in order to assure maintenance or attainment of the standard. Terms and conditions may incorporate or reference the appropriate portions of activity plans (e.g., Allotment Management Plans). In other words, where an activity plan exists that contains objectives focused on meeting the standards, compliance with the plan may be the only term and condition necessary in that allotment.

Trails – A trace is pathway made by passage of man-animal routing of extended travel. Vestiges of an established pathway by which man has persistently walked or trailed game or sought the easiest traverse of land establishing right-of-way access of natural law by horseback, travois, etc.

Undue and unnecessary degradation – This term applies to activities on public lands managed by the Bureau of Land Management which is required to ensure that surface activities do not cause 'undue or unnecessary degradation.' BLM defines those impacts as being greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, including use of the best reasonably available technology.

Upland – Those portions of the landscape which do not receive additional moisture for plant growth from run-off, streamflow, etc. Typically, these are hills, ridgetops, valley slopes and rolling plains.

Waste – Refuse; worthless or useless matter.

Water – All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems and all other bodies of water above or below ground which are partially or wholly in the state, border on the state or are within the jurisdiction of the state. Private waters that do not combine or have a junction with natural surface or underground waters are not included (for example, and isolated farm pond that does not infiltrate to ground water or connect to surface water). All springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State are subject to its jurisdiction.

Watershed – The total land area, regardless of size, above a given point on a waterway that contributes runoff water to the flow at that point. It is a major subdivision of a drainage basin. The United States is generally divided into 18 major drainage areas and 160 principal river drainage basins containing about 12,700 smaller watersheds. The entire region or land area that contributes water to a drainage system or stream, collects and drains water into a stream or stream system or is drained by a waterway (or into a lake or reservoir). More specifically, a watershed is an area of land above a given point on a stream that contributes water to the streamflow at that point. A region or area where surface runoff and groundwater drain to a common watercourse or body of water. The area drained by a river or river system enclosed by drainage divides. An area of land that drains to a single water outlet. A watershed is also known as a sub-basin.

Weed – Any plant growing where it is not desired; a plant out of place, or unwanted plants, which, may be growing in a magnitude of situations.

> "**Declared weed**" – Any plant, which the board and the Wyoming Weed and Pest Council have found, either by virtue of its direct effect, or as a carrier of disease or parasites, to be detrimental to the general welfare of persons residing within a district. W.S. 11-5-102 (viii).

Noxious weed – A weed that is recognized as a threat to native plants due to its invasive character.

Wetlands – Permanently wet or intermittently water-covered land areas, such as swamps, marshes, bogs, muskegs, potholes, swales, and glades. Areas that are inundated by surface or ground water with a frequency sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Wilderness Act of 1964 – Congress established the National Wilderness Preservation System to protect and preserve those areas deemed to be wilderness, which is defined as:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized 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. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. 16 U.S.C. §1131(a).

Wilderness Area – Tracts of land designated by an act of Congress to be part of the National Wilderness Preservation System.

Wilderness Study Area or WSA – An area of land identified by Congress or a federal agency pursuant to Congressional direction to be evaluated for its suitability for designation by Congress as part of the National Wilderness Preservation System. With respect to public lands managed by the Bureau of Land Management,

it refers to tracts of public lands determined to meet the definition of wilderness based on the wilderness inventory and review conducted by the Bureau of Land Management pursuant to Section 603 of the Federal Land Policy and Management Act, 43

U.S.C. §1782. A WSA typically meets the definition of wilderness in that it is "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." 16 U.S.C. §1131(c.).

> ***de facto* Wilderness Management** – Land management policy that is imposed without congressional direction or authority that mirrors or is similar to the management of areas designated by Congress as wilderness pursuant to the 1964 Wilderness Act. The management restrictions and prohibitions include: the prohibition of construction of new roads; restriction or prohibition on reconstruction or maintenance of existing roads; prohibition of mining or mineral development; restrictions on activities that would require permanent structures or facilities, or restrictions on motorized vehicle use or the use of mechanical tools or means of travel.

Wildlife – Populations, variety, and distribution of birds, mammals, reptiles, amphibians, invertebrates, and plants.

Woody – Consisting of wood plants such as trees or bushed– *i.e.,* sage brush.

