



Wyoming Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2009-2013

The 2009-2013 Statewide Comprehensive Outdoor Recreation Plan was prepared by the Planning and Construction Section within Wyoming's Department of State Parks and Cultural Resources Division of State Parks, Historic Sites and Trails. Updates to the trails chapter were completed by the Trails Section within the Division of State Parks, Historic Sites and Trails. The Wyoming Game and Fish Department provided updates and revisions to the wetlands chapter.

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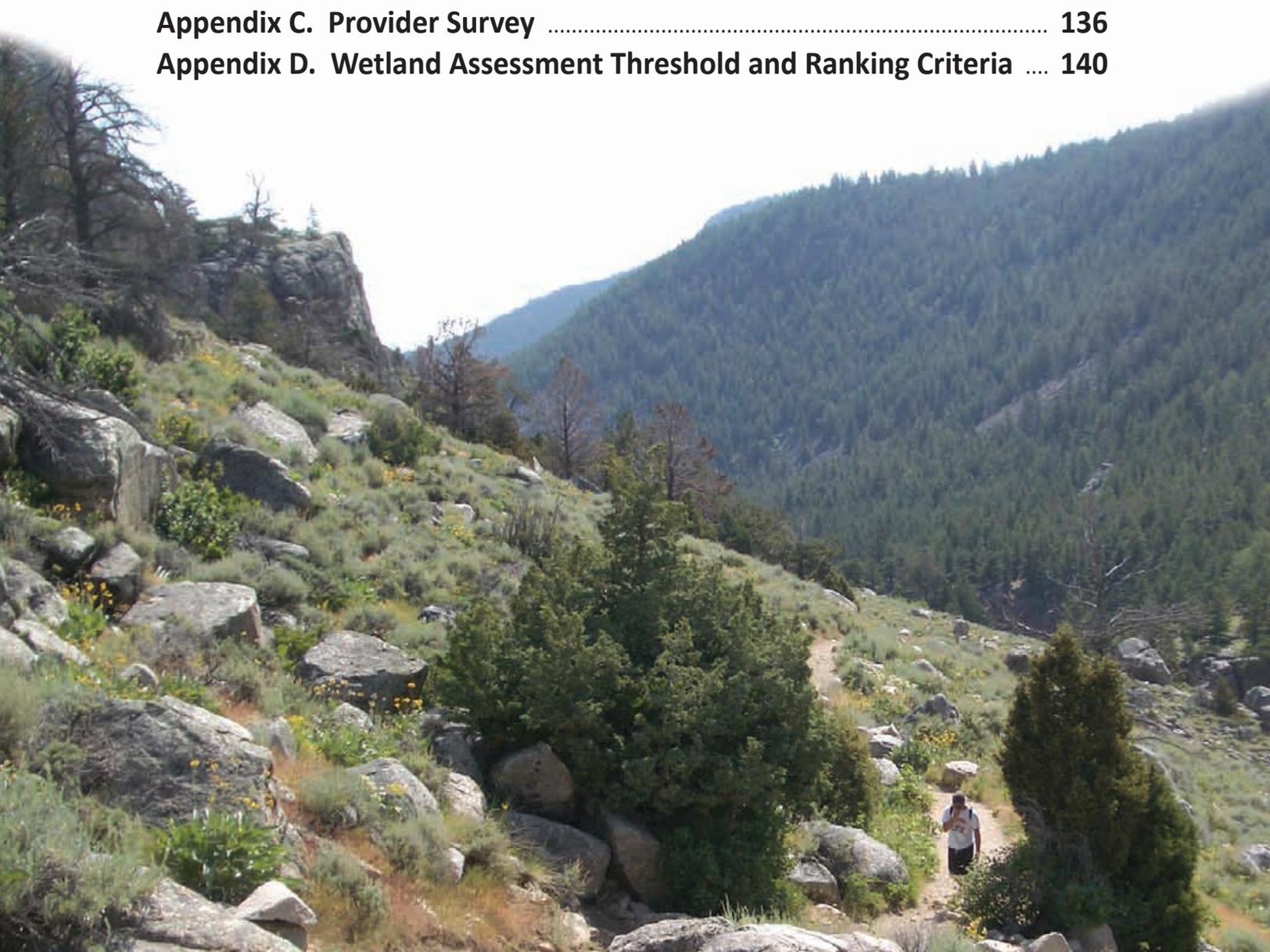
ARTS. PARKS. HISTORY.

Wyoming State Parks & Cultural Resources



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Chapter 1

Introduction



Introduction

The 2009 Statewide Comprehensive Outdoor Recreation Plan (SCORP) serves as a guide for local, state and federal agencies in the development and provision of future outdoor recreation development. The purpose of this five-year (5) SCORP is to identify the outdoor recreation needs of the citizens and of visitors to Wyoming and to develop a program to address those needs. The 2009 plan is the eighth (8) in a series of SCORPs which have been developed by the Wyoming Department of State Parks and Cultural Resources (SPCR), Division of State Parks, Historic Sites and Trails (SPHST), as part of the state's ongoing and continuous commitment to providing high quality outdoor recreation opportunities. Wyoming's abundant outdoor recreational opportunities and acclaimed natural resources should be identified and developed in a manner which allows the public access while maintaining the area's unique features.

The outdoor recreation system in Wyoming is a complex and diverse structure. Outdoor recreation has been an important part of the state's way of life for many years. Participation in outdoor recreation has grown dramatically in recent decades. Not only are there a wide variety of natural resources and recreational opportunities, but there are a large and varied amount of providers. Providers are guided by legislative mandates and guidelines, market prices and/or agency goals and objectives. With this many providers, the risk of duplication of services, missed opportunities and lack of coordination is a threat to the quality presentation of the state's recreation opportunities.

On the local level - towns, cities, counties, school boards, joint power boards and local municipalities provide the opportunity to participate in outdoor recreation in the state. The private sector recreation industry also has great potential in Wyoming to provide needed facilities and is providing service in all areas of the state. In state government, SPHST, the Wyoming Game and Fish Department (WGFD), the Wyoming Department of Transportation (WYDOT) and the Office of State Lands and Investments (OSLI) are all involved to varying degrees in providing outdoor recreation experiences. Federal agencies which provide outdoor recreational experiences in the state of Wyoming include the National Park Service (NPS), the United States Forest Service (USFS), the Bureau of Land Management (BLM), the Bureau of Reclamation (BOR), the United States Fish and Wildlife Service (USFWS) and the Bureau of Indian Affairs (BIA).

What is a SCORP?

The Wyoming Statewide Comprehensive Outdoor Recreation Plan is the only statewide document that attempts to bring together the wants and needs of the recreation users and providers. This document examines Wyoming's outdoor recreation resources and is used as an information resource and guidance tool. It is an endeavor to help guide the recreation industry in Wyoming while protecting and enhancing Wyoming's natural resources. No overall, long-range recreation master plan exists for the state parks, historic sites and trails, the federal parks and forests or the private recreation industry.

Most of the individual state parks and historic sites have master plans although many of them are outdated. Federal land managers have plans for their respective areas, but not an overall Wyoming plan. Many of the private providers have their marketing and/or long range goal plans, but an overall plan does not exist showing opportunities in Wyoming.

Completion of the 2009 – 2013 SCORP ensures Wyoming’s continued eligibility to participate in the Land and Water Conservation Fund (LWCF) program. The plan will guide the investment of LWCF monies in Wyoming over the course of the next five years to be distributed wisely based on the demonstrated needs of the citizens of the state.

The SCORP is also used in conjunction with the Recreation Trails Program (RTP). This grant program runs through the Federal Highway Administration (FHA), and is administered by the SPCR. The RTP provides funding for the development, improvement and maintenance of trails within the State of Wyoming. Applicants for this program must demonstrate that projects further a specific goal of the SCORP and the priorities of the State Trails Plan.

The Legal Federal Authority of SCORP

Legal authority for the development of the 2009 SCORP is Chapter 630.1 State Land Preparation Procedures and Eligibility, of the LWCF Grants Manual. This chapter explains the objectives, eligibility requirements, and guidelines for the state and the NPS in preparing and reviewing the SCORP. The SCORP is required by Section 6 (d) of the LWCF Act of 1965, (USDA, NPS 1965) as amended.

As per chapter 630.1 (4.), the minimum requirements of the plan are:

- A. The plan must describe the process and methodologies chosen by the state to meet the guidelines set forth in this chapter.
- B. The plan must include ample opportunity for public participation.
- C. The plan identifies outdoor recreation issues of statewide importance based upon, but not limited to, input from the public participation program, evaluates demand of public outdoor recreation preferences, but not necessarily through quantitative statewide surveys or analyses, and evaluates the supply of outdoor recreation resources, but not necessarily through quantitative statewide inventories.
- D. The plan must have an implementation program which identifies the state’s strategies, priorities and actions for the obligation of its LWCF apportionment.
- E. The plan may consist of a single document or may be comprised of multiple documents as long as the guidelines set forth in this chapter are met.

The Requirements of SCORP

LWCF guidelines (USDI, NPS 2008) specify that a SCORP be prepared every five (5) years, and that each SCORP:

- assess the supply and demand for outdoor recreation
- contain a wetlands component that identifies wetlands with high recreation values
- include an implementation component that outlines recommended actions consistent with plan goals.

The Land and Water Conservation Fund (LWCF)

The Department of State Parks and Cultural Resources, Division of State Parks, Historic Sites and Trails, as the public agency charged with planning and outdoor recreation matters in the state, is the Governor’s designated agency to administer the LWCF in Wyoming. The LWCF enables Wyoming State Parks, Historic Sites and Trails to help fulfill this mandate by providing federal matching grants for park and outdoor recreation developments and a framework to ensure Wyoming’s resources are used efficiently and effectively.

The purpose of the LWCF Act of 1965, Public Law 88-578 is “to assist in preserving, developing and ensuring accessibility to all citizens of the United States of America of present and future generations ... such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable for individual active participation in such recreation and to strengthen the health and vitality of the citizens of the United States by (1) providing funds for and authorizing Federal assistance to the States in planning, acquisition and development of needed land and water areas and facilities...” Participation in the LWCF program requires each state to complete a SCORP every five (5) years in order to maintain eligibility in the LWCF cost-sharing program.

Funding for the LWCF program is derived principally from revenues associated with Outer Continental Shelf mineral receipts. Other sources of revenue include federal surplus property sales and federal motorboat fuel taxes.

The original LWCF Act provided a 60/40 split in funding, with the states receiving 60 percent of the total dollars. In 1976, the Act was amended to read “not less than 40 percent” to the federal agencies. Total amounts available to states are generally determined by an apportionment formula where 40 percent of available state money is prorated equally to each state; 25 percent is prorated on the basis of population size; 20 percent prorated on the total population residing in Standard Metropolitan Statistical Areas, and 15 percent is prorated by the total population to those states which have demonstrated need through previous compliance and efficient management of the LWCF program. Available LWCF funds for Wyoming are comparatively minimal because of the low state population and as there are no criteria for the areal extent of each state.

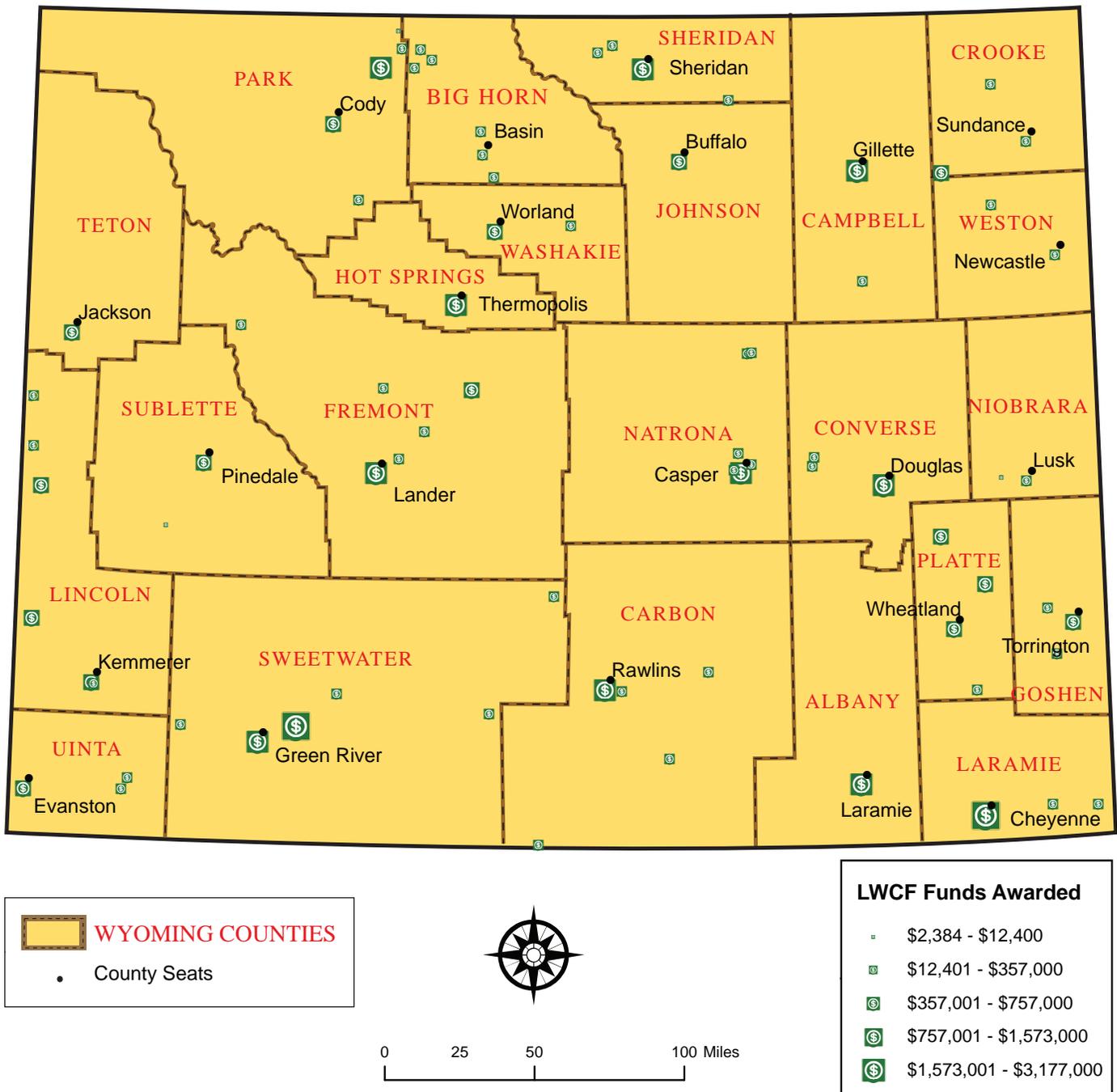
Table 1.1 Distribution of Land and Water Conservation Funds in Wyoming (1966-2008)

| County | Dollar Amounts Awarded |
|--------------|------------------------|
| Albany | \$1,145,127.09 |
| Big Horn | \$966,168.19 |
| Campbell | \$1,360,062.03 |
| Carbon | \$1,509,471.59 |
| Converse | \$1,609,640.53 |
| Crook | \$1,080,068.93 |
| Fremont | \$2,572,810.92 |
| Goshen | \$540,996.50 |
| Hot Springs | \$848,097.50 |
| Johnson | \$609,725.00 |
| Laramie | \$3,365,366.06 |
| Lincoln | \$1,691,802.02 |
| Natrona | \$1,819,186.02 |
| Niobrara | \$314,861.65 |
| Park | \$1,471,816.79 |
| Platte | \$1,632,748.87 |
| Sheridan | \$2,037,698.79 |
| Sublette | \$502,683.81 |
| Sweetwater | \$4,150,087.30 |
| Teton | \$496,460.35 |
| Uinta | \$1,171,582.74 |
| Washakie | \$600,636.14 |
| Weston | \$610,618.51 |
| Other | \$1,501,965.21 |
| TOTAL | \$33,690,682.53 |

The level of funding available through the LWCF program has decreased substantially over the last decade. Nonetheless it remains the largest funding source for federal matching monies for outdoor recreation development and improvements available to Wyoming communities.

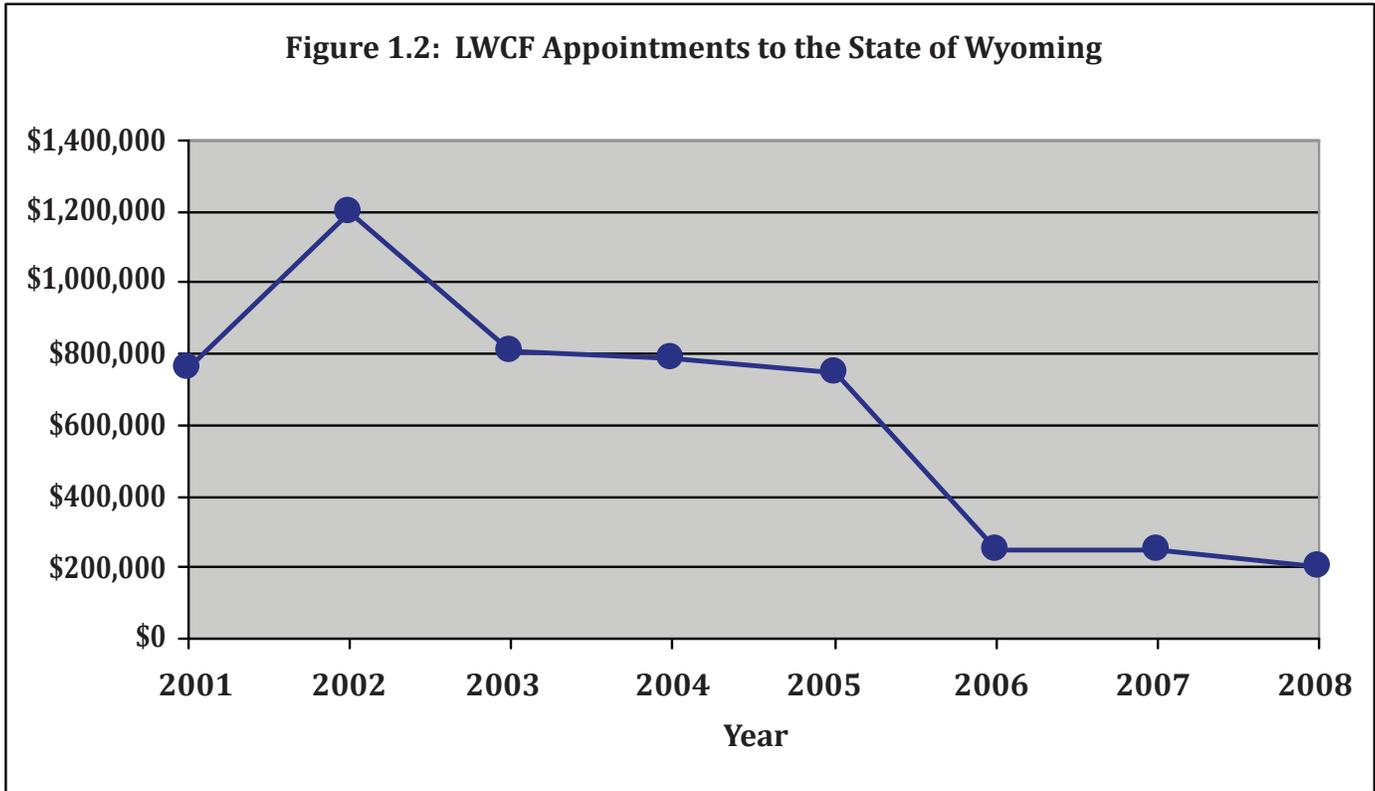
Historically, the majority of LWCF monies made available to Wyoming have been provided to county and local municipalities (Table 1.1 and Figure 1.1). The distribution of monies within Wyoming also has been historically uneven and most likely affected by population size, administrative effectiveness, and awareness of local communities regarding the availability and processes associated with LWCF funding. Monies available to the State of Wyoming can be used for development at state parks or can be distributed to county and local governments, recreation and school districts.

Figure 1.1 • LWCF Awards To Wyoming Communities



Introduction

Funding was minimal in the late 1980s and early 1990s. Funding was cut altogether from 1995-1999. The LWCF funds were reestablished in 2000. The most recent apportionments the State of Wyoming has received are: fiscal year 2001 - \$760,385.00; 2002 - \$1,197,835.00; 2003 - \$808,079.00; 2004 - \$788,287.00; 2005 - \$749,063.00; 2006 - \$245,789.00; 2007 - \$245,789.00; and for fiscal year 2008 - \$203,057.00 (Figure 1.2). These figures reflect that the states are witnessing a decrease in the federal apportionment. This downturn in LCWF apportionments reflects the national economic climate having been impacted by the conflict in the Middle East, numerous natural disasters, and the current economic situation.



Trails Component

Recreational trails are an important component of outdoor recreation in Wyoming. The 1998 Wyoming Statewide Trails Inventory documented over 1,300 existing trails providing 8,200 miles that are available to users in Wyoming during all seasons. Federal agencies, including the USFS, NPS and BLM administer these trails in conjunction with the Division of State Parks, Historic Sites and Trails, Wyoming State Trails Program (WSTP). The WSTP is responsible for managing winter snowmobile trails and off-road vehicle trail use. The mission of the WSTP is to facilitate the development and administration of a diverse motorized trail system for the enjoyment and benefit of the public through partnerships and collaboration. The WSTP enables both land managers and users to coordinate actions and enhance state trails.

Wetlands Component

The Wyoming Game and Fish Department worked with the Division of State Parks, Historic Sites and Trails to update the Wetlands component during the data collection phase for the 2003 SCORP. These data were derived from the USFWS National Wetland Inventory and data provided by the US Army Corps of Engineers, as well as their own sources.

The LWCF Grants Manual, Chapter 630.1 cites the following guidelines for SCORP planning:

Chapter 630.1 (E): the plan (SCORP) must contain a wetlands priority component consistent with Section 303 of the Emergency Wetlands Resources Act of 1986. At a minimum, the wetlands priority component must:

- be consistent with the National Wetlands Priority Conservation Plan, prepared by the U.S. Fish and Wildlife Service
- provide evidence of consultation with the state agency responsible for fish and wildlife resources, and
- contain a listing of those wetland types which should receive priority for acquisition

Since the Wyoming Game and Fish Department has the expertise available to identify the wetlands issues, they were selected to develop this requirement of the SCORP. A specific in-depth inventory of outdoor recreation areas adjacent to or dependent on wetlands areas is not included in this document.

The Planning Process

The initial phase of the SCORP development process was to inventory and analyze past SCORPs and other pertinent data. Participation by the public was a key component in the planning process. Surveys of Wyoming citizens and Wyoming Recreation Providers were conducted. The survey data collected are being used to continually assess the supply of outdoor recreation resources and to determine future demand for recreation facilities and areas in the state.

- The Wyoming Survey and Analysis Center (WYSAC), conducted and distributed a random users' survey to determine the supply of outdoor recreation services in Wyoming and to gather insight into public perception on the needs and future demands for outdoor recreation facilities in the state. The size of the random sample was large enough to achieve a completion rate of not fewer than 1,000 surveys to ensure that the survey results represent the opinions of Wyoming households with a 95% degree of confidence.
- The providers' survey was an e-mail and telephone survey of eleven public recreation organizations throughout Wyoming. The recreation providers were selected to provide a cross section of community sizes and geographic distribution.
- The Wyoming Trails Inventory was developed to enable the public and land managers to understand what trails were available and how they are used. Presenting this type of information allows WSTP to better develop and maintain a diverse trail system.
- The Snowmobile Economic Impact Survey has compiled information on the economic impact of the snowmobiling industry in Wyoming that brings a total of \$234 million dollars a year into the travel and tourism industries. This survey has been utilized in developing budgets and grooming plans for the state snow trails including motorized uses.

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- A Survey and Economic Assessment of Off-Road Vehicle (ORV) Use in Wyoming was conducted to estimate the extent of ORV recreational participation and the impact of ORV use on Wyoming's economy. The survey estimates that 37 percent of Wyoming households rode ORVs in the previous twelve months and an estimated \$189,000 were spent on ORVs and related expenses.
- The Wyoming State Parks, Historic Sites and Trails 2004 Visitor Survey was used to elicit views about the past and future directions of the state parks in Wyoming.
- Drafts of the Statewide Comprehensive Outdoor Recreation Plan were made available for public comment. The availability of the document was publicized via radio and newspaper news releases. The state's major newspapers also published articles on the planning document. Public comments received were considered and incorporated into the final document.

These documents identified all recreation trends and issues. The SCORP planning process then addressed needs and priorities for federal, state and local governments for the next five years. The final phase for the plan recommends specific "actions" and development priorities for the next five years.

Priority recreation issues and projects were identified by analyzing survey data and considering the needs of and resources provided by agencies and organizations. The implementation plan includes a list of recommendations for each issue. A list of priority projects to address the recommendations is also identified. The recommendations and priority projects will be used to guide the allocation of LWCF monies to future applicants.

The intent of this plan is to develop a document that is "user friendly." This 2009 SCORP does not contain a step-by-step outline for the future. The 1990 SCORP is an existing technical document which can continue to be referenced for detailed information about Wyoming. The primary focus of this 2009 version is to provide dialogue for both recreation users and outdoor recreation providers in an easy to read and understandable format.



Chapter 2

Description of State



History



More than 20,000 years ago, migration brought the human race by various routes to the present United States. Archaeological research and historic documentation indicates ancestors of the American Indians inhabited present day Wyoming as far back as 11,500 years ago. The prehistoric cultural tradition of these ancient people was nomadic and survival relied on hunting and gathering. Numerous cultural artifacts such as tipi rings and pit hearths have been found throughout Wyoming and provide stories from a recent past.

Harsh environmental conditions prevented most early inhabitants from permanently settling in Wyoming. Prehistoric tribes would extract from the land what was needed for survival and move on. One semi-permanent settlement, The Spanish Diggings, just north of present day Guernsey is considered one of the most important archeological sites in the northwestern plains. This settlement was used as a transition area from the Midwest by Paleo-Indian tribes. Artifacts can be found here from the mining of quartzite by these prehistoric peoples.

During the 18th century several Indian tribes settled in Wyoming. The Arapaho and Cheyenne Indian tribes occupied the southeastern plains and North Platte River Basin areas of Wyoming. The Ogallala and Brule Sioux Indian tribes moved into Eastern Wyoming from South Dakota. In the early 1800s the first white men came to Wyoming and explored this area thoroughly. The United States acquired the area that became the State of Wyoming through the Louisiana Purchase of 1804 giving explorers and fur trappers the opportunity to develop and settle in the state. The first expedition to cross Wyoming was made by the Astorians in 1811-1812.

By the mid-1800s these early explorers vanished from history and the plains people were forced onto reservations. Because of the unique geological landscape, Wyoming has served as a thoroughfare for western migration ever since. The high “Wyoming Basin” through the Rocky Mountains was a natural transportation route. Left behind were wagon and stagecoach ruts, names and dates carved on trail sides, several place names and many graves of those lost along the way. The 1800s also brought the stagecoach, the Pony Express, the railroad and the first transcontinental telegraph to Wyoming. The North Platte River was enticing to farmers and ranchers. Early settlement in Wyoming was characterized by open grazing of sheep and cattle and farming. Permanent homesteading and ranching operations stemmed from this. Known today as the Equality State, Wyoming was the first state to specifically give women the right to vote, which it did as a territory in 1869 and retained upon entering the Union.

Economics

Wyoming has always had a natural resources-based economy. Mineral extraction, construction and tourism are major economic activities. Mining is the state’s largest industry accounting for 30% of the total value of goods and service produced (Gross Domestic Product or GDP). Economically significant quantities of oil, natural gas, coal and uranium are found in several parts of the state. Wyoming currently ranks as the leading producer of coal, second leading producer of natural gas and seventh leading producer of oil in the United States. It is estimated that two thirds of the state’s and local governments’ revenues are from the mining industry. Local, State, and Federal Governments are Wyoming’s second largest industries, followed

by real estate, rental and leasing. Agriculture does not make up a large portion of Wyoming's income, but it does contribute significantly to the state's identity and many rural residents in the state rely on agriculture for their way of life.

At the end of 2007, the National GDP was estimated at \$13,743 billion dollars. The GDP for Wyoming estimated total was \$31.5 billion (Wyoming Department of Administration and Information 2008).

The largest employer in the state, particularly in the southeast part of the state, is the government sector. The government jobs serve as a stabilizer to the state's economy through the up and down cycles of the mineral industry. The employed labor force in 2005 was 274,362. From 2005 to 2006 employment jumped by 8,800 jobs resulting in a sharp decline in unemployment. The October 2008 unemployment rate was 2.8 % and below the national average of 5.3%. Earnings within the State of Wyoming have improved over the last decade. Wyoming's real average earnings per job were \$42,477 while the nation's average was at \$48,886 (Wyoming Department of Administration and Information 2007).

The economic outlook for Wyoming is predicted to have stronger than average growth supported by the demand for natural resources. The mining industry has also increased demands in other industries such as construction, wholesale trade, transportation, and professional and business services. The state bucks national trends with many economic indicators leading the nation. The total job growth rate of 4.9 percent in 2006 was the second highest in the U.S.; a personal income growth rate of 10.4 percent in 2006 was nearly the highest; and the annual housing appreciation rate of 14.3 percent during 4th quarter of 2006 was the second highest. Wyoming's reliance on mineral extraction is apparent in its economic diversification index, which is the lowest in the nation and is currently the lowest in Wyoming's history. The growth rate of 13.2 percent in GDP in 2005 was the highest in the country as was the 14.5 percent of growth rate in per capita state revenue in 2005. In the near to mid-term, a strong but decelerating growth is predicted due to reduced drilling activities (particularly for coal bed methane), shortages of qualified workers and affordable housing, and wildlife concerns. Should energy prices drop faster and lower than expected, our low economic diversification and/or high dependence on the energy sector will again create a challenging economic climate (Wyoming Department of Administration and Information 2007).

Agriculture is a basic component in the overall prosperity of the state. Primary crops include wheat, oats, sugar beets, corn, potatoes, barley and alfalfa. Most state experts agree that tourism is the second largest industry, but it is not measured as an independent industry because its economic effect crosses into many retail and service sectors such as transportation, food, and accommodations. By virtue of the natural and cultural resources, Wyoming has the potential for a significant amount of tourism development. Tourism is especially beneficial because it generates revenue throughout the state. Trends in tourism are predicted to be consistent with the past trend of moderate growth. Challenges of the tourism industry are related to a labor force shortage and many businesses are forced to recruit seasonal employees from other countries. In addition, the flooding of hotels with oil and gas workers has negatively impacted tourism activities. There are, however, current factors that could work to the advantage of the state's tourism industry. With the weakened American dollar international tourism is growing, there is an assumption that retiring boomers are more interested in natural and cultural resource tourism opportunities than previous generation's retirees, and the state's increased revenues are creating opportunities to enhance tourist attractions. As tourism services are expanded an emphasis must be placed on protection of the industries' resources including wildlife, natural features, cultural and historic sites, and scenic vistas (Wyoming Department of Administration and Information 2007).



Population

The rise and fall of the state's number one industry, mineral extraction, parallels the population swings in the state. After the energy boom in the 1970s the population of the state grew by over 40%. The boom was followed by a bust in the mid-1980s and a slow and steady decline into the 1990s. Strong growth in the mining industry since the beginning of the 21st century has created a significant migration to Wyoming of people in their prime working years (Wyoming Department of Administration and Information 2007).

The number of Wyoming residents is at a record high. Our current population of 515,400 surpasses the previous record of 510,361 residents set during the boom in 1983. A population increase of 7000 residents was predicted for 2007. Wyoming is still ranked 50th in the nation in total population. Our state boasts one square mile for every five residents with only Alaska being less densely populated.

Demographic factors such as age, ethnic makeup, per-capita income and urban vs. rural residency are elements that influence the outdoor recreation habits of users in Wyoming. Hispanic, Indian, Blacks, Asian and other minorities account for less than ten percent of the total population.

Wyoming's population is aging quickly due to our high proportion of baby boomers and exodus of generation X workers for employment opportunities and/or preferences for specific amenities. A mass exit of boomers from the workforce is expected starting in 2010. As the population in Wyoming becomes older there will be a significant change in recreational user patterns. The public sector needs to be alert to demands for and types of services needed by the older population.

There are 23 counties in Wyoming containing 99 incorporated towns. Cheyenne is the state capital with a population of 55,000. When compared with other states in the region, Wyoming is considered predominately rural. Sixty-five percent of Wyoming's population is considered urban, where urban areas in Wyoming are defined as cities and towns of more than 2,500 persons. There are four cities in Wyoming with a population of over 20,000 and two cities over 50,000.

Physical Geography

Located in the western United States, the Cowboy or Equality State encompasses 98,210 square miles (62,854,415 acres) of diverse terrain comprised mainly of high plains, mountain ranges, basins and river valleys. Water covers less than 1% of the state's land area. The total federal acreage is 29,937,421, over 50 percent of the federal land is owned by the BLM followed by the USFS and NPS. The state is bordered by Montana on the north, South Dakota and Nebraska on the east, Colorado and Utah on the south and Utah and Idaho and Montana on the west.

Wyoming is within the following eco-regions: the Middle Rockies, Wyoming Basin, Wasatch and Uinta Mountains, Southern Rockies, High Plains and Northwestern Great Plains (Chapman et al. 2004). The Continental Divide, separating the watersheds of the Pacific and Atlantic Oceans, passes through the Wyoming Basin. Three major river systems have their headwaters in the state. The Snake and its tributaries flow into the Columbia; the Green River flows into the Colorado; the Yellowstone, Big Horn, Wind, Belle Fourche, Laramie, Sweetwater and North Platte Rivers all flow into the Missouri. The mean elevation of the state is 6,700 feet above sea level, the second highest elevation coming in just below Colorado. From the lowest point in elevation along the Belle Fouché River (3,100 feet) to highest point at Gannett Peak (13,804) Wyoming has a rich diversity of native plants and an abundance of wildlife (Knight 1994).

Climate

Climate is the long-term synthesis of aggregate atmospheric conditions produced by day-to-day weather variations. It includes averages, extremes, variables and temporal and spatial distribution of numerous meteorological features computed for periods ranging from days to decades. Elements of climate pervade the workings of the natural environment, often influencing and sometimes controlling human activities and commerce. Understanding local climate is of great importance in recreation planning and construction decisions.

Wyoming has a continental climate and is located in the heart of the mid-latitudes and is within the range of the polar jet stream which steers storms and fronts through the state. Since the mountain ranges lie in a general north-south direction perpendicular to the prevailing westerly winds, the ranges provide effective barriers which force the air currents moving in from the Pacific Ocean to rise and drop much of their moisture along the western slopes. Wyoming is considered semiarid east of the mountains.

The topography and variations in elevation make it difficult to divide the state into homogeneous climatological areas. In winter, because Wyoming is often beneath the jet stream, strong winds and outbreaks of arctic air frequently occur. Winters tend to be long and cold with generally low precipitation. Fall and winter snowfall ranges from 35-65 inches annually. During the summer, the jet stream retreats northward over Canada leaving Wyoming's weather semi-arid and moderately warm with low humidity. Thunderstorms and hailstorms are relatively frequent and short. Sunshine is abundant throughout the year and temperatures fluctuate widely, from -43 degrees Fahrenheit in the winter to 106 degrees Fahrenheit in the summer. Prevailing winds are from the west and northwest, and are relatively strong, averaging 12 miles per hour. On occasion strong winds of 30-40 miles per hour can prevail for several days. Precipitation normally ranges from 9-16 inches annually with statewide annual average of 14.5 inches. The length of the growing season averages 140 days a year and diminishes statewide generally from east to west from 120 days in the Plains region to less than 80 days in the mountainous northwest (Curtis and Grimes 2004).

Topology

Wyoming's terrain consists of vast plains and massive mountain ranges that provide beautiful natural sceneries, high grazing plains and an abundance of valuable minerals. Extensive mountain ranges have been formed by the shifting and faulting of the continental plates breaking up Wyoming's large plateaus. Mountain ranges within the Middle Rockies in the northern part of the state include the Black Hills, Big Horn, Absaroka, Washakie, Teton, Gros Vente, Wind River, Salt River, and Wyoming mountain ranges. The

Description of State

Southern Rocky Mountains include the Granite, Laramie, Sierra Madre, and Medicine Bow mountain ranges. The mountains are surrounded by the Green River, Washakie, Great Divide, and Big Horn Basins in the western half of the state and the Powder River, Shirley, Hanna, Laramie and Denver Basins in the eastern half of the state.

Wyoming's diverse terrain has traditionally been a major producer of energy resources and industrial minerals. The land can produce oil, natural gas, low sulfur coal, uranium, oil shale, trona, bentonite, gypsum, iron ore, gold and soda ash. Wyoming is the leading producer of oil and gas in the Rocky Mountain Region. The state is also the largest producer of coal in the nation and the world's largest producer of natural trona. Forty thousand square miles of Wyoming's landscape is underlain by coal, most of which is close to the surface.

Soil is an important natural resource in Wyoming. As with much of the Great Plain region the soils are quite fertile. However, due to the low amounts of annual precipitation and the short, cool growing season only a small portion (3 percent) of the state is cultivated or "has seen the plow." Most (90 percent) of the agricultural land is grasslands and shrublands used for livestock grazing. Mountain soils support forests because of the consistency of the soil and increased precipitation, much of which comes in the form of snow.

Clean water is abundant in Wyoming. Snow accumulation in the mountains determine the quality and quantity of water available for irrigation and other uses. Spring snow melt from these areas recharges the ground water system and reservoirs. Rainfall also contributes to the recharge of the ground water but to a far lesser degree.

Flora

Because Wyoming's diverse landscape rises over 10,000 feet from its lowest elevation, a variety of landscapes and habitats are present. Above timberline, grasslands, low shrublands and alpine tundra are characteristic and forests of spruce, pine, fir and aspen as well as open juniper woodlands are found in the lower mountains and foothills. Grasslands cover the eastern plains and the statewide basins. The basins of central and western Wyoming are dominated by sagebrush and other desert plants including a wide variety of wildflowers. Streams and rivers draining the landscapes have fertile soils on the floodplains. Dense stands of sedges, willows, alder, box elder, and cottonwood can be found at water's edge.

Fauna

The abundance of native vegetation and quality habitat creates prime breeding and feeding grounds for a variety of bird and wildlife species and provides refuge for some of North America's largest animals. Numerous amphibians, reptiles, mammals, birds, and fish can be found. Great herds of mule and white tail deer and pronghorn antelope are easily spotted from many of the state's highways. Huge numbers of elk can be found in Wyoming's mountains. Other large mammals include black and brown bear, grizzly bear, moose, bighorn sheep, rocky mountain goat and mountain lion. Smaller mammals include the fox, mink, coyote, bobcat, jackrabbit, cottontail, otter, beaver, and raccoon. Birds include the trumpeter swan, white pelican, great blue heron, California gull, sage grouse, wild turkey, ring-necked pheasant, Canadian goose and numerous species of duck. Birds of prey include the bald eagle, golden eagle, osprey, and several kinds of hawks and owls. Brook, cutthroat, brown and rainbow trout, bass, walleye, crappie, perch and channel catfish can be found in the waters of the state.

Stewards of Wyoming's Public Lands

Within the State of Wyoming's boundaries lie an extremely valuable collection of natural and cultural resources providing tremendous opportunities for people wishing to participate in rural outdoor recreation as well as land stewardship. A number of land managers serve as recreation providers in Wyoming. They include: the National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Bureau of Reclamation, State of Wyoming Game and Fish Department, Wyoming Office of State Lands and Investments, Division of State Parks, Historic Sites and Trails, local and county governments and privately owned recreation providers. The following list of recreation providers is for identification of only those outdoor recreation facilities and issues administered by those agencies.

Federal Outdoor Recreation Providers

The philosophy of managing federal lands to preserve natural conditions was carried forward by early explorers and led to the creation of Yellowstone National Park in 1872. Multiple-use on other federal land was given little attention until concerns began to be expressed about excessive timber harvesting and livestock grazing. The Multiple Use-Sustained Yield Act of 1960 emphasizing the importance of recreation, rangeland, watershed, fish and wildlife values as well as timber shaped the current management of the USFS. The BLM adopted a similar philosophy that included managing lands for recreation with the passage of the Federal Land Policy and Management Act in 1976.

