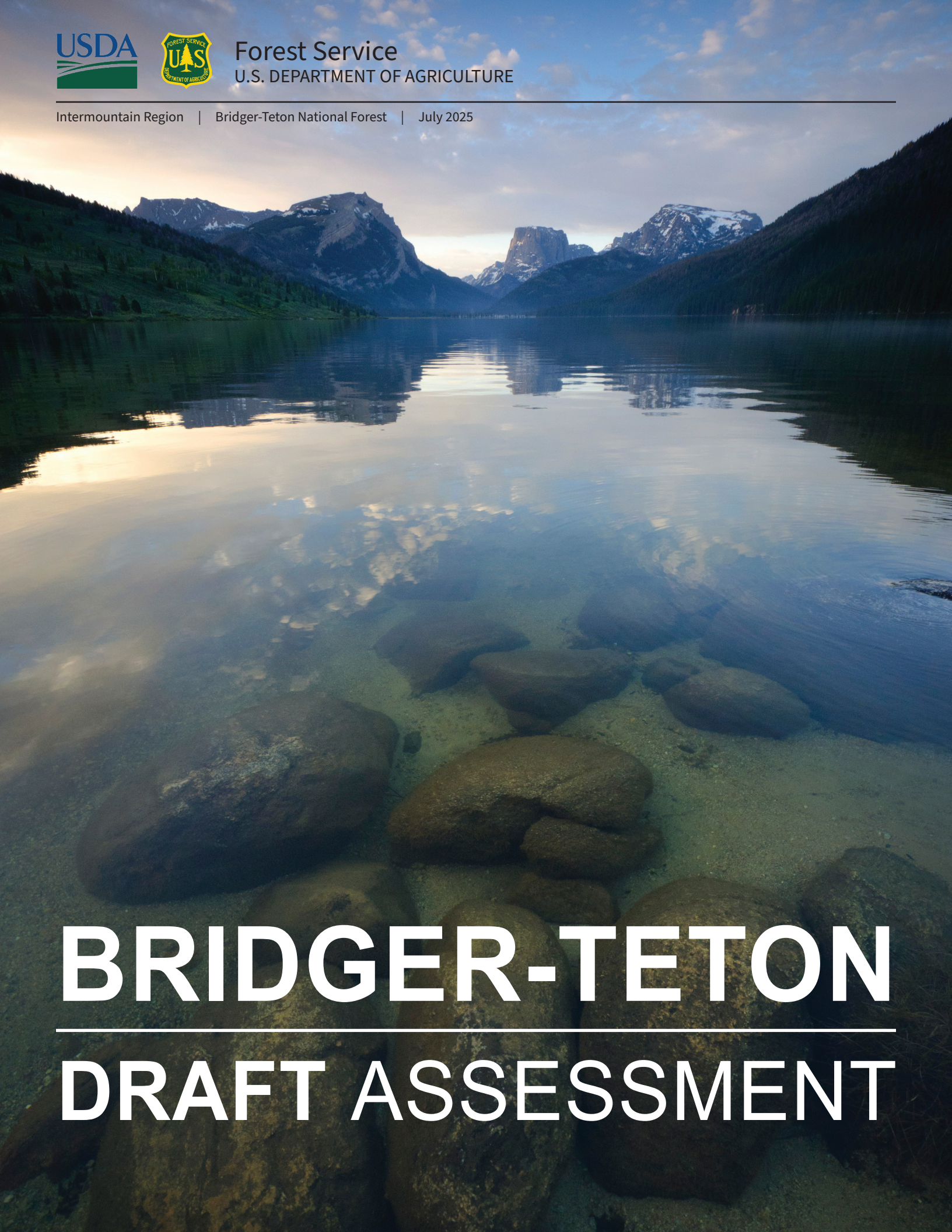

USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Intermountain Region | Bridger-Teton National Forest | July 2025

BRIDGER-TETON

DRAFT ASSESSMENT

Cover photo of Green River Lakes and Square Top Mountain on the Pinedale Ranger District of the Bridger-Teton National Forest, courtesy M. Gocke

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CHAPTER 1: INTRODUCTION

The National Forest Management Act of 1976 requires every forest and grassland to develop, maintain, and periodically revise an effective land management plan (i.e. forest plan). The forest plan serves as the primary document guiding all decisions made about resource activities on the ground, much like a county comprehensive plan. Forest planning occurs in three distinct phases: Assessment, Plan Development, and Monitoring. The Bridger-Teton National Forest is currently in the assessment phase of the process. The assessment presents information about existing forest conditions and trends, covering natural resources, social, and economic topics. A summary of the results from the draft assessment are presented in this document with supporting reports available via this link (https://www.fs.usda.gov/r04/bridger-teton/planning). While not a decision document, the assessment provides the information to focus subsequent efforts to develop new plan direction.

The geographic scope of the assessment includes all lands within the boundary of the Bridger-Teton National Forest, as well as consideration of conditions and management on surrounding lands. The time frame focuses on the status of conditions and trends that have occurred since the current 1990 forest plan, although some resource areas are assessed using a longer timescale.

An interdisciplinary team of specialists, located in the Forest, prepared the assessment with support from regional specialists, researchers, contractors, and members of the Mountain Planning Service Group. The forest supervisor for the Bridger-Teton National Forest provided leadership and team guidance. Per the 2012 Planning Rule, specialists used best available scientific information to prepare this assessment. This includes peer-reviewed publications, forest monitoring data, independent assessments, local and state reports, social surveys, and professional expertise.

The assessment has also benefited from tribal and public engagement since March 2023 to inform, listen to, and learn from diverse perspectives. Public engagement opportunities included: (1) regular meetings with county commissioners, conservation districts, state departments, and federal agency counterparts, (2) information booths at community events and one-on-one meetings with individuals and non-profit groups; (3) implementation of an independent social survey; and (4) an on-line story map and comment form. Equally important has been engagement with tribal governments. Numerous in-person meetings have been held to establish relationships with tribes for whom the Bridger-Teton is their ancestral home. To date, eight tribes have communicated their interest in the Bridger-Teton National Forest with the Shoshone Bannock, Eastern Shoshone, and Northern Arapaho tribes most actively involved.

Figure 2. Jackson Hole Intertribal Gathering and Lighting of the Teepees at Phil Baux Park, courtesy C. Adams

Forest Setting: An Overview of the Bridger-Teton

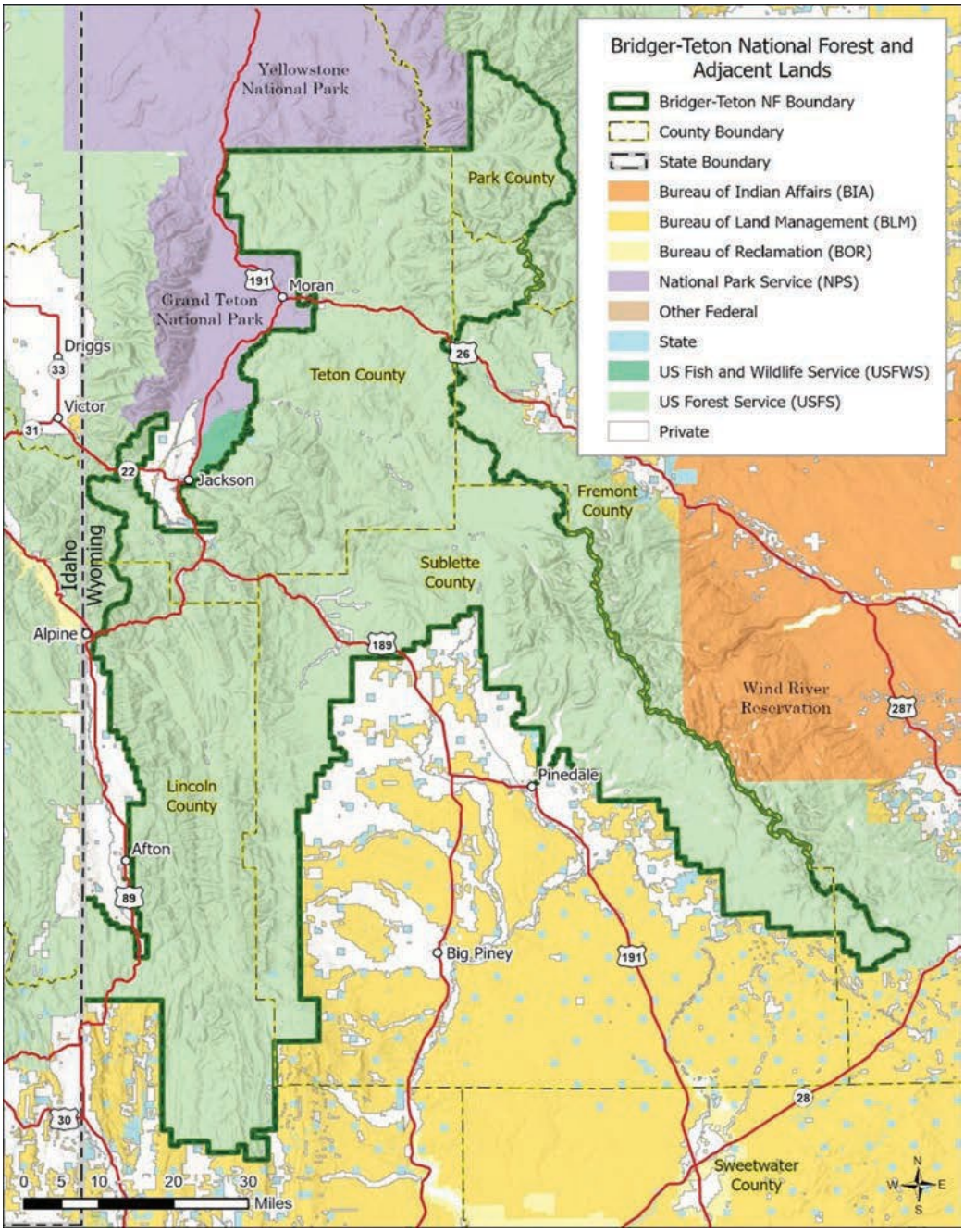

Figure 3. Bridger-Teton National Forest and adjacent lands, USFS GIS

The Bridger-Teton National Forest encompasses 3.47 million acres of public land within five counties in Western Wyoming. It is the largest single unit of federal land within the Greater Yellowstone Ecosystem (GYE) and the largest National Forest in Wyoming. The Bridger-Teton is one of a handful of forests in the U.S. that are contiguous, meaning that it does not have a "checkerboard" ownership pattern and is not divided into geographically separate areas. Early land protections, distance from major railroads, and relatively late settlement are largely responsible for this contiguous ownership and relatively undeveloped forest character.

The Bridger-Teton has vital socioeconomic and cultural value to local communities and tribes. Residents consistently rank recreation (a place for favorite recreation activities), biological diversity (a place that provides a variety of wildlife, fish, and plant life), future (a place that allows future generations to experience the forest) and aesthetic (a place to enjoy scenery, sights, sounds, etc.) as key values. Likewise, the Forest is vitally important to tribal members who have ancestral sustenance, ceremonial, and cultural ties to the land and water.

The Bridger-Teton is characterized by distinctive mountain ranges, major river corridors, and interspersed basins. Differing human histories and geology contribute to a landscape that is very diverse ecologically, socially, and economically encompassing three major zones – Teton Gros Ventre, Wyoming/Salt River Range, and Wind River/Green River. Notable assets include the highest peak in Wyoming at 13,804 feet flanked by large glaciers, 466 species of wildlife and fish, several important migration corridors, 93 active livestock allotments, 3,475 miles of summer and winter trails, an international ski resort, 19 Congressionally designated lands and rivers, and around 660 recreation and lands special use permits.

Distinctive Roles and Contributions

The 2012 Planning Rule requires a description of the distinctive roles and contributions the Forest makes to the broader landscape. The distinctive roles reflect what the Forest is particularly known for and help ensure unique qualities persist into the future as plan direction is revised. The Bridger-Teton's distinctive roles and contributions fall into four categories: water and snow, wildlife and fish, wildlands and dispersed recreation, and cultural heritage.

Figure 4. Snake River, courtesy M. Gocke

Water and Snow

The Bridger-Teton is especially important as a headwater forest and gives rise to three vital river systems: the Snake, Green, and Yellowstone rivers, which feed the major rivers that water the West. Thousands of named creeks and lakes provide habitat for fish and wildlife, memorable recreation, and community municipal and agricultural uses. Abundant snowfall and glaciers feed the rivers and lakes. Snow coverage is gaining increased attention as climate projections suggest snow will persist longer here than elsewhere. Climate refugees include cold-water fish, wolverines, mountaintop plants and animals, and people seeking respite from hot temperatures.

Figure 5. Elk migrating in the Gros Ventre, courtesy M. Gocke

Wildlife and Fish

The GYE (Greater Yellowstone Ecosystem) is known for its wildlife, but even within the GYE, the Bridger-Teton stands out. This is largely due to its large, relatively undeveloped habitats, which support: 74 species of mammals, 355 bird species, 12 reptile or amphibian species, and 25 species of fish.

Gaining increased attention is the importance of the Forest to support long-distance ungulate migrations for pronghorn, mule deer, and elk. Of special note is the endangered Kendall Warm Springs Dace whose only home is in the Forest as well as four of the six sub-species of native cutthroat trout.

Figure 6. Granite Creek Trail (left); Rancher in Sublette County (right), courtesy M. Gocke

Wildlands and Dispersed Recreation

The Bridger-Teton is known for its relatively undeveloped character which provides the foundation for year-round dispersed recreation including trail-based activities, hunting, fishing, dispersed camping, climbing, backcountry skiing, and snowmobiling. 41% of the Forest is congressionally designated, mostly as Wilderness, and roughly 94% of the Forest offers a primitive or semi-primitive setting that offers either motorized or non-motorized access to experience natural sound, star-lit dark sky, and solitude or serenity. Although no place on earth is truly “untouched,” backcountry areas greater than 5,000 acres, which are abundant on the Forest, are rare elsewhere.

Cultural Heritage: A Way of Life

People have been connected to the Forest for over 12,000 years beginning with indigenous tribes who still depend on the land and water for sustenance and ceremony. Euro-American settlers arrived in the late 1800s with the Big Piney area the oldest permanent settlement near the Forest. All five counties encompassing the Forest have abundant federal public lands with their community character closely tied to ranching, wildlife (elk and beaver), recreation, and other natural resource uses. The connection between people and place is evident in livelihoods

tied to livestock grazing or outfitting-guiding, historic trails, tie-hack and fur trapper cabins, and the nationally designated Green River Cattle Drift.

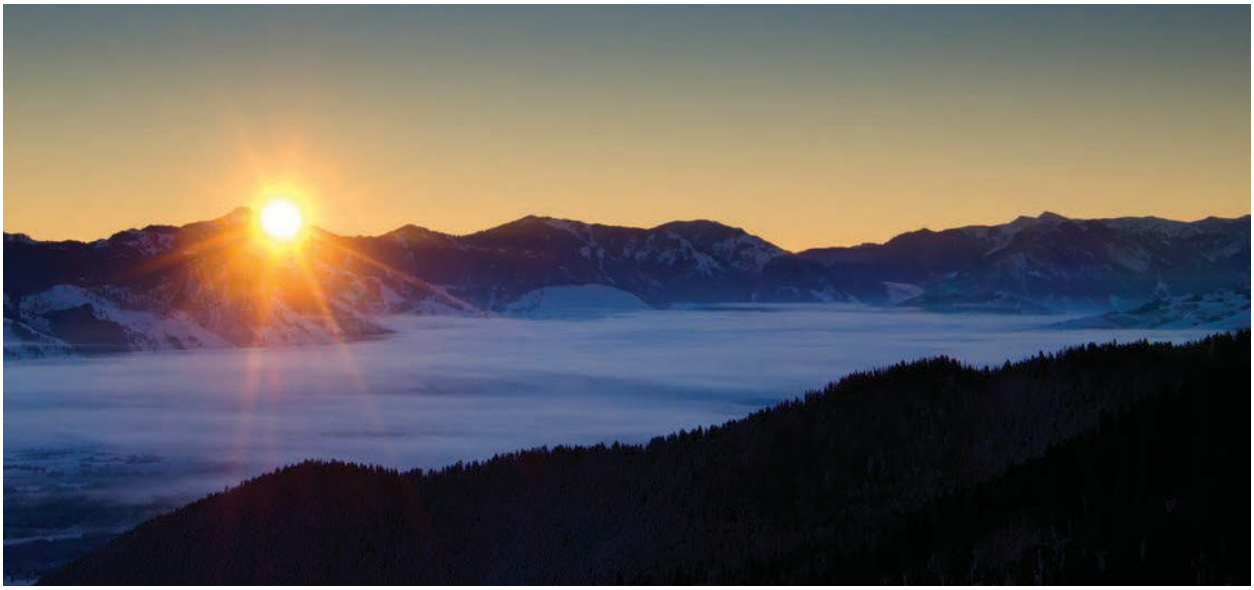

Figure 7. Teton Pass sunrise, courtesy M. Gocke

Management Constraints and Opportunities

Just as ecological, social, and economic conditions have changed, the managerial environment within the Forest Service has evolved. Since its establishment in 1905, the Forest Service has undergone at least four distinct eras in its effort to provide for the "*greatest good for the greatest number in the long run*": a custodial era from 1905-1945, a timber era from 1945-1960, an environmental era from 1960-1990 that saw Congress pass significant public land laws including the Multiple-Use Sustained Yield Act and the National Environmental Policy Act, and an ecosystem management era emerging in 1990 that strived to incorporate new science and treat forests as a whole (MacCleery 2008). The agency continues to undergo change with management characterized by a focus on sustainability, rising fire costs (USDA Forest Service 2015), shared leadership structures through collaboratives and partnerships, and centralized budget and administrative functions. This evolution is important because it sets the context under which forest plans are developed.

The current forest plan for the Bridger-Teton was a product of the societal interests, agency context, and science of the late 1980s and was the Forest's first effort to allocate the land base to various management zones and provide guidance for future projects. Although the plan has been amended 12 times, an update is past due.

Several topic areas important today were not included in the 1990 Forest Plan: examples include direction for forest products such as firewood, migration corridors, tribal needs, and resilience to changing climatic conditions. Increased residential development along the forest boundary necessitates more emphasis on wildfire preparedness and fuel reduction. Population growth, demographics, and major technological changes have transformed recreation, resulting in completely new activities and changes in how and where people want to experience the outdoors. Interest in alternative energy sources is also growing along with demand for

communication infrastructure, gravel extraction, and employee housing, all of which may influence future forest management.

Forest plans are implemented through projects vetted through site-specific environmental analysis. Since 2004, 483 projects have occurred to help achieve the future conditions envisioned in the forest plan. Most of these projects (57%) related to special uses or recreation management, although fuels, wildlife, grazing, and other resource topics have also been the focus of some projects. Projects have been aided by many partners who contribute time, expertise, labor, and funding to advance beneficial projects. More than a six-fold increase in partnership agreements between 2000 and 2020 reflects the commitment people have towards stewardship. As the process to update forest plan direction begins, it is worth reflecting on the progress made because of the 1990 forest plan direction (Table 1).