21. Glossary of Acronyms

AFO/CAFO	Animal Feeding Operation/Confined Animal Feeding Operation
ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AUM	Animal Unit Month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	Best Management Practice
CBM	Coalbed Methane
CCWP	Carbon County Weed and Pest
CEQ	Council on Environmental Quality
DPC	Desired Plant Communities
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA or USEPA	Environmental Protection Agency
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act or the "BLM Organic Act"
GIS	Geographic Information System
HMA	Herd Management Area
LRAC	Land and Resource Advisory Committee
LRUP	Land and Resource Use Plan
LWC	Lands with Wilderness Characteristics
NEPA	National Environmental Policy Act
NPS	National Park Service
NRA	National Recreation Area
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PVHP	Platte Valley Habitat Partnership
RMP	Resource Management Plan
SERCD or District	Saratoga-Encampment-Rawlins Conservation District
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS or FWS	United States Department of the Interior, Fish and Wildlife Service
USGS	United States Department of the Interior, United States Geological Survey
WDEQ or DEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WSA	Wilderness Study Area
WSGA	Wyoming Stock Growers Association
WWDC	Wyoming Water Development Commission
WWGA	Wyoming Wool Growers Association
WYNDD	Wyoming Natural Diversity Database

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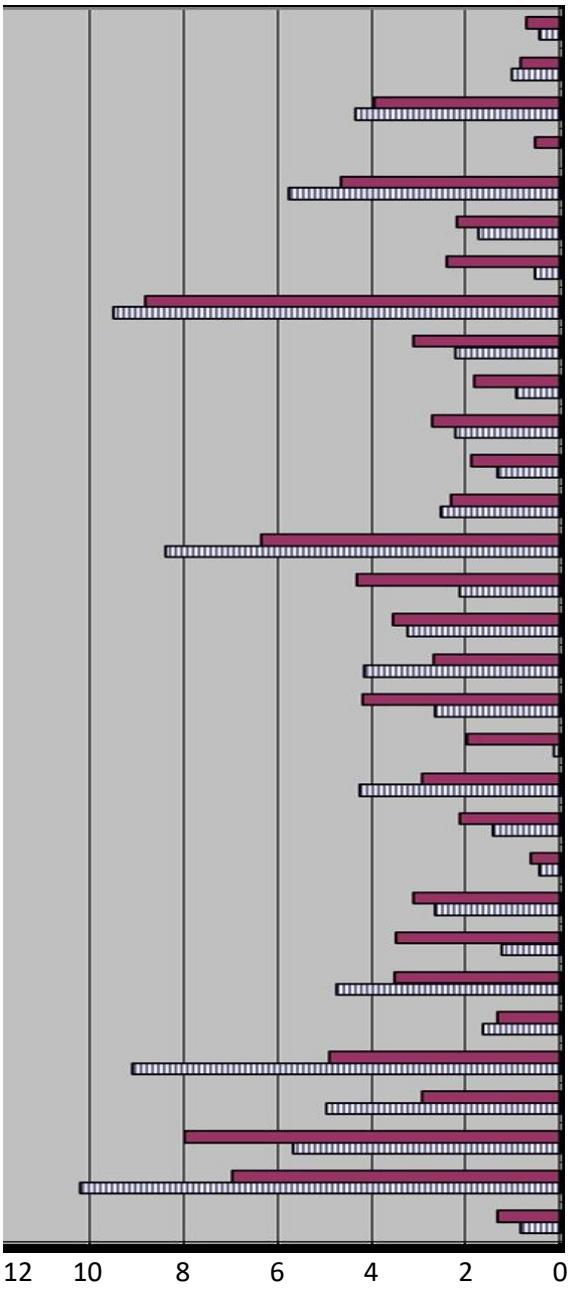
23. APPENDICIES

23.1 Appendix A: 2008 survey results

Percentage of total scores across all issues in the 2008 survey. Local government responses in white with hash marks, general public's responses in red.



