

South Dakota

Statewide Comprehensive Outdoor Recreation Plan



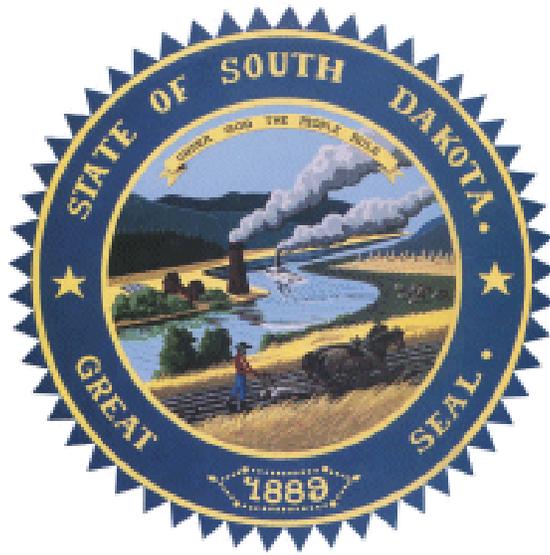
Department of Game, Fish and Parks
Division of Parks and Recreation

2013

South Dakota

Statewide Comprehensive Outdoor Recreation Plan

2013



Dennis Daugaard
Governor

Jeff Vonk
Secretary
Department of Game, Fish and Parks

Douglas Hofer
Director
Division of Parks and Recreation



STATE OF SOUTH DAKOTA
DENNIS DAUGAARD, GOVERNOR

June 20, 2013

Michael Reynolds, Regional Director
National Park Service
Midwest Regional Office
601 Riverfront Drive
Omaha, NE 68102

Dear Mr. Reynolds,

I am pleased to present the 2013 Statewide Outdoor Recreation Plan (SCORP) for South Dakota. As an integral part of our lives in both work and play, South Dakota's outdoors shape and define us as a people.

Public participation and support are central to efforts like outdoor recreation planning. This SCORP is part of a larger platform to invite, collect, and consider as much public comment as possible. The Department of Game, Fish, and Parks is not only a natural resource agency, but a public service agency. Earlier this year, the Division of Parks and Recreation received the South Dakota Great Service Award from the Department of Tourism as a testament to the state's commitment to public service.

While the last five years have been challenging due to natural disasters and economic uncertainty, South Dakota's parks and open spaces remain strong and in a position to continue our legacy of great service. These parks and programs will continue to be critical to address health, nutrition, and developmental needs in our population. Collaboration between health organizations and our outdoor recreation industry will continue to provide healthy choices for body, mind, and spirit.

Sincerely,

Dennis Daugaard

DD:kh

Acknowledgements

This report was made possible through the contributions of the following persons. A special thanks goes to the South Dakota Department of Health for their ongoing support and cooperation for efforts that support health, awareness, and active lifestyles that utilize our outdoor recreation resources.

Al Nedved	Assistant Director, Division of Parks and Recreation
Paul Beckwith	Senior Park Planner, Division of Parks and Recreation
Randy Kittle	Land and Water Conservation Fund Program Coordinator
Emilie Miller	Program Manager - Division of Parks and Recreation – Chair of Healthy Kids Committee
Brooke Smith	Production Assistant, Division of Parks and Recreation
Linda Ahrendt	South Dakota Department of Health, Office of Chronic Disease Prevention and Health Promotion
Beth Davis	Consultant to the Department of Health
Tim Olson	Wetlands Habitat Biologist, Division of Wildlife

2013 SOUTH DAKOTA STATE COMPREHENSIVE OUTDOOR RECREATION PLAN

Table of Contents

INTRODUCTION	i-1
WHAT IS THE SOUTH DAKOTA STATE COMPREHENSIVE OUTDOOR RECREATION PLAN? ..	i-1
WHY IS OUTDOOR RECREATION IMPORTANT?	i-1
THE LAND AND WATER CONSERVATION FUND	i-2
PUBLIC INVOLVEMENT	i-3
CHAPTER 1 SOUTH DAKOTA OVERVIEW	1-1
THE PEOPLE OF SOUTH DAKOTA	1-2
THE INDUSTRY OF SOUTH DAKOTA	1-6
THE LAND OF SOUTH DAKOTA	1-8
OUTDOOR RECREATION PROVIDERS	1-9
Federal Agencies	1-10
State Agencies	1-11
Tribal Governments	1-12
Municipal Governments	1-12
County Governments	1-12
Institutional Providers	1-12
Private Providers	1-12
OUTDOOR RECREATION PREFERENCES	1-13
CHAPTER 2 CHALLENGES = OPPORTUNITIES	2-1
<i>Challenge: Population shifts</i>	2-2
<i>Challenge: Elderly population</i>	2-2
<i>Challenge: Both parents working</i>	2-2
<i>Challenge: Low incomes</i>	2-3
<i>Challenge: High obesity rates</i>	2-4
<i>Challenge: Winters</i>	2-5
<i>Challenge: Focus on technology</i>	2-5
<i>Challenge: Fears of the outdoors</i>	2-6
CHAPTER 3 STRATEGIES – PARKS, PEOPLE AND PROGRAMS	3-1
Strategy #1 – Protect South Dakota’s natural resources on which outdoor recreation depends. This entails maintaining present park land and future acquisitions efficiently and with appropriate stewardship.	3-2
Strategy #2 – Provide and promote outdoor recreation opportunities for South Dakotans of all ages, throughout the seasons and be a compelling voice for action when it comes to making outdoor recreation a priority in people’s choices to improve their health and lifestyle.	3-3
Strategy #3 – Continue to research and analyze information about South Dakotan’s needs and demands for outdoor recreation. Methods of implementation will be based upon these ideas.	3-7
Strategy #4 Provide information on the risks and fears associated with outdoor recreation.	3-7
Strategy #5 Maximize the role of parks and recreation in helping people achieve healthy lifestyles.	3-8
Summary of Priorities ranked HIGH for local and state L&WCF projects	3-8
CHAPTER 4 SOUTH DAKOTA WETLANDS COMPONENT	4-1
INTRODUCTION	4-2
PURPOSE AND SCOPE	4-3
AUTHORITY	4-3
COORDINATION AND CONSULTATION	4-3
ASSESSMENT	4-3
Inventory	4-3
Wetland Threats	4-5
Wetlands Functions and Values	4-7
Protection Strategies	4-9
Wetlands Assessment Criteria	4-11
IMPLEMENTATION AND GUIDANCE	4-12

Introduction

WHAT IS THE SOUTH DAKOTA STATE COMPREHENSIVE OUTDOOR RECREATION PLAN?

The 2013-2018 South Dakota Statewide Comprehensive Outdoor Recreation Plan (SCORP) serves as an update to the 2008 SCORP and examines how to best meet the needs of our citizens to provide quality, accessible outdoor recreational facilities in our state. This SCORP takes a look at the most recent trends, data, opinions, and collaborations. The State of South Dakota chooses to move forward, using sound decision-making in determining the direction.

Although this plan takes the form of a single document, the plan is actually a process that began in 1964. It was in this year that Congress passed the Land and Water Conservation Fund (L&WCF) Act. The Division of Parks and Recreation within the Department of Game, Fish and Parks is the state agency authorized to represent and act for the State in dealing with the Secretary of Interior for the purposes of LWCF in South Dakota. This act paved the way for a grants program that utilizes revenues from offshore oil and gas leases to provide matching funds to states and local communities for projects relating to outdoor recreation. Since 1964, South Dakota has utilized over 36 million dollars from the program to acquire and build parks and recreation areas. Generations of South Dakotans have used and benefited from L&WCF projects such as playgrounds, ball fields, swimming pools and picnic areas. Projects have been completed in every South Dakota county.

As a requirement of the program, each state is charged with developing a plan that evaluates the demand for and the supply of outdoor recreation resources in the State. The State of South Dakota has prepared a SCORP each year in 1965, 1967, 1971, 1975, 1987, 1992, 2002 and 2008. Each plan has taken an in-depth look at outdoor recreation in the state and made recommendations for meeting the demand for that particular period. Many projects have been built utilizing the resources outlined in the SCORP.

Perhaps the most important product of the plan is the opportunity it offers the Division of Parks and Recreation to evaluate the ever-changing climate of outdoor recreation in South Dakota. Industry, economics, resources, attitudes and values can change significantly over the course of a few years. Keeping a pulse on outdoor recreation is the key to providing effective use of our resources.

WHY IS OUTDOOR RECREATION IMPORTANT?

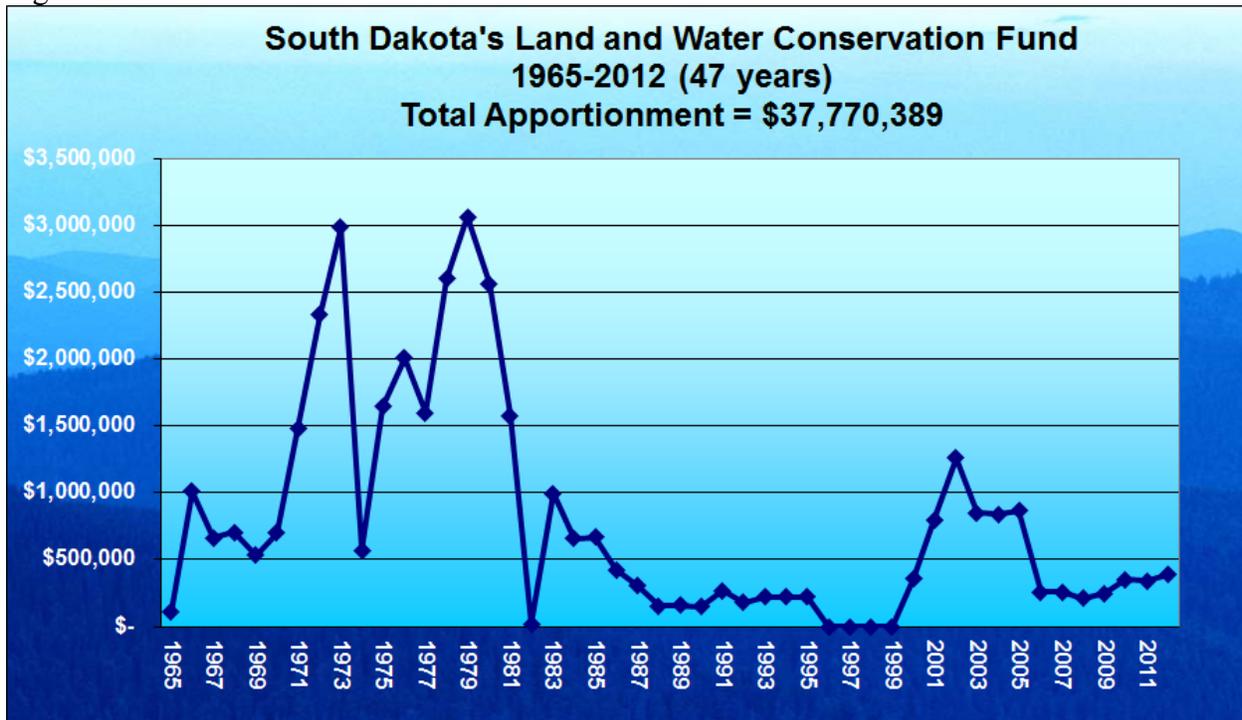
This is a question easily answered, but difficult to quantify. The many benefits of outdoor recreation often mean different things for different people. Some quick answers to the above question may include some obvious rewards such as fun, relaxation or exercise. However, it is becoming increasingly apparent that recreation has much more importance. Studies are showing that participation in outdoor recreation can improve the way we think, reason and socialize. Outdoor recreational facilities are now providing much needed services to help combat health problems associated with obesity and inactive lifestyles. Parks provide economic and environmental benefits, including places of solitude, reflection and education. Parks and recreation have become symbolic of American lifestyle.

All of these reasons contribute to the demand for parks, facilities and services.

THE LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund has a long and productive history of making outdoor recreational opportunities possible throughout the state and in cities big and small. Parks and projects funded through L&WCF have the unique reality of being dedicated to public recreation in perpetuity. However the program has reached a critical crossroads, due largely to erratic funding cycles. Figure I-1 shows South Dakota’s state-share apportionment from 1965-2012. In the 1970s and 1980s, L&WCF built the foundation of many outdoor recreational programs and facilities in South Dakota.

Figure I - 1



Seventy-two percent of South Dakota’s total apportionment came in the first 18 years of the program (1965-1983). Many of these projects built under the program during this time frame have reached or are approaching their normal useful life.

Playgrounds built during these periods are no longer considered adequate to meet modern safety standards. Swimming pools are aging and deteriorating under the extremes of South Dakota weather. Hard-surfaced play courts are cracked and in need of renovation. These are just some examples of the issues public recreation providers face.