Table 1. Progress made in achieving 1990 Forest Plan

Desired Future Condition (DFC)	Theme	Acreage	% of Forest	Did we make progress? What has changed since 1990?
1B: Substantial commodity resource development with moderate accommodation of other resources	Managed for timber harvest, oil and gas and other commercial activities with many roads	182,993	5.3%	Nine oil and gas wells have been drilled since 1990. 48% of all timber harvest units on the forest occurred in this DFC
2A, 2B: Non-motorized and motorized recreation areas	Managed to give a quiet, almost primitive recreation experience (2A). Managed to give a motorized recreation experience (2B)	199,079	5.8%	Most of the 2A area retains a primitive or semi-primitive recreation setting and is managed for non-motorized recreation in the summer. Most of the 2B area is managed for motorized recreation in in winter and provides a semi-primitive motorized setting in the summer
3: River recreation	Managed to give river and scenic recreation experiences	74,258	2.1%	Eligible rivers in the amended 1990 plan have retained their identified values and many rivers originally eligible are now congressionally designated as wild and scenic rivers
4: Special emphasis area for municipal water supply	Managed to protect municipal water supplies	43,118	1.2%	While municipal water supplies have largely been protected, not all standards have been implemented. Afton and Star Valley Ranch have recently begun to treat their water
6A-6D, 6S: Wilderness, Wilderness Study Areas, and Wild Rivers	Mostly pristine areas where the presence of people is rarely or never noticed	1,409,570	40.8%	The wilderness character of existing areas has largely been preserved with increasing summer recreation a growing concern (Bridger Wilderness). The bio-physical character of the WSAs has been maintained but snowmobile and mountain bike use have become more contentious
7A, 7B: Grizzly bear habitat recovery (with scheduled timber harvest in DFC 7A)	Managed to provide forage and security for recovery of grizzly bears with some resource development in 7A	73,436	2.1%	Three timber harvest units have occurred in the 7A area since 1990. Grizzly bear population has improved dramatically in both areas

Desired Future Condition (DFC)	Theme	Acreage	% of Forest	Did we make progress? What has changed since 1990?
8: Environmental education about integrated multiple use	Managed to provide conservation and EE; study of resources/ forest mgmt.	22,039	0.6%	This area was established for education and resource studies through Teton Science Schools. A field camp was initially set up, but the focus of the school later changed
9A, 9B: Developed and admin sites, special use recreation areas	Managed for campgrounds, admin sites (9A). Managed for permitted recreation sites such as ski areas (9B)	14,970	0.4%	Some campgrounds and guard stations have been improved but the ability to maintain older facilities and water systems has declined. Substantial investment in improvements has occurred at JHMR and Snow King Resorts.
10: Simultaneous development of resources, human experiences, big game and wildlife support	Managed to allow for some resource development and roads while having no adverse and some beneficial effects on wildlife	767,214	22.1%	280 timber harvest units have occurred in this area since 1990 with 12% of projects also including a wildlife habitat improvement purpose.
12: Backcountry big-game hunting, dispersed recreation, wildlife security	Managed for high-quality wildlife habitat and escape cover, big-game hunting opportunities, dispersed rec	680,886	19.6%	Opportunities for public and outfitted big game hunting have been maintained. Seasonal winter and motorized travel restrictions, Path of the Pronghorn are examples of projects in this area

CHAPTER 2: Ecological Sustainability and Diversity of Plant and Animal Communities

Forest plans guide management of forest lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and provide people and communities with ecosystem services and multiple uses that benefit present and future generations. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits (36 CFR Part 219.1(c)). Ecological sustainability is defined as the capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For purposes of this part, “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity (36 CFR Part 219.19).

Figure 8. Fontenelle Fire regrowth, courtesy M. Gocke

There are a variety of risk factors which impact land and resource conditions and the ability to meet plan objectives, some of which are beyond managers’ control. The 1990 forest plan displayed projected levels of resource production and management intended to accomplish 26 goals and objectives. However, the projected levels of products, services, and rates of implementation are, to a significant degree, dependent on annual Congressional budgets and external economic factors.

Figure 9. Pack Trail Fire smoke as seen from Togwotee Pass, USFS/M. Gocke

Ecosystem Drivers and Stressors

Ecosystem drivers are the dominant ecological processes, including disturbance regimes, such as wildland fire, natural succession, and the balance between the biological and physical components of an ecosystem, including climate (36 CFR 219.6(b)). “Stressors” are closely related; they are natural or human-induced agents that strain ecosystems and create imbalances. The four primary stressors affecting Bridger-Teton ecosystems are: climate change, increased human use and development, insects and disease, and invasives.

Climate Change

Climate shapes the distribution and function of ecosystems at large scales through changes in temperature and precipitation over long periods of time. Climate is a key system driver and human-induced climate change is a key stressor that interacts with other stressors to affect ecological and hydrologic processes, and overall ecosystem function. Projected changes in the Bridger-Teton climate by 2050 compared to the period from 1971-2000 include: (1) a 39% reduction in the water content within the spring snowpack, (2) the hottest and coldest days could be 7-9 degrees warmer, (3) 21 more days could be hotter than 86 degrees, and (4) the first fall freeze could be 40 days later and last spring freeze could be 14 days earlier.

Increased Human Use and Development

The Greater Yellowstone area is one of the fastest growing regions in the nation. Within the Bridger-Teton, the residential population of Lincoln, Sublette, and Teton Counties has increased 82% since 1990 and the area of residential development has also increased. A tangible effect of population growth is the increase in recreation use and infrastructure such as trails, facilities, resorts, and private land development. Like any human activity, recreation use, and

development can stress ecological systems affecting wildlife, the spread of invasive species, soil erosion, wildfire starts, vegetation loss, and water quality.

Insects and Disease

Insects and diseases can be drivers or stressors. At sustainable levels, insects like the bark beetle create habitats, contribute to nutrient recycling, and open canopies. However, warmer temperatures, earlier snow melt, older and denser tree stands, and fire suppression have weakened trees and caused localized epidemic levels of beetles. Mortality caused by mountain pine bark beetles and white pine blister rust has impacted over 50% of the overstory in some parts of the forest. At this scale, outbreaks increase tree mortality and reduce habitats for many species. Aquatic diseases have not significantly affected fisheries, however the chytrid fungus is responsible for significant declines in several amphibian species including the western toad.

Invasives

Terrestrial invasive species (TIS) and Aquatic invasive species (AIS) on the Bridger-Teton are non-native plants, animals, or pathogens that can out-compete native plants for resources, reduce biodiversity, reproduce prolifically, alter soil chemistry, reduce forage production, alter hydrologic cycles, change fire regimes, increase erosion, and have the potential to dominate entire ecosystems.Known infestations occupy approximately 1% of the forest but invasives are spreading with cheatgrass a particular concern. To date, aquatic invasive species have not been detected in the Forest but vigilant monitoring in coordination with WGFD is essential.

Connectivity

The 2012 Planning Rule defines connectivity as “ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long-distance range shifts of species, such as in response to climate change” (36 CFR § 219.19).

Terrestrial Ecosystems and Wildlife:

Natural plant communities, expressed in terms of the major terrestrial ecosystems that occupy the Bridger-Teton, are well connected within and outside the Forest boundary. The lack of a “checkerboard” ownership; adjacent land management agencies such as the National Park Service (NPS), Bureau of Land Management (BLM) and other U.S. Forest Service (USFS) units; resilient plant communities; and limited human development are the primary contributors that connect ecosystems throughout the GYE. Connectivity models indicate that important movement corridors for forest specialists occur throughout the Bridger-Teton.

Aquatic Connectivity and Organism Passage:

Impassible culverts installed at road and railroad crossings and some irrigation diversions block upstream movement of native cutthroat trout, and nongame species such as mountain whitefish. In some cases, these barriers blocked fish from spawning habitat. Paradoxically, some barriers have been beneficial, as some native cutthroat trout would likely no longer exist in some streams (e.g. Bare Creek, Big Piney Ranger District and LaBarge Creek, Kemmerer Ranger

District) without the presence of these human-made barriers that keep non-native fish from invading.

Terrestrial Ecosystems: Major Findings – Status and Trends

The 2012 Planning Rule defines ecological integrity as: the quality or condition of an ecosystem when its dominant ecological characteristics (for example: composition, structure, function, connectivity, species composition and diversity) occur within the Natural Range of Variation (NRV) and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence. The eight ecosystems that were assessed on the Bridger-Teton are listed in Table 2.

Table 2. Size and proportion of eight terrestrial ecosystem assessed on the Bridger-Teton

Biophysical Setting - Forest-wide	Sum of Acres	% of Forest
Inter-Mountain Basins Montane Sagebrush Steppe	355,618	10.3%
Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	168,143	4.9%
Northern Rocky Mountain Subalpine Woodland and Parkland	340,570	9.8%
Rocky Mountain Aspen Forest and Woodland	322,024	9.3%
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	1,226,862	35.4%
Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland	314,606	9.1%
Alpine	267,261	7.7%
**Subalpine Forb*	**72,102*	**~2%*
Sub Total	**2,995,084**	**86.5%**
Other BPS	398,167	11.5%
Open Water, Perennial Ice/Snow, Barren Rock/Sand/Clay	71,604	2.0%
Grand Total	**3,464,855**	**100%**

*Subalpine Forb Ecosystem acres and percentages not included in “Grand Total” since they are a subset of other terrestrial ecosystems and would be double counted.

The NRV is a description of the spatial and temporal variation in ecosystem characteristics under historic disturbance regimes during a reference period. The NRV is a tool for assessing the ecological integrity of ecosystems. It does not necessarily constitute a management target or desired condition. An ecosystem functioning within its NRV is assumed to be more resilient to current and future stressors. However, in a changing world, being within the NRV does not guarantee ecosystem integrity, and being outside the NRV may represent a transition towards a new sustainable, high-integrity state as the ecosystem responds to changing climatic conditions.

Figure 10. Red Hills in the Gros Ventre on the Jackson Ranger District of the Bridger-Teton, courtesy M. Gocke

Traditionally, an ecosystem was considered most likely to have high integrity when its Key Ecosystem Characteristics (KECs) exhibit the range of variation that were common prior to land management practices that have occurred since Euro-American settlement. An assessment of ecological integrity that displays the status and trend of key ecosystems, identifies which ecosystems are threatened or compromised, and outlines the threats to those ecosystems is shown in Table 3. The integrity rating for most of the terrestrial and aquatic ecosystems on the Bridger-Teton is considered “moderate” and trending towards either “moderate” or “low” integrity into the future; mostly attributed to the influence of climate change and how that will likely impact a particular ecosystem. The succession classes (S-classes) for all the designated forested ecosystems in this assessment are outside the natural range in variation (NRV). Generally, most of these ecosystems are characterized by having a surplus of early and late development S-classes and a deficit in mid- development S-classes. The likely explanation for this S-class distribution is low fire activity through the early and mid-1800’s followed by large fires that burned through the Forest during the late 1800s.

Young stands and fire suppression in the early 1900s led to a lower number of acres burned through the 1980s. The exception was the 1930s, which was characterized by several active fire years. Insect outbreaks, climate change, air pollution deposition, fire suppression, and invasive species currently influence ecosystems on the Bridger-Teton.

Table 3. Summary of ecological status and trend for eight terrestrial ecosystems on the Bridger-Teton

Ecosystem	Current Status Ecological Integrity	Long-term Trend (by 2050) of Ecological Integrity	Ability of the Forest to Positively Affect Ecological Integrity in the Near Term (next 10 years)	Ability of the Forest to Positively Affect Ecological Integrity in the Long-Term (by 2050)	Main Drivers and Stressors[1]	Comments
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**Moderate** Primarily based on the current succession classes differing from the NRV. Insect outbreaks, climate change, and fire suppression are currently impacting the ecosystem and its ability to respond to these impacts. This ecosystem does positively respond to some level of disturbance as long as it is not too extreme.	**Low** Primarily based on climate change that could result in more wildfires of higher severity and size, transitioning to future, shorter fire-return intervals on the landscape, and insect irruptions and changes in water availability that could severely stress trees.	**Moderate** Management actions that can provide benefits to the ecosystem include prescribed fire, timber removal, thinning and restoration activities.	**Low** Climate change may push this ecosystem beyond a point where management activities cannot occur at a large enough scale to keep ahead of negative impacts.	1, 2, 3	An increase in the frequency of fires with an increase in severity may eventually change the vegetation structure of this ecosystem to one that is more characteristic of shorter fire regimes.
Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland	**Moderate** Primarily based on the current succession classes differing from the NRV.	**Moderate** Based primarily on this ecosystem being mostly associated with high elevation, cooler, wetter sites that hold more soil moisture and provide more nutrient cycling, and “shady” north-facing slopes that retain snowpack longer. For these reasons, the impacts of climate change may not be as severe as other ecosystems on the Forest, but there will still be some impacts.	**Low** Allowing naturally occurring wildland fires to burn in this ecosystem is an option, and prescribed ignitions are also possible, but will require ignition during favorable (warm and dry) conditions. Timber harvest in this ecosystem is not generally appropriate because it is found in mesic sites, and steep, north-facing slopes that are difficult or impossible to operate in.	**Low**	1, 2, 3	An increase in frequency, size, and severity of fires may eventually change the vegetation structure of this ecosystem to one that is more characteristic of shorter fire regimes.

Ecosystem	Current Status Ecological Integrity	Long-term Trend (by 2050) of Ecological Integrity	Ability of the Forest to Positively Affect Ecological Integrity in the Near Term (next 10 years)	Ability of the Forest to Positively Affect Ecological Integrity in the Long-Term (by 2050)	Main Drivers and Stressors[1]	Comments
Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	**Moderate** Primarily based on the current succession classes differing from the NRV.	**Moderate** Based primarily on the resilience of this ecosystem and its ability to adapt and survive climate shifts and changes in wildfire frequency and severity. Insect outbreaks and changes in water availability could create severe stress on trees further impacting the ability of the ecosystem to function within the NRV.	**Moderate** Can utilize: fuels projects, prescribed fire, timber removal, invasive species treatments, sound livestock grazing practices, thinning, and restoration activities to alter the vegetation condition and structure. These are all a surrogate for “disturbance” and can be used to mimic natural disturbances and influence trends and conditions.	**Moderate** Climate change may push this ecosystem beyond a point where the Bridger-Teton can actively manage at a large enough scale to affect change.	1, 2, 3, 4, 5	It may serve as a climate refugia in the future because of the extremes it can tolerate - it is an adaptable ecosystem. However, post-fire conversion of forests to non-forest vegetation because of regeneration failure is especially true for dry woodlands that are already on the edge of their climate tolerance.
Northern Rocky Mountain Subalpine Woodland and Parkland	**Low** Primarily based on the large-scale mortality of coniferous trees from insects and disease, fire suppression, projected impacts of climate change, and inability of the Bridger-Teton to actively address the issues at a landscape scale.	**Low** Based primarily on climate impacts that could result in more wildfires on the landscape and of higher severity and additional stress to trees that could be severely impacted by insect outbreaks.	**Low** Because of the high elevation, extreme environment this ecosystem typically occupies, the Bridger-Teton is hindered in its ability to conduct active management in the form of prescribed fire, thinning and timber harvest practices that can provide benefits to the ecosystem. The Bridger-Teton will continue Whitebark pine restoration activities and can alter livestock grazing practices in problem areas. The issue with these activities is “scale” and if the Bridger-	**Low**	1, 2, 3	Warmer summer temperatures and reduced precipitation may shorten the fire return interval as well as the intensity and size of fires on the landscape. An increase in the frequency of fires with an increase in severity may eventually change the vegetation structure of this ecosystem to one that is more characteristic of shorter fire regimes.

Ecosystem	Current Status Ecological Integrity	Long-term Trend (by 2050) of Ecological Integrity	Ability of the Forest to Positively Affect Ecological Integrity in the Near Term (next 10 years)	Ability of the Forest to Positively Affect Ecological Integrity in the Long-Term (by 2050)	Main Drivers and Stressors[1]	Comments
			Teton can do enough to impact large landscapes.			
Rocky Mountain Aspen Forest and Woodland	**Moderate** Primarily based on the current succession classes differing from the NRV. This is mainly a result of fire suppression activities over the last 100+ years.	**Moderate** Primarily based on the resilience of this ecosystem and changes in wildfire frequency and severity, which may be beneficial.	**Moderate** Can implement prescribed fire, conifer removal, invasive species treatments, sound livestock grazing practices, thinning, and beaver restoration.	**Moderate**	1, 2, 4, 5, 6	Aspen forests are the richest and most diverse terrestrial ecosystems on the Bridger-Teton. Resilient, able to adapt and survive climate shifts and changes in wildfire frequency and severity, which may be beneficial in stimulating suckering and removing conifer competition.
Inter-Mountain Basins Montane Sagebrush Steppe	**Moderate** Primarily based on the current succession classes differing from the NRV. This is mainly a result of fire suppression activities over the last 100+ years.	**Moderate** Based primarily on the resilience of this ecosystem and the successes the Bridger-Teton has had treating invasive annual grasses.	**High** Can implement: invasives control, prescribed fire, modifying livestock grazing, conifer removal, and managing unauthorized vehicle use.	**High**	1, 2, 4, 5	One of the most imperiled ecosystems in North America. Although this ecosystem is resilient to drought and fire under the NRV, projected climate change could transition this shrub-dominated ecosystem to one consisting of less sagebrush and more of a grass/forb cover type.
Subalpine Forb Ecosystem	**Moderate** Primarily based on historic grazing management with domestic sheep and recreational activities, which resulted in alteration and soil loss on localized sites, altering site potential.	**Moderate** Based on current ground cover monitoring, which shows that most sites are stable or in an upward trend and provide services expected for this ecosystem, including: wildlife and pollinator habitat, watershed function, biodiversity,	**Moderate** For moderately altered areas (at-risk), management actions may prevent further alteration over the long-term including: invasive species treatments, managed livestock grazing, seed collection and planting, and managing recreation impacts.	**Low-Moderate**	1, 4	The subalpine forb ecosystem is minor in size (acres), but high in ecological importance.

Ecosystem	Current Status Ecological Integrity	Long-term Trend (by 2050) of Ecological Integrity	Ability of the Forest to Positively Affect Ecological Integrity in the Near Term (next 10 years)	Ability of the Forest to Positively Affect Ecological Integrity in the Long-Term (by 2050)	Main Drivers and Stressors[1]	Comments
		and biomass.				
Alpine Ecosystem	**Moderate** Primarily due to increasing recreation impacts and climate change.	**Low** Based on the likely continued increase in recreation activity in the future. Climate change impacts will continue to stress the system.	**Moderate** The Bridger-Teton can manage recreation impacts.	**Moderate**	1, 6	Disproportionally affected by climate change. Recreationists are often drawn to alpine areas where vegetation recovers very slowly to impacts.

Aquatic, Wetland, and Riparian Ecosystems – Major Findings

Aquatic, wetland, and riparian ecosystems comprise less than five percent of the total plan area, yet they provide a disproportionately large portion of the total ecosystem services, supporting diverse wildlife habitat and recreational opportunities. Primary stressors to these ecosystems include climate change, transportation infrastructure and livestock grazing. Despite the presence of these stressors, nearly all key aquatic ecosystem characteristics are functioning within their NRV on the Bridger-Teton (Smith et al., 2020).

Riverine: Rivers, Streams, and Associated Riparian Areas

There are an estimated 5,548 miles of perennial streams and 6,268 miles of intermittent streams within the Forest's boundaries (Smith et al., 2020). The Bridger-Teton lies within five basins. These systems are characterized by valley bottoms, single and multi-thread channels, adjacent riparian habitats, and associated floodplains. There is a combination of highly functioning riverine ecosystems and highly impacted riverine systems in the plan area which leads to an overall Moderate integrity ranking for the forest. Projected future integrity (2050) is Low.

Climate change is the largest contributing influence on the integrity of these systems. Models predict a shift in the hydrology of these ecosystems which will disrupt established and historical water availability and ecological services of these ecosystems. Climate change will also increase water use needs. Other stressors include recreation, roads and trails, livestock grazing, and invasive species.

Palustrine: Wetlands, Ponds and Groundwater Dependent Ecosystems

Wetlands encompass highly diverse and unique ecosystems with a wide range of vegetation, soil, and hydrological characteristics. They are supported by surface water, groundwater, and precipitation or frequently a combination thereof. Groundwater dependent ecosystems (GDEs) are "communities of plants, animals, and other organisms whose extent and life processes are dependent on access to or discharge of groundwater (USDA 2012). These ecosystems occur at aquifer discharge locations and include special habitats such as springs, fens, and karsts. Currently, the integrity of these ecosystem is considered Moderate.