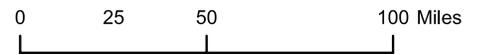
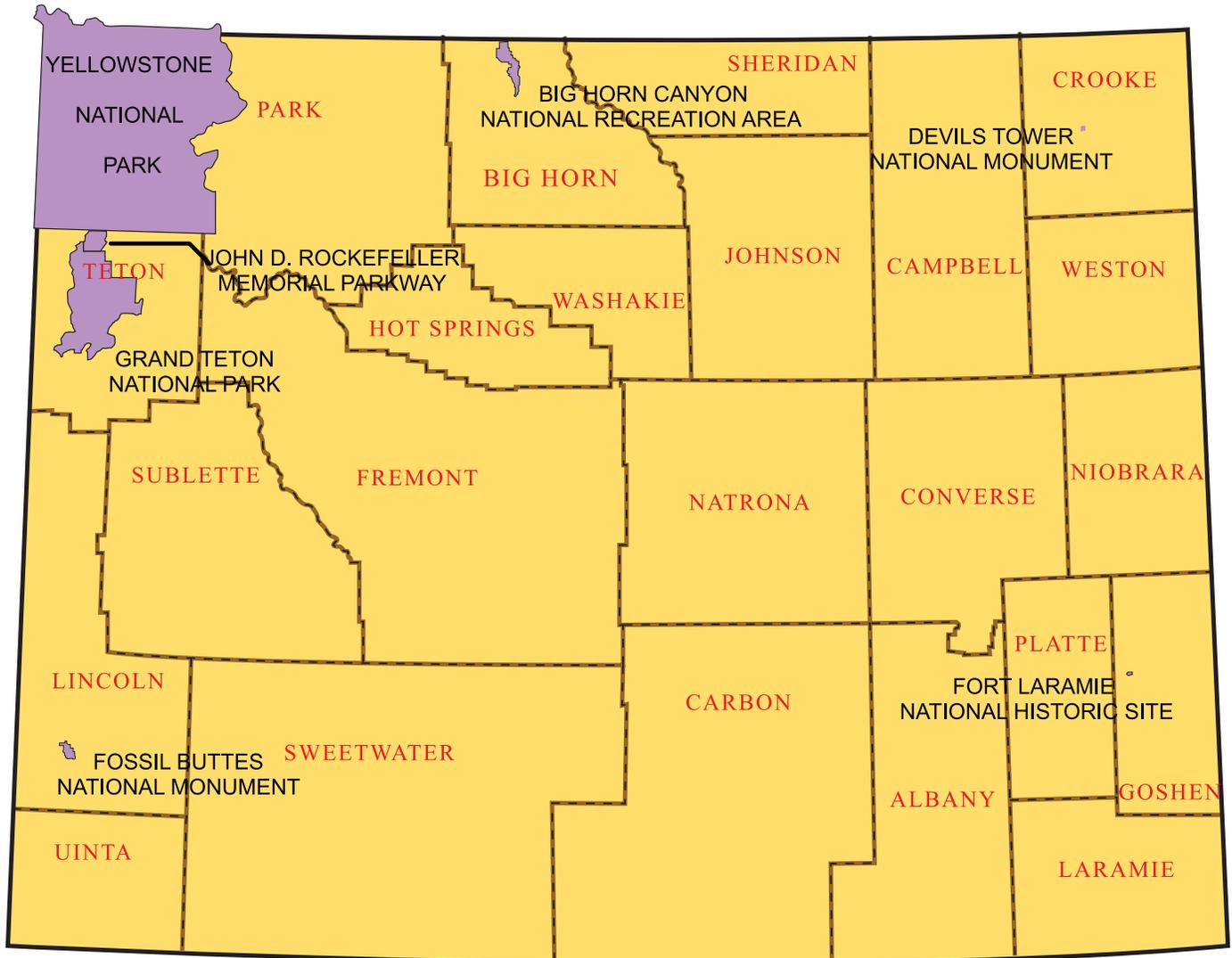
National Park Service

The NPS administers Wyoming's most popular and renowned outdoor recreational resources. They are responsible for seven different sites in Wyoming which total approximately 2,395,724 acres or about 8 percent of the state (Figure 2.1). Yellowstone is the largest site administered by NPS consisting of 2,219,790 acres. Grand Teton National Park is the second largest consisting of 309,994 acres. NPS-managed sites include:

- **Yellowstone National Park**
- **Grand Teton National Park**
- **Devils Tower National Monument**
- **Fossil Butte National Monument**
- **Big Horn Canyon National Recreation Area**
- **Fort Laramie National Historic Site**
- **John D. Rockefeller Memorial Parkway**

Description of State

Figure 2.1 • National Park Service Administered Sites

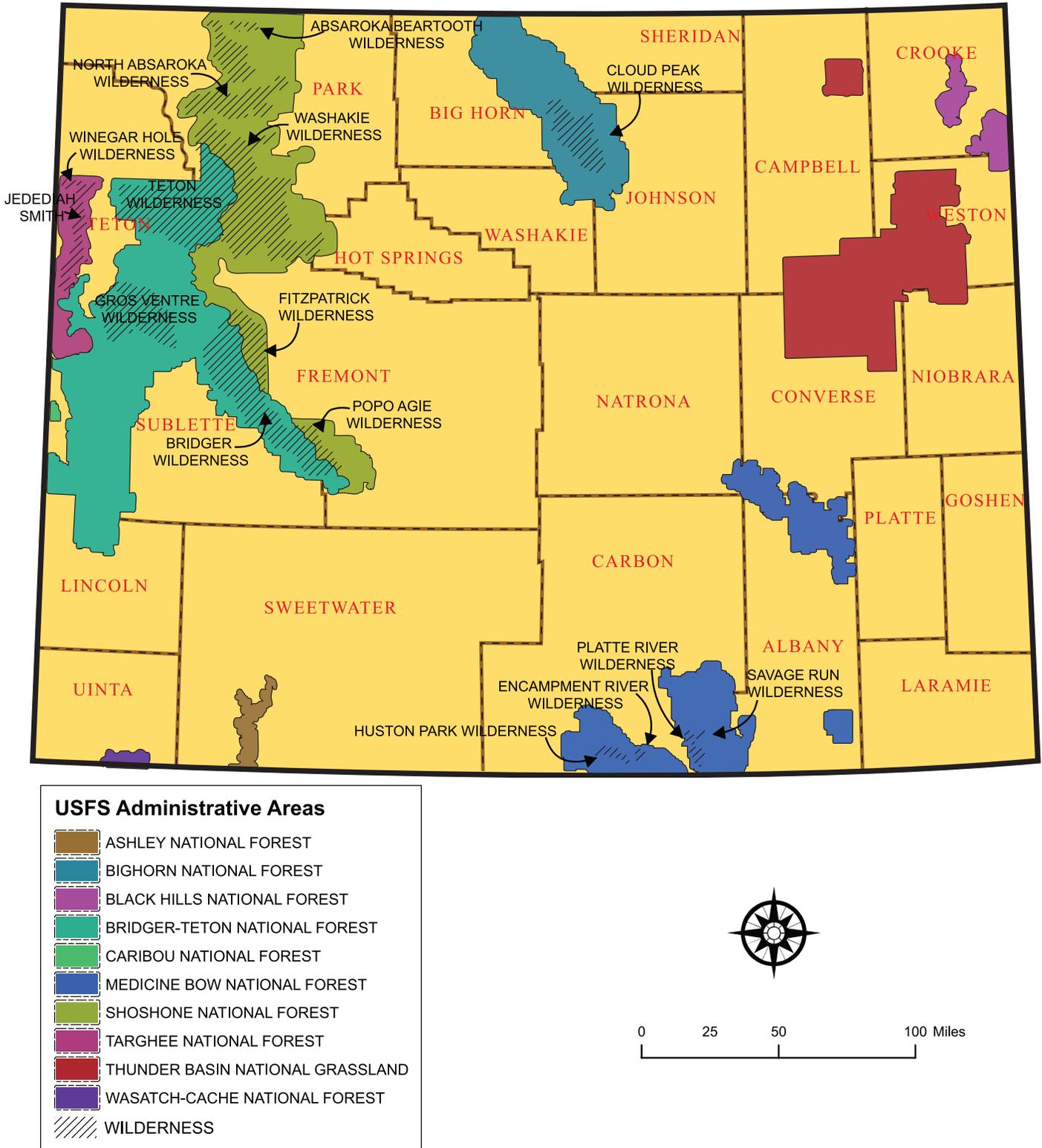


United States Forest Service

National Forest lands within Wyoming total 8,795,133 acres (Figure 2.2). These lands comprise 25% of the total public lands within Wyoming. The Bridger Teton National Forest is the largest area with 3,400,110 acres of land followed by the Shoshone National Forest with 2,433,029 acres. Within Wyoming, the U.S. Forest Service also administers the Thunder Basin National Grassland which comprises 572,518 acres of public land.

There are fifteen designated roadless Wilderness Areas and one Wilderness Study Area in Wyoming. Wilderness areas provide areas for dispersed, primitive recreation experiences including hiking, horseback riding, hunting, backpacking and skiing. Wilderness areas are a destination for Wyoming residents as well as out of state visitors.

Figure 2.2 • United States Forest Service Administrative Areas



Description of State

The Washakie Wilderness Area is the largest Wyoming wilderness with 704,274 acres. Teton and Bridger Wilderness Areas are second and third largest, respectively, and consist of 585,238 and 428,169 acres. The USFS managed lands and wilderness areas are listed by administrative unit.

Ashley National Forest

Big Horn National Forest

- *Cloud Peak Wilderness*

Black Hills National Forest

Bridger Teton National Forest

- *Bridger Wilderness*
- *Teton Wilderness*
- *Gros Ventre Wilderness*

Caribou-Targhee National Forest

- *Winegar Hole Wilderness*
- *Jedediah Smith Wilderness*

Medicine Bow-Routt National Forest

- *Encampment River Wilderness*
- *Huston Park Wilderness*
- *Platte River Wilderness*
- *Savage Run Wilderness*

Shoshone National Forest

- *Absaroka-Beartooth Wilderness*
- *Fitzpatrick Wilderness*
- *North Absaroka Wilderness*
- *Popo Agie Wilderness*
- *Washakie Wilderness*

Thunder Basin National Grassland

Wasatch-Cache National Forest

Bureau of Land Management

In Wyoming, the BLM administers approximately 17,530,678 acres of land. This is slightly less than one-third of the state. Not all of this land is used for recreation activities. The dominant land use activity is based on a combination of factors including resource values, public demand, accessibility and economic considerations.

In addition to providing almost unlimited opportunities for dispersed outdoor recreation, the BLM administers a number of improved recreation sites where fees are collected and a non-fee trail system. The BLM is also the managing partner for the Bureau of Reclamation's Fontenelle Reservoir. The BLM field offices and fee areas are as follows:

Buffalo Field Office

Casper Field Office

- *Lodgepole Campground (Muddy Mountain Environmental Education Area)*
- *National Historic Trails Interpretive Center*

Cody Field Office

- *Five Springs Falls Campground*

Kemmerer Field Office

- *Fontenelle Campground*

Lander Field Office

- *Atlantic City Campground*
- *Cottonwood Campground*
- *Big Atlantic Gulch Campground*

Newcastle Field Office

Pinedale Field Office

- *Warren Bridge Campground*

Rawlins Field Office

- *Bennett Peak Recreation Site*
- *Encampment River Campground*

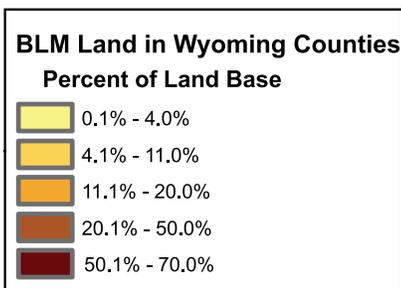
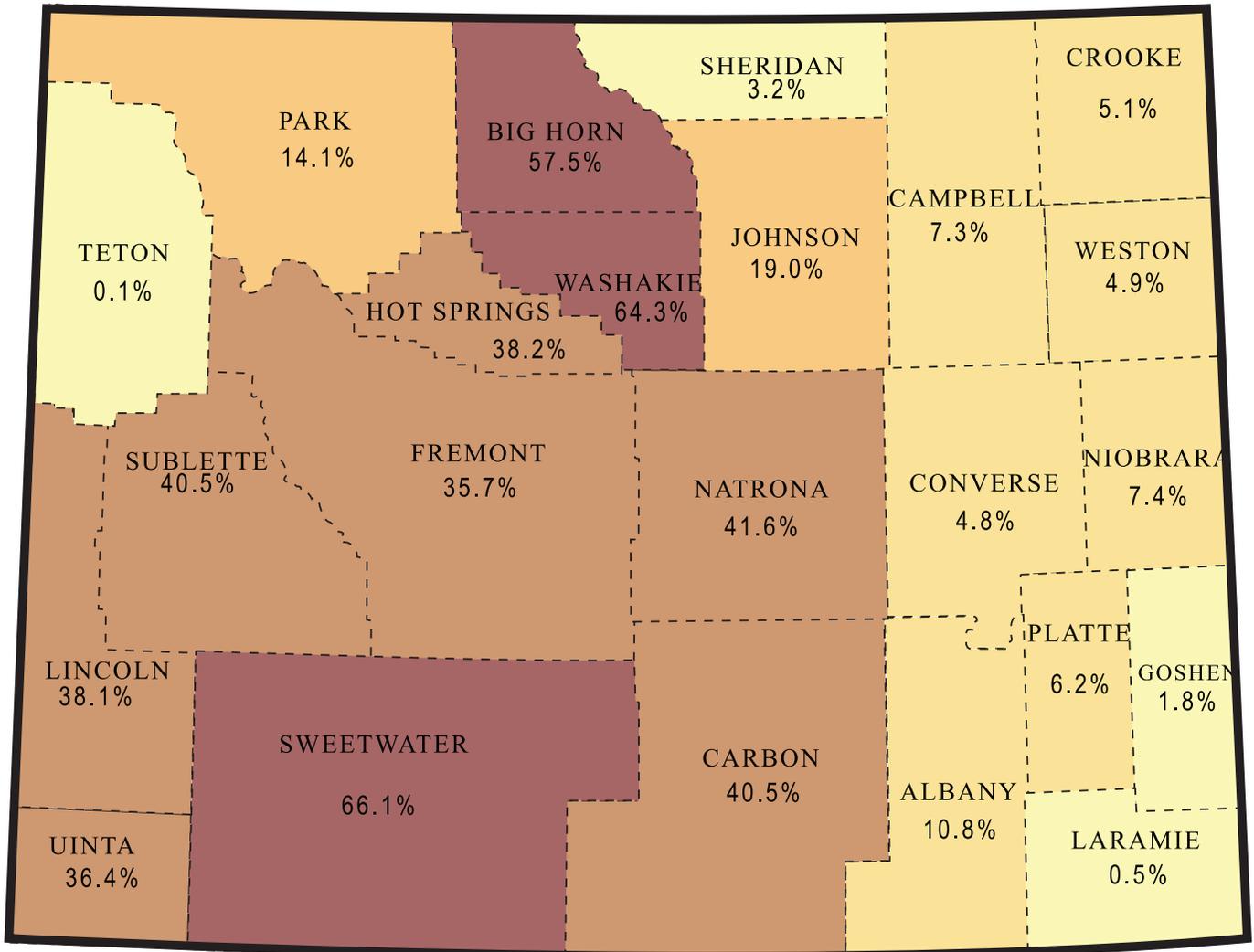
Rock Springs Field Office

Worland Field Office

The Bureau of Land Management is the largest manager of federal land in the state. The BLM Wyoming State Office is located in Cheyenne. Most of the BLM Lands are in counties in the southern and central portion of the state (Figure 2.3).

Description of State

Figure 2.3 • Percentage of BLM Land in Wyoming Counties



The National Trails System Act of 1968 established a national system of trails including national recreation trails, national scenic trails, national historic trails, and connecting or side trails. The National Park Service and Bureau of Land Management have developed management plans and provide administration for the trails. The following National Trails pass through the state:

- California National Historic Trail
- Continental Divide National Scenic Trail
- Mormon Pioneer National Historic Trail
- Oregon National Historic Trail
- Pony Express National Historic Trail
- Texas Trail

United States Fish and Wildlife Service

The USFWS manages federal lands specifically for wildlife including elk, waterfowl and even toads. The refuges provide opportunities to hunt, fish, view wildlife, and hike. There are five National Wildlife Refuge Areas and two National Fish Hatcheries which comprise a total of approximately 81,293 acres in Wyoming. The largest refuges are Pathfinder with 16,807 acres and Seedskafee with 26,400. Areas managed by the USFWS include:

- Bamforth National Wildlife Refuge
- Cokeville Meadows National Wildlife Refuge
- Hutton Lake National Wildlife Refuge
- National Elk Refuge -Jackson
- National Fish Hatchery-Jackson
- National Fish Hatchery-Saratoga
- Pathfinder National Wildlife Refuge
- Seedskafee National Wildlife Refuge

Bureau of Reclamation

The primary responsibility of the BOR in Wyoming is to develop and maintain structures which provide flood control, hydropower and irrigation. As a secondary function, BOR also helps to plan and develop recreation facilities at their Reclamation sites.

The administration of these recreation sites, however, is generally assigned to other agencies which assume responsibility for day-to-day operation. The NPS, the SPHST, local governmental units and in some cases the USFS all have agreements to manage BOR recreation areas. In total, the BOR administers and/or leases approximately 954,680 acres in Wyoming.

A list of the BOR lands in Wyoming used for outdoor recreation and the managing partners include:

- Alcova Reservoir: Natrona County Roads, Bridges & Parks Department
- Big Horn Canyon National Recreation Area: NPS
- Big Sandy Reservoir: BOR Upper Colorado Region, Provo, Utah Office
- Boysen Reservoir: SPHST
- Buffalo Bill Reservoir: SPHST
- Bull Lake: BOR, Wyoming Area Office
- Deaver Reservoir: WGF
- Eden Reservoir: BOR, Provo, Utah Office
- Flaming Gorge National Recreation Area: USFS
- Fremont Canyon Recreation Area: BOR, Wyoming Area Office
- Glendo Reservoir: SPHST
- Gray Reef Reservoir: Natrona County Roads, Bridges & Parks Department
- Gray Rocks: Basin Electric
- Guernsey Reservoir: SPHST
- Keyhole Reservoir: SPHST

Description of State

- Kortez Dam/Miracle Mile Area: BOR, Wyoming Area Office
- Lake Cameahwit (a/k/a Bass Lake): WGF
- Meeks Cabin Reservoir: BOR, Upper Colorado Region, Provo, Utah Office
- Newton Lakes: WGF
- Ocean Lake: WGF
- Pathfinder Reservoir: BLM and Natrona County Roads, Bridges & Parks Department
- Pilot Butte Reservoir: BOR, WGF
- Ralston Reservoir: WGF
- Seedskaadee Dam/Fontenelle Reservoir: Co-managed by BOR, BLM and USFWS
- Seminoe Reservoir: SPHST

Wyoming Outdoor Recreation Providers

The state of Wyoming owns approximately 3.6 million surface acres of land. Much of the land was granted to the state by the federal government at the time of statehood under various acts of the U.S. Congress. The majority of state-owned lands are State Trust Lands and revenues generated are reserved for the benefit of public schools, and other beneficiaries. In addition to the State Trust Lands, there are non-trust acquired land within the State. Non-trust lands are allocated and managed by other state agencies, including WGF and SPHST, to benefit the missions of the agencies and the public.

Public recreation providers for Wyoming's municipalities and counties fall within city or county governments and recreation districts. Private recreation amenities are abundant and are available through lodging providers, private campgrounds, ski areas, golf courses, dude ranches and more.

The Wyoming Recreation and Parks Association is a non-profit association comprised of individuals and agencies involved in the field of parks and recreation as professionals, volunteers, advocates and vendors. The Association gives Wyoming providers professional support in promoting quality parks and recreation services through education and leadership.

Wyoming Game and Fish Department

The Wyoming Game and Fish Department is responsible for conserving and propagating fish and wildlife and managing wildlife for the benefit of the people of Wyoming. The agency's responsibilities center on wildlife management rather than outdoor recreation.

The Game and Fish Department provides technical assistance to plan and develop areas which provide public access and improve wildlife habitat. Special hunt areas, wildlife preserves, fish hatcheries, boat launching facilities, and habitat improvement projects are examples of areas the WGFD has developed to enhance the outdoor recreation experience in the state.

Wyoming Office of State Lands and Investments

State Trust Lands are not "public" lands in the same sense as those lands managed by the federal government. Almost all of the 3.6 million acres of land were granted to the state on its admission to the Union. These

lands were granted to produce income for the support of the public schools and institutions to manage trust assets for two key purposes consistent with traditional trust principles: (1) long-term growth in value, and (2) optimum, sustainable revenue production.

Generally, state lands other than cultivated crop lands are available for public hunting, fishing and recreational day use. The lands must be legally accessed and public users must comply with the regulations of the Wyoming Board of Land Commissioners. These regulations prohibit any off-road motor vehicle use, overnight camping, or open fires.

Any activity which would damage state lands, roads, improvements or lessee property interests is also prohibited. Public users of these lands are encouraged to notify the lessee, when using these lands for outdoor recreational activities.

Department of State Parks and Cultural Resources Division of State Parks, Historic Sites and Trails

The Division of State Parks, Historic Sites and Trails has legislative authority to manage recreation and historic sites and provide assistance to communities to develop recreation opportunities in Wyoming. Currently 51,326 acres of land and 69,375 surface acres of water for public recreation purposes are managed by SPHST. Amenities on SPHST managed properties include over 1400 campsites, group picnic areas, nearly 200 picnic sites and shelters, over 30 playgrounds and over 30 boat ramps. The SPHST system includes eleven state parks, one state recreation area, over twenty historic sites and two state archaeological/petroglyph sites (Figure 2.4). The sites in the system range in size from less than an acre to a little over 34,000 acres.

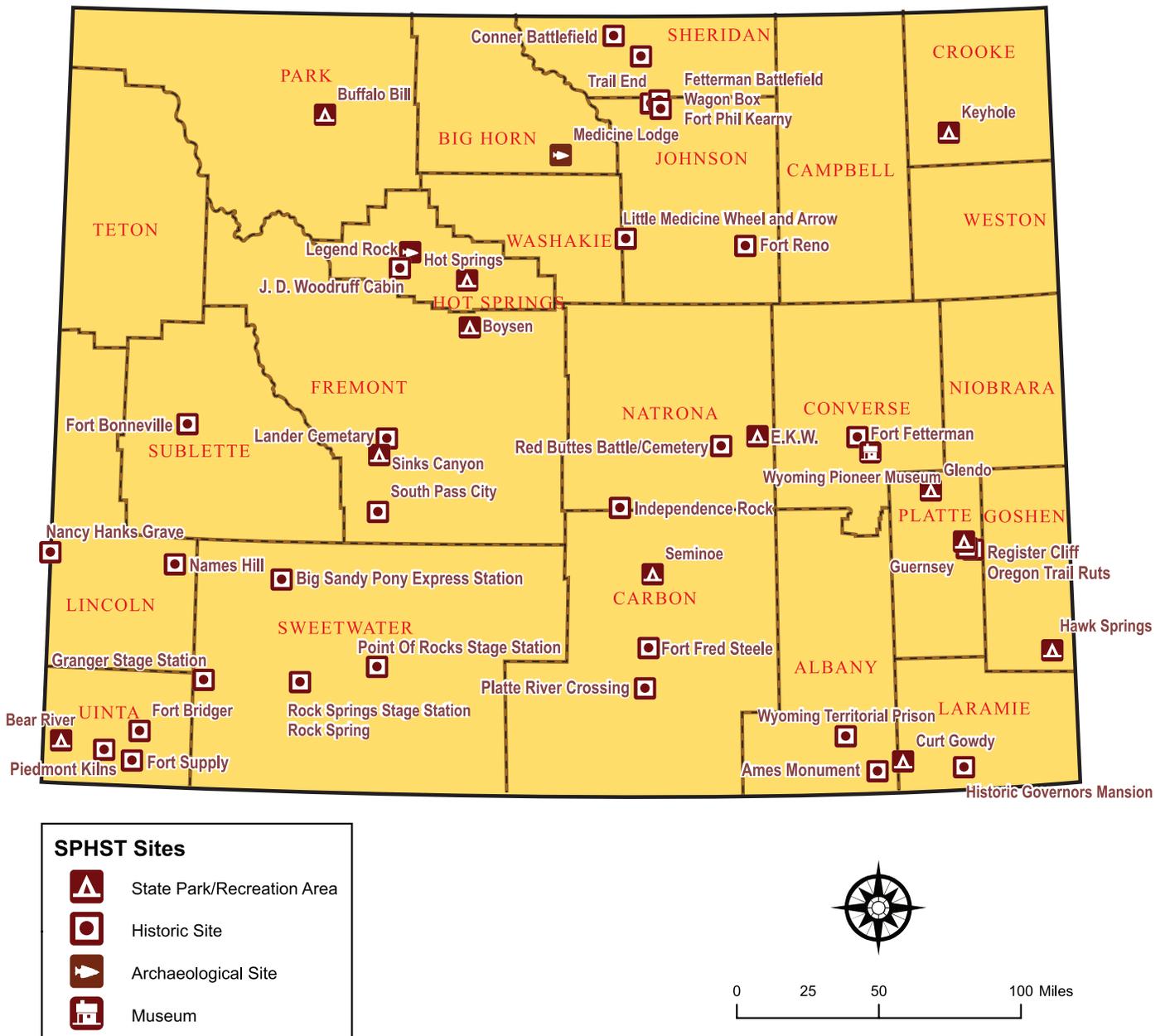


Description of State

The following sites are administered by SPHST:

| Sites | Site Type | County |
|---------------------------------|---------------------------|-------------|
| Ames Monument | State Historic Site | Albany |
| Bear River | State Park | Uinta |
| Big Sandy Pony Express Station | State Historic Site | Sweetwater |
| Boysen | State Park | Fremont |
| Buffalo Bill | State Park | Park |
| Conner Battlefield | State Historic Site | Sheridan |
| Curt Gowdy | State Park | Laramie |
| Edness Kimball Wilkins | State Park | Natrona |
| Fetterman Battlefield | State Historic Site | Sheridan |
| Fort Bonneville | State Historic Site | Sublette |
| Fort Bridger | State Historic Site | Uinta |
| Fort Fetterman | State Historic Site | Converse |
| Fort Fred Steele | State Historic Site | Carbon |
| Fort Phil Kearny | State Historic Site | Johnson |
| Fort Reno | State Historic Site | Johnson |
| Fort Supply | State Historic Site | Uinta |
| Glendo | State Park | Platte |
| Granger Stage Station | State Historic Site | Sweetwater |
| Guernsey | State Park | Platte |
| Hawk Springs | State Recreation Area | Goshen |
| Historic Governor's Mansion | State Historic Site | Laramie |
| Hot Springs | State Park | Hot Springs |
| Independence Rock | State Historic Site | Natrona |
| J.D. Woodruff Cabin | State Historic Site | Hot Springs |
| Keyhole | State Park | Crook |
| Lander Cemetery | State Historic Site | Fremont |
| Legend Rock | State Petroglyph Site | Hot Springs |
| Little Medicine Wheel and Arrow | State Historic Site | Johnson |
| Medicine Lodge | State Archaeological Site | Big Horn |
| Names Hill | State Historic Site | Lincoln |
| Nancy Hanks Grave Site | State Historic Site | Lincoln |
| Oregon Trail Ruts | State Historic Site | Platte |
| Piedmont Kilns | State Historic Site | Uinta |
| Platte River Stage Crossing | State Historic Site | Carbon |
| Point of Rocks Stage Station | State Historic Site | Sweetwater |
| Red Buttes Battle/Cemetery | State Historic Site | Natrona |
| Register Cliff | State Historic Site | Platte |
| Seminole | State Park | Carbon |
| Sinks Canyon | State Park | Fremont |
| South Pass City | State Historic Site | Fremont |
| Trail End | State Historic Site | Sheridan |
| Wagon Box | State Historic Site | Sheridan |
| Wyoming Pioneer Memorial Museum | State Historic Site | Converse |
| Wyoming Territorial Prison | State Historic Site | Albany |

Figure 2.4 • Wyoming State Parks, Historic Sites and Trails Administrative Areas



SPHST collects and maintains data on visitation through the visitor use traffic count program and through visitor surveys. The visitor use program collects and compiles data on visitors entering state parks and historic sites. Every five years a visitor survey is conducted to evaluate the quality of visitor's experiences, identify issues, and identify future development needs at state parks and historic sites.

Annual visitation data at SPHST is compiled into a yearly report (Wyoming Department of State Parks and Cultural Resources 2007). The report summarizes visitor use statistics collected during the visitation season.

Description of State

SPHST conducts surveys of visitors on a 5 year cycle (as funding allows) to assess opinions on the current management and future needs at State Parks, Historic Sites and Trails (Wyoming Department of State Parks and Cultural Resources 2004a). The survey includes both park visitors and non-visitors to gauge how the agency is doing and to help guide future planning and development.

Figure 2.5 • Wyoming State Parks, Historic Sites and Trails State Park Acreage

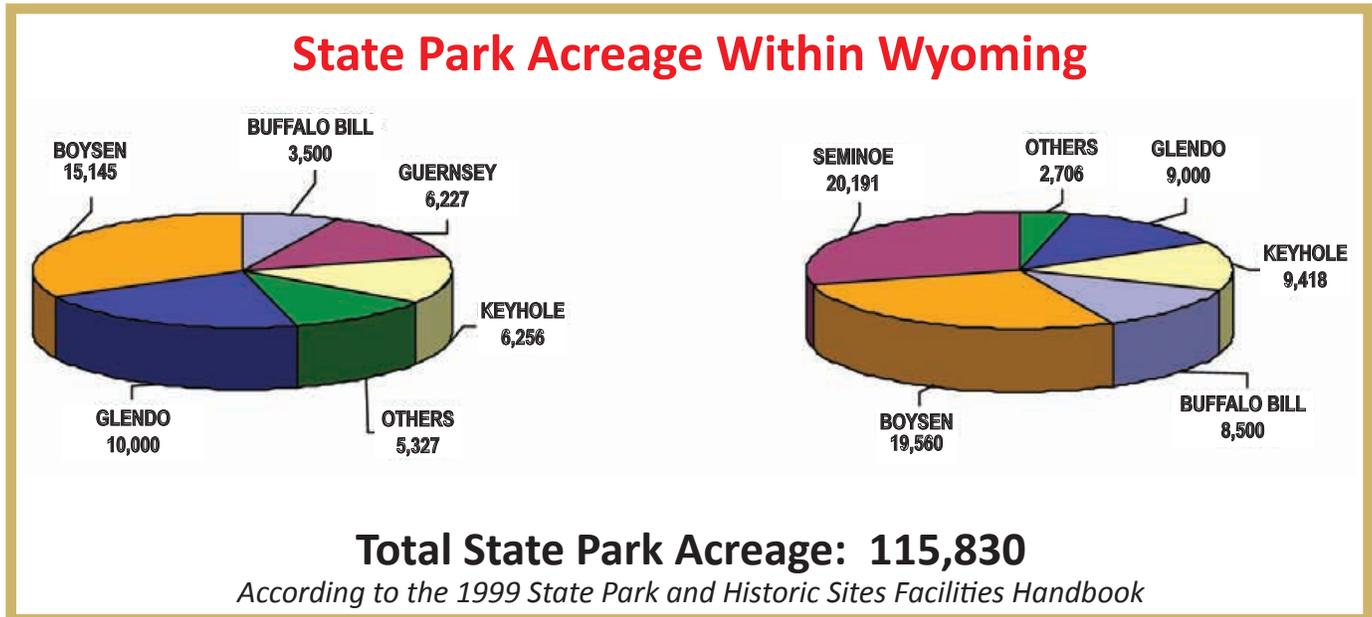


Figure 2.5 above provides a breakdown of Land and Water acreage provided by selected State Park sites in Wyoming. It is important to note that the backbone of Wyoming's existing state park system has been built around flat-water recreation opportunities. Many of these flat-water sites are owned by the Bureau of Reclamation and operated under lease agreement by the state.

Wyoming Department Travel and Tourism

The Wyoming Department of Travel and Tourism does not manage outdoor recreation resources except for some of the travel information centers located throughout the state. As the principle advocate for tourism planning and development, the department works with federal and state land managers along with local public and private recreation providers to promote and facilitate increased travel to and within the state of Wyoming.

Private Outdoor Recreation Providers

The private sector recreation industry has great potential in Wyoming to provide needed facilities. Privately-run campgrounds, dude ranches, hunting lodges, outfitters, river rafters, fishing experiences, rodeos, snowmobile excursions, downhill and cross county ski slopes, trap and target ranges and living history experiences, are a few of the activities that are successfully run by private industry in Wyoming.

The concept of partnerships in outdoor recreation in Wyoming has great potential for and with the private sector. Many federal and state recreation administrators have a variety of experiences with the planning and management of these facilities which could be shared with the private recreation sector.

Chapter 3

Recreation Facilities and Needs



Planning Process

The intent of the Wyoming Statewide Outdoor Recreation Plan (SCORP) is to determine the trends in and use of outdoor recreation facilities and participation in opportunities. By understanding this information, appropriate decisions can be rendered in the distribution of federal Land and Water Conservation Funds. These funds are made available to Wyoming communities for the purpose of providing outdoor recreation facilities. Thus, it is imperative to know the present status of outdoor recreation facilities and the needs of the users. The planning process for the 2009 Wyoming Statewide Comprehensive Outdoor Recreation Plan is similar to the preceding plans of 1990, 1995 and 2003. A four-step process was employed in the development of this plan:

- Step 1: Collect information on facilities/opportunities and outdoor activities from providers and users**
- Step 2. Analyze the results for patterns and trends**
- Step 3. Identify issues**
- Step 4. Establish outdoor recreation goals for the next five (5) years**

Surveys of both Wyoming recreation providers and users were conducted to gather information about outdoor recreation opportunities, facilities, programs, uses, needs and desires. Based on the results of these surveys, direction for providing outdoor recreation funds can be established.

Providers' Survey

The Providers' Survey was an e-mail and telephone survey of eleven public recreation organizations throughout Wyoming. The recreation providers were selected to provide a cross section of community sizes and geographic distribution. This included county and municipal agencies responsible for creating, maintaining and managing recreation facilities, opportunities and programs. The Wyoming Division of State Parks, Historic Sites and Trails discussed the survey strategy with the Board of the Wyoming Parks and Recreation Association (WRPA) and employed their assistance in the distribution of the survey (Appendix C) to the identified providers (Figure 3.1). A total of eleven responses were collected from county and municipal agencies.

The providers' survey has five main parts. The first part asked questions about the types of recreation facilities within the community and the condition of these facilities. Part two determined the main issues facing the recreation provider. Nine main issues were identified and the respondents were asked to rank these issues in terms of importance (1-highest importance, 10-the least importance). The third portion of the questionnaire was a series of questions that required the respondents to signify their acceptance of a statement, ranging from strongly agree to strongly disagree. These phrases or statements focused on the importance of recreation and/or recreational opportunities within the respective communities. This was done in an attempt to determine the importance of recreation to the community. Part four concentrated on obtaining background information on the community's recreation expenses, programs and future needs. Part five concentrated on obtaining background information on general recreation related issues and the role of the Land and Water Conservation Fund.

Facilities and Their Condition

Providers were asked to produce a list of recreation facilities and an assessment of their condition (ranked between good, fair and poor). All of the survey respondents with the exception of the Hot Springs Recreation District have developed parks that are in good condition, and only the Hot Springs Recreation District and Campbell County did not have undeveloped parks. By far the most outdoor recreation facilities provided by the responding communities are picnic facilities, outdoor courts and outdoor fields. Picnic facilities were the most common with respondent communities averaging one picnic facility per 907 people. The second most common facility identified by respondent communities was outdoor courts. The most popular court is horseshoe pits (averaging one per 2,165 people) tennis courts (averaging one per 2,847 people) and basketball courts (averaging one per 3,778 people). Soccer is the most dominant type of field in the communities (averaging one field per 3,352 people), followed by baseball (one field per 3,522 people) and softball (averaging one field per 4,947 people). Wheatland is the only community that indicated they did not have an indoor pool, while only five communities indicated they have an outdoor pool.

A couple of facilities showed up for the first time in our survey; these include three communities with white water parks, three communities with spray parks, three communities with remote control parks, one community with a paint ball park and one community with a dog park. Several other facilities appear to be gaining in popularity; every community reported having a skateboard park, eight communities have batting cages, six communities have disc golf courses, five communities have indoor ice rinks, and three communities have BMX tracks.

Other facilities include: rodeo arenas, golf courses, camping areas and trails. In typical Wyoming fashion eight communities reported having a rodeo arena. No community with less than 10,000 people reported having an 18 hole golf course and the Hot Springs Recreation District was the only community with less than 10,000 people that reported having a nine-hole golf course. All



Recreation Facilities and Needs

of the courses were reported as being in very good condition. Three communities reported having camping. All three of these communities have both tent and RV camping. Wheatland and Lander both have less than 10,000 people and Sheridan has about 16,000 people. None of the larger communities in the state provide camping. Trails were also available, divided between the major types: hiking/walking, bicycle, horseback, snowmobile, and ski trails. In general, all trails were in better than fair condition, with horse trails tending to be closer to fair condition.

Provider Issues

Nine major issues were identified and each respondent was asked to rank them for their specific community (1-most important, 10-least important). The following is how the issues ranked with the aggregate average in parenthesis:

2003

- Money and Funding (2.3)
- Maintenance Money (3.2)
- Additional Facilities (3.8)
- Trails & Greenways (4.8)
- Community Support (4.8)
- Restoration of Existing Facilities (5.4)
- Program Expansion (5.5)
- Community Awareness (6.0)
- Additional Personnel (6.1)
- Land Acquisition (7.8)

2008

- Additional Facilities (2.9)
- Additional Personnel (4.1)
- Maintenance Money (4.5)
- Restoration of Existing Facilities (4.5)
- Trails & Greenways (4.7)
- Program Expansion (4.9)
- Land Acquisition (5.8)
- Community Support (6.3)
- Community Awareness (7.3)



In the 2008 survey we eliminated money and funding, since this question is repeated elsewhere in the survey. In 2008, the top two issues pertain to increasing facilities and difficulties hiring staff. This could reflect the economic boom in Wyoming over the last five years and an associated increase in population. The next tier of responses relate to maintaining existing facilities. Many of the existing facilities were built in the early to mid 1970s during the height of LWCF funding and have now exceeded their effective use life. The next tier of responses relate to increasing trails, greenways, open space, parks and programs. Again this could relate to the increase in wealth and population in Wyoming. The final tier of responses relates to working with the community. There appears to be more support for parks and recreation (see Community Recreation Issues below) over the last five years and this may account for the drop in these responses.

Community Recreation Issues

Providers were asked to state their level of agreement with a series of statements related to the role recreation plays in their community. The responses were assigned points from 1 point for strongly agree to 5 points for strongly disagree. We then did a weighted average for each question.

1. Most citizens in my community believe recreation is important to the community's quality of life. (1.4)
2. Basic opportunities at public parks and open space areas, such as walking and picnicking, should be provided by general tax dollars without additional user fees. (1.4)
3. Open space, parks and recreational opportunities over the last ten years have enhanced my community's chances for economic development. (1.8)
4. The elected officials in my community believe recreation is a high priority for the community's quality of life. (1.9)
5. Outdoor recreation in my community should be a joint partnership between local government, business leaders and private interests. (2.3)
6. There is greater demand for public organized activities in our community than individualized non-structured activities. (2.4)
7. User fees should cover the direct cost of high maintenance recreation facilities. (2.5)



Clearly recreation providers feel recreation is important to their community, and tax dollars should be a primary source of funding for recreation. This corresponds very closely with what the recreation users voiced in their survey. It is also encouraging that recreation providers feel elected officials support recreation. While none of the statements ranked real low, there is definitely less support for user fees and structured activities. This may be because Wyoming has a population and setting that supports unstructured outdoor activities. Fee based and structured activities may be more popular in metro areas.

Community Financial Information

The community financial information section provided basic statistics on three key financial elements: what are the estimated costs associated with maintenance and repair for the next five years; what are the estimated costs for new construction for the next five years and what are the estimated costs for trail and green space development over the next five years. We averaged the responses into communities that have less than 10,000 people (Cody, Hot Springs County, Lander and Wheatland), communities with between 10,000-25,000 people (Evanston, Green River, Sheridan, Teton County), and communities with more than 25,000 people (Cheyenne, Gillette, and Laramie).

Recreation Facilities and Needs

Estimated Costs During the Next 5 Years

| Community Size (people) | Maintenance/Repair | New Construction | Trail/Green Space |
|-------------------------|--------------------|------------------|-------------------|
| Under 10,000 | \$665,000 | \$427,500 | \$200,000 |
| 10,000—25,000 | \$1,575,000 | \$3,750,000 | \$2,375,000 |
| Over 25,000 | \$7,670,000 | \$3,166,667 | \$6,750,000 |

For communities with less than 10,000 people estimated costs for maintenance ranged from less than \$10,000 for the Hot Springs County to \$1,250,000 for Wheatland. Construction costs ranged from less than \$10,000 for Hot Springs County to \$1,000,000 for Teton County. Estimated costs for trails and green spaces ranged from \$75,000 to \$500,000.

For communities between 10,000 and 25,000 people, estimated costs were fairly consistent.

For communities with over 25,000 people estimated maintenance costs ranged from \$750,000 for Laramie to \$20,000,000 for Cheyenne. New construction costs were fairly consistent. Estimated costs for trails and green spaces ranged from \$250,000 for Campbell County to \$15,000,000 for Laramie. These financial numbers have increased dramatically over the last five years. This is most likely caused by a combination of dramatically increasing construction and staff costs created by the economic boom and increased revenue to spend on maintenance, construction and acquisition. Large expenditures are forecasted for community recreation programs relative to maintenance, rehabilitation, and new construction.

Recreation Related Needs and the Role of the Land and Water Conservation Fund

In 2003 the four most common recreation related needs identified were: recreation centers; aquatic facilities; trails and greenways; and outdoor fields. In 2008, the most common response to recreation related needs was for additional facilities. The second most common response was the need for trails and green space. The third most common response was for maintenance and money. Unlike the responses to the financial information, community size did not seem to influence recreation related issues. The greatest difference seems to be between communities that are being impacted by energy development and those communities without energy resources. For example, Campbell County, in the heart of an energy extraction area, all three of their responses were for more development. The City of Laramie, in an area without energy resources, requested no new development. Clearly, the population and wealth of Wyoming are expanding statewide, but growth is uneven based on access to energy resources. The continued growth is fueling demand for additional recreational facilities, more trails and green spaces. Finally, about a third of the communities expressed concerns about maintaining their current facilities. All of these communities are in areas without energy development and revenue. None of the communities in energy extraction areas responded that maintenance was an issue.

Overall, it is possible to identify three different types of needs for communities: expansion of existing community recreation facilities (community centers); expansion of existing outdoor facilities (fields, courts, playgrounds); and development of totally new facilities. The expansion of outdoor facilities focused primarily on playground and gathering areas. Development of sports fields was the second most common response with communities wishing to increase their capacity; especially soccer and baseball fields.

All eleven of the communities indicated they would like to see increased funding for the LWCF Program. In the past, the Program has been an important part of their recreation system development.

Users' Survey • Introduction

Survey Design and Administration

In April of 2008, a contract was executed between the Division of Wyoming State Parks, Historic Sites & Trails (SPHST), and the Wyoming Survey & Analysis Center (WYSAC) of the University of Wyoming to conduct a statewide mail survey of Wyoming citizens (Appendix B). The purpose of the survey was to capture the opinion of Wyoming citizens concerning outdoor recreation issues for the development of the 2009 Wyoming Statewide Comprehensive Outdoor Recreation Plan. Specifically, the survey was to identify recreation needs of Wyoming residents and Wyoming visitors in order to responsively provide and administer outdoor recreation resources.