In 2012, South Dakota received \$385,952 for its state-side apportionment. To put this figure into perspective:

- Construction or renovation of one outdoor swimming pool under today’s standards will easily exceed one-two million dollars.

- Construction of a new comfort station in 2012 averaged \$200,000.

Due largely to the increasingly scarce funding combined with the effects of inflation, L&WCF's role in any comprehensive strategy to address the current and future needs related to outdoor recreation remains uncertain. This SCORP will address the key issues facing outdoor recreation in South Dakota and strategies that include, but not necessarily depend on the Land and Water Conservation Fund to implement.

In recent decades, participation in outdoor recreational activities have continued to diversify and increase. However, recent studies have shown some decline in participation in outdoor recreational activities, especially for children. This creates issues that cross over into other realms such as health care and social issues. Other studies suggest that obesity and health problems attributable to poor diet and inactive lifestyles are also on the increase, compelling the State of South Dakota to act in order to combat the phenomenon. The focal point of this effort has been the Healthy South Dakota program administered by the Department of Health. The South Dakota Department of Game, Fish and Parks has participated in this program and promotes South Dakota's parks as the state's largest wellness centers, providing accessible, affordable, and fun recreational opportunities.

PUBLIC INVOLVEMENT

The South Dakota Division of Parks and Recreation's mission states that it will accomplish its goals of providing diverse outdoor recreational opportunities through, among other things, "constructive communication with those we serve." Providing information about our services, facilities and initiatives is as equally important as acquiring input, ideas and concerns from active and potential park users. The Division of Parks and Recreation takes very seriously the public's role in providing input into the planning, policy and decision making process, and strives to provide convenient methods for people to provide input at all times. Some methods of these communication strategies include the following.

The Division of Parks and Recreation

- Park surveys – Surveys are often conducted to gather input and preferences of our park visitors in order to effectively respond to their needs. In 2012, the Division of Parks and Recreation initiated a wide-based internet survey that was delivered to over 80,000 persons by email. Over 5,000 persons responded, providing 1,629 comments and a multitude of data regarding participation, preferences and opinions about outdoor recreation in the state.
- Comment cards – An extensive, statewide comment card system is in place that allows park visitors to submit a ranking of their experience at a state park or recreation area and provide comments, complaints, or suggestions.
- In 2013, the Division of Parks and Recreation and the University of South Dakota are gathering data to produce an economic impact study of the Division of Parks and Recreation to determine the financial contributions that state parks have to our economy.
- Website and email – Persons can submit their comments via the web.
- Press releases, PSAs, and media coverage are utilized for all park activities, special events, and initiatives.
- *Conservation Digest* – the Department's official magazine.

- *Park Times* and *Tatanka* – The Division of Parks and Recreation’s main source of information for park visitors.
- Trade shows – Attendance at major regional sports and trade shows allow face-to-face communication with visitors.
- Public meetings – Public meeting are held to encourage local input and participation in localized events and initiatives.
- Social Media – The Division has provided Facebook and Twitter accounts both at the state level, and individual parks.
- Involvement and representation with other local, statewide, and national organizations such as local Chamber of Commerce, Tourism Associations, the Black Hills Forest Advisory Board, South Dakota Snowmobile Association, National Association of State Park Directors, National Association of Recreation Resource Planners Association, etc.

The South Dakota Parks and Recreation Association

- Annual conference – The conference is one of the best mechanisms for recreation providers across the state to exchange ideas and create dialogue. In 2013, the Midwestern Region of NRPA Conference was held in Deadwood.
- During the 2012 conference in Huron, many panel discussions and sessions were held regarding recreation and health issues in cooperation with partners.
- Newsletters, website, etc.

The Game, Fish and Parks Commission

- Appointed citizens – The GF&P Commission is the authority that approves all local L&WCF project applications.
- Public hearings – The Game, Fish and Parks Commission meets ten times per year, at various locations around the state. At every meeting the public is provided opportunity to testify on rule proposals or offer comments on other issues and initiatives in an open forum.

Many other sources of information provided input to the development of this SCORP. Surveys, such as the Office of Tourism’s Interstate Visitor Center Intercept Study, are conducted to seek input. The advantage to this form of information gathering is that the survey tools can be carefully drafted and the respondents can be targeted.

In March of 2010, the South Dakota Department of Health’s Healthy South Dakota Program released the second edition of the State Plan to continue addressing the problem of overweight and obesity in South Dakota. With assistance from its stakeholders the SD Department of Health updated and revised the previous State Plan document that spanned 2006-2010.

The objectives and strategies in the initial plan were implemented by many stakeholders statewide. The continued purpose of the plan is to comprehensively develop objectives and strategies to prevent obesity and other chronic diseases by addressing two closely related factors—poor nutrition and inadequate physical activity. The stakeholders met face-to-face on two occasions during the fall of 2009 to discuss and develop the objectives and strategies. The stakeholder’s analyzed available data sources and results from current objectives to determine the priority populations. The stakeholders decided to retain the five priority populations including parents and caregivers, schools and youth organizations, workplace, community, and health care.

The South Dakota Division of Parks and Recreation along with municipal park and recreation departments and the South Dakota Parks and Recreation Association have been active participants in the development and implementation of the original and current plan.

Additional partners involved in this planning and implementation process include:

The American Cancer Society	South Dakota AARP
American Heart Association	South Dakota Association for Health, Physical Education, Recreation and Dance
Avera McKennan Hospital	South Dakota Association of Healthcare Associations
Alliance for a Healthier Generation	South Dakota Bicycle Coalition
Boys and Girls Clubs Department of Education	South Dakota Breastfeeding Coalition
Dakota Rural Action	South Dakota Comprehensive Cancer Control
Department of Health, Department of Social Services and Education	South Dakota Dietetics Association
Girl Scouts	South Dakota Foundation for Medical Care
Great Plains Tribal Chairman's Health Board	South Dakota Municipal League
Indian Health Service	South Dakota Nurses Association
Midwest Dairy Council	South Dakota Nutrition Council
Rapid City Regional Hospital	South Dakota State Medical Association
Sanford School of Medicine at the University of South Dakota	South Dakota State University Cooperative Extension Service
Sanford Health Plan	South Dakota State University (Dietetics, Health Promotion, Nursing)
School Nutrition Association of South Dakota	University of South Dakota (Dietetics).
Sanford Health	YMCA

The 2013 SCORP has identified the following issues as key objectives for South Dakota.

- The period of 2008-2012 saw some of the greatest economic challenges in decades, both across the country and within the State of South Dakota. Budget shortfalls were common both at the state and local level in South Dakota. The State of South Dakota reduced general fund spending by 10% in 2010. However, with the presence of a strong agricultural and tourism economy and fiscal discipline in the state, South Dakota was able to “weather the storm” much better than some other states. Despite high gas prices and a slowly recovering national economy, South Dakota state parks had a record year in camping units and visitation in 2012. The demand for outdoor recreation in South Dakota is as strong as it has ever been.
- The increases and effects of obesity and other health-related conditions attributable to poor diet and inactive lifestyles. These issues are costly in terms of lives and health care costs.

Outdoor recreation has a role in providing places to experience the outdoors while participating in activities that increase the health and well being of our citizens.

- The decreases in certain types of unstructured outdoor play that is crucial for childhood cognitive development. In recent decades, the amount of time that children spend exploring the natural environment has been replaced by more time with technological interests such as TV, video games and computers. Also, participation in highly structured and supervised activities continues to increase at the expense of leisure time spent exploring, discovering, and pretend playing.

The 2012 SCORP also provides the following:

- An Overview of South Dakota and its people.
- Challenges and Opportunities for outdoor recreation in South Dakota.
- A Strategy Plan that will guide how the state will utilize its share of the L&WCF apportionment.
- An updated Wetlands Addendum.

The preparation of this plan was financed entirely through the South Dakota Division of Parks and Recreation.

Chapter One

South Dakota Overview



South Dakota became the 40th state in 1889. It would be difficult to determine how developed outdoor recreation got its start in South Dakota. Outdoor recreation has changed extensively over the years, though most of the driving forces behind it remain the same. The outdoors offers a perfect setting for exercise, relaxation, learning, self-reflection and socialization. As one travels across the state, it is apparent why South Dakota is often referred to as the “land of infinite variety.” However, this adage can apply to the people as well as the landscape. This chapter will give a brief overview of both.

THE PEOPLE OF SOUTH DAKOTA

According to the 2012 U.S. Census estimates, there are 833,354 people living in South Dakota. This is a 9.4 percent increase over the 2000 census and the most people that have ever lived in the state. For the first time in history, South Dakota is an urban state. In 2010 there were approximately 57% of South Dakota residents living urban areas or urban clusters and 352,933 people living in rural areas. Although trends show that rural non-farm residents are increasing, the number of persons living on rural open country farms is still on the decline.

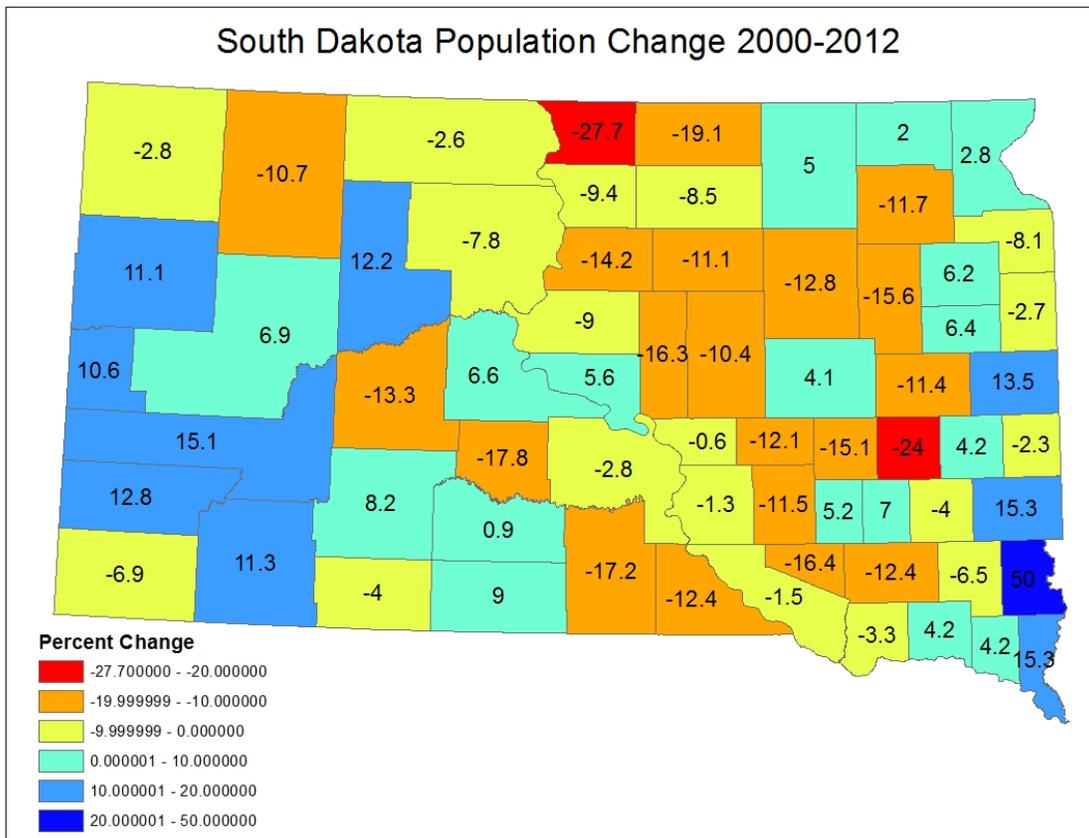
The major demographic trends facing South Dakota are:

1. Rural Depopulation – Those counties that have experienced population loss in South Dakota in the last twenty years will likely continue to lose population. The reasons for this are outmigration and low birth rates. Farming-dependent counties are particularly vulnerable, particularly those not adjacent to larger metropolitan areas.
2. Population Growth in Metropolitan Centers, Along the I-29 Corridor, and Among Counties with High American Indian Populations. Sioux Falls, Rapid City, and other larger metropolitan areas continue to attract migrants from rural counties. Most counties with at least 50% American Indian population are experiencing growth due to young populations and high fertility rates.
3. Out-Migration of Young Adults – Young adults, especially in the 20-34 age category are leaving many counties, mostly farming-dependent counties.
4. Increasing Elderly Populations – Out migration of youth leaves a higher percentage of elderly.
5. Declining Number of Farms – As net earnings grow, so does the size of farms.

Source: South Dakota State and County Profiles, South Dakota State University, College of Agriculture and Biological Sciences, May 2008.