Figure 11. Kendall Warm Springs, USFS/R. Griebel

Projected future integrity (2050) is Low. Climate change is the largest contributing influence on the integrity of these systems. Other stressors include: roads and trails, livestock grazing, recreation, and water use. Models predict a shift in the hydrology of these ecosystems which will disrupt established and historical water availability and ecological services of these ecosystems. GDEs can be hotspots for biodiversity in an increasingly dry climate.

Lacustrine: Lakes and Reservoirs

There are about 12,000 waterbodies in the plan area, including 344 lakes and 5 reservoirs. A unique characteristic of the Bridger-Teton is the relatively large number of high elevation alpine lakes present in the Bridger Wilderness. This is a recreational draw to the area and impacts from dispersed recreation to alpine lakes are increasing. Much of the plan area is mountainous with high-elevation lakes generally deep, cold, and low in nutrients, although nutrient levels have increased recently. Lakes and reservoir ecosystems currently are considered to have a Moderate ecological integrity. Climate change is considered to be the most significant threat to ecological integrity. Other stressors to lakes and reservoirs include recreation, altered fire regimes, improper livestock grazing, and invasive species.

Watersheds and Water Resources – Major Findings

Watersheds

Watersheds within the Bridger-Teton form the headwaters of the major rivers in the western United States: Snake-Columbia, Yellowstone-Missouri, and Green-Colorado. Smaller portions of the Forest lie within the Upper Bear-Great Basin, and the North Platte-Missouri Basin. Based on the latest Watershed Condition Framework (WCF) analysis, of the 171 watersheds on the Bridger-Teton, 157 watersheds are rated as functioning properly and 14 are rated as functioning at risk (Figure 12). No watersheds are rated as impaired. The 157 watersheds rated as properly functioning are based on indicators for water quality, water quantity, aquatic habitat, riparian wetland vegetation, and soils.

Watersheds rated as functioning at risk are mostly based on indicators related to roads and trails, fire regime, and terrestrial invasive species. The National WCF (USDA 2011) reports that water quantity, water quality, aquatic habitat, and soil conditions across the Bridger- Teton are generally in good or proper functioning condition; however, stressors such as climate change, invasive species, and a trend towards larger wildfires threaten future integrity.

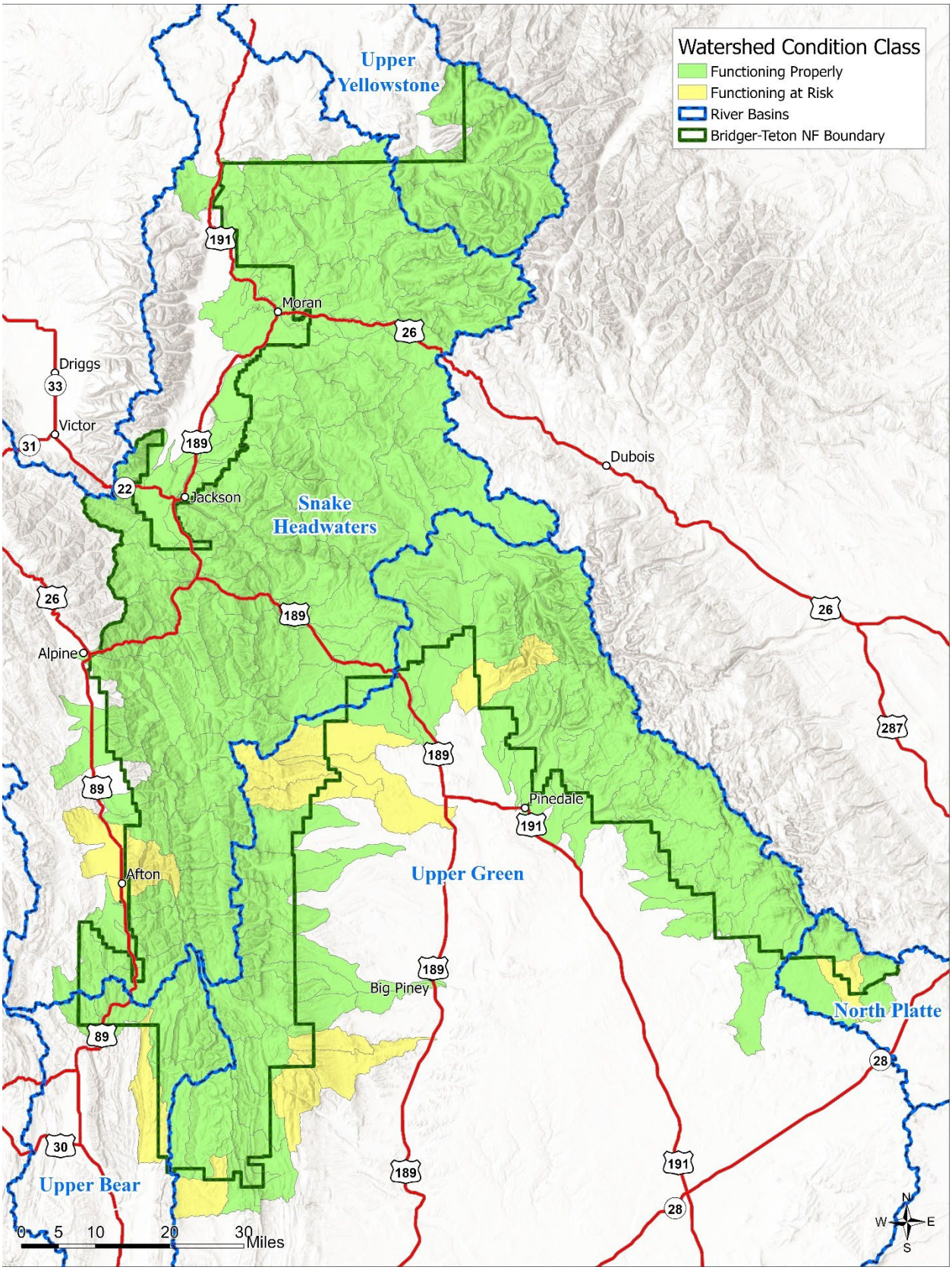

Figure 12. River basins and watershed condition class ratings, USFS GIS

Water Resources

Water resources are at the core of sustainable socio-economic development, healthy ecosystems and human survival itself.

The Bridger-Teton sits at the headwaters of our nation's most relied upon river systems. The types of demand for water resources are much the same today as they have been historically: drinking water, irrigation, stock water, and recreational or spiritual uses. Irrigation withdrawals on the BTNF typically utilize diversion structures on stream channels and ditches, which reduces the amount of water available for downstream aquatic ecosystems.

The ecological needs for water indirectly support systems that provide other human benefits, from fish to clean air. The quantity of water needed to meet all these needs has increased significantly and will continue to increase with rising populations. While stream flows on the Bridger-Teton are projected to be resilient to warming temperatures, the demand for water is not expected to decrease in the future.

Air Resources – Major Findings

Clean air is essential to ecological, social, and economic sustainability. On the Bridger-Teton, pollutants associated with acid rain (mainly sulfates and nitrates) have decreased in recent decades. Overall ground-level ozone concentrations have also decreased since the peak over a decade ago, but there are still times when ozone concentrations temporarily may impact health and areas where vegetation may be impacted.

Current air quality issues and concerns include smoke impacts from wildland fire and atmospheric deposition of ammonium, calcium, phosphorus, microplastic, and other pollutants deposited through dry and wet deposition. Anthropogenic air pollution and deposition from nitrogen oxides, sulfur oxides, and mercury are expected to decrease or remain stable. However, smoke from wildland fires has increased in duration, intensity, and frequency, most notably between July and September in recent years.

Good air quality is essential for clean water and healthy ecosystems, which are directly tied to ecosystem benefits. Sulfur dioxide and nitrogen oxide air pollution and deposition have decreased across the country, including in Wyoming and on the Bridger-Teton, primarily due to the Clean Air Act amendments in the 1990s (Nopmongcol et al. 2019, Hand et al. 2020). The decrease in key air pollutants resulted in an increase in the number of clear days and visible distance seen across the Bridger-Teton, particularly in winter months.

The communities and parts of the Bridger-Teton that lie within the Upper Green River Basin (UGRB; Figure 13) marginal nonattainment area may experience ozone levels above the National Ambient Air Quality Standards (NAAQS) for human health. High ozone formation is most likely to occur in late winter and early spring, on sunny days when there is high reflectance from snow. In 2016 the EPA issued a determination of Attainment confirming that the UGRB met the 2008 NAAQS for three consecutive years. This allowed WDEQ to initiate the process in 2024 with EPA to redesignate the UGRB back to attainment for the 2008 ozone NAAQS.

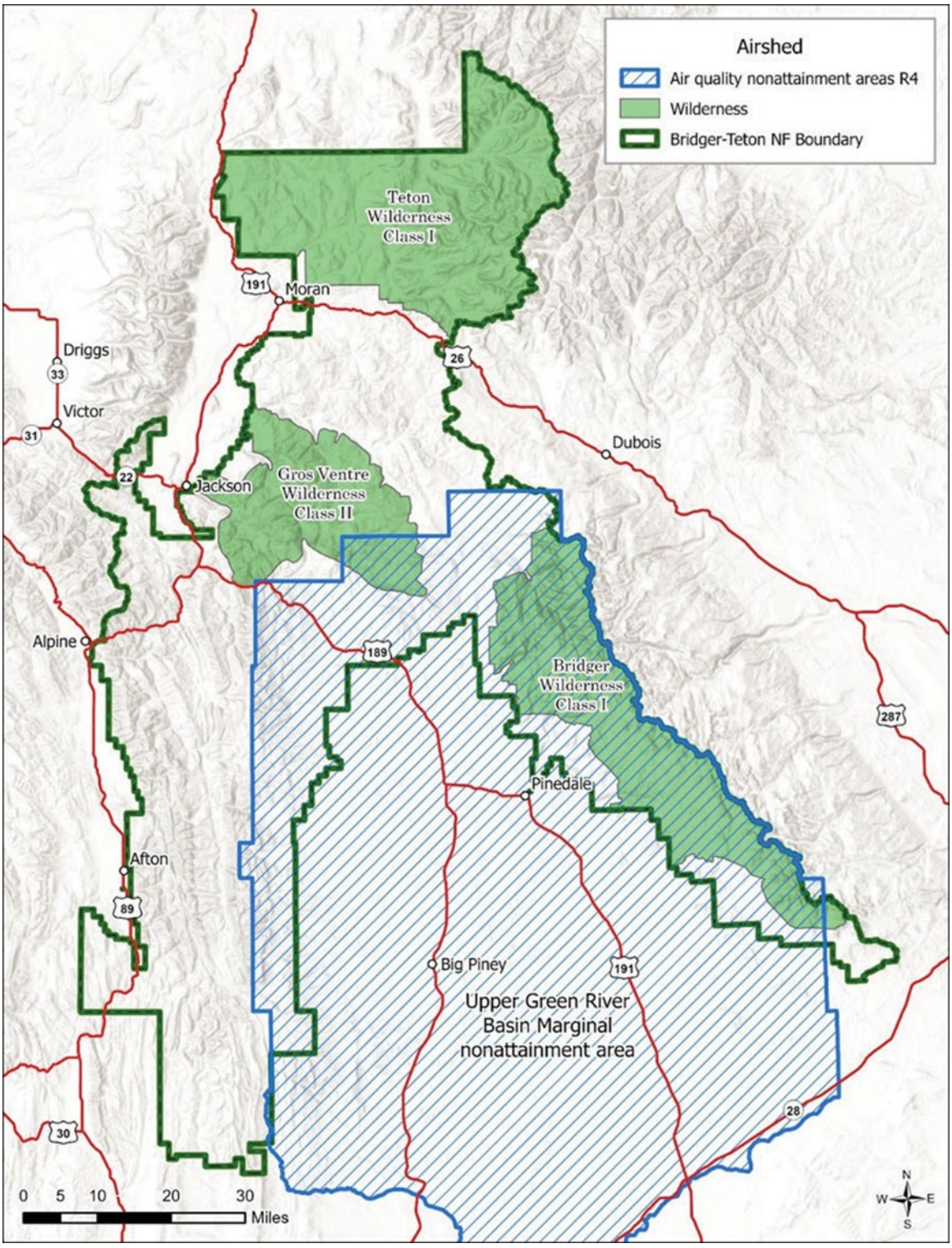

Figure 13. Distribution of airsheds on the Bridger-Teton, USFS GIS

On the Bridger-Teton, the term ‘airshed’ aligns with federally designated Class I and II Wilderness areas. The 1977 Clean Air Act amendments direct Federal land managers to “preserve, protect, and enhance the air quality” in 156 mandatory class I national parks and

Wilderness areas (42 U.S.C. 7470 et seq.). Class I areas are Wilderness areas that are larger than 5,000 acres and were designated before August 7, 1977. All other land managed by federal land managers are designated Class II. There are three Wilderness areas on the Bridger-Teton including the Bridger Wilderness (Class I), Teton Wilderness (Class I), and Gros Ventre (Class II). Nearly 30 percent of the Bridger-Teton, or over 1 million, acres are within a Class I airshed (Figure 13).

Diversity of Plant and Animal Species – Major Findings

At Risk Species

At-risk species are identified within the forest plan revision process, relevant to the National Forest area and planning process and consist of two groups:

1. Federally recognized threatened, endangered, proposed, and candidate species (TES); and
2. Proposed Species of Conservation Concern (SCC).

TES are federally designated by the U.S. Fish and Wildlife Service under the Endangered Species Act (ESA) of 1973. SCC are species other than federally designated species known to occur in the plan area and for which the Regional Forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long term in the plan area (36 CFR § 219.9).

Federally Listed Species

On the Bridger-Teton, there is one federally recognized plant species with a status of threatened; six federally recognized threatened, endangered, proposed, or candidate terrestrial wildlife species that occur on the Bridger-Teton; and one federally recognized aquatic species with a status of endangered (Table 4).

Table 4. Federally designated species and designated critical habitat in plan area

Species Common and Scientific Name	Federal Status	Critical Habitat	Recovery Plan
Whitebark Pine (*Pinus albicaulis*)	Threatened	N	N
Canada Lynx (*Lynx canadensis*)	Threatened	Y	Y
Grizzly Bear (*Ursus arctos horribilis*)	Threatened	N	Y
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	N	N
Wolverine (*Gulo gulo*)	Threatened	N	N
Suckley's Cuckoo Bumble Bee *(Bombas suckleyi)*	Proposed Endangered	N	N
Monarch Butterfly (*Danaus plexippus*)	Proposed Threatened	N	N
Kendall Warm Springs (KWS) Dace (*Rhinichthys osculus thermalis*)	Endangered	Y	Y

Of the six federally recognized terrestrial wildlife species, only two, the grizzly bear and wolverine, commonly occur in the plan area. The yellow-billed cuckoo has only been documented adjacent to the Bridger-Teton. Canada lynx has not been documented on the Bridger-Teton since 2010. One unconfirmed 2022 Canada lynx sighting northeast of Bondurant

was reported in 2024. The Monarch butterfly only has one documented observation of four individuals on the Bridger-Teton in 2016. Furthermore, their habitat is rare to non-existent on the Bridger-Teton with only two milkweed specimens collected in the 1990s. Suckley's cuckoo bumble bee has been observed near or within the Bridger-Teton, though sightings are rare.

The most important stressors and threats are climate change (habitat degradation and fragmentation, drought, increasing temperature, and diminishing snowpack); human-caused mortality; destruction, degradation, and fragmentation of riparian habitats: and insecticides. Some of these threats are within the authority of the USFS to address, such as providing secure habitat for grizzly bears, human-bear conflict prevention, and protecting riparian corridors; some are not, such as climate change and the use of insecticides on lands outside the Bridger-Teton.

The Kendall Warm Springs (KWS) dace is the only ESA listed fish species known to occur on the Bridger-Teton. The KWS dace is endemic to only one stream, that originates from a series of thermal springs and seeps, then flows 984 feet to a waterfall at its confluence with the Green River. Aquatic habitat within the spring is primarily comprised of shallow, relatively fast water over cobble and gravel substrate interspersed with emergent aquatic vegetation mats and shallow (less than one inch) areas along the margins. A significant threat to KWS dace is likely the expanding range of non-native species associated with a changing climate. Both aquatic and terrestrial species' ranges will shift over time and the threat to plants and animals through impacts to habitat, competition, or predation are all of concern.

Proposed Plant Species of Conservation Concern (SCC)

This list of proposed plant SCC highlights 14 species that are important to the ecosystem of the Bridger-Teton and at risk of population decline. The greatest threats include climate change, recreation, development, and increased competition from invasive species. Native plants exist in complex relationships with other local flora and fauna, are highly adapted to their environments, and provide a host of benefits within the context of their ecosystems. These benefits include stabilizing soil, filtering water, supporting wildlife, and increasing the biodiversity that helps ecosystems build resilience to environmental stresses such as droughts, floods, and wildfires.

List of Proposed Plant SCC

1. Payson's milkvetch (*Astragalus paysonii*)
2. Peculiar moonwort aka puzzling moonwort (*Botrychium paradoxicum*)
3. Scalloped moonwort, aka Crenulate moonwort (*Botrychium crenulatum*)
4. Low northern sedge, aka beautiful sedge (*Carex concinna*)
5. Fragile rockbrake, aka slender cliff-brake (*Cryptogramma stelleri*)
6. Mountain tansymustard, aka Wyoming tansymustard (*Descurainia torulosa*)
7. Woolly fleabane (*Erigeron lanatus*)
8. Fourpart dwarf gentian (*Gentianella propinqua*)
9. Vasey's rush (*Juncus vaseyi*)
10. Pale monardella, aka mountain wild mint (*Monardella glauca; syn. Monardella odoratissima var. glauca*)

11. Greenland primrose (*Primula egaliksensis*)
12. Pink campion (*Silene repens*)
13. Teton wirelettuce (*Stephanomeria fluminea*)
14. Largeflower triteleia (*Triteleia grandiflora*)

Figure 14. Colorado River cutthroat trout, courtesy M. Gocke

Proposed Fish Species of Conservation Concern (SCC)

Five proposed native fish SCC have been identified in the plan area. Stable native fish populations are indicators of good water quality and watershed health and support regionally important recreational fisheries. Common issues and concerns include nonnative fish species (competition, hybridization, predation), habitat fragmentation, channel dewatering, climate change (altered flow and temperature regimes), undersized and perched culverts and improperly managed livestock grazing. Opportunities for conserving and restoring proposed SCC include improved livestock grazing management, implementing strategies to conserve instream flows, removing migration barriers where they do not serve a conservation purpose (e.g., preventing the passage of non-native fish species or aquatic invasive species), and removing non-native fish species.

List of Proposed Fish SCC

1. Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*)
2. Snake River Fine-spotted Cutthroat Trout (*Oncorhynchus virginalis behnkei*)
3. Flannelmouth sucker (*Catostomus latipinnis*)
4. Northern leatherside chub (*Lepidomeda copei*)
5. Roundtail chub (*Gila robusta*)

Figure 15. Left: Male Greater sage-grouse, courtesy M. Gocke Right: Rockslide obstructs Periodic Spring, summer 2024, USFS

Proposed Terrestrial Wildlife Species of Conservation Concern (SCC)

Six proposed wildlife SCC have been identified in the plan area. Four of the proposed SCC (Western toad, Gillette's checkerspot, Western bumble bee, and Black rosy finch) are in severe decline; one is in moderate decline (Greater sage-grouse), and one (Columbia spotted frog) appears stable. SCC on the Bridger-Teton influence ecological, social and economic sustainability in many ways. For example, amphibians are good indicators of watershed health and pollinators are critical for successful reproduction and seed set for approximately 85% of flowering species globally (Hatfield et al. 2012). The main threats include habitat degradation, fragmentation, and loss of their habitats; chytrid fungus, climate change, overgrazing, invasives, *Vairimorpha bombi* (a parasite to bumblebees), and pesticides.