Other
Aesthetics
Land Use Planning
Weeds
Social Service
Public Process
Wilderness
Water Quality & Yield
Vegetation Management
Threatened & Endangered Species
Roads
Riparian Areas
Restoration
Working Landscapes Preservation
Air Quality
Recreation (non-motorized)
Recreation (motorized)
Open Space Preservation
No Energy Development
Moderate Energy Development
Full Oil & Gas Leasing
Mining
Grazing
Fisheries
Fire
Tourism
Municipal Services
Economics
Wildlife Habitat
Social Impacts
Cultural

23.2 Appendix B: Species of Concern

The following table presents the federally listed wildlife species present in the District. The table also lists the BLM, USFS, and Wyoming Game & Fish Department's Species of Greatest Conservation Needs (SGCN). The SGCN species are ranked according to Native Species Status (NSS) classification system, the NSS rankings are described at https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/SWAP/SGCN-Introduction.pdf.

Agency/Type		Common Name	Scientific Name
Federally Listed	Endangered - Nonessential Experimental Population	Black-footed Ferret	*Mustela nigripes*
	Listed Threatened	Canada Lynx	*Lynx canadensis*
	Listed Threatened	Piping Plover	*Charadrius melodus*
	Listed Threatened	Yellow-billed Cuckoo	*Coccyzus americanus*
BLM Sensitive		Baird's Sparrow	*Centronyx bairdii*
		Bald Eagle	*Haliaeetus leucocephalus*
		Bluehead Sucker	*Catostomus discobolus*
		Brewer's Sparrow	*Spizella breweri*
		Burrowing Owl	*Athene cunicularia*
		Colorado River Cutthroat Trout	*Oncorhynchus clarkii pleuriticus*
		Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus columbianus*
		Eastern Clade Western Toad	*Anaxyrus boreas - Eastern Clade*
		Ferruginous Hawk	*Buteo regalis*
		Flannelmouth Sucker	*Catostomus latipinnis*
		Fringed Myotis	*Myotis thysanodes*
		Great Basin Spadefoot	*Spea intermontana*
		Greater Sage-Grouse	*Centrocercus urophasianus*
		Loggerhead Shrike	*Lanius ludovicianus*
		Long-billed Curlew	*Numenius americanus*
		Long-eared Myotis	*Myotis evotis*
		Mountain Plover	*Charadrius montanus*
		Northern Goshawk	*Accipiter gentilis*
		Northern Leopard Frog	*Lithobates pipiens*
		Peregrine Falcon	*Falco peregrinus*
		Pygmy Rabbit	*Brachylagus idahoensis*
		Roundtail Chub	*Gila robusta*
		Sage Thrasher	*Oreoscoptes montanus*
		Sagebrush Sparrow	*Artemisiospiza nevadensis*
		Swift Fox	*Vulpes velox*

Agency/Type	Common Name	Scientific Name
	Townsend's Big-eared Bat	*Corynorhinus townsendii*
	Trumpeter Swan	*Cygnus buccinator*
	Western Toad	*Anaxyrus boreas*
	White-faced Ibis	*Plegadis chihi*
	White-tailed Prairie Dog	*Cynomys leucurus*
	Wyoming Pocket Gopher	*Thomomys clusius*
	Yellow-billed Cuckoo	*Coccyzus americanus*
USFS Sensitive	American Bittern	*Botaurus lentiginosus*
	Bald Eagle	*Haliaeetus leucocephalus*
	Bighorn Sheep	*Ovis canadensis*
	Black Tern	*Chlidonias niger*
	Bluehead Sucker	*Catostomus discobolus*
	Boreal Owl	*Aegolius funereus*
	Brewer's Sparrow	*Spizella breweri*
	Burrowing Owl	*Athene cunicularia*
	Chestnut-collared Longspur	*Calcarius ornatus*
	Colorado River Cutthroat Trout	*Oncorhynchus clarkii pleuriticus*
	Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus columbianus*
	Ferruginous Hawk	*Buteo regalis*
	Flammulated Owl	*Psiloscops flammeolus*
	Flannelmouth Sucker	*Catostomus latipinnis*
	Fringed Myotis	*Myotis thysanodes*
	Grasshopper Sparrow	*Ammodramus savannarum*
	Greater Prairie Chicken	*Tympanuchus cupido*
	Greater Sage-Grouse	*Centrocercus urophasianus*
	Lewis's Woodpecker	*Melanerpes lewis*
	Loggerhead Shrike	*Lanius ludovicianus*
	Long-billed Curlew	*Numenius americanus*
	Mountain Plover	*Charadrius montanus*
	Mountain Sucker	*Catostomus platyrhynchus*
	Northern Goshawk	*Accipiter gentilis*
	Northern Harrier	*Circus hudsonius*
	Northern Hoary Bat	*Aeorestes cinereus*
	Northern Leopard Frog	*Lithobates pipiens*
	Northern River Otter	*Lontra canadensis*
	Olive-sided Flycatcher	*Contopus cooperi*
	Pacific Marten	*Martes caurina*
	Peregrine Falcon	*Falco peregrinus*
	Roundtail Chub	*Gila robusta*
	Sagebrush Sparrow	*Artemisiospiza nevadensis*