Although population in the state has been increasing during recent decades, many areas of the state are experiencing population loss. Figure 1-1 shows which counties have experienced the greatest gains and losses from population change.

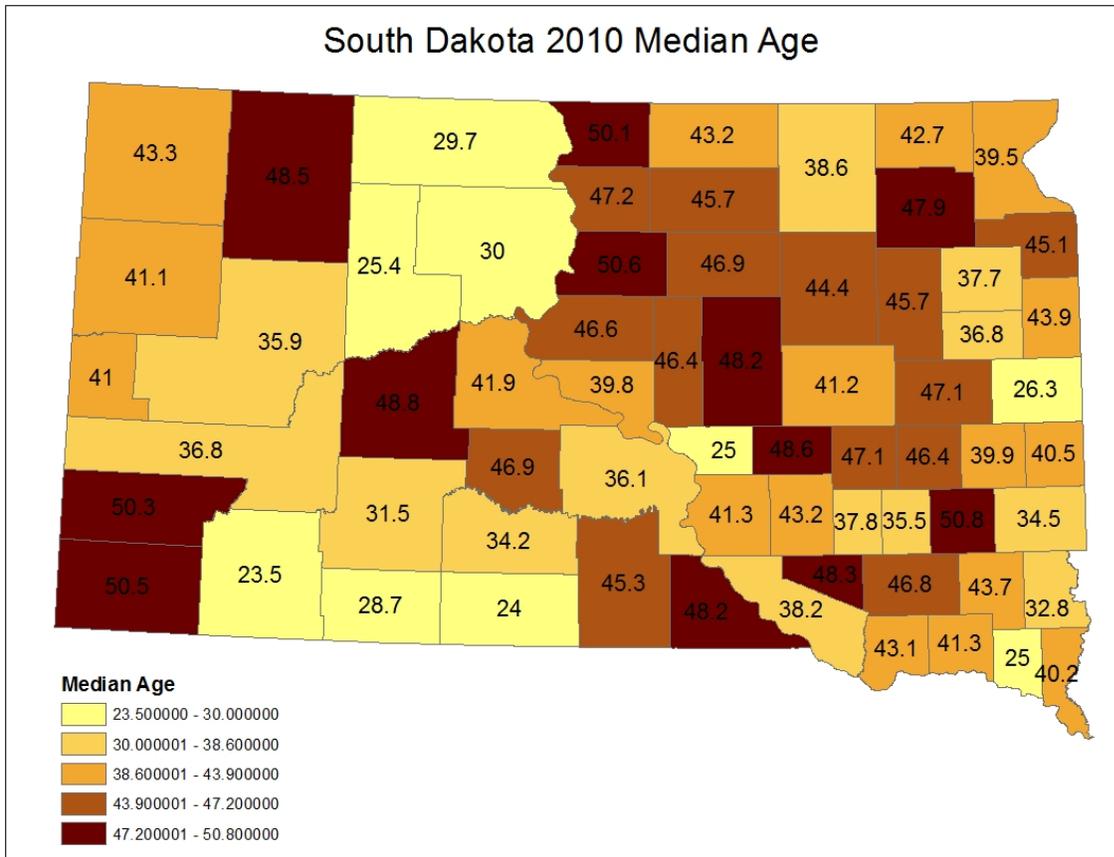
Figure 1 - 1



Source: U.S. Census Bureau – American Fact Finder

South Dakota is a diversified state when it comes to age structure. As seen in Figure 1-2 below, some of South Dakota’s youngest counties are those that are either associated with two of South Dakota’s largest universities (Brookings and Clay) or those that are within the boundaries of Tribal Reservations. Counties that are more urban are closer to the statewide median age, while largely rural counties have aging populations.

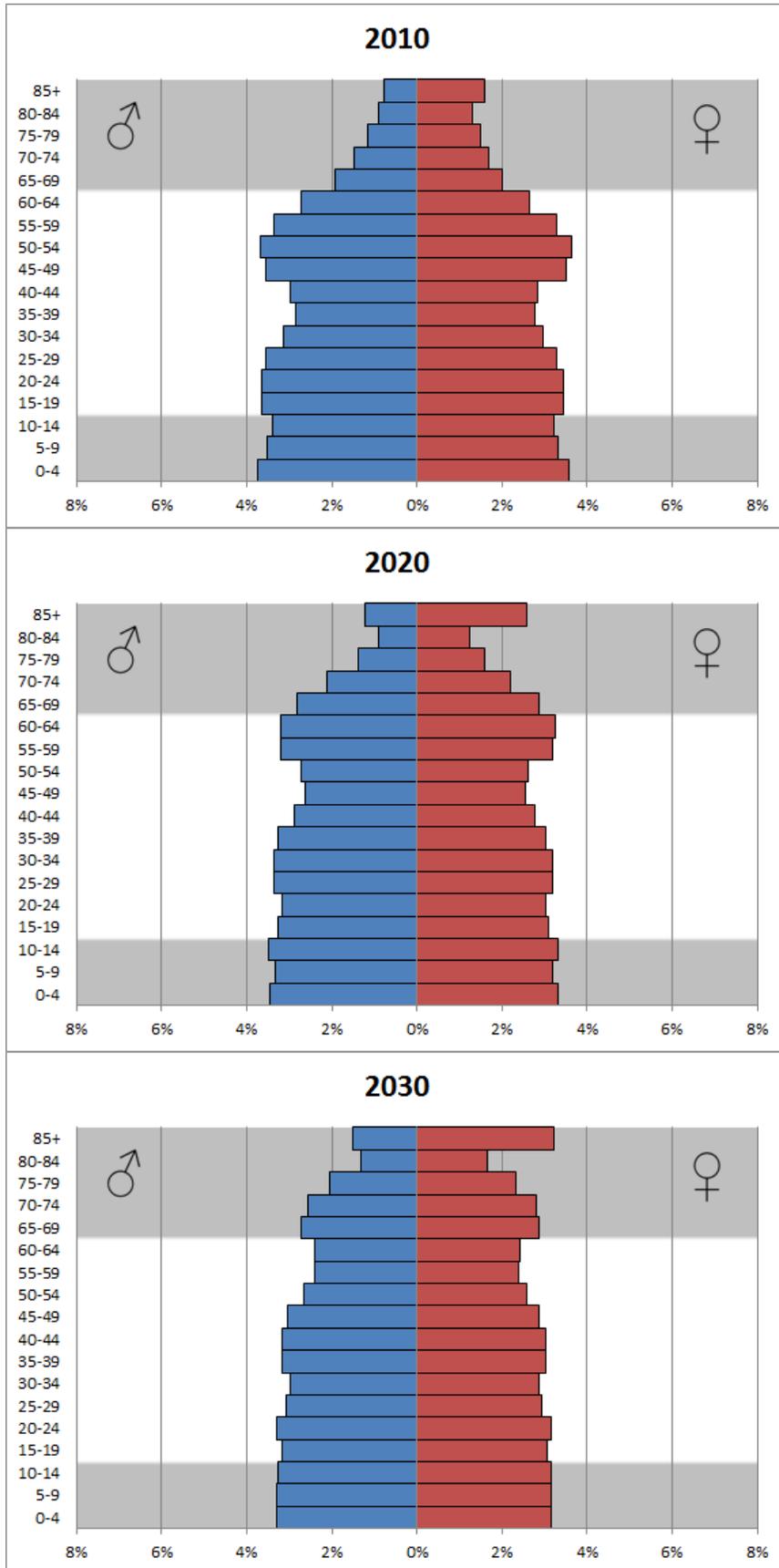
Figure 1-2



Source: U.S. Census Bureau – American Fact Finder

Projections from the South Dakota Rural Life and Census Data Center at South Dakota State University show that South Dakota will have a much larger percentage of persons age 65 and above in the next twenty years.

Figure 1-3



South Dakota ranks first in the nation for having two working parents. According to the U.S. Census data, 75.7 percent of children younger than six have two parents working. For children ages 6 to 12, 80.2 percent of families have both parents working. This presents challenges for parents trying to provide outdoor or other recreational activities for their children.

According to the 2010 Census, 13.8 percent of South Dakotans live below 100 percent of the federal poverty level (FPL) compared to 14.3 percent for the nation. While poverty levels for married couple families are relatively low (4.7-5.1%), the poverty levels for single parent households increases drastically. Thirty-nine percent of families with a female householder (no husband present) with related children under 18 are at or below the poverty level. This level increases to 53% for single parent female families with children under 5 years of age.

THE INDUSTRY OF SOUTH DAKOTA

South Dakota's major industries are agriculture, tourism and manufacturing. Major crops produced in the state include corn, oats, wheat, soybeans, sunflowers and hay. South Dakota also ranks high in the production of cattle and sheep.

Table 1-1 South Dakota's Gross Domestic Product by Industry 2007-2011 (in millions)

Industry	2007	2008	2009	2010	2011
All industry total	34885	37266	37040	38297	41667
Private industries	30653	32848	32368	33278	36560
Agriculture, forestry, fishing, and hunting	2698	3791	3305	3347	5211
Crop and animal production (Farms)	2553	3645	3153	3153	5004
Forestry, fishing, and related activities	145	146	152	194	207
Mining	79	102	87	110	117
Oil and gas extraction	21	29	19	21	22
Mining (except oil and gas)	54	68	67	86	91
Support activities for mining	4	6	2	3	4
Utilities	578	596	626	706	740
Construction	1366	1334	1352	1382	1397
Manufacturing	3522	3382	3102	3267	3631
Durable goods	2584	2497	2223	2219	2467
Wood product manufacturing	130	93	88	86	95
Nonmetallic mineral product manufacturing	90	77	75	86	104
Primary metal manufacturing	55	48	37	36	45
Fabricated metal product manufacturing	261	275	227	249	261
Machinery manufacturing	519	533	455	540	704
Computer and electronic product manufacturing	341	374	263	170	125
Electrical equipment, appliance, and component manf.	57	65	69	51	54
Motor vehicle, body, trailer, and parts manufacturing	136	113	39	96	151
Other transportation equipment manufacturing	24	24	23	20	18
Furniture and related product manufacturing	137	122	104	104	110
Miscellaneous manufacturing	835	774	843	780	802
Nondurable goods	937	885	879	1048	1164
Food and beverage and tobacco product manufacturing	335	351	365	515	548
Textile mills and textile product mills	19	24	25	29	23

Apparel and leather and allied product manufacturing	6	8	8	9	12
Paper manufacturing	64	61	73	61	59
Printing and related support activities	68	66	65	64	67
Petroleum and coal products manufacturing	38	42	29	32	35
Chemical manufacturing	309	224	219	250	321
Plastics and rubber products manufacturing	99	109	97	88	99
Wholesale trade	1999	2086	2087	2202	2363
Retail trade	2512	2456	2551	2679	2834
Transportation and warehousing	926	935	921	963	1003
Air transportation	19	19	20	25	26
Rail transportation	159	159	150	155	164
Water transportation	(L)	1	(L)	(L)	(L)
Truck transportation	519	506	503	519	536
Transit and ground passenger transportation	42	45	47	48	47
Pipeline transportation	14	19	19	17	20
Other transportation and support activities	141	153	146	160	168
Warehousing and storage	32	33	35	38	43
Information	920	877	860	938	1008
Publishing industries, except Internet	130	121	112	113	113
Motion picture and sound recording industries	29	24	22	21	20
Broadcasting and telecommunications	735	708	703	781	851
Information and data processing services	26	23	24	22	24
Finance and insurance	5980	6539	6499	6150	6253
Federal Reserve banks, credit intermediation and related	5177	5774	5641	5257	5330
Securities, commodity contracts, investments	75	63	81	83	87
Insurance carriers and related activities	720	686	769	797	822
Funds, trusts, and other financial vehicles	8	15	8	12	14
Real estate and rental and leasing	3024	3288	3353	3481	3566
Real estate	2820	3054	3119	3251	3335
Rental and leasing services and lessors of intangible	204	234	234	231	231
Professional, scientific, and technical services	966	1052	1030	1088	1153
Legal services	180	192	174	181	185
Computer systems design and related services	109	116	120	125	129
Other professional, scientific and technical services	677	744	736	782	838
Management of companies and enterprises	307	385	367	446	461
Administrative and waste management services	559	549	527	561	602
Administrative and support services	509	494	471	501	541
Waste management and remediation services	50	55	56	60	62
Educational services	216	237	255	267	275
Health care and social assistance	2869	3139	3322	3449	3593
Ambulatory health care services	1270	1380	1443	1503	1550
Hospitals and nursing and residential care facilities	1371	1515	1630	1681	1777
Social assistance	227	243	249	266	266
Arts, entertainment, and recreation	331	314	323	319	328
Performing arts, spectator sports, museums, and related	151	140	146	125	132
Amusement, gambling, and recreation	180	174	177	194	195
Accommodation and food services	978	971	957	1033	1101
Accommodation	367	352	299	340	368
Food services and drinking places	611	619	658	693	734
Other services, except government	824	818	845	889	923
Government	4232	4418	4671	5019	5107
Federal civilian	734	641	749	901	914

Federal military	524	570	619	653	659
State and local	2975	3207	3304	3465	3534
Natural resources and mining	2777	3893	3392	3457	5329
Trade	4512	4542	4638	4882	5198
Transportation and utilities	1504	1530	1546	1669	1743
Financial activities	9004	9826	9851	9631	9819
Professional and business services	1832	1985	1924	2094	2216
Education and health services	3084	3375	3578	3717	3868
Leisure and hospitality	1309	1285	1280	1352	1429
Information, Communication, and Technology (ICT)	605	635	518	430	390
Private goods-producing industries	7665	8610	7847	8106	10357
Private services-providing industries	22989	24238	24521	25172	26204

Source – Bureau of Economic Analysis Regional Data

Legend / Footnotes:

Note-- NAICS Industry detail is based on the 2002 North American Industry Classification System (NAICS).