The survey was administered by mail between April 29 and June 6, 2008. A total of 1,058 completed surveys were returned. A random sample of this size provides a margin of error of around plus or minus three percentage points with 95% confidence. For this reason, it is appropriate throughout this report to refer to results as applying to Wyoming residents (i.e., survey results reflect the opinions and attitudes of Wyoming residents as a whole, within the stated margin of error of plus or minus three percentage points with 95% confidence, and not simply survey respondents). From an original mailing to 4,000 addresses in Wyoming, mailings to 638 addresses were returned to us as undeliverable by the United States Postal Service. This left us with a sample of 3,362 households. We received a total of 1,058 completed surveys by the above cutoff date, resulting in a response rate of approximately 31%. Figure 3.1 shows the distribution of users responding to the survey.

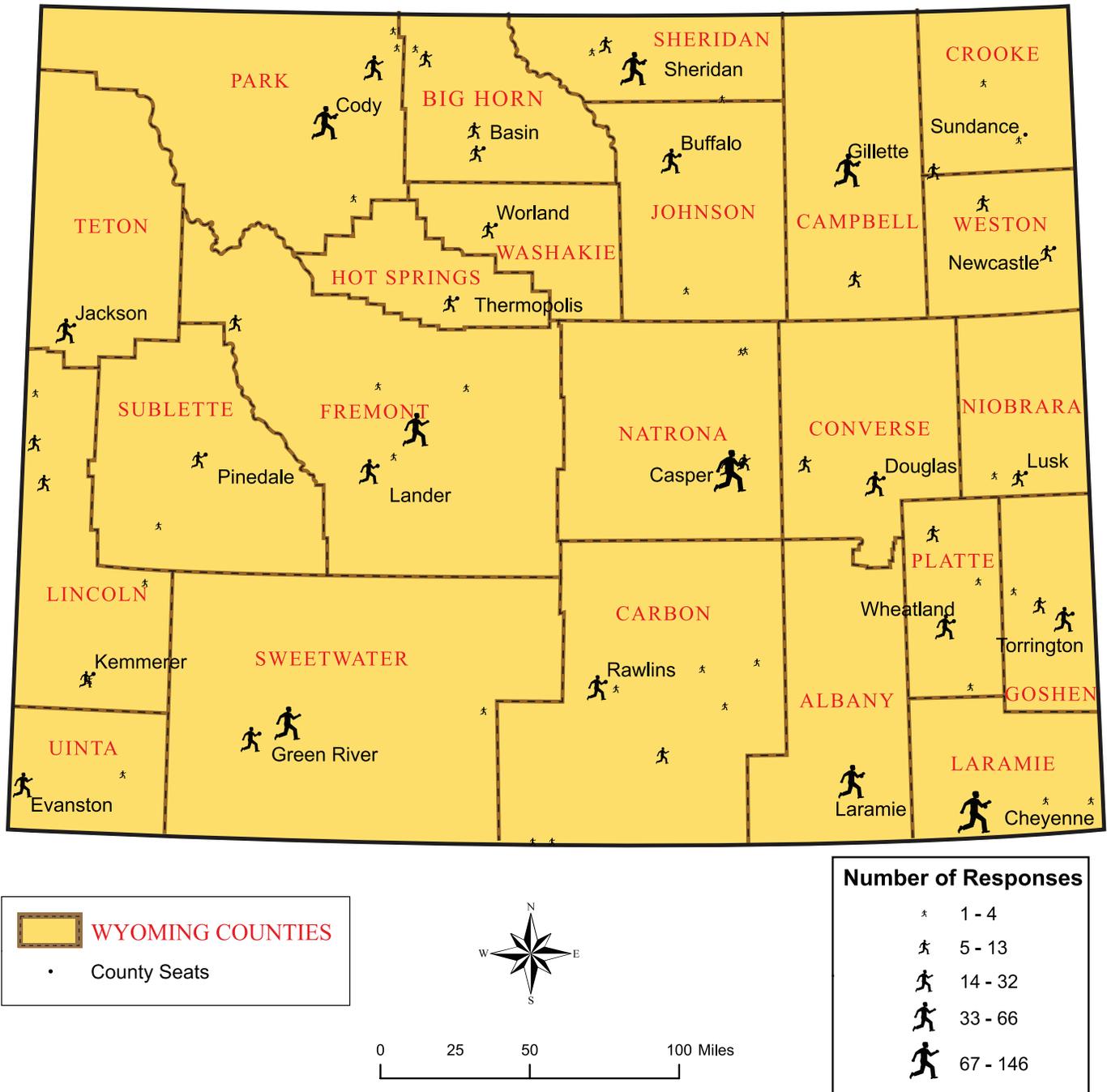
Data Compilation and Analysis

Surveys mailed back to WYSAC go through a highly controlled process to minimize any possible data-entry error. The surveys are scanned by WYSAC's high-volume scanners. The scanning software alerts for verification if there is anything uncertain about an entered response choice. These issues are evaluated and resolved by WYSAC. All handwritten responses to open-ended questions are transcribed and verified, and a survey data file is then created using the Statistical Package for Social Sciences (SPSS) for analysis. These data were analyzed using SPSS, and results from these analyses are contained in the remainder of the report.

For the providers' and users' surveys, frequency counts and basic statistics were compiled on all questions and are available at State Parks Historic Sites & Trails.

Recreation Facilities and Needs

Figure 3.1 • Distribution and Frequency of User Survey Response



Survey Results

The Users' survey was divided into four (4) main components:

- 1) which activities users participate in;
- 2) how important is outdoor recreation;
- 3) recreation related issues; and
- 4) respondent background information.

The following is a comparison of survey results from the 2003 SCORP survey and the 2008 SCORP survey.

User Activities and Facilities

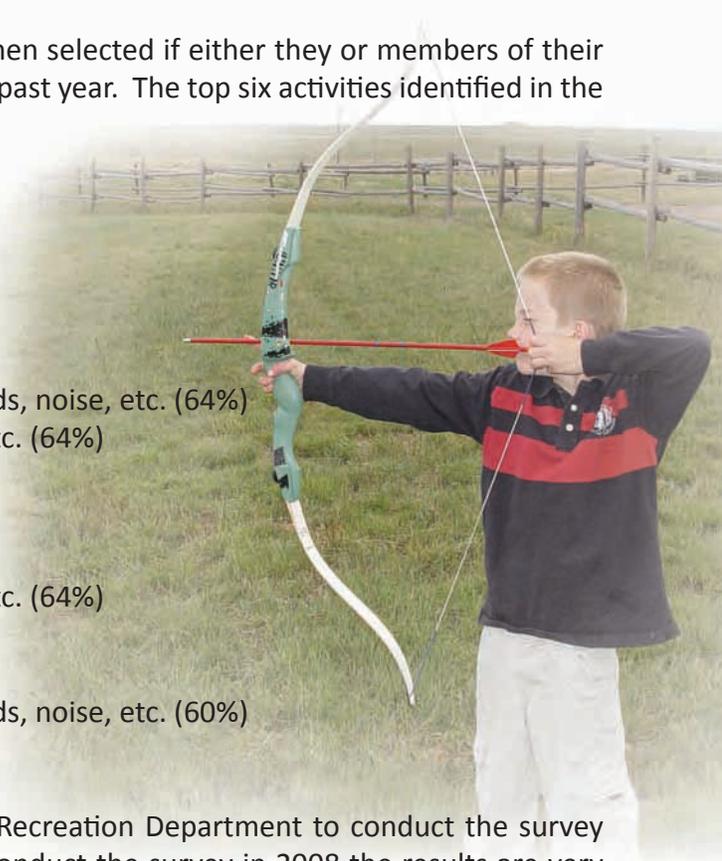
A listing of 39 activities were identified; the respondents then selected if either they or members of their household participated in any of these activities during the past year. The top six activities identified in the 2003 survey and 2008 survey are listed below:

2003

- Viewing wildlife, birds, fish, etc. (71%)
- Driving for pleasure on roads (66%)
- Picnicking and family day gatherings (66%)
- Hiking or walking (64%)
- General/other-relaxing, hanging out, escaping crowds, noise, etc. (64%)
- Viewing natural features such as scenery, flowers, etc. (64%)

2008

- Driving for pleasure/sightseeing by auto (65%)
- Viewing natural features such as scenery, flowers, etc. (64%)
- Hiking or walking (61%)
- Viewing wildlife, birds, fish, etc. (61%)
- General/other-relaxing, hanging out, escaping crowds, noise, etc. (60%)
- Picnicking and family day gatherings (58%)



Despite using the University of Wyoming Geography and Recreation Department to conduct the survey in 2003 and the Wyoming Survey and Analysis Center to conduct the survey in 2008 the results are very consistent. The top six activities identified in both surveys are the same. The order of activities is slightly different in 2008 and in each case a slightly lower percentage of people indicated they did the activity. This would seem to suggest less people are recreating outdoors. This could be because people have less time to recreate and the cost of living is increasing due to much higher fuel and grocery prices.

All of these activities, except general relaxing, rely on interacting with the natural environment or having a recreational agency provide the opportunity.

The quality of facilities or opportunities available in a state influences use by its citizens; hence, the more opportunities or pleasant the experience, the more use. Thus, the positive perception of an area or facility is important in having citizens repeat the experience. The five activities for which available facilities were rated most positively in 2003 and 2008 are:

| 2003 | 2008 |
|---|--|
| <ul style="list-style-type: none"> • Picnicking and family activities • Festivals and fairgrounds • Overlooks for nature viewing • Outdoor arenas • Nature centers, nature trails, visitor centers | <ul style="list-style-type: none"> • Backpacking, camping in roadless areas • Viewing wildlife, birds, fish, etc. • Viewing natural features, scenery, flowers, etc. • Hiking or walking • Rodeo Activities |

Recreation Facilities and Needs

Not surprisingly, in 2008, with the exception of rodeo grounds, the facilities correspond very closely to the activities people identified with high participation rates. There is not as much correlation between the 2003 survey and the 2008 survey. However, overlooks and nature centers do relate to viewing wildlife and nature. Further, rodeo activities relate to outdoor arenas.

Facilities or opportunities for all five of the top responses in both surveys are generally provided by federal, state or municipal governments.

The quality of the following facilities or opportunities did not receive a favorable rating:

2003

- Off-highway vehicle travel
- Downhill skiing/snowboarding
- Paved skating areas/skate parks
- Hunting access
- Fishing access

2008

- Paved skating areas/skate parks
- Ice skating (outdoors)
- Road bicycling
- Dog parks

“Not surprisingly, in 2008, with the exception of rodeo grounds, the facilities correspond very closely to the activities people identified with high participation rates.”

With the exception of skate parks, there appears to be little correlation between the facilities identified in the 2003 and 2008 surveys. The survey for the 2003 SCORP was conducted during the Fall of 2002. This was during a gubernatorial campaign that highlighted limited access to hunting and fishing. This may account for the dissatisfaction with hunting and fishing access in the previous survey and there being few comments related to access in the 2008 survey. Additionally, several of the items in the 2003 SCORP appear to relate to limited opportunity, rather than the condition of the facilities themselves.

Importance of Outdoor Recreation

In 2003 and 2008 the first question in the user survey was:

Which of following phrases best reflects how important public parks and public recreation areas are to your daily life?

Respondents were given the option of answering: — Very Important; — Important; — Unimportant; — Very Unimportant; — Don't Know. The following percentage of respondents answered Very Important or Important:

| 2003 | 2008 |
|-------|-------|
| 94.3% | 93.7% |

Clearly the public perceives recreation to be a very significant part of their lives and their community.

Recreation Related Issues

In 2003 we gathered information about recreation related issues. We had users rank a set of eight statements related to recreation related issues. In 2008 we repeated this strategy with one minor change; we added two additional statements. The following is the list of statements, followed by the percentage of respondents that answered Strongly Agree or Agree.

2003

- 1.) Having recreation areas close to my home improves my quality of life. (74%)
- 2.) New or additional partnerships should be developed between the private sector and local, state and federal agencies to develop and maintain outdoor recreation opportunities. (64%)
- 3.) User fees, special taxes or license fees should be used as an alternate source of funding for outdoor recreation facilities to help defer operational costs. (47%)
- 4.) The state's current water recreation areas need to be expanded. (44%)
- 5.) Motorized vehicles should have more public recreation space than is currently available to them. (33%)
- 6.) The state should provide support and assistance to local organizations for expanding their recreation facilities. (50%)
- 7.) A source of long-term consistent funding for recreation should be provided at the state level. (61%)
- 8.) Efforts should be made to acquire additional recreation lands from individuals or other entities interested in selling or donating land. (64%)

2008

- 1.) Having recreation areas close to my home improves my quality of life. (83%)
- 2.) Outdoor recreation in my community should be a joint partnership between local government, business leaders and private interests. (68%)
- 3.) User fees should cover the direct cost of high maintenance recreation facilities. (57%)
- 4.) The state's current water recreation areas need to be expanded. (55%)
- 5.) Motorized vehicles should have more public recreation space than is currently available to them. (38%)
- 6.) The state should provide support and assistance to local organizations for expanding their recreation facilities. (58%)
- 7.) A source of long-term consistent funding for recreation should be provided at the state level. (69%)
- 8.) Efforts should be made to acquire additional recreation lands from individuals or other entities interested in selling or donating land. (68%)

Recreation Facilities and Needs

New in 2008

- 9.) The demand for publicly organized activities in our community is greater than the demand for individualized non-structured activities. (23%).
- 10.) Basic opportunities at public parks and open space areas, such as walking and picnicking, should be provided by general tax dollars without additional user fees. (70%).

The responses to Statement #1 indicates a preponderance of people believe that having a recreation facility in close proximity to their home improved their quality of life. This corresponds quite well with another statement asked in the survey as to the importance of public parks and facilities in their daily life. For this statement, in the 2003 and 2008 surveys over 90% percent responded that public parks and recreation areas were either very important or important to their daily life. Thus, being close to parks and recreation areas is very important and improves their quality of life.

Statement #2 demonstrates that in both surveys approximately two-thirds of the public feels government agencies should be partnering with private industries to develop and maintain recreational opportunities. The State should explore innovative ways to increase their contribution and that of potential private recreation providers.

Statement #3 was slightly revised in 2008. In both cases, approximately half of the public feels user fees should be used to offset the cost of operating and managing recreation facilities.

Statement #4 indicates public support has increased considerably for the expansion of the state's water-based recreation opportunities. This could be a result of prolonged drought conditions increasing awareness of limited water resources and reduced water levels at many reservoirs.

Statement #5 illustrates motorized verses non-motorized recreation is likely the most divisive outdoor recreation issue. In both surveys, strongly disagree was the most common response followed by neutral and strongly agree. In 2008, strongly disagree was the most common response followed by neutral and strongly agree. However, the gap between strongly disagree and strongly agree narrowed. This could be due to the increase in motorized recreation use during this period. Providing facilities for and managing motorized recreation use may be the most challenging recreation issue in the foreseeable future. This will become more evident in the Top Three Issues.

Statements #6 and #7 clearly illustrate the public is interested in having the State provide consistent long-term funding for recreation. For both statements, the percentages of respondents answering strongly agree and agree increased from 2003 to 2008. This may reflect the strong economy and state budget surpluses that happened during this period.

Statement #8 clearly illustrates the public is interested in expanding recreation areas. For this statement the percentage of respondents in favor increased from 2003 to 2008.

Statement #9 illustrates the public is looking for individualized non-structured recreation activities.

Statement #10 illustrates the public feels their governments should provide public parks and opportunities for passive recreation. These types of facilities have been typically provided by government entities and the public wants to see this continue. Thus, it is imperative that recreation be a strong component in

community development and administration. To have a strong recreation component requires the work of public agencies to provide the basics for recreation. However, Statement #2 illustrates that the private sector should be a significant partner in providing joint effort recreation opportunities.

Recreation and the Quality of Life

To determine the importance of recreation to the quality of life in each community, the respondents were asked to rank a listing of seven basic community elements (1-most important, 8-least important). The seven basic community elements were: education, employment opportunities, healthcare, housing, recreation opportunities, retail opportunities and safety. The following list provides an indication of recreation's importance to quality of life. The values represent the average ranking for each factor (1-most important, 8-least important):

2003

- Education (2.65)
- Recreation Opportunities (3.29)
- Employment Opportunities (3.65)
- Healthcare (3.65)
- Housing (4.0)
- Safety (4.24)
- Retail Opportunities (5.94)

2008

- Healthcare (3.0)
- Employment Opportunities (3.1)
- Education (3.7)
- Housing (3.7)
- Retail Opportunities (4.0)
- Recreation Opportunities (4.7)
- Safety (5.9)



To this point the responses between the 2003 and 2008 SCORP user surveys have been remarkably consistent. However, the response to this question was dramatically different between the two surveys. SPHST staff hypothesize there are a number of factors that account for this shift in priorities. These factors include the 2003 survey had a predominance of male respondents and the 2008 survey had a predominance of female respondents. The shift of healthcare from fourth most important to most important may be attributed to the aging of the population. Additionally, as the national economy changes many workers are losing their healthcare coverage. The changing economy may also account for a greater emphasis on employment opportunities. Wyomingites have less free time than in the past due to the digital boom; people are spending more time using a computer, internet, cable TV, video games, etc. Additionally, Wyomingites have a much greater disposable income than in 2003. Between 2003 and 2008 the average income in Wyoming rose from \$24,845 to \$40,655. This was one of the highest rates of increase in the country during this period. Increased disposable income means retail opportunities are more important. Finally, rising fuel prices may also add greater emphasis on local recreation as people are recreating closer to home.

User Identified Recreation Related Issues

Each respondent was asked to list their top three issues or concerns for outdoor recreation in Wyoming. Respondents brought up many issues in this section including accessibility, overdevelopment, crowding, government interference, low water levels, etc. The following list represents the top issues in order of importance to respondents:

TOP ISSUES/CONCERNS FOR OUTDOOR RECREATION IN WYOMING

2003

- Public access
- Maintenance
- Public land usage
- Development
- ATV/Watercraft control

2008

- Concern about ATV/Snowmobile Use
- Support for ATV/Snowmobile Use
- Public land usage
- Cost
- Maintenance

The responses to seeking identifications of top issues and concerns highlight that motorized recreation will be the most challenging land management issue for the foreseeable future. There are definitely differing views on the use of motorized vehicles on public lands. The most common response can be summarized as concern over motorized use. The second most common response can be summarized as support for motorized use and expanding motorized opportunities. Land managers will need to address the concerns of motorized and non-motorized users. The third most common response can be summarized as how respondents felt public land use should be managed to minimize conflicts, yet have convenient facilities that complement uses. These responses can allude to the differences between motorized and non-motorized uses. As the Rocky Mountain West increases in population, new residential and commercial development will change the outdoor experience. Respondents were concerned with the extent and location of new developments. Next, respondents expressed concerns about the rising costs of recreating, including fuel costs, equipment costs and user fees. Finally, respondents are concerned with maintenance of recreation facilities, e.g. keeping them clean, dependable, and safe.

With the exception of public access, the remainder of the top five issues is very similar between 2003 and 2008. However, motorized versus non-motorized use has definitely risen to the top of the list.



Limitations to Use, Funding and Expansion of Opportunities

Three questions related to why people did not utilize existing recreation facilities or opportunities. The main reasons why people do not take advantage of recreational opportunities were:

| 2003 | 2008 |
|--|--|
| <ul style="list-style-type: none"> • Not enough time/Too busy • Too crowded • Too expensive • Not aware of facilities/programs available • Too far to travel • Physical impairment | <ul style="list-style-type: none"> • Not enough time/Too busy • Too crowded • Too expensive • Too far to travel • Physical impairment • Not aware of facilities/programs available |

The reasons people do not recreate have changed very little. Too far to travel moved from the fifth most common response to the fourth most common response. This shift may be happening because of rising fuel costs and people’s reluctance to travel as far. Physical impairment moved from the sixth most common to the fifth most common reason. This may be related to the aging of Wyoming’s population.

The main reasons people do not participate in outdoor recreation relate to personal conflicts or issues with available recreation facilities. Personal conflicts cannot be resolved by the recreation provider; however, funding can be used to develop facilities closer to users and expand facilities to alleviate crowding. These changes can mitigate several of the main reasons people do not participate in outdoor recreation activities.

Respondents’ Profile

- The majority (around 62%) of the respondents to the survey were between the ages of 36 and 65. The highest percentages are in the 46-55 age range (24%), and 56-65 age range (22%). The lowest percentages of respondents were the 18 to 25 (3%) age range and the 26 to 35 (9%) age range. Over 25% of respondents were 65 years old or older.
- The employment status of a majority (55%) of respondents is full-time employed, and the next highest percentage for employment status is retired or disabled (30%).
- A majority (66%) of survey respondents have a marital status of married. The next highest percentage for marital status was single (12%).
- Nearly 70% of respondents to the survey were in one-person (21%) or two-person (48%) households, inclusive of adults and children. Nearly a quarter (23%) of respondents were in three or four person households.
- The great majority (98%) of respondents checked White as most closely describing their race, while fewer than 2% chose American Indian or Alaska Native. All other categories are below 1%. Of those who chose White, 7% chose White, Hispanic.
- Approximately 59% of respondents were female, and 41% male.

Recreation Facilities and Needs

Income levels of survey respondents were far lower in the extreme levels of the income of Less than \$15,000 category (8%) and Over \$150,000 category (7%) than in the middle income ranges, which accounted for 86% of respondents. The income category of highest percentage was \$50,000 to \$75,000, at 20%.

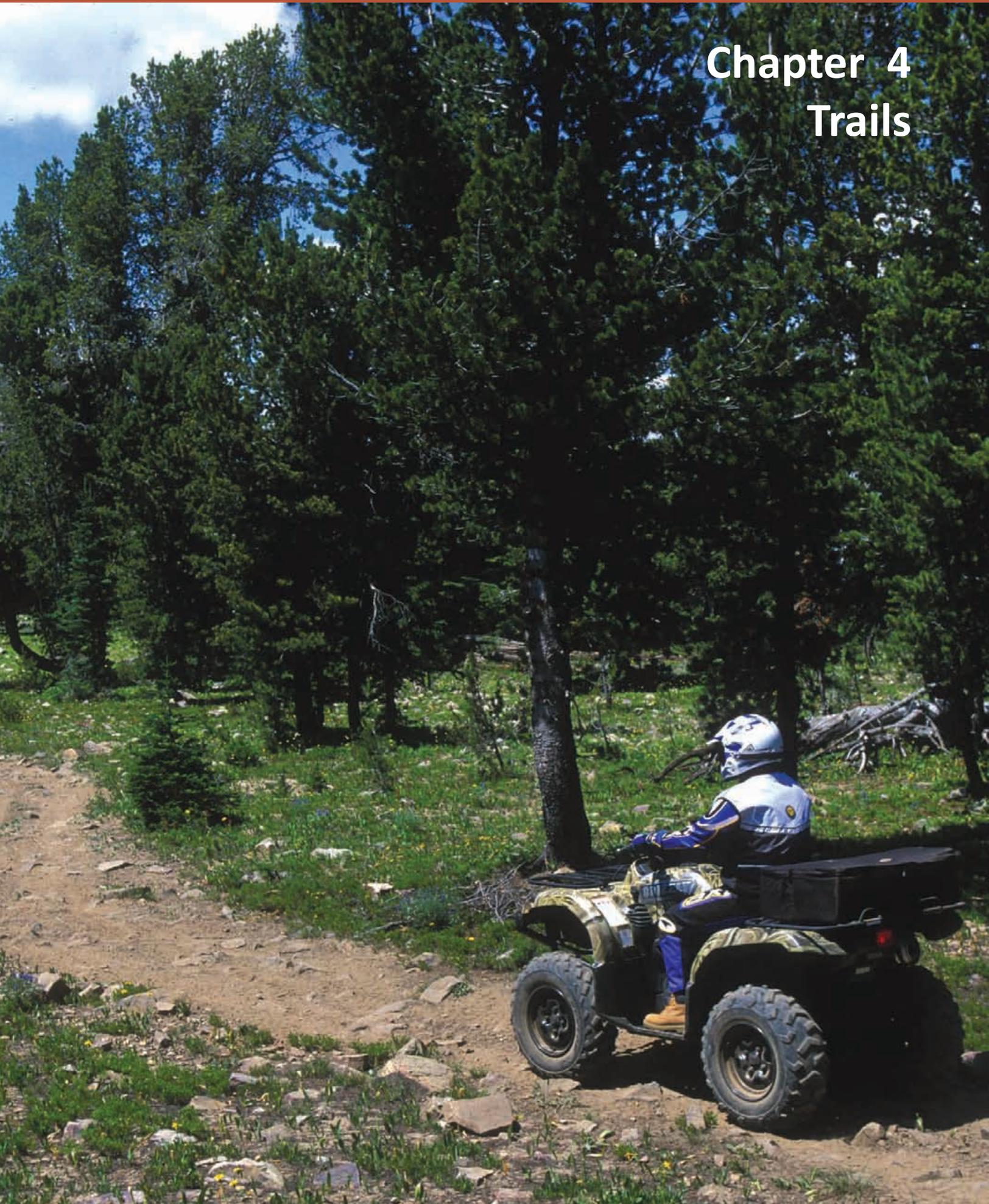
In 2003 the user's survey was sent randomly to almost 4,000 addresses in Wyoming and a total of 829 completed were received. The majority of the respondents were male (77.5%), white (97.4%), and an average age of 54.5 years old.

Demographically, the respondents were very similar between the 2003 and 2008 surveys with the significant exception that men constituted 77.5% of respondents in 2003 and 41% in 2008. It is interesting to note how closely the activities participated in corresponded in a survey dominated by male respondents in 2003 and female respondents in 2008.



Chapter 4

Trails



Trail opportunities in Wyoming are many and diverse. Outdoor recreation has been an important part of the State's way of life for many years. Participation in outdoor recreation in general and trail recreation specifically has grown dramatically in recent decades. Wyoming's trails are located in areas ranging from deep river canyons to high desert plains, to high mountain crags and alpine meadows, to community greenways. Hikers, bicyclists, equestrians, skiers, snowmobilers, ORV riders and community pathway users all use Wyoming's statewide system of trails. Wyoming has over 8,500 miles of trails managed by a variety of agencies. Over 6,000 miles are managed primarily as summer-use trails while over 2,500 miles are managed primarily for snowmobiling and cross-country skiing during the winter season. Additionally, there are over 50,000 miles of roads in Wyoming open for use by off-road recreational vehicles (ORVs).

Definitions

There are several common terms that will be used throughout this Plan. To help the reader better understand these terms, a list of definitions has been provided. These definitions are not intended as the sole meanings for the terms, but instead give the proper context intended for use within this document.

Trail – A regularly maintained transportation and/or recreation pathway typically used by hikers, cross-country skiers, equestrians, bicyclists, and/or motor vehicles less than 50 inches wide.

Road – A regularly maintained transportation and/or recreation route typically used by motorized vehicles greater than 50 inches wide.

Wyoming State Trails Advisory Council (Trails Council) – A ten-member recreational trail advisory committee appointed by the Governor to advise the Department of State Parks and Cultural Resources on the management of recreational trails within Wyoming. Members represent both motorized and non-motorized recreation users groups and are appointed for 4-year terms to represent specific users including hiking, bicycling, equestrian, cross-country skiing, snowmobile, ATVs and off-highway motorcycles.

Federal Highway Administration (FHWA) – The federal agency within the U.S. Department of Transportation that administers the Recreational Trails Program.

Recreational Trails Program (RTP) – A federal grant program funded by the federal fuel taxes paid on gasoline used by off-highway vehicles, including snowmobiles, ATVs, off-highway motorcycles and four-wheel drive light utility vehicles. Monies are distributed to states based upon a formula where half goes equally to all states and the other half goes to states based upon estimates of their off-highway fuel use. States use these funds for grants to local, state and federal agencies and to qualifying private organizations for the purpose(s) of: environmental benefit/mitigation, education, maintenance of trails, equipment acquisition, new trail construction, development of trail-side/trail-head facilities, and/or community trail/pathway construction or maintenance. By mandate, 30% of the funds must be used for motorized trails, 30% for non-motorized trails, and 40% for diversified trail use. The program requires a 20% local match.

Land & Water Conservation Fund (LWCF) – A federal grant program that provides 50% matching grants for the development of public outdoor recreation activities, which can include trails. Funding is derived from revenues associated with Outer Continental Shelf mineral receipts. LWCF regulations requires states to have a Statewide Comprehensive Outdoor Recreation Plan.

Off-Road Recreational Vehicle (ORV)

Type 1: A recreational vehicle primarily designed for off-road use which is fifty (50) inches or less in width, has an unladen weight of nine hundred (900) pounds or less and is designed to be ridden astride upon a seat or saddle and to travel on at least three (3) low pressure tires;

Type 2: Any unlicensed motorcycle which has an unladen weight of six hundred (600) pounds or less and is designed to be ridden off road with the operator astride upon a seat or saddle and travels on two (2) tires;

Type 3: Any multi-wheeled motorized vehicle not required by law to be licensed and is designed for cross-country travel on or over land, sand, snow, ice or other natural terrain and which has an unladen weight of more than nine hundred (900) pounds.

Snowmobile – Any mechanically driven vehicle of a type that utilizes sled type runners, or skis, or any endless belt tread or combination of these, designed primarily for operation over snow.

State Trails Advisory Council

The Wyoming State Trails Advisory Council has been an integral part of this planning process. The Trails Council is a ten-member board appointed by the Governor to advise the State Trails Program within the Wyoming Department of State Parks and Cultural Resources regarding trail policies, functions and priorities. Their duties include advising the Department regarding priorities for managing the Snowmobile Trails Fund and the Off-Road Recreational Vehicle (ORV) Fund. They also advise regarding application guidelines and distributions of grant funds from the federal Recreational Trails Program (RTP) grant program. The Council evenly represents both motorized and non-motorized trail users. Additionally, the ten positions represent specific trail use activities such as snowmobiling, ATV's, off-highway motorcycles, equestrians, hiking, bicycling, crosscountry skiing or multiple uses. Therefore, members are very much in-touch with the constituents they represent and are able to provide extremely valuable information both as to the operation of the Council as well as to this planning process.

History

The Wyoming Department of State Parks and Cultural Resources (SPCR) was given the authority to appoint selling agents to sell snowmobile registrations, bucking horse permits, and “other licenses, registrations, and permits for which the department may by law be required to issue and collect fees” (W.S. 36-4- 123(a)). This Department was also given the authority to oversee the snowmobile trails program in W.S. 31- 2-403(e)(i) and the ORV permit program in W.S. 31-2-702(a). The WSTP is a section within SPHST, which is a division within SPCR, that was given the task of managing these permit programs.

Prior planning documents for Wyoming's trails include the Wyoming State Trails Plan, which was published in 1985, and brief chapters focusing on trails in prior SCORP documents. However, since the development of the WSTP as an individual program, there have been many changes to the program that have been documented in the 2004 Wyoming Statewide Trails Plan and the 2004 Vision 2010 Wyoming State Trails Program Plan. The 1995 and 2003 SCORP included a summarized list of general strategies for the future of the trails system at that time. Since then, clear and concise goals and objectives have been developed in order to provide Wyoming's trail users with the most excellent recreational trails available.



Current Conditions

Ninety-eight percent (98%) of designated trails are located on federal lands. Thus, the WSTP is limited in its ability to directly implement the enforcement, land acquisition and rule-making for these trails. Instead, the WSTP is in charge of facilitating optimum recreational benefit of trail users through RTP grant distribution, overseeing permit programs and working on a collaborative basis with the federal agencies who are the actual land managers of the trails.

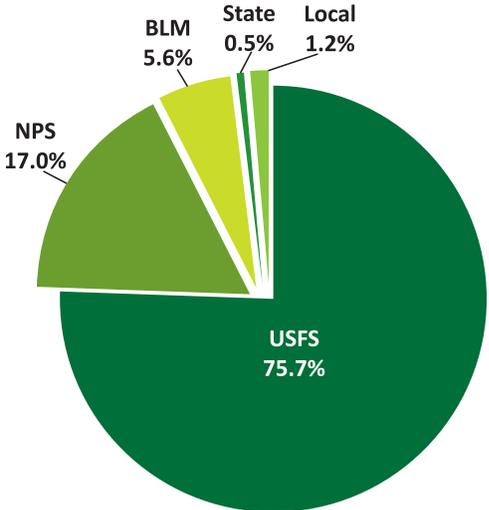
Current trail uses include snowmobile, ORV, hiking, equestrian, bicycling, mountain biking, backpacking, running, hunting access, walking and cross-country skiing. Motorized uses make up 17% of the total number of trails and non-motorized uses make up 83% (Pindell et al., 1996). It is important to note that most ORV survey information was completed prior to 2002 when the State ORV registration program started. Therefore, the number of ORV trails and roads were substantially underreported compared to what exists on the ground today. However, it is critical to note that over 98% of the funding for the Wyoming State Trails Program comes from motorized use. Thus, the motorized recreation users are currently financing nearly all of the costs of the Wyoming State Trails Program. Non-motorized uses are funded through RTP grant monies, by Transportation Enhancements (TEAL), and by the responsible federal, state or local agency.

There are approximately 1,361 trails in Wyoming stretching for 8,176 miles, give or take. The primary land management agencies having jurisdiction over the trails were previously identified in this SCORP as recreation resource providers and include the U.S. Forest Service (USFS), the National Park Service (NPS), the Bureau of Land Management (BLM), the State of Wyoming and local entities, such as towns, cities, and counties. Almost 76 percent of Wyoming’s trails are located on USFS lands, while only 0.5 percent are

*Figure 6.1 • Wyoming Trails By Agency Location**

TABLE 1: TRAIL LOCATIONS

| <u>AGENCY</u> | <u>MILES OF TRAILS</u> | <u>PERCENT</u> |
|---------------------------|------------------------|----------------|
| U.S. Forest Service | 6,185.73 | 75.7% |
| National Park Service | 1,390.27 | 17.0% |
| Bureau of Land Management | 456.75 | 5.6% |
| State of Wyoming | 41.51 | 0.5% |
| Local Entities | 101.42 | 1.2% |
| TOTAL | 8,175.68 | 100.0% |



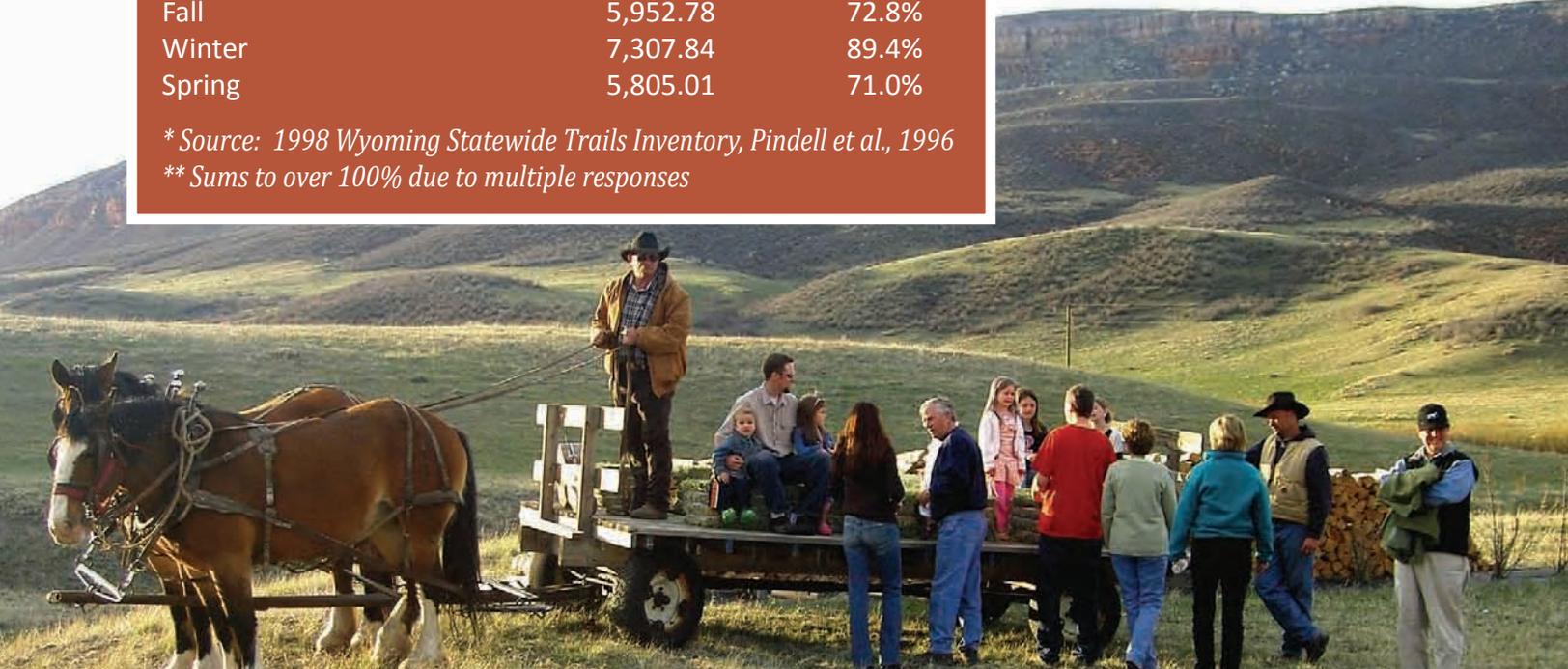
*Source: 1998 Wyoming Statewide Trails Inventory

The average length of a trail in Wyoming is six miles. The BLM appears to administer the longest trails, with the average length of trails on BLM managed land being 14.3 miles long. Trails on State lands are the shortest in length at an average of 1.5 miles long. The winter season has the highest percentage of the number of miles available for use, with 89.4% of trails available for use during this season.

TABLE 2: SEASON OF ALLOWED USE*

| <u>SEASON</u> | <u>MILES OF TRAILS</u> | <u>PERCENT**</u> |
|---------------|------------------------|------------------|
| Summer | 5,961.98 | 72.9% |
| Fall | 5,952.78 | 72.8% |
| Winter | 7,307.84 | 89.4% |
| Spring | 5,805.01 | 71.0% |

* Source: 1998 Wyoming Statewide Trails Inventory, Pindell et al., 1996
 ** Sums to over 100% due to multiple responses



River Trails

River trails are those trails that include access points to river destinations for recreation such as white water rafting or fishing. None of these trails are currently under the supervision of the WSTP. The Federal Government manages 93.6% of these trails, with those on State lands are being managed by the Wyoming Game and Fish Department.

ORV Trails

Data collected in 1998 showed that 293 ORV trails existed on federal lands within the State and over 2,035 miles of trails allowed ORV use (NOTE: this ORV use could have been in conjunction with other trail uses). This constituted about 25 percent of the trail miles. These data were based on information provided by only a few land management agency databases and do not include any BLM figures, who is most likely the primary provider of these trails. Also, the USFS offices were involved with revising their travel management plans at the time of this study and did not want to release any information until the plans were completed.



Accordingly, the number of ORV trails available in the State of Wyoming have been estimated for this 2009-2014 SCORP. Since the ORV program was implemented in 2002, the WSTP has worked diligently with the Forest Service to develop ORV trail locations for ORV map purposes and these provide better ORV recreation opportunities. It is estimated that there are currently over 5,000 miles of ORV trail opportunities in Wyoming.

The ORV permit program has been an instant success. Within the first few months of the program's implementation, over 3,600 permits sold. By the end of 2002, 8,500 total ORV permits were sold. In 2007, 52,206 ORV permits were sold. The continuously growing high sales illustrate the popularity of ORV recreation. They also illustrate the demand for proper planning, management and forecasting to provide adequate trails to meet the needs of ORV recreationists.

The user's survey revealed that ORV use is one of the top issues to be addressed within the next five years. Making ORV management and issues a priority with Land and Water Conservation Fund (LWCF) monies will assist the WSTP in providing excellent ORV opportunities to the public through ensuring that the necessary funds are available for trail maintenance, development and education. A 2006 ORV Survey was administered and provides valuable information regarding the characteristics and spending habits

of resident and non-resident ORV users, as well as an inside look at the trail needs of this group (Foulke et al., 2006). The 2006 ORV survey's results are being used to assist with goal and development formation by the land management agencies.

ORV maps have been provided by the WSTP free of charge to users since 2003. Contracts are also currently under negotiation for ORV trail maintenance, grooming, signing and development. The WSTP currently participates as cooperators in various land management planning processes taking place on Federal lands throughout the State. WSTP personnel focus on management, maintenance, ORV trail building, education and other diverse needs of the users.

Snowmobile Trails

Data collected in 1998 showed that 495 snowmobile trails existed in the State and over 3,841 miles of trails allowed snowmobile use (NOTE: this snowmobile use could have been in conjunction with other trail uses). This constituted about 47 percent of the trail miles. The WSTP is primarily responsible for approximately 2,400 miles of snowmobile trail maintenance, which can include trail grooming, signing and parking. Maintenance duties may also include private contract distribution and RTP grant allocation for providing facilities such as outhouses, trashcans, warming huts, dump stations and parking areas along the trails and at trail heads. The success of the program depends heavily on RTP grant funding, collaboration with the federal agencies where the trails are located, the snowmobile permit program, and support from local snowmobile clubs, interested individuals, the Wyoming State Snowmobile Association and local communities.

Other main functions of the WSTP include snowmobile registration sales, selling agent programs, map formation and distribution, preseason and postseason equipment maintenance, trail clearing, grooming and signing of the trails and development of the snowmobile trail system. More than 90 percent of the trail grooming (grading and packing) is accomplished through contract with the private sector. The remaining trail sections are groomed by State employees and seasonal State employees.



The state snowmobile club members contribute many man-hours to the overall state snowmobile program. The majority of trail miles groomed under this program are located on USFS lands and to a lesser extent on BLM lands. This cooperative effort works to the benefit of snowmobilers and the general public, exemplifying a successful, active partnership between the Federal Government, State Government, and the public users and volunteers.

