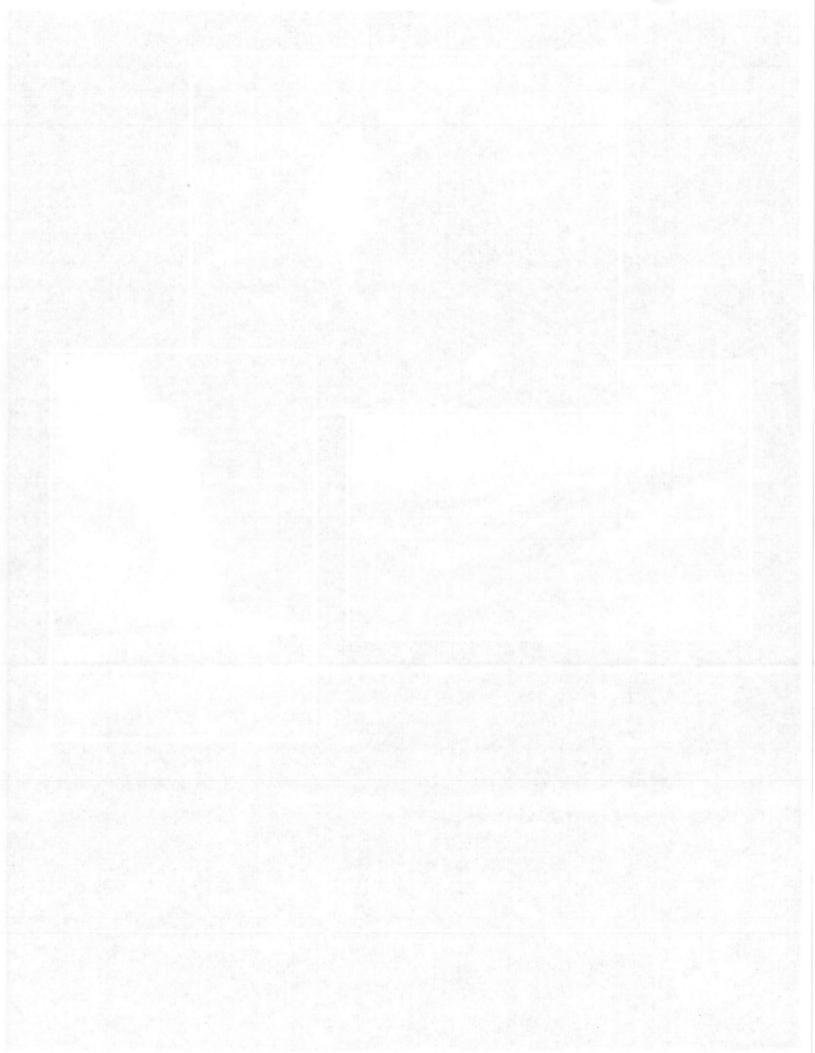


The Greater Yellowstone Area



The Greater Yellowstone Area

An Aggregation of Plans for the Greater Yellowstone Area

A Cooperative Project of the

National Park Service—USDI William P. Mott Jr., Director

U.S. Forest Service—USDA F. Dale Robertson, Chief

Prepared under the direction of the Greater Yellowstone Coordinating Committee

L. Lorraine Mintzmyer Regional Director, NPS Rocky Mountain Region

J.S. Tixier Regional Forester, USFS Intermountain Region

Ronald C. Prichard Forest Supervisor Beaverhead National Forest

Brian E. Stout Forest Supervisor Bridger-Teton National Forest

Robert D. Barbee Superintendent Yellowstone National Park

Stephen E. Mealey Forest Supervisor Shoshone National Forest Gary E. Cargill Regional Forester, USFS Rocky Mountain Region

James C. Overbay Regional Forester, USFS Northern Region

Jack E. Stark Superintendent Grand Teton National Park

David A. Filius Forest Supervisor Custer National Forest

Robert E. Breazeale Forest Supervisor Gallatin National Forest

John E. Burns Forest Supervisor Targhee National Forest

Project Coordination by Targhee National Forest Planning Group Robert G. Williams, Leader

The Greater Yellowstone Coordinating Committee

Presents

An Aggregation of National Park and National Forest Management Plans

Incorporating

Beaverhead

Shoshone

Gallatin

Bridger-Teton

Custer Targhee

National Forests

and the

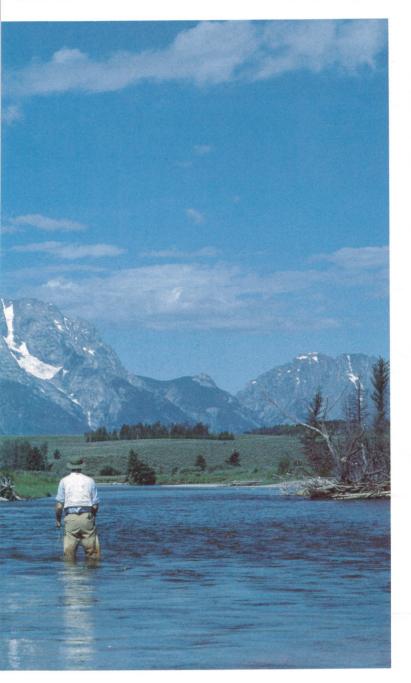
Grand Teton Yellowstone
National Parks



Published September 1987



Unless otherwise indicated, photographs are from the US Forest Service, National Park Service, or US Fish and Wildlife Service.



Preface

The Greater Yellowstone Coordinating Committee (GYCC) is pleased to present *An Aggregation of Park and Forest Management Plans*. This *Aggregation* combines information from management plans for the National Forests and National Parks within the Greater Yellowstone Area. The principal objective is to illustrate the relationship and common goals of National Parks and Forests management.

The Aggregation summarizes existing management plans. It displays the condition and extent of resources and management activities within the Greater Yellowstone Area and illustrates the future condition of this vast region as these management plans are applied over the next 10 to 15 years. It is meant to be a valuable aid to public understanding, as well as a useful tool for coordination and future interagency planning within the Greater Yellowstone Area.