List of Proposed Terrestrial Wildlife SCC

1. Sage grouse (*Centrocercus urophasianus*)
2. Western toad (*Anaxyrus boreas*)
3. Columbia spotted frog (*Rana luteiventris*)
4. Black rosy finch (*Leucosticte atrata*)
5. Gillette's checkerspot (*Euphydryas gillettii*)
6. Western bumble bee (*Bombus occidentalis*)

Geological Resources and Hazards – Major Findings

Geological Resources

Two nationally recognized geologic resources are present on the Forest: caves and paleontological resources. Congressional laws require federal land management agencies to consider and protect significant caves and scientifically important paleontological resources. The Bridger-Teton contains a substantial amount of alpine karst landscapes with varying degrees of cave development as well as sedimentary bedrock with high potential to host paleontological resources.

Caves are a feature of karst landscapes and can contain sensitive resources, provide ecological niches, offer important scientific information, and be recreation sites for cavers. Most caves are found in limestone bedrock, exposed in outcrops throughout the Forest. Caves on the Bridger-Teton tend to be cold, wet (flowing water at least seasonally), vertically oriented, lack showy formations such as stalactites, and have limited bat populations. Important concerns include limited Forest Service inventory and knowledge to inform management actions, protection of recharge areas for karst aquifers, the potential for management actions or public use to impact significant caves, and the potential loss of paleontological resources due to ground disturbance.

Beyond caves, the Forest's karst landscapes are ecologically, aesthetically, and even socio-economically important. For example, Periodic Spring is a karst groundwater feature that provides municipal water to the town of Afton, WY.

Figure 16. Crystal Creek Landslide, courtesy M. Merigliano

Geological Hazards

Geologic hazards are geologic processes or conditions, either naturally occurring or human-influenced, that pose a potential danger to public health and safety or infrastructure. Landslides and other mass slope movements, including avalanches, are the primary hazards and commonly impact roads, infrastructure and public access to a moderate degree. The impacts can be substantial at individual locations over a timeframe of months with some effects continuing for years. Avalanches impact state highways traversing the Forest throughout the winter, blocking access and resulting in the death of backcountry recreationists almost every year. They have minimal long-term impact on Forest Service roads and other infrastructure.

CHAPTER 3: Socioeconomic Elements and Multiple Uses

Social and Economic Conditions

The 2012 planning rule recognizes that ecological, social, and economic systems are interdependent, and all three must be considered in planning for a sustainable future. However, because social and economic conditions are influenced by factors beyond forest management, the expectation is that forest plans contribute to social and economic sustainability rather than guarantee it. This chapter covers topics where people directly connect with, access, or use forest resources through outdoor recreation, roads and trails, timber harvest, gathering non-timber forest products, grazing livestock, municipal and agricultural water use, utilities, or energy and minerals. These topics provide jobs, contribute to local economies, and shape the social culture of communities. Special areas, including areas designated by Congress, are discussed as the presence and value of protected areas contribute to the attractiveness of communities as places to work, live, and recreate. Fire management is also discussed. While fire shapes forest vegetation and ecological integrity, it can also threaten life and property, affecting people's lives.

The primary area of social and economic influence is the five counties within the boundaries of the Forest (Lincoln, Sublette, Teton, Fremont, and Park). Adjacent counties, national parks, and the larger region indirectly influence the forest, typically through recreation or obtaining forest products like firewood or Christmas trees. The area of influence includes recognition that tribal nations hold treaty rights not only on nearby reservations (Fort Hall and Wind River) but also on ceded lands that encompass the entire Bridger-Teton National Forest and beyond.

The region encompassing and surrounding the Bridger-Teton has undergone significant social and economic transformation since 1990, when the current forest plan was approved. Changes include a rapidly growing regional population, counties that are moving from commodity-driven to more amenity-driven economies, and community cultures that reflect forest connections in evolving ways. As we strive to contribute to local and regional social and economic vitality, access to diverse forest and rangeland products will continue to be important, as will water availability and quality, sites for communication infrastructure, and opportunities for a wide diversity of guided and non-guided recreation activities.

Within the five-county area, the population has grown substantially since 1990 primarily through in-migration. However, population increases have not been evenly distributed as shown in Table 5. In addition, some counties in Idaho and Utah have experienced triple digit growth and increasingly affect forest visitation. Counties within the Bridger-Teton are projected to see population growth through 2040, however the rate of growth is likely to be slower than what occurred in the 1990s and early 2000s. The desire to live in an amenity-rich environment combined with technological advances that enable remote work will likely draw people to the region, including retirees and part-time residents.

Economically, Bridger-Teton programs directly accounted for 2.3% of the total jobs and $116 million in direct labor income in 2019 within an eight-county region. Recreation activity generated the most jobs at 56%, agency operations contributed 18%, livestock grazing and mineral extraction contributed 11% each, Forest Service payments to the State and counties

contributed 3%, and forest products contributed 1%. Within this overall picture, there are differences as the five counties within the Forest have different histories.

Table 5. Change in counties within or near the Bridger-Teton from 1990 to 2022

County	Population in 1990	Population in 2022	Percentage Population Change 1990-2022	Total Employment Number of jobs 2022	Primary labor jobs 2022	Primary service jobs 2022
Lincoln, WY	12,710	20,660	62.5%	12,788	Construction, Mining, Ranch	Retail Trade, Real Estate
Sublette, WY	4,883	8,763	79.5%	6,425	Construction, Mining, Ranch	Real Estate, Retail Trade
Teton, WY	11,328	23,287	105.6%	39,800	Construction	Finance, Real Estate
Fremont, WY	33,565	39,472	17.6%	23,995	Ranch, Construction	Health Care, Retail Trade
Park, WY	23,190	30,518	31.6%	22,708	Construction, Ranch	Lodging/Food, Retail Trade
Teton, ID	3,458	12,544	262.8%	Unknown	Unknown	Unknown
Bonneville, ID	72,608	129,496	78.3%	Unknown	Unknown	Unknown
Sweetwater, WY	38,792	41,345	6.6%	Unknown	Unknown	Unknown
Unita, WY	18,638	20,712	11.1%	Unknown	Unknown	Unknown

Source: Headwaters Economic Profile System 2024, U.S. Forest Service Report

Due to the volatility of energy and timber markets, Lincoln, Sublette, and Fremont counties have endured economic boom and bust cycles over the past decades.

Teton County faces different challenges – income inequality, unaffordable housing, and traffic congestion - aggravated by the fact that the number of jobs exceeds the resident population (Table 5), thus workers must commute from surrounding communities. All five counties within the Bridger-Teton are among the top ten counties with the highest cost of living indices in Wyoming with Teton County estimated to be 76% higher than the statewide average.

Today, the economies of all five counties are growing and moving towards labor and service jobs that support visitation and wealth that is generated outside the county. The service sector employes the most people with real estate, retail trade, lodging and food services key occupations. Construction activity dominates the labor market in all five counties except Fremont County. Ranching jobs are still important sectors in all counties except Teton County while oil and gas jobs continue to be important in Sublette and Lincoln counties. Despite the minor influence on the economy, the forest products industry is crucial to help achieve forest objectives, notably related to fuel reduction.

Figure 17. Rental RV driving through the Forest on Highway 89, courtesy M. Gocke

Under the Multiple-Use, Sustained Yield Act of 1960 and the National Forest Management Act of 1976, national forests are managed for outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness purposes. National forests also provide a broad range of ecosystem services, defined as the benefits people obtain from ecosystems including aspects of nature that contribute directly or indirectly to human health, wealth, and well-being (36 CFR 219.19). Communities within the Forest have deep connections to the land associated with ancestral tribal practices, multi-generational livelihoods, gathering activities (firewood, hunting, fishing, berries), recreation, health, and spiritual values. Key ecosystem services and benefits received from the Forest include diverse recreation opportunities, wildlife and fish habitat, forest and plant products, forage for livestock, healthy watersheds, and support for human health, learning, and art. These expressed benefits are consistent with results from forest plan public comment responses (Figure 18) and a social survey of county residents. In the social survey, residents ranked four key reasons (out of 14 possible values) why they value the Bridger- Teton: Recreation (place for favorite outdoor recreation activities), Biological diversity (provides a variety of wildlife, fish, and plant life), Future (allows future generations to experience the Forest as it is now), and Aesthetic (enjoy scenery, sights, sounds, smells, etc.). Some differences are apparent among counties with Lincoln, Sublette, and Park residents ranking recreation most highly, while Teton and Fremont residents ranking biological diversity most highly (Western 2024).

Figure 18. Word cloud illustrates what people find unique about the Forest, USFS

Areas of Tribal Importance

Tribal nations have a unique relationship with the Forest. The Bridger-Teton and surrounding area is a region used by many Native American tribes for hunting, gathering, ceremonial, social purposes, and other needs. Some tribes note that they have been present in the region for 12,000 years. Tribes moved across an extensive network of trails, following buffalo, their primary source of sustenance, hunting migratory game, and harvesting plant resources. These trails also served other purposes, such as trade, war, harvesting tepee poles, or visiting extended family members. Native American travel trails left a permanent mark, in some cases eventually becoming the highways and roads of today. Tribes that continue to reside geographically close to the Bridger- Teton are the Eastern Shoshone, Northern Arapaho, and Shoshone-Bannock tribes. Other tribes who once resided in the Forest now live states away. However, that distance does not indicate those tribes are no longer connected with these lands.

Non-native settlers gradually encroached on land used by tribes, forcibly removing them from most of their traditional homelands. While this forced separation resulted in the tribes no longer being present in the region in the same way they had been for thousands of years, tribes are still connected to the Bridger-Teton area. Most treaties limited Native Americans to residing on reservation lands, but off-reservation rights, such as hunting and gathering, are protected. Ongoing tribal uses on the Bridger-Teton include gathering plants or resources such as teepee poles that are critical for ceremonial and other purposes, hunting, fishing, and visiting sacred sites and cultural landscapes.

The connection of tribal nations with forest lands was not necessarily an extractive one but was more of a relationship. This relationship has been expressed as one where the land is, “viewed as a friend with whom tribes have shared thousands of years of history through their families, and it is hoped that such a relationship will continue indefinitely into the future for their descendants” (Walker 2007).

The current forest plan does not specifically address tribal uses and connections to Bridger-Teton lands. On-going efforts to listen and learn as tribal leaders share traditional ecological knowledge and perspectives on stewardship will certainly help future forest management.

Figure 19. Jackson Hole InterTribal Gathering, Lighting of the Teepees, and Rematriate Performance, courtesy C. Adams

Fire Management

Fire History

Wildland fire on the Bridger-Teton is a key driver that shapes forest, sagebrush, and grassland plant communities supporting ecological integrity. Periodic fire helps to maintain vegetation composition, patch size, age class distribution, and watersheds. Understanding the fire regimes of Western Wyoming is critical. The fire regimes on the Bridger-Teton are mostly characterized by moderate to long interval frequency fires (50 to 300 years). Large, high-intensity fires are part of these ecosystems and are within the natural range of variability (Romme, et. al. 2011).

Prior to European settlement, fires were ubiquitous across the landscape with fire size and duration limited only by existing fuels, weather and topography. Current thinking is that most ignitions were lightning caused, although indigenous people may have been responsible for some small fires (Vale 2013).

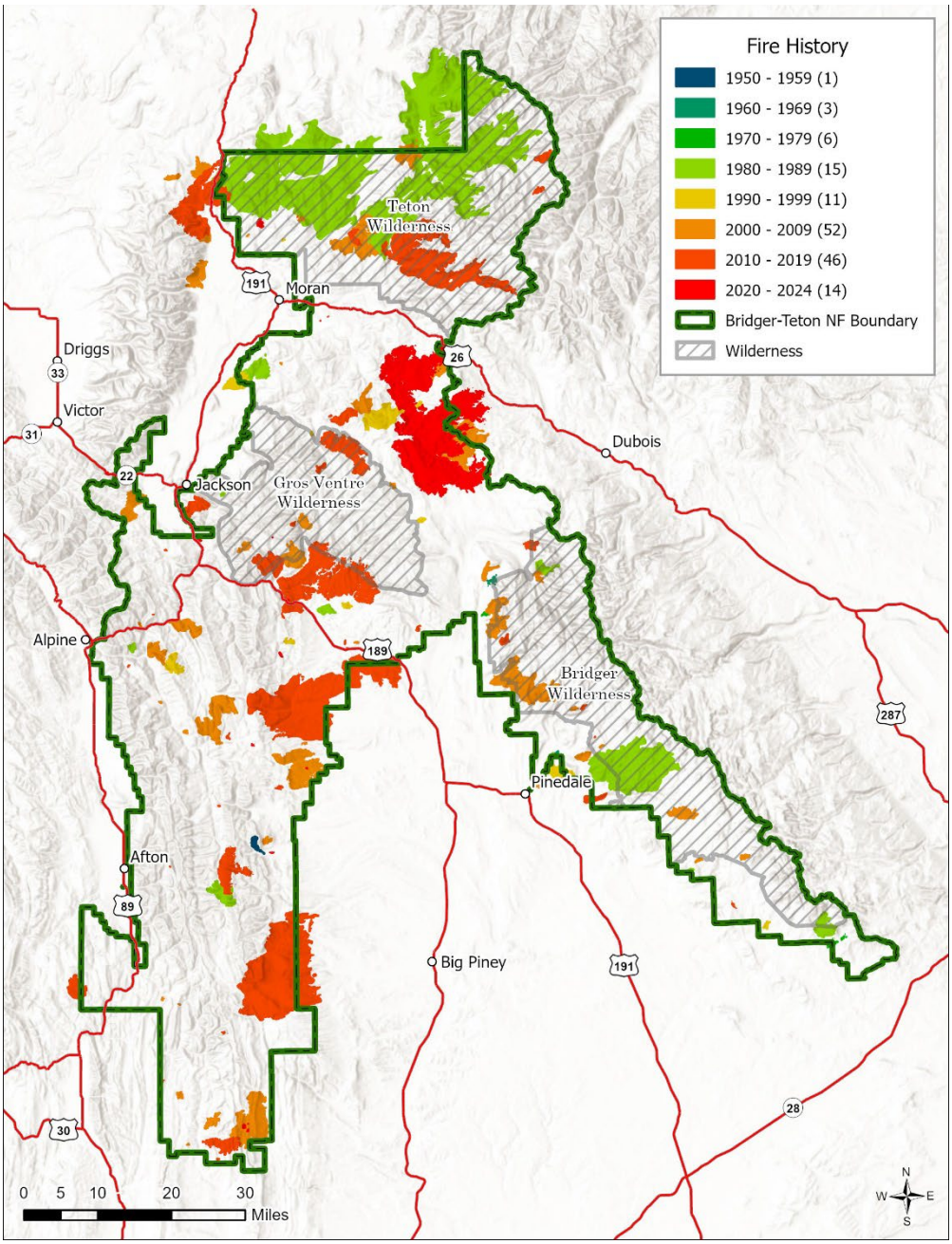

Figure 20. Wildfire history on the Bridger-Teton from 1950 to 2024

Concurrent with Euro-American settlement in the mid-1880s, a warming period provided favorable conditions for fire with significant areas of Northwest Wyoming burning between 1875 and 1890. Moderating climate conditions, coupled with fire suppression efforts and the presence of previous fires led to a 60-year period from 1911 to 1970 where most fires were suppressed at small acreages. A trend towards larger fires began in the late 1980s when sustained hot and dry conditions along with large areas of mature spruce-fir and lodgepole pine led to large, long-duration fire events, notably in 1988. Since the 1990s, the trend has been towards fewer fires per year, but more acres burned (Figure 20 and Figure 21). Since 1930, approximately 700,000 acres have burned, amounting to about 22% of the burnable acres on the Forest. More accurate

records since 1952 show 3,570 fires detected in the Forest with 56% attributed to lightning and 44% human-caused, mostly related to abandoned campfires.

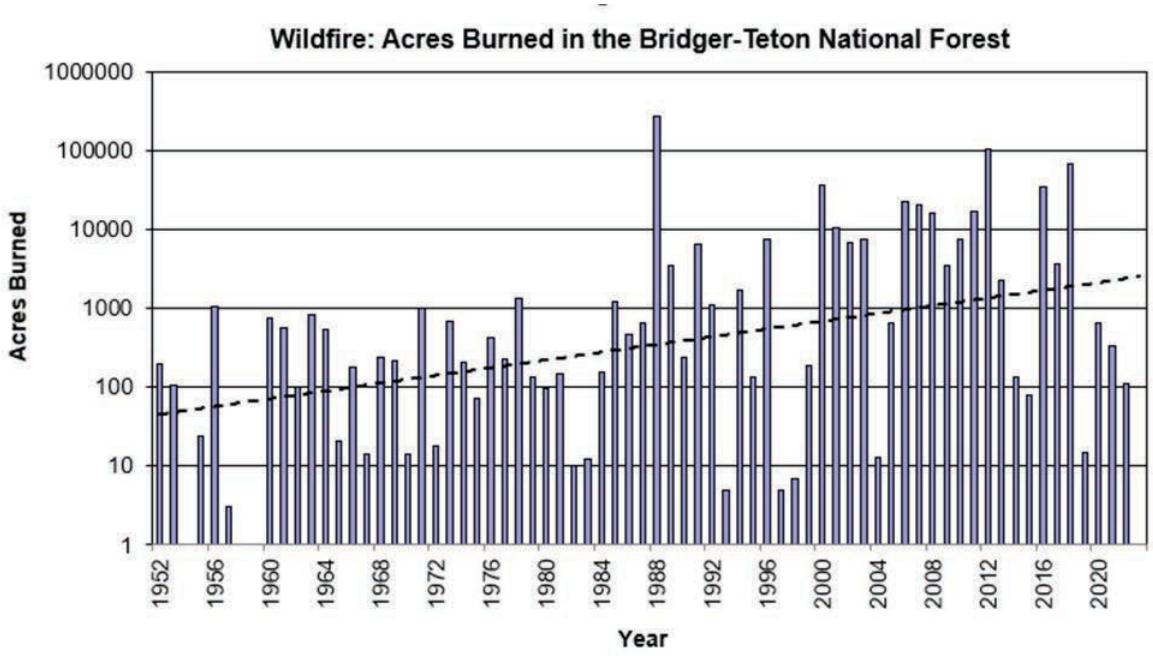

Figure 21. Number of acres burned in wildfires and trendline of acres burned in the Bridger-Teton by calendar year, from 1952-2023, USFS

Managing Wildland Fire

The Forest Service began suppressing fire in the early 1900s and formally adopted an aggressive suppression policy in 1935 to control all fires. By the 1970s, the negative effects of excluding fire were recognized and the policy shifted towards working with fire as a tool to achieve land and resource management objectives. This shift allowed the implementation of prescribed fire and Wilderness fire programs. The Bridger-Teton was an early adopter of both programs. Prescribed burning (planned ignitions) began in 1974 to improve range and wildlife habitat in lower elevation sagebrush/grass and aspen. Since then, 85,000 acres have been treated during less risky burning windows in the spring and fall. The 1976 Teton Wilderness Fire Plan was one of the first in the nation, with fire plans for the Bridger and Gros Ventre Wildernesses approved later. These plans allowed lightning-ignited fires to burn under certain conditions so that natural processes operate with minimal human intervention. Both the prescribed and Wilderness fire programs have seen ebbs and flows in response to regional and national fire incidents with adjustments made over time.

The Bridger-Teton Land Management Plan was amended in 2004 to address fire policy changes and clarify management goals. Terminology and policy continue to evolve. Wildland fires are currently categorized as either wildfires or prescribed fires.