The snowmobile program is entirely self-sufficient. The majority of the money used to operate the program comes from snowmobile permits and user fees, a percentage of the State gas tax that is spent by snowmobilers each year, and the RTP grant program. The Land and Water Conservation Fund (LWCF) is also a possible contributor to the program, although monies obtained from this allocation source are restricted to specific projects other than trail maintenance. The Federal Highway Administration (FHA) apportions the federal fuel tax paid by Off-Highway Vehicles (including snowmobiles) to state RTP grant programs. Also, monies are distributed to the WSTP from State gas taxes based on a predetermined equation that calculates the proportion of gas used by for snowmobiles as well as ORV's.

The snowmobile program has been a huge success over the past several years and continues to grow rapidly. In the 1988-1989 snowmobile season, there were 14,767 resident permits sold, and by the 2001-2002 season, 18,625 were sold; which represents a 26 percent total increase and an average two percent increase per year. In the 1996-1997 season, 7,340 nonresident permits were sold, and by the 2007-2008 season, 35,722 (18,166 non-resident and 17,556 resident) were sold, which represents a 170 percent overall increase and an average 23 percent increase per year! Commercial permits have also increased over the last few years, rising at an average of about three percent per year.

To help WSTP administrators plan for this increasing trend, a 2000-2001 Statewide Snowmobile Survey was developed by the University of Wyoming and the WSTP. The survey included over 2,000 resident and nonresident snowmobilers, about 450 outfitter clients, and nearly 75 percent of the snowmobile outfitters in the state. This survey's results quantified an estimate that \$234.3 million was spent on snowmobiling during the 2000-2001 season and that \$138.4 million and 3,800 jobs were added to the State's economy. This study also determined that \$36.8 million would be lost to the State if the NPS closed Yellowstone National Park to snowmobiles.

The 2000-2001 Wyoming Snowmobile Survey also found that 95.6 percent of resident snowmobilers were either very satisfied or satisfied with their Wyoming snowmobile experience and 96.7 percent of non-residents were either very satisfied or satisfied. Although the vast majority of snowmobilers indicated they were satisfied with their experience, a few indicated that the areas needing the most attention for future maintenance efforts were parking, available shelters, grooming and signing. Most of the improvement suggestions offered from the respondents were in regards to specific trails and not the entire trail system as a whole, thus indicating that the WSTP has been meeting the needs of its snowmobile trail users.



Non-Motorized Recreation Trails

There are a number of Wyoming trails (83%) located on federal lands that are used for non-motorized recreation (1998 Wyoming State Trails Inventory, Pindell et. al, 1959). The uses for these trails can include horseback riding, hiking, cross country skiing, and mountain biking, among many others. The 2008 SCORP User Survey was conducted to determine how Wyoming citizens were recreating (WYSAC 2008). Although this study primarily focused on areas within local community boundaries and local recreation districts, the following was determined about non-motorized recreation within these areas:

Recreation Providers Survey

- Most Trails Were Ranked in “Good” Condition
- Equestrian (Horse Trails) Were Ranked in “Good” Condition

Recreation Users Survey

- 58% of Respondents Participate in Hiking or Walking
- 59% of Respondents Participate in Hiking or Walking in Their Own County
- Quiet/Solitude, Fishing Access, and Nature Trail Opportunities Were Rated High Priority

It is important to note that most of Wyoming’s non-motorized trails are currently being managed by federal agencies. The location of the trail primarily determines who is responsible for the operational costs of managing the trail (i.e. trails located on USFS lands are maintained by the USFS).

The study mentioned above largely included greenways and walkways located in or around local communities and recreation districts, which are chiefly maintained by the local communities. But, the WSTP is also helping to maintain non-motorized trail use on the national forests, BLM land and State Parks through the distribution of RTP grants as well as LWCF monies.



Future Trails Planning

Many steps have been taken over the past years, since the last SCORP was published, to improve the amount of data available on Wyoming’s trail system. The WSTP has also grown tremendously as a program due to heavily increasing demands being placed upon the trails. Several surveys have been sent out to trail users for input on their needs and have been analyzed for goal and objective formation for the revision of the 1985 State Trails Plan. The Vision 2010 Wyoming State Trails Program Plan completed in 2004 (Wyoming Department of State Parks and Cultural Resources 2004b) is available from the WSTP and contains specific goals and objectives. However, a general outline of goals are as follows:

Snowmobile Program

1. Improve Snowmobile Trail Signing
2. Improve Snowmobile Trail Maintenance
3. Improve Snowmobile Trail Grooming
4. Improve Access for Snowmobiling
5. Improve Snowmobile Safety and Education
6. Improve Snowmobile Funding

ORV Program

1. Improve ORV Trails
2. Improve ORV Trail Signing
3. Improve ORV Safety and Education
4. Improve ORV Access
5. Manage and Improve ORV Funding
6. Conduct ORV Program Monitoring

RTP Grant Program

Work with the State Trails Advisory Council to annually review and update program guidelines and selection criteria to keep current with Federal Highway Administration (FHWA) requirements for the program. Work to increase awareness of the RTP Grant Program through the SPCR website, use of on-the-ground signing and regular news releases about RTP Program functions and projects.

Registration Program

Manage the Registration Program to ensure proper and timely reporting and accounting by selling agents. Provide sales data in a timely manner and useable format so information is readily available for Snowmobile and ORV Program management.

Utilize selling agents to provide public information regarding the Trails Program, including: laws, regulations and requirements; trails and riding areas; safety and use issues; special local projects or activities; etc. Develop criteria and policies for managing permit selling agents, including: desired agent locations, agent selection, agent reporting and auditing, collection of delinquent agent reports and payments, agent termination, etc.

Use partnerships with federal agencies and county sheriffs to provide registration compliance and on-the-ground education and enforcement.



Education and Safety

- Providing education to trail users is a primary role of the WSTP. Goals and objectives for the Trails Program's efforts related to education include:
- Use partnerships with land managing agencies to provide on-the-ground education to trail users. Develop guidelines and procedures to establish a statewide Trail Patrol program to deliver on-the-ground education to trail users.
- Use the WSTP Education Coordinator to develop volunteer partnerships statewide that implements a Trail Patrol education program for motorized trail users.
- Use the WSTP Education Coordinator to facilitate safety and user ethics training for motorized trail users statewide.
- Use the WSTP Education Coordinator to serve as the program's safety officer by providing monthly safety audits and training for WSTP field staff.
- Work to increase awareness of the State Trails Program through the distribution of maps and brochures related to the Snowmobile and ORV Programs, the STP website, and regular news releases (average of 2 per month for 1st year of this plan and then increase to an average of 1 per week beginning in 2006) about program functions, activities and projects.

Non-Motorized Trails

Management of non-motorized trails is a secondary role of the WSTP since other federal, state and local agencies are the primary non-motorized trail managers in Wyoming. Since concurrent non-motorized trail use is allowed on all motorized trails (all motorized trails are open to multiple use whereas non-motorized trails are typically exclusive use/non-motorized use only trails), primary efforts of the WSTP with respect to motorized trail management result in many indirect, secondary benefits for non-motorized trail users. Goals and objectives for the Trails Program's efforts related to non-motorized trails include:

- Continue to support non-motorized trails through Non-Motorized RTP grants to local sponsors.
- Encourage non-motorized groups to partner with motorized groups to apply for Diversified RTP grant funds.
- Encourage communities to pursue TEAL funding from WYDOT for community pathway and greenway projects.
- Support the efforts of non-motorized user groups to pursue non-motorized user fees that could potentially be managed by the WSTP.
- Utilize the WSTP Trail Crew to accomplish trail projects that meet the intent of diversified RTP funding and where non-motorized groups are partnering with motorized groups to promote multiple use.

The Wyoming State Trails Advisory Council has been an integral part of this planning process. The Advisory Council is a ten-member board appointed by the Governor to advise the State Trails Program within the Wyoming Department of State Parks and Cultural Resources regarding trail policies, functions and priorities. Their duties include advising the department regarding priorities for managing the Snowmobile Trails Fund and the Off-Road Recreational Vehicle (ORV) Fund. They also advise regarding application guidelines and distributions of grant funds from the federal Recreational Trails Program (RTP) grant program. The Council evenly represents both motorized and non-motorized trail users. Additionally, the ten positions represent specific trail use activities such as snowmobiling, ATV's, off-highway motorcycles, equestrians, hiking, bicycling, crosscountry skiing or multiple uses. Therefore, members are very much in-touch with the constituents they represent and are able to provide extremely valuable information on both the operation of the Council as well as this planning process.

Wyoming Land Managing Agencies That Provide Trail Opportunities

United States Forest Service

The United States Forest Service (USFS), within the U.S. Department of Agriculture, administers approximately 8.8 million acres of land in Wyoming, which is 25% of the total public land in the State. It is the largest single provider of trail opportunities in Wyoming. The 1998 Wyoming State Trails Inventory identified over 6,100 miles of designated trails on national forests within Wyoming, which represents 73.5% of all inventoried trails in the State. Additionally, there are thousands of miles of nondesignated trails and primitive roads available for recreation on USFS lands in Wyoming. National Forests are managed for multiple uses and provide timber, minerals, range, recreation, water, fish and wildlife.

There are fifteen designated Wilderness Areas totaling nearly 3 million acres (about 34% of USFS lands) in Wyoming available solely for non-mechanized recreation use such as hiking, horseback riding and long-distance backpacking. The use of Wilderness is an attraction for Wyoming residents, but is particularly captivating to out-of-state visitors. The Forest Service in Wyoming is administered by two different USFS Regional Offices, the Rocky Mountain Region (Region 2) headquartered in Denver, Colorado and the Intermountain Region (Region 4) headquartered in Ogden, Utah. There is one National Grassland (Thunder Basin) and four National Forests (Bighorn, Bridger-Teton, Medicine Bow and Shoshone) located entirely within the state and an additional four National Forests (Ashley, Black Hills, Caribou-Targhee and Wasatch-Cache) located partially within Wyoming. The on-the-ground daily management is done by 21 Ranger Districts.

Bureau of Land Management

The Bureau of Land Management (BLM), within the U.S. Department of Interior, administers approximately 17.5 million acres of land in Wyoming, which is approximately one-third of the total state. The 1998 Wyoming State Trails Inventory identified only 32 miles of designated trails on BLM land, equal to 2.4% of trails in the State. However, tens of thousands of miles of non-designated trails and primitive roads also exist on BLM land which makes the BLM an extremely important provider of trail opportunities in Wyoming.

BLM land in Wyoming is administered through the State Office in Cheyenne, with ten Field Offices located

in Buffalo, Casper, Cody, Kemmerer, Lander, Newcastle, Pinedale, Rawlins, Rock Springs and Worland for on-the-ground management. The BLM's resource management responsibilities in Wyoming are heavily influenced by the minerals, oil and gas industries, but also include recreation, timber, range, water, fish, wildlife and fire protection.

National Park Service

The National Park Service (NPS), within the U.S. Department of Interior, administers approximately 2.3 million acres of land in Wyoming that contain 261 miles of designated trails. These trails represent 19.2% of the trail opportunities in Wyoming and are significant for their historic, geologic and interpretive values.

NPS lands conserve the scenic, natural, historic objects and the wildlife therein, and provide for the enjoyment of the same by such manner and means that will leave them unimpaired for future generations. The NPS manages seven areas in Wyoming: Bighorn Canyon National Recreation Area, Devils Tower National Monument, Fort Laramie National Historic Site, Fossil Buttes National Monument, Grand Teton National Park, the John D. Rockefeller, Jr. Memorial Parkway and Yellowstone National Park. The recreational opportunities on NPS lands in Wyoming are particularly significant since Yellowstone was the nation's first national park and Devils Tower was the first national monument.

The NPS is also the primary administrator of the National Trails System as authorized by the National Trails System Act of 1968. This System consists of three types of nationally designated trails: National Historic Trails, National Scenic Trails and National Recreation Trails. Various other agencies administer, operate and maintain the National Trails System within their jurisdiction in consultation with NPS.

National Scenic Trails are designated by an Act of Congress through a recommendation of the managing agency. They maximize outdoor recreation potential while providing for the conservation and enjoyment of nationally significant scenic, historic, natural or cultural qualities of areas through which the trails pass. Wyoming has one such trail, the 3,100-mile Continental Divide National Scenic Trail that follows the Continental Divide from Canada to Mexico with approximately 550 miles being located within Wyoming. National Historic Trails are also designated by an Act of Congress. They are extended trails that follow original trails or routes of national historic significance. Since these historic routes cross a checkerboard of private and public lands within Wyoming, there is often no public access to the trails themselves so auto tour routes often parallel the historic routes. Wyoming has four National Historic Trails whose original routes total over 2,600 miles: the Oregon National Historic Trail (491 original route miles in Wyoming), the Mormon Pioneer National Historic Trail (511 original route miles in Wyoming), the Pony Express National Historic Trail (540 original route miles in Wyoming) and the California National Historic Trail (1,088 original route miles in Wyoming including two alternate routes).

A National Recreation Trail is a designation that can be obtained for trails managed by public or private agencies as a component of the National Trails System. They must be fully developed and available for use at the time of designation and the administering agency must certify that the trail will be available for public use for a minimum of ten years. These trails do not require an Act of Congress, but rather can be designated either through the Secretary of Interior or the Secretary of Agriculture by a recommendation of the managing agency. There are fourteen National Recreation Trails totaling 138.3 miles in Wyoming: Beartooth Loop – Shoshone National Forest, 9.7 miles; Blackwater Fire Memorial – Shoshone National Forest, 6 miles; Bucking Mule Falls – Bighorn National Forest, 12 miles; Rock Creek/Deep Creek – Medicine Bow National Forest, 14 miles; Shell Falls – Bighorn National Forest, 0.2 mile; Wyoming Range – Bridger-Teton

National Forest, 70 miles; Muddy Mountain Interpretive – Casper BLM, 2 miles; Grassroots – Torrington, 0.9 mile; Headquarters – Medicine Bow National Forest, 3.5 miles; Lee McCune Braille – Natrona County, 0.3 mile; Morning Glory – Yellowstone National Park, 1.5 miles; Sheridan – Bridger-Teton National Forest, 9 miles; South Rim – Yellowstone National Park, 9 miles; Three Senses – Yellowstone National Park, 0.2 mile.

The National Park Service also operates a Rivers, Trails and Conservation Assistance Program (RTCA) that works with community groups and local and State governments to conserve rivers, preserve open space, and develop trails and greenways. Their focus is on helping communities help themselves by providing expertise and experience from around the Nation. Their assistance in greenway efforts is wide-ranging and includes planning help with trails along abandoned railroad rights-of-way and regional water trails. Their assistance can be requested through the NPS Intermountain Region Office in Denver, Colorado.

Bureau of Reclamation

The Bureau of Reclamation (BOR), within the U.S. Department of Interior, administers approximately 954,000 acres of land in Wyoming. The BOR has played an active role in the economic development of Wyoming by providing facilities that generate irrigation and power. The day-to-day management of these lands is, for the most part, delegated to state or county government. Therefore, the discussion of trail opportunities on BOR lands is covered below in the discussion of the Wyoming Division of State Parks and Historic Sites and Local Agencies.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS), within the U.S. Department of Interior, administers approximately 81,000 acres of National Wildlife Refuge lands in Wyoming. However, public access to National Wildlife Refuges is very limited. Lands managed by the Fish and Wildlife Service are highly valued for their potential interpretive and wildlife viewing opportunities. The two primary USFWS areas within Wyoming with trail opportunities are the National Elk Refuge which has an accessible boardwalk behind the visitor center in Jackson and the Seedskaadee National Wildlife Refuge where there is a fully accessible interpretive trail at the Lombard Ferry Historical Site.

Wyoming Game & Fish Department

The Wyoming Game and Fish Department (WGF) owns approximately 166,000 acres of land. The purpose of these lands are to provide fish and wildlife habitat. In some cases, these lands also provide access to other public lands. There are few designated trails on WGF lands, but a variety of paths and roads used as trails exist.

Office of State Lands and Investments

The Wyoming Office of State Lands and Investments manages 3.6 million acres of state trust lands in Wyoming. It is the administrative and advisory arm of the Board of Land Commissioners and the State Loan and Investment Board and is responsible for implementing the policies and decisions of those boards.

These State lands are not “public” lands in the same sense as those properties managed by the Federal Government. These lands were granted to the State on its admission to the Union to produce income for the support of public schools and institutions. Generally, State lands, other than cultivated crop lands, are available for public hunting, fishing and recreational day use. There are few designated trails on State Lands,

but a variety of paths and roads used as trails exist. While motor vehicle use off roadways is prohibited, all established roads have been enrolled in the State ORV Program.

Wyoming Department of Transportation

The primary role of the Wyoming Department of Transportation (WYDOT) is to provide a safe, reliable transportation system that serves the needs of the traveling public, commerce and industry. However, WYDOT also serves an important role in providing trail opportunities since it routinely considers bicycle and pedestrian needs when designing transportation facilities, particularly in urban areas. WYDOT also administers the Transportation Enhancements program which allocates up to 10% of a state's federal surface transportation funds for special "enhancements" that can include trails and bicycle/pedestrian facilities. WYDOT's Transportation Enhancement Activities Local (TEAL) grant program has been a primary funding source for many greenways and pathway projects located in or around Wyoming communities.

Wyoming Division of State Parks, Historic Sites and Trails

The Wyoming Division of State Parks and Historic Sites and Trails (SPHST), within the Wyoming Department of State Parks and Cultural Resources, manages 51,326 acres of land in Wyoming. The majority of this land is managed as reservoir parks leased from the Bureau of Reclamation. The park system has about 35 miles of designated nonmotorized trails. Additionally, about 60 miles of park roadways are open to ORV use.

The Wyoming State Trails Program (WSTP), a program within SPHS, serves as the lead in the State to coordinate the planning, development and implementation of a statewide trail system among federal, state and local agencies and the private sector. The State Trails Program does not own any land in Wyoming, but rather facilitates and manages cooperative agreements that provide trail opportunities on lands owned by other agencies.

The State Trails Program administers the snowmobile and ORV registration programs and utilizes funds collected to develop and maintain snowmobile and ORV trail opportunities across the State. The Snowmobile Program provides day-to-day management for 2,350 miles of snowmobile trails. The ORV Program has over 400 miles ORV trails and over 50,000 miles of ORV roads enrolled across the State.

The STP also administers the federal Recreational Trails Program (RTP) grant program that provides grants to agencies and organizations for motorized, non-motorized and multiple use trail projects. It also operates the State Trail Crew that provides on-the-ground trail construction and maintenance to federal agencies at no cost to the agency. The WSTP also provides technical assistance to land management agencies, cities, counties, recreation districts and the public regarding trails management and development. The program also monitors federal agency land-use planning initiatives such as USFS travel plans and forest management plans, BLM resource management plans, and numerous environmental assessments to ensure recreational trail opportunities are properly considered and protected.

The State Trails Program is charged by Wyoming State Statutes 31-2-402 and 404 to sell snowmobile registration and user fee permits and to use the funds that are generated to "administer the snowmobile trail program." It is also charged by State Statutes 31-2-702 and 703 to sell off-road recreational vehicle (ORV) permits and to use the funds that are generated for "administration of the off-road recreational vehicle trails program." The Trails Program has also been appointed to administer the federal Recreational Trails Program (RTP) grant program which is funded by the federal fuel tax paid on gasoline used by motorized

recreational vehicles including snowmobiles, ATV's, off-road motorcycles and light duty trucks used in an off-road setting. The result is that 98% of the funding for the State Trails Program is derived from a motorized recreation source. With this in mind, the primary and secondary purposes of the State Trails Program are:

Primary Purpose

- Serve as the primary facilitator of motorized recreational trail opportunities in Wyoming by providing funding and day-to-day services through the snowmobile and ORV registration programs, along with funding through the RTP grant program.
- Actively facilitate collaboration and partnerships with federal, state and local land managing agencies that provide trail opportunities, with emphasis upon the federal lands that host 98% of all trails in Wyoming.

Secondary Purpose

- Support non-motorized recreational trail opportunities in Wyoming by providing funding through the RTP grant program to the federal, state and local agencies who are the primary non-motorized trail managers.
- Provide technical assistance that furthers recreational trail opportunities and management in Wyoming.
- Provide tourism opportunities that benefit Wyoming's economy.

Local Agencies

Wyoming's cities, counties and recreation districts manage approximately 101 miles of trail which comprises about 3% of the designated trails in the State. These local-agency trails are extremely important since they provide close-to-home trail opportunities many residents desire for health and fitness.

1998 Wyoming Statewide Trails Inventory

The 1998 Wyoming Statewide Trails Inventory (Pindell, et al., 1999) identified 1,361 trails in Wyoming totaling 8,176 miles. It is important to note that this survey was completed prior to 2002 when the State ORV registration program was started. Therefore, the number of ORV trails and roads were substantially underreported in the Trails Inventory as compared to what exists on the ground today.

The 1998 Trails Inventory found that



98% of all trails in Wyoming are located on federal property and that the majority of those trails are managed by the Forest Service. According to the 1998 Trails Inventory, the average length of a trail in Wyoming is 6 miles. The BLM seems to administer the longest trails with an average length of 14.3 miles, followed by the Forest Service with an average of 6.2 miles, 5.3 miles for the National Park Service, 2.5 miles for local entities and 1.5 miles for the State of Wyoming. The 1998 Trails Inventory categorized trails by the setting of the surrounding area that the trail passes through. The trail setting was classified as Urban (cities and towns), Rural (areas surrounding cities and towns), Natural (areas with roads) or Primitive (areas without roads).

Current Funding

The predominant funding for motorized trails in Wyoming is administered by the State Trails Program. Although there are more trails available for non-motorized recreation in Wyoming, 98 percent of the funding for the WSTP comes from motorized use – primarily snowmobile and ORV registration/user fee sales and snowmobile/ORV gas tax distributions – and therefore must be spent solely upon their management.

The Snowmobile Registration Program has been in place and administered by the Department of State Parks and Cultural Resources (and its predecessors, the Wyoming Recreation Commission and the Department of Commerce) since 1969. The current snowmobile resident registration fee is \$15.00 per year per snowmobile; \$1.00 which is retained by the License Selling Agent and \$14.00 which is deposited into the Snowmobile Fund for the administration, management and maintenance of snowmobile trails in Wyoming. In 1994, a Commercial Snowmobile Registration was established at a cost of \$50.00 per year per rental or guided snowmobile, all which is deposited in the Snowmobile Fund. In 1996, a non-resident snowmobile user fee was established at a cost of \$15.00 per snowmobile per year, \$1.00 which is retained by the License Selling Agent and \$14.00 which is deposited into the Snowmobile Fund. Additionally, \$16.25 (125 average gallons of gas/snowmobile/year x \$0.13/gallon state gas tax) for every resident and non-resident snowmobile registration/user fee and \$32.50 (250 average gallons of gas/snowmobile/year x \$0.13/gallon state gas tax) for every commercial snowmobile registration that is sold is transferred to the Snowmobile Fund from the State Gas Tax Fund.

In 2003 there were approximately 40,000 snowmobile permits sold which included approximately 21,000 non-resident permits, 18,000 resident permits and 1,000 commercial permits. Snowmobile program revenues from these 2003 permit sales totaled nearly \$1.3 million per year, with over \$600,000 coming from the sale of snowmobile registrations and user fees and over \$675,000 from the state gasoline tax allocation. The Off-Road Recreational Vehicle (ORV) Registration Program was established in 2002. The current ORV registration fee is \$15.00 per year per vehicle, \$1.00 which is retained by the License Selling Agent and \$14.00 which is deposited into the ORV Fund for the administration, management and maintenance of ORV trails in Wyoming. Additionally since 2003, \$10.40 (80 average gallons of gas/ORV/year x \$0.13/gallon state gas tax) for every ORV permit that is sold is transferred to the ORV Fund from the State Gas Tax Fund.

In 2003, the first full year of ORV permit sales, a total of 26,467 ORV permits were sold. This generated over \$645,000 in revenue for the ORV Program, over \$370,000 which was from permit sales and over \$275,000 from gas tax.

Conversely, the federal agencies generally have budget allocations for non-motorized trails but lack funding for motorized trail management. This makes it is even more important that the STP and federal agencies work together in collaborative partnerships to ensure that both motorized and non-motorized trails in

Wyoming are properly managed. Figure 5 illustrates that, even though non-motorized trail funding has fluctuated from year to year, there has generally been two to three million dollars per year allocated to non-motorized trails on Forest Service lands. At the same time, Forest Service funding for motorized trails has remained constant and nearly non-existent.

The Recreational Trails Program (RTP) Grant Program is an important funding source for motorized, non-motorized and diversified use trail projects in Wyoming. This federal grant program is funded by the federal fuel taxes paid on gasoline used by off-highway vehicles, including snowmobiles, ATVs, off-highway motorcycles and four-wheel drive light utility vehicles. Monies are distributed to states based upon a formula where half goes equally to all states and the other half goes to states based upon estimates of their off-highway fuel use. The State Trails Program administers these funds and awards grants to local, state and federal agencies and to qualifying private organizations for the purpose(s) of: environmental benefit/mitigation, education, maintenance of trails, equipment acquisition, new trail construction, development of trail-side/trail-head facilities, and/or community trail/pathway construction or maintenance.

By federal mandate, 30% of the funds must be used for motorized trails, 30% for nonmotorized trails, and 40% for diversified trail use. The program requires a 20% local match. In 2007 Wyoming received approximately \$1.3 million for this grant program; which is very important to the STP since these are the only funds they have to help facilitate non-motorized trail projects.

The primary funding source for most non-motorized projects located in or around communities (such as greenways) comes from local taxes and/or from grant programs like the Transportation Enhancement Activities Local (TEAL) program. This grant program is administered by the Wyoming Department of Transportation (WYDOT) and is funded by up to 10% of their federal Surface Transportation Funds allocated annually by the Federal Highway Administration. Local cities and counties are responsible for managing trail systems located on their lands and TEAL funds offer over a million dollars per year for paved community pathways, greenbelts, etc. The Land & Water Conservation Fund (LWCF) is another potential funding source for non-motorized trails.

Current Trail Use – Non-Motorized



According to the 2003 SCORP, the non-motorized trail uses that are occurring in Wyoming include: hiking/walking/backpacking, bicycling/mountain biking, horseback riding, cross-country skiing, viewing wildlife/nature, picnicking, fishing, hunting, and visiting historic and/or prehistoric sites/areas (2003 SCORP, pp. 38-39). Recreation facility providers surveyed by the study ranked the majority of trails in Wyoming to be in “better than fair condition” and horse trails as “closer to fair condition” (2003 SCORP, p. 38). Additional trails were also identified as a need in and around most communities. Overall, communities would like to add a total of 55 miles to the overall trail system (2003 SCORP, p. 49), which would primarily consist of community greenways and park pathways versus backcountry or more primitive trails.

Current Trail Use – Motorized

Motorized trail recreation in Wyoming is also very popular. Included with this category are activities like: driving for pleasure, snowmobiling, and riding ORVs (which include off-road motorcycles, ATVs and 4-wheel drive vehicles primarily used off-road). Many motorized activities take place in conjunction with non-motorized activities, such as fishing, camping or hunting. The increasing popularity of motorized trail recreation can also be gauged by the increasing demands placed on the State Trails Program. In its first two years of existence, the State ORV Program went from zero to over 50,000 miles of ORV roads and trails enrolled in the Program. The USFS alone enrolled over 8,000 miles of roads in the Program along with about 425 miles of trails, about 92 miles of which are single-track trails for motorcycles. The BLM has enrolled 100% of their existing roads and trails which are estimated to be in excess of 40,000 miles. Additionally, 100% of existing roads and trails on State Trust lands and Game & Fish lands were also enrolled.

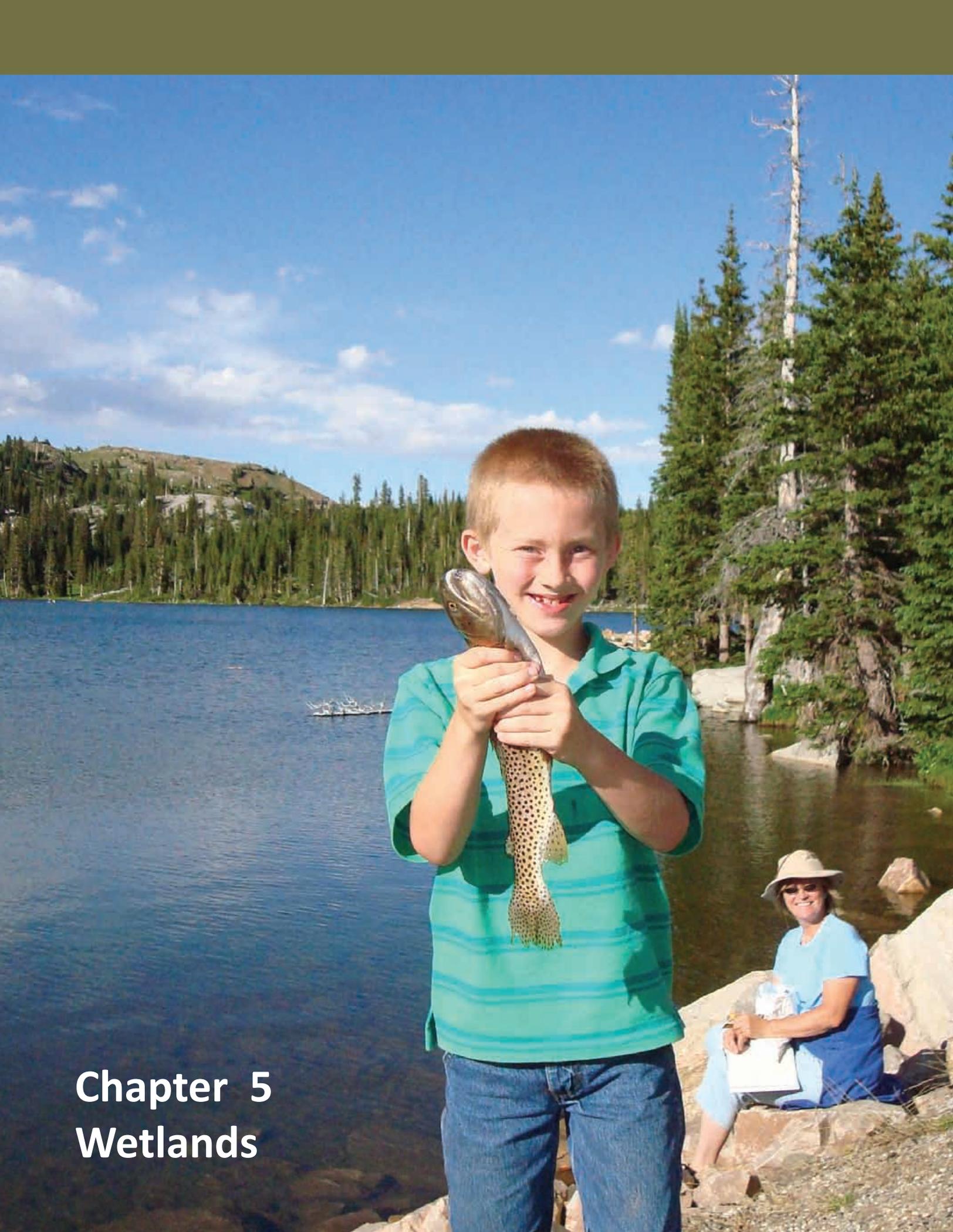
There are approximately 2,350 miles of snowmobile trails located across the State. During the 2000-2001 winter season, there were over 1.53 million snowmobiling visitor days recorded in Wyoming. (McManus, et al., 2001) Wyoming is the overall top destination for snowmobilers in the western United States having six of the top fifteen areas on *Sno West* magazine's "Best of the West" list for several years running. In 2008, the Continental Divide Snowmobile Trail was selected as the overall best snowmobiling area in the



West. The Snowy Range was ranked fourth and The Cooke City, Montana area, which abuts the Wyoming Beartooths area, was selected the fifth best snowmobiling area. Alpine/Greys River and Bighorns areas were ranked sixth and seventh, respectively. The Black Hills trail system that Wyoming shares with South Dakota was ranked number eleven. In this annual survey, Wyoming snowmobiling received high marks for scenery, grooming, signage, maps, snow quality, terrain and off-trail riding opportunities.

The motorized road and trail opportunities in Wyoming lie primarily on federal lands. Thus, federal managers are responsible for directing the opening and closures of roads and trails as well as identifying the distinctions between the two. These types of travel management activities are generally set forth in travel plans, overall comprehensive plans and management strategy documents. Each agency is responsible for designating their own goals, objectives and action items to accommodate the uses, thus leaving a possibility for conflicting policies and a strong need for them to communicate and work together in planning efforts. Although federal agencies set overall goals, objectives and guidelines for motorized recreation management, oftentimes other uses take precedence as funding priorities. If a particular road or trail does not meet design specifications, it is often easier to close it than to perform the necessary maintenance to bring it up to the standards. Winter grooming of snowmobile trails and snowmobile system maintenance would not be possible without the funding and staff support provided by the State Trails Program and the users willing to pay for it. The ORV Registration Program was created primarily to provide a much-needed funding source to pay for increasing ORV road and trail opportunities in Wyoming that previously have been neglected due to a lack of funding. The motorized funds managed by the State Trails Program works to fill gaps in funding and staffing within other federal and state agencies.





Chapter 5
Wetlands

In 1986, Congress enacted the Emergency Wetlands Resources Act (PL 99-645). Section 303 requires each Statewide Comprehensive Outdoor Recreation Plan (SCORP) to specifically address wetlands as an important outdoor recreation resource and requires the preparation of a wetlands priority plan consistent with the National Wetlands Priority Conservation Plan developed pursuant to Section 301 and in consultation with the State agency having responsibility for fish and wildlife resources. The wetlands component of the SCORP was prepared by the Wyoming Game and Fish Department to identify priority wetlands for potential acquisition and other conservation management actions.

Introduction

The USFWS estimates 221 million acres of wetlands were present in the United States at the time of European settlement. Only about 108 million acres (49%) remain today. During 1998-2004, an average net annual gain of 32,000 acres was reported (Dahl 2006). However, natural wetlands continue to be lost at a rate of over 80,000 acres per year. The reported gain is due largely to the proliferation of ponds, lakes and other “deepwater habitats” (Association of State Wetland Managers 2006). These ponds include ornamental lakes for residential developments, stormwater detention ponds, wastewater treatment lagoons, aquaculture ponds and golf course water hazards. Special purpose ponds and ornamental lakes that have little, if any, vegetation may provide limited wetland functions and services – most commonly stormwater retention – but cannot replace the many functions and valued social and economic services performed by natural wetlands.

Wetland protection is achieved through regulations, policy guidance and acquisition of property interests in wetlands. No single regulatory program addresses all the facets of wetland protection. The principal authorities for federal regulation of activities affecting wetlands include Sections 402 (Discharge of Pollutants) and 404 (Discharge of Fill Materials) of the Clean Water Act, and the Swampbuster Provision of the Food Security Act (agricultural activities). However, the protections afforded by these authorities are not comprehensive. In addition, two U.S. Supreme Court cases, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (2001) (SWANCC decision) and the *Rapanos/Carabell* decision (2006), drastically limited the Corps of Engineers’ scope of authority under Section 404. Isolated wetlands not connected to “navigable waters” are no longer protected under the Clean Water Act. As a result, losses of isolated natural wetlands have resumed and are continuing at a high rate (Association of State Wetland Managers 2006).

Approximately 74% of wetlands in the United States are located on private property (USFWS 1989). Their protection and management requires a

concerted effort by federal, state and local governments, private organizations and individuals. Working together, these groups and agencies reinforce the legal and administrative framework established at the federal level for wetlands protection.

To further promote conservation of our Nation's wetlands, Congress enacted the Emergency Wetlands Resources Act of 1986 (Public Law 99-645). Congress found that wetlands are nationally significant resources that contribute to our food supply, water supply and quality, serve as natural means of flood and erosion control, and sustain fish, wildlife and plant resources. Wetlands also contribute significant recreational and commercial benefits that enhance the economy. However, wetland resources have been substantially altered by human activities, while society's understanding of wetland functions and values developed more slowly. The Act provides for wetland acquisition and highlights the eligibility of wetlands for acquisition by Land and Water Conservation Fund money.

Property acquisition should be considered in concert with other conservation alternatives, and as part of a comprehensive program to protect wetlands. Conservation or access easements are also important options. However, property acquisition is often desirable when other approaches have been less effective. Acquisition of restorable wetlands can serve to replace or enhance some of the functions that have been compromised in the past. When wetlands are acquired for protection or restoration, associated uplands should also be included in the acquisition because they are essential to maintain the functions and values of the wetlands.

Purpose and Scope

This Wetlands Chapter was developed to comply with Section 303 of the Emergency Wetland Resources Act of 1986. This law promotes the conservation of our nation's wetlands by directing cooperative interactions occur among private interests and local, state and federal governments. The Act requires each Statewide Comprehensive Outdoor Recreation Plan must include a wetlands component beginning in fiscal year 1988. This Wetlands Chapter provides a wetland inventory, description of historic wetland losses, identification of wetland functions and values, an assessment of past and ongoing threats to wetlands, protection strategies, and priorities for acquisition/protection.

The National Park Service (NPS) administers the SCORP program. The NPS requires the SCORP process to be consistent with the National Wetlands Priority Conservation Plan (NWPCP). The NWPCP (USFWS 1989) helps States address outdoor recreation values associated with wetlands and assists with wetland acquisition decisions when Land and Water Conservation Fund appropriations are used. States are encouraged to develop State wetlands priority plans to implement wetland acquisition programs.

Criteria that should be considered for developing acquisition priorities include functions and values of wetlands, historic wetland losses, and threat of future wetland losses. In general, wetlands are given priority consideration for acquisition if they provide substantial public benefits, are rare or declining types within an ecoregion and are at risk from an identifiable threat of loss or degradation.

Including a wetland site on a priority list does not necessarily mean it will be acquired; rather, the site is recognized as an important wetland in Wyoming. This is only a first step in the process leading to potential acquisition or protection. A decision to purchase and protect wetlands is based upon additional data, cost analysis and policies or conditions that may not be addressed in this Wetlands Chapter.

The development of a wetland priority list also has no direct bearing on Federal regulatory programs or the evaluation of wetlands for regulatory purposes. Priority lists may be useful to identify wetlands warranting attention for protection, management, restoration or enhancement through non-acquisition measures.

The Wetlands Chapter is not a comprehensive wetland conservation plan. Wetland assessment criteria, adapted for the National Wetlands Priority Conservation Plan, help users identify wetland sites that may be priorities for acquisition, protection, or other conservation measures.

Authority

Section 303 of PL 99-645 stipulates "... each statewide comprehensive outdoor recreation plan shall specifically address wetlands within that State as an important outdoor recreation resource ..." and the plan shall be "... developed in consultation with the State agency with responsibility for fish and wildlife resources ..." A state wetlands priority plan shall be consistent with the NWPCP and provided as an addendum to the existing SCORP.

Wyoming Division of State Parks and Historic Sites & Trails (SPHST) in cooperation with the Wyoming Game and Fish Department prepared the SCORP Wetlands Chapter. The WGFD also expressed strong interest in using Land and Water Conservation Funds to acquire priority wetlands.

Coordination and Consultation

Personnel from many agencies and organizations contributed to the 1995, 2003 and/or 2008 versions of the SCORP Wetlands Chapter and state wetlands priority plan. We originally credited all of the individuals who were involved. However, many have retired, changed jobs or their status is unknown. In light of this, we are identifying only the agencies that were consulted. A complete list of the individuals who were contributors at that time is included in the 2003 SCORP document, which is kept on file with the SPHST.

Agencies and Organizations Consulted:

The Bureau of Land Management

Ducks Unlimited

Environmental Protection Agency

Intermountain West Joint Venture

Natural Resources Conservation Service

Rural Economic and Community Development

The State Planning Coordinator's Office

The Nature Conservancy

U.S. Bureau of Reclamation

U.S. Fish and Wildlife Service

U.S. Forest Service

U.S. Geological Survey

Wyoming Department of Agriculture

Wyoming Department of Commerce

Wyoming Department of Environmental Quality

Wyoming Game and Fish Department

Wyoming State Engineer's Office

Wyoming State Land and Farm Loan Office

Wetlands Assessment Criteria

Section 301 (c) of PL 99-645 establishes three specific factors to be considered in evaluating wetlands for potential acquisition: (1) historic wetland losses, (2) threat of future wetland losses, and (3) wetland functions and values. Assessment criteria have been developed within each of these major categories to assist decision makers in determining which types and locations of wetlands warrant priority attention. To summarize, priority consideration for acquisition/protection will be given to:

- Rare or declining wetland types within an ecoregion (half or more of the wetland site consists of rare or declining wetland types);
- Wetland sites at risk from identifiable causes of loss or degradation; and
- Wetland sites with diverse and important functions and values and/or specific wetland functions with especially high or unique values.

Sites identified for potential wetland acquisition/protection in Wyoming were selected based on an evaluation of all three considerations. The threshold criteria were adapted from the NWPCP. The ranking criteria were adapted from the Land Acquisition Priority System (USFWS 1990). This systematic approach will help achieve national consistency and comparability among state programs evaluating wetlands for acquisition and protection.

For the purpose of this chapter, wetland classifications will be based on the system and terminology developed by the USFWS (Cowardin et al., 1979).

Wetlands Functions and Values

Wetlands provide a variety of important public and ecological benefits. These are separated into several functions and values including wildlife and fisheries habitat, hydrologic functions, water quality, outdoor recreation, and other benefits. Wetland functions and values often vary according to wetland type, location and degree of human-caused modification. Individual wetlands do not necessarily exhibit all functions and associated values, or perform them equally well.

Wildlife and Fisheries

- Wetlands are the most diverse and productive ecosystems in Wyoming, sustaining high diversity of flora and fauna.
- Wetlands are the most important habitat for migratory waterfowl, shorebirds, and other waterbirds.
- Some wetlands are used by threatened and endangered species such as the whooping crane and Wyoming toad. The whooping crane inhabits seasonally flooded wetlands and wetland margins.