Readers of this *Aggregation* should recognize that the two predominant Federal land categories of the Greater Yellowstone Area—the two National Parks and the six National Forests—have separate and distinct land management missions as directed by Congress. National Parks feature preservation of scenic, historic, geologic, and natural land values for public recreation use and enjoyment. National Forests feature multiple use and sustained yield of natural resource values. Management of National Forests includes public recreation, wildlife and fish habitat, watershed values, timber, range, and minerals. Both missions suit the special lands involved and complement each other in serving public needs.

As plans for the different units were aggregated, differences in data and map information appeared. In some cases, such differences were resolved by clarifying management intent. In other cases, such differences are understandable because of different Forest and Park Service missions or unit objectives. In a few cases, differences will be resolved through further planning and coordination.

Preface

Park Service and Forest Service managers of the Greater Yellowstone Area have met regularly and informally over the past three decades to ensure coordination of management and public service involving these resources and activities:

- Roads, trails, and recreation development
- Waste disposal
- Wildlife and fish needs
- Outfitter and guide provisions
- Fire control and management
- Overall public needs

A Forest Service and Park Service Memorandum of Understanding signed in 1986 appears in Appendix A.

This comprehensive aggregation effort takes place in two phases. Phase I was the preparation of this *Aggregation*. Phase II will be the followup actions needed to strengthen coordination efforts and improve future decisions. Phase II is already underway.

Finally, while the *Aggregation* does not require public involvement under provisions of the National Environmental Policy Act (NEPA), public comments and suggestions, especially for improved coordination of public service, are welcome at any time.

The Greater Yellowstone Coordinating Committee

In the early 1960s Forest and Park Service managers recognized the need for coordination in managing Forests and Parks. The Greater Yellowstone Coordinating Committee (GYCC), born of that need, consists of the following:

- Regional Foresters of the Intermountain, Northern, and Rocky Mountain Regions of the U.S. Forest Service
- Regional Director of the Rocky Mountain Region of the National Park Service
- Forest Supervisors of the Beaverhead, Custer, Gallatin, Shoshone, Targhee, and Bridger-Teton National Forests
- Superintendents of the Grand Teton and Yellowstone National Parks

These managers meet twice each year to discuss issues and to agree on ways to improve coordination. The GYCC does not impose decisions, but it helps identify and resolve any communication gaps between Parks and Forests. Both services have drawn up and signed a Memorandum of Understanding (MOU— see Appendix A) to clarify their principles of coordination. Examples of their success in coordinating management over the past two decades include these activities:

- Facilitating the preparation of this *Aggregation*—the first report of its kind in the country
- Developing Guidelines for Managing Grizzly Bear in the Greater Yellowstone Area
- Organizing numerous field trips for managers along common boundaries to discuss and coordinate plans
- Cooperating in law enforcement and prosecution for violations of Park and Forest Federal regulations
- Developing Bear Us in Mind, an educational campaign designed to raise public awareness of special grizzly bear areas
- Developing an Outfitter and Guide Policy, establishing guidelines for dealing with outfitters, guides, and organized group activities in the Greater Yellowstone Area

- Studying elk management to establish and maintain healthy elk population in the Greater Yellowstone Area
- Creating the Greater Yellowstone Regional Cooperative Transportation Study, which examined the regional transportation system
- Supporting development of a model to measure cumulative effects of land uses and activities (Such a model will help in managing grizzly bear habitat.)
- Providing the managerial nucleus and logistical and personnel support to the Interagency Grizzly Bear Subcommittee for the Greater Yellowstone Area



Elk that spend the summer in one Forest or Park may migrate to winter range located in a different Forest or Park. Coordination of management is essential to maintaining a healthy elk herd.

The Greater Yellowstone Coordinating Committee

The GYCC will continue to improve on-the-ground coordination between Parks and Forests in the Greater Yellowstone Area.

A new task force, appointed by the GYCC, is already at work reviewing this *Aggregation*, analyzing its data and

identifying areas where action is needed. The results of the task force's work will form the foundation for the next phase to follow this report.

Table of Contents

Pretace	V
The Greater Yellowstone Coordinating Committee	vii
Table of Contents	ix
Section 1 The Coordination Opportunity	
Purpose of this Report	1-1
Mission of National Parks and National Forests	
Role of Coordinating Opportunities	
Section 2 History and Economy of the Greater	
Yellowstone Area	
History of the Greater Yellowstone Area	2-1
Economy of the Greater Yellowstone Area	
Land Ownership and Jurisdiction	2-8
Section 3 Resources and their Management	
Landforms and Characteristics	0.4
Management Areas and Zones	
Transportation and Administrative Facilities	
Recreation	
Cultural Resources	
Land Ownership Adjustment	
Special Uses and Concessions	
Wilderness and Undeveloped Lands	
Rangelands and Grazing	
Noxious and Exotic Weeds	
Vegetation and Timber Management	3-65

The Greater Yellowstone Area

Contents

rire managemen	<i>N</i>
	ergy3-9
	3-10
	3-16
	s
Section 4 Apply	ing the Aggregation
	Accomplishments4
Section 5 Appe	endices 5
Appendix A	Memorandum of Understanding between the Rocky Mountair Region, National Park Service and the Northern, Rocky Mountain, and Intermountain Regions, Forest Service
Appendix B	Major Legislation Pertaining to Management of National Park and National Forests
Appendix C	Management Plans for National Forests and National Parks in the Greater Yellowstone Area
Appendix D	Numerical data supporting charts contained in the Aggregation