Agency/Type		Common Name	Scientific Name
		Southern Rocky Mountain Pygmy Shrew	*Sorex hoyi montanus*
		Swift Fox	*Vulpes velox*
		Thick-billed Longspur	*Rhynchophanes mccownii*
		Townsend's Big-eared Bat	*Corynorhinus townsendii*
		Trumpeter Swan	*Cygnus buccinator*
		Western Bumble Bee	*Bombus occidentalis*
		Western Pygmy Shrew	*Sorex eximius*
		Western Toad	*Anaxyrus boreas*
		White-tailed Prairie Dog	*Cynomys leucurus*
		Wood Frog	*Lithobates sylvaticus*
		Wyoming Pocket Gopher	*Thomomys clusius*
		Yellow-billed Cuckoo	*Coccyzus americanus*
Wyoming Game & Fish	NSS1 (Aa), Tier 1	Black-footed Ferret	*Mustela nigripes*
		Bluehead Sucker	*Catostomus discobolus*
		Canada Lynx	*Lynx canadensis*
		Common Loon	*Gavia immer*
		Eastern Clade Western Toad	*Anaxyrus boreas - Eastern Clade*
		Flannelmouth Sucker	*Catostomus latipinnis*
		Plain Pocketbook	*Lampsilis cardium*
		Roundtail Chub	*Gila robusta*
		Western Toad	*Anaxyrus boreas*
		Wyoming Toad	*Anaxyrus baxteri*
	NSS2 (Ab), Tier 1	Wyoming Pocket Gopher	*Thomomys clusius*
	NSS2 (Ba), Tier 2	American Pika	*Ochotona princeps*
		Colorado River Cutthroat Trout	*Oncorhynchus clarkii pleuriticus*
		Eastern Spiny Softshell	*Apalone spinifera spinifera*
		Great Basin Gophersnake	*Pituophis catenifer deserticola*
		Northern Rocky Mountain Pika	*Ochotona princeps princeps*
		Trumpeter Swan	*Cygnus buccinator*
		Wood Frog	*Lithobates sylvaticus*
	NSS3 (Bb), Tier 2	American Bittern	*Botaurus lentiginosus*
		Ash-throated Flycatcher	*Myiarchus cinerascens*
		Bald Eagle	*Haliaeetus leucocephalus*
		Black Tern	*Chlidonias niger*
		Black-crowned Night-Heron	*Nycticorax nycticorax*
		Boreal Owl	*Aegolius funereus*
		Bushtit	*Psaltriparus minimus*
		Caspian Tern	*Hydroprogne caspia*