Wetlands

More than one-third of the United States' threatened and endangered species live only in wetlands, and nearly half use wetlands at some point in their lives (U.S. Environmental Protection Agency 1995).

- Seventy of the bird species found in Wyoming birds are wetland obligates. Over half (17) of the priority bird species listed by the WGFD Nongame Plan are wetland obligates. These species require special management attention due to identified threats, declining or unknown population status, or restricted distribution.
- All 8 Priority I Species listed in the WGFD Nongame Plan are wetland obligates.
- Wyoming ranks sixth among the duck production areas surveyed in the United States. Based on counts conducted from the early 1950s through 1999, on average, over 350,000 breeding ducks are present in Wyoming during May. Our rank among duck production states underscores the importance of wetlands and associated upland habitats for production of ducks, geese, cranes, swans, and other waterbirds in Wyoming and the Nation.
- Despite their importance to wildlife, wetlands comprise less than 2% of Wyoming's land area, based on planimetry estimates (WGFD 1987).
- In the past century, 38% (750,000 acres) of Wyoming's wetlands have been destroyed (Dahl 1990).
- Ninety percent of wildlife species in Wyoming utilize wetlands daily or seasonally during their life cycle. Wetlands and associated habitat are important to waterfowl, as well as big game, small game, furbearers, and nongame.
- Large, diverse wetlands, especially those that are hydrologically connected to other wetlands, are likely to sustain more diverse wildlife communities because they meet the living requirements of more species. Wetlands with an irregular interface or interspersion of open water and wetland vegetation are also more likely to provide diverse food and cover conditions supporting more wildlife.
- Every wetland type in Wyoming is used by 1 or more of the 18 duck species that nest here. Over 50 species of waterbirds use wetlands in Wyoming and Priority I species such as trumpeter swan and white-faced ibis use wetland habitats with unique characteristics. Presence of wetlands within a semi-arid landscape greatly increases habitat and wildlife diversity.
- Wetland habitats are essential spawning and nursery areas for many fishes in Wyoming. Some man-made stock watering ponds in eastern Wyoming sustain fisheries in otherwise unsuitable locations.
- Many threatened and endangered plants are wetland obligates.



Hydrologic Values

(Surface and Groundwater Quality and Quantity)

- Wetlands can serve to both recharge and discharge groundwater aquifers. Most isolated wetlands (e.g., playas, stock ponds) in Wyoming are not connected to the groundwater table and are filled by runoff during spring thaws and precipitation events. During drier months, evapotranspiration typically causes their water levels to draw down. Riparian wetlands are connected to alluvial aquifers and recharge them (during spring runoff). During summer months, the same wetlands discharge through evapotranspiration. Seeps and springs are sources of aquifer discharge in most of Wyoming's mountain ranges and some lower elevation sites. Groundwater is applied to many uses throughout Wyoming, including irrigation, livestock watering, domestic and industrial uses.
- Healthy wetlands sustain high water tables that increase productivity of associated uplands.
- Wetlands improve water quality by removing, transforming or retaining nutrients as water flows through the wetland system. Wetland vegetation can also process chemical and organic pollutants and reduce sediment loads. In northeast Wyoming, the wetland complexes established in bentonite mine pits provide a great example. As healthy stands of emergent vegetation become established, turbidity from heavy concentrations of colloids is reduced.
- Wetland vegetation filters sediments and nutrients that would otherwise enter streams and reservoirs. Excessive sedimentation accelerates succession of reservoirs to wet meadow and terrestrial habitat types. For example, man-made stock ponds in the Bighorn Basin only have a life span of 15-20 years because of highly erodible soils. Protective measures such as livestock exclosures and silt traps on drainages enhance the wetland values associated with stock ponds and extend their life. A high percent of stock ponds fail in Wyoming because these measures aren't implemented when the ponds are constructed. Water quality is improved when a net removal or detoxification of harmful materials takes place.
- Palustrine wetlands adjoining rivers reduce channel erosion. Wetland vegetation binds and stabilizes substrate, traps sediments, and reduces wave or current energy. The value of riparian vegetation for stream bank stabilization has been extensively documented throughout the U.S.
- Wetlands temporarily store floodwater, reduce current velocity, attenuate downstream flood peaks and gradually release stored water, thereby reducing flood damage. Stream banks stabilized by wetland and riparian vegetation are also less susceptible to erosion by floodwaters. The palustrine wetlands associated with the Green, Snake (except the wetlands that have been severely impaired by the levee system) and Bear Rivers in western Wyoming are examples of wetlands providing flood attenuation functions.

Outdoor Recreation

- Wyoming's wetlands are an important source of outdoor recreation for both residents and nonresidents. A large percent of residents participate in one of the following activities, often associated with wetlands: wildlife viewing, waterfowl hunting, fishing, boating, swimming, and nature study. Wildlife viewing includes observing, feeding, and photographing wildlife, maintaining plantings and natural areas to attract wildlife, and visiting public land and parks where wildlife is an important aspect of the experience. As an activity, wildlife viewing has been developed to an estimated 20% of its potential in Wyoming. Promotion at state and national levels has led to a dramatic increase in the popularity of wildlife viewing and related activities. Nationally, wildlife watching increased two-fold during 1980-1990. Kohley and Buchanan (1990) documented 91% of Wyoming residents age 16 and older participated in nonconsumptive wildlife activities.
- Wetland habitats sustain an abundance of migratory and nesting waterbirds in Wyoming. In western Wyoming, birdwatchers and wildlife photographers may observe threatened or endangered species such as trumpeter swans and whooping cranes in wetlands. Locations in which rare species can be observed are becoming known at the national level. Public interest is increasing and protection of wetland habitat has become a national concern. Additional rare or unique birds that inhabit wetlands in Wyoming include the common loon, American white pelican, snowy egret, American bittern, black-crowned night heron, and white-faced ibis.



- Fish and wildlife-related recreation is a \$122.5 billion industry in the United States based on a 2006 USFWS survey (USFWS 2007). (Data obtained from respondents age 16 and older). The survey revealed 87.5 million (38%) of U.S. residents participated in some form of wildlife-dependent recreation in 2006. Much of this recreation was associated with wetland areas. Non-consumptive uses such as nature observation, photography, and natural area visitation relate more to quality of life and are hard to evaluate in economic terms due to the difficulty of quantifying aesthetic considerations. However, expenditures for equipment and travel can be substantial.
- Wildlife-watching participants expend \$45.7 billion annually. Wildlife viewing was separated into 2 categories, “around the home” and “away from home,” depending on whether the activity occurred less than or greater than a mile from home. Sixty-eight million (29.6% of U.S. population) participated in wildlife watching around the home. Twenty-three million (10% of U.S. population, 13% of Rocky Mountain residents) traveled away from home; taking special trips for the primary purpose of enjoying wildlife. Primary visits by non-residents included 39% to marshes, wetlands and swamps; 64% to lakes and steams; and 51% to public land. The number of recreationists taking trips increased 63% from 1985 to 1995 (USFWS 1999).
- Thirty million anglers (national participation rate of 13%) expended \$42 billion in 2006, and 12.5 million hunters (national participation rate of 5.5%) expended \$22.9 billion. (The numbers of individuals participating in fishing and hunting declined by 12% and 4%, respectively, since 2001). In 2006, outdoor enthusiasts expended \$1.1 billion for wildlife-related activities in Wyoming. Of this, \$658,744,000 was attributed to hunting and fishing, and \$394,869,000 was expended primarily for non-consumptive activities. In Wyoming, expenditures related to wildlife viewing increased 24% from 1996 to 2006 (USFWS 2007).
- Easily accessible wetlands near major population centers often sustain more concentrated recreation use compared to less accessible wetlands located away from population centers.

Additional Considerations

- Additional wetland values include natural areas, scenic features, education and research, archaeological or historic sites, and open space.
- Wetlands are important natural areas sustaining diverse plant and animal life. Because wetlands comprise only 5% of the contiguous U.S. (Tiner 1984), wetland communities are generally considered rare. However, their importance is exemplified by the high percent of wildlife species using them; e.g. at least 80% of species in the dry Southwest utilize wetlands (USFWS 1989). Undisturbed natural wetlands are especially important because they serve as scientific references of community types and they are extremely rare and unique resources. The capacity of wetlands to sustain non-consumptive recreation is generally greatest when they are in good ecological condition (undisturbed, non-polluted, influenced by natural hydrologic regimes and sustain high levels of diversity) and are accessible to outdoor recreationists.

Wetland Losses

Several national studies have estimated the historic loss of wetlands in the United States. Prior to European settlement, 221 million acres of wetlands were present in the lower 48 states. Less than 107.7 million acres (49%) remain. Wetlands comprise approximately 5% of the nation’s land surface (Dahl 2006). In

Wyoming, approximately 1.25 million acres of wetlands, 2% of the state's surface remain (WGFD 1987). From the 1950s to the mid-1970s, agricultural activities were responsible for 87% of wetland losses in the U.S. From the mid-1970s to the mid-1980s, 54% of the wetland losses were attributed to agriculture (Dahl and Johnson 1991). This figure is likely representative for Wyoming as well. In addition, wetlands have been eliminated or impaired by residential and commercial development, road construction, water development projects, erosion and inundation, mining, oil and gas development, livestock grazing, channelization, levee construction and bank stabilization projects, dredging, fill deposition and other land uses (Tiner 1984).

Vegetated palustrine wetlands are the most highly impacted type throughout the United States. In Wyoming this type usually occurs in seasonally flooded alluvial valleys. These alluvial valleys are "prime farmlands" attractive for conversion to agricultural production due to the greater soil depth and ease of water application. The NWPCP acknowledges palustrine wetlands warrant priority consideration for Federal and State acquisition or protection. Palustrine wetlands have been impacted to the greatest extent in Wyoming, particularly those created and maintained by seasonal flooding along rivers like the Bighorn, North Platte, Green, and Bear. In such areas, wetlands have been converted to agricultural uses, inundated by impoundments or altered by flow regulation. In unmodified riverine systems, there is no net loss of wetlands to "natural succession." Natural fluvial processes always maintain a dynamic equilibrium, creating new channels and wetlands as older ones silt in. However, the larger rivers and streams in Wyoming are regulated by releases from large reservoirs. Due to flow stabilization, little channel movement takes place, thus the numbers of oxbows are declining. Many areas that were previously wetlands are now irrigated hayfields or croplands.

From the 1950s to 1970s, the acreage of human-created ponds nearly doubled from 2.3 to 4.4 million acres in the U.S. (Tiner 1984). Ponds continued to increase from the mid-1970s to the mid-1980s by another 792,400 acres (Dahl and Johnson 1991). However, many human-created ponds have become nonfunctional in Wyoming. For instance, in the Bighorn Basin, the BLM estimates less than half the 2,000 stock water ponds constructed still contain water. The rest have been breached or silted full. In their best condition, many were poor quality wetlands due to high turbidity and a lack of submersed and emergent vegetation, but some provided benefits as water sources in otherwise arid areas.

In the 1970s, deepwater habitats in the U.S. increased from 71.3 to 72.9 million acres due to construction of large reservoirs (Frayer et al. 1983). From the mid-1970s to the mid-1980s the area of deepwater habitats increased by another 271,200 acres (Dahl and Johnson 1991). Unfortunately, most large reservoirs in Wyoming inundated existing natural wetlands and riparian habitats when they were constructed. Operation of these reservoirs for irrigation and power generation also stabilized flows and deepened downstream channels, disrupting the processes that enabled wetlands and riparian vegetation to reestablish. This has resulted in additional direct and indirect loss of wetlands. Though large and small bodies of open water have increased significantly over the last 20 years, these newly created habitats do not replace the functions and values of the wetlands lost. Much of the lost acreage consisted of high value, palustrine type wetlands. The ecological values of most created wetlands are substantially lower.

Wetland losses had slowed between the mid-1970s and 1990s due to increased public awareness, better protective measures, and improved federal regulations (Dahl and Johnson 1991). However, isolated wetlands are no longer protected under Section 404 and wetland conversions have accelerated in recent years. Under existing mitigation policies, destruction of jurisdictional wetlands should be compensated by enhancement of existing wetlands or creation of new wetlands of similar value. Unfortunately, mitigation projects are not always successful and there is currently no requirement to mitigate impacts to isolated wetlands.

In 1974, the USFWS embarked on the National Wetlands Inventory (NWI) mapping project, which ultimately relied upon a system published by Cowardin et al., (1979) – Classification of Wetlands and Deepwater Habitats of the United States. A major purpose of the NWI is to evaluate wetland trends by comparing aerial photography through time. Two comparison studies have been completed. Aerial photography was used to evaluate wetland changes from the 1950s to the 1970s in the lower 48 states (Frayer et al. 1983), and a second study compared the mid-1970s to the mid-1980s (Dahl and Johnson 1991).

Although natural wetlands have become impaired or converted by various anthropogenic activities, wetlands have also been created and stock ponds built throughout Wyoming. Inefficient irrigation systems have created wetlands from seepage and enhanced the hydrology of some existing wetlands, for example, at Eden-Farson, Kendrick and other projects. Wetlands have also been purposely created for waterfowl management at several WGFD wildlife habitat management areas including Ocean Lake, Table Mountain, Yellowtail, Springer, Soda Lake, South Park, and Sand Mesa. Additional areas with wetland projects include Seedskaadee NWR, Hutton Lake NWR, Palisades Reservoir, Upton Ponds, City of Buffalo Wetland, Buffalo Bill Reservoir, Sand Storer/Saratoga Lake, Silver Sage Ranch near Saratoga Fish Hatchery, and the Tongue River Oxbows. The WGFD, private individuals, federal agencies, and irrigation districts have completed several cooperative projects, including Bass Farms, Geringer Brothers, Hinman, Norris, Bighorn Basin Stock ponds, Lily Lake, Bragonier, Ralston Reservoir, and others.

Wyoming is the fifth driest state and did not historically contain wetland area equivalent to the national average percentage. Flood control has removed seasonally flooded areas, croplands now exist where wetlands formerly existed, areas have been filled for housing and other developments, streams have been channelized and rerouted, and grazing impacts have removed vegetation and dried up wetlands (Northwest Resource Information Center 1990). In Wyoming, human-created wetlands have probably had a more positive effect than in most regions simply because any water is valuable in an arid environment.

Threats To Wyoming Wetlands

Wetland areas with significant values that are threatened by impairment or conversion are conservation priorities in Wyoming.

In order of greater to lesser consequence, threats to wetlands in Wyoming include:

- Agricultural conversions – wetlands to cropland
- Irrigation system conversion – conversion from flood to sprinkler irrigation, canal lining
- Excessive livestock grazing – vegetation loss, erosion, sedimentation, lowered water tables
- Dewatering/Drainage – for housing, agriculture, mining, logging
- Stream channelization and levee construction – lowered water level, faster runoff
- Water development projects – inundation of existing wetlands, flow stabilization
- Non-point source pollution – nutrient loading, contamination
- Oil/gas exploration and production – contamination, sedimentation
- Residential/commercial development – loss of habitat, nutrient loading, disturbance effects
- Watershed deterioration / shrub control projects – elimination of snow catchment functions that trap and hold atmospheric moisture, and prolong runoff into streams and wetlands
- Highway construction – loss of habitat, channelization
- Recreational development – loss of habitat, nutrient loading, disturbance effects

Regional threats are discussed in greater detail later in this chapter. It's somewhat ironic the two major causes of wetland loss are agricultural and irrigation system conversions. Numerous wetlands were created by flood irrigation; however, conversion to sprinkler systems has resulted in a loss of surface hydrology required to maintain associated wetlands. Conversion from flood to sprinkler irrigation for salinity control near Eden-Farson alone could eliminate over 2,500 acres of man-made wetlands. The Colorado River Basin Salinity Control Act (PL-93-320) reflects a national priority to reduce salinity in the Colorado River. The wetlands at Eden-Farson and elsewhere were created during a period when salt loading was increasing in the Colorado River system. A voluntary program to mitigate loss of these wetlands has been negotiated. Excessive salt loading can impair wetland functions (e.g., the collection of irrigation return flow containing leached salts and toxic minerals can impact fish and wildlife habitat).

Wetlands in urbanized and agricultural environments tend to be more eutrophied than wetlands in forested or naturally vegetated areas. Eutrophied wetlands receive excessive amounts of dissolved nutrients and organic pollution that stimulate biological growth and thereby reduce oxygen content in water.

Protections of Wetlands In Wyoming

At the State level, the formal protection of wetlands began in 1988 when the Wyoming Department of Transportation (WDOT) and the WGFD negotiated a wetland banking Memorandum of Understanding (MOU) to evaluate and mitigate wetlands impacted by highway projects. In 1989, former Governor Mike Sullivan established the Wyoming Wetlands Task Force. Two years later, the Wyoming Wetlands Act (WWA) was passed. The Wetlands Task Force changed its focus to wetland mitigation banking and released guidelines in 1995. However, the mitigation bank has not been widely applied, nor has the task force been active since that time.

Nationally, Section 404 of the CWA is the principal authority that regulates deposition of dredged and fill materials in wetlands. In addition, Executive Order 11990, NEPA, and the Fish and Wildlife Coordination Act apply whenever there is federal involvement. In 1989, the USACE, EPA, and USFWS drafted a common definition of "wetland" and developed a unified method for delineating wetlands. This superceded previous definitions and methods until Congress suspended use of the methodology with respect to the Corps of Engineer's jurisdiction in the early 1990s. The Corps of Engineers now relies upon its earlier definition. In 2001, the U.S. Supreme Court SWANCC decision (Ducks Unlimited 2001) overturned the migratory bird rule, which had been the basis of the interstate commerce connection the Corps relied upon to assert its jurisdiction over all wetlands. The Court's decisions in the SWANCC case, and later in the Rapanos case, further restricted the Corp's jurisdiction to wetlands that are hydrologically connected to navigable waters. Isolated wetlands are no longer protected under federal law. Despite permitting requirements, several hundred acres of jurisdictional wetlands are also lost through illegal fill activities each year. In Wyoming, the Water Quality Division of the WDEQ administers part of the 404 permit process, in consultation with the USFWS, the WGFD, and the USACE.

At the Federal level, legal and administrative frameworks for wetlands protection include provisions of the Rivers and Harbors Act of 1899; Fish and Wildlife Coordination Act of 1958, as amended; Clean Water Act of 1977, as amended; Watershed Protection and Flood Prevention Act of 1954, as amended; Federal Power Act, as amended; Emergency Wetlands Resources Act of 1986; Executive Order 11990 -- Protection of Wetlands; Executive Order 11988 -- Floodplain Management; Swampbuster Provision of the Food Security Act of 1985; and the SWANCC and Rapanos U.S. Supreme Court decisions.

The Swampbuster Provision of the 1985 FSA withholds USDA farm program benefits from farmers who drain wetlands then plant crops on them. This Provision has reduced one of the most significant causes of wetland losses in the United States – the conversion of wetlands to crop production (Heimlich 1988).

Wetland mitigation projects are constrained by water rights, including instream flows under the purview of the Wyoming State Engineer's Office. In some parts of the state, wetland creation is limited by existing water rights and interstate water compacts. Several agencies have undertaken major efforts to educate individuals and city/county planners about wetland protection requirements; awareness and enforcement of the 404 permit requirements have reduced wetland/riparian habitat losses. The WGFD collaborated in development of a method for assessing wetland habitat quality, potential losses and adequacy of mitigation in reclamation of abandoned bentonite mines in NE Wyoming (Hayden-Wing et al. 1987). The methodology was initially applied to assess wetlands, or abandoned bentonite mines. The WGFD and USFWS have actively promoted creation of wetlands by retaining impoundments on mined lands as permanent reclamation features.

WGFD and federal land management agency personnel formed a Wetland Avifauna Committee in 1985 to promote, improve, maintain, protect and enhance wetlands and their associated amenities in Wyoming; to identify potential funding sources; and to evaluate and rank projects submitted by members of the Committee. The Wyoming Interagency Wetland Initiative Team succeeded the Wetland Avifauna Committee.



The Team continued until early 1990, when 82 wetland projects were in various stages of planning. The interagency strategy for wetland protection ceased operation in 1990. All of the projects involved creation or enhancement of wetlands and used various funding sources including water project mitigation funding.

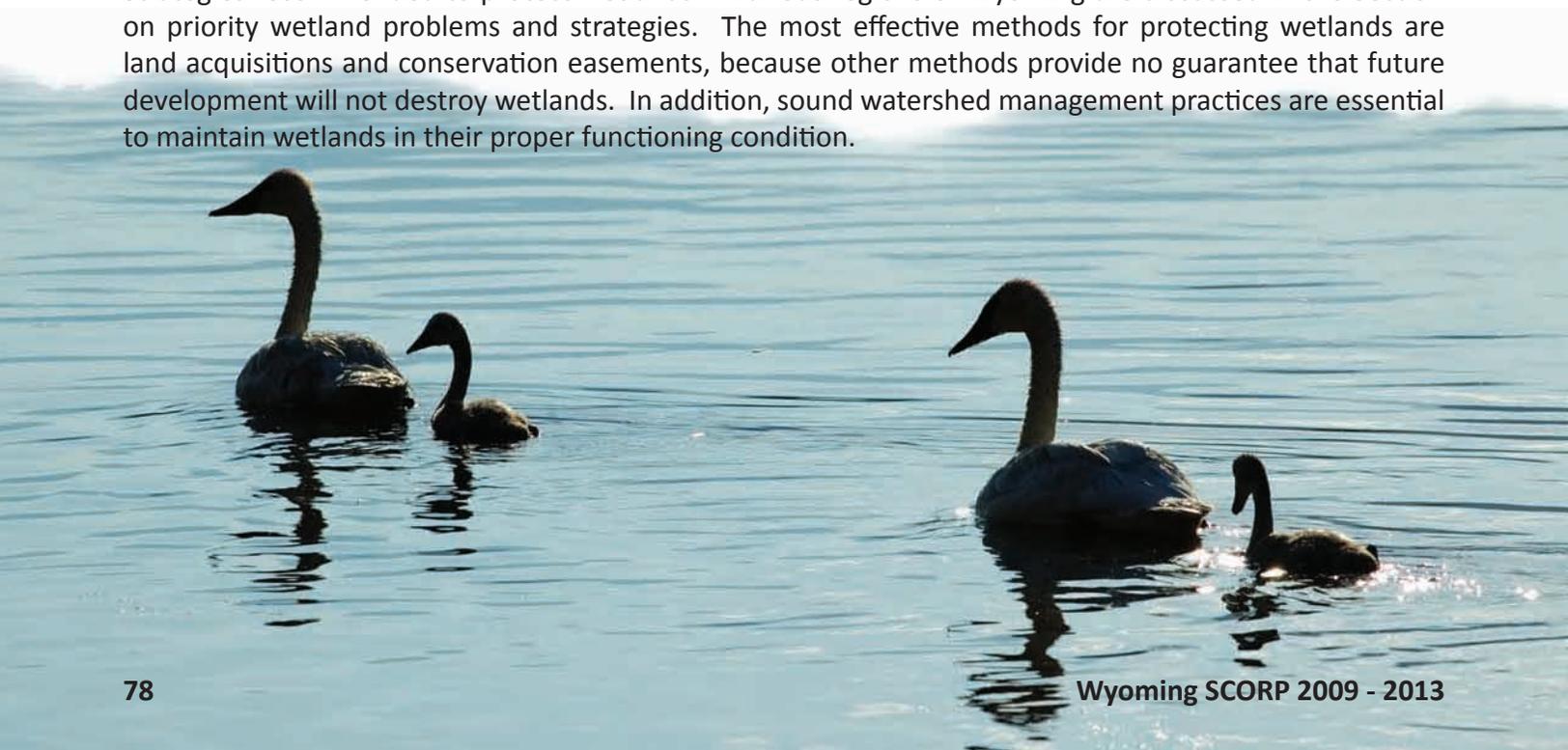
The principal mechanisms for protecting wetlands in Wyoming include the WWA, the 404 permit process, land use planning within the USFS and BLM, cooperative agreements among agencies (largely through the 404 process), conservation easements, and land purchases. The 404 process is reasonably effective for “navigable” wetlands, but could be improved by a broader federal definition of wetlands that includes isolated wetlands, and recognition that avoidance and mitigation are important and necessary under federal law. The 404 process has slowed wetland losses, but many individuals and some local governments are not aware of, or at least claim ignorance of, the CWA requirements. Federal mandates have led most land management agencies to become cognizant of wetland protection laws, affording greater consideration of wetlands in their resource management programs. However, grazing impacts on wetlands and wetland watersheds are still widespread and severe on federal lands. Conservation easements and land acquisition provide mechanisms for wetland protection, but the former can be difficult to write in an enforceable manner, and in some instances, may be at least as expensive as outright purchase.

The WGFD has provided technical assistance and/or has been a cooperator in numerous riparian and wetland protection and enhancement projects across Wyoming.

County and local governments handle wetland protection variously throughout the State. County zoning or land-use plans commonly address wetland considerations. Conservation districts are often involved in wetland projects.

Private organizations, such as The Nature Conservancy and Ducks Unlimited, have actively protected, managed or acquired wetlands. Other organizations involved in wetland protection include Trout Unlimited, Isaac Walton League, National Audubon Society, Powder River Basin Resources Council, Wyoming Wildlife Federation, Wyoming Stock Growers Association, Wyoming Riparian Association, and the Sierra Club.

Strategies recommended to protect wetlands in various regions of Wyoming are discussed in the Section on priority wetland problems and strategies. The most effective methods for protecting wetlands are land acquisitions and conservation easements, because other methods provide no guarantee that future development will not destroy wetlands. In addition, sound watershed management practices are essential to maintain wetlands in their proper functioning condition.



The following sections identify wetland conservation efforts in greater detail.

State Wetlands Task Force

In 1989, former Wyoming Governor Mike Sullivan established the Wyoming Wetlands Task Force to address wetland loss and impairment, and to develop a wetlands policy for Wyoming's state agencies. Agencies represented included the WGFD, WDEQ, State Engineer, Wyoming Department of Agriculture (WDA), Wyoming Recreation Commission, Wyoming Attorney General, Wyoming Water Development Commission (WWDC), and the WDOT. With the passage of the State's Wetland Act in 1991, the Task Force was directed to develop the Wyoming Wetland Banking Program. The Wetland Banking Task Force was comprised of representatives from WDEQ, WDA, WDOT, WGFD and WWDC. The Task Force is no longer operational.

Wyoming Wetlands Act

The Wyoming Wetlands Act (WWA) was originally enacted in the 1991 Legislative Session and became effective July 1, 1994. Although the Act was amended in 1994, it still became effective on July 1, 1994. With one exception, the amendments to the original WWA were minor. The WWA referred to herein is the current form. The purpose of the statute is to establish a statewide mitigation bank to improve the administration of wetland protection, permitting and restoration programs in the State.

The major substantive change appears in Section 35-11-331, subsection a(i). In the original legislation, there was no effective date for when mitigation credits could be earned for man-made wetlands. The 1994 amendment established July 1, 1991, as the starting date when credits for man-made wetlands could be claimed. Ponds and wetlands constructed before that date were effectively "grandfathered" and not eligible to be included in the bank. This was also the date on which the existing status of wetlands in Wyoming was to be used as baseline for no net loss.

The WWA declares that all water within Wyoming is property of the State and that water is one of Wyoming's most important natural resources. The significant differences between natural and man-made wetlands are recognized. It is the policy of Wyoming that water management and development be balanced with wetland preservation activities to protect and accommodate private property, industry, and the State's water interests and objectives. After July 1, 1996, the WDEQ must be notified before any wetland of 5 acres or larger is drained, if that draining may cause downstream flooding. The WWA also establishes a wetland mitigation banking system and framework for the development of banking guidelines. Some wetland credits were awarded to the Wheatland Irrigation District early in bank's history, however no additional credits have been entered in the bank.

Wyoming Statewide Wetland Mitigation Bank

The purpose of the wetland bank is to facilitate wetland mitigation required by existing and future federal, state, or local regulations. Banking guidelines were developed through a collaborative effort by the WDEQ, WDA, State Engineer's Office, WDOT, WGFD, and the WWDC. The program is administered by the WDEQ's Water Quality Division.

Any landowner, organization, or public agency can earn credits for wetland creation, restoration or enhancement. Once the credits are recorded in the bank, they can be withdrawn by the owner or transferred to another party to meet mitigation requirements. The WDEQ maintains all bank records and produces periodic reports concerning wetland gains and losses and credit and debit transactions for each account.

Wetland Banking – WDOT and WGFD MOU

In 1993, the WDOT and WGFD and other state and federal agencies signed a wetland banking memorandum of understanding. This mitigation banking agreement was designed to facilitate mitigation of wetland losses due to highway projects. Other agencies involved include the Wyoming State Engineer, WDEQ, USFWS, Federal Highway Administration, FHWA, USACE, and EPA. This MOU delineates the various stages of project development, provides for interaction at these various stages between the WDOT and the resource and regulatory agencies, identifies those habitats to be considered, provides a technique for quantifying certain wetland functions, and established a mechanism for banking mitigation if necessary. The MOU addresses the various strategies that may be applied to address a potential wetland impact and prioritizes them in the following order: avoidance, minimization, restoration, reduction or elimination over time, and finally, mitigation off site. This MOU is still in effect and is separate from the Statewide Wetland Mitigation Bank.

Miscellaneous Wetland Mitigation Projects

A number of wetland mitigation projects have been planned and developed in Wyoming. Cheyenne's Stage II Water Pipeline Project and the Sulphur Creek Dam and Reservoir Project are two examples. Conceptually, wetlands were to be created or enhanced as replacement resources to mitigate wetlands inundated by water development projects.

After encountering considerable difficulty in finding viable mitigation sites, the City of Cheyenne reached an agreement with the National Wildlife Federation to award the WGFD \$250,000 to carry out the mitigation for the Cheyenne Stage II Water Project. The WGFD was to create or enhance 242 acres of wetlands. The wetland projects were not restricted to the North Platte River drainage. Projects that were completed included: Storer/Saratoga Lake wetland 1989-90, Yellowtail Wildlife Habitat Mitigation Area (WHMA) 1988-94, Frog Creek Reservoir (Thunder Basin National Grassland) 1994-95, Springer WHMA 1989-92 and Silver Sage Ranch wetland 1993-94. All mitigation obligations under a signed MOU between the City of Cheyenne and the WGFD were discharged by the late 1990s.

As mitigation for inundation of wetlands at Sulphur Creek Reservoir near Evanston, the WWDC allocated \$59,500 for wetland mitigation in the Bear River drainage. In 1994, this funding was given to the City of Evanston for wetland enhancement on the Ice Ponds project.

There have been numerous WDOT wetland mitigation projects associated with highway projects. Most have been wetland enhancement projects, usually less than an acre in size. The Hagenstein wetland project, south of Pinedale, was a 7-acre wetland created as mitigation.

Proposed reservoir construction will create additional wetland mitigation projects. Four dams were constructed relatively recently; High Savery Reservoir for irrigation near Baggs, Greybull Valley Irrigation Project, Tie Hack Reservoir for water supply on South Clear Creek west of Buffalo, and the Twin Lake Project for water supply west of Sheridan.

Wetland Evaluation Methods

SUPERBOG

In 1986, the Wyoming Abandoned Mine Land (AML) Program needed an objective and expeditious system for quantifying wetland values to establish compliance with Section 404 of the CWA. A private consulting firm was retained to develop a simplified evaluation method, mutually acceptable to the USACE, WGFD, and State AML Program. The initial model was based primarily upon literature descriptions of some basic habitat characteristics of importance to migrating and breeding ducks.

Initial applications of a simple, acreage-based model resulted in substantial losses of wetland area because some habitat attributes were over credited and the inherent uncertainty associated with wetland construction was not factored into the model. Through an extensive collaboration process, a more comprehensive, habitat-based evaluation procedure was eventually developed and became an effective negotiation and planning tool. Hayden-Wing et al. (1988) described the model (“Superbog”), its development, and assumptions. This publication (or its authors) should be consulted for instructions regarding uses and applications of the model. A version written in BASIC programming language is available for most personal computers, and a separate version was also written for the Hewlett-Packard 11C hand calculator, which is no longer in production. The original HP programming language has been modified on newer models.

The model evaluates wetland impacts and proposed mitigation designs on a project-wide basis. It also has application for mitigation planning. The basic system requires 2 analyses including pre- and post-project inventories. The pre-project or baseline inventory is an evaluation of existing habitat conditions on all wetlands to be impacted, eliminated, or enhanced. The post-project inventory is an evaluation of conditions anticipated after construction and mitigation are completed, based primarily upon engineering designs. Impacted, enhanced, and created wetlands are included in the latter analysis. The net gain or loss of habitat scores predicted by the model form the basis for evaluating adequacy of mitigation and for improving project design.

“Superbog” was also applied to plan mitigation for a number of WDOT road construction projects during the early-mid 1990s. The original model was developed primarily to evaluate isolated palustrine wetlands such as potholes, playas, oxbows, ponds, and other similar types. It does not perform as well in evaluating very large wetlands or contiguous riparian tracts that are often affected by highway projects. (Since the model is area-based, the portion of the wetland affected by the project must be subjectively defined, which becomes a somewhat arbitrary consideration). In addition, the primary types of wetland “Superbog” was originally designed to evaluate, isolated wetlands; are no longer protected under Section 404. Consequently, the model has not been used in recent years to evaluate highway projects. Although the model can still potentially be used to assess wetland enhancement credits for the Statewide Wetland Mitigation bank, it has not been used for this purpose.

Wyoming State Coal Program

The Federal Office of Surface Mining (OSM) approved the Wyoming state Regulatory Program in 1980. During the early 1980s, a massive effort was undertaken to re-permit existing mines and to open numerous additional mines under provisions of the Surface Mining Control and Reclamation Act (SMCRA) of 1977. Permits currently maintained by the DEQ's, Land Quality Division (DEQ/LQD) collectively delineate several hundred square miles of surface that will be impacted by coal mining. Over 60 % of the disturbance is planned in Campbell and Converse Counties, within the Eastern Powder River Coal Region. In addition, Sheridan County accounts for 1.5 percent, Carbon County for 13 percent, Sweetwater County for 16 percent, and Lincoln and Uinta Counties for 5 percent. Miscellaneous isolated operations account for less than 0.1 percent of the total disturbance.

Impacted wetlands include livestock impoundments, spreader dikes, abandoned mine pits, borrow pits, streams, pools, oxbows, springs, seeps, playas, subirrigated bottomlands (wet meadows), and riparian zones. During initial years of the State Coal Program, an effort was made to inventory and mitigate wetlands; however water regulations administered by the State Engineer's Office were believed to limit mitigation opportunities. Although pre-mine wetlands include both natural and man-made basins, any post-mine structures impounding water are man-made and technically require a water right. Additionally, DEQ/LQD Rules and Regulations states, "All spoil shall be transported, backfilled, compacted ... and graded to eliminate... depressions...". Consequently, the wetlands issue was largely ignored until the new Federal Manual for Identifying and Delineating Jurisdictional Wetlands was released in 1989. At that point, attention focused upon various discrepancies in both State and Federal programs governing wetlands protection.

"All spoil shall be transported, backfilled, compacted ... and graded to eliminate... depressions ..."

DEQ/LQD Rules and Regulations requires coal operators to " ... afford protection, restore, and enhance ... wetlands and riparian vegetation ... " In addition, Executive Order 11990 and the Fish and Wildlife Coordination Act are applicable whenever a Federally undertaken, regulated, financed, or assisted activity may impact wetlands. The State Coal Program is partially funded by OSM and subject to regulatory oversight. A separate Federal permit is also required for coal operations, which involve substantial Federal surface and/or Federal coal reserves.

Mitigation priorities outlined in the section 404(b)(1) guidelines include: 1) avoidance, 2) minimization of impact, 3) replacement "in kind," at the site of the impact, and 4) replacement "in kind," as close to the impact site as possible. Nationwide Permit 21 was issued in 1986 based partially on a finding that protective criteria of SMCRA are equally restrictive as Section 404 and therefore a duplication. This Nationwide Permit authorizes deposition of dredge and fill materials by coal operators, subject to the constraints and reclamation requirements imposed under SMCRA. The DEQ/LQD Regulations stipulate, "[mine] operations shall be conducted in a manner which prevents violation of any other applicable State or Federal law ... " Historically, few coal operators have submitted sufficient baseline information to delineate jurisdictional wetlands. Mitigation has been hampered by concern over the State Engineer's Regulations.

Both the need and legal authority to require water rights filings and establish priority dates for reconstructed

wetlands remains unresolved, however the various State and Federal laws requiring wetlands protection take precedence. In 1989, the Omaha Regulatory Branch of the USACE developed a standard memo for issuance to all coal operators in the State, requiring submittal of wetlands inventory information. This directive is being implemented during the renewal application process. Typically, each operator is requested to complete a wetlands inventory using criteria contained within the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The coverage area includes all surfaces directly affected by mining, and any areas which may be affected by hydrologic impacts, such as aquifer dewatering or stream diversions.

Wyoming Abandoned Mine Lands Program

The State AML program became effective in 1983. Reclamation priorities were to first eliminate public health and safety hazards created by pre-law coal operations, and then ameliorate environmental degradation and safety problems associated with other abandoned mine operations. Most of the extreme hazards had been inventoried, reclamation plans developed, and funding committed by 1986. After that point, Program focus shifted primarily to safety threats and degradation on pre-law bentonite and uranium workings. As reclamation progressed, large numbers of wetlands were being routinely backfilled and eliminated. Virtually every depression on bentonite spoils and many uranium pits contained ponded water. Wetland characteristics had frequently developed, making these jurisdictional waters of the United States. In 1986, the USACE clarified that Section 404 regulates placement of fill in excavated basins on upland sites such as sand and gravel pits, borrow areas, bentonite pits, and strip mines, where jurisdictional wetland features have developed. Executive Order 11990 and the Fish and Wildlife Coordination Act were also applicable.

In 1986, the USACE posted a cease and desist order requiring the State AML Program to comply with Section 404. After-the-fact permits were issued to authorize completed fill operations. The largest numbers of wetlands were affected by bentonite reclamation in Crook and Weston Counties, although significant impacts also occurred in southern Johnson and Big Horn Counties. Ongoing uranium reclamation has impacted jurisdictional waters in Shirley Basin (Carbon County) and the Gas Hills (Fremont County). Following USACE regulatory intervention, AML staff developed inventory and consultation procedures to ensure wetland mitigation became an integral consideration in all reclamation projects. Future projects will avoid loss of function or value of jurisdictional wetlands.

Joint Ventures

In 1986, the Canadian and U.S. governments undertook an intensive effort to protect the Continent's wetlands and waterfowl through the North American Waterfowl Management Plan (NAWMP). Mexico later signed an agreement to join this effort. The NAWMP, through the joint venture process, seeks to maximize financial and organizational resource support for wetlands conservation.

Joint ventures are partnerships of public and private organizations, corporations and individuals. The NAWMP uses many approaches to protect, restore and enhance wetlands. Wetland habitat can be purchased, leased or protected with conservation easements. Landowners are offered economic incentives to use farming practices that benefit waterfowl. The North American Wetlands Conservation Act is a principal source of funding for wetland conservation projects administered through the joint ventures, although other funding sources are also utilized.

Intermountain West Joint Venture

The Intermountain West Joint Venture (IWJV) consisting of 12 states and provinces was established in June, 1994. The IWJV organization and operational paradigm have changed since the inception of the Program. Originally, organization was developed at three levels. The IWJV management board provided general oversight and generates financial and political support for IWJV wetland projects. State Action Groups, the second partnership level, were formed to develop state implementation plans, which reflected common wetland objectives and project priorities. The third level was comprised of Focus Area Working Groups. The working groups were intended to identify projects and focus project delivery within a specific geographic area that included the most important wetland resources in Wyoming.

In 2001, the Joint Venture program initiated a process to rewrite the State implementation plans as coordinated implementation plans with an expanded “all bird” focus. The “Focus Area Working Groups” were abandoned and replaced by “State Steering Committees” comprised primarily of nongame bird representation. Some state steering committees include members from all of the major bird conservation initiatives – Partners in Flight, Western Hemispheric Shorebird Reserve Network, North American Colonial Waterbird Conservation Plan, North American Bird Conservation Initiative, and North American Waterfowl Conservation Plan. The Wyoming state steering committee was comprised predominantly of Partners in Flight members. The Coordinated Implementation Plan for Bird Conservation in Wyoming was completed in 2005.

Northern Great Plains Joint Venture

The Northern Great Plains Joint Venture (NGPJV) was formed more recently in 2002, adopting as its primary mission the conservation of all bird populations within the JV boundary in Montana, Wyoming, North Dakota, and South Dakota. The NGPJV in Wyoming encompasses Campbell, Converse, Crook, Johnson, Niobrara, Sheridan, and Weston Counties. Administratively, the NGPJV has a management board, JV staff, and a technical committee. Tentatively, a Wyoming Steering Committee will be organized in 2008.

Bureau of Land Management, Bureau of Reclamation, U.S. Forest Service and Natural Resources Conservation Service

The BLM’s Wildlife 2000 Program was intended to identify financial resources needed to implement wildlife programs into the year 2000. This allowed better planning and budgeting, and justified requests for increased funding. Wildlife 2000 has allowed the BLM to expand its wildlife program, which includes wetland management.

The BLM and BOR have a MOU to cooperatively manage and protect lands around water projects. For example, the BLM and BOR provided funding for wetlands at Loch Katrine near Cody and the Miracle Mile between Pathfinder and Seminoe Reservoirs.

The U.S. Forest Service initiated the Taking Wing program in 1988. “Taking Wing” is a National Forest System program for the management of waterfowl and wetland habitat, complementing state fish and wildlife management agency objectives and the NAWMP. In Wyoming, effort has been focused on the Thunder Basin National Grassland.

The NRCS will provide 70% cost-share money for qualifying wetland enhancement projects. However, this money cannot be used for acquisition or to cost-share with other federal agencies.

Wetlands Reserve Program - NRCS

The Wetlands Reserve Program (WRP) is a voluntary program offering landowners financial incentives to restore and protect wetlands on their property. Administered by the NRCS and authorized by the FSA of 1985 as amended, the WRP provides farmers the opportunity to retire marginal agricultural lands and restore those lands into wetlands.