List of Maps

List of Maps

Map		
1	Greater Yellowstone Area	1-4
2	Land Ownership	2-10
3	General Geology	3-8
4	Special and Unique Geologic Features	3-9
5	Unstable Soil and Rock	3-10
6	Groundwater Aquifer Recharge Areas	3-11
7	Major Riparian Areas	3-12
8	Seismic Activity 1975-1985	3-13
9	Management Areas and Zones	3-18
10	Roads—Existing and Planned	3-24
11	Trails—Existing and Planned	3-25
12	Administrative and Transportation Facilities	3-26
13	Developed Recreation Facilities	3-32
14	Motorized Vehicle Use—Existing	3-33
15	Motorized Vehicle Use—Planned	3-34
16	Land Ownership Adjustment	3-43
17	Recreation Uses Authorized by Permit	3-47
18	Wilderness, Wilderness Study, Recommended Wilderness, and Undeveloped Areas—Existing	3-52

The Greater Yellowstone Area

List of Maps (continued)

Ma	n
ivia	μ

19	Wilderness, Wilderness Study, Recommended Wilderness, and Undeveloped Areas—Planned	.3-53
20	Livestock Grazing—Existing and Planned	.3-61
21	Noxious and Exotic Weeds—Present	.3-64
22	Vegetation Classification	.3-80
23	Tree Age Class—Existing	.3-81
24	Tree Age Class—Planned	.3-82
25	Trees Killed by Mountain Pine Beetle—Present	3-83
26	Trees Killed by Mountain Pine Beetle—Future	3-84
27	Suitability of Lands for Timber Production	3-85
28	Areas Modified by Timber Harvest—Existing (1975-1985)	3-86
29	Areas Modified by Timber Harvest—Existing (1975-1985) and Planned	3-87
30	Fire Management	3-93
31	Geologic Potential for Minerals	3-103
32	Claims, Mines, and Mineral Rights	3-104
33	Mineral Leases, Lease Applications, and Applications to Drill (APD)	3-105
34	Mineral Leasing Opportunities	3-106
35	Flk and Mule Deer Seasonal Bange	3-110

The Greater Yellowstone Area

List of Maps (continued)

Мар		
36	Condition and Trend of Elk and Mule Deer Range	3-111
37	White-Tailed Deer Seasonal Range	3-114
38	Mountain Goat Seasonal Range	3-118
39	Bighorn Sheep Seasonal Range	3-121
40	Antelope Seasonal Range	3-124
41	Condition and Trend of Antelope, Bighorn Sheep, Mountain Goat, and White-Tailed Deer Range	3-125
42	Moose Seasonal Range	3-128
43	Condition and Trend of Moose Range	3-129
44	Bison Seasonal Range	3-132
45	Grizzly Bear Habitat	3-137
46	Trumpeter Swan Habitat	3-144
47	Osprey Habitat	3-146
48	Fishery Resource Classification	3-149
49	Management of Native and Exotic Game Fish	3-167
50	Air Resource Management	3-169
51	Visual Resource Management—Planned	3-172

The Greater Yellowstone Area

List of charts

List of Charts

Chart	
1	Income and employment from sources directly associated with Forests and Parks2-5
2.1	Land ownership2-8
2	Acres of National Forests, National Parks, and National Wildlife Refuges contained within the <i>Aggregation</i>
3	Management areas and zones
4	Roads—existing, planned, and restrictions to use
5	Trails—existing, planned, and type of use
6	Capacity and use of developed recreation facilities
7	Motorized vehicle use—existing and planned
8	Amount and types of cultural resources
9	Management action planned for cultural resources3-40
10	Potential land easements, acquisitions, and disposals
11	Existing special uses and annual applications
12	Wilderness and other undeveloped areas—existing and planned
12.1	Wilderness and other undeveloped areas
13	Condition of domestic livestock range
14	Acres open and closed to domestic livestock grazing
14.1	Acres open and closed to domestic livestock grazing

The Greater Yellowstone Area

List of Charts

List of Charts (continued)

Chart		
15	Amount of livestock grazing provided	3-57
16	Structural range improvements—existing and planned	3-58
17	Non-structural range improvements—existing and planned	3-59
18	Acres of noxious and exotic weeds	3-63
19	Land classification	3-65
20	Land classification by unit	3-67
21	Vegetation classification	3-67
22	Tree age class—aspen	3-70
23	Tree age class—spruce/fir	3-71
24	Tree age class—pine	3-72
24.1	Tree age class—all species	3-73
25	Western spruce budworm activity	3-76
26	Suitability of lands for timber production	3-77
26.1	Suitability of lands for timber production	3-78
27	Areas modified by timber production—existing and planned	3-79
28	Potential for high intensity fire	3-88
29	Fire management strategies	3-91
30	Fire management process	3-92

The Greater Yellowstone Area

List of charts

List of Charts (continued)

Chart		
31	Land area leased or with lease applications	3-97
32	Mining claims—active and inactive	3-98
33	Mining claims and targeted minerals	3-98
34	Mineral leasing opportunities	3-100
34.1	Mineral leasing opportunities	3-101
35	Elk and mule deer seasonal range	3-108
36	Condition and trend of elk and mule deer range	3-109
37	White-tailed deer seasonal range	3-112
38	Condition and trend of white-tailed deer range	3-113
39	Mountain goat seasonal range	3-115
40	Condition and trend of mountain goat range	3-116
41	Bighorn sheep seasonal range	3-119
42	Condition and trend of bighorn sheep range	.3-120
43	Antelope seasonal range	.3-122
44	Condition and trend of antelope range	.3-123
45	Moose seasonal range	.3-126
46	Condition and trend of moose range	3-127
47	Bison seasonal range	.3-130
48	Grizzly bear habitat	.3-135

The Greater Yellowstone Area

List of Charts

List of Charts (continued)

Chart	
49	Planned grizzly bear habitat improvement3-136
50	Bald eagle habitat and occupied nests
51	Peregrine falcon—active eyries, hack sites, and potential hack sites3-141
52	Trumpeter swan habitat
53	Osprey habitat and occupied nests
54	Fishery resource classification
55	Wildlife habitat improvement
56	Fish habitat improvement
57	Bald eagle habitat improvement
58	Elk populations and harvest
59	Opportunities for hunting elk
60	Mule deer populations and harvest
61	Opportunities for hunting mule deer
62	White-tailed deer populations and harvest
63	Opportunities for hunting white-tailed deer
64	Mountain goat populations and harvest
65	Opportunities for hunting mountain goat
66	Bighorn sheep populations and harvest
67	Opportunities for hunting bighorn sheep