Agency/Type		Common Name	Scientific Name
		Cattle Egret	*Bubulcus ibis*
		Dwarf Shrew	*Sorex nanus*
		Eastern Spotted Skunk	*Spilogale putorius*
		Forster's Tern	*Sterna forsteri*
		Fringed Myotis	*Myotis thysanodes*
		Iowa Darter	*Etheostoma exile*
		Juniper Titmouse	*Baeolophus ridgwayi*
		Long-billed Curlew	*Numenius americanus*
		Northern River Otter	*Lontra canadensis*
		Pallid Bat	*Antrozous pallidus*
		Peregrine Falcon	*Falco peregrinus*
		Plains Harvest Mouse	*Reithrodontomys montanus*
		Plains Spotted Skunk	*Spilogale putorius interrupta*
		Pygmy Nuthatch	*Sitta pygmaea*
		Pygmy Rabbit	*Brachylagus idahoensis*
		Smooth Greensnake	*Opheodrys vernalis*
		Snowy Egret	*Egretta thula*
		Townsend's Big-eared Bat	*Corynorhinus townsendii*
		Western Little Brown Myotis	*Myotis carissima*
		Western Milksnake	*Lampropeltis gentilis*
		White-faced Ibis	*Plegadis chihi*
		Williamson's Sapsucker	*Sphyrapicus thyroideus*
		Wolverine	*Gulo gulo*
		Woodhouse's Scrub-Jay	*Aphelocoma woodhouseii*
	NSS3 (Bb), Tier 3	Willow Flycatcher	*Empidonax traillii*
	NSS4 (Bc), Tier 2	American White Pelican	*Pelecanus erythrorhynchos*
		Baird's Sparrow	*Centronyx bairdii*
		Baur's Short-horned Lizard	*Phrynosoma hernandesi bauri*
		Bighorn Sheep	*Ovis canadensis*
		Black-billed Cuckoo	*Coccyzus erythropthalmus*
		Black-throated Gray Warbler	*Setophaga nigrescens*
		Bobolink	*Dolichonyx oryzivorus*
		Brewer's Sparrow	*Spizella breweri*
		Calliope Hummingbird	*Selasphorus calliope*
		Chestnut-collared Longspur	*Calcarius ornatus*
		Clark's Nutcracker	*Nucifraga columbiana*
		Golden Eagle	*Aquila chrysaetos*
		Grasshopper Sparrow	*Ammodramus savannarum*
		Great Basin Spadefoot	*Spea intermontana*

Agency/Type		Common Name	Scientific Name
		Great Blue Heron	*Ardea herodias*
		Greater Sage-Grouse	*Centrocercus urophasianus*
		Greater Short-horned Lizard	*Phrynosoma hernandesi*
		Loggerhead Shrike	*Lanius ludovicianus*
		MacGillivray's Warbler	*Geothlypis tolmiei*
		Moose	*Alces alces*
		Northern Leopard Frog	*Lithobates pipiens*
		Plains Short-horned Lizard	*Phrynosoma hernandesi brevirostris*
		Plains Spadefoot	*Spea bombifrons*
		Red Crossbill	*Loxia curvirostra*
		Red-eyed Vireo	*Vireo olivaceus*
		Red-headed Woodpecker	*Melanerpes erythrocephalus*
		Rufous Hummingbird	*Selasphorus rufus*
		Sage Thrasher	*Oreoscoptes montanus*
		Sagebrush Sparrow	*Artemisiospiza nevadensis*
		Short-eared Owl	*Asio flammeus*
		Thick-billed Longspur	*Rhynchophanes mccownii*
	NSS4 (Bc), Tier 3	American Kestrel	*Falco sparverius*
		American Pipit	*Anthus rubescens*
		Bewick's Wren	*Thryomanes bewickii*
		Blue Grosbeak	*Passerina caerulea*
		Blue-gray Gnatcatcher	*Polioptila caerulea*
		Brassy Minnow	*Hybognathus hankinsoni*
		Calico Crayfish	*Faxonius immunis*
		Canyon Wren	*Catherpes mexicanus*
		Common Nighthawk	*Chordeiles minor*
		Common Shiner	*Luxilus cornutus*
		Common Yellowthroat	*Geothlypis trichas*
		Eastern Red Bat	*Lasiurus borealis*
		Plateau Fence Lizard	*Sceloporus tristichus*
		Prairie Rattlesnake	*Crotalus viridis*
		Southern Rocky Mountain Uinta Chipmunk	*Neotamias umbrinus montanu*
		Uinta Chipmunk	*Neotamias umbrinus*
		Western Tiger Salamander	*Ambystoma mavortium*
	NSS4 (Cb), Tier 2	Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus columbianus*
		Ferruginous Hawk	*Buteo regalis*
		Sagebrush Vole	*Lemmiscus curtatus*
		Swift Fox	*Vulpes velox*
		Western Small-footed Myotis	*Myotis ciliolabrum*