Wildfires originate from an unplanned ignition such as lightning or a human-cause, whereas prescribed fires originate from planned ignitions. All detected fires, both wildfires and prescribed fires, are managed with risk-informed decisions that use best available fire science. The National Cohesive Strategy was adopted in 2014 requiring an “all lands approach” that provides unified direction for state, private, and federal land managers. This framework is designed to (1)

restore and maintain resilient landscapes, (2) create fire-adapted communities, and (3) ensure safe and effective wildfire response. The past 30 years has seen rapid development on private lands adjacent to national forests leading to a dramatic increase in the size and complexity of the wildland-urban interface (WUI), defined as the zone where structures and other human development intermingle with wildland fuels. Protecting private lands and structures from wildland fires is complex, costly, and often involves a higher degree of risk to both wildland and structural firefighters, challenging both county and federal agencies. Within the Bridger-Teton, Teton County has seen the most significant increase in WUI complexity; Lincoln and Sublette counties are seeing increased potential for wildfire exposure. Following the 2000 fire season, national initiatives were developed to address the growing problem of fire within the wildland-urban interface. As part of these initiatives, fuel reduction projects have been implemented to change fire behavior from crown fires to surface fires, reduce spotting distances and convective and radiant heat. Such work must occur both on private lands and within the Forest to be effective as the most critical area requiring treatment is the area within about 100 feet of homes.

Approximately 14,000 acres within the Bridger-Teton has been mechanically treated using a combination of thinning, pruning, pile burning, and timber harvest. In addition, fire prevention and Firewise programs have been expanded and community wildfire protection plans are in place for all counties within the Bridger-Teton. These plans identify and prioritize areas for fuel reduction treatments, recommend measures to reduce structural ignitability and address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection.

Figure 22. Prescribed fire in the Wyoming Range, courtesy M. Gocke

The Challenge Ahead

Because the fire regime on the Bridger-Teton has been dominated by moderate to long interval fire, the effects of past fire suppression are less significant compared with areas of the U.S. where high frequency, low intensity fire regimes dominate. The exception is lower elevation plant communities such as sagebrush/grass and aspen where change has occurred. As a result, there is not a big fire deficit that compels the need for large-scale ecological restoration.

However, current research points towards a warmer climate that will lead to more favorable burning conditions (i.e. prolonged dry periods with warm temperatures and wind) with larger and longer duration fires. Evidence of this trend is already occurring, and this could mean a fire

surplus in the future with associated negative ecological, economic, and social effects, including forest closures and smoke related health alerts. In addition, continued development in the wildland-urban interface means that efforts to protect life and property will become increasingly complex and costly. Larger fires often cross multiple jurisdictions with fires potentially threatening homes within just one burning period, triggering evacuations. A warmer climate is also increasing the spread of noxious weeds, and fire aggravates this spread. Currently, the presence of cheatgrass in the sagebrush steppe community is of most concern. Cheatgrass disrupts fire cycles, leading to more frequent, intense fires capable of burning every year, necessitating post-fire restoration to promote the establishment of native species. Increasing recreation use and development is also a fire concern, most notably associated with campfires in dispersed settings. Fire prevention and education programs, in collaboration with multiple partners, have been effective, however, it is difficult to reach all visitors across such a large forest and the number of abandoned, hot campfires continue to remain unacceptably high.

Future fire management will require an integrated approach that acknowledges fire history and past management practices, including timber and range management. Climate change, continuing wildland-urban development, and increasing human use will compound current issues. Fortunately, extensive new datasets including fuels, fire effects monitoring, and fire history are available to assess risk and benefits. Future plan direction will need to incorporate all available tools, including prescribed fire, mechanical fuel treatment, and continued management of mid to large wildfires. These tools will need to be coupled with updated direction focused on Firewise guidelines for all structures, cross-boundary coordination, fire prevention programs, and expanded outreach and assistance programs to prepare communities to co-exist with fire.

Recreation, Lands, and Access

Recreation is the primary way people connect with the Bridger-Teton. With nearly 2.2 million visitors and diverse, year-round recreation opportunities, it is the second most heavily visited forest within the GYE and the most heavily visited forest in Wyoming. As such, the Bridger-Teton plays a vital role in serving local communities, directly contributing to residents' quality of life, and supporting the regional economy. Recreation contributes 4.1% of the Wyoming State GDP and is a growing sector of the economy (UW 2024). Hunting, angling, wildlife watching, RVing, skiing, and snowmobiling are notable economic contributors in the State and the Bridger-Teton provides many of these opportunities. Winter recreation (e.g. skiing and snowmobiling), trail-based recreation (hiking and bicycling), and wildlife-fish-scenery based recreation are particularly distinctive recreation opportunities in the Forest. While there are commonalities across the Forest, each of the three major forest zones contain unique assets and opportunities. The Teton/Gros Ventre zone is strongly influenced by the two adjacent national parks and Jackon Hole's full-service amenities with distinctive assets that include the Teton Wildernesses, Jackson Hole and Snow King Mountain resorts, Teton and Togwotee Pass, and the Snake and Gros Ventre River corridors. The Wyoming/Salt River zone is influenced by visitation from Utah and Southeast Idaho with distinctive assets that include the Greys River corridor, the Wyoming and Salt River ranges, and unique backcountry byways and springs. The Wind River/Green River zone draws national and Colorado visitation with distinctive assets that include the Bridger Wilderness, the Green River corridor, and large, scenic road-accessible lakes.

Figure 23. Mountain biker on Munger Mountain, courtesy M. Gocke

Table 6. Summary of selected Bridger-Teton recreation facilities and special use permits by zone

Facility Type	Gros Ventre/Teton Range	Wyoming/Salt Range	Wind River / Green River	Total
Boat Ramps/Docks (paved)	7	3	6	16
Campgrounds	13	10	11	34 (w/ 584 sites)
Vault toilets	61	40	48	149
Interpretive Sites	6	1	8	15
Rental Cabins	0	9	1	10
Major Trailheads (approx.)	30	40	20	90
Mapped Dispersed Sites	508	335	96	939
Outfitter-Guide Permits	133	47	40	220
Mountain/Ski Resorts	2	0	1	3
Guest Ranch/Cabins	3	0	4	7
Recreation Residences	44	16	75	136

Recreation Use and Trends

Recreation has always been important in the Bridger-Teton and was recognized in the 1990 forest plan. However, since 1990, recreation activity has substantially increased and evolved. The trends underscore the high value people place on recreation access to National Forest lands and coincide with a societal shift towards spending more on experiences rather than material goods. Evidence of increased use includes the following:

- Skier visits at the three Bridger-Teton resorts increased 28% from 2013 to 2023.
- Camping and trail use numbers increased 20-40% between 2019 and 2021 based on some trail counter and campground occupancy data.
- The number of registered off-road vehicles in Wyoming doubled (2005 to 2020).
- Summer outfitted use (e.g. horse rides, rafting, hiking) increased 6%, while winter outfitted use (e.g. snowmobiling, avalanche instruction, skiing,) increased 146% from 2013 to 2022.
- The number of elk hunting licenses sold in Wyoming increased 8% between 2012 and 2021.

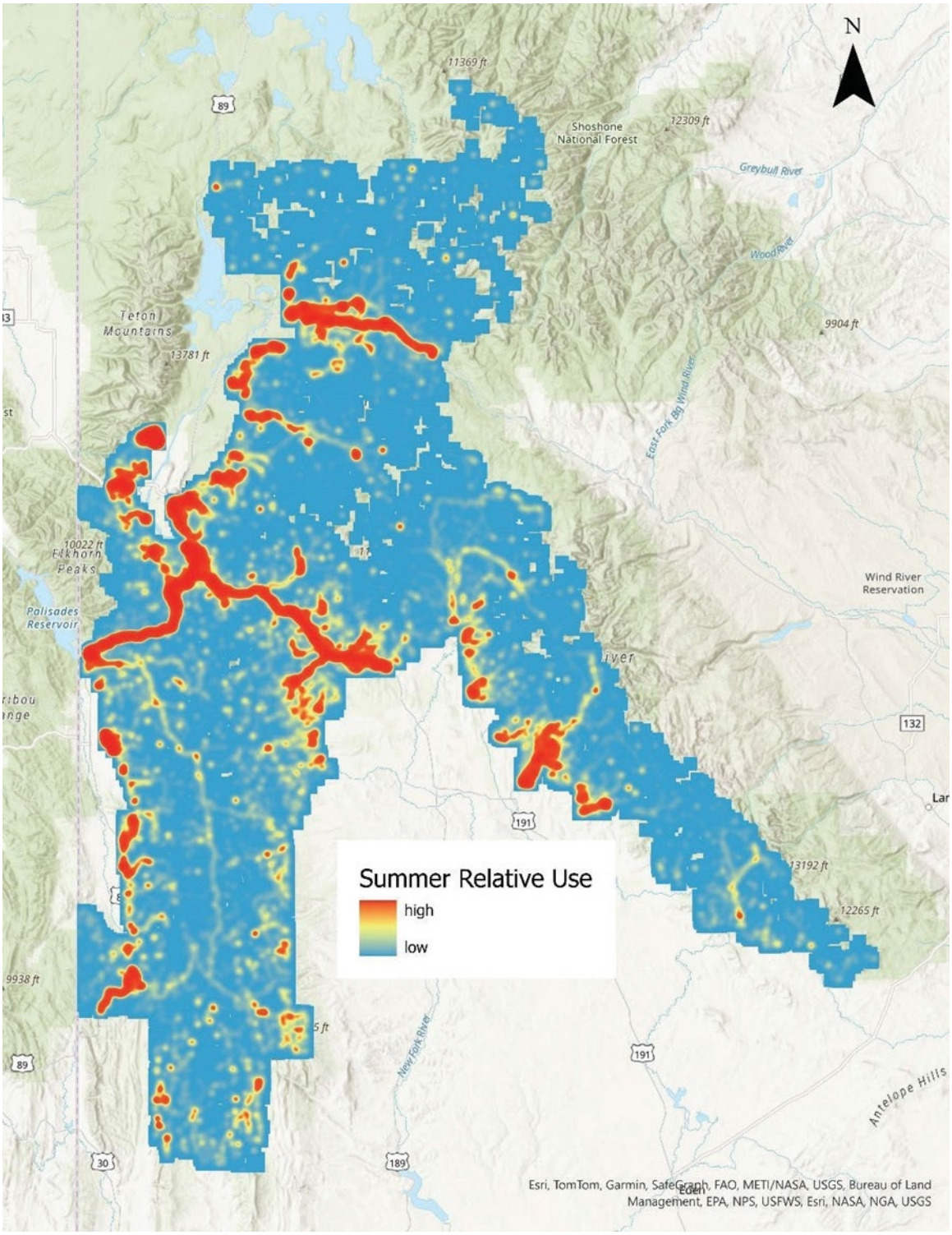

Figure 24. Relative spatial distribution of summer Forest use, RMRS (2023)

Recreation use is not evenly distributed across the Forest and tends to be concentrated near major road corridors, close to communities, adjacent to the national parks, at resorts, or in nationally designated areas. Figure 24 and Figure 25 were derived from a sampling of cell phone “pings” that were stripped of all personal information and do not include people driving

on the highways. The maps display the relative spatial distribution of recreation use across the Forest, not the exact amount of use. As these maps illustrate, summer use is more widely distributed compared to winter use.

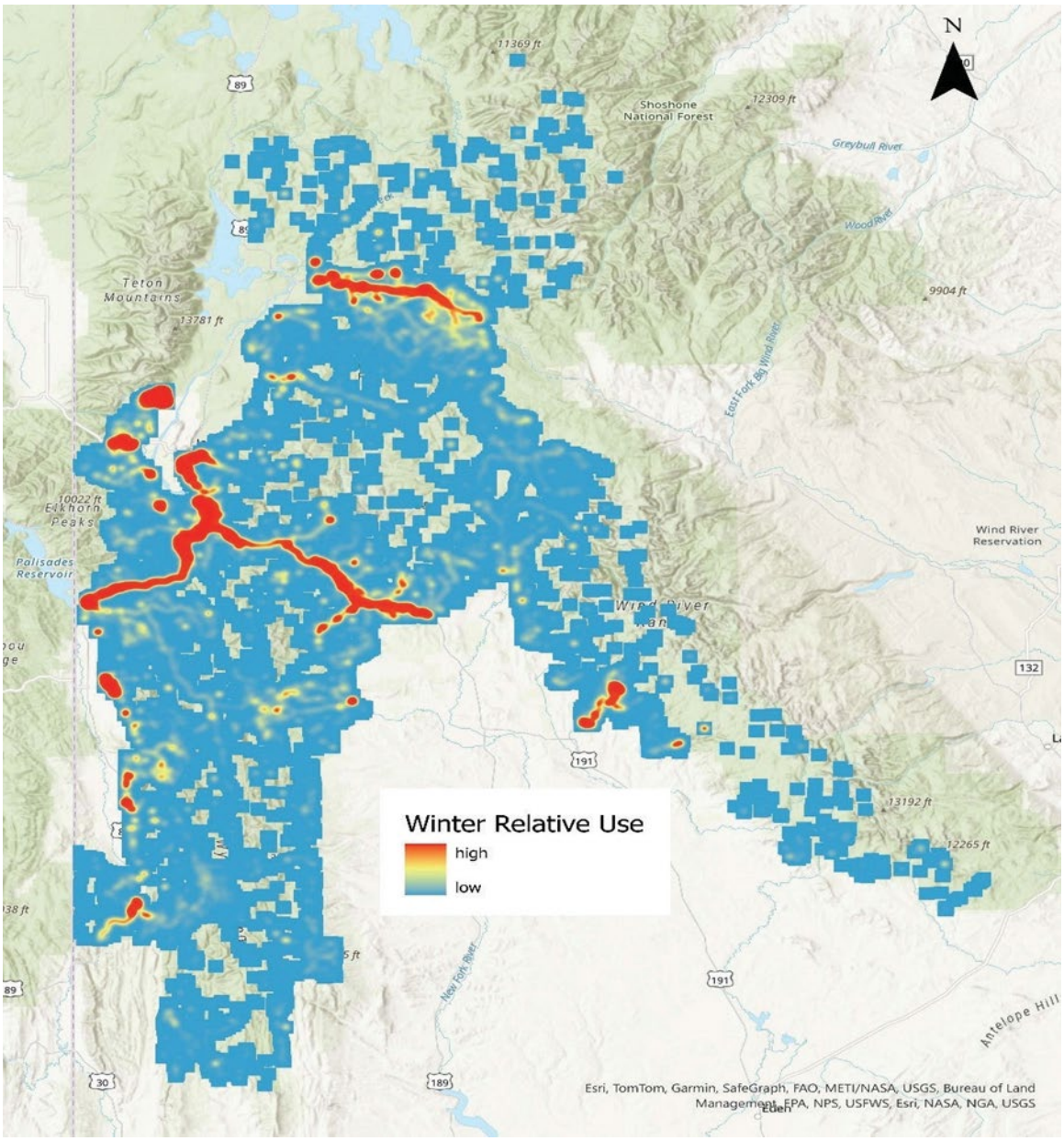

Figure 25. Relative spatial distribution of winter Forest use, RMRS (2023)

The shifting nature of recreation has been more dramatic than the sheer numbers of visitors. Technological advances in equipment, clothing, and information are the leading factors driving change. Completely new recreational activities have emerged such as e-bikes, drones, fat tire bikes, paragliding, packrafting, stand-up paddle boards, motorized snow bikes, and side-by-side vehicles. Other technological advances have made recreational activities easier, more comfortable, or capable of accessing more terrain.

Information about recreation opportunities once largely distributed through guidebooks and agency publications, is now accessed through websites and mobile apps. Demographics, knowledge, and skill also play a role in the shifting nature of recreation. Wyoming, along with the rest of the country, is aging and becoming more urbanized. People new to outdoor adventures combined with the desire to "go big" is resulting in a large uptick in the number and severity of search and rescues during the summer and winter seasons.

Offering Choice: the recreation opportunity spectrum

Since the early 1980s, the Forest Service has used the Recreation Opportunity Spectrum (ROS) to classify, plan, and manage a range of recreation settings. Recreation settings are defined as "the social, managerial, and physical attributes of a place that, when combined, provide a distinct set of recreation opportunities." Rather than disperse use, the goal is to provide a spectrum of settings. Providing a spectrum of settings recognizes that people do not all seek the same opportunities, thus providing a diversity of settings provides more choice and helps meet a broader range of public interests. ROS settings include six classes that range from highly developed (urban) to very undeveloped (primitive) and are mapped using a set of physical, social, and managerial criteria. As Table 7 shows, the Bridger-Teton provides primarily primitive and semi-primitive non-motorized settings during the summer months and semi-primitive motorized settings during the winter months.

Table 7. Recreation opportunity spectrum (ROS) classes on the Bridger-Teton, as mapped in 2022

ROS Class	Brief description	Summer Acres	Winter Acres	Example
Primitive	Opportunity for isolation from human sights, sounds in an unmodified natural environment. Facilities only for resource protection. No motorized use.	1,501,811 (43%)	1,291,950 (37%)	Wilderness, Spine of Wyoming Range
Semi-Primitive Non-Motorized	Some opportunity for isolation from human sights, sounds in a predominately unmodified environment. Facilities for resource protection and safety. No motorized use.	1,082,345 (31%)	87,381 (2%)	Cache-Game area in summer, Star Valley Ranch Front
Semi-Primitive Motorized	Some opportunity for isolation from human sights, sounds, and visitor controls in a predominately unmodified environment. Facilities for resource protection and safety. Motorized use permitted.	676,923 (20%)	1,790,576 (52%)	Upper Greys River Corridor, Union Pass Area, many areas in winter
Roaded Natural	Equal opportunity to affiliate with other groups or be isolated from human sights and sounds. Landscape is generally natural with modifications moderately evident. Facilities for group activities may be present. Motorized and non-motorized activities are present.	141,192 (4%)	137,797 (4%)	Lower Greys River Corridor, Big Springs Byway, Buffalo Valley, Skyline Drive
Rural	Opportunity to affiliate with others is prevalent. Human sights and sounds are readily evident. Developed sites, roads, and trails are designed for moderate to high uses.	62,505 (2%)	64,486 (2%)	Hoback and Togwotee Highway Corridors
Urban	High levels of human activity and concentrated development. Environment is substantially urbanized, but background may have natural-appealing elements.	3,127 (0.1%)	3,417 (0.1%)	Jackson Hole and Snow King Mountain Resorts
Closed	Areas annually closed from Dec. 1 – May 1 to protect winter wildlife habitat.	0 (0%)	101,954 3%	Area Adjacent to National Elk Refuge

Within these six recreation opportunity settings, recreation must be well-managed to protect the natural and social qualities that underpin quality visitor experiences. With recreation rapidly changing, planning for a sustainable future is essential. Sustainable recreation is defined as the set of recreation settings and opportunities on the Forest that are ecologically, economically, and socially sustainable for present and future generations. Ecologically, sustainability means recreation activity does not unacceptably impair the land, water, and wildlife. Socially, sustainability means the diversity of settings and associated opportunities (from urban to primitive settings) are maintained with minimal social conflict and positively contribute to the quality of life in communities. Economically, sustainability means managers and partners have the skills and capacity to maintain recreation infrastructure (e.g., toilets, trails, camping areas, and signage) and can provide the educational and enforcement contacts needed to gain compliance with Forest regulations and responsible recreation practices.

Figure 26. Snowmobiler in Granite Creek, courtesy M. Gocke

Managing Recreation

All recreation activity inevitably results in some degree of impact; the trick is to determine how much change is acceptable. Key issues associated with recreation use include: effects on water quality from improper sanitation and vegetation loss near streams; wildfire risk due to escaped campfires; wildlife disturbance or improper food storage; spread of noxious weeds; trail proliferation; social conflict; increasing search and rescue incidents; and staffing shortages to maintain infrastructure or provide adequate coverage for visitor education and enforcement.