The Greater Yellowstone Area

List of charts

List of Charts (continued)

Chart	
68	Antelope populations and harvest
69	Opportunities for hunting antelope
70	Moose populations and harvest3-162
71	Opportunities for hunting moose
72	Bison populations and harvest
73	Opportunities for hunting bison
74	Black bear populations and harvest
75	Opportunities for hunting black bear
76	Opportunities for sport fishing
77	Air resource management3-168
78	Planned visual resource management
	TABLES
TABLE	1 Resource outputs for fiscal year 19852-7
TABLE	2 Tree age classifications

The Greater Yellowstone Area

Section 1 The Coordination Opportunity

The Greater Yellowstone Area—some call it the Greater Yellowstone Ecosystem—is made up of parts of six National Forests and two National Parks. The contiguous portions of these Parks and Forests encompass roughly 11.7 million acres of Federal reservations, plus state lands, National Wildlife Refuges, unreserved public domain (Bureau of Land Management) and other lands. This huge area lies within three states—Montana, Idaho, and Wyoming—and includes all or parts of 12 counties.

The Greater Yellowstone Area is world renowned for its scenery, wildlife, wilderness, rivers, hunting, fishing, outdoor recreation opportunities, and geologic and thermal features. Other resources, although not as well known, are critically important to the people living in and adjacent to this vast area. Activities such as timber harvest, firewood gathering, livestock grazing, mining, oil and gas development, outfitting, and tourism associated with recreation are important segments of local economies.

Recently, concerns have been expressed by some segments of the public that National Park and National Forest management in the Greater Yellowstone Area is not coordinated. Some people fear that direction in management plans for the Park Service and Forest Service does not take into account the cumulative effects of activities on the unique natural resources. Others are concerned that because of the differing management objectives for Forests and Parks, some important aspects of the area as a whole may suffer irreparable damage.

Purpose of this Report

The purpose of this *Aggregation* is to provide an overview of the management of the Greater Yellowstone Area. To do this, information has been compiled and combined from management plans prepared (or under preparation) by

the agencies and administrative units in the area. The *Aggregation* is designed to illustrate two situations. First, it presents a picture of the present or existing natural resources, values, amenities, and economic and social conditions. Second, it presents a projection of what the same natural resources, values, amenities, and economic and social conditions will be in 10 to 15 years as the existing or proposed plans are implemented. Managers and the public can compare present conditions with those expected in the future to determine if the existing plans in the *Aggregation* will produce acceptable results. If problems appear possible, the managers can respond through the established planning processes for each Forest or Park.

Mission of National Parks and National Forests

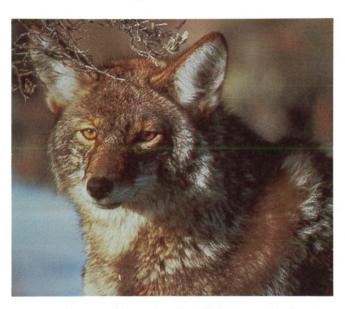
Since their inception, National Forests and National Parks have been managed differently, as specified in their original congressional mandates. National Parks were founded upon the principles of preservation, public enjoyment, and non-interference with natural processes. Therefore, logging, oil and gas production, mining, hunting, livestock grazing, wildlife habitat modification, fire control, and other development activities are limited or banned in National Parks. Some exceptions exist such as hunting and grazing in portions of Grand Teton National Park when the legislation establishing the Park so specifies.

National Forests were established on conservation principles—the wise use of natural resources. Through legislation, Congress has mandated that Forests be managed for multiple uses of recreation, wildlife, grazing, mining, oil and gas, watershed, timber, and wilderness.

The Coordination Opportunity

The National Park Service, an agency of the United States Department of the Interior, is responsible for administration of National Parks. The U.S. Forest Service, an agency of the United States Department of Agriculture, is responsible for the administration of National Forests. Appendix B contains a listing of the key legislation for both agencies.

The different missions specified by Congress are reflected in how Parks and Forests within the Greater Yellowstone Area have historically been managed and how they will be managed in the future. Although Parks and Forests differ in some striking ways, they share some equally striking similarities, compatibilities, and opportunities. The Parks and Forests and other public lands in the Greater Yellowstone Area form an interrelated mosaic of resources, uses, and opportunities.



An abundance and diversity of wildlife live in the Greater Yellowstone Area. (Photo/Ken Timothy)

In National Forests, timber harvest, livestock grazing, mining, mineral leasing and production, watershed improvement, and wildlife habitat improvement are standard activities that are in keeping with congressional mandate. A large acreage of congressionally designated wilderness exists within National Forests. Such areas are managed in accordance with the 1964 Wilderness Act and are not subject to developmental action.

National Parks, for the most part, are withdrawn from mineral development. Timber harvest is not permitted, and watershed and wildlife habitat modification projects are generally not undertaken. Some livestock grazing and hunting is allowed in Grand Teton National Park, but these activities are strictly limited in scope and location. National Parks are also subject to the provisions of the the 1964 Wilderness Act, and although no congressionally designated wilderness exists in Yellowstone or Grand Teton National Parks, large areas are recommended and managed as wilderness. Fishing, hiking, camping, and motorized use occur in both Parks and Forests. However, these uses are generally more restricted in Parks.

The result of different legislated purposes and management requirements is evident on many of the maps displayed in this *Aggregation*. For example, abrupt differences are evident on some boundaries between Parks and Forests for activities such as timber harvest, livestock grazing, motorized vehicle use, and mineral leasing. These differences are not necessarily evidence that management is not coordinated. Rather, they simply reflect that some activities, as a result of legislation, are common in National Forests, while they are not permitted in National Parks because of different legislation. Assessment of the effects of activities determines each land use. Indeed, within a single Forest or Park similar differences in management direction or permitted uses can be noted—a result of tailoring management to land capabilities.