WRP began with 9 pilot states in 1992 and was expanded to all 50 states in 1995. Lands eligible for WRP include restorable wetland areas that were historically converted to crop and forage production. Adjacent lands deemed necessary to protect the restored wetlands are included. Riparian areas linking wetlands protected by an easement or public ownership are also eligible for enrollment. With certain restrictions, eligible lands include all but lands under federal ownership.

WRP obtains conservation easements and provides cost-share payments for wetland restoration. The conservation easement is a contractual agreement by which a landowner sets limitations on the future use of the land, while maintaining the land in private ownership. No activities may degrade or diminish functions and values of the wetland area under easement. The program provides options for permanent or 30-year easements, however priority is given to permanent easements.

The WRP allows one acre of upland buffer for every acre of wetland. Upland buffers may not exceed a 100 foot average width or twice the area of the restored wetland. This low buffer to wetland ratio restriction does not recognize the interdependence of wetlands and uplands or the critical need for large blocks of uplands to provide nesting habitat for an array of wetland-associated wildlife species.

Habitat Extension Services Program – WGFD

In 1991, the WGFD hired two Habitat Extension Biologists to work within the NRCS offices in Sheridan and Wheatland. In addition to publishing a monthly Wyoming Habitat Extension Update, the biologists provided technical assistance to numerous landowners interested in habitat management including wetland protection and/or enhancement. They also help coordinate cost share funds from various programs to implement habitat projects on private lands, at minimal cost to landowners. In 2008, the number of Habitat Extension Biologists has been expanded to 4 and they continue to provide technical assistance to numerous landowners.

USFWS Partners for Fish and Wildlife Program

The Partners for Fish and Wildlife Program (Partners) was initiated in 1986 to assist private landowners who desire to enhance and restore wetlands, riparian zones and habitats for rare species. The Program was authorized under the FSA of 1985. The Partners Program provides funding and technical assistance to cooperators.

Easements can run from 10 to 30 years, with 30 years being preferred. Fencing agreements are 15 years in length. WGFD, USFWS, and/or Ducks Unlimited also assisted with funding a number of Partners projects. Since 1986, 4,383 acres of wetlands have been restored, 211,200 acres of uplands have been restored or



enhanced, 188 miles of riparian/in-stream habitat have been restored, and 43 structures have been modified, opening 48 miles of streams for fish passage. The average project size is 20 acres. This Program allows a 4:1 upland to wetland area ratio and includes habitat improvements to the entire protected or restored unit. Agreements usually reduce or eliminate livestock grazing. Between 1992 and 2007, the USFWS established approximately 274 cooperative agreements with private landowners in Wyoming (USFWS 2008).

Rural Economic and Community Development (RECD)

The RECD (formerly Farmers Home Administration) and the USFWS signed a national MOU in 1987 to protect, restore or enhance wetlands and other important habitats through easements or transfer. As of 1995, the MOU remained in effect. The MOU established procedures for interagency coordination when fish and wildlife resource issues affect farm programs. This agreement was authorized under the FSA of 1985. The USFWS conducts environmental analyses and provides recommendations to RECD. Conservation easements are perpetual and can only be placed on loan inventory properties.

When high wildlife resource values warrant a property's retention in public ownership, the USFWS may recommend that RECD pursue all avenues to grant or sell easements, restrictions, development rights, or equivalents to state or local agencies or private non-profit organizations. The USFWS may also bid on and acquire the property itself. Acquired properties are usually administered by the USFWS and become an official refuge by law.

As of 1995, the RECD had placed conservation easements on only 7 loan inventory properties in Wyoming. Since 1995, the RECD has been reorganized and renamed "Rural Development" and became part of the U.S. Department of Agriculture. The current abilities of "Rural Development" to foreclose on delinquent properties and enter into conservation easements are unknown.

CWA 404 - Mitigation Banking Guidelines

In November 1995, EPA, the USACE, USFWS, National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and U.S. Department of Agriculture's Natural Resources Conservation Service released the final Federal Guidance on the Establishment, Use and Operation of Mitigation Banks. The purpose of this Guidance was to clarify the manner in which mitigation banks may be used to satisfy mitigation requirements associated with the CWA Section 404 permit program and the wetland conservation elements of the FSA's, Swampbuster provision. Recognizing the potential benefits mitigation banking offers for streamlining the permit evaluation process and providing more effective mitigation of authorized impacts to wetlands, the agencies encouraged the establishment and appropriate use of mitigation banks in the section 404 and Swampbuster programs. A 2005 inventory by the USACE's Institute for Water Resources estimated a total of 450 approved mitigation banks (59 of which had sold out of credits) were in existence in the United States, and an additional 198 banks were in the proposal stage.

Marsh Program - Ducks Unlimited

Ducks Unlimited's (DU) MARSH program (Matching Aid to Restore States' Habitat) initiated its first U. S. project in Idaho in 1985. Projects leading to permanent protection and/or restoration of NAWMP sites and those protecting and enhancing other important waterfowl habitat are given priority consideration. In Wyoming, DU intends to direct future MARSH funding toward wetland creation (Paul Bultsma, DU Great Plains Region Marsh Coordinator – personal communication).

As of June 2008, 5,082 acres of wetlands and associated upland habitat had been conserved under the DU MARSH program in Wyoming. Current or recent projects include the Winchester Ranch and Alkali Lake in Fremont County, the North Platte River project in Goshen County and the Hunt and Deveraux properties in Crook County. Cooperators have included private landowners, BLM, Conservation Districts, WGFD, NRCS, USFS, irrigation districts, and Exxon-Mobil Corporation.

The Nature Conservancy (TNC) and Other Land Trusts

TNC currently holds conservation easements on 239,956 acres, and 35,425 acres are under conservation easements with other regional and local land trusts in Wyoming (TNC-WY homepage). Not all existing easements and land trusts include wetlands, but TNC is very interested in working with landowners who have wetlands that could be adequately protected through a conservation easement. TNC has a great deal of experience working with landowners who desire to protect the biological values of their property, yet retain the capability to use the land in diverse ways.



National Wetland Inventory

The State of Wyoming, through the WGFD, the BLM, and National Park Service (NPS), cooperated with the USFWS Region 6 Wetland Inventory Team to map wetlands throughout Wyoming. Wetland inventories began in earnest in the mid-1980s and have been completed for nearly the entire State. Most of the map data are digitized and available for download from the NWI website at: <http://www.fws.gov/nwi/>. This mapping effort was accomplished under a 50:50 cost-share agreement whereby the USFWS matched funds contributed by other participating agencies. The digitization process was funded originally by the agencies needing the information in that form, and more recently by the USFWS. The inventory classified wetlands according to the system developed by Cowardin et al. (1979).

The final NWI maps are 7½ minute topographic maps on which wetlands have been delineated and classified. Wetlands are classified to system, subsystem, class and subclass. Appropriate modifiers for water regime, water chemistry, soil and special situations are added where necessary. Acreage or linear measurements for each wetland category are tallied for the area covered by each 1:100,000 reference quad map. Final maps are available for the entire state, excluding a very small area in northcentral WY.

The wetland inventory has assisted in identifying areas of the state with high wetland values. It also provides a record of past and ongoing losses, and a baseline for determining future losses. Areas with past losses and high potential for future losses are generally known, however the magnitude is not well understood. Evaluations such as that done on the Bear River, in 1994, provide inventory data necessary to support programs that protect and enhance wetlands. Such analyses also help identify potential mitigation sites.

Recommendations

Public Law 88-578, approved September 3, 1964, (78 Stat. 897) created the Land and Water Conservation Fund (LWCF), derived from various types of revenue (primarily Outer Continental Shelf oil monies) and authorizes appropriations

from the fund for (1) matching grants to States for outdoor recreation projects and (2) land acquisition for various Federal agencies. The Emergency Wetlands Restoration Act [Public Law 99-645 (100 Stat. 3582)], approved November 10, 1986, authorized the purchase of wetlands with LWCF monies, removing a prior prohibition on such acquisitions. The Act required the Secretary to establish a National Wetlands Priority Conservation Plan, required the States to include wetlands in their Comprehensive Outdoor Recreation Plans and transferred to the Migratory Bird Conservation Fund amounts equal to the import duties on arms and ammunition.

The Wyoming Game and Fish Department, in cooperation with other agencies and private organizations, initially developed a “wetlands component” for the Wyoming State Comprehensive Outdoor Recreation Plan and has periodically updated the Plan since 1986. Those efforts were based on the expectation that Land and Water Conservation Fund moneys would be expended to facilitate wetland conservation and wetland-dependent public recreation in Wyoming.

According to the 2003 SCORP document, “Historically, the majority of LWCF monies made available to Wyoming have been provided to county and local municipalities. The distribution of monies within Wyoming also has been historically uneven and most likely affected by population size, administrative effectiveness, and awareness of local communities regarding the availability and processes associated with LWCF funding. Monies available to the State of Wyoming can be used for development of state parks, or can be distributed to county and local governments as demonstrated during the SCORP planning process.”

To date, few entities have applied for LWCF grants specifically to acquire and conserve wetlands in Wyoming. However, a number of LWCF-funded projects have established recreation access such as trails or handicap access adjacent to wetlands and riparian areas, predominantly in urban settings. One benefit of these types of projects is that once LWCF funds are expended to enhance recreation access, the area becomes encumbered in perpetuity and cannot be developed in the future. This establishes a defacto protection of the wetland and open space.

To be consistent with the Wyoming Game and Fish Department’s mission and the original purpose and intent of the Emergency Wetlands Restoration Act of 1986, the Department’s participation in the SCORP process should yield tangible benefits for wetland conservation and wetland-based, public recreation in Wyoming. The Wyoming Game and Fish Department recommends focusing, though not necessarily limiting, future wetland conservation efforts within the 8 priority wetland complexes listed in the following section entitled, “Identification of Priority Wetland Complexes.” Local governmental units proposing wetland-associated recreation projects are encouraged to consult with the Department’s regional offices regarding habitat design considerations and to potentially develop project partnerships. The Department maintains habitat biologists in each region.

The Department has also divided the entire state of Wyoming into 20 geographic areas for the purposes of managing waterfowl and compiling harvest statistics. We have prioritized those 20 “waterfowl management areas” according to the importance of the wetland resources they contain (see “Identification of Priority Waterfowl Management Areas”). Wetland resources within each waterfowl management area are described, and potential future project areas, including acquisition possibilities, are identified. Examples of completed and ongoing wetland conservation projects are also provided.

Wyoming Wetlands Complexes

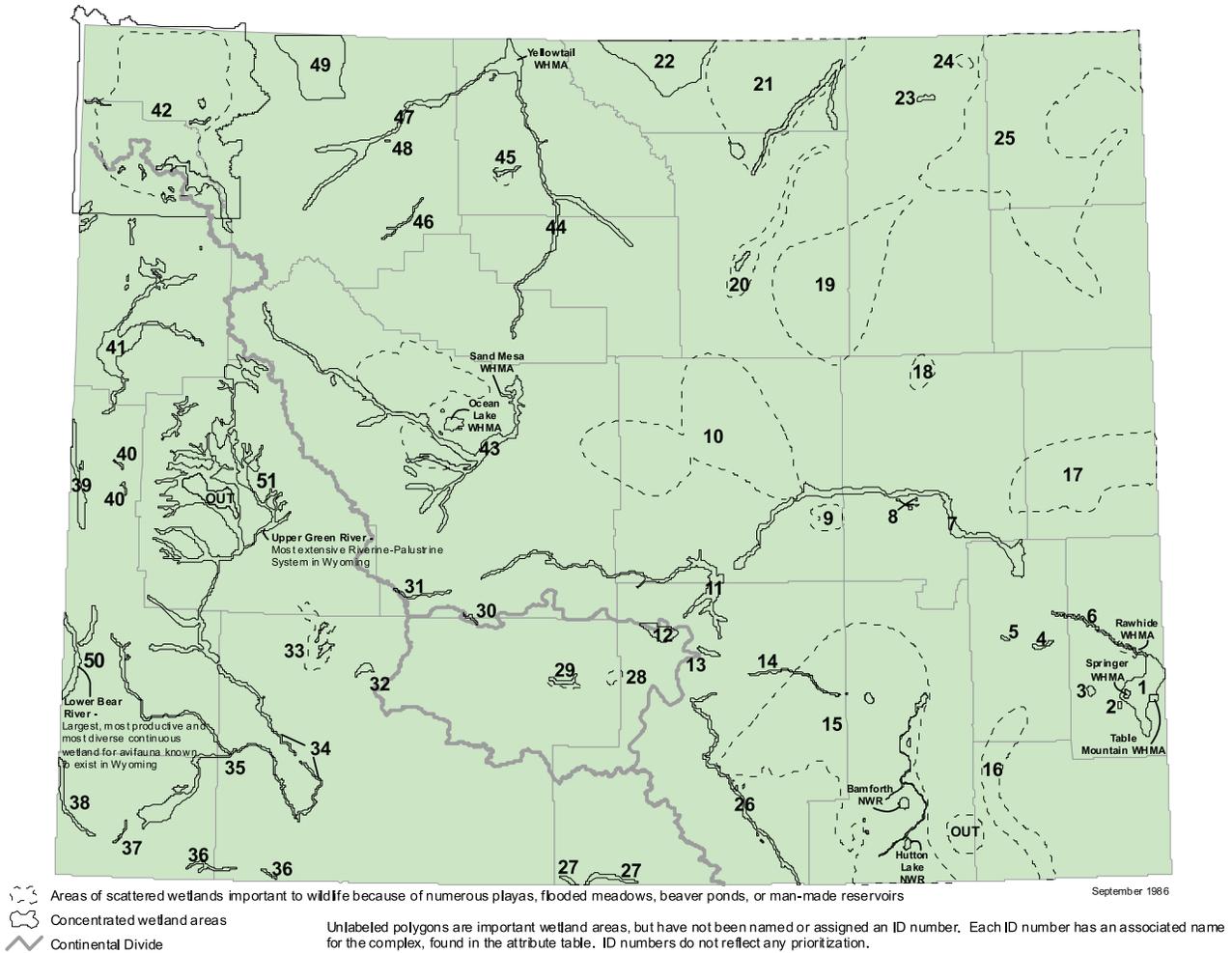
The major wetland complexes of Wyoming are listed in Table 1. and depicted in Figure 5.1 on the following page. The numbered list in Table 1 does not indicate the priority of wetland complexes. The numbers serve only as a key to identify the complexes that appear on the map in Fig. 1. Complexes in western Wyoming were based on interpretation of NWI mapping information that was current as of 1995. Complexes in the remainder of the State were identified based on determinations by field personnel. Fig. 1 should not be construed as a definitive map of Wyoming wetlands. Its purpose is to establish general locations where important wetlands or wetland types are known or expected to exist. Several important complexes that were not included in the 1986 list have been added to an enlarged legend for Fig. 1. TNC is also completing a comprehensive, GIS-based inventory and analysis of wetland complexes throughout Wyoming, utilizing digitized data that covers the entire State. Their final report will be published in 2009.

Table 1. Wetland Complexes in Wyoming (non-prioritized) identified in a 1986 analysis.

| | |
|---|---|
| 1. Goshen County | 26. Upper North Platte |
| 2. Sinnard Reservoir | 27. Little Snake River |
| 3. Miller Reservoir (Glomill Reservoir) | 28. Mahoney, Mud Flat Lakes |
| 4. Gray Rocks Reservoir | 29. Chain Lakes |
| 5. Johnson Reservoir | 30. Picket Lake |
| 6. Lower North Platte | 31. Upper Sweetwater |
| 7. Central North Platte River | 32. Killpecker Sand Dunes |
| 8. Bixby Reservoir | 33. Farson-Eden (Big Sandy River) |
| 9. Six Mile Reservoir | 34. Lower Green River |
| 10. Natrona County | 35. Black's Fork/Ham's Fork |
| 11. Sweetwater River/Pathfinder Complex (National Wildlife Refuge) | 36. Henry's Fork |
| 12. Sand Creek | 37. Muddy Creek |
| 13. Sand Lakes | 38. Upper Bear River |
| 14. Medicine Bow | 39. Salt River |
| 15. Laramie Plains [A = Bamforth NWR, B = Hutton NWR] | 40. Grey's River |
| 16. Horse Creek | 41. Snake River |
| 17. Niobrara County | 42. Yellowstone National Park |
| 18. Betty Reservoir | 43. Wind River [C = Ocean Lake WHMA, D = Sand Mesa WHMA] |
| 19. South Gillette | 44. Bighorn River [E = Yellowtail WHMA] |
| 20. Crazy Woman Drainage | 45. Lower Greybull River |
| 21. North Buffalo | 46. Upper Greybull River |
| 22. Parkman | 47. Shoshone River |
| 23. Horse Creek | 48. Beck/Alkali Lakes |
| 24. Park Reservoir | 49. Clark's Fork River |
| 25. Northeast Wyoming | 50. Lower Bear River |
| | 51. Upper Green River |



Figure 5.1 • Major Wetland Complexes in Wyoming



Identification of Priority Wetland Complexes (Fine-Scale Prioritization)

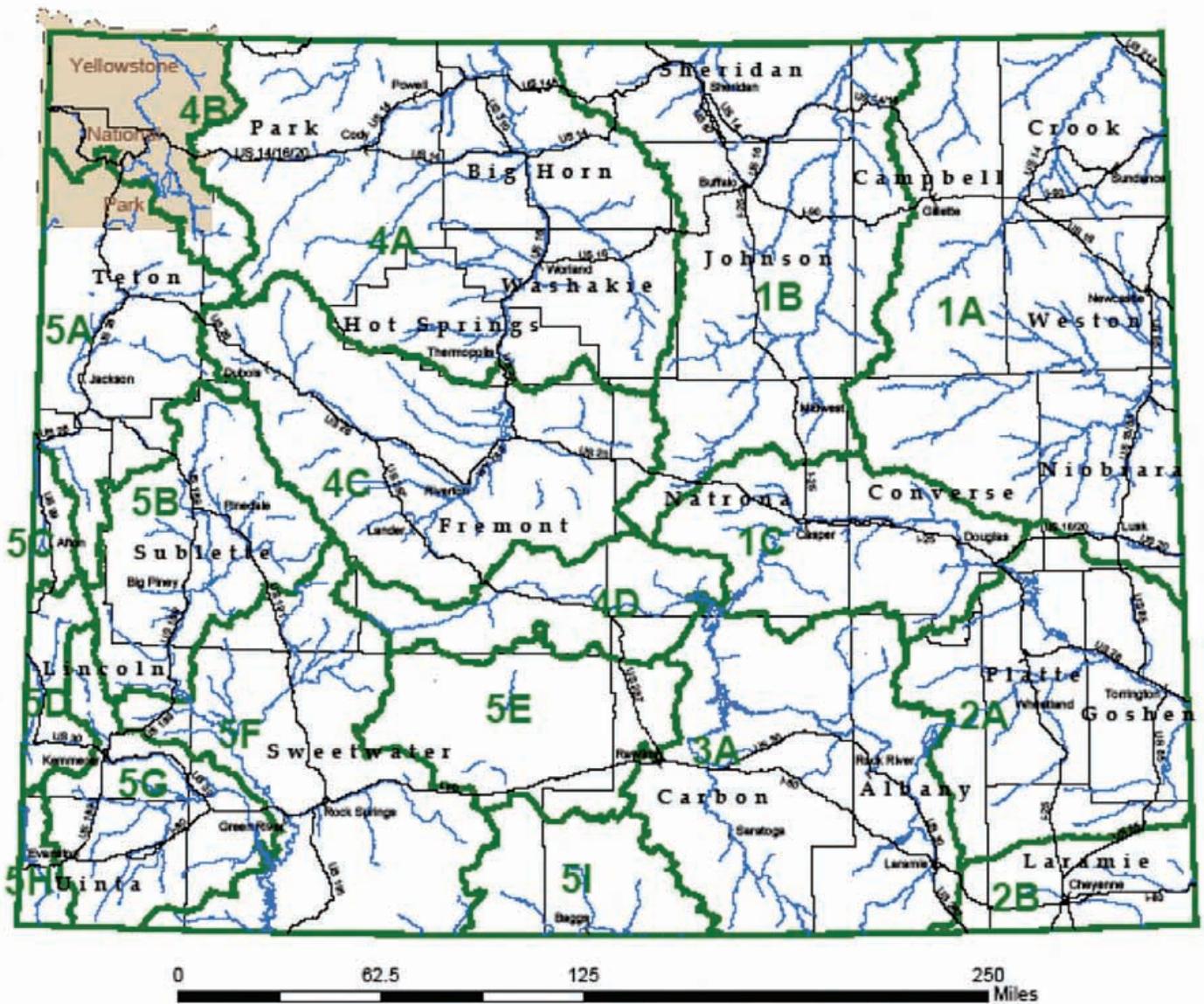
We applied the wetlands assessment thresholds and ranking criteria to identify the following priority complexes in order of importance. The complexes consist of important wetland areas within the broader waterfowl management areas described in the next section. They also comprise the most significant wetland resources in the State. Most have a history of wetland losses. Conservation easements or acquisition and management would protect these wetlands from identified threats and would maintain or increase wetland-dependent recreation opportunities. Acquisition of wetland properties or easements within the complexes on this list should be given priority as opportunities arise. However, inclusion on the list does not imply that property acquisition is imminent. Nor should consideration of acquisitions and easements strictly limit itself to the complexes that are listed, because such strategies are dependent on availability of opportunities. When opportunities arise to acquire important wetlands or conservation easements elsewhere (see next section), these should also be considered on a case-by-case basis. To reduce the bulk of this document, only the threshold criteria finding and ranking scores are included here (See Appendix A for further information). The data sheets have been retained by the WGFD.

| <u>Priority</u> | <u>Area</u> | <u>Justification</u> |
|--|-------------|---|
| 1) Bear River-Utah State Line to Cokeville <i>Meets threshold criteria: YES Rank score: 72</i> | | Most extensive wetland complex in Wyoming, with the highest density of breeding ducks, geese and sandhill cranes, and with very high wildlife species diversity |
| 2) Salt River-Afton to Palisades Reservoir <i>Meets threshold criteria: YES Rank score: 59</i> | | High waterfowl production, sandhill crane staging, swan population augmentation area, high wildlife diversity |
| 3) Bear River-Evanston to Woodruff Narrows <i>Meets threshold criteria: YES Rank score 55</i> | | Very high duck, goose, and water-bird production, high wildlife species diversity |
| 4) Southern Goshen County <i>Meets threshold criteria: YES Rank score: 52</i> | | Area contains several thousand acres of wetlands, high waterfowl production/ winter habitat, waterbird production and migration stopover |
| 5) Laramie Plains <i>Meets threshold criteria: YES Rank score: 49</i> | | Area contains 5,500 acres of wetlands, high waterfowl and waterbird production, staging/migration area for thousands of ducks and shorebirds |
| 6) South Park-Jackson <i>Meets threshold criteria: YES Rank score: 48</i> | | High waterfowl production, winter trumpeter swan habitat, nesting/wintering bald eagle habitat |
| 7) Buffalo Valley-Moran <i>Meets threshold criteria: YES Rank score: 44</i> | | Trumpeter swan habitat, high duck, goose, and other waterbird production whooping crane staging area, moose winter range |
| 8) Central North Platte River Pathfinder Reservoir to Glendo Reservoir <i>Meets threshold criteria: YES Rank score: 40</i> | | High waterfowl production, water-bird production, especially gulls, pelicans, cormorants, and shorebirds, plus wintering bald Eagles |

Identification of Priority Waterfowl Management Areas (Coarse-Scale Prioritization)

Wyoming is divided into 20 “Waterfowl Management Areas” that consist of major watersheds (Fig. 5.2). We subjectively prioritized the waterfowl management areas based on the wetland resources each contains. A description of important wetland within each management area is provided. LWCF acquisitions and easements outside the priority wetland complexes identified above, should focus on other important wetland areas within the waterfowl management areas, emphasizing work in the higher priority areas.

Figure 5.2 • Waterfowl Management Areas In Wyoming



Ranking of Waterfowl Management Areas in Wyoming

(Based on Importance of Wetlands Resources in Each)

- 1) Lower Bear River Waterfowl Management Area
- 2) Salt River Waterfowl Management Area
- 3) Snake River Waterfowl Management Area
- 4) Upper Green River Waterfowl Management Area
- 5) Upper North Platte River Waterfowl Management Area – Laramie Plains
- 6) Lower North Platte River Waterfowl Management Area
- 7) Wind River Basin Waterfowl Management Area
- 8) Bighorn River Basin Waterfowl Management Area
- 9) Upper North Platte River Waterfowl Management Area – Saratoga Valley
- 10) Central North Platte River Waterfowl Management Area
- 11) Lower Green River Waterfowl Management Area
- 12) Hams Fork/Blacks Fork Waterfowl Management Area
- 13) Upper Bear River Waterfowl Management Area
- 14) Missouri, Cheyenne and Little Powder River Waterfowl Management Area
- 15) Tongue, Little Bighorn and Powder River Waterfowl Management Area
- 16) Sweetwater River Waterfowl Management Area
- 17) Little Snake River Waterfowl Management Area
- 18) South Platte River Waterfowl Management Area
- 19) Great Divide Basin Waterfowl Management Area
- 20) Madison-Yellowstone National Park Waterfowl Management Area

Description of Important Wetland Resources and Potential Project Sites

1) Lower Bear River Waterfowl Management Area (5D)

Dave Lockman (retired Waterfowl Biologist, WGFD) completed an inventory and evaluation of the Bear River wetland complex in the Lower Bear River Management Area in 1983. His findings are summarized below:

Threats to the future of this important riverine-palustrine wetland complex include housing developments, oil/gas exploration and development, intensive agriculture, water development projects and dewatering. These activities are currently ongoing and expected to increase throughout the Bear River Complex, particularly near human population centers. Permanent and semi-permanent wetlands originally created by irrigation systems are now being converted to temporary or seasonally flooded basins.

The degree and immediacy of the threats to maintaining these wetland acres in their natural condition are great, as approximately 93% of this wetland complex and its adjacent upland habitats are in private ownership and subject to a variety of land use changes. Therefore, this area is a priority consideration for land acquisition.

The Bear River wetland complex is the largest, most productive wetland complex in Wyoming and supports the most diverse assemblage of avifauna. It encompasses 23,000 acres of continuous wetlands within a 43,479 acre inventory area. Wetland types are predominantly riverine and palustrine. This wetland complex supports the following functions and values:

Wildlife – The area is used by bald eagles (recently removed from the list of endangered and threatened species) and in the recent past, was used seasonally by endangered whooping cranes. Sixty-five species of waterbirds use the area, including 32 that nest there. The area also provides habitat for species requiring special management attention such as the trumpeter swan, white-faced ibis, American bittern, and snowy egret. This area supports one of the highest densities of breeding ducks and geese in Wyoming. In addition, the area supports a number of big game species as well as a variety of furbearers, small mammals, and nongame birds.

Outdoor Recreation – The Bear River area is used extensively by waterfowl hunters and fishermen, and it has also become popular for wildlife viewing activities. The area generates \$100,000 (1983 dollars) annually to the local and state economies from waterfowl hunting, and an unknown but substantial amount from nonconsumptive uses such as observing and photographing wildlife.

Water Quality Maintenance – (including irrigation canals, ditches) – The wetlands act as sediment basins to reduce sediment load and intercept runoff, and to remove or retain nutrients. They also store water.

Acquisition Efforts – In 1994, the USFWS purchased 858 acres to begin forming the Cokeville Meadows National Wildlife Refuge (CMNWR). Cokeville Meadows became a national wildlife refuge in 1993. Ultimately, the refuge will include 26,657 acres of land. The USFWS currently holds 6,400 acres in fee title ownership. The total area in fee title and easements is 8,000 acres. Additional lands administered by the BLM are being annexed through a withdrawal process that is currently underway. However, there is still local resistance to transferring additional lands into federal ownership in order to complete the refuge. Personnel from Seedskafee NWR manage the Refuge. Presently, there is no public access to the CMNWR.

Another site that should be considered for protection in the future is Anderson wetlands near Cokeville.

2) Salt River Wetland Management Area (5C)

The Salt River floodplain consists of the riverine system and adjacent marshlands plus upland and irrigated meadows (spring fed tributaries). A conversion to sprinkler irrigation on many of the croplands in this area will threaten the hydrology of some of the existing wetlands that depend on irrigation return flows. The magnitude of loss cannot be predicted as a wetlands evaluation has not been completed.

Housing and commercial development is accelerating within the floodplain and is impacting numerous wetlands and wetland margins. Intensive agricultural practices and livestock grazing have also affected the quality and quantity of wetlands, both directly through degradation and indirectly through disturbance effects.

Problem: Threat of wetland loss is imminent.

Strategies: Acquire wetlands or conservation easements and protect other wetlands through available regulations.

The WGFD coordinated funding for the Lainhart wetland project, which involved two wetlands along the Salt River.

The area currently winters trumpeter swans and, with management, has potential to support additional wintering swans. There is considerable potential to improve wetlands and acquire easements to protect riverine and associated palustrine wetlands. The Bagley wetland should be considered for protection and enhancement in the future.

3) Snake River Waterfowl Management Area (5A)

The Snake River has an extensive riverine wetland system with associated palustrine habitats. Beaver pond complexes are found near Jackson Lake and throughout the remainder of Grand Teton National Park. The National Elk Refuge and areas near Jackson contain extensive palustrine wetland complexes. Most streams have luxuriant stands of submersed aquatic vegetation used by swans and other waterfowl. Lacustrine waters also have littoral zones with abundant submersed vegetation.

Problem: Development of home sites on and near wetland areas in South Park, Buffalo Valley and along the Gros Ventre River has reduced wetlands and wetland margins in the past 20 years. This development is continuing rapidly, and in addition to wetland loss, has resulted in a substantial increase in human disturbance. In addition, the levee system along the Snake River has altered natural flooding processes that once maintained floodplain wetlands.

Strategy: Protect wetlands through easements, land acquisition, enforcement of existing regulations, and cooperative work with private landowners to reduce wetland losses.

Development and improvement of wetlands on the WGFD South Park Habitat Unit, on the National Elk Refuge and on private lands have offset a small percent of past wetland losses. Repair of the Jackson Lake Dam resulted in several mitigation projects on the South Park WHMA, National Elk Refuge, Pinto Ranch, Ar Bar Dee and Elk Ranch Reservoir. The projects, totaling 292.4 acres, were completed in 1990 and 1991. Mitigation requirements were fulfilled with the purchase of a “cookie cutter” device used to control excessive growth of aquatic vegetation. The cutter has been used to enhance ponds on the National Elk Refuge.

A study to modify the Jackson Hole Flood Protection Project was initiated in 1990. The modification is designed to restore dewatered wetlands behind 5 to 6 miles of levees along the Snake River. The project would provide surface water flows to alluvial channels, spring creeks and wetland behind the levees constructed in the 1960s. It would also restore cutthroat trout spawning areas and other fish and wildlife habitat. The project is designed to sustain a natural water regime and maximize environmental outputs within historic limits.

The Alpine Wetland Enhancement Project at Palisades Reservoir was completed in 1993. The Project was a cooperative effort between the USFS, WGFD, NRCS, USFWS and BOR and was designed to restore and create wetland and waterfowl habitat near the mouth of the Salt River. Through the construction of a series of dikes, the Project restored about 20 acres of existing wetlands and created approximately 90 acres of permanent shallow water wetlands. Maintenance and water management have become issues at this site, resulting in a loss of wetland function.

Problem: Grazing management systems on U.S. Forest Service managed lands are causing degradation of wetlands and riparian habitat.

Strategy: Work with federal land agencies to change grazing systems to reduce impacts of grazing in or near wetlands.

Snake River wetland protection will require coordination among many agencies to promote water and land management policies that optimize wildlife diversity. This area is used extensively by nesting and wintering trumpeter swans. Both bald eagles and peregrine falcons, recently removed from the list of endangered and threatened species, are found in the area. Endangered whooping cranes also used the Snake River corridor in the recent past. River otters, a species of greatest conservation need in Wyoming, are found in greatest abundance along the Snake River drainage.

4) Upper Green River Basin Waterfowl Management Area (5B)

The Green River is the most continuous system of riverine wetlands in Wyoming. The region has a great diversity of wetlands that support the highest production of ducks per unit area in the state. Forested palustrine wetlands are associated with the riverine system, many the result of beaver activity. Seasonally flooded hay meadows and wet meadows are also abundant. The New Fork Potholes are possibly the most unique wetlands. They are found within a glaciated, montane area north of Pinedale, where hundreds of shallow, permanent ponds were formed by geologically recent glacial activity. Additional wetland sites that should be considered for future acquisition or easements include Indian Creek Pond, 67 Reservoir and Fontenelle Creek.

Large lacustrine waters (open water ponds and lakes) support littoral zones with abundant submersed vegetation. Availability of this type of habitat limits trumpeter swan production in the region. The area is used by bald eagles and was used by whooping cranes in the recent past. Both Whooping and sandhill cranes rely on hay meadows located along the drainage bottoms.

Problem: Most of the floodplain areas are private land, so the threats of floodplain development, drainage for agriculture, and stream channelization are great. The recent boom in natural gas drilling has drastically increased the demand for housing in the area.

Strategy: Construct wetland improvement projects on state and federal lands to partially offset losses on private lands. Encourage wetland protection and restoration through government and private programs and enforcement of existing regulations. Consider most critical wetland tracts (those with diverse wildlife habitat values) for acquisition.

A 28-acre wetland development was completed in 1988 on the Soda Lake Wildlife Habitat Management Area north of Pinedale. Dike and island construction resulted in a marsh that provides habitat to a wide variety of wildlife and is expected to produce an additional sixty to eighty duck broods per year. White-faced ibises, snowy egrets, sandhill cranes, whooping cranes, and American bitterns are expected to utilize the area. The wetland development also provides potential habitat for trumpeter swans. Work on wetland enhancements is ongoing on the unit.

CCC Pond is the site of an ongoing wetland restoration project near Pinedale. Fremont Lake is being used

as a source of water. Cooperators included USFS, Green River Chapter of Trout Unlimited, NRCS, Town of Pinedale, Sublette County Commission, Resource Conservation and Development Area, Wyoming Riparian Association, BLM, WGFD, Sublette County Conservation District and the Sublette County School District. The completed project will encompass approximately 13 acres, with 8 acres of lake for fishing and a 5-acre marsh for waterfowl use.

The Ordway wetland project, east of Boulder, was completed during 1994. Approximately 4.5 acres of wetland were developed on private land. The WGFD coordinated the project and funding was provided by DU.

5) Upper North Platte River Waterfowl Management Area (3A) Laramie River (Laramie Plains Lakes) section

This area consists of the riverine wetlands along the Laramie River and associated wetland margins. Seepage from a network of irrigation canals and reservoirs, and irrigation return flows have created numerous palustrine and lacustrine wetlands in the floodplain.

Three National Wildlife Refuges (Hutton Lake, Bamforth Lake and Mortenson Lake) are located near Laramie, Wyoming. The USFWS recently completed the Final Comprehensive Conservation Plan for these refuge areas. The Laramie Plains is a priority acquisition area under the USFWS's Migratory Bird Land Acquisition Program, which was created to acquire duck breeding habitat of biological significance and is under the greatest threat of being destroyed.

Laramie Plains

The Laramie Plains are one of the State's major natural wetland areas, supporting exceptional productivity and natural diversity of wildlife. The area contains 5,500 acres of wetlands; most are privately owned. Lacustrine and palustrine wetlands are the predominant types.

Problem: Overgrazing of wetland borders and destruction of nesting habitat are degrading wetlands. Pumping for irrigation could drain some wetlands. Rural housing subdivisions have expanded rapidly throughout the Laramie Basin in the past 10-15 years. Several subdivisions are being developed within areas containing high densities of wetlands.



Strategy: Negotiate mitigation for impacted wetlands, encourage easements and land acquisitions as protection strategies, and enforce existing wetland regulations. Protecting wetlands on private lands will benefit Hutton Lake, Bamforth and Mortenson Lake NWRs by maintaining adjacent complexes of diverse wetland types. Birds using the refuges also depend on wetlands throughout the Laramie Plains. Encourage wetland protection and restoration through federal wetland programs such as Swampbuster, Wetland Reserve and the USFWS's Partners program.

In 1991, the USFWS purchased 1776 acres of land creating the Mortenson Lake National Wildlife Refuge. The refuge was acquired to protect the last known wild population of Wyoming toad, an endangered species. The lake and surrounding area had been previously leased by a private fishing club and used extensively for recreation. Public use is currently not permitted on the refuge to prevent possible (though unlikely) adverse impacts on the toad. The Refuge does not have any visitor services facilities such as interpretive panels, nature trails, and kiosks. The unit is presently closed to unaccompanied public access. The USFWS should be encouraged to open all 3 refuges to public access for wildlife viewing. Hunting and fishing should be allowed where these uses can be managed in a manner that is compatible with the primary purposes for which the refuges were established. Allowing public recreational use will foster greater public support for wetland conservation on national wildlife refuges. If opportunities arise, the USFWS may eventually purchase upgradient irrigated lands or water rights to resolve water management problems on the Laramie Plains refuges.

6) Lower North Platte River Waterfowl Management Area (2A)

This area includes the portion of the North Platte River drainage from and including Glendo Reservoir downstream to the Nebraska state line, and also includes the lower Laramie River, Chugwater Creek, and Horse Creek drainages. Several large irrigation reservoirs provide lacustrine habitats and associated palustrine wetlands. This is one of the largest agricultural regions in eastern Wyoming. Hay and grain crops border the riverine system. The wetlands throughout this region are important sources of recreation opportunity due to the proximity of population centers including Cheyenne, Torrington, Wheatland, and even Casper.

The WGFD has 3 WHMAs in the Lower North Platte region. The Rawhide WHMA includes 731 acres of riverine wetlands, riparian habitats, and associated palustrine wetlands along the North Platte River near Lingle. It was purchased to mitigate impacts from the construction of Grey Rocks Reservoir and the Laramie Basin Power Plant on the lower Laramie River near Wheatland. The Table Mountain and Springer WHMAs encompass 3,030 acres of palustrine marsh wetlands and upland nesting habitat. Mac's 40 is a 40-acre parcel that is separate from, but managed as part of the Springer WHMA. All 3 WHMAs are managed for waterfowl and upland game bird production. Wetland habitat has been developed and improved on Table Mountain and Springer WHMAs through dike construction, pothole blasting, establishment of dense nesting cover, pond and island construction, well development, and construction and maintenance of waterfowl nesting platforms. In 1991, a 50-acre wetland with 16 islands was completed on the east side of the Springer WHMA. The project was a cooperative effort by the Wyoming National Guard, Goshen Hole Water Users and WGFD.

The Butler property, consisting of 78 acres along the North Platte River adjacent to the Rawhide WHMA, was acquired through the USFWS from the RECD in 1995. This transfer will help protect riparian habitat in the drainage.

Bump-Sullivan Reservoir and associated uplands totaling 231 acres were acquired and incorporated into the Springer WHMA in 1993. The areas initially provided good waterfowl production and public hunting access, but have been dry and nonfunctional since 2000. The reservoir and uplands once helped the Springer WHMA achieve waterfowl production and public recreation objectives. When the reservoir was functional, it substantially increased public access and recreation opportunity. Securing more dependable water supplies would restore wetlands and improve their management on both the Springer and Table Mountain WHMAs.

Most of the wetlands in the Lower North Platte region are on private lands. The Conservation Reserve Program (CRP) has greatly improved watershed conditions by establishing vegetation cover over large areas surrounding ponds and wetlands, in contrast to the narrow buffers normally left when crops are grown. The additional CRP cover has been extremely beneficial to nesting waterfowl and has improved water quality in wetlands.

Problem: Drought conditions and inadequate water supplies have severely impacted wetlands in the lower North Platte Waterfowl Management Area since the latter 1990s. Wetlands on WGFD WHMAs have been dry or nearly dry throughout this period. The lack of dependable water supplies and insufficient water appropriations have prevented the WGFD from achieving optimum wetland management, or even maintaining wetlands on WGFD WHMAs. Opportunities for wetland dependent recreation have greatly diminished. Wetland habitat conditions have deteriorated both on WGFD-owned and private lands.

Strategy: As opportunities permit, acquire easements or fee title to additional wetlands on private lands to maintain the wetland habitat base and provide additional public access. Investigate strategies to improve water delivery to wetlands, including possible acquisition of upgradient properties with water rights, on a willing seller basis.

Problem: Irrigation projects have created some wetlands and enhanced the hydrology of others through water delivery, seepage from canals and ditches, and irrigation runoff. Reservoirs that store water for irrigation have both impacted and created wetlands. However, the threat of wetland loss is increasing from intensive agricultural practices and rural development. Wetland margins are being impacted by livestock grazing and farming practices.

Strategy: Identify the wetland areas that are associated with irrigation projects so they can be managed and protected. Acquire wetlands and wetland easements. Continue to support funding for conservation programs such as Wetland Reserve, Partners for Fish and Wildlife, and Conservation Reserve. Through extension services, encourage broader implementation of grazing and farming “best management practices” to improve riparian and wetland habitats.

Problem: Goshen County is close to human population centers in Cheyenne, Torrington and Wheatland. Regional residents utilize wetland areas for wildlife viewing, hunting and other forms of outdoor recreation. Demand for wetland-dependent recreation is increasing in the region, while availability of wetlands and access are decreasing.

Strategy: Acquire wetlands adjoining the Springer, Rawhide and Table Mountain WHMAs to improve management of wetland habitat and provide additional public recreation opportunities.

Purchase easements from cooperating landowners to protect and enhance wetland areas. Use existing regulations and programs to protect and restore wetlands.

Numerous private lands in this management area have significant potential for creation or enhancement of wetlands. A number of existing wetlands should be afforded additional protection through acquisitions or easements.