(L) Less than \$500,000 in nominal or real GDP by state.

Last updated: June 5, 2012 - new estimates for 2011 and revised estimates for 1997 - 2010.

THE LAND OF SOUTH DAKOTA

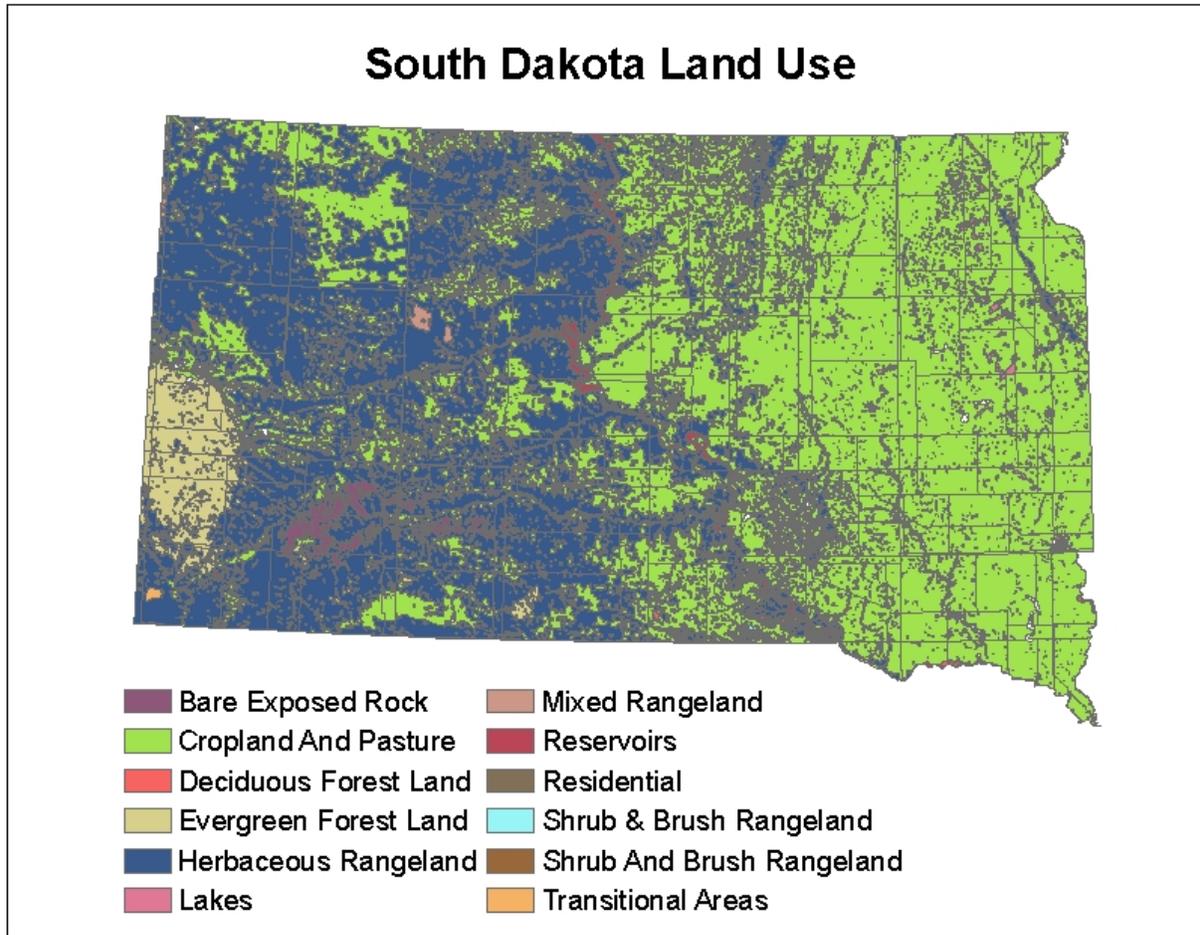
South Dakota contains 77,123 square miles, making it the 16th largest state. The average population density is 10.7 persons per square mile as compared to the national average of 87.4 persons per square mile for 2010.

The state is identified by several distinct geological regions. The Missouri River bisects the state into east and west regions. On the Missouri River are four main stem dams authorized by the Flood Control Act of 1944. These reservoirs total 470,000 acres of surface area and over 3,000 miles of shoreline.

The different land formations found on either side of the Missouri River have proven to be a driving factor of industry, economics and demographics of the state. Geologically speaking, the land east of the Missouri River is relatively new, being shaped by glaciers that melted as early as 10,000 years ago. It is gently rolling, has deep soils and enough precipitation to support many crops. The northeast portion of the state contains many prairie pothole wetlands and lakes left behind has the large remnants of the glacier began to disappear. These natural lakes provide many of the major recreation centers for the residents of this region.

Land west of the river is much older. Most of it was formed over 60 million years ago and consists of shale, limestone and sandstone beds. The topography is more divided, soils are thin and precipitation is limited. Lakes are only present where man-made dams and reservoirs were built. Towards the Wyoming border, the Black Hills rise from the surrounding prairie. These pine-covered hills and mountains began as a bulge in the earth's crust, eventually allowing the softer sedimentary rocks to erode. This exposed a bulls-eye pattern of formations and the granite core of the intrusion. Harney Peak, which rises 7,240 feet above sea level, is at the center of this pattern. (figure 1-2)

Figure 1- 4



OUTDOOR RECREATION PROVIDERS

The government’s role in outdoor recreation in South Dakota started taking shape shortly after the state was admitted into the union. It was during this time that leaders recognized the significance of our natural resources and the protection they needed in order to preserve them for future generations.

A number of public entities have a stake in outdoor recreation in South Dakota. Following are some of the main public agencies that provide recreation services. All state and federal public lands are inventoried and compiled in a comprehensive GIS database. The information is accessible at <http://gfp.sd.gov/images/WebMaps/Viewer/WILMA/>. Other data pertaining to recreation providers such as municipal facilities is maintained in a GIS database by the Division of Parks and Recreation.

Federal Agencies

The presence of the National Park Service in South Dakota began in 1903 when Wind Cave National Park was designated by President Theodore "Teddy" Roosevelt. Other national park units in South Dakota include Mt. Rushmore National Memorial, Jewel Cave National Monument, Badlands National Park, and the Minuteman Missile National Historic Site. Services offered at each of these parks vary, but all offer extensive interpretative facilities and programs along with some day-use activities such as picnicking, hiking/walking and sightseeing. Wind Cave National Park and Badlands National Park also offer overnight camping. Furthermore, the National Park Service manages sections of the lower Missouri River as part of the Wild and Scenic Rivers program. The National Park Service has also been a partner to the Lewis and Clark Bicentennial and Spirit Mound Historic Prairie projects.

The U.S. Fish and Wildlife Service manages seven wildlife refuges in South Dakota including Bear Butte NWR (easement), Karl E. Mundt NWR, Lacreek NWR, Lake Andes NWR, Pocasse NWR, Sand Lake NWR and Waubay NWR. Services and facilities at each of these refuges vary, but they are all managed for wildlife production and habitat. Some offer basic facilities such as wildlife viewing areas, trails, picnic areas and fishing areas. The U.S. Fish and Wildlife Service also provides waterfowl production areas which are open to public access.

The U.S. Army Corps of Engineers manages the four mainstem dams on the Missouri River in South Dakota. Over 63 recreation and lakeside use areas are associated with these projects. In 2002, federal legislation transferred these recreation areas to the State of South Dakota. Eight other sites were either retained by the Corps of Engineers or leased to tribal governments. The Corps of Engineers also manages Cottonwood Springs and Coldbrook Reservoirs in the southern Black Hills.

The U.S. Forest Service is the largest public landowner in South Dakota. The Black Hills National Forest is one of the most popular outdoor destinations in the region. The Black Hills National Forest offers a multitude of outdoor recreation facilities, including campgrounds, trails, picnic areas, scenic byways, swimming beaches, boat ramps and interpretive facilities. Custer National Forest offers some limited recreational facilities in the northwestern corner of the state. There are also three national grasslands administered by the Forest Service: Ft. Pierre NG, Grand River NG and Buffalo Gap NG.

The Bureau of Reclamation manages five large reservoirs in western South Dakota. Angostura, Shadehill and Belle Fourche reservoirs have recreation areas that are leased to the South Dakota Division of Parks and Recreation. The recreation areas on Pactola, and Deerfield reservoirs are operated by the Black Hills National Forest. These recreation areas provide excellent water-based recreation along with camping, trails and picnicking facilities.

The Bureau of Land Management (BLM) maintains the Ft. Meade Recreation Area in the northern Black Hills. Hiking, fishing, picnicking and interpretive facilities occupy this area that lies within the old Fort Meade military reservation. The BLM also manages land in western South Dakota for multiple use.

State Agencies

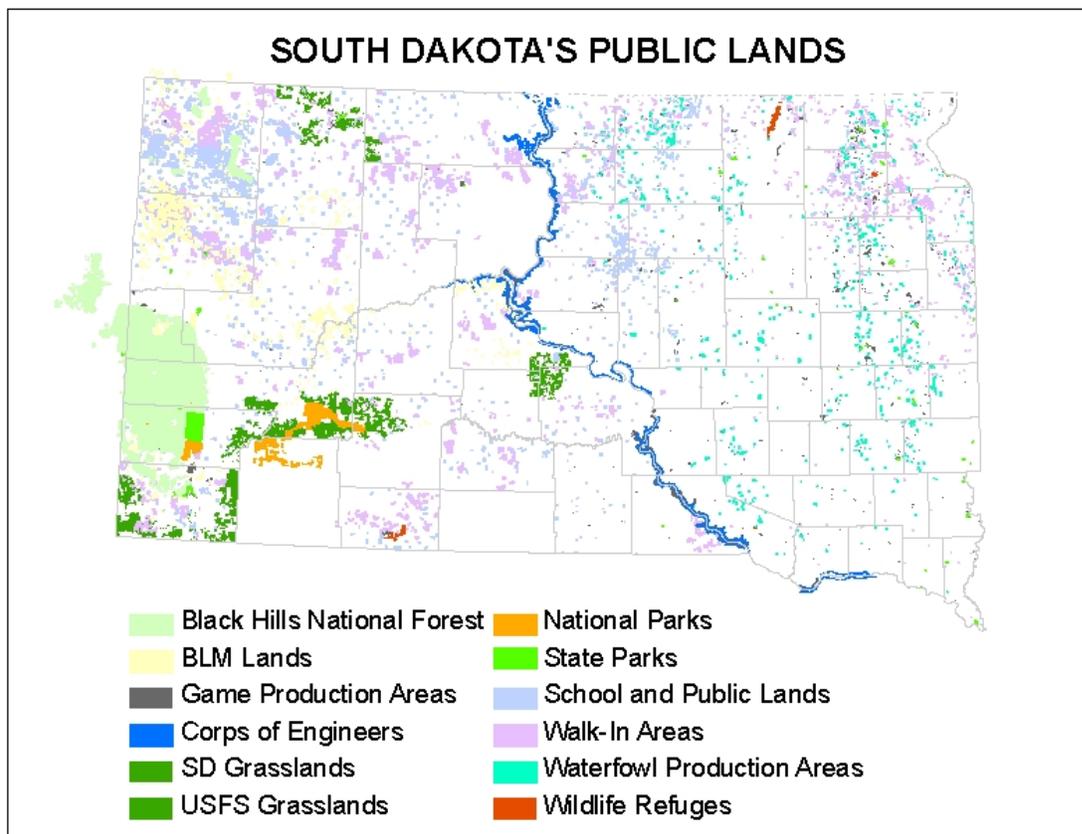
The South Dakota Division of Parks and Recreation manages 13 state parks, 43 recreation areas, 69 lakeside use areas, 6 nature areas, the George S. Mickelson Trail and 350 miles of snowmobile trails in the Black Hills. The land managed by the division totals over 103,000 acres. Custer State Park alone consists of 71,000 acres in the Black Hills.