The Coordination Opportunity

Maps and Charts

Data portrayed in the *Aggregation* and on accompanying maps were taken from management plans and planning records of the units involved. In most cases, this information was on much larger maps and shown in greater detail. So the reader should be aware that some generalization and loss of precision may have occurred in the transfer of information to smaller maps.

The large maps accompanying the *Aggregation* use this scale:

1/8 inch = 1 mile, 1:500,000

Page-size maps in the document use a much smaller scale. With either scale, the ability to display resources or activities such as vegetation classification, areas modified by timber harvest, and so on is limited. Therefore, if detailed and precise information for a particular resource or management activity or locality is needed, the appropriate individual management plan should be consulted. The appendix contains a bibliography of the pertinent National Forest and National Park plans.

Charts summarizing data are also included in this *Aggregation*. If information is not available for a particular Forest or Park or Refuge, an explanatory footnote appears on the map or chart.

Production levels for various resources as shown in charts are projections. Projected outputs can be achieved, barring any unforeseen physical, biological, economic, or legal interruptions. For example, projected elk populations in each administrative unit are dependent upon changeable factors as diverse as hunting regulations, the severity of winter weather, and habitat improvement projects. Projected timber harvest depends on, among other things,

housing starts as well as annual congressional appropriations, as do recreation area development, trail maintenance, and other activities.

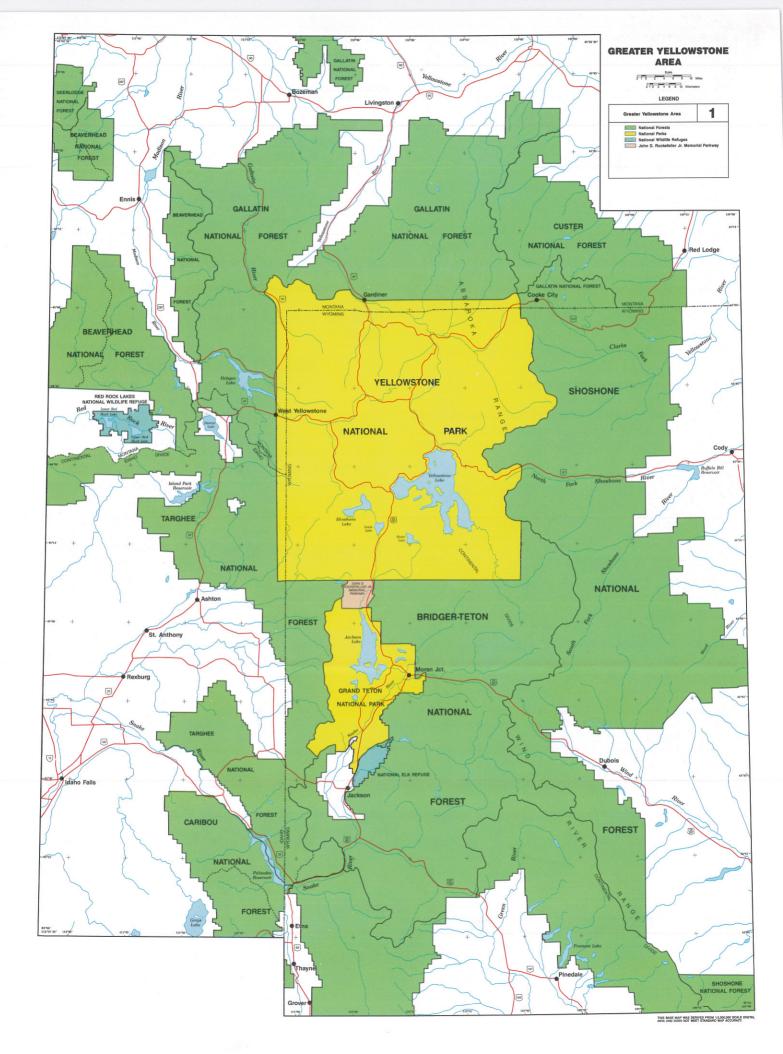
Some precision of acreage or numerical data may have been lost in the transfer of information from the Parks and Forests into one source. However, charts are still valuable in helping to compare present and future conditions. (See Appendix D for data supporting the charts.)