Acquisitions or easements could potentially protect wetlands associated with Sinnard, Miller (Glomill) and Johnson reservoirs in the Lower Platte area and would significantly increase public recreation opportunities. A private landowner currently leases Hilderbrand's Reservoir, a 50-acre reservoir on state land, which is threatened by drainage due to agricultural economic conditions. Ways to retain water in the reservoir should be explored to protect wetland habitat and adjoining nesting cover.

The Geringer Brothers wetland project was completed in 1992. The Geringer Brothers cooperated with the Platte County Resource District, USFWS and WGFD. Work involved dike improvement, island construction, a moat, and silt removal. The 27-acre area was also opened to the public for wildlife viewing.

7) Wind River Basin Waterfowl Management Area (4C)

This management area includes the Wind River and its tributary drainages. Riverine and palustrine wetlands are present throughout the drainage as are shallow palustrine marshes and large lacustrine wetland types.

Most of this area's palustrine wetlands were created by flood irrigation runoff and return flows from Wind River Irrigation Project. Many areas are currently being converted from flood to sprinkler irrigation in order to increase the acreage of irrigated cropland. Lining canals and conversion to sprinkler irrigation are resulting in loss of wetland acreage. Livestock grazing and intensive agriculture also impact vegetation along wetland margins and increase sedimentation rates. The rate of wetland loss is very high in the Wind River Basin. The WGFD manages 29,000 acres of land in the Riverton Irrigation Project, including the Ocean Lake and Sand Mesa WHMAs, which are the most intensively managed and developed waterfowl areas in Wyoming. Although wetland habitats have been created and improved on these management areas, wetland losses throughout the basin greatly exceed what is being gained.



Problem: Increased demand for water by agriculture and industry will decrease wetland habitat.

Strategy: Negotiate mitigation to create or improve wetland habitat. Acquire land and water rights adjacent to existing WGFD-managed wetlands. Build and improve wetlands on surrounding BLM lands. Facilitate wetland preservation, restoration, and enhancement through various incentives programs on private land.

Wetland sites that should be considered for protection or enhance in the future include Alkali Creek, Union Pass potholes, Togwotee potholes, Upper Wind River potholes, Swamp Lake, Horse Creek, Maxon Basin, Little Rock Creek, Gilligan's Islands, Smith Gulch, Boysen Reservoir, Dry Lake (SE1/4 S16, NE1/4 S23,T32N,R98W), Dubois to Boysen Reservoir section of the Wind River, Morton Seep (NE1/4 S34,T3N,R1E) and Kinnear Pond (S17,T2N,R2E).

Problem: Ocean Lake and its wetland margins continue to accumulate heavy nutrient and silt loads from irrigation return flows. Ocean Lake was originally created and enlarged by filling a natural sump with irrigation water return flows.

Strategy: Continue cooperative efforts with the Bureau of Reclamation to reduce the impact of irrigation flows that enter Ocean Lake.

Work being done in conjunction with the Save Ocean Lake Project has improved and protected wetland and riparian areas on the Ocean Lake WHMA and elsewhere. Dikes have been upgraded on the Unit to raise water levels in order to check cattail encroachment and create additional open water areas. Nesting islands are being constructed and farm ground has been converted to dense nesting cover.

The Save Ocean construction of silt traps prevent silt from being The drop structures to form ponds that Drainages areas have also inlet banks from trampling enable livestock to access



Lake Project involves along irrigation drains to carried into the lake. have backed water up to create additional habitat. been fenced to protect by livestock. Water-gaps water in limited areas.

Wetlands on the Red Canyon WHMA south of Lander have been improved by installing drop structures in the creek to eliminate bank undercutting. The structures back water up to form ponds. Beaver activity is expected to create and maintain additional ponds. This project was completed in 1990 and has also improved the fishery.

8) Bighorn River Basin Waterfowl Management Area (4A)

Over the past 30 years, losses of palustrine wetlands and vegetated margins along the Bighorn and Shoshone River floodplains have been significant. Wetland margins have impacted by intensive agriculture (i.e., cropland tillage and vegetation clearing), livestock grazing, and invasive plants such as tamarisk and Russian olive. At least 50 percent of the riparian zone of the Bighorn River floodplain has been cleared by intensive agriculture.

Problem: Wetlands throughout the Big Horn Basin are being impacted by drainage, filling, and river channel containment. Most of the wetland losses in the Basin can be attributed to intensive farming and irrigation management. Past reservoir development and flow regulation (e.g., Boysen Reservoir) continue to affect channel and wetland maintenance associated with riverine systems.

Strategy: Encourage wetland protection and restoration through government and private incentives programs and enforcement of existing regulations. Encourage broader implementation of grazing and farming “best management practices” to improve riparian and wetland habitats.

Problem: Nesting habitat adjacent to the Beck/Alkali Lake wetland complex near Cody is being impacted by commercial and recreation development. Much of the land is owned by the City of Cody.

Strategy: Work with City of Cody and Park County planners to avoid directly impacting wetlands and to maintain adequate buffers between wetland complexes and housing developments.

The Ralston Reservoir Project was developed to mitigate wetland impacts resulting from the Heart Mountain Irrigation Betterment Project. Ralston Reservoir supports a variety of game and nongame aquatic wildlife and is bordered by some excellent upland habitat. In all, 102 acres of wetland are being protected and enhanced. A total area of 300 acres has been fenced to exclude livestock. Wildlife viewing and parking facilities are presently being constructed.

The Shoshone Rehabilitation and Betterment Project also resulted in wetland impacts. Mitigation completed in 1995 consisted of a 400 acre livestock enclosure and wetland enhancements involving 20 acres in an area south of Newton Lakes.

Problem: Increasing demand for water by industry and agriculture will decrease wetland habitat

Strategy: Negotiate mitigation to create or improve wetland habitats. Acquire easements to protect important wetlands that are vulnerable to future impacts. Acquire high priority wetlands and other lands adjacent to the Yellowtail WHMA. Acquire land with water rights that can be applied to construct new wetlands or improve existing ones. Work cooperatively with BLM and other landowners to plan wetland improvements and development on their lands.

Ongoing projects on the Yellowtail WHMA have enhanced existing wetlands and increased wetland acreage. Management and maintenance activities have included level ditching, dike construction and repair, new water control structures, nesting islands, and wood duck nesting boxes.



The Bureau of Reclamation funded construction of 10 nesting islands in dust abatement ponds near Buffalo Bill Reservoir.

Problem: The water supply of Lock Katrine, an important wetland complex southeast of Cody, is at risk. Lock Katrine is supplied by produced water from the Oregon Basin Oilfield. Much of the complex is on BLM land. The wetland complex will cease to exist if oil production is reduced or if EPA regulations require the producer to re-inject produced water back into the ground.

Strategy: Through media releases and agency contacts, increase public awareness of this wetlands complex and the potential threat to its continued existence. Seek financial support from agencies and/or NGOs to conduct an analysis of potential future water sources.

Sage Creek, just east of Cody, has several small wetland complexes that are used by numerous ducks. A few sandhill cranes also nest and feed along the Creek. These complexes are threatened by housing developments. There is potential for acquisition, conservation easements or cooperative enhancement projects to protect these wetlands.

Stock ponds are the most prevalent wetland resource within the arid uplands throughout the Basin, but they are being rapidly disappearing due to sedimentation and breaching. Unrestricted livestock grazing damages shorelines and eliminates herbaceous cover from pond watersheds. Due to the highly erosive nature of soils in the Basin, the average lifespan of a stock pond is only 15 years. Of the over 2,000 stock ponds constructed on BLM lands in the Basin, only half remained functional in 1995. Of these, 400 had some habitat potential, but only 200 contained stable wetland habitat. Since few new stock ponds are being constructed, the number of functional stock ponds is rapidly decreasing throughout the Basin.

A stock pond project funded by the BLM, WGFD and DU MARSH Program, installed improvements at 10 sites consisting of 111 acres of public land. The project was completed in 1992. Improvements consisted of silt traps, fencing to control livestock access, off-site watering systems, and establishment of aquatic plants



and dense nesting cover. A previous effort had installed similar improvements at 23 stock reservoirs, but produced mixed results. In particular, maintenance of fencing has been inconsistent.

The BLM has developed 4 Habitat Management Plans (HMPs) for the Basin, which included measures such as livestock exclosures, grazing management, dense nesting cover, and island construction to improve wetland and riparian areas.

During 1989-1995, the BLM annually completed an average of 50 maintenance and enhancement projects involving wetlands throughout the Bighorn Basin Resource Area. Enhancements predominantly included fencing and dam repair. Afterward, an additional 10 projects averaging 5 acres each were completed per year. Typical work involved fence construction, dredging, planting bulrush and spraying/burning dense cattail stands. Additional projects are dependent on funding availability.

Problem: Housing developments have impacted wetlands along the Bighorn River.

Strategy: Work with city and county planners to site housing developments in areas that avoid wetlands. Include setback distances and other protective measures to maintain functional integrity of wetlands within and near planned housing developments.

Problem: The number of oxbows in the Bighorn River flood plain is decreasing. Flow regulation, channel stabilization, and development have virtually eliminated the creation of oxbow wetlands.

Strategy: Oxbow wetlands are hydrologically connected to navigable waters, and therefore meet the navigability requirement under Section 404. Assure federal statutes are enforced to protect existing oxbows and other wetland sites along rivers.

The following sites along the Bighorn River are existing, functional wetland complexes were historically altered or drained: lower Nowater Creek, the Duck Swamp and related oxbows (downstream from Worland), the Bighorn River just above and just below Manderson and the lower Nowood River upstream from Manderson. These wetland complexes are within the study area of the Bighorn River Watershed Wetland Restoration Project. The Coordinated Resource Management approach will be used to get local participation in designing and constructing 2 to 3 wetland restoration demonstration sites and evaluating the effectiveness of those projects. The project is funded by the EPA and its status is ongoing.

Additional wetland sites that should be considered for future protection or enhancement include Lec May Marsh, Basin Oilfield impoundment, Anchor Reservoir, Torchlight Complex, Little Slick Creek, Dry Creek, Walters Reservoir, Bighorn River and the Causeway.

The delta at the mouth of the Bighorn River in Bighorn Reservoir is another area where extensive wetlands could be easily developed. Low dikes could impound several square miles of wetlands.

The Renner Marsh is another site to consider for wetland development. This is located on the Renner WHMA near Hyattville. Approximately 50 acres of abandoned hay fields could be flooded by construction of spreader dikes. A small dam across Buffalo Creek would divert the water into a series of impoundments. Nesting islands would provide secure nesting sites for a large number of water birds. Wetlands would require minimal maintenance if rock riprap spillways were installed on ends of each spreader dike in lieu of water control structures.

9) Upper North Platte River Waterfowl Management Area (3A)

The area includes the portion of the North Platte River from the Colorado border downstream to and including Pathfinder Reservoir. Wetlands predominantly include semi-permanent and permanently flooded lacustrine, palustrine and riverine types. The major drainages are the North Platte, Big and Little Laramie, Medicine Bow, and Little Medicine Bow Rivers and Pass Creek. Also included are large reservoirs and stock ponds.

American white pelicans use shallow-water habitats throughout the North Platte River system for feeding and resting. In Wyoming, the white pelican is a priority I species. A nesting colony of white pelicans (Bird Island) is located on Pathfinder Reservoir. The entire reach of the North Platte River in Wyoming is an important waterfowl nesting, brood-rearing and wintering area. The area also supports wintering and nesting bald eagles.



Problem: Wetland losses caused by intensive agriculture and summer home development have been significant within the Upper North Platte area. The area also receives considerable disturbance from river recreational activities associated with rafting. Most of these activities take place during the waterfowl nesting season.

Strategy: Work with county planners to minimize impacts of summer home development. Continue cooperative efforts among BLM, WGFD and landowners to improve and create wetlands. Promote wetland creation and enhancement to mitigate past wetland losses caused by development.

The Saratoga Lake Project, completed in 1992, enhanced approximately 100 acres of wetland for waterfowl. Structures were installed to improve water management and an abandoned gravel pit was contoured and incorporated into the wetland area. Nesting islands and goose nesting structures were installed. Dense nesting cover was established on 10 acres. Funds supporting the project were provided by the Peter Storer Foundation through the DU Marsh Donor Program and Cheyenne Stage II Mitigation account. Other cooperators included the NRCS, Saratoga High School and Saratoga Boy Scouts.

In 1995, the USFS assisted by TNC, negotiated a 280-acre wetland exchange at Turpin Reservoir, on the Medicine Bow National Forest. The Tim White wetland project, on the Silver Sage Ranch north of Saratoga, was recently completed and involved a 25-acre pond.

Sites that should be considered for enhancement in the future include Halleck Creek and the Wick impoundment.

10) Central North Platte River Waterfowl Management Area (1C)

This riverine system consists primarily of the North Platte River between Pathfinder and Glendo Reservoirs. The riparian community varies from a few meters of shrub-willow dominated bank where the channel is narrower and incised, to expansive, cottonwood-dominated communities where the floodplain broadens, especially between Casper and Glendo Reservoir. Approximately 20 percent of the lands that adjoin the River are used for harvested crops or hay. Wetlands include the vegetated margins of permanently flooded riverine and lacustrine systems, and seasonal to semi-permanent palustrine wetlands such as oxbows.

Problem: The major threat to wetlands is from encroachment of housing developments onto the floodplain. The area at greatest risk is between Casper and Glenrock along the North Platte River.

Strategy: Work with city and county planners to site housing developments in areas that avoid wetlands and important riparian habitats. Include setback distances and other protective measures to maintain functional integrity of wetlands within and near planned developments. Work with mining companies and land management agencies to plan mineral exploration activities (roads, wells) to minimize disturbance to wetlands. Plan and implement mitigation for unavoidable wetland impacts.

Problem: Most of the floodplain is private. Public access for waterfowl hunting and other wetland-dependent recreation is very limited.

Strategy: Acquire easements to protect wetlands and riparian habitats and to improve public access for wetland-dependent recreation. Create or enhance wetlands on public lands to offset losses on private lands. Assure existing regulations are enforced to protect wetlands and mitigate impacts. Make effective use of available programs to create, enhance, and acquire wetlands.

The following private lands contain significant wetland values that should be protected through acquisitions, easements or incentives programs:

Soda Lake (Amoco Lake)

This is a wastewater collection area for Amoco oil refining north of Casper. The Lake supports cormorant and gull nesting colonies and is an important waterfowl molting and migration staging area. Amoco has enhanced the Lake by building dikes and islands, and the area is fenced to exclude grazing. Easements should be acquired to protect habitat and allow recreational use of the area.

Burlington Lake (Goldeneye Wildlife Area)

Most of this Lake is BLM or state land, but a small portion is on private land. Agreements with BLM and the Burlington Northern Railroad have opened the area to public fishing. Trespass grazing on the public land portions is adversely impacting wetland quality. An easement should be acquired on the private land portion to halt wetland degradation and improve wetland habitat to its full potential. WGFD and BLM should also coordinate efforts to improve the wetland.

LaPrele Reservoir

This reservoir could be an important goose production area, however wetland margins are in poor condition due to highly fluctuating water levels. Acquisition of easements would provide opportunities for habitat protection and improvement. If possible, land or water rights should be acquired so the reservoir can be managed at a more stable water level.

PP&L (Dave Johnston Power Plant)

High quality riverine and associated palustrine wetlands are found immediately upstream from the Power Plant on the North Platte River. Easements have been acquired to protect wetland habitat and allow public hunting access in the area.

Moore Slough

This 40-80 acre palustrine wetland is a shallow marsh with extensive emergent vegetation encroachment adjacent to the North Platte River floodplain. The area is at risk of being drained to supply irrigation water. A cooperative agreement should be negotiated between WGFD and BLM to protect and improve this wetland.

Kendrick Irrigation Project (Casper Canal)

This BOR-administered irrigation project includes a canal system that transports water between Alcova Reservoir and Casper. Irrigation of lands overlying selenium-bearing formations has resulted in high levels of selenium in area wetlands and in plants and animals. Plans to reline the canal will eliminate several palustrine wetlands supplied by seepage. The most important seeps should be considered for retention. An easement could be acquired to protect and improve wetland habitat or to create mitigation wetlands. The BOR's selenium remediation program called for elimination of flood irrigation and conversion to center pivot irrigation systems. In addition,

Goose and Rasmus Lee Lake were to be dewatered in order to eliminate surface waters with exceedingly high selenium concentrations.

BLM stock reservoirs in Natrona County

BLM biologists have inventoried stock ponds in Natrona County to identify those with potential to sustain wetland habitat. Most are very small and have limited wetland habitat due to intensive livestock use. BLM has plans to improve waterfowl production on a few stock reservoirs that have potential for development of wetland characteristics. There is some potential for BLM and WGFD to work cooperatively on improvements such as island construction, fencing to control livestock access, nesting structures, dike repairs and pothole blasting.

8) Lower Green River Basin Waterfowl Management Area (5F)

Wetlands in this area are predominantly associated with the Green River, Big Sandy River, and Piney, LaBarge, and Pacific creeks. Most wetland areas are riverine, with some palustrine wetlands along these tributaries. The upland region is salt desert shrub and sagebrush. Deciduous trees and shrubs dominate the floodplain, and dry grassland meadows border the river channel. Very little of the area is irrigated agricultural land. There is extensive marsh habitat on the Seedskaelee National Wildlife Refuge. Approximately 1,200 acres of wetlands have been created or improved on the Refuge. The Seedskaelee area supports the highest goose nesting density in this management area.

The Farson-Eden irrigation project contains about 3,800 acres of wetlands along a portion of the Big Sandy River. It is the largest area of duck breeding habitat in the Lower Green River Basin. Wetlands are predominantly wet meadow and palustrine emergent types that have been hydrologically enhanced by irrigation. However, irrigation has increased salt loading in the Big Sandy and downstream rivers. Implementation of the USDA Big Sandy Unit of the USDA Colorado River Salinity Control Program began in 1989. Remedial actions have included installation of gated pipe and center pivot systems. Although NCRS has a wetland mitigation program in place, more acres of wetlands have been lost than replaced. However, the values of replacement wetlands are probably higher due to enhancements. In addition, 21 acres of new wetlands had been created as of 1992. The largest was 10 acres.

Problem: Although the number of acres irrigated has remained constant, changes in farming practices have resulted in a substantial loss of nesting cover.

Strategy: Through available incentives programs, encourage landowners to leave patches of residual cover for nesting. Conservation easements would be another option.





Mitigation for the Fontenelle Reservoir Project included acquisition of 4,425 acres for incorporation into Seedskaadee NWR in 1993. The acquisition was executed through the BOR in 1993 and included 3,065 acres from the Union Pacific Railroad's Upland Industries, and 1,360 acres from the State of Wyoming. Other lands adjoining the Refuge are managed by BLM.

Problem: Intensive grazing on BLM lands has denuded stream banks, causing accelerated erosion and sedimentation.

Strategy: Work with land management agencies to improve and protect the riverine systems through proper grazing management. Support construction of wetlands and promote optimal management on the refuge. Encourage the USFWS to complete a wetland development and maintenance plan and assist in acquiring funds to maximize wetland development.

Additional sites that should be considered for protection and enhancement include the Grandy property, Bob McMurray property and potholes at Prospect and Gold Creeks.

12) Hams Fork/Blacks Fork Waterfowl Management Area (5G)

This area consists predominantly of riverine wetlands along the Hams Fork and Blacks Fork Rivers and their tributary streams, and includes beaver pond complexes in the upper reaches. Flooded hay meadows and cottonwood-willow dominated bottoms are found throughout the drainages. Some marshes and several small lakes are present in the irrigated area near Ft. Bridger.

Problem: Summer home development, stream channelization, and oil and gas development threaten the wetlands.

Strategy: Protect jurisdictional wetlands through enforcement of existing laws and regulations. Negotiate mitigation for wetland losses. Acquire easements to protect and enhance wetlands. Use other restoration and protection strategies where necessary.

Problem: This area has been historically overgrazed, resulting in heavy silt and nutrient loading of the riverine systems.

Strategy: Work cooperatively with USFS and BLM to implement a grazing and aspen management plan that will improve the ecological condition of the riverine system and sustain beaver complexes.

Additional wetland sites that should be considered for protection and enhancement include Hickey

Mountain stock pond, Henry's Fork, Albert Creek, Lower Hams Fork wetland, Austin Reservoir and the Viva Naughton Reservoir property.

13) Upper Bear River Waterfowl Management Area (5H)

Wetlands in the upper reaches of the Bear River drainage are predominantly riverine types. The most extensive wetlands are located in the Bear River floodplain downstream from Evanston. These include riverine and associated palustrine wetlands ranging from seasonal to permanently flooded. Additional sites that should be considered for protection and acquisition include the Woodruff and Salt Creek areas.

Problem: The Bear River drainage is impacted by one of the highest rates of floodplain development in Wyoming. Housing subdivisions, changes in irrigation management, channelization, and wetland drainage are destroying wetlands at an accelerated pace. Home site development and activities associated with oil and gas exploration are taking place in and near wetland areas.

Strategy: Coordinate with DEQ, NRCS, private landowners and county planners to minimize impacts associated with oil and gas exploration and development. Protect jurisdictional wetlands through enforcement of existing laws and regulations. Negotiate mitigation for wetland losses. Acquire easements to protect and enhance wetlands. Use other restoration and protection strategies where necessary.

Problem: Many wetland margins have been degraded by intensive livestock use. Loss of aspen habitat has reduced the amount and quality of beaver pond complexes.

Strategy: Work with land management agencies to reduce or modify livestock grazing along riverine wetlands and in aspen stands.

14) Missouri, Cheyenne and Little Powder River Waterfowl Management (1A)

Most wetland habitat in this region consists of stock ponds and reclaimed bentonite ponds that have developed wetland characteristics. Natural palustrine wetlands associated with streams and playas are also found here. These range from temporary to semi-permanent or permanently flooded basins depending on hydrology, depth and other morphologic characteristics. Keyhole Reservoir is a lacustrine water on the Belle Fourche River. Riverine and associated palustrine wetlands exist on the Little Missouri, Little Powder, and the lower Belle Fourche Rivers. Smaller tributaries include Spring Creek, Horse Creek, Wildcat Creek, and Trail Creek.

The area northeast of Rocky Point has numerous potholes and marshes. Although wetland losses have been minimal on public lands in this area, the majority of the land is private and little is known of wetland status. Some stock ponds and abandoned mine (bentonite and coal) pits developed wetland characteristics resulting in increased wetland acreage over the last 40 years. However, livestock grazing is a major factor contributing to wetland losses and degradation. In the future, wells and tanks may replace many stock ponds to reduce maintenance costs, and this will result in a loss of wetland habitat.

The BLM has created and improved some wetlands and there is potential to work cooperatively with private landowners to create and enhance additional wetlands.

The Thunder Basin National Grassland (TBNG), administered by the USFS, is within the Missouri, Cheyenne and Little Powder River Management Area. The Grassland contains limited wetlands; mostly stock ponds of small size with little shoreline vegetation. However, some larger reservoirs provide good nesting, brood-rearing and stopover areas for migrating water birds. The TBNG is a mosaic of public and private lands in which grazing leases are the dominant use. Habitat degradation caused by improper grazing management is the most significant threat to wetlands in this management area. The USFS has initiated wetland enhancements on some stock ponds and larger reservoirs. Strategies include rest-rotation and deferred grazing systems, fenced exclosures, vegetation treatments and pothole dredging. Large surface coal mines on the National Grasslands are eliminating some stock ponds and other wetland habitats, but mines are required to replace these features during reclamation. In addition, some mines are increasing the area of wetlands and lacustrine habitats as a form of enhancement on reclaimed surfaces.

In 1994, the USFS completed the 35-acre Frog Creek Reservoir project on the TBNG. Funding and technical support was obtained from the Taking Wing program, WGFD, DU and the Cheyenne Stage II mitigation account. USFS also built a project in the Osage area in cooperation with DU, funded with Stage II and Fish Wyoming monies. The project created a small reservoir of 17-30 acres, with approximately 5 acres of wetland. The USFS previously obtained Fish Wyoming and Taking Wing funds to construct a 42-acre exclosure protecting an 8.5-acre reservoir (Turner Reservoir) and 12 acres of wetland in the Upton/Osage area. From 1980-1995, the USFS completed 20 to 30 other wetland improvement projects totaling 556 acres on the TBNG. The USFS estimates the TBNG contains 300 stock ponds varying from 0.5-3 acres, with semi-permanent to permanent water.

The following additional sites should could be considered for wetland enhancement or protection: Betty Reservoir, Porcupine Reservoir, Nachtman Reservoir, Stock Reservoir, Turner Draw, Bull Draw, Keyhole Reservoir, School Creek Wildlife Area, Elk Springs, Kellog Reservoir, Dry Lake, Brown Reservoir, Keyton Reservoir and Dry Climate Draw.

During the late 1980s through the 1990s, the Wyoming Abandoned Mine Lands (AML) Program reclaimed numerous impoundments that had developed wetland characteristics on abandoned mine workings. At the time, these were considered jurisdictional wetlands subject to regulation under Section 404 of the Clean Water Act. Prior to filling and reclaiming these impoundments, the Wyoming Department of Environmental Quality was required to obtain authorization from the U.S. Army Corps of Engineers through the Section 404 permit process. Originally, nearly all the wetlands on abandoned mine workings would have been simply filled or drained. Under Section 404, the wetlands had to be either retained or replaced with habitat of equivalent quality. The USFWS estimated prior to their reclamation, the abandoned bentonite workings in northeast Wyoming contained 680 ponds with 766 acres of potential wetland habitat. After reclamation was completed, approximately 157 ponds totaling 405 acres were projected to remain. The acreage loss was offset by enhancements that improved the values of the fewer, remaining ponds. Mitigation involved enlargement and stabilization of ponds, creation of new ponds and incorporation of habitat features such as irregular shorelines, islands, bays, peninsulas, and exclosure fencing. Organic soil amendments such as wood chips were added to improve vegetation establishment and reduce sedimentation and turbidity.

15) Tongue, Little Bighorn and Powder River Waterfowl Management Area (1B)

Natural wetlands in this region are predominantly riverine types associated with the Powder and Tongue Rivers. Smaller riverine systems include Clear Creek, Goose Creek and three tributaries of Crazy Woman

Creek. Lake DeSmet is a large, lacustrine water. There are also numerous livestock ponds, some of which have developed wetland characteristics. The Powder River Management Area is an important waterfowl production area with an expanding goose breeding population. Since the mid-1990s, the area has undergone extensive development of coalbed methane production wells. In some cases, produced water pumped onto the surface has created wetlands that will persist as long as the coalbed methane well remains in production (20 years more or less). These produced water wetlands have both positive and negative impacts.

The Powder River, from ten miles east of Kaycee to its confluence with Crazy Woman Creek near Arvada has the most consistent flow, because there is little withdrawal for irrigation. This reach has the greatest potential for improvement of the riverine system. However, most of the river floodplain is privately owned. The BLM manages considerable holdings outside the private corridor that follows the River, but only a couple parcels that actually intersect the river.

In 1988, the BLM's Buffalo Resource Area initiated a Wetlands Habitat Management Plan. Wetland areas of concern included palustrine seasonal wetlands, approximately 200 stock ponds, 10 springs and approximately 5 miles of perennial streams, which are part of the riverine system. A priority was to implement habitat improvements on approximately 50 wetlands over 10 years. Improvements included enclosure fencing, vegetation treatments and installation of nest structures and islands. Dedicating adequate resources to maintain fences had been a problem.

The BLM also proposed exchanges or sales of scattered public parcels to obtain wetland easements, though this was a lower priority. Access, even to public lands, is a problem in the area. The BLM is attempting to "block up" scattered public land parcels to increase recreational use of these lands. A WGFD/BLM cooperative effort could result in purchase of easements to increase public recreational use of area wetlands.

Problem: Livestock grazing has had the greatest impact on wetlands throughout this management area.

Strategy: Work with BLM and private landowners to implement more compatible systems of grazing within wetland and riparian pastures.

Problem: Produced water from coalbed methane wells has created wetlands in several locations. However, these wetlands will persist only so long as the wells remain in production. In addition, mosquitoes breed in wetlands increasing the risk of infecting sage grouse with West Nile Virus.

Strategy: Investigate the possibility of continuing to pump water, or develop artesian springs to maintain some of these wetlands in suitable ecological sites that pose no additional threats to sage grouse.

The City of Buffalo wetland project involved participation by numerous cooperators including WGFD, NRCS, USFWS, DU, City of Buffalo, Wildlife Forever and Texaco. Work completed on the 16-acre site included installation of a water control structure, dike repair, island construction, and removal of contaminated soil. The completed project provides some habitat value to waterfowl and other wetland species, however the main uses are education and recreation. Cooperators are hoping to purchase additional property between the wetland and Clear Creek.

In 1992, the WGFD initiated the Oxbow Wetlands Project. The purpose was to enhance the aquatic

component of the cottonwood/willow community along in the Tongue River, Big Goose Creek, and Clear Creek. Of the 505 oxbows initially identified, 15 sites owned by 12 willing landowners were determined suitable for enhancement. These oxbows projects varied in size up to 20 acres. A pilot project on the Big Goose River north of Sheridan was completed in 1993. Work on 2 oxbows included construction of dikes and water control structures to create 13 acres of open water habitat. The USFWS Private Lands Program (PLP) has funded the completed projects. Additional completed and ongoing projects will have been supported by cost-share funding from DU and PLP.

16) Sweetwater River Waterfowl Management Area (4D)

The predominant natural wetlands of this area are riverine and palustrine types associated with the Sweetwater River floodplain. Seasonally flooded meadows and oxbow lakes are bordered by upland grass and desert shrub habitats. The area is an important goose breeding and nesting area. Pathfinder National Wildlife Refuge is located at the confluence of the Sweetwater and North Platte Rivers.

Problem: Livestock grazing has degraded wetland margins within the Upper Sweetwater River. Past and present gold mining in Rock and willow Creeks and other tributaries of the upper Sweetwater has increased water turbidity and could affect aquatic vegetation.

Strategy: Work with land management agencies to implement more compatible systems of grazing management within wetland and riparian pastures. Where there are opportunities, work with BLM and private landowners through existing programs to create and enhance additional palustrine wetlands.

The BLM's Carmody Lake (S17,T30N,R95W) Project included a 1,000-acre fenced livestock enclosure, tree plantings, fishery development and nesting islands. Other BLM projects have installed livestock enclosures on riparian units and stock ponds, developed artesian wells (oil industry), and improved creek crossings. In some cases, road improvements have created wetlands by raising culverts to impound small areas of surface runoff, although these sites can also saturate and destabilize the roadbed if not done properly.

Additional wetland sites to consider for acquisition or improvement include Soda Lakes, Jackson Lake, Antelope Springs potholes, and Bucklin Reservoir.

17) Little Snake River Waterfowl Management Area (5I)

The Little Snake River Waterfowl Management Area consists of the Little Snake River watershed in south-central Wyoming, including Muddy Creek. The Little Snake floodplain is one of the best examples of oxbow wetland complexes in Wyoming. Much of the floodplain is private land in agricultural production. The lower reaches support flooded hay meadows bordering the riverine system.

The BLM has identified several high priority wetland development/improvement areas. The Muddy Creek Watershed Project, much of which has been completed, was implemented to enhance 35 miles of riparian habitat including some wetland areas. Cooperators include the WGFD, BLM, Little Snake River Conservation District, Ducks Unlimited, landowners and other interested individuals. Two large wetland projects were completed on Muddy Creek in between 2000 and 2005. The George Dew Dike on Muddy Creek is a priority improvement area and the largest wetland on Muddy Creek. The Mexican Flats wetland project at Dad

has been a great success. There are dike maintenance issues needing resolution in both project areas.

Problem: Heavy livestock use has eliminated wetland margins and upland nesting cover within and surrounding many stock ponds.

Strategy: Work with BLM, DU, and private landowners to create or improve wetland habitats by managing livestock distribution and use, installing enclosure fencing where needed, maintaining and repairing dikes, installing water spreaders, and blasting potholes.

Problem: The demand for domestic and irrigation use of water is increasing. As the demand for water continues to grow, the importance of impacted riparian and wetland systems needs to be addressed.

Strategy: Participate in water development planning to assure impacts are effectively and fully mitigated.

The High Savery Dam Project, completed in 2003, inundated approximately 482 acres including 8.4 stream miles, 53 acres of riparian habitat and 8 acres of wetlands. Riparian habitat is being mitigated at a 3:1 ratio, and wetlands are being mitigated at a 4:1 ratio. Several spreader dikes have been constructed to create wetlands on Savery Creek downstream from the dam. Project sponsors have not fully completely fulfilled their mitigation obligations, but are making substantial progress.

Where suitable water quality can be assured, encourage the mining and energy industries to create wetlands on reclaimed lands by discharging produced water onto the land surface. Possible impacts to other species (e.g., sage grouse) or habitats (big game crucial winter range) should be considered before new wetlands and water sources are created within arid shrub environments.

18) South Platte River Waterfowl Management Area (2B)

The primary drainages in this waterfowl management area are Lodgepole and Crow Creeks, minor drainages include Brush, Goose, Terry, and Spring Creeks. The more significant wetlands and open water habitats include One Mile, Warren Hereford Ranch No. 1 and 2, Warrenton, Polaris, Valley, Terry, and Swan reservoirs, and the 2 Cheyenne city lakes – Sloans and Absaraka. Most small streams are bordered by grasslands, however scattered cottonwoods and willows are found along some segments. Sedges and grasses are the dominant vegetation.



Natural wetlands consist of shallow palustrine marshes and seasonally flooded playa basins. The South Platte drainage probably did not contain a large number or area of wetlands prior to settlement. Nonetheless, wetlands have been degraded and eliminated here as elsewhere in the State. The predominant threats include intensive grazing and subdivisions, which are expanding rapidly throughout Laramie County.

Problem: Wetland resources are limited in this area and threatened by ongoing development and grazing practices.

Strategies: Protect existing wetlands by working with landowners to implement grazing best management practices within wetland watersheds and riparian areas. Protect jurisdictional wetlands through enforcement of existing laws and regulations. Negotiate mitigation for wetland losses. Identify the more important wetlands that may be candidates for acquisition or easements. Work with city and county planners to maintain open space and site housing developments away from existing wetlands and riparian habitats.

19) Great Divide Basin Waterfowl Management Area (5E)

The Great Divide Basin is a vast, internally-drained basin dominated by salt desert shrub and sagebrush. Saline, shallow palustrine marshes and seasonally flooded playas are the prevalent natural wetlands though their total number and total area are quite small. No wetland losses have been documented. The Picket Lake complex is the most important area for waterfowl. Intensive livestock grazing is the major factor causing degradation of wetland margins and loss of upland nesting cover. There are opportunities for wetland improvements within the 1,500-acres the Chain Lakes WHMA jointly managed by the BLM and WGFD. The majority of the Great Divide Basin is public land administered by the BLM.

The BLM Rawlins District has planned wetland improvements such as planting shoreline vegetation, livestock exclosures, dike repairs, pothole blasting and well water retention. Several mining companies have expressed interest in using excess mine and power production water to create wetland habitat: e.g., Red Desert flowing wells.

Problem: Wetland resources are limited in this area and threatened by ongoing grazing management on BLM allotments.

Strategies: Work with BLM to improve rangeland conditions to the good to excellent category. Control livestock access along wetland margins. Consider improvements to wetlands on the Chain Lakes WHMA. In ecologically appropriate locations, where suitable water quantity and quality can be assured, encourage the mining industry to create additional wetlands on reclaimed lands. Also, consider releasing produced water from natural gas wells to create additional wetlands in appropriate locations. Assist BLM in developing wetlands from uncapped artesian well water.

20) Madison-Yellowstone National Park (4B)

Wetlands inside YNP are fully protected under the National Park Service's philosophy of maintaining ecosystems in their natural state. No portion of this management area lies outside YNP.



**Chapter 6
Goals and Priorities**

Goals and Priorities

As noted in previous chapters there are two perspectives on outdoor recreation in Wyoming. The first perspective is from the point of view of those agencies and organizations providing recreation facilities to the general public. The second is the perspective of the general public; this can include individuals, families, or organizations that have specific needs, demands or desires for facilities or recreation opportunities. The following issues were derived by synthesizing provider concerns, and public input on the activities they participated in, quality of public outdoor recreation facilities, concerns and issues related to outdoor recreation, and why people did not recreate. These issues and the associated recommendations are to be used as a guide for outdoor recreation in Wyoming for the next five years.

Recreation Issues

The following are the five major issues condensed from the recreation provider and recreation user surveys conducted in 2008:

1) Facilities

- Additional Facilities
- Availability of Facilities
- Environmental Factors

2) Land Management

- Public Land Usage

3) Funding

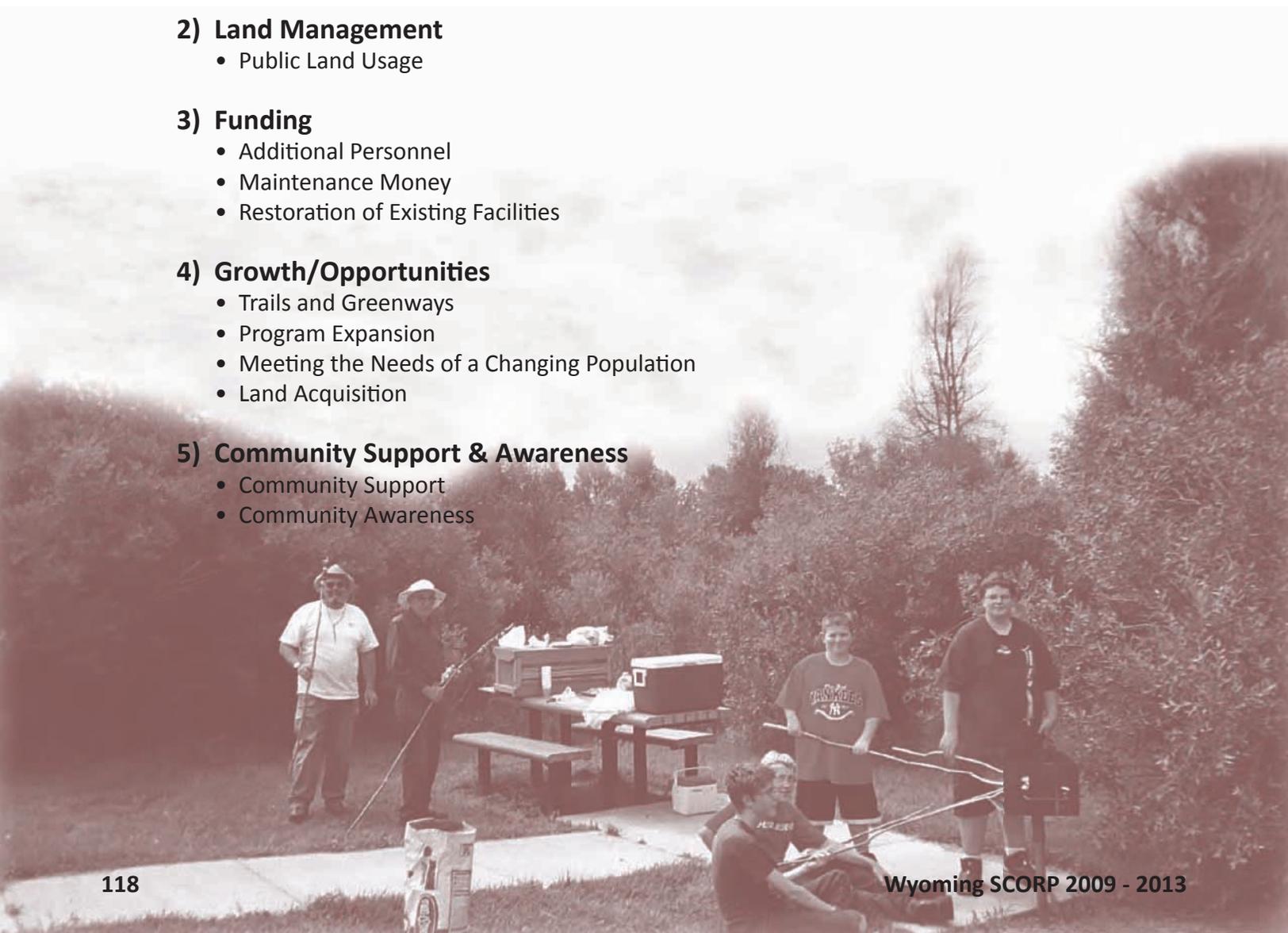
- Additional Personnel
- Maintenance Money
- Restoration of Existing Facilities

4) Growth/Opportunities

- Trails and Greenways
- Program Expansion
- Meeting the Needs of a Changing Population
- Land Acquisition

5) Community Support & Awareness

- Community Support
- Community Awareness



Issue 1: Facilities

Results from the 2008 surveys clearly indicate providing additional recreational facilities is a primary concern. The development and expansion of recreation facilities and opportunities is an ongoing task for private, local, state and federal agencies. Changing trends, preferences and needs make this a difficult task. The public has made it clear they want facilities that are close to home, uncrowded, are suitable for Wyoming's environment, up to date and reflect current recreation trends. Recreation providers have limited resources to meet the needs of users. A cooperative effort between all groups can assist in addressing these needs and providing for a pleasant outdoor recreation experience.

Recommendations

- **Improve and expand existing outdoor recreation facilities, when appropriate, to meet the increasing demands of the public.**
- **Encourage communication between users and recreation providers to determine new needs and appropriate locations for outdoor recreation.**
- **Develop a process to periodically bring together key outdoor recreation providers (from all levels of government and the private sector) to share and discuss ongoing regional outdoor recreation issues.**
- **Ensure new facility design considers climatic and scenic factors. This can include making sure facilities are oriented correctly for the wind, take advantage of the sun or shade opportunities and are situated to reduce visual impacts.**
- **Through a cooperative management strategy, minimize conflicts between different user groups in the development of new or expanded recreation opportunities.**

Issue 2: Land Use Management

Having recreation opportunities meet the needs of the user is a primary goal. This entails access to a facility or public area, reasonable user fees, and the ability to enjoy the recreational activity once there. Respondents felt that public land use should be managed to minimize conflicts yet have convenient facilities that complement uses. As the West increases its population, new residential and commercial development will change the outdoor experience. Respondents were concerned with the extent and location of new development. Correspondingly, as population density increases, recreational use of public lands will intensify. Respondents voiced a myriad of concerns related to public land management issues. About half of those surveyed expressed concern about an apparent lack of regulations and enforcement, while about a third expressed apprehension about over-regulation and control of public lands. For example, when asked to list the most important recreation related issues, the most common response was concern over motorized use. The second most common response was support for expanding motorized use.