Parks within the state system are classified according to the type of management objectives set for that particular unit. *State parks* are typically areas of natural, geological, historical or cultural significance where preservation and interpretation are main objectives for management. *Recreation areas* are usually more developed and offer a wide range of recreational opportunities. *Nature areas* are managed for little or no development. *Lakeside use areas* are normally small, water-based areas where access for boating and fishing is the primary objective.

The Division of Wildlife manages over 281,350 acres of land for wildlife production, public hunting and fishing access. Another 1,250,000 acres are currently leased from private landowners for hunting access. The division also manages interpretive and educational centers at the Outdoor Campus in Sioux Falls, the Outdoor Campus West in Rapid City and Cleghorn Fish Hatchery in Rapid City.

The South Dakota Office of School and Public Lands manages 750,000 acres of trust land to provide income to support public schools in South Dakota. Although these lands are open to the public, they are operated primarily under lease agreements.

Figure 1-5



Tribal Governments

There are nine Native American tribes in South Dakota, including the Cheyenne River Sioux Tribe, Crow Creek Sioux Tribe, Pine Ridge Sioux Tribe, Yankton Sioux Tribe, Rosebud Sioux Tribe, Lower Brule Sioux Tribe, Sisseton-Whapeton Sioux Tribe, Flandreau-Santee Sioux Tribe and the Standing Rock Sioux Tribe. Six of these tribes exist within established reservation boundaries. Some tribal governments offer parks and recreation facilities including campgrounds, ball fields, playgrounds and picnic areas. Some of the reservations are sparsely populated and remote.

Municipal Governments

There are 310 municipal governments in South Dakota. The South Dakota Municipal League categorizes cities into three groups based on population. There are 16 Class 1 cities with populations over 5,000, consisting of 50 percent of the state's population. There are 98 Class 2 cities with populations between 500 and 5,000. These cities make up 16 percent of the statewide population. Although there are 190 Class 3 cities with populations less than 500, this makes up only 4 percent of the state's total population by 2010 Census standards.

Most of South Dakota cities have some form of outdoor recreational facilities. However, the extent and quality of these facilities often depends on the size of the city. Larger cities provide a greater variety of facilities and services. Most cities have some basic facilities such as a playground, picnic area or softball field.

Cities play a vital role in outdoor recreation. They offer many of the services that people desire on a more frequent basis. City recreation programs also provide organized sports and fitness programs for children and adults.

County Governments

There are only four county governments that were identified as owning or managing outdoor recreational facilities. They are Minnehaha, Clay, Douglas and Codington counties. Most counties have the presence of federal, state or municipal recreational services. Tight budgets and other priorities make it difficult for counties to provide recreational services.

Institutional Providers

Many institutions such as schools and universities provide outdoor recreational facilities offer primarily for students or faculty, but are open to the public. This SCORP did not attempt to inventory or assess these facilities since the availability of these facilities is widely varied.

Private Providers

In this SCORP, we attempted to quantify to some extent the presence of certain private outdoor recreational services and facilities. This mostly focused on campgrounds and public golf courses. The presence of clubs and other organizations help support some of the other sports such as shooting sports and off-road driving. There have also been some increases in private outfitting for sports such as hunting, fishing, canoeing, kayaking and others.

OUTDOOR RECREATION PREFERENCES

In 2012, the Division of Parks and Recreation sent a survey to approximately 75,000 people who are part of the Department’s voluntary email and electronic distribution lists. The survey was also posted by several media outlets for the opportunity for the general public to participate in the 2012 Outdoor Recreation Survey. In all, 5,159 surveys were returned. It should be noted that this survey was not intended to be a statistical representation of South Dakotans. It was rather an effort to provide the maximum opportunity to participate in the process and provide a large number of responses that would allow analysis of certain trends and data across this specific dataset. While this data is provided in statistical format, it should be construed as a guide to the preferences that were provided by the respondents.

The first question was designed to gauge the relative frequency of participation in various outdoor recreational activities. Each frequency was ranked [#] in order of highest to lowest.

Table 1-2

How often did you or any members of your household participate in the following activities in South Dakota within the last 12 months? Mark ONE box per activity.

	1-5 times	6-15 times	15+	Never
Camping in a tent	[7] 30%	4%	1%	65%
Camping in a camper or motor home	[8] 29%	[5] 14%	5%	52%
Backpacking overnight	6%	0%	0%	[4] 93%
Picnicking in a picnic area	[2] 49%	10%	2%	39%
Launching a boat at a boat ramp	24%	[2] 20%	[3] 27%	29%
Canoeing or kayaking	15%	4%	2%	79%
Riding a personal watercraft	14%	5%	6%	75%
Sailing or sailboarding	2%	0%	0%	[1] 97%
Swimming at a beach	[4] 36%	[5] 14%	6%	44%
Swimming at a pool (indoor or outdoor)	[10] 25%	12%	10%	53%
Fishing	24%	[1] 22%	[1] 41%	13%
Hunting	24%	[1] 22%	[2] 39%	15%
Walking or jogging on a trail	[5] 35%	[3] 17%	[4] 15%	33%
Horseback riding on a trail	6%	2%	0%	[5] 92%
Bicycling on a paved trail	20%	9%	7%	64%
Mountain-biking on a trail	11%	3%	3%	83%
Cross-country skiing on a trail	4%	0%	0%	[3] 95%
Down-hill skiing	9%	1%	1%	[8] 89%
Sledding or snowboarding	18%	3%	2%	77%
Snowshoeing	7%	1%	1%	[6] 91%
Ice Skating	10%	1%	1%	[9] 88%
Ice Hockey	2%	0%	2%	[2] 96%
Snowmobiling on East River Trails	5%	1%	1%	[4] 93%
Snowmobiling in the Black Hills	9%	2%	1%	[9] 88%
Riding an ATV other than at home	20%	8%	6%	66%
Visiting historic sites	[1] 57%	11%	3%	29%
Attending outdoor festivals	[3] 48%	6%	2%	44%
Attending a pow-wow	7%	0%	0%	[4] 93%
Playing at a playground	[9] 26%	12%	9%	53%
Playing soccer	5%	2%	3%	[7] 90%
Playing golf	18%	7%	9%	66%

Playing disc golf	10%	2%	2%	[10] 86%
Playing baseball or softball	11%	4%	8%	77%
Skateboarding	3%	1%	0%	[2] 96%
Roller-blading	4%	1%	0%	[3] 95%
Playing tennis (outdoors)	6%	1%	1%	[5] 92%
Playing volleyball (outdoors)	12%	2%	1%	85%
Playing basketball (outdoors)	15%	4%	2%	79%
Playing horseshoes	21%	3%	1%	75%
Archery target shooting	16%	9%	[4] 15%	63%
Shotgun target shooting	[6] 32%	12%	11%	45%
Pistol/rifle target shooting	[7] 30%	[4] 15%	[5] 14%	41%
Rock climbing or wall climbing	7%	1%	1%	[6] 91%
Geocaching	7%	2%	1%	[7] 90%

According to the responses, the vast majority of activities are participated at a level of 1-5 times per year. Those activities reported to take place at much higher frequencies (>10%) include fishing, hunting, boating, shooting sports, and walking/jogging on a trail.

The following table represents the responses to what their future intentions are for participation in outdoor recreational activities for the next five years. The respondents indicate that they intend on participating at higher levels instead of those that indicate they will spend less time.

Table 1-3

Which activities do you or members of your household plan on spending more or less time doing in the NEXT 5 YEARS. Please mark ONE box per activity.

	Do less	Do more	Never do	Same
Camping in a tent	7%	24%	45%	24%
Camping in a camper	3%	[4] 42%	31%	24%
Backpacking	3%	19%	57%	21%
Picnicking in a picnic area	3%	[10] 30%	22%	45%
Boating/water skiing	2%	[3] 43%	24%	31%
Canoeing/kayaking	1%	21%	57%	21%
Riding a personal watercraft	2%	15%	60%	23%
Sailing or sailboarding	1%	3%	80%	16%
Swimming at a beach	3%	26%	33%	38%
Swimming at an indoor pool	3%	17%	40%	40%
Swimming at an outdoor pool	3%	18%	41%	38%
Fishing	2%	[1] 72%	5%	21%
Hunting	2%	[2] 65%	8%	25%
Walking or jogging on a trail	3%	[6] 39%	25%	33%
Horseback riding on a trail	2%	9%	71%	18%
Bicycling on a paved trail	2%	27%	44%	27%
Mountain biking on a trail	2%	16%	62%	20%
Cross-country skiing on a trail	2%	6%	76%	16%
Down-hill skiing	2%	9%	71%	18%
Sledding or snowboarding	2%	13%	64%	21%
Snowshoeing	1%	10%	73%	16%
Ice skating	2%	7%	72%	19%
Snowmobiling on a trail	1%	16%	65%	18%
Playing hockey	1%	2%	82%	15%
Playing baseball or softball	3%	11%	62%	24%
Visiting historic sites	3%	[6] 39%	20%	38%

Nature appreciation/education	3%	[7] 34%	30%	33%
Attending outdoor festivals	4%	[8] 32%	28%	36%
Attending pow-wows	2%	9%	71%	18%
Using playgrounds	4%	21%	42%	33%
Playing soccer	2%	5%	75%	18%
Playing golf	2%	24%	52%	22%
Playing disc golf	1%	10%	71%	18%
Skateboarding	1%	1%	83%	15%
Roller-blading	1%	3%	80%	16%
Playing tennis outdoors	1%	6%	77%	16%
Playing volleyball outdoors	2%	7%	70%	21%
Playing basketball outdoors	2%	9%	65%	24%
Playing horseshoes	3%	15%	58%	25%
Archery target shooting	2%	[9] 31%	46%	21%
Shotgun target shooting	2%	[5] 40%	30%	28%
Pistol/rifle target shooting	2%	[3] 43%	28%	27%
Riding an ATV	3%	34%	39%	24%
Rock climbing or wall climbing	1%	8%	75%	16%
Geocaching	1%	10%	73%	16%

There is very little indication that respondents will be doing much less of any activity in the next five years as the range is mostly in the 2-3%.

Of primary concern are those activities that those expressed intentions of increased participation. Again, camping, boating, fishing, hunting and shooting sports ranked high amongst the respondents. Also significant are walking/jogging on a trail, biking on a trail, visiting historic sites, nature appreciation target shooting, and outdoor festivals.

The third question asked people about the need and quality of specific outdoor recreational facilities in the state.

Table 1-4

The following is a list of recreational facilities or areas that may or may not be present in your local area. Please indicate whether or not you feel that there is a need for more facilities or if efforts should be made to improve what already exists. Please enter what you feel to be true for your area, not just your household. Mark ONE box per facility.