A central finding from the discipline of “recreation ecology” is that five factors influence the degree of impact:

1. amount of use,
2. location or distribution of use,
3. timing of use,
4. type of use, and
5. behavior of users.

Using these factors to clearly define the problem, coupled with a focus on the four Es of management (Engineering/design, Education, Enforcement, and Evaluation), progress on these issues is being made in conjunction with many partners, but significant challenges remain.

Figure 27. RV campers along Forest Road, courtesy USFS

The Challenge Ahead

Current recreation direction in the forest plan established desired ROS settings for various management areas and set standards and guidelines with a focus on summer activities that dominated the 1980s. With the tremendous change that has occurred since 1990 and the challenges ahead, updated direction is sorely needed to help navigate the increasing complexity of issues managers face. Change is inevitable, but updated direction must retain the recreation settings and opportunities that honor the natural assets and experiences found on the Bridger-Teton that are not readily available elsewhere.

Five findings are expected to shape the future of recreation and the need for updated forest plan direction:

1. Easily accessed day-use areas, road-accessible camping areas, and key destinations popularized through social media will face increased pressure. Dispersed camping and re-design of campgrounds and trailheads will require special attention.
2. Social conflict will be more challenging to address than ecological effects. To avoid conflict, there will be increasing pressure for managers to separate conflicting uses, either spatially or temporally, or modify visitor expectations to accept more shared use.
3. Electric technology will blur the line between motorized and non-motorized use. Electric vehicles offer new opportunities for some people, obvious benefits for the climate, and can reduce noise and odor, but the technology comes with growing pressure on managers to provide areas where these uses are appropriate and can be accommodated.
4. Winter recreation planning to address non-motorized, motorized, and wildlife interests will be particularly challenging. Spatial or temporal separation between motorized and non-motorized interests may be needed. Planning will need to anticipate increased demand to plow trailheads and the re-design of existing winter trailheads that are increasingly congested. An additional challenge will be the need to reduce disturbance from recreation use in areas of native wildlife winter range.

5. A warming climate will increasingly affect recreation settings and opportunities. Some changes may lead to increased recreation (e.g. snow-based winter use and river/lake use) while other changes may lead to restrictions (e.g. fishing or fire closures), or a mismatch between on-the-ground conditions and seasonal dates pertaining to travel management, campground opening/closing and other activities.

Figure 28. Green River Lake, cloud reflections in the water, courtesy M. Gocke

Scenic Character

> "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul alike." − John Muir

Scenery is a resource visitors and residents appreciate with aesthetics one of the top four values many people believe makes the Bridger-Teton distinctive. The scenic character of the Forest provides an integral and important community sense-of-place, backdrop, setting and series of character-defining elements.

Some of the notable viewpoints within each zone of the Forest include:

- **Teton/Gros Ventre Zone**
  - Togwotee Overlook
  - The Wedding Tree
  - Curtis and Sheep Mtn. Overlooks
  - Jackson Hole Mountain Resort Aerial Tram
  - Granite Falls
  - Lunch Counter (Snake River Canyon)
- **Wyoming/Salt River Zone**
  - Periodic Spring

- McDougal Gap
- Tri-basin Divide
- Henderson Overlook
- Big Spring
- Lake Alice

- **Wind River/Green River Zone**
  - Skyline Drive Overlook
  - Green River Lakes (Squaretop Mountain)
  - Union Pass Interpretive Site
  - Top of White Pine Ski Resort

Figure 29. Granite Falls, courtesy M. Gocke

Much of the Bridger-Teton is in undisturbed condition, with 96% of the Forest exhibiting very high or high scenic integrity. Perennial snow fields, wildflower meadows, numerous lakes, river corridors, and spectacular views of mountain ranges contribute to scenic integrity.

Roads, Trails, and Facilities

Roads and trails are critical infrastructure that support public access and enable Bridger-Teton's multiple uses and benefits. Infrastructure includes essential housing, offices, and warehouses necessary to administer the Forest. Facilities enable recreational opportunities, provide water and sanitation, and help make a visit to the Forest a quality experience.

Roads

National Forest System roads are those roads deemed necessary for the protection, administration, enjoyment and use of forest land and resources. Currently, this system includes 2,168 miles of road, of which 1,561 miles are open for public use and 606 miles serve an intermittent administrative or emergency need. The road system includes 97 active bridges, 3 of which are in “serious” or “critical” condition. In addition, approximately 998 miles of non-system, user-created routes exist on the landscape. The total number of road miles has been declining, largely due to removal of roads that were no longer needed to support timber harvest. Despite the changes, the total mile of open public road available today is remarkably similar to the miles that were present in 1990 (1,539 miles). Roads range from rough, single-lane dirt tracks to paved, double-lane highways. Forest staff are responsible for maintenance on level 1-4 roads while the Wyoming Department of Transportation (WYDOT) has responsibility for level 5 roads.

Figure 30. Forest road on Monument Ridge in Bondurant, courtesy M. Gocke

Staffing capacity allows the road crew to only address a small fraction of the maintenance needs on the Forest. Priority is given to roads that receive high use or have critical resource protection needs but also to those roads that support access to inholdings, timber, or fire operations. Annual attention is also needed to address failures such as slumps or landslides that block access on key roads. Funding for road construction and maintenance has been decreasing while public vehicle use, crew labor, equipment and material costs have increased. Given the backlog of maintenance and changing access needs, the current road system may need to be altered to serve future management needs.

Table 8. Summary of road maintenance levels and miles in the Bridger-Teton National Forest

Level	Miles in BTNF	% of Road System	Surface condition	Vehicle Strategy	Lanes	HWY Safety Act Applies
Level 1	606	28%	Only custodial maintenance	No motor vehicles	Variable	No
Level 2	967	45%	Surface rough, potholed, washboarded, native surface	Accept high clearance vehicles; discourage passenger cars	Single	No
Level 3	380	17%	Smoothness is low priority, Native surface	Accept passenger cars	Single with Turnouts	Yes
Level 4	214	10%	Moderately smooth, Paved, chip-sealed	Encourage passenger cars	Single or Double	Yes
Level 5	0	0%	Very smooth, paved, chip-sealed	Encourage passenger cars	Double	Yes

Trails

The Forest Service manages more miles of trail than any other agency and the Bridger-Teton National Forest contributes by managing one of the largest trail systems in the Intermountain Region. This system includes 2,807 miles of native surface trails, 323 miles of which are nationally designated. In addition, there are 668 miles of groomed winter trails, 94% of which are groomed primarily for snowmobile use and 5.7% of which are groomed for Nordic activities. The trail system on the Bridger-Teton has grown 17% since 1990 in overall miles, miles of designated motorized trails, and miles of groomed Nordic trails. Trails are classified according to a development scale from 1 to 5. Ninety-one percent of the trails on the Forest are managed as moderately developed or developed and are designed to support the visitor experience associated with the broader recreation setting. Like roads, the Bridger- Teton also contains hundreds of miles of non-system, user-created trails. Non-system trails are not eligible to receive funds, and they have never received any design or construction effort to ensure their sustainability.

Figure 31. Mountain biker on Phillips Ridge, courtesy M. Gocke

The current trail system largely evolved from game trails rather than being sustainably designed and constructed, thus only 10% of the system is estimated to meet standard. Roughly 28% of

the trail system is annually maintained, with most work focused on clearing downfall. Funding for on-the-ground trail work and grooming comes entirely from the retention of outfitter-guide receipts, grants from the Wyoming State Recreational Trail Program, ORV and snowmobile permit fees, specific funding for the Continental Divide National Scenic Trail (CDT), and multiple partners and volunteers who provide invaluable maintenance and improvement assistance, particularly on trails, easily accessed in a day.

Although the trail system has grown, the interest in more trails is high, particularly for summer mountain bike trails, winter nordic trails, and motorized trails. Trail interest by multiple recreation groups is creating more demand for use-specific trails to provide the desired experience and reduce potential conflicts. Forest plan direction could be improved by embedding concepts from the National Strategy for a Sustainable Trail System and Trails Challenge, incorporating the trail classification system and trail management objectives, and developing specific plan components for National System Trails based on recommended guidance.

Table 9. Summary of Bridger-Teton system trail miles with three zones

Type	Gros Ventre / Teton Zone (D4, D6)	Wyoming / Salt River Zone (D1, D2, D3)	Wind River Zone (D7)
Non-motorized Trails (Miles)	1,123	873	545
Motorized Trails (Miles)	80	171	15
Snowmobile Trails (Miles)	202	288	140
Nordic trails (Miles)	18	5	15
Trail Bridges (Approx. #)	75	6	16
Total Trail Miles	**1,423**	**1,337**	**715**

Travel Management

Travel management focuses on motorized use, both by wheeled and over-snow vehicles. It is a topic of high public interest since motorized travel is central to how many people choose to access and explore the Bridger-Teton whether they are simply driving to a trailhead, seeking off-highway motorized opportunities, or snowmobiling. Forest plans do not result in travel plans for specific areas of the Forest since determining which routes should be open, and what class of vehicle and season of use is appropriate requires site-specific analysis. However, the forest plan does establish objectives, desired conditions, and standards and guidelines that frame subsequent travel management projects.

During the 1990s, off-highway vehicle travel grew rapidly with the emergence of ATVs, resulting in widespread resource, safety, and social concerns. In response, a National Travel Management Rule (36 CFR 212) containing three subparts was published in 2005 (with later amendments). Bridger-Teton staff completed the Travel Analysis Report to meet subpart A of the rule in 2015. Subpart B involves designating routes for wheeled vehicle travel and displaying the results on a Motor Vehicle Use Map. For the Wyoming/Salt River zone, designated vehicle routes were established through planning in 1991; routes for the Wind River zone were established in 1997; and Teton/Gros Ventre zone routes were established in 2009. Recent trends indicate a decline in ATV use and a surge in the use of street legal side-by-side vehicles and dirt bikes. With rapidly evolving technology, updating older travel plans is needed to more effectively manage off-highway vehicle use using all the tactics available to resolve specific issues. Subpart C involves designating routes and areas for over-snow vehicle use and publishing the results in an Over-Snow Vehicle Use Map. Currently, the Forest has not published any over-snow vehicle maps; instead, winter vehicle travel is regulated by a collection of Forest Special Orders, although the Teton Division of the Forest does have a winter travel map, approved in 1993, that balances winter wildlife habitat needs with recreation. In March 2022, guidance was released to address the growing popularity of e-bikes through the travel management process. To date, one proposal to accept e-bike use on select trails in the Jackson Ranger District is being analyzed. For wheeled motor vehicle use, updated forest plan direction could provide the framework for more effective trail systems that meet public access desires, reduce illegal off-route use, and address safety issues with mixed vehicle use on roads. Forest plan guidance on winter travel and e-bike use, as well as other e-modes of travel, is largely absent in the current forest plan. Addressing these topics will be challenging due to inherent controversy surrounding motorized use and the implications for access, but such planning is essential to protect resource conditions and serve the growing public interest.

Figure 32. Continental Divide Trail snowmobilers, courtesy M. Gocke

Facilities

The Bridger-Teton has a diverse facility portfolio that includes 21 radio communication sites, 69 drinking water systems, 46 septic systems, 149 vault toilets, 21 dams, and 201 administrative buildings (offices, housing, guard stations, warehouses, etc). Most facilities were built decades ago and are not built or designed to accommodate the amount and type of current use. Facility conditions vary widely, but all include some level of deferred maintenance.

Figure 33. Bridger-Teton women's bunkhouse in Jackson, WY, USFS/P. Keres

Figure 34. Forest employee housing, tiny homes, USFS/C. Adams

Employee housing is a major priority for the Bridger-Teton. Affordable housing availability in Teton County has historically been low, negatively affecting employee recruitment and retention. Housing in Sublette and Lincoln counties has also experienced a drastic increase in home prices and a decrease in rental options. Therefore, construction of housing for employees has been a top priority for Forest staff and some new housing has been added. As engineers prioritize housing construction, the deferred maintenance associated with existing infrastructure continues to grow. Common major maintenance needs include roof replacements and repairs to siding, foundations, windows, appliances, water systems, wastewater systems, and HVAC systems. As a result, two of the major challenges facing the Bridger-Teton are how to manage the current backlog of deferred maintenance while also providing housing solutions to alleviate the staffing shortage and reduce employee turnover.

Land Ownership, Use and Access

Land ownership and status is the condition of title, consisting of the rights and obligations conferred through land transactions. The Bridger-Teton administrative boundary consists of approximately 3,466,348 acres. Within this boundary are approximately 34,147 acres of inholdings. Although the Bridger-Teton's landownership pattern is relatively well consolidated, further consolidation could help protect wildlife habitat, provide recreation access, protect watersheds, and improve management efficiency. Adjacent lands are displayed in Figure 3. All potential land acquisitions begin with a willing seller; the U.S. Forest Service cannot "take" land.

Since approval of the current forest plan in 1990, land transactions have included:

- 15 land purchases in partnership with land trusts resulting in 1,523 acres of added land
- 1 land conveyance that allowed construction of the new headquarters in Jackson
- 9 land exchanges resulting in 87 acres transferred out of federal ownership, but a net gain of nearly 3,000 acres of National Forest System land
- 2 land donations totaling 23 acres
- 80 rights-of-way and easements that provide public access to the Forest.

Bridger-Teton staff process and administer over 400 land use authorizations for many purposes including agricultural improvements, road use, dams and reservoirs, communication sites, filming, power lines, precipitation and seismic measuring stations, research, fiber optic lines, water gauging stations, and water transport (ditches, pipelines). Requests for new land use permits are increasing, such as for power, oil, gas, and fiber optic lines utilities, and cellular infrastructure.

Figure 35. Upper Green River Valley, courtesy M. Gocke

Lack of formalized easements or rights-of-way threaten public and administrative access to the Forest. Informal “handshake” agreements, common in the past, were often not documented, thus can be revoked at any time. Securing such easements was a 1990 forest plan goal and clear progress has been made with many of the less complex rights-of-way and easements obtained. This leaves the more complicated, contentious, and lengthy land actions still to be pursued. The trend of more residential development on private lands adjacent to the Bridger-Teton creates greater potential for trespass and encroachment, which requires closer monitoring, can negatively impact resources, and necessitates improved boundary marking. The growing population is also creating greater demand for internet and cellular transmission sites. Updated direction is needed for utility corridors to protect scenic quality, encourage co-location, reduce wildfire risks, and streamline the authorization process for broadband and communication use applications.

Production of Natural Resources

Forest Management – Timber and Non-Timber Products

The current role of forest management on the Bridger-Teton is primarily to restore and maintain forest structure to be more resilient to natural disturbances, and to reduce fuels at strategic locations to support fire management. Additionally, forest management activities help restore or enhance habitat for federally listed species, at-risk species and big game species. Another role of forest management is to provide both commercial and personal use products, including fuelwood and posts or poles, to local industry and niche markets. The economic contribution from forest products harvested on the Bridger-Teton is small compared to the overall economy of the area. The direct and indirect contribution to the local economy from timber products in 2021 was slightly over $1.5 million and about 14 jobs (USDA 2022).

Standing Inventory

Table 10 summarizes the area classified by forest cover type for the entire Bridger-Teton, including Wilderness and Wilderness Study Areas. Nine forest cover types were classified occupying 2,089,670 acres, or about 61% of the Forest. Lodgepole pine mix is the most abundant cover type, followed by spruce/subalpine fir mix.

Table 10. Summary of forest cover on the Bridger-Teton

Forest Cover Type	Acres	Percent
Aspen	140,682	7%
Aspen/Conifer Mix	35,308	2%
Douglas-Fir Mix	247,667	12%
Limber Pine	5,382	0%
Lodgepole Pine Mix	762,923	37%
Rocky Mountain Juniper	1,060	<1%
Spruce/Subalpine Fir Mix	491,251	24%
White Bark Pine	202,763	10%
White Bark Pine Mix	202,634	10%
Total	**2,089,670**	**100%**

Estimates for stocking, growth, and mortality were obtained from Forest Inventory and Analysis (FIA) data. There are 449 FIA plots on the Bridger-Teton, or about 1 plot for every 7,600 acres. Because of the small sample size compared to the size of the Forest and variation of the forested vegetation, the data is best used for analyzing trends and for broad conclusions about the condition of the Forest. The estimated total number of live growing stock trees (5-inch Diameter at Breast Height DBH and larger) on the Bridger-Teton is 269.9 million trees of which approximately 33% are subalpine fir, 21% Engelmann and blue spruce, and 21% lodgepole pine.

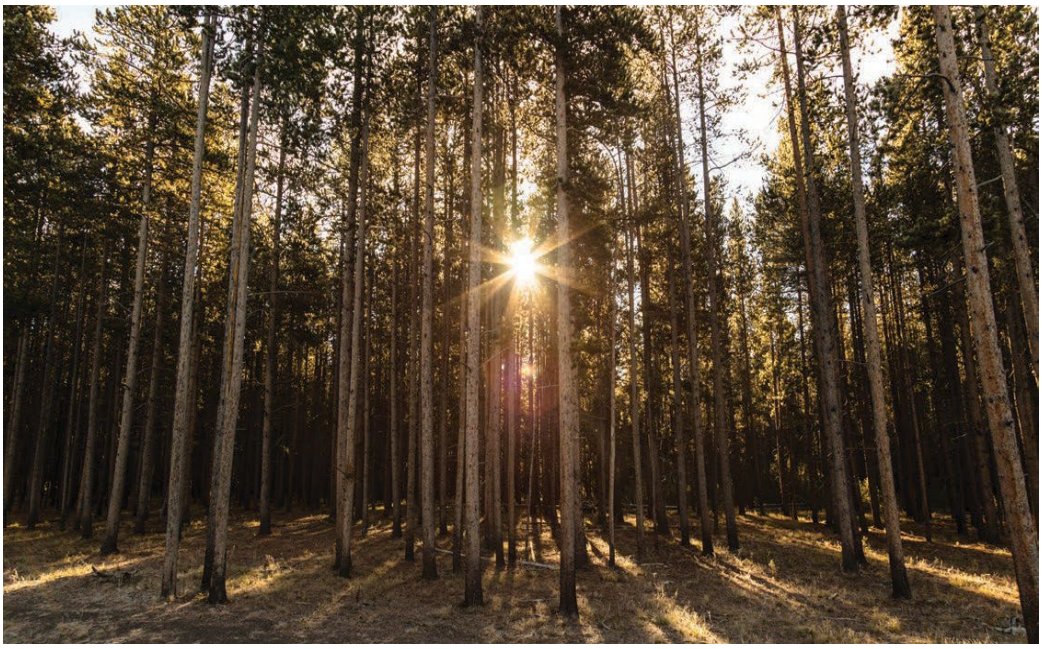

Figure 36. Lodgepole pine forest, NPS/J. Frank

Table 11. Estimated annual mortality of trees, 2011-2018

FIA Species Group	Number of Trees
Douglas-Fir	469,823
Subalpine Fir	2,044,923
Engelmann and Blue Spruce	897,186
Lodgepole Pine	3,374,706
Whitebark and Limber Pine	1,665,737
Cottonwood and Aspen	704,217
Total	**9,156,591**

The three primary causes of tree mortality are bark beetles, white-pine blister rust, and fire. Estimated average annual mortality is displayed in Table 11. FIA data estimates that over 97 million trees died from insects, disease, and fire between 2011 and 2018, or approximately 36% of all trees on the Forest.

Forest Products Industry

The total number of forest product manufacturing facilities in the Bridger-Teton market area has declined from 27 in 2000-2001 to 14 in 2018-2019. Since approval of the 1990 Forest Plan, a total of 11,893 acres have been harvested via commercial timber sales. Some timber harvest occurred within every desired future condition (DFC) category except 6 (Wilderness) and 7A

(grizzly bear recovery) with most acres harvested within DFC categories 1B, 9B, and 10. In addition, 114,071 acres have been treated to reduce hazardous fuels. About 69% of harvested acres were treated with commercial thinning, sanitation (removing trees attacked by insects or disease to prevent spread), and salvage cuts (removing dead or dying trees). While sanitation cuts have occurred annually since the mid-1990s, salvage harvest has primarily occurred in the last seven years in response to the mountain pine beetle outbreak and large wildfires.