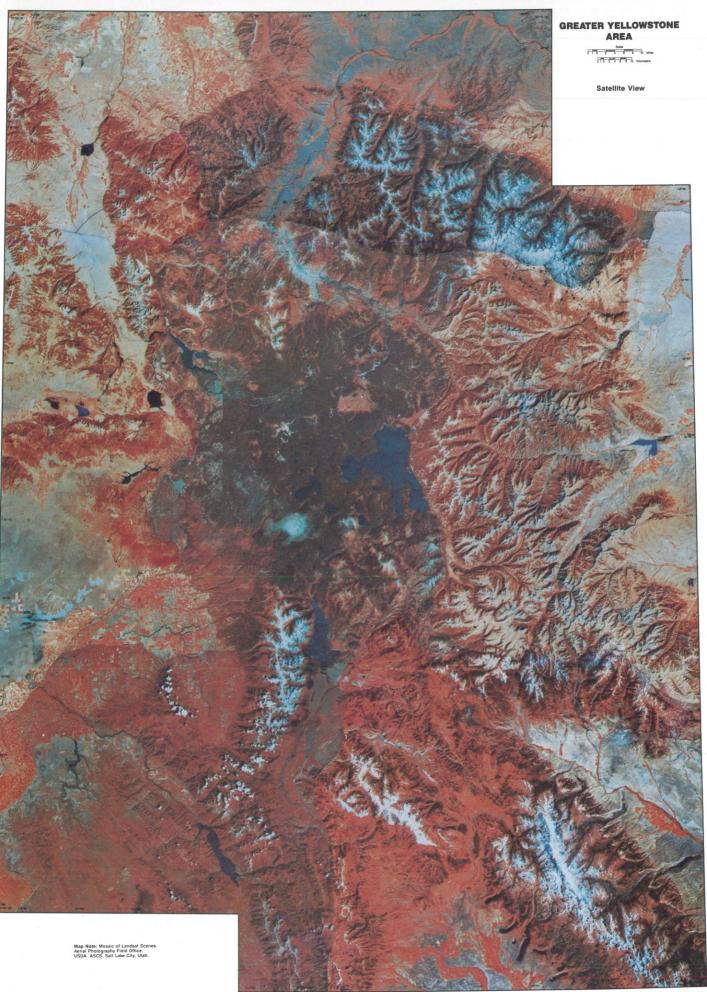
Role of Coordination Opportunities

In Section 3, coordination opportunities are identified for each resource. Parks and Forests have successfully met many of the coordination opportunities. However, even better coordination is still possible, so these units will be implementing and refining existing plans and working together to continue to take advantage of these coordination opportunities.

For More Specific Details

This Aggregation is not a new plan or decision document, but represents a collation of current management plans already or soon to be underway. Local Forest Service or Park Service offices can provide information and more detailed management activities or proposals within specific Park or Forest managed lands. This Aggregation of plans shows you where activities such as timber production, road construction, or campground development are likely to occur. The actual scheduling, configuration, and details depend on future site-specific analysis and compliance with provisions of the National Environmental Policy Act (NEPA).





		and the same of th

History of the Greater Yellowstone Area

Ancient Settlers

Nestled in the wilds between Yellowstone Park and the Shoshone River is Mummy Cave. Inside, the remains of sheep, antelope, rabbit, marmot, grouse, porcupine, and other species reveal a fascinating story about the Greater Yellowstone Area. Archeologists tell us the preserved carcasses are remnants of a hunt 9,000 years ago. In addition to bones, excavations at Mummy Cave have produced primitive utensils, tools, weapons, and clothing that bear witness to the

life that thrived throughout the Greater Yellowstone Area starting at least 11,000 years ago.

That was the Paleo-Indian period, when early Native Americans ruled the land. They hunted herds of large game animals—including the woolly mammoth and an extinct species of bison that were still abundant following the last Ice Age. The saber-toothed tiger, giant sloth, two-toed horse, and camel also roamed the land.

Within about 2,000 years, however, many of these exotic species began to disappear. The early Indians over-hunted some. The earth's changing climate no longer supported others. Fortunately, the Native Americans' lifestyle evolved, and they began stalking modern types of bison.



Native Americans are part of the rich history of the Greater Yellowstone Area. (Photo/ Smithsonian Institute, No. 1690)

elk, deer, antelope, mountain sheep, and small game animals. During this Archaic period, the Native Americans also developed a taste for berries, leafy greens, and many aromatic herbs.

The social structure changed, too. Families traveled in small bands on foot, fanning out over the area as they foraged for food and other necessities. Obsidian, the glossy black stone formed by rapidly cooling lava, was a highly coveted raw material. This volcanic rock (still seen today in the Greater Yellowstone Area) was chiseled into razor sharp tools and weapons.

Emerging Tribes of Native Americans

Archeological findings do not reveal what became of these early Americans. But, artifacts do reveal the arrival about 1,000 years ago of the area's Late Prehistoric inhabitants, the ancestors of the modern Shoshone, Bannock, and Crow.

These Late Prehistoric peoples lived pretty much as their Archaic predecessors until about 1730, when the arrival of the horse restructured their whole social system.

Horses increased tribal contacts and mounted tribes crossed the Continental Divide to hunt bison on the northwestern Great Plains. The new traffic forged a network of major passes, important trails, and routes of passage in the

western wilderness. Villages flourished and a new and more complex hierarchy of leadership developed. With the more sophisticated civilization came the inevitable turbulence. The Crow, Blackfoot, Cheyenne, and Sioux waged war with the Shoshone, Bannock, and Flathead tribes.

These new migratory trends seem to have eluded one segment of the Late Prehistoric population—a mixed band of Bannock and Shoshone, known as Sheepeaters, who were year-round mountain dwellers, hunting the game that gave them their name. When the first white explorers arrived, they found this tribe training ferocious dogs to drive flocks of sheep uphill into traps.

Trappers and Explorers

In 1804, the first trappers and explorers set foot on the land that is now the Greater Yellowstone Area. They were the daring pioneers of early westward expansion. The Lewis and Clark expedition opened up the area, making the resource-rich region a popular trappers' rendezvous.

John Colter, a famous trapper, was probably the earliest non-Indian witness to the awesome sight of Yellowstone's thermal qualities. Members of John Jacob Astor's expedition no doubt also marveled at the boiling waters and steam-spewing earth as they traveled to the mouth of the Columbia River.

The area became a natural crossroads for travelers because it included the headwaters of the West's three major river systems: the Missouri, the Green/Colorado, and the Snake/Columbia. The lure of gold in Montana in 1863 and the mushrooming mining communities in the Yellowstone area accelerated development. Because new towns needed supplies, more roads and trails began to etch the wilderness.

Railroads, Farms, and Tourists

Just as the horse in the previous century stimulated social development, the construction of transcontinental and major railroads generated growth throughout the area. With the increased population, farming began. More and more settlers came west, drawn by the area's rich natural resources. Local watersheds irrigated their new agricultural settlements. Vast stretches of forests provided railroad ties and building timber. The settlers' livestock foraged on the lush grasslands.

The railroads enticed a new breed of traveler—the first tourists who came to view the roiling mud flats, piping hot springs, and steam-spouting geysers. Even then the rugged vistas and volcanic-influenced geology was an unequaled natural wonder.

Yellowstone tourism had begun. Hotels, resorts, and dude ranches sprang up to lodge and entertain the visitors.