Agency/Type		Common Name	Scientific Name
		White-tailed Prairie Dog	*Cynomys leucurus*
	NSS4 (Cb), Tier 3	Bigmouth Shiner	*Notropis dorsalis*
		Long-eared Myotis	*Myotis evotis*
		Long-legged Myotis	*Myotis volans*
		Olive-backed Pocket Mouse	*Perognathus fasciatus*
		Yuma Myotis	*Myotis yumanensis*
	NSSU (U), Tier 1	A Mountainsnail	*Oreohelix*
		Burrowing Owl	*Athene cunicularia*
		Mountain Plover	*Charadrius montanus*
		Northern Goshawk	*Accipiter gentilis*
	NSSU (U), Tier 2	Black Rosy-Finch	*Leucosticte atrata*
		Black-chinned Hummingbird	*Archilochus alexandri*
		Brown-capped Rosy-Finch	*Leucosticte australis*
		Clark's Grebe	*Aechmophorus clarkii*
		Constricted Fairy Shrimp	*Branchinecta constricta*
		Disc Gyro	*Gyraulus circumstriatus*
		Dusky Fossaria	*Fossaria dalli*
		Franklin's Gull	*Leucophaeus pipixcan*
		Golden Fossaria	*Galba obrussa*
		Lewis's Woodpecker	*Melanerpes lewis*
		Northern Pygmy-Owl	*Glaucidium gnoma*
		Olive Physa	*Physella cooperi*
		Plains Hog-nosed Snake	*Heterodon nasicus*
		Prairie Fossaria	*Galba bulimoides*
		Pygmy Fossaria	*Galba parva*
		Scott's Oriole	*Icterus parisorum*
		Swainson's Hawk	*Buteo swainsoni*
		Upland Sandpiper	*Bartramia longicauda*
		Virginia's Warbler	*Leiothlypis virginiae*
		Western Grebe	*Aechmophorus occidentalis*
		Yellow-billed Cuckoo	*Coccyzus americanus*
	NSSU (U), Tier 3	Ash Gyro	*Gyraulus parvus*
		Circumpolar Fairy Shrimp	*Branchinecta paludosa*
		Couse Tadpole Shrimp	*Lepidurus couesii*
		Creeping Ancylid	*Ferrissia rivularis*
		Flammulated Owl	*Psiloscops flammeolus*
		Greater Plains Fairy Shrimp	*Streptocephalus texanus*
		Grooved Fingernailclam	*Sphaerium simile*
		Hayden's Shrew	*Sorex haydeni*
		Longtail Tadpole Shrimp	*Triops longicaudatus*

Agency/Type		Common Name	Scientific Name
		Marsh Ramshorn	*Planorbella trivolvis*
		Merlin	*Falco columbarius*
		Ornate Box Turtle	*Terrapene ornata*
		Pewter Physa	*Physa acuta*
		Plains Black-headed Snake	*Tantilla nigriceps*
		Plains Box Turtle	*Terrapene ornata ornata*
		Plains Pocket Mouse	*Perognathus flavescens*
		Pocket Pouch Fairy Shrimp	*Branchinecta lateralis*
		Purple Martin	*Progne subis*
		Quick Gloss Snail	*Zonitoides arboreus*
		Ringtail	*Bassariscus astutus*
		Snowy Plover	*Charadrius nivosus*
		Southern Rocky Mountain Western Pygmy Shrew	*Sorex eximius montanus*
		Subalpine Mountainsnail	*Oreohelix subrudis*
		Tadpole Physa	*Physa gyrina*
		Umbilicate Sprite	*Promenetus umbilicatellus*
		Utah Physa	*Physa gyrina utahensis*
		Versatile Fairy Shrimp	*Branchinecta lindahli*
		Virginia Rail	*Rallus limicola*
		Western Pygmy Shrew	*Sorex eximius*
		Western Spotted Skunk	*Spilogale gracilis*

23.3 Appendix C: Sage Creek - Section 319 Nonpoint Source Program Success Story

Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Wyoming

Stakeholders Collaborated to Reduce Sediment in Creek

Waterbody Improved Excessive sediment degraded habitat and threatened aquatic life and coldwater fisheries uses in Sage Creek, prompting the Wyoming Department of Environmental Quality (WDEQ) to add it to the state's 1996 Clean Water Act (CWA) section 303(d) list. A diverse stakeholder group led by the Saratoga-Encampment-Rawlins Conservation District (SERCD) responded by implementing several best management practices (BMPs) designed to reduce sediment carried in overland flow. Sediment levels declined, and in 2008 WDEQ removed Sage Creek from the Wyoming CWA section 303(d) list of impaired waters.