	Need more	Need to improve	No Opinion	What currently exists is adequate
Tent-camping campgrounds	17%	[4] 7%	33%	43%
RV or trailer campgrounds	[8] 26%	[3] 8%	26%	40%
Areas for backpacking	16%	3%	48%	33%
Picnic areas	14%	8%	26%	52%
Facilities for boating	[7] 27%	[1] 10%	20%	43%
Swimming beaches	[9] 22%	[1] 10%	28%	40%
Swimming pools	12%	5%	38%	45%
Fishing areas	[4] 38%	[2] 9%	10%	43%
Hunting areas	[1] 52%	[5] 6%	11%	31%
Walking/jogging trails (unpaved)	[9] 22%	5%	33%	40%
Horseback riding trails	8%	2%	62%	28%
Paved trails	17%	4%	43%	36%
Mountain biking trails	12%	3%	57%	28%

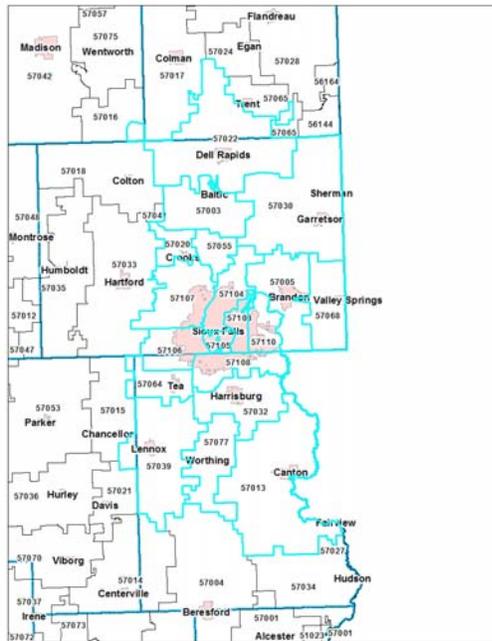
Cross-country skiing trails	7%	2%	66%	25%
Down-hill skiing areas	6%	2%	66%	26%
Sledding or snowboarding areas	11%	2%	60%	27%
Ice skating or hockey rinks	8%	2%	62%	28%
Snowmobile trails	11%	3%	56%	30%
Snowshoeing areas	6%	2%	66%	26%
Off-road or ATV riding areas	[6] 29%	5%	42%	24%
Historic sites (with interpretation)	18%	5%	37%	40%
Nature areas	[6] 29%	5%	29%	37%
Outdoor festivals	[10] 21%	4%	39%	36%
Pow-wow grounds	4%	3%	68%	25%
Playgrounds	12%	[4] 7%	41%	40%
Soccer fields	4%	3%	59%	34%
Golf courses/driving ranges	9%	4%	47%	40%
Baseball or softball fields	7%	4%	49%	40%
Skateboarding parks	4%	2%	65%	29%
Tennis courts	4%	3%	60%	33%
Volleyball courts (outdoor)	7%	3%	59%	31%
Basketball courts (outdoor)	7%	3%	57%	33%
Horseshoe pits	13%	5%	52%	30%
Archery target shooting ranges	[5] 33%	4%	39%	24%
Shotgun target shooting ranges	[3] 41%	5%	30%	24%
Pistol/rifle target shooting ranges	[2] 45%	[5] 6%	28%	21%
Rock climbing areas or walls	10%	2%	65%	23%
Disc golf courses	10%	2%	60%	28%

The results show there was a high need for additional hunting areas, camping areas, boating facilities, fishing areas, shooting areas, historic sites, nature areas and trails amongst respondents. Generally, there was a low response to the need to improve facilities with the exception of boating and swimming beaches.

The question above really gets at the heart of providing the right recreational facilities and opportunities in the right places. The table below compares the responses that checked “Need more” (of these facilities) by major urban areas to the statewide average according to their zip code. For Sioux Falls and the Black Hills, responses according to multiple zip codes were combined for the consideration of the larger regional area as depicted for the zip codes highlighted below. For the remaining cities, only the primary zip code was used. The number of responses for other geographic areas was not sufficient to draw any type of conclusions.

Figure 1-6

Sioux Falls Region



Black Hills Region



Table 1-5

A Geographic Comparison of Facilities Respondents Checked “Need More”

	Statewide	Sioux Falls Area	Black Hills	Aberdeen	Watertown	Pierre/FP	Brookings	Mitchell	Huron	Yankton
Tent-camping campgrounds	17%	21%	17%	19%	13%	15%	25%	26%	21%	20%
RV or trailer campgrounds	26%	34%	21%	38%	22%	19%	25%	38%	41%	24%
Areas for backpacking	16%	22%	12%	25%	14%	15%	20%	27%	11%	24%
Picnic areas	14%	19%	16%	15%	12%	11%	11%	16%	17%	17%
Facilities for boating	27%	37%	26%	24%	32%	23%	28%	22%	31%	21%
Swimming beaches	22%	32%	24%	17%	13%	21%	26%	27%	21%	14%
Swimming pools	12%	21%	14%	8%	7%	8%	5%	15%	8%	13%
Fishing areas	38%	53%	40%	37%	37%	22%	47%	46%	44%	25%
Hunting areas	52%	65%	53%	48%	54%	45%	70%	63%	53%	61%
Walking/jogging trails (unpaved)	22%	34%	21%	29%	20%	17%	36%	36%	23%	19%
Horseback riding trails	8%	9%	6%	9%	6%	8%	5%	12%	8%	3%
Paved trails	17%	28%	13%	24%	15%	13%	26%	31%	25%	18%
Mountain biking trails	12%	17%	15%	19%	7%	13%	20%	15%	19%	11%
Cross-country skiing trails	7%	8%	8%	14%	4%	10%	16%	12%	8%	8%
Down-hill skiing areas	6%	10%	6%	5%	9%	5%	8%	3%	6%	10%
Sledding or snowboarding areas	11%	16%	11%	17%	13%	11%	13%	15%	15%	14%
Ice skating or hockey rinks	8%	13%	10%	3%	13%	4%	9%	11%	11%	12%
Snowmobile trails	11%	17%	9%	10%	8%	7%	10%	17%	15%	17%
Snowshoeing areas	6%	8%	9%	12%	4%	8%	7%	12%	6%	8%
Off-road or ATV riding areas	29%	35%	33%	35%	35%	14%	26%	40%	33%	32%
Historic sites (with interpretation)	18%	23%	19%	18%	15%	16%	16%	15%	20%	22%
Nature areas	29%	42%	25%	35%	26%	22%	45%	37%	36%	31%

Outdoor festivals	21%	26%	20%	25%	20%	26%	33%	27%	28%	26%
Pow-wow grounds	4%	6%	3%	7%	2%	2%	8%	7%	7%	6%
Playgrounds	12%	18%	13%	14%	13%	9%	14%	12%	16%	11%
Soccer fields	4%	5%	6%	4%	2%	5%	5%	3%	1%	7%
Golf courses/driving ranges	9%	11%	7%	7%	11%	10%	14%	7%	6%	12%
Baseball or softball fields	7%	13%	6%	8%	7%	8%	9%	7%	4%	7%
Skateboarding parks	4%	4%	7%	3%	2%	2%	6%	5%	1%	4%
Tennis courts	4%	6%	3%	6%	2%	5%	8%	8%	3%	3%
Volleyball courts (outdoor)	7%	9%	6%	13%	7%	7%	9%	13%	5%	6%
Basketball courts (outdoor)	7%	10%	6%	9%	9%	7%	9%	11%	5%	6%
Horseshoe pits	13%	16%	15%	16%	13%	7%	16%	17%	9%	9%
Archery target shooting ranges	33%	40%	41%	38%	29%	26%	55%	44%	9%	28%
Shotgun target shooting ranges	41%	50%	49%	42%	37%	38%	55%	52%	41%	43%
Pistol/rifle target shooting ranges	45%	53%	56%	43%	42%	40%	63%	59%	38%	55%
Rock climbing areas or walls	10%	16%	11%	15%	9%	12%	18%	17%	10%	14%
Disc golf courses	10%	16%	7%	10%	13%	11%	15%	11%	5%	7%

The fourth question asked people whether they consider various amenities when they decide to visit a park area.

Table 1-6

How often do you consider the following qualities when deciding to go to a South Dakota park or recreation area?

	Always	Never	Sometimes
Trees	[4] 66%	7%	27%
Scenery	[2] 69%	4%	27%
Wildlife	[7] 61%	6%	33%
Privacy	[8] 59%	6%	35%
Restroom facilities	[6] 62%	8%	30%
Peace and quiet, few distractions	[5] 63%	5%	32%
Variety of commercial services in the area	15%	[5] 30%	[1] 55%
Grass and turf areas	32%	23%	[3] 45%
Landscaping	23%	[4] 32%	[3] 45%
Helpful and friendly staff	40%	17%	[5] 43%
Water quality in lakes and streams	[1] 71%	5%	24%
Opportunity for social interaction	12%	[2] 43%	[3] 45%
Open space	42%	13%	[3] 45%
Something for everyone to do	38%	17%	[3] 45%
Fishing opportunities	[3] 67%	6%	27%
Hunting opportunities	[9] 57%	13%	30%
Law enforcement	18%	[3] 38%	[4] 44%
Access for physically challenged people	12%	[1] 59%	29%
Things for the kids to do	34%	[5] 30%	36%
Safety of the area	[10] 45%	19%	36%
Opportunities to learn something new	27%	24%	[2] 49%
Closeness to home	25%	20%	[1] 55%

From a list of qualities and services related to outdoor recreation, respondents chose water quality, scenery, fishing, trees and peace/quiet as their most important considerations.

Chapter Two

Outdoor Recreation Challenges = Opportunities



South Dakota faces many challenges. Some of these challenges have a direct impact on providing outdoor recreational opportunities on a somewhat equitable basis. What may at first appear to be a challenge, may also provide opportunities. The focus must be on moving forward, capitalizing on how best to turn the difficulties into successes. The following are challenges that will need to be addressed as the State of South Dakota provides outdoor recreational facilities and services and the future.

Challenge: Population shifts

South Dakota continues to see significant shifts in the population make-ups across our towns, cities and counties. While certain South Dakota counties have seen significant drops in population the past twelve years, those twenty-eight counties that saw a decrease in population of 5 percent or more only account for approximately 13 percent of the state's population.

Conversely, those twenty counties that saw increases in population of 5 percent or more from 2000-2012 make up 71 percent of the state's population.

Therefore, the loss of population from largely rural counties is less than the gain in more populous counties are seeing such as Lincoln, Minnehaha, Davison, and Union Counties.

Options for smaller, rural communities are limited to focusing on preservation of the most basic and sustainable forms of outdoor recreation through maximization of resources. Collaboration with other communities, groups and organizations are necessary to achieve even the most basic services. These partnerships foster much community pride and interest in recreation.

Communities seeing increases in population must be able to invest and react to the increasing demands of a growing and diversifying population.

Challenge: Elderly population

The elderly segment of South Dakota's population provides both needs and opportunities. Accessible recreational opportunities are needed in order to sustain a healthy lifestyle. Retirees also provide many opportunities for volunteer programs, especially to encourage recreation with children and grandchildren.

Challenge: Both parents working

As mentioned previously, South Dakota ranks first in the nation of having two working parents with children under the age of 6. This provides challenges for parents to set aside time as a family to participate in recreation or fitness activities. Furthermore, it puts a high percentage of kids in daycares where outdoor and physical activity is limited and confined for safety reasons.

Opportunities exist for recreation providers to offer quality activities geared towards families, and provide maximum flexibility for hours and days of availability to the public. Also, recreation providers can locate and market parks and facilities that are closer to daycares, youth centers, and schools. This will help to engage kids in both activities that promote fitness and an appreciation of the outdoors.

A grant was created with help from the Department of Health to provide daycares, pre-schools and Jr. Kindergarten programs with backpacks containing a variety of items to encourage outdoor exploration. Over three years, 561 backpacks have been awarded, reaching nearly 19,500 pre-school aged children across the state.

In 2008-09, the Fit from the Start Initiative (Healthy South Dakota) will be provided to child care home facilities to support and assist child care providers to increase the opportunity for physical activity and improve vegetable intake. This evaluated intervention includes up to nine hours of training and follow-up technical assistance in making sustained change in the child care environment.

In November 2011, the SD Department of Social Services (DSS) signed an agreement with the SD Department of Health (DOH) to offer the Fit Care initiative as part of the Community Transformation Grant awarded to the SD Department of Health by the Center for Disease Control (CDC).

On November 29, 2011, Kim Overby with Sanford CHILD Services presented a Fit Care Train the Trainer Session in Oacoma. Training utilizing the curriculum began in March 2012. Eight training series were held across South Dakota reaching 180 child care providers during the first year of the grant. Classes were held in Aberdeen, Brookings, Pierre, Sioux Falls, Spearfish, Rapid City and Yankton. Most training participants were child care center staff.

The Fit Care Technical Assistance train the trainer webinar session was held on March 6, 2012. The first technical assistance visits for the fit Care initiative began in April 2012, following the first class in Brookings. Twelve child care providers completed technical assistance during the first year and 14 are continuing into the second year.

Challenge: Low incomes

Providers must continue to supply and promote parks and activities that are close to home, have low fees, and offer fee-reduced programs. In many cases, partnerships and shared resources amongst agencies and groups can help keep costs low. Many recreational and physical activities have options or programs that are affordable for a wide range of households such as:

- Walking, hiking and running
- Camping
- Swimming
- Viewing nature
- Bicycling

Challenge: High obesity rates

High obesity rates and health problems are attributable to poor diet and lack of physical activity. Most recent obesity data from the South Dakota Behavioral Risk Factor Surveillance System (BRFSS) indicates that 28.1 percent of SD adults are obese. In addition, 27 percent of South Dakotans reported no leisure time physical activity or exercise during the past 30 days other than at their job. Also according to this data, the prevalence of no leisure time physical activity is more pronounced for these demographic factors:

- Older age groups(55+)
- American Indians, especially females
- Those living in the central, northeast, and American Indian counties in South Dakota.
- Lower household income categories, especially those earning less than \$25,000
- Those persons with a maximum educational level of a high school diploma or less.
- The unemployed or those unable to work.
- Those that are widowed or divorced/separated.