Conservation Concerns

Geologists began to explore Yellowstone's unusual geological phenomena in 1869. While they were still exploring the astounding history and prehistory told in rock, wood, and water, Congress designated the land the country's first National Park in 1872.

Conservationists, recognizing the uniqueness of the area, reacted to the increasing development. Their concerns about depletion of resources in the Greater Yellowstone Area intensified until the government established the Yellowstone Timber Land Reserve in 1891 to protect and assure the timber supply. The legislation applied to parts of what are today the Shoshone, Bridger-Teton, and Targhee National Forests.

In 1902, the Reserve became the Yellowstone Forest Reserve and was expanded to include additional forest lands in Montana—now the Gallatin National Forest. In 1907, the government redesignated these lands National Forests. Early concerns included the capacity of available range to support livestock grazing and the need to schedule timber sales to provide railroad ties and firewood for the growing cities and towns. In these early years, the U.S. Army managed Yellowstone Park. Many of the historic structures in the Park, including Park headquarters at Mammoth, date from the period when the cavalry protected the Park. In 1916, when Congress created the National Park Service as an Interior Department Agency, Yellowstone and other parks came under civilian control.

Recreation and the Local Economy

After World War I the car encouraged travel to the area. Citizens in nearby towns accommodated the steady stream of sightseers by building summer homes, auto camps, stores, eateries, and photo shops. Some of their early edifices, such as the Old Faithful Inn, are wonderful examples of our Nation's early rustic architecture.

The adjacent Teton Range with its precipitous bluffs, gently rolling grasslands, dense forests, and equally imposing geology offered some of the same opportunities for nature lovers as Yellowstone Park. In 1929, Grand Teton National Park was established. At that time,



Guard-mount at Fort Yellowstone, 1st Cavalry. Prior to the formation of the National Park Service in 1916, the U.S. Army administered Yellowstone Park. Old Mammoth Hotel in the background. (Photo/Park Service Archives)

because the Park included some of the valley of Jackson Hole, local townfolk opposed Park status, which they believed would threaten their homesteading, grazing, and water rights.

Although tourism declined in the 1930s, the Great Depression actually stimulated construction and replacement of facilities in the Parks and Forests. The Civilian Conservation Corps was established to build or rehabilitate many administrative facilities, as well as roads, trails, campgrounds, and miles of roadside rockwork.

These peaceful Parks and Forests became an important source for war time needs in the early 1940s. The Custer National Forest supplied chromium and other strategic minerals, as well as wood for military and domestic needs. Even recreation development continued. John D. Rockefeller, Jr., who had been acquiring land in Jackson Hole since 1927, donated it to the Government in 1943. A Presidential Proclamation established the Jackson Hole

National Monument. Local opposition continued, but the land was assimilated into Grand Teton National Park in 1950.

The Forest and Park Service Opportunity

Since World War II, economic growth has increased demands on the resources of the Greater Yellowstone Area. Such demands continue to challenge the delicate balance between land use and preservation. But attempts to establish a proper balance between competing resources have driven the history of the Greater Yellowstone Area since the creation of Yellowstone. It is a challenge not without its rewards and pitfalls.

In the following sections of the *Aggregation*, the Forest and Park Services portray the scope of the management opportunity in the Greater Yellowstone Area presented by the competition between and for the physical, biological, and human resources.

Economy of the Greater Yellowstone Area

As Map 1 on page 1-4 and Chart 1 show, National Parks and Forests shape the bulk of land in the Greater Yellowstone Area. The result for surrounding communities is an economy heavily dependent on benefits and resources based on federally managed lands:

 Tourism and other recreational uses of Forests and Parks, including skiing and motorized vehicle use, are a major source of income for the area.

- Livestock owners require access to forage on the lands to support viable year-round operations.
- Local lumber mills use the land's timber.
- Commercial outfitters and guides rely on the land and water for a large portion of their operations.
- Mining claims are concentrated on the north and east portions of the Yellowstone Area, where gold, silver, platinum, palladium, copper, sulphur, lead, and molybdenum are found and have been mined.

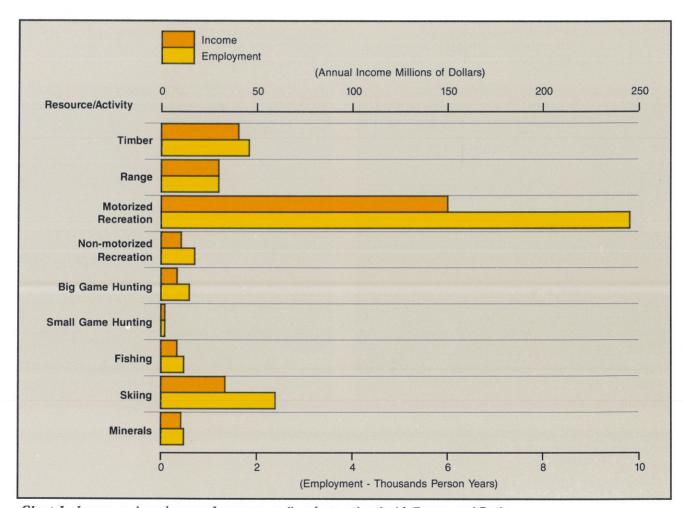


Chart 1. Income and employment from sources directly associated with Forests and Parks.

The Greater Yellowstone Area

Most of the social and economic structure of the area is tied to ranching and farming, two of the oldest land uses in the Greater Yellowstone Area. Many communities prospered from livestock enterprises, with tourism, mining, timber, oil and gas exploration, and recreation later adding to the economic base.

The area's population is growing, but remains sparse, with agriculture still accounting for a large percentage of income.

Three Economic Regions

Portions of three states—Wyoming, Idaho, and Montana—are directly affected by the economic health of the Greater Yellowstone Area.

Some ranches, such as this one near Island Park, are dependent upon grazing provided by adjacent National Forests for viable year-round operations.

Wyoming. The Wyoming region enjoys more economic activity from recreational travelers because of its location on access routes to popular attractions in Yellowstone and Grand Teton National Parks.