Problem

Sage Creek is in the North Platte River Basin of southeastern Wyoming. The creek's headwaters are along the continental divide in the northern foothills of the Sierra Madre at an elevation of approximately 8,400 feet. The 263-square-mile Sage Creek watershed drains into the North Platte River near the town of Saratoga (Figure 1). WDEQ classifies Sage Creek as waterbody type 2AB; thus, it is protected for the designated uses of drinking water, coldwater game and nongame fisheries, fish consumption, aquatic life, recreation, wildlife, industry, agriculture and scenic value. The Sage Creek watershed produces naturally high sediment loads because of its highly erodible soils. Dam failures, road construction and historic livestock grazing practices have exacerbated the erosion, especially during precipitation events and the spring snowmelt runoff period (Figure 2).

SERCD collected data in 1996 indicating that excessive sediment degraded habitat and threatened the coldwater fishery and aquatic life designated uses along a 14-mile section of lower Sage Creek. The sediment traveled downstream, accumulating in reservoirs and requiring increased processing time and expense to municipal water treatment facilities. WDEQ considered the sediment load to also be a potential threat to the health of the North Platte River's coldwater game fishery. Therefore, WDEQ added Sage Creek to the state's 1996 CWA section 303(d) list for impairment to its coldwater fish and aquatic life (other than fish) designated uses.

Figure 1. Photo of lower Sage Creek near the confluence with the North Platte River.

Figure 2. Photo showing a high sediment load in Sage Creek after a storm event.

Project Highlights

In 1997 SERCD led a Sage Creek Watershed CWA section 319 project that brought together local landowners, the U.S. Bureau of Land Management, the U.S. Department of Agriculture's Natural Resources Conservation Service and the Wyoming Game and Fish Department. The partners implemented a series of BMPs and monitored the effect of those management changes by collecting sediment and macroinvertebrate samples. BMPs, which focused on restoring riparian habitat and reducing sediment inputs to the stream carried by overland flow, included using short-duration grazing, adding riparian and drift fencing, developing off-channel water sources, improving road management, adding grade-control structures, and using water diversions and vegetation as a sediment filters. The partners anticipated that the project would improve water quality in Sage Creek and reduce sediment loading from the creek to the North Platte River.

Results

Data collected as part of the CWA section 319 project show that the BMPs effectively mitigated the threats to the coldwater fishery and aquatic life (other than fish) uses. Specifically, riparian vegetation such as willows reestablished quickly, stabilizing stream banks and converting the stream channel from a wide and shallow configuration to one that is narrower and deeper. Such in-stream and riparian morphological changes translated into cooler water temperatures and increased stream power that better mobilizes fine sediment deposits on the streambed.

Measurements of suspended sediment in Sage Creek show a trend of decreasing concentration after implementing BMPs. Mean total suspended solids went from 529 milligrams per liter (mg/L) in 1998 to 80 mg/L in 2004. In addition, scientists collected post-project macroinvertebrate samples on the North Platte River above and below its confluence with Sage Creek using the Wyoming Stream Integrity Index and River Invertebrate Prediction and Classification System. Those data indicate that both locations are fully supporting their aquatic life (other than fish) designated use, and that the sampling location below the confluence has a trend of a slightly higher biological condition. That data prompted WDEQ to remove Sage Creek from the CWA section 303(d) list in 2008.

Partners and Funding

The project received a total of $126,149 through CWA section 319 performance partnership grants along with $88,148 of in-kind matching funds. That funding supported implementing BMPs and conducting effectiveness monitoring of the management changes. SERCD led the Sage Creek watershed CWA section 319 project, which was a cooperative effort among local landowners, the Bureau of Land Management, the Natural Resource Conservation Service and the Wyoming Game and Fish Department.

U.S. Environmental Protection Agency
Office of Water
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For additional information contact:

Richard Thorp, Wyoming Department of Environmental Quality
307-777-3501 • rthorp@wyo.gov

Glen Leavengood, Saratoga-Encampment-Rawlins Conservation District
307-326-8156 • Glen.leavengood@wy.nacdnet.net

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SARATOGA-ENCAMPMENT-RAWLINS
CONSERVATION DISTRICT