With the release of the 2008 federal Physical Activity Guidelines (PAG), South Dakotans now have a recommended amount of physical activity per week to strive for. The PAG recommends 150 minutes per week of moderate-intensity aerobic physical activity, or 75 minutes per week of vigorous-intensity aerobic physical activity, or an equivalent combination of both. The PAG also recommends strength training exercises at least twice per week for adults. Roughly 46.1% of South Dakotans met the recommendation for 150 minutes per week of aerobic physical activity in 2011. Minnesota reported 54%, North Dakota 47.3%, and Colorado (at the highest for all states) reported 61.8% of residents achieving the PAG recommendation for aerobic physical activity. The SD Department of Health HP2020 goals and objectives strives to increase to 55% the percentage of SD adults meeting the PAG.

The 2010 release of the National Physical Activity Plan provides another catalyst for community-wide collaboration to increase physical activity. The Plan outlines strategies, objectives and tactics for 8 societal sectors including Parks, Recreation, Fitness and Sports to increase physical activity. These strategies are incorporated into many SD Department of Health planning efforts with partners to increase physical activity and reduce the burden of chronic disease.

The Healthy South Dakota Program in the Department of Health takes a multi-faceted approach to reducing obesity and encouraging healthy eating and increased physical activity.

The Healthy South Dakota website, www.HealthySD.gov, serves as a focal point for the Healthy South Dakota Program activities. The website is organized by tabs for several sectors, including schools, communities, parents, caregivers, healthcare kids, tweens, and others. The site is updated at least monthly to include the latest research and best practices impacting health behaviors that affect obesity. The site currently has roughly 500 file pages and 5,400 hyperlinks of information. Overall traffic for 2012 saw 294,293 page views and 79,075 unique visitors.

The site frequently highlights programs and services offered by the Department of Game, Fish, and Parks including the many partnerships between the two departments such as the Children in Nature Backpack Grants and Awardees, and the Trails Trek Project.

In addition, several communities in South Dakota received trails signage to highlight and mark local trails through the Communities Putting Prevention to Work grant offered through the Centers for Disease Control and Prevention during 2010-2011. Approximately 19 communities or community-based organizations received a total of 57 signs/markers to promote and depict their local trails, which is a science-based strategy for increasing physical activity in communities.

Childhood obesity

The South Dakota Department of Health, in cooperation with the South Dakota Department of Education has analyzed height and weight data on students since the 1998-1999 school year. The most recent collection of data for the 2011-2012 school year showed 32.5% of South Dakota students aged 5-19 are either overweight or obese, up from 31.3% in 2010-2011. According to the Department of Health, research shows six science-based strategies to prevent obesity and other chronic diseases:

- Increase physical activity
- Decrease television viewing
- Increase fruit and vegetable intake
- Decrease sweetened beverage intake
- Decrease portion sizes
- Increase breastfeeding

Outdoor recreation can play a large role in the first two strategies by providing safe, fun places to engage in physical activity, and reduce the amount of time spent viewing television or other similar sedentary activities.

Challenge: Winter

South Dakota is known for cold winters, but winter also brings new recreational opportunities. Ice fishing, sledding, hockey, ice skating, snow-shoeing, downhill and cross country skiing are all popular wintertime activities. However, the availability of the resources for these activities varies across the state due to topography, climate and services.

Outdoor recreation providers should continue to offer maximum availability and access for these and other types of activities year around. However, many recreational and physical activities done in the summer can also be done year around with proper equipment and education. Walking, biking, running, hiking, wildlife/nature watching can be just as enjoyable and beneficial in the winter as during the summer. Providers, retailers and organized clubs have the opportunity to educate the public on weather safety, proper clothing and gear, and technique.

Challenge: Focus on technology

It has been shown that the increased use of computers, video games, and other technology has come at the expense of leisure time available for outdoor recreation or physical activity, especially among our youth. Technology is here to stay, and will likely continue to expand. Outdoor recreation providers can “join the game” and promote the use of technology as a means to stimulate interest and participation in the outdoors. For example, using GPS units to navigate within wilderness areas is a fun way to experience nature.

In 2012, the Division of Parks and Recreation created an online interactive mapping service for snowmobile trails. Combined with GPS applications on smart phones, this application allowed trail users to place their locations on the map at all times. This system also provides real-time trail conditions, photos, notices, and links to commercial services along the trail. This application will have unlimited applicability to other outdoor recreational services in the future.

Challenge: Fears of the outdoors

Sensationalized accounts of rare incidents, crimes and injuries that can occur while recreating outdoors have fostered a form of parental fear that often precludes families and children from partaking in outdoor activities. The reality is that childhood obesity and lower cognitive and problem-solving abilities can put children at a far higher risk. At the same time, fear of the outdoors creates a generation of misunderstanding and low appreciation for the natural environment. Outdoor safety should continue to be of utmost importance, but there is a tremendous missed opportunity by completely avoiding the outdoors with our children. Through proper education and awareness, outdoor recreation remains one of safest activities for children and adults.

Chapter Three

Strategies – Parks, People and Programs



The following strategies are a guide for the state of South Dakota's outdoor recreation providers and their cooperative partners and programs including the Land and Water Conservation Fund. These strategies are established to address the challenges faced by the State of South Dakota in its efforts to provide outdoor recreation opportunities and to fulfill its maximum role in the effort to encourage healthy lifestyles and an appreciation for the natural environment.

Strategy #1 – Protect South Dakota's natural resources on which outdoor recreation depends. This entails maintaining present park land and future acquisitions efficiently and with appropriate stewardship.

- Continually evaluate existing parks, facilities and services according to safety standards, maintenance needs, and ways to better protect the environment.
 - Continue to build and maintain the GIS database to inventory facilities and evaluate safety and maintenance issues.
 - Promote ongoing training to teach staff about safety issues and maintenance alternatives.
- Increase energy efficiency by expanding recycling efforts, designing energy-efficient facilities, and offering “earth-first” types of events.
 - Analyze the effectiveness of present recycling efforts in the parks and implement the highly effective programs in additional parks.
 - Consider alternate forms of energy and energy efficient usage in designing new facilities such as solar or wind energy.
 - Sponsor and participate in state park anti-litter campaigns, park clean up events and educational programs about the impact of litter on wildlife.
- Research and acquire certain lands and easements adjacent to park lands. Land acquisition is often in the public's best interest when it provides for an active population and preserves the integrity of the park from conflicting outside development.
 - Identify parks at risk from encroachment through urbanization and/or housing and commercial development.
 - Provide guidelines for park lands in new developments.
 - Seek funding to purchase land that is at risk.
 - Work with willing area landowners on conservation easements.
- Take immediate measures to protect highly sensitive areas through acquisition and/or cooperative management alternatives.
 - Assess lands that have valuable historical and/or archaeological findings and seek ways to protect them.
 - Implement management practices on archaeological sites already in the park system.
 - Conduct plant and animal species inventories to identify the presence of rare and endangered species.
 - Research and implement sound practices to protect sensitive areas, (I.E. controlled burning).
 - Seek funding for land acquisition and protection.
- Acquire property for open space, parks and recreation areas in locations that are in areas of, or have a high likelihood of future development. Property set aside for parks and recreation ahead of time is likely to be much cheaper, and ultimately may increase the land value of the surrounding property.
 - A statewide GIS inventory of park facilities will allow the generation of maps to determine where the most needed facilities are both locally and statewide.

- Seek funding for the purchase and development of needed park land.
- Be vigilant against potential threats to outdoor recreation lands, including fires, floods, pollution, infestations, over-use and abuse.
 - Continue to train staff in fire fighting methods.
 - Conduct research as needed to protect the land.
 - Continue to monitor small head dams.
 - Collaborate with other entities to fight insect infestations, (I.E. the U.S. Forest Service and managing pine beetles).
 - Monitor and take action in areas where there is over-use and/or abuse of the land (I.E. compaction on trails).
- Continue to support efforts to acquire and protect properties within the Blood Run National Historic Landmark which is South Dakota's key project under American Great Outdoors Initiative.

However, local, state and national funding limitations and policies will ultimately affect the ability to acquire properties and to hire staff to oversee them properly.

Priorities ranked **HIGH** for local and state L&WCF projects pertinent to this strategy:

- Land acquisitions for park areas and open space. Higher priority will be given to those parcels that will provide healthy activities and opportunities for outdoor activities for children. Priority will also be assigned to purchase parcels in areas where the populations are underserved according to statewide averages through GIS analysis.
- Land acquisitions within the Blood Run National Historic Landmark boundary proposed by the National Park Service in 2000 to be incorporated into Good Earth State Park.

Strategy #2 – Provide and promote outdoor recreation opportunities for South Dakotans of all ages, throughout the seasons and be a compelling voice for action when it comes to making outdoor recreation a priority in people's choices to improve their health and lifestyle.

- Provide relevant and effective interpretive training for staff, maximizing efforts to inform and educate the public about outdoor recreational opportunities and programs.
 - Define a suitable and appropriate program and activity inventory for each park.
 - Provide a comprehensive training program for front-line staff and volunteers.
 - Develop a website of program resources for seasonal front-line staff and park managers.
- Meet the public's diverse outdoor recreation desires through collaboration with other entities, maximizing staff talents and time, and incorporating volunteers.
 - Seek people in the community who have the backgrounds to provide excellent programs in the parks.
 - Identify persons and organizations with shared goals and services to create collaborative programs that share resources.

- Co-host programs and events with both public and private entities, I.E. U.S. Corps of Engineers, National Park Service, South Dakota Department of Health, YMCA/YWCAs, Scouts.
- Capitalize on staff interests and hobbies as possible program ideas.
- Provide opportunities on the state park volunteer application for information concerning special hobbies and interests which might lead to park programs.
- Promote parks as the state’s largest wellness centers where the public can find a wide variety of individually initiated physical activities as well as staff-led events.
 - Make mileage information for trails and park roads easily available to walkers and runners. Much information can be placed online via interactive mapping services such as ArcGIS Online.
 - Offer free use of recreation equipment by park visitors that encourage physical activity. I.E. discs for disc golf.
 - Host physical activity-focused programs (I.E. snowshoe lessons, marathons).
 - Provide geocaches in the parks to get people out walking while using technology.
 - Research, write and produce interpretive signs for park trails.
 - Partner with the SD Department of Health to include health messages in reservation letters, Park Times articles, and other opportunities to promote physical activity and healthy eating when enjoying outdoor recreation.
 - Encourage use of the many trails identified by signage in several SD communities as part of the Communities Putting Prevention to Work grant efforts.
 - The Fitness Passport Challenge encourages families to stay active in the outdoors. Visitors can get their passport book stamped at each state park, fish hatchery and Outdoor Campus location they visit, and earn prizes at various levels along the way.
- Promote the concept of No Child Left Inside through educational programs, the media and events. Youth need to be involved now so they will appreciate and protect natural resources in the future.
 - Expand environmental education for local school groups.
 - Offer many family-oriented programs so parents will bring their children to the parks.
 - Provide the media with more public service announcements and press releases concerning the importance of getting outdoors and the opportunities available.
 - Create interpretive products (I.E. brochures, site bulletins, exhibits).
 - Stimulate interest in going outdoors by providing learning opportunities online.
 - Work with other entities to plan and fund billboards with “No Child Left Inside” messages.
 - Capitalize on printed opportunities such as the Kids Edition of the *South Dakota Conservation Digest* to educate the public about getting outdoors.
 - Develop and promote challenging youth-oriented programs (I.E. Junior Naturalist Program).
 - Continued efforts through the Children in Nature Committee has been formed by the Division of Parks and Recreation to address how we can do our part to increase children’s interests and activity in nature.
 - Continue various electronic media communications such as:

- A monthly email was created to provide activity ideas, nature facts, tips, crafts and recipes to help kids learn about nature and the outdoors. It currently has over 1,900 subscribers.
 - A Children in Nature idea, tip or game is also included in the "This Weekend in the Outdoors" email newsletter, sent once a week during the summer months. It currently has over 20,000 subscribers.
 - Our Facebook pages features a weekly "Nature Up Close" game, which encourages friends to guess what the close-up nature photo features. There are currently over 5,100 follows.
- Continue expanded nature programming such as:
 - Parks have greatly expanded the number and variety of nature programs offered in the parks, especially in the fall and winter seasons.
 - An online calendar that makes it easy for visitors to find events that are happening near them.
 - Nature Day Camps have been a popular series. These are usually 3-hour classes geared to 7-12 year-olds that teach on a variety of nature topics.
 - Continue participating in the National Kids to Parks day which was held on May 18, 2013. This event provided activities to over 1,600 people across the state.
- The Junior Naturalist program encourages kids aged 7-18 to explore and learn about the rich natural and cultural history of South Dakota. They earn prizes for completing several levels of learning, activity, and volunteer requirements.
- Involve older adults through volunteer work, intergenerational activities, and older age-specific programs.
 - Target retirees for volunteer opportunities.
 - Plan special events for grandparents and grandchildren.
 - Offer programs specifically for seniors (I.E. mid-week kayak lessons, class in outdoor crafts).
- Plan family-oriented activities to promote unity, memories and the desire to return.
 - Offer family outdoor challenges (I.E. Family Survivor Evening – a take-off on the television shows).
 - Promote activities for all ages rather than having just a child focus
 - Make it as easy as possible for families to participate (I.E. a nature hike on a surface suitable for a baby stroller, diaper changing tables in restrooms).
- Reach out to low income people.
 - Offer low or no cost activities
 - Subsidize programs
 - Work with sponsors to cover the costs of participating, I.E. park entrance license
- Use technology to reach individuals who utilize electronic devices.
 - Teach the public how to use GPS units.
 - Incorporate geocache sites into parks.
 - Maximize Internet natural resource learning opportunities with exciting information, games and puzzles.
 - Teach digital photography in the parks.