Figure 37. Log decks from the 2024 Pack Trail Fire, USFS

Management Implications

The 1990 Forest Plan identified 279,400 acres of suitable timber production lands compatible with other resource management. Approximately 40% of the area initially identified as suitable for timber production is located within mapped Inventoried Roadless Areas (IRAs). It should be noted that timber harvest may occur on these lands if the roads existed prior to 2001, but only to meet other management objectives such as fuels reduction or wildlife habitat restoration. No new roads can be built, and the volume harvested does not count towards the Allowable Sale Quantity (ASQ). However, from 1990-2024, approximately 69% of timber harvesting occurred on lands not classified as suitable for timber production and 95% of the hazardous fuel treatments occurred on lands not classified as suitable. Other policy changes that have occurred since 1990 that affect timber management include the listing of the Canada lynx as a threatened species in 2000, listing of whitebark pine as a threatened species in 2022, and EO 14225 “Immediate Expansion of American Timber Production.” Additionally, the Good Neighbor Authority was permanently authorized by Congress in 2014 and allows the USFS to authorize states, counties, and federally recognized Indian tribes to conduct certain projects on federal lands.

Non-Timber Forest Products

Non-timber forest products include, but are not limited to, the following: bark, berries, boughs, bryophytes, bulbs, burs, Christmas trees, cones, ferns, firewood, forbs, grasses, mushrooms and other fungi, nuts, pine straw, roots, sedges, seeds, shingle and shake bolts, transplants, tree sap, wildflowers, fence material, mine props, posts, poles, and rails. Gathering occurs for both commercial and non-commercial personal use reasons. An average of 10,239 cords of fuelwood are sold per year and has been increasing over the last 10 years. An average of 2,348 Christmas trees permits are sold each year, which has declined from a high of 3,110 in 2013 to 885 in 2022. The Bridger-Teton sells an average of 186 tree transplant permits each year, primarily aspen and lodgepole pine. These permits have been declining, with 323 permits sold in 2013 and 173 sold in 2022. Pounds of boughs sold fluctuated between 0 and 750 per year, with an average of 296.

Other permits issued include foliage (average 8 lbs/year), and wildflowers (average 19 lbs/year). Very few permits were issued for mushrooms, roots, cones, and seed.

Range Management

Domestic livestock grazing occurs on National Forest System Lands as part of the Forest Service multiple use mission. Term Grazing Permits are used to manage grazing on National Forest System Lands and authorize the kind and class of livestock, numbers of livestock and season of use. The Term Grazing Permit also includes limitations on allowable vegetation use and specifies other measures necessary to ensure grazing occurs at a sustainable level and coexists with other multiple uses.

There are currently 155 grazing allotments on the Bridger-Teton: 93 active allotments, 15 forage reserve allotments, 0 vacant allotments, 18 vacant unavailable allotments, and 29 closed allotments (Figure 38). Vacant allotments are allotments that do not have an active permit but are considered available for use. Vacant unavailable allotments are allotments that do not have an active grazing permit and are not available for use due to resources concerns, pending closures, or other reasons. Closed allotments are allotments that were formally active but for which a decision has been made, through the environmental analysis process, to no longer make it available for use and occupancy by permitted livestock. The land retains the designation of closed in Forest Service databases for historical tracking purposes. The 93 active allotments provide 223,845 head months of occupancy to 105 permittees encompassing over 1.5 million acres on the Bridger-Teton. Of the 223,845 head months, 31,807 cattle and 39,945 sheep are permitted for an average 3 month grazing season. In 1924, about 51,000 cattle and 267,000 sheep were permitted to graze on the Forest. By 1987, permitted numbers were about 40,000 cattle and 78,000 sheep.

Grazing authorizations and the availability of allotments on the Bridger-Teton have undergone significant changes since approval of the current Forest Plan. Large carnivore conflicts, grazing permit waivers back to the Forest Service without preference, and bighorn/domestic sheep interaction/separation have been the three primary drivers of these changes. This has resulted in more than 40 allotments becoming unavailable for permitted livestock grazing.

Livestock grazing can act both as a driver and stressor of ecosystems and either support or compromise ecological integrity. Timing, frequency, duration, and intensity of grazing are critical factors that determine effects on the landscape. These factors influence how grazing affects plant communities, ecosystem function, and overall landscape health. Grazing effects are measured through effectiveness monitoring. Effectiveness monitoring is used to identify whether the actual effects of implementing a grazing practice are consistent with the effects originally projected and/or whether adjustments are needed to attain intended outcomes.

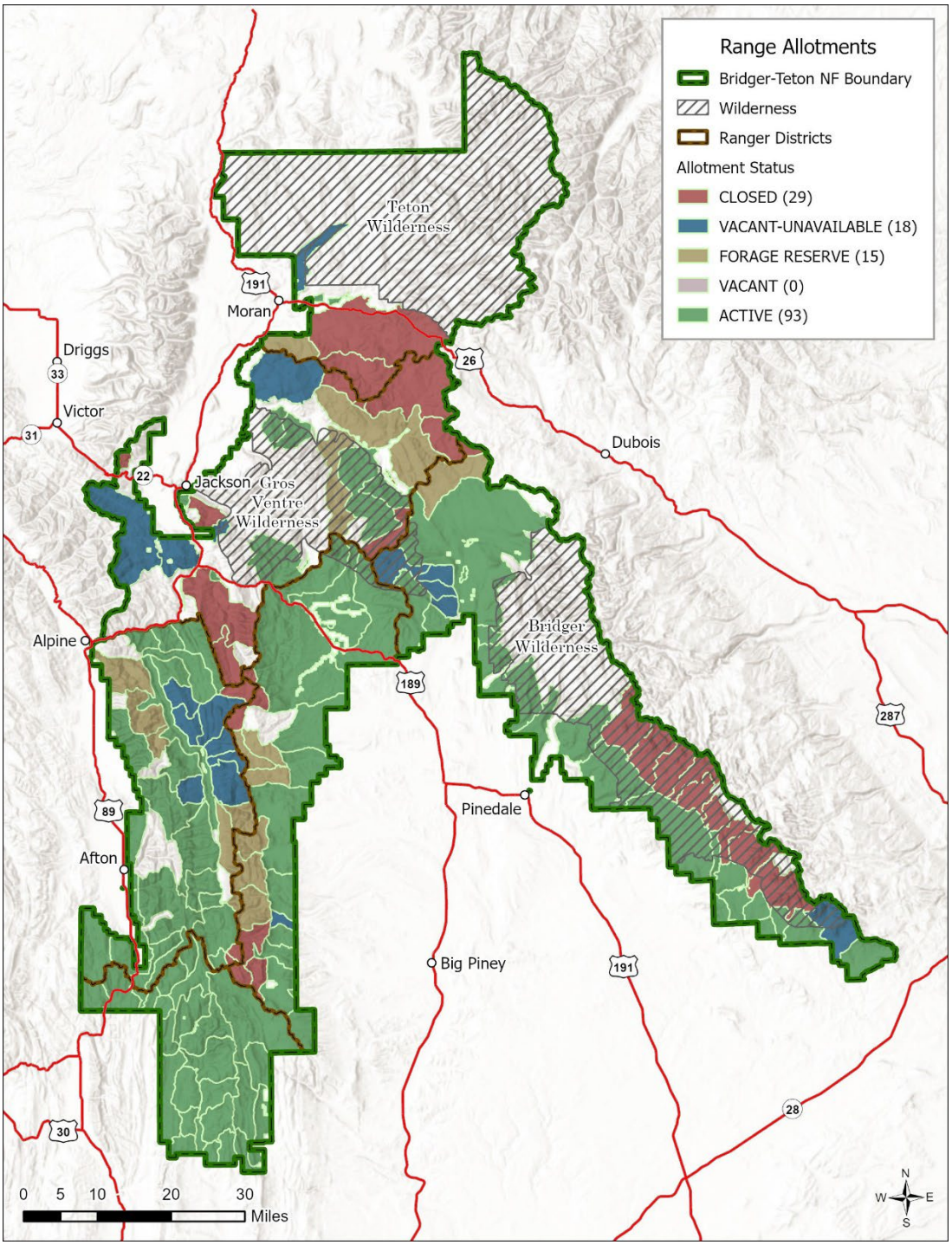

Figure 38. Grazing allotment status map

Figure 39. Cattle drive, courtesy M. Gocke

The East Zone of the Forest (Pinedale and Big Piney Ranger Districts) and West Zone (Kemmerer and Greys River District), account for 96 percent of the domestic livestock grazing on the Bridger-Teton. Monitoring results for 18 East Zone allotments (primarily cattle) show an average utilization rate of only 12%, based on recent measurements, with the defined utilization threshold being 40-60% depending on allotment. Riparian stubble heights averaged 9 inches with the minimum threshold being 4-6 inches depending on allotment. Based on this monitoring, utilization rates are far below established thresholds and well above the minimum threshold for riparian stubble heights. Utilization is measured on key species and is defined as the percentage of use by all herbivores on current year's growth, by weight, at the end of the growing season. Grazing utilization metrics, expressed as stubble height, apply to herbaceous riparian and meadow vegetation. Stubble height is measured on vegetative parts of key species at the end of the growing season and is expressed as the median or average plant height.

West Zone range staff have established hundreds of subalpine forb monitoring sites in active livestock allotments (primarily sheep) to determine condition and trend. Monitoring results for 13 allotments (representing 72% of the monitoring locations) show that approximately 30% of the allotments are trending upward, 60% are apparently stable, and 10% are trending downward. Mean ground cover on 45 monitoring sites was 53% (based on the Forest Service definition of ground cover). Using a different method, mean ground cover on 96 monitoring plots was 81% and species richness was 25 for 117 plots. This method uses litter, moss/lichen, and rock greater than ¾-inch diameter in addition to plant cover (Herrick et al., 2009). Twenty-five monitoring sites showed an average of 18% utilization with less than 3% of the plots exceeding established utilization objectives. In addition, there are many photo points illustrating trend over time, highlighting a reduction in soil loss and stabilization in gully erosion, with fewer active gullies compared to conditions prior to 1990.

System stressors on the grazing resource include climate change, invasive species, and dispersed recreation. Invasive annual grasses, such as cheatgrass, have been the biggest threat to rangelands on the Bridger-Teton and until recently, they comprised the largest percentage of area infested by invasive species. Since 1990, livestock grazing levels have declined and forest staff have managed grazing to control the intensity, frequency, duration, and distribution of livestock, which has been employed to minimize soil loss and maintain appropriate utilization levels. Once-over and rotational grazing practices have replaced season long grazing and other best management practices have been implemented through annual operating instructions and allotment management plans.

Energy and Minerals Renewable Energy

Figure 40. Oil and gas facility in the Wyoming Range, USFS

Two small hydropower plants located on Strawberry Creek and Swift Creek within the Forest contribute electricity to Jackson Hole, Star Valley and adjoining areas of Southeast Idaho. Together, these power sources generate 3.75 MW of energy. While this source contributes power locally, it is a small player. For comparison, Lower Valley Energy sources the bulk of its 'green power' from the Horse Butte Wind Farm (57.6 MW). River corridors throughout the Bridger-Teton possess additional hydropower potential. However, full development of these resources via dam construction would cause potentially significant ecological impacts and be highly controversial.

Geothermal, wind, solar, and biomass energy sources have been examined but found to have limited potential.

The 1990 Forest Plan does not provide management guidance on renewable energy development. While there have not been any large renewable energy project proposals during the life of the current plan, there is an opportunity to provide renewable energy guidance for management of potential future renewable projects.

Fossil Fuels and Minerals

Energy development on the Bridger-Teton is dominated by natural gas production. Development on the adjacent BLM lands far exceed that located in the Bridger-Teton with revenue derived from the Forest small compared to the overall oil and gas royalty revenue in the State of Wyoming. However, it is still important to the tax revenue of Lincoln and Sublette counties and is important to the communities of Big Piney, LaBarge, and Kemmerer. The smaller degree of oil and gas activity is influenced by the fact that approximately 80% of the Bridger-Teton is legally

unavailable for mining and oil and gas development. This is mostly due to actions by Congress (e.g. Wilderness Act of 1964, Wyoming Wilderness Act, and Wyoming Range Legacy Act 2009), with some additional lands found unsuitable for oil and gas leasing by the Secretary of the Interior and the U.S. Forest Service.

Since passage of the 1920 Mineral Leasing Act, almost all the Bridger-Teton has been under an oil and gas lease at some point. The only lands that have never been leased are those along the core of the Wind River Range. Most of this leasing did not result in actual drilling or production. Overall, leasing resulted in 158 oil and gas wells drilled on the Forest between 1927 and 2009. More recently, the Forest Service and BLM did approve two drilling permits in 2018, although these wells were not drilled. Most drilled wells have been plugged and abandoned but 14 natural gas wells remain active. Despite minimal development, the value of natural gas currently produced from the Forest is notable. In 2019, total production sales were $99 million with Federal royalties, fees, and rentals generating $4.7 million. Exxon Mobil has the most substantial field of ten wells producing abnormally large quantities of a distinctive natural gas (CO_2, hydrogen sulfide, methane, and helium). These wells are part of a field that produces 20 percent of the world's helium supply. The other four wells produce a small amount of methane and natural gas liquids for about eight months of the year.

Figure 41. Kendall Gravel Pit, USFS

Construction aggregate is also produced from the Bridger-Teton in locally meaningful amounts. This is primarily from two larger pits. It is used by other government entities on public road projects (Grand Teton National Park, Wyoming Department of Transportation, and Sublette County Road and Bridge Department). The sale of sand, gravel, landscape stone and other mineral materials from the Bridger-Teton are authorized when such sale is in the public interest. The Wyoming Range Legacy Act does not prohibit the use of mineral materials.

There is currently no production of metals or other locatable minerals from the Bridger-Teton. Most public inquiries about mining pertain to prospecting for recreational purposes (e.g., gold panning). The Forest Service does not recognize any level of mineral exploration or mining as recreation and manages such activity as entries under the Mining Law. Despite the lack of gold mining success on the Bridger-Teton, there are a handful of unpatented mining claims that are kept active via annual payments to the BLM instead of doing on-the-ground exploration and development work.

There is currently one abandoned mine with a safety closure proposed by the WDEQ–Abandoned Mine Lands Division. Three other abandoned mine closures were completed in the last ten years.

The current forest plan is a technically adequate framework to administer energy development activities. However, it is out of step with the 2009 Wyoming Range Legacy Act mineral withdrawal, agency no-lease decisions over the last 20 years, and public sentiment. A new oil

and gas leasing availability analysis with supporting documentation, such as a reasonably foreseeable development scenario, would be needed to guide future leasing.

Protected Lands and Resources

Congressionally Designated and Administratively Protected Lands

Congressionally designated and administratively protected lands contribute greatly to what makes the Bridger-Teton distinctive. Congressionally designated lands account for about 41% of the Forest reinforcing national significance of the Forest's natural assets and offering a connected system that provides ecological, scenic, geological, scientific, recreational, educational, and historical value. Within the various special areas, there is a wide range of protection levels with congressional designations generally more restrictive than administratively protected lands.

Congressionally designated areas include Wilderness, Wilderness Study Areas, Wild and Scenic Rivers, and National System Trails (Table 12). These designations come with umbrella direction as well as a mechanism to add areas, rivers, or trails to the nationwide system through subsequent congressional acts.

Table 12. Congressionally designated and administratively protected areas on the Bridger-Teton

Designation Type	Total Size	Percent of Plan Area
Designated Wilderness	1,297,789 acres	37%
Wilderness Study Areas	111,700 acres	3%
Recommended Wilderness	0 acres	0%
Wild and Scenic Rivers	98,185 acres	3%
National Scenic and Historic Trails	205 miles (CDNST) 26 miles (Lander Historic Trail)	Not Applicable
National Recreation Trails	75 miles (WY NRT) 17 miles (Sheridan NRT)	Not Applicable
Scenic and Backcountry Byways	19 miles (Big Spring BB) 62 miles (Scenic highway)	Not Applicable
Research Natural Areas; Special Interest Areas	15,597 acres (4 RNAs, 2 SIAs)	0.4%
National Natural Landmark; National Geological Site	2,118 acres (NNL) 2,104 acres (NGS)	0.1%
Inventoried Roadless Areas	1,417,493 acres	41%

Wilderness

The Wilderness Act of 1964 defined wilderness, identified prohibited uses, and outlined stewardship requirements. The central mandate is to "preserve wilderness character". The Teton and Bridger Wildernesses were two of the original areas included in the national system. Twenty years later, passage of the Wyoming Wilderness Act designated the Gros Ventre Wilderness and expanded the Bridger and Teton Wildernesses. Two metrics are used to track progress towards fulfilling the requirements of the Wilderness Act: Wilderness Stewardship Performance (WSP) and Wilderness Character Monitoring (WCM). All three Wildernesses have developed

narratives to describe the distinctive attributes associated with the five qualities of wilderness character. This work along with new monitoring metrics will help inform updated plan direction.

Table 13. Wilderness stewardship performance and wilderness character monitoring on the Bridger-Teton

Wilderness Areas	Wilderness Stewardship Performance met	Wilderness Character Monitoring Trend (Preliminary)	Concerns
Bridger Wilderness	No	Decline	Frequent SARs campsite/ human waste increase
Teton Wilderness	No	Stable	Increasing SARs and Motorized Use
Gros Ventre Wilderness	Yes	Upward	Spread of Invasive Weeds

Wilderness Study Areas

Congress also designated two Wilderness Study Areas (WSA) with passage of the Wyoming Wilderness Act –Palisades and Shoal Creek. Management of the Palisades WSA is jointly shared between the Bridger-Teton and Caribou-Targhee National Forests. WSAs allow for the continuation of some pre-existing uses prohibited in wilderness, notably snowmobiling which is allowed “in the same manner and degree." WSAs must be managed to “maintain their presently existing wilderness character” and must be reviewed for their potential inclusion in the wilderness system upon revision of the forest plan. While both areas remain physically undeveloped and wild, there is controversy around the future of snowmobile, heli-ski, and mountain bike access. Congress ultimately must decide whether these areas should be designated or released from protection as Wilderness, but meanwhile, there is an opportunity to provide better forest plan direction for stewardship of the areas since the current plan provides very little guidance.

Recommended Wilderness

There is currently no recommended wilderness in the Bridger-Teton due to language in the Wyoming Wilderness Act that stipulated that review and evaluation of lands potentially suitable for wilderness consideration would only be done when the forest plan was revised, not prior to revision. Per the legislation, a review of areas with potential wilderness characteristics must be completed, although only Congress can designate Wilderness. The draft inventory and evaluation of potential areas will be provided in a separate document available for public comment later in the planning process.

Figure 42. Green River, courtesy M. Gocke

Wild and Scenic Rivers

Passage of the Craig Thomas Snake Headwaters Legacy Act in 2009 added 12 rivers totaling 315 miles within the Bridger-Teton to the National Rivers System. These rivers are designated to preserve their free-flow, water quality, and outstanding natural, cultural, scenic, geologic, and recreation values. The Comprehensive River Management Plan, required by the Wild and Scenic River Act, was completed in 2014 with new desired conditions, standards and guidelines, and amended into the current forest plan.

Portions of 26 rivers, totaling 338.7 miles, were found to be eligible for inclusion in the National Rivers System and were amended into the forest plan in 1992. These have not been designated by Congress, but direction to maintain the values that made them eligible is included in the plan and may need to be updated during the revision process.

In addition, the 2012 Planning Rule requires a comprehensive study of all named rivers on USGS 7.5-minute topographic maps that were not been previously studied. A draft eligibility report will be provided in a separate document available for public comment later in the forest planning process.