Recommendations

- Preserve and increase public access to public lands for outdoor recreation.
- Examine the use of alternative means to allow public access to public lands for outdoor recreation.
- Identify and resolve disagreements between conflicting public land usages.
- Promote compatibility between recreation opportunities and future land uses.



Issue 3: Funding

Results from the 2008 recreation survey illustrate funding for maintenance, restoration of existing facilities, and additional personnel are of major concern. The public expects recreation areas to be clean, safe and well maintained. It is imperative that existing facilities are properly maintained to provide a worthwhile experience for the user. Both financial and community support should assist in these maintenance endeavors. The strategy is to develop a variety of long-term dependable funding sources to be specifically used to maintain and staff outdoor recreation facilities.

Recommendations

- Pursue alternative funding strategies for outdoor recreation that is appropriate to the community.
- Encourage alternative long-term funding strategies through a joint partnership between local government, business leaders, and private interests.
- Encourage the development of policies that will promote self-sufficient outdoor recreation facilities and opportunities.
- Actively solicit the establishment of endowments for outdoor recreation facilities and programs.
- Ensure that maintenance is current on all facilities.
- Establish a routine for preventative maintenance on all facilities.
- Create new and support continuing volunteer maintenance partnerships.
- Evaluate current facilities and equipment relative to its effective use-life and update or replace if appropriate.
- In coordination with recreation providers, develop a clearinghouse of available funding sources for outdoor recreation and provide a mechanism to ensure that all eligible applicants are aware of these funding sources.
- Promote the use of volunteers, sport associations, and recreation groups as an alternative means of support for the operation and maintenance of public outdoor recreation facilities.
- Attention should be focused on renovating existing recreation sites and attractions, and funding considerations should be given to renovations that represent significant cost savings over the development of new sites or facilities.
- A network of citizens, local decision makers, recreation and outdoor groups, and regional coalitions should be formed to support continued funding for outdoor recreation.

Issue 4: Growth/Opportunities

Recreation facilities and programming will need to change and expand to keep pace with Wyoming's shifting and increasing population. Current demographic trends indicate Wyoming's recreation providers will have to address the needs of an increasingly retirement-age population, a more obese population and youth that are digitally engaged. Depending on funding and available resources recreation providers will need to think about where to acquire land, how to modify recreation programming, and where to locate new recreation facilities.

Recommendations

- Insure that the current recreational needs of the population are met which include but are not limited to:
 - Outdoor recreational facilities
 - Trails and greenways
 - Community recreation facilities
 - Needs of senior citizens and individuals with disabilities
- Identify and address future trends and demands of outdoor recreation.
- Examine land needs to ensure they meet current demands and future trends in outdoor recreation.
- Work with the Wyoming Game and Fish Department's "Access Yes" Private Land/Public Wildlife Access Program, to preserve and expand public recreation opportunities.
- Inventory and provide for open space and trails to meet the increasing demands for these types of opportunities.

Issue 5. Community Awareness and Support

Communities have dedicated personnel and financial support to recreation facilities, opportunities and programs. A strong effort should be made to ensure the public is aware of what is available and how they can assist in retaining the best recreation facilities and opportunities within their community.

Recommendations

- Increase community promotion and education about outdoor recreation programs, facilities, opportunities and needs.
- Provide incentives for volunteerism by individuals, sports associations and recreation groups



- Promote professional educational programs to emphasize current trends in facilities, equipment, and management.
- Encourage complementary exchanges between public and private recreation providers.

Priority Projects

In the 2009 SCORP we have identified several priorities for Wyoming outdoor recreation. The following is a list of outdoor recreation projects that are identified as priorities for LWCF funding. This list was developed using information from the user survey, provider survey, prior Wyoming SCORP's and new facility trends.

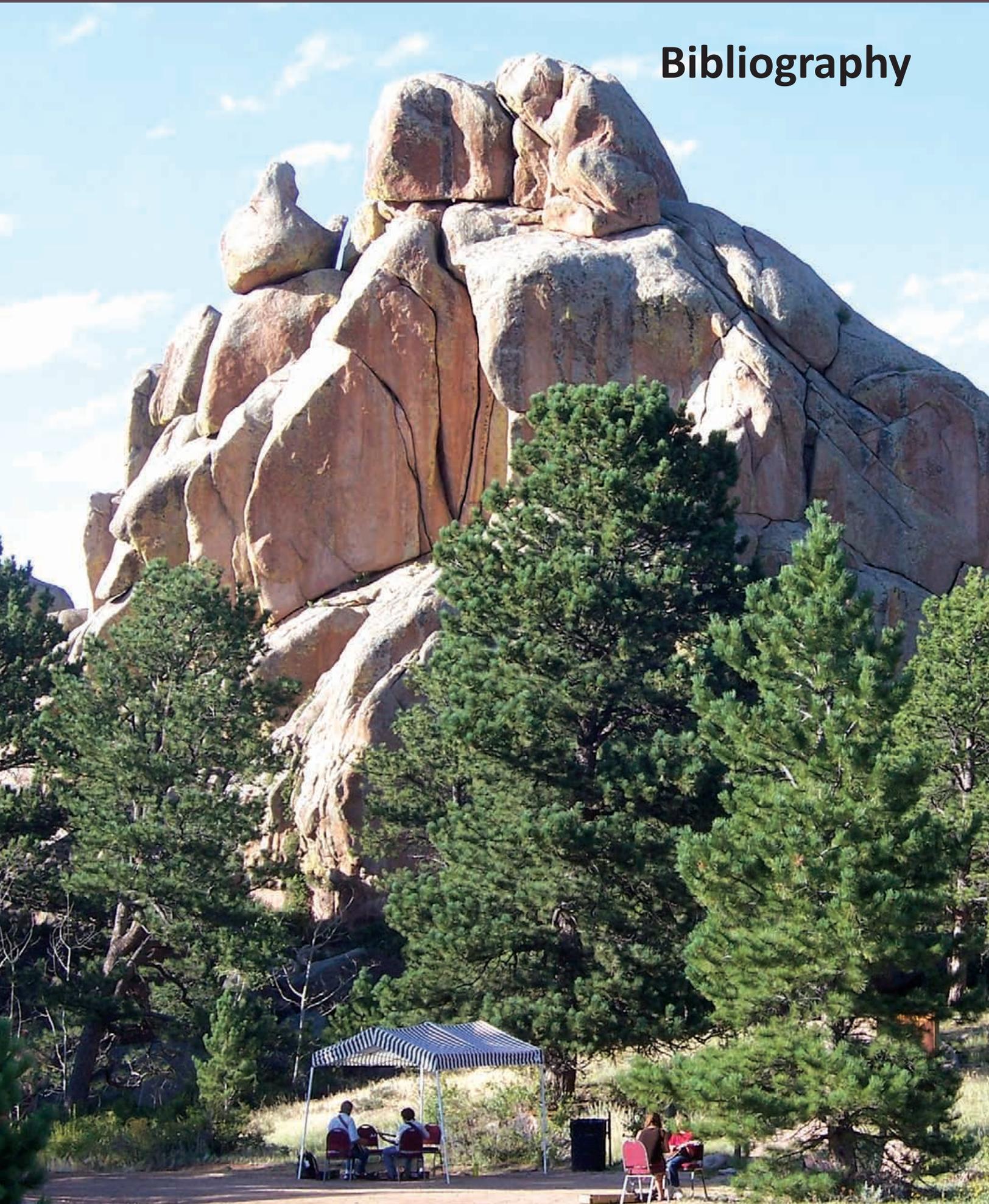
- Amphitheater/Band Shells
- Aquatic Facilities
- BMX Tracks
- Boating Facilities
- Campgrounds
- Disc Golf Courses
- Fishing
- Golf Courses
- Hunting
- Natural Areas/Wetlands
- Paint Ball Facilities
- Passive Parks/Open Spaces
- Picnic Areas
- Public Access to Public Lands
- Remote Control Facilities
- Skateboard Facilities
- Sheltered Ice Rinks
- Sheltered Swimming Pools
- Shooting Facilities/Target Ranges
- Sports and Playfields (football, soccer, baseball)
- Support Facilities
- Trails (motorized)
- Trails (non-motorized)
- White Water Parks

Winter Sport Facilities

Although these are not the entire criteria needed to receive LWCF funds, these facilities and the specific components incidental to them are found to be needed in every region of Wyoming. The 2009 SCORP recognizes the potential for rapid change in outdoor recreation. This document attempts to enhance the opportunity for local communities to easily obtain LWCF funds. All planning and long-range improvement plans adopted by state, county, city, town or local recreation boards will be considered eligible for the LWCF grant program.



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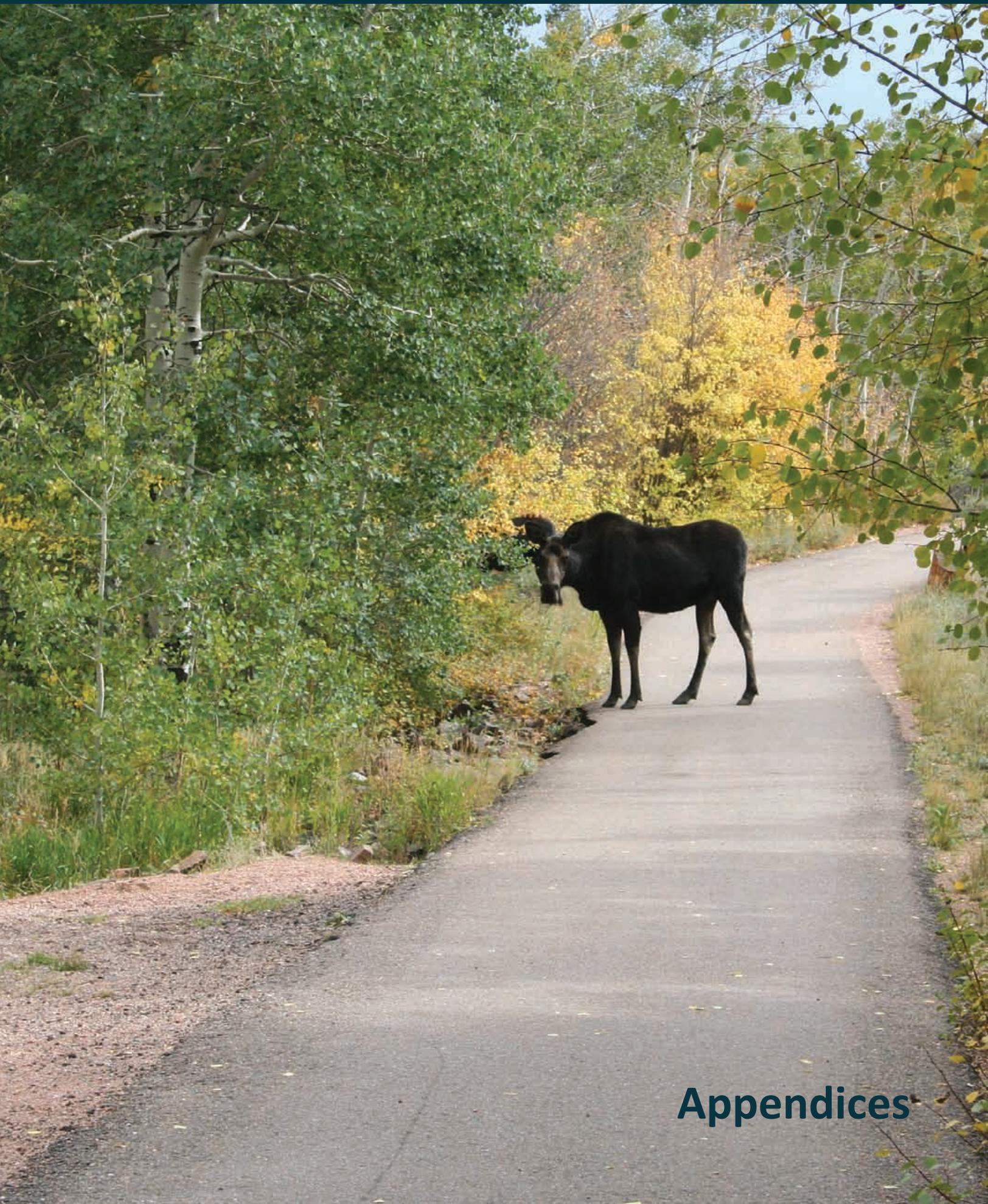
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Appendices

APPENDIX A: LIST OF ACRONYMS

| | |
|-------|---|
| Act | - Emergency Wetlands Resources Act of 1986 |
| AML | - Abandoned Mine Land |
| ATV | - All Terrain Vehicle |
| BIA | - Bureau of Indian Affairs |
| BLM | - Bureau of Land Management |
| BOR | - Bureau of Reclamation |
| CWA | - Clean Water Act |
| DU | - Ducks Unlimited |
| EPA | - Environmental Protection Agency |
| FHA | - Federal Highways Administration |
| FSA | - Food Security Act |
| GDP | - Gross Domestic Product |
| LAPS | - Land Acquisition Priority System |
| LWCF | - Land and Water Conservation Fund |
| NEPA | - National Environmental Policy Act |
| NGO | - Non-governmental Organization |
| NPS | - National Park Service |
| NRCS | - National Resources Conservation Service |
| NWI | - National Wetlands Inventory |
| NWPCP | - National Wetlands Priority Conservation Plan |
| ORV | - Off Road Vehicle |
| OSLI | - Office of State Lands and Investments |
| RTP | - Recreational Trails Program |
| SCORP | - Statewide Comprehensive Outdoor Recreation Plan |
| SPCR | - State Parks and Cultural Resources |
| SPHST | - State Parks, Historic Sites, and Trails |
| SPSS | - Statistical Package for Social Sciences |
| TEAL | - Transportation Enhancement Activities Local |
| TNC | - The Nature Conservancy |
| USACE | - U.S. Army Corps of Engineers |
| USDA | - U.S. Department of Agriculture |
| USDOC | - U.S. Department of Commerce |
| USDI | - U.S. Department of Interior |
| USFS | - U.S. Forest Service |
| USFWS | - U.S. Fish and Wildlife Service |
| USGS | - U.S. Geological Survey |
| WDA | - Wyoming Department of Agriculture |
| WDEQ | - Wyoming Department of Environmental Quality |
| WDOT | - Wyoming Department of Transportation |
| WGFD | - Wyoming Game and Fish Department |
| WRPA | - Wyoming Recreation Planners Association |
| WSTP | - Wyoming State Trails Program |
| WWA | - Wyoming Wetlands Act |
| WYSAC | - Wyoming Survey and Analysis Center |

APPENDIX B. USER SURVEY

Wyoming Statewide Comprehensive Outdoor Recreation Plan Survey 2008

WYSAC Technical Report No. SRC-806

June 2008

Wyoming Statewide Comprehensive Outdoor Recreation Plan Survey 2008

Use either pencil or pen (blue or black ink), but please do NOT use a felt-tip marker.

Mark Answers Like This ● ■
 NOT Like This ✗ ✓

1. Please tell us how important or unimportant public parks and other public recreation areas are to your quality of life.

Very important Important Unimportant Very unimportant Don't know

2. Please tell us how much you agree or disagree with each of the following statements.

| | Strongly agree | | | | Strongly disagree | No opinion |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Having recreation areas close to my home improves my quality of life. | <input type="radio"/> |
| Outdoor recreation in my community should be a joint partnership between local government, business leaders, and private interests. | <input type="radio"/> |
| The state's current water recreation areas need to be expanded. | <input type="radio"/> |
| Motorized vehicles should have more public recreation space than is currently available to them. | <input type="radio"/> |
| The demand for publicly organized activities in our community is greater than the demand for individualized non-structured activities. | <input type="radio"/> |
| The state should provide support and assistance to local organizations for expanding their recreation facilities. | <input type="radio"/> |
| A source of long-term, consistent funding for recreation should be provided at the state level. | <input type="radio"/> |
| User fees should cover the direct cost of high-maintenance recreation facilities. | <input type="radio"/> |
| Basic opportunities at public parks and open space areas, such as walking and picnicking, should be provided by general tax dollars without additional user fees. | <input type="radio"/> |
| Efforts should be made to acquire additional recreation lands from individuals or other entities interested in selling or donating land. | <input type="radio"/> |



3. Following is a list of outdoor activities. For each one, please tell us if you or a member of your household participated in that activity in Wyoming in the past year, and how you would rate the available facilities for that activity in Wyoming.

| | Participated | Excellent | | | | | Poor | Don't know |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|
| | | 1 | 2 | 3 | 4 | 5 | | |
| Camping in developed sites (RV, pop-up, tent camping) | <input type="radio"/> | |
| Primitive camping (motorized, but no facilities) | <input type="radio"/> | |
| Backpacking, camping in roadless areas | <input type="radio"/> | |
| Picnicking and family day gatherings | <input type="radio"/> | |
| Viewing wildlife, birds, fish, etc. | <input type="radio"/> | |
| Viewing natural features, scenery, flowers, etc. | <input type="radio"/> | |
| Viewing historic and/or prehistoric sites/areas | <input type="radio"/> | |
| Visiting a nature center, nature trail, or visitors center | <input type="radio"/> | |
| General/other: relaxing, hanging out, escaping crowds, noise, etc. | <input type="radio"/> | |
| Fishing-all types | <input type="radio"/> | |
| Hunting-all types | <input type="radio"/> | |
| Off-road motorized vehicle travel (4-wheelers, dirt bikes, etc.) | <input type="radio"/> | |
| Driving for pleasure/sightseeing by auto | <input type="radio"/> | |
| Snowmobile travel | <input type="radio"/> | |
| Motorized water travel (boats, PWC, etc.) | <input type="radio"/> | |
| Nonmotorized water travel (canoe, kayak, raft, sail craft etc.) | <input type="radio"/> | |
| Hiking or walking | <input type="radio"/> | |
| Horseback riding | <input type="radio"/> | |
| Rodeo activities | <input type="radio"/> | |
| Road bicycling | <input type="radio"/> | |
| Mountain bicycling | <input type="radio"/> | |
| BMX bicycling | <input type="radio"/> | |
| Downhill skiing, snowboarding | <input type="radio"/> | |
| Cross-country skiing, snowshoeing | <input type="radio"/> | |
| Sledding, tubing | <input type="radio"/> | |
| Ice skating (indoor) | <input type="radio"/> | |
| Ice skating (outdoor) | <input type="radio"/> | |
| Jogging, running, fitness course workouts | <input type="radio"/> | |
| Field activities (soccer, tennis, baseball, volleyball, horseshoes, disk golf, etc.) | <input type="radio"/> | |
| Golf (18-hole, 9-hole, driving range) | <input type="radio"/> | |
| Golf (miniature) | <input type="radio"/> | |

3...continued from page 2.

| | Participated | Excellent | | | | | Poor | Don't know |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|
| | | 1 | 2 | 3 | 4 | 5 | | |
| Skateboarding or in-line skating (roller-blading) | <input type="radio"/> | |
| Outdoor spectator activities (concerts, sporting events, etc.) | <input type="radio"/> | |
| Fairs or festivals | <input type="radio"/> | |
| General playground activities | <input type="radio"/> | |
| Dog parks | <input type="radio"/> | |
| Swimming (pools, lakes, reservoirs) | <input type="radio"/> | |
| Spray parks/water parks | <input type="radio"/> | |
| Rock climbing (climbing wall or natural rock) | <input type="radio"/> | |

4. Which of the following prevented you or members of your household from visiting park or recreation facilities as often as you'd like IN WYOMING within the past year?

(Mark all that apply.)

| (Mark all that apply.) | Location of park or facility |
|---|------------------------------|
| <input type="checkbox"/> Not accessible | |
| <input type="checkbox"/> Too crowded | |
| <input type="checkbox"/> No transportation | |
| <input type="checkbox"/> Did not offer facilities wanted | |
| <input type="checkbox"/> Not aware of facilities/programs available | |
| <input type="checkbox"/> Not enough time/too busy | |
| <input type="checkbox"/> Just moved here | |
| <input type="checkbox"/> Did not offer activities wanted | |
| <input type="checkbox"/> Too far to travel | |
| <input type="checkbox"/> Too expensive | |
| <input type="checkbox"/> Physical impairment | |
| <input type="checkbox"/> Not interested | |
| <input type="checkbox"/> Other, please specify: | |

5. Please rank the following seven items in order of importance as they relate to your quality of life (with 1 being the most important and 7 the least important).

- Education
- Employment opportunities
- Healthcare
- Housing
- Recreation opportunities
- Shopping opportunities
- Safety



6. In what year were you born? 19

7. Which of the following BEST describes your current employment status?

- Full time employed
- Part time employed
- Student, and also employed
- Student, and not employed
- Homemaker
- Retired or disabled
- Not currently employed or student

8. Which of the following best describes your marital status?

- Single
- Married
- Living with a life partner
- Divorced
- Separated
- Widowed

9. Including you, how many adults and children live in your household?

people in household

10. Which ONE of the following describes BEST your race?

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or other Pacific islander
- White, Hispanic
- White, not Hispanic

11. What is your zip code?

12. Are you:

- Male
- Female

13. What was your total household income before taxes in 2007?

- Less than \$15,000
- \$15,000 to \$25,000
- \$25,000 to \$50,000
- \$50,000 to \$75,000
- \$75,000 to \$100,000
- \$100,000 to \$150,000
- Over \$150,000
- Don't know / Not sure

14. What would you say are the top three issues or concerns for outdoor recreation in Wyoming? List these in order of importance.

1. _____
2. _____
3. _____

Thank you for participating in our survey! Please mail your completed questionnaire in the envelope provided to:
University of Wyoming, Dept. 3925, 1000 E. University Avenue, Laramie, WY 82071

APPENDIX C. PROVIDER SURVEY

Wyoming Statewide Recreational Facilities Inventory Current Facilities and Future Facility Needs

This is a survey of local government recreation departments, mayor's offices, and other local recreation providers around the state as part of the Statewide Outdoor Recreation Plan (SCORP) process.

This information will be used as part of the data needed for development of the 2008 Wyoming SCORP. The SCORP identifies recreation issues and needs at the state and local levels and guides the allocation of federal Land and Water Conservation Funds (LWCF) through the Division of State Parks, Historic Sites, and Trails (SPHST).

Please review the questions. We will be calling you in the next two weeks to record your responses.

1) Responding Agency: _____

2) Location: _____

3) Contact Name: _____

4) County: _____

5) Zip Code: _____

6) Size and type of existing community recreation center(s) buildings).

Type

Size (sq ft)

Existing facility comments:

Facility 1

Facility 2

Facility 3

Facility 4

7) If your community expanded existing center(s)/building(s), what type of programs would you expand and by how much?

Type

Size (sq ft)

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

8) Rank the following issues as they relate to your recreation program (1 is most important 9 is least important).

Issue

Rank (1-9)

Additional Facilities _____

Additional Personnel _____

Community Awareness _____

Community Support _____

Land Acquisition _____

Maintenance Funding _____

Program Expansion _____

Restoration of Existing Facilities _____
 Trails and Greenways _____
 Other _____
 List _____
 Other _____
 List _____

- 9) Please list the number and acres/miles (if appropriate) of existing facilities in your jurisdiction and rate the condition.
- 10) Please list the number and acres/miles (if appropriate) of facilities that will be added in the next 5 years (funding in place).
- 11) Please list the number and acres/miles (if appropriate) of facilities that you would like to add in the next 5 years (if funding becomes available).

| | 9) Existing Facilities | | | | 10) Facilities to be added in next 5 years-Funding is/ will be available | 11) Facilities we would add in next 5 years- If funding became available |
|---|---|-----------|------|------|--|--|
| | Number and acres/miles (if appropriate) | Condition | | | Number and acres/miles (if appropriate) | Number and acres/miles (if appropriate) |
| | | Good | Fair | Poor | | |
| Baseball Fields | | | | | | |
| Batting Cages | | | | | | |
| Softball Fields | | | | | | |
| Football Fields | | | | | | |
| Soccer Fields | | | | | | |
| Golf Courses 9-Hole | | | | | | |
| Golf Courses 18-Hole | | | | | | |
| Miniature Golf | | | | | | |
| Disk/Frisbee Golf | | | | | | |
| Outdoor Basketball Courts | | | | | | |
| Outdoor Volleyball Courts | | | | | | |
| Tennis Courts | | | | | | |
| Horseshoe Pits | | | | | | |
| Swimming Pools - Indoor | | | | | | |
| Swimming Pools - Outdoor | | | | | | |
| Spray Parks | | | | | | |
| Swimming Beaches | | | | | | |
| Parks - Developed | | | | | | |
| Parks - Not Developed | | | | | | |
| One-Piece Play Equipment Structures | | | | | | |
| Lakes/Ponds # (acres) | | | | | | |
| Camp Sites - Tent | | | | | | |
| Camp Sites - Motor homes, Trailers, RVs | | | | | | |

Appendices

| | | | | | | |
|--|--|--|--|--|--|--|
| Fishing Piers | | | | | | |
| Boat Ramps-Developed | | | | | | |
| Whitewater Parks | | | | | | |
| Outdoor Education Facility (nature/interpretive center, botanical gardens) | | | | | | |
| Bicycle Paths/Trails # (miles) | | | | | | |
| Horseback Trails # (miles) | | | | | | |
| Hiking/Jogging/Walking/ Nature Paths/Trails # (miles) | | | | | | |
| Green Space # (acres) | | | | | | |
| Cross Country Ski Trails # (miles) | | | | | | |
| Snowmobile Trails – Groomed # (miles) | | | | | | |
| Snowmobile Trails – Not Groomed # (miles) | | | | | | |
| Picnic Sites | | | | | | |
| Rodeo Arena | | | | | | |
| Shooting/Archery Ranges | | | | | | |
| Paintball Facilities | | | | | | |
| Sporting Arenas/Stadiums | | | | | | |
| Ice Rink - Indoor | | | | | | |
| Ice Rink – Outdoor | | | | | | |
| Skateboard Park | | | | | | |
| BMX Park | | | | | | |
| Dog Park | | | | | | |
| Remote Control Park | | | | | | |
| Auto Race Tracks | | | | | | |
| Other | | | | | | |
| Other | | | | | | |

12) State your level of agreement or disagreement with the following statements
(1-Strongly agree, 2- Agree, 3-Neutral, 4-Disagree, 5-Strongly disagree)

| | | | | | |
|---|---|---|---|---|---|
| There is greater demand for public organized activities in our community than individualized non-structured activities. | 1 | 2 | 3 | 4 | 5 |
| User fees should cover the direct cost of high maintenance recreation facilities. | 1 | 2 | 3 | 4 | 5 |
| Basic opportunities at public parks and open space areas, such as walking and picnicking, should be provided by general tax dollars without additional user fees. | 1 | 2 | 3 | 4 | 5 |
| Most citizens in my community believe recreation is important to the community's quality of life | 1 | 2 | 3 | 4 | 5 |
| The elected officials in my community believe recreation is a high priority for the community's quality of life | 1 | 2 | 3 | 4 | 5 |
| Open space, parks and recreational opportunities over the last ten years have enhanced my community's chances for economic development. | 1 | 2 | 3 | 4 | 5 |
| Outdoor recreation in my community should be a joint partnership between local government, business leaders and private interests. | 1 | 2 | 3 | 4 | 5 |

- 13) a) What are your community's estimated outdoor recreation facilities maintenance/repair needs for the next 5 years? \$_____
- b) What are your community's new park construction funding needs for the next 5 years? \$_____
- c) What are your community's estimated path/trail/green space funding needs for the next 5 years? \$_____

14) Please identify recreation related issues that have occurred in your community in the last two years (list top three):

15) What direction would you like to see the Land and Water Conservation Fund Take?

16) General comments:

Thank you for your assistance in completing this inventory and survey. Results will be summarized in the 2008 SCORP which will be distributed to all of the recreation directors in the state upon completion.

APPENDIX D. WETLANDS COMPONENT: WETLANDS ASSESSMENT THRESHOLD AND RANKING CRITERIA

INSTRUCTIONS: Complete the following pages to determine whether a wetland site qualifies for acquisition consideration. Use the attached guidance for estimating wetland functions and values, losses and threats thresholds. Complete all questions and statements.

1. WETLANDS PROFILE:

- a. Wetland Site Name: _____
- b. Wetland Management Area: _____
- c. USGS 1:24,000 Map Quadrangle Name: _____
- d. Township: _____ Range: _____ Section: _____
- e. UTM Zone: _____ E _____ N _____
- f. City: _____ County: _____
- g. Size: _____ (acres) Date of assessment: _____
- h. Ownership: _____
- i. Assessment completed by: _____

2. WETLAND FUNCTIONS AND VALUES:

Check all that apply. Must check at least two to meet threshold.

- _____ a. Wildlife
- _____ b. Sport Fisheries
- _____ c. Surface and Ground Water Quality and Quantity and Flood Control.
- _____ d. Outdoor Recreation
- _____ e. Other Areas or Concerns.

FACTOR A - Wetland functions and values [33%] = _____.

3. WETLAND/HABITAT LOSS PRIORITY:

(Circle one) 1 2 3 4 5

Must be priority level 1, 2 or 3 to meet threshold.

FACTOR B - Wetland loss [33%] = _____.

4. HABITAT QUALITY/WETLAND THREATS:

Must be circled "yes" to meet threshold.

YES NO

FACTOR C - Habitat quality/wetland threat [33%] = _____.

5. CONCLUSION

(Any government land receives a no. Answer yes and no if broad area with both public and private land.)

_____ Yes, wetland site meets all threshold criteria and qualifies for acquisition consideration under the NWPCP.

_____ No, wetland site does not meet all threshold criteria and therefore does not qualify for acquisition consideration under provisions of the NWPCP.

6. MAP OF WETLAND SITE:

_____ Yes. A 1:24,000 scale quad, 8 1/2 X 11 copy, is attached with delineation of wetland site and supportive information.

7. TOTAL SCORE

(Factors A+B+C) _____.

GUIDANCE FOR ESTIMATING WETLAND VALUES, LOSSES, AND THREATS THRESHOLDS

Each question used for factor ranking can have only one answer.

1. WETLAND PROFILE

Complete item (a) through (i) to give a name and description to each wetland site.

A wetland site is an identifiable property, tract, area, or region containing wetlands or a complex (aggregation) of physically- or functionally-related wetlands. A wetland site may contain a variety of wetland types, interspersed habitat of other types and associated upland buffer areas. The boundary of the site should be specific and as geographically restricted as practical. Regardless of size, a wetland site should be treated in terms of a unit, which would generally fit the acquisition/protection/enhancement goals, process and needs of the user.

2. WETLAND FUNCTIONS AND VALUES

It is assumed that virtually all wetlands provide important public benefits in several functions and values categories. Many wetlands, however, have been recognized, identified and/or listed as having certain of these functions and values. In order to lead to greater objectivity and provide a technique for use by

persons of many disciplines, this wetlands assessment method relies on documented data or information rather than allowing for interpretation by users across many disciplines.

Indicate all functions and values, which can be attributed to the wetland site. If any of the statements within a category (wildlife, fisheries, water supply/quality, flood and erosion protection, outdoor recreation and other areas or concerns) is affirmative, check that category on the cover sheet, under item 2.

A. Wildlife (*endangered and threatened species, migratory birds and resident species*)

1. Y N Are federal or state threatened or endangered plants or animals known to use the wetland site on a regular basis?

If yes, list species names: _____

Rank:

- _____ No (0 points)
_____ State Listed (2 points)
_____ State and Federal Listed (4 points)

2. Y N Have any wildlife resources of the wetland site been recognized, identified, or listed by a federal or state agency, conservation organization, institution (educational or research) or private group due to specific legislation, designations or management or planning documents (e.g., high wildlife value, declining populations/numbers, edge of range, Audubon Blue List, Lists(s) or species of special concern or emphasis)?

If yes, list recognition: _____

Rank:

- _____ No recognition (0 points)
_____ State or private recognition (2 points)
_____ State or private and federal or national recognition 4 points)

3. Y N Has the wetland site been specially designated, or is it part of a region specially designated, by a Federal or State agency or private group as important for migratory birds or resident wildlife (e.g., referenced in the North American Waterfowl Management Plan, State Waterfowl Management Plan, Joint Venture Plan or on a list maintained by The Nature Conservancy)?

If yes, list designation: _____

Rank:

- _____ No designation (0 points)
_____ Private designation (2 points)
_____ State or federal designation (4 points)

B. Sport Fisheries

1. Y N Does sport fishing occur on the site?
If so, name the fishery: _____

Rank:

- _____ No (0 points)
_____ Sport catch (2 points)
_____ Sport catch and production (4 points)

2. Y N Does the wetland site have fishery resource value(s) (e.g., spawning, nursery, juvenile or foraging habitat) that is recognized, identified or listed by a Federal or State agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents?
If so, name recognition: _____

Rank:

- _____ Not recognized or listed (0 points)
_____ Recognized or listed by private group or conservation organization (2 points)
_____ State or Federal recognition or listing (4 points)

C. Surface and Ground Water Quality and Quantity and Flood Control

1. Y N Are the groundwater recharge and/or discharge (water supply) functions of the wetland site recognized, identified or listed by a Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., sole source aquifer, municipal water supply)?
If so, name recognition: _____

Rank:

- _____ No recognition of functions (0 points)
_____ Recognition or identification of functions by private group or conservation organization (2 points)
_____ State or Federal recognition or identification of functions (4 points)

2. Y N Are the water quality functions (e.g., nutrient assimilation, sediment trapping, toxic substance uptake and transformation) of the wetland site recognized, identified or listed by a Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., presence of a downstream dredged channel or reservoir which requires periodic dredging, eutrophic waterbodies downstream, low dissolved oxygen problems, fish kills)?
If so, name the recognition: _____

| | | | |
|-----------------------|------|---------|-------|
| Rank: | None | Medium* | High |
| Nutrient Assimilation | 0 | 2/3 | 1 1/3 |

Appendices

| | | | |
|------------------------|---|-----|-------|
| Sediment Trapping | 0 | 2/3 | 1 1/3 |
| Toxic Substance Uptake | 0 | 2/3 | 1 1/3 |

**Consistent with major purposes. Significant levels may disqualify area from consideration. Maximum total score is 4 points, 1 1/3 points for each function.*

Question score: _____

3. Y N Are the flood control, erosion and/or shoreline damage reduction functions of the wetland site recognized, identified or listed by a Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., flood control project, wetland site within the 100-year floodplain)?

If so, name recognition: _____

Rank:

_____ No recognition or listing (0 points)

_____ Local recognition, identification or listing (2 points)

_____ State or Federal recognition, identification or listing (4 points)

D. Outdoor Recreation

1. Y N Is there a recognized or documented demand for the recreational opportunities available in the wetland site?

If yes, explain: _____

Rank:

_____ No recognized or documented recreation demand (0 points)

_____ Local recreation demand (2 points)

_____ Regional recreation demand (4 points)

2. Y N Is the wetland site within 50 miles of a metropolitan area with a population greater than 10,000 or within 50 miles of a tourist area receiving more than 100,000 visitors per year?

If yes, name location: _____

Rank:

_____ No (0 points)

_____ Within 50 miles of a tourist area receiving more than 100,000 visitors per year (2 points)

_____ Within 50 miles of a metropolitan area with a population greater than 10,000 (4 points)

3. What type of public use is contemplated in the service's management of the area?

Rank:

_____ The area would be closed to the public (0 points)

_____ Non-consumptive use only (2 points)

_____ Both non-consumptive and consumptive use (i.e., taking of fish and/or wildlife would be permitted) (4 points)

E. Other Areas or Concerns

1. Y N Does the wetland site have ecological or geological features consistently considered by regional scientists to be rare for wetlands in the region (e.g., warmwater springs, spring communities in various regions)?
If yes, name the feature: _____

Rank:
 No (0 points)
 Regionally unique ecological or geological feature (2 points)
 Nationally unique ecological or geological feature (4 points)

2. Y N Is the wetland site included in a national or statewide listing of historical or archaeological sites?
If yes, name the list: _____

Rank:
 No (0 points)
 State Listed (2 points)
 Federal Listed (4 points)

3. Y N Does the wetland site have other public values of concern to the state of Wyoming such as education, research, etc.?
If yes, name and document: _____

Rank:
 None (0 points)
 Some public values (2 points)
 Numerous public values recognized (4 points)

FACTOR A TOTAL POINTS / 56 X 33.33 = _____



WATER REGIME MODIFIERS

| | |
|---------------------------|--------------------------|
| A-Temporarily Flooded | G-Intermittently Exposed |
| B-Saturated | H-Permanently Flooded |
| C-Seasonally Flooded | J-Intermittently Flooded |
| F-Semipermanently Flooded | P-Artificially Flooded |

Wetland losses by type. Determine whether the wetland types identified above are decreasing, stable or increasing. Apply to the formula and priority table on the next page.

If supportable information is available to substantiate trends for various wetland types other than that shown by the NWI trends study, this information may be used to support departures from the trends groupings presented below.

Explain: _____

In the absence of more reliable data, the following conclusions based on Frayer et al. (1983) may be used:

Decreasing: Palustrine emergent
 Palustrine forested
 Palustrine scrub-shrub

Stable: Riverine

Increasing: Palustrine open water
 Palustrine unconsolidated shore
 Palustrine non-vegetated
 Lacustrine

| | |
|--------------------------|-----------------------------|
| Decreasing wetland types | _____ % of site X 3 = _____ |
| Stable wetland types | _____ % of site X 3 = _____ |
| Increasing wetland types | _____ % of site X 3 = _____ |
| Uplands | _____ % of site X 3 = _____ |
| Total | _____ |

a. Priority 5 (0-139)
 b. Priority 4 (140-179)
 c. Priority 3 (180-219)
 d. Priority 2 (220-259)
 e. Priority 1 (260-300)

WETLAND LOSS PRIORITY = _____

Rank:
 FACTOR B=[((%DECREASINGx2)+(%STABLEx2)+(%OTHER-100))/200] x 33.33 = _____

4. HABITAT QUALITY/WETLAND THREATS

FACTOR C: WETLAND THREAT [33.3%]

Threat is defined as the likelihood that a wetland site, or portion thereof, will be destroyed or degraded, directly or indirectly, through human actions.

In establishing the threat threshold, a wetland site is considered to be threatened if an estimated > 10 percent of the site's wetland functions and values are likely to be destroyed or adversely affected through direct, indirect, or cumulative impacts over the next five years considering:

1. the array of potential wetland threats; and
2. the probable degree of protection provided by the various relevant laws, ordinances and regulations.

At a minimum, the following items should be considered when evaluating wetland threat (indicate activities that either destroy or degrade wetlands at the site):

- a. _____ Agricultural conversion or use
- b. _____ Irrigation system conversion
- c. _____ Livestock grazing
- d. _____ Drainage or filling
- e. _____ Groundwater withdrawal/depletion
- f. _____ Loss of instream flows
- g. _____ Stream channelization
- h. _____ Water development project(s)
- i. _____ Water pollution
- j. _____ Oil, gas, mineral development
- k. _____ Power plants
- l. _____ Residential or commercial development
- m. _____ Transportation (roads and bridges)
- n. _____ Camping and other recreational use
- o. _____ Recreational vehicle use
- p. _____ Disturbance
- q. _____ Other, (e.g., timber or vegetation removal, mosquito control practices, diverse ownership with no individual commitment to protection): _____

Indicate all laws, ordinances or programs that have some degree of wetland protection potential for this site:

- a. _____ Clean Water Act (Corps section 404 regulatory program)
- b. _____ River and Harbor Act (Corps section 10 regulatory program)
- c. _____ Endangered Species Act
- d. _____ Water Resources Development Act of 1986
- e. _____ Food Security Act of 1985
- f. _____ Local zoning or ordinances (e.g., local wetland or floodplain zoning)
- g. _____ State ordinances or authorities (e.g., State wetland protection laws, State permit program for activities in wetlands)

- h. _____ Inland Wetlands Protection Law
- i. _____ Owner(s) favors protection
- j. _____ Other: _____

Considering the relative effectiveness of the combination of the above factors to protect the public values and services of the wetlands, is the wetland site threatened using the definition of threat?
 _____ YES _____ NO

If yes, explain type, degree and imminence of threat: _____

Rank:

PRINCIPAL THREAT: (Type of Physical Impact) _____
 Specific threat: _____
 Degree of Permanency:
 _____ Permanent _____ Semi-permanent _____ Temporary
 Expected Timeframe: _____ < 5 years _____ > 5 years
 Percent of Project affected: (increments of 10%) _____ %

SECONDARY THREAT: (Type of Physical Impact) _____
 Specific threat: _____
 Degree of Permanency:
 _____ Permanent _____ Semi-permanent _____ Temporary
 Expected Timeframe: _____ < 5 years _____ > 5 years
 Percent of Project affected: (increments of 10%) _____ %

FACTOR C=[((PRINCIPAL THREAT)+(SECONDARY THREAT))/24] x 33.33 = _____

Principal Threat = 10 for permanent 2,if time <5
 6 for semi-permanent + 0,if time >5 (%) /100
 Secondary Threat = 2 for temporary

5. CONCLUSION

To qualify for acquisition consideration under the provisions of the National Wetlands Priority Conservation Plan, a wetland site must: 1) include predominantly (50 percent or greater) wetland types which are rare or declining in the ecoregion; 2) be threatened with loss and/or degradation; and 3) offer important values to society in two identifiable functional categories. References, literature citations, agency contacts and personal communications must be provided to support the assessment and conclusions made in the cover sheet.

6. MAP OF WETLAND SITE

Reproduce and submit a USGS quadrangle map, National Wetlands Inventory Map or other appropriate map delineating the wetland site, its principal features where appropriate (e.g., bald eagle nest sites) and other relevant features of the assessment area where appropriate (e.g., downstream municipal water supply or public access point).

Wyoming Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2009 - 2013

Governor

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