Tourism, ranching, and energy development have been the major industries in the Wyoming regions. Logging and wood processing also contributed to the area's economic stability.

Idaho. Water originating in the Parks and Forests supports the ranching and farming-based economy in Idaho.

Recreation travelers also contribute significant income. Logging is important, due to programs to salvage trees ravaged by pine beetle infestation. Finally, food processing is a major industry.



This studmill near St. Anthony relies almost exclusively on timber from nearby National Forests.

Montana. A state university, farming, manufacturing, and tourism helped this area prosper, especially between 1970 and 1980. The wood products industry continues to aid its economic growth.

The Challenge

In compliance with applicable statutes, the challenge for Parks and Forests is to continue to provide products and services such as recreation, timber, minerals, oil and gas, and grazing that support local economies while maintaining resources such as wildlife, clean air and water, and the variety of unique features that attract people to the area.



Tourism attracted by the area's unique recreational opportunities is a mainstay of the economies of many communities such as West Yellowstone.

Table 1 shows the combined resource outputs for fiscal year 1985 for National Parks and National Forests in the Greater Yellowstone Area.

Output	Unit of Measure	Level of Production
Timber	MMBF1	157.23
Range Grazing	MAUM's ²	455.10
Motorized Recreation	MRVD's ³	9071.55
Non-motorized Recreation	MRVD's	711.18
Big Game Hunting	MRVD's	449.68
Small Game Hunting	MRVD's	96.60
Fishing	MRVD's	941.25
Skiing	MRVD's	416.10
*Minerals		

Million board feet—A Board foot is the amount of timber equivalent to a piece of wood one foot by one foot by one inch thick.

Table 1. Resource outputs for fiscal year 1985.

²Thousand animal unit months—An animal unit month is the amount of forage required by one mature cow and calf, or equivalent, for one month.

³ Thousand recreation visitor days—One recreation visitor day is recreation use or activity that equals 12 hours (one person for 12 hours or 12 people for one hour).

^{*}Production of minerals from commercial mines that were in operation in 1986 consisted of 36,000 ounces of platinum, 108,000 ounces of paladium, and 5,600 tons of travertine. There were no producing oil or gas wells, but an average of three wells were being drilled per year.

Land Ownership and Jurisdiction

The Federal Government manages most of the land in the Greater Yellowstone Area. Along with the Forest and Park Services, the following administer lands in this area:

- Bureau of Land Management
- U.S. Fish and Wildlife Service
- Bureau of Reclamation

Some state and privately owned lands are dispersed among the Federal lands (See Chart 2.1 and Map 2), mainly along the area's perimeter, major roads, or drainage areas. Some private lands appear in a checkered pattern, resulting from railroad land grants made in the late nineteenth century. Most private lands are along the Gallatin and Madison Mountain Ranges and the Gallatin and Beaverhead National Forests.

Specific boundaries are not shown for the Greater Yellowstone Area. Rather, for purposes of this report, the resources and the area they cover define borders. The

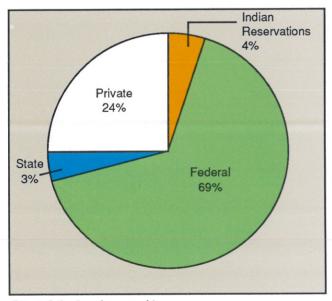


Chart 2.1. Land ownership.

area represented by the *Aggregation* as shown in Map 2 covers 31,000 square miles, broken down as follows:

- 10,029,000 acres of National Forest lands
- 2,567,000 acres of National Park lands
- 907.000 acres of other Federal Government lands
- 685,000 acres of state land
- 4,838,000 acres of private land
- 880,000 acres of Indian reservations

Information for the following governmental units is contained within this *Aggregation* (See Chart 2):

- Madison Ranger District of the Beaverhead National Forest
- Western portion of the Beartooth Ranger District of the Custer National Forest
- Gallatin National Forest south of Interstate 90
- Shoshone National Forest, except for the Lander Ranger District
- Bridger-Teton National Forest except for the Kemmerer Ranger District and the southern portions of the Big Piney and Pinedale Ranger Districts
- Targhee National Forest, except for the Dubois Ranger District
- The portion of the Caribou National Forest administered by the Targhee
- Yellowstone National Park
- Grand Teton National Park, including the John D. Rockefeller Jr. Memorial Parkway

In addition, Red Rock Lakes and the National Elk Wildlife Refuges are included for most resources, particularly wildlife. If information for lands managed by other Federal and state agencies was readily available, it has been included.

Some information on maps covers privately owned lands. This information not only facilitated mapping, but it helps the overview of present and future conditions of resources. The information used is a matter of public record and its inclusion does not imply any government management of privately owned lands. Such management rests with the private landowner, except where specific rights were reserved or have been acquired by the government.





Lake Solitude, Grand Teton National Park, and Upper Twin Lake, Beaverhead National Forest, are a part of the 13.5 million acres in the Greater Yellowstone Area that are managed by Federal Agencies.

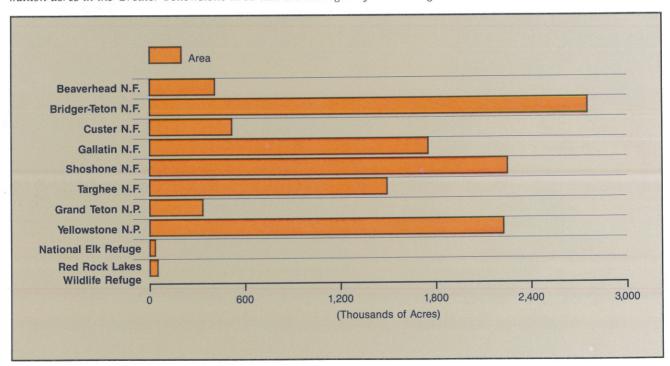


Chart 2. Acres of National Forests, National Parks, and National Wildlife Refuges contained within the Aggregation.