National System Trails

Congress established a nationwide system of trails "to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation." Two of the nation's trails pass through the Bridger-Teton: the Continental Divide National Scenic Trail, and the Lander Cutoff Historic Trail. Because these trails traverse many different lands, there is one administering agency with close coordination required among multiple entities. The 3,100-mile Continental Divide NST follows the Continental Divide as closely as possible from Canada to Mexico and is largely located within the Bridger and Teton Wildernesses as it passes through the Forest. The Lander Cutoff was the first federally funded road project west of the Mississippi and is associated with either the California or Oregon historic emigrant trails. Both trails currently overlap multiple management areas and

desired condition zones in the current forest plan. Updated forest plan direction would offer more consistent guidance, including recommended plan components for the Continental Divide National Scenic Trail.

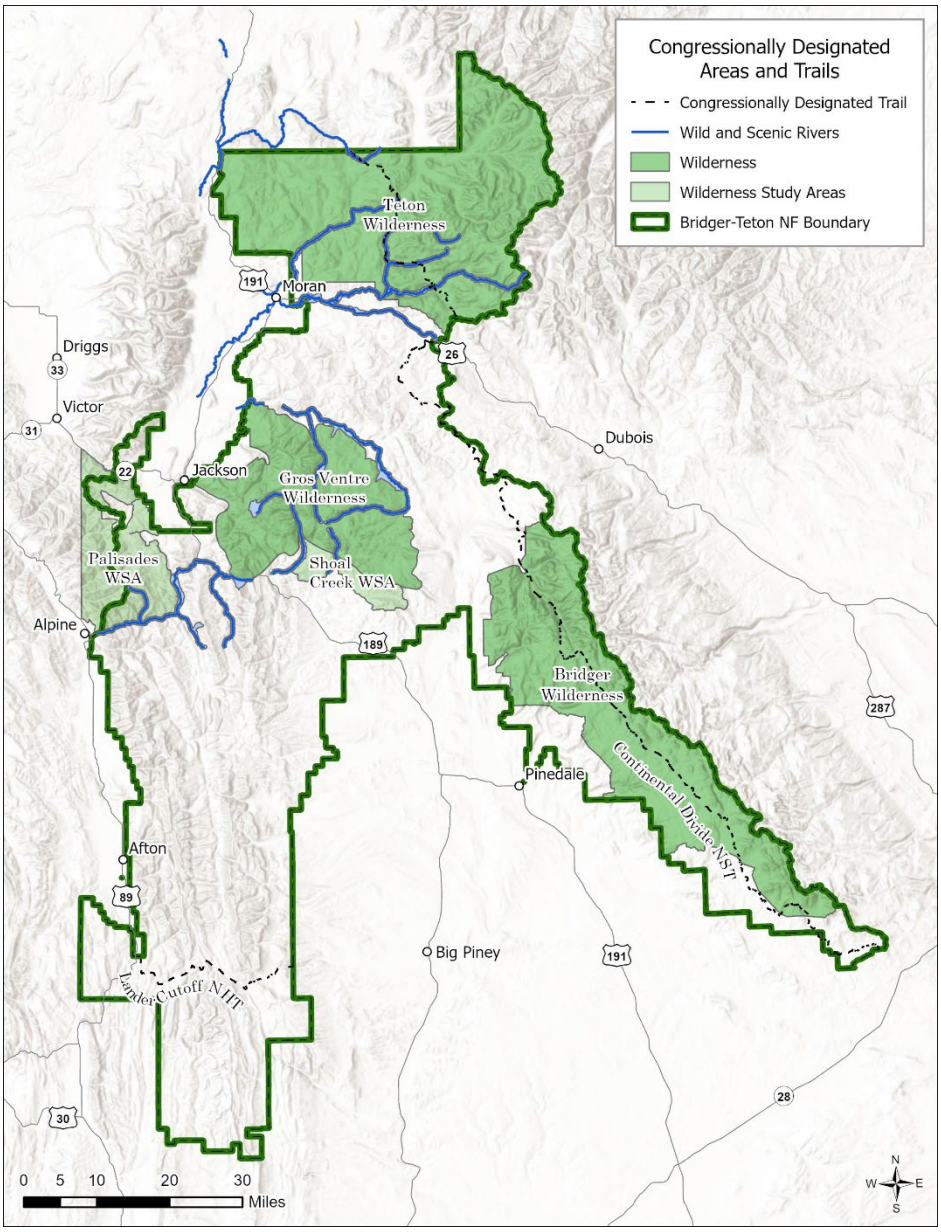

Figure 43. Congressionally designated areas on the Bridger-Teton, USFS GIS

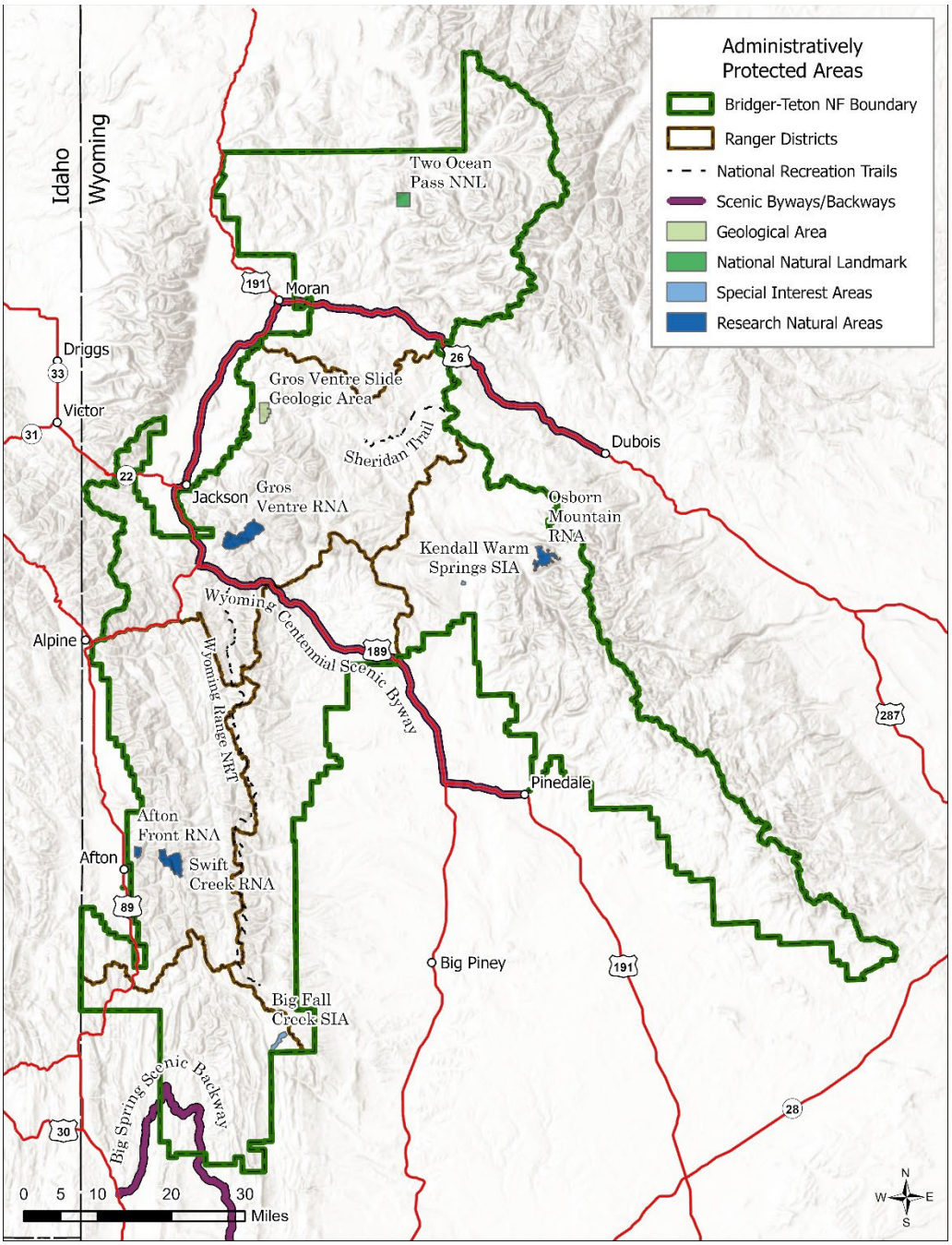

Figure 44. Administratively protected areas on the Bridger-Teton, USFS GIS

Administratively Protected Areas

Unlike congressionally designated areas, administrative protections are not governed by umbrella legislation but rather are managed to protect resource values outlined in site-specific reports. Such protections typically involve smaller areas and protect specific features. The Bridger-Teton contains 12 administrative protections ranging from National Recreation Trails, Research Natural Areas, geological sites, scenic byways, and sites that protect endangered fish (Figure 44). In general, there is no direction in the current forest plan for these special areas. Given the values such sites possess, management direction in the revised forest plan is needed.

Figure 45. Gros Ventre Slide Geologic Area, W.C. Alden 1925 (USGS)

Inventoried Roadless Areas

Inventoried Roadless Areas (IRAs) are areas that are generally undeveloped without roads. IRAs are governed by the 2001 Roadless Area Conservation Rule (36 CFR 294) that limits timber harvesting and road construction, although there are some exceptions under specific criteria. Inventoried roadless areas have a long history starting in the late 1960s and 1970s as the mechanism to inventory and evaluate lands for potential inclusion in the National Wilderness Preservation System. The 2001 Roadless Rule was driven by three primary concerns: (1) the long-term loss of roadless area values and characteristics, (2) budgetary constraints that limited the agency's ability to adequately manage the size of the existing road system, and (3) controversy around roadless area management that generated costly and time-consuming appeals and litigation. The original roadless maps for the Bridger-Teton were developed in the late 1990s but mapping errors have been identified through a combination of GIS analysis, a review of historic timber harvests and road building, and 1967 air photo interpretation. After correcting the mapping errors in accordance with established procedures established in the Roadless Rule, the total inventoried roadless acres on the Bridger-Teton is 1,417,493 acres within 19 areas (Figure 46). Many valued backcountry areas for hunting, fishing, and snowmobiling are located within these roadless areas. IRAs in the Forest currently overlap multiple management areas and desired condition categories in the current forest plan including overlap with other administratively protected areas. While the requirements of the Roadless Rule must be met, there is an opportunity to better integrate and ensure consistency across these multiple designations.

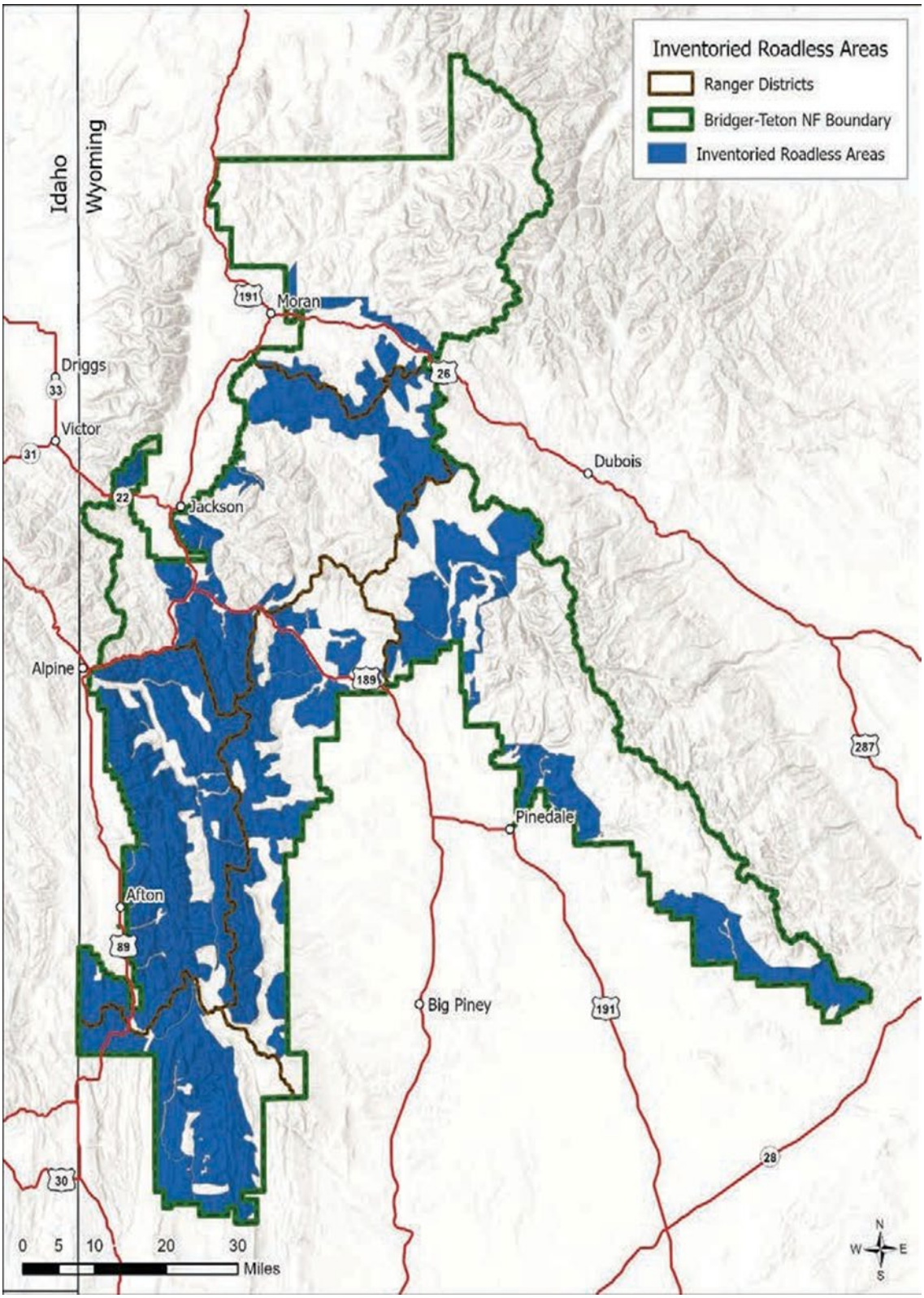

Figure 46. Inventoried roadless areas on the Bridger-Teton, USFS GIS

Figure 47. Aspen trees, courtesy M. Gocke

Cultural and Historic Resources

"A people without the knowledge of their past history, origin, and culture is like a tree without roots."

− Marcus Garvey

The Bridger-Teton contains numerous cultural resources which provide a link to past human activity. These resources provide a rich, detailed context for understanding contemporary landscapes and natural resource issues that make up northwestern Wyoming and provide a connection to the history of indigenous peoples through Euro- American settlement of the GYE region. To date, only a fraction of the land has been systematically inventoried for cultural resources.

Within the inventoried lands, 1,145 historic and prehistoric sites have been recorded. Examples of the site types found on the Bridger-Teton include: precontact habitation sites (stone circles), vision quest sites, hunting blinds, petroglyphs, Civilian Conservation Corps (CCC) camps, tie hacking camps, logging camps, mines, homesteads, fire lookouts, and lodges. At present, seven properties in the Bridger-Teton are listed on the National Register of Historic Properties. These include the Rosencrans Cabin Historic District, The Green River Drift Trail, Craig Cabin, The Church of St. Hubert the Hunter and Library (also known as Bondurant Protestant Episcopal Church), Huckleberry Mountain Fire Lookout, Chamber's Lodge, and Big Sandy Lodge.

Because cultural resources are considered 'static' (non-renewable), they are susceptible to both natural and human caused factors that can cause irreversible impact. Examples of impacts include: natural and human caused erosion, climate change, fire, vandalism, defacement, collection (pilfering), construction, mining, logging, and livestock grazing. With a warming climate, gradual receding of high-altitude ice patches and glaciers are revealing paleo-biological and archaeological resources that have been buried under ice for centuries. Once a cultural site is damaged or removed, it is likely gone forever. Though some historic cultural resources can be restored, they can never be fully returned to their original integrity.

Figure 48. Monument Ridge Fire Lookout, USFS/C. Adams

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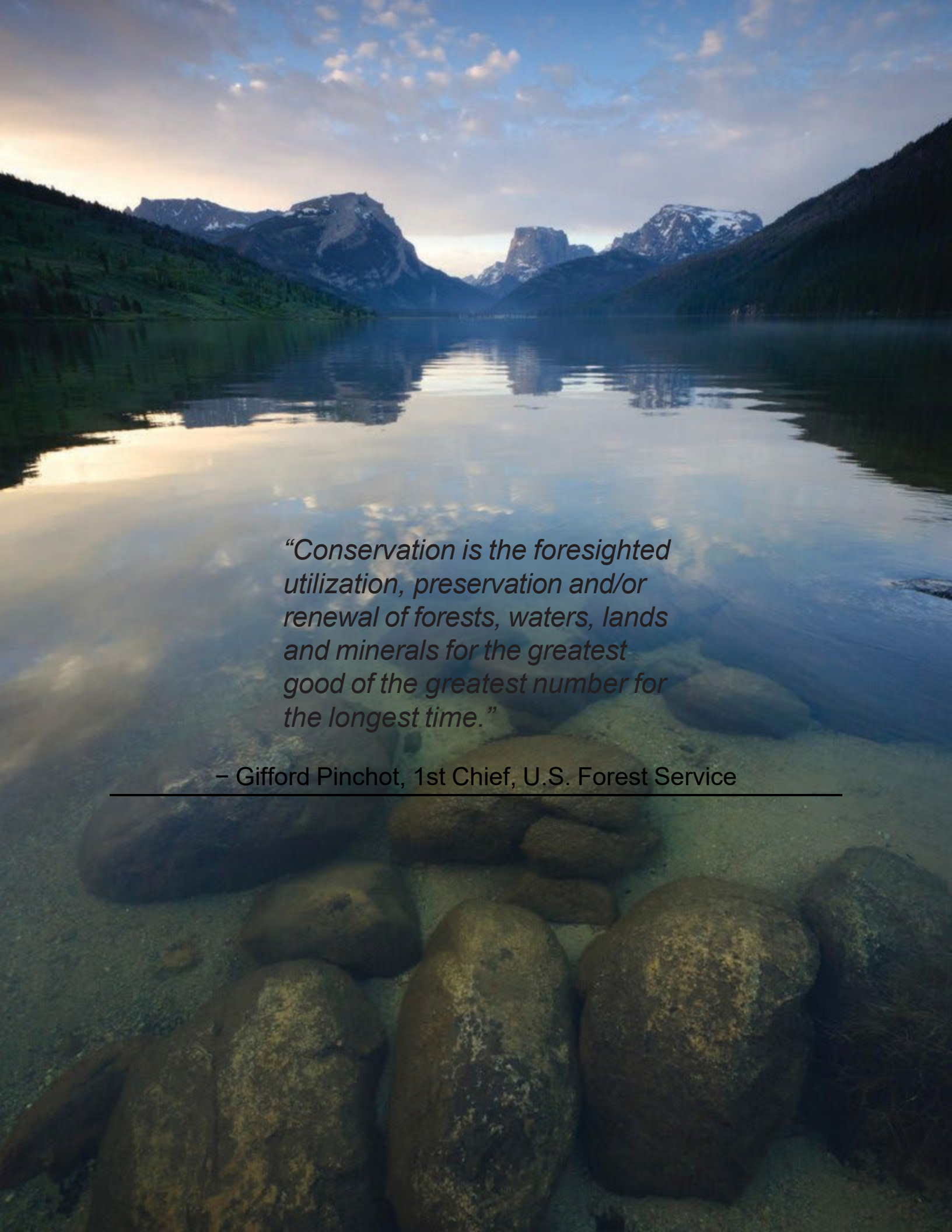

“Conservation is the foresighted utilization, preservation and/or renewal of forests, waters, lands and minerals for the greatest good of the greatest number for the longest time.”

− Gifford Pinchot, 1st Chief, U.S. Forest Service