- Utilize social media such as Facebook and Twitter to provide people with news, events, and happenings that will increase participation in outdoor activities.
- Incorporate facilities and services and services into interactive map products such as ARCGIS Online.
- Create QR code scans to provide additional information about products, services, and interpretive sites.
- Continue using radio, TV and magazine ads to highlight the benefits of being active in the outdoors.
- Develop additional outdoor recreational facilities and renovate/replace existing ones to meet current demands.

Priorities ranked **HIGH** for local and state L&WCF projects pertinent to this strategy:

Projects that provide healthy activities and opportunities for outdoor activities for children will be assigned higher priority. Also higher priority may be assigned for facilities that will serve currently underserved populations based upon statewide averages and GIS criteria.

Specific facilities include:

- Playgrounds.
- Winter recreation and associated facilities such as ice rinks and sledding areas.
- Sports courts and fields both new and renovated (tennis, basketball, baseball, softball, soccer, and walking tracks)
- Outdoor swimming pool projects, including both renovation and new construction of pools, decks and systems. Support facilities such as concession stands and change houses shall not be considered high priority.
- Outdoor learning centers and interpretive facilities that promote outdoor recreation participation and education.
- Campgrounds and associated facilities and campground renovation to meet the needs and expectations of families.
- Trails and walking tracks (no sidewalks) when the availability of other federal matching fund programs is not possible or practical.
- Fishing access improvements such as docks, platforms, and other means of improving fishing access when the availability of other federal matching fund programs is not possible or practical.
- Facilities for shooting sports such as archery, shotgun, and pistol/rifle when the availability of other federal matching fund programs is not possible or practical.
- Land Acquisitions within the Blood Run National Historic Landmark boundary proposed by the National Park Service in 2000 to be incorporated into Good Earth State Park.

It is absolutely essential that ongoing programs and events be offered in the parks as they stimulate attendance, educate the public and build memories. Perhaps most important is to develop an appreciation of natural resources and the need to protect them.

Strategy #3 – Continue to research and analyze information about South Dakotan’s needs and demands for outdoor recreation. Methods of implementation will be based upon these ideas.

- Provide additional opportunities for citizens to communicate their thoughts.
 - Conduct targeted surveys as needed.
 - Provide park visitors with comment cards to complete and return.
 - Encourage people to communicate their wishes on a special website.
 - Listen to the public in the outdoors, then document what is heard.
 - Hold public meetings when deemed appropriate.
- Reward people who share their ideas.
 - Enter them in a contest to receive something big (I.E. GPS unit).
 - Give a free night of camping.
 - Give them free participation in an event.
- Observe behaviors and their impacts on the natural resources.
 - On trails watch for erosion from short-cuts and compaction.
 - Place garbage cans at sites where litter collects.
- Utilize research conducted by other agencies.
 - National Association of State Park Directors on issues relating to state parks.
 - National Centers for Disease Control on the importance of physical activity in maintaining good health.
 - Outdoor Industry Association’s research on national trends.
 - South Dakota Department of Health on state trends concerning physical activity including BRFSS, SIRPA, and other data sets
 - South Dakota Office of Tourism on statewide tourism trends.
- Involve researchers to assist in research design, implementation and analyzing data.
 - South Dakota Office of Tourism staff.
 - South Dakota university researchers.
- See the research process as ongoing, not something done once or twice a year.
- Use the SCORP as an excellent base for ongoing research.

It is one thing to paddle; it is a completely different issue to paddle in the right direction. Conducting research and utilizing existing research helps keep outdoor recreation professionals on the right track, which is especially critical when funding is limited.

Strategy #4 Provide information on the risks and fears associated with outdoor recreation.

- Provide information on how to predict and monitor the weather and proper dress, equipment, and techniques to safely enjoy the outdoors in less than ideal weather circumstances.
- Reduce risk of certain ailments such as West Nile Disease, skin cancer.
- Making your experience safe from illegal activities of others.
- Using proper safety equipment such as helmets, and personal floatation devices.
- Promote introductory and training opportunities to acquire outdoor skills, knowledge and confidence.

Strategy #5 Maximize the role of parks and recreation in helping people achieve healthy lifestyles.

- Continue to participate and cooperate with the Department of Health on the Healthy South Dakota program to provide recreational equipment and programs for park visitors. Efforts include promoting the importance of physical activity and healthy lifestyles, purchasing equipment for public use at the parks and programs offering health-themed programs in the parks. Through this important partnership all South Dakotans are able to enjoy the state parks and improve their health. This collaboration has changed the culture of the state park system and the public now sees the South Dakota state parks as the States Largest Wellness Centers.
- Participate in the newly convened (2012) Active Transportation Advisory Team facilitated by the SD Department of Health to increase active transportation (walking, biking) in SD communities to enhance overall vibrancy of neighborhoods and communities.
- Continue to support and promote the SD Healthy Concessions Model policy at Hershey Track Events, in communities, parks, and on city grounds.

Summary of Priorities ranked HIGH for local and state L&WCF projects

- Land acquisitions for park areas and open space. Higher priority will be given to those parcels that will provide healthy activities and opportunities for outdoor activities for children. Priority will also be assigned to purchase parcels in areas where the populations are underserved according to statewide averages through GIS analysis.
- Campgrounds and associated facilities and campground renovation to meet the needs and expectations of families.
- Playgrounds.
- Trails and walking tracks (no sidewalks) when the availability of other federal matching fund programs is not possible or practical.
- Winter recreation and associated facilities such as ice rinks and sledding areas.
- Sports courts and fields, both new and renovated (tennis, basketball, baseball, softball, soccer, and walking tracks)
- Outdoor learning centers and interpretive facilities that promote outdoor recreation participation and education.
- Outdoor pool renovation and construction projects.
- Fishing access improvements such as docks, platforms, and other means of improving fishing access when the availability of other federal matching fund programs is not possible or practical.
- Facilities for shooting sports such as archery, shotgun, and pistol/rifle when the availability of other federal matching fund programs is not possible or practical.

Projects that provide healthy activities and opportunities for outdoor activities for children will be assigned higher priority. Also higher priority may be assigned for facilities that will serve currently underserved populations based upon statewide averages and GIS criteria.

All other eligible projects will be considered “low” priority.

Chapter Four

South Dakota Wetlands Component



INTRODUCTION

Prairie wetlands are a dominant feature across much of South Dakota's prairie landscape and play an important role in the hydrologic cycle that maintains the state's water resources. Conservation of wetlands of all types is a vital component of the state's broader goals of improving management and protection of its water and wildlife resources. Prairie wetlands provide many benefits to all South Dakota citizens, both rural and urban. Wetlands benefit the state's water resources by: storing flood waters and slowing runoff to streams, rivers and lakes; recharging groundwater aquifers; stabilizing stream flows; and removing pollutants from the water by trapping sediments and contaminants and recycling nutrients. Prairie wetlands are perhaps the most diverse, productive and important wildlife habitats found in South Dakota. This diversity of wetland habitats and associated grassland habitat are vital to maintain a wide variety of wetland dependent game and non-game wildlife species. South Dakota wetlands and grasslands provide some of the North America's most intact and important breeding and brood rearing habitat for waterfowl. Wetlands with dense stands of emergent cover such as cattails also provide important winter cover of economically important resident wildlife such as ring-necked pheasants and white-tailed deer. Prairie wetlands annually provide important recreational opportunities for many outdoor recreation activities including: hunting, fishing, trapping, bird-watching, photography and boating.

The Prairie Pothole Region (PPR) covers nearly 300,000 square miles and includes portions of Minnesota, Iowa, North and South Dakota, Montana and the Canadian provinces of Alberta, Saskatchewan and Manitoba. Nearly all of South Dakota east of the Missouri River was glaciated during the last ice age and is considered part of the PPR. The PPR is the most critical waterfowl breeding habitat in North America. While it encompasses only 10 percent of the waterfowl breeding habitat in North America, it can produce greater than 50 percent of the continental duck population during wet years (Batt and others, 1989). In the contiguous 48 states, 87 percent of the ducks breed in the four prairie pothole states. South Dakota is usually ranked number two in total waterfowl production. However, during wet years, South Dakota wetlands and associated nesting cover (e.g. Conservation Reserve Program grass cover and remaining native prairie) produce more waterfowl than any other state in the lower contiguous U.S.

About 50 percent of the Prairie Pothole Region's original wetland base has been converted to other land uses. During the 20 years from the mid-1950s to the mid-1970s, such losses averaged 458,000 acres annually. Dahl (1990) estimated that Iowa has lost nearly 90 percent of its' original wetlands. The same author also concluded that the lower 48 states have lost an estimated 53 percent of all wetlands since the late 1700s.

According to National Wetlands Inventory data, wetlands and deepwater habitats account for over 2.2 million acres or slightly less than 10 percent of eastern South Dakota's landscape (Johnson and Higgins, 1997). Fortunately South Dakota has managed to conserve more of its' wetlands than all the neighboring Prairie Pothole states. Dahl (1990) estimated that about 35 percent of South Dakota wetlands have been lost since settlement with most losses related to agricultural development. More than 80 percent of wetlands lost were located east of the James River. Additionally, past and continuing rural and urban development have contributed significantly to the total loss. In recent decades flooding problems in eastern South Dakota can be associated with drainage of 560,000 acres of wetlands. Significantly increased agricultural

drainage, as well as continued urban/suburban development in the last several years in eastern South Dakota will likely result in increased frequency of flooding.

PURPOSE AND SCOPE

In November 1986, Public Law 99-645 was passed by Congress. This legislation is also known as the Emergency Wetlands Resources Act of 1986 (Act). Section 303 of the Act requires the inclusion of wetlands in Statewide Comprehensive Outdoor Recreation Plans. This chapter is South Dakota's assessment and target for accomplishments in wetland acquisition, restoration and protection under the provisions of the Act and the Statewide Comprehensive Outdoor Recreation Plan.

AUTHORITY

The authority for the development of this Wetlands Chapter to the South Dakota Comprehensive Outdoor Recreation Plan (SCORP) is Section 303 of the Act. Other funding for both wetlands acquisition and restoration is also provided for by the Act.

The South Dakota Department of Game, Fish and Parks has the authority for the conservation and protection of all wildlife. South Dakota Codified Law 41-2-18 states, "The department ... shall have the power to regulate, direct and control...the conservation, protection...and the hunting ... of all game and furbearing animals, game birds and fish ... and ... shall have jurisdiction and authority for such purposes over all lands and waters ... including all meandered lakes, sloughs, marshes and streams ... and also including all lands to which the state has acquired any right, title or interest for the purposes of water conservation and recreation."

The Department of Game, Fish and Parks has both a Parks and Recreation Division which is responsible for SCORP planning and a Wildlife Division which manages the wildlife resources of the State.

COORDINATION AND CONSULTATION

This wetlands plan was written by the Division of Wildlife in cooperation with the Division of Parks and Recreation. Organizations including; Ducks Unlimited, the SD Wetlands Coalition, SD Wildlife Society, SD Wildlife Federation and the Izaak Walton League have provided input on previous versions of this plan. This plan will be updated as needed and will address the goals and objectives of SCORP regarding wetlands conservation in South Dakota.

ASSESSMENT

Inventory

With completion of the National Wetlands Inventory (NWI) of South Dakota in the mid-1990s and digitization of those data for the eastern part of the state, Johnson and Higgins (1997) completed an excellent state-of-the-art geographic information system (GIS)-based /inventory and summary of eastern South Dakota wetlands. Similarly, Rieger et al. (2006) summarized the

NWI data for western South Dakota. Copies of these technical reports, as well as a less technical summary for the eastern part of the state (Johnson and others, 1997) have been appended to this plan.

South Dakota wetlands occur in all four of Bailey's (1994) ecoregion provinces (Prairie Parkland, Great Plains Steppe, Great Plains Dry steppe and Black Hill Coniferous Forest) that comprise the state. Because of the important ecological link between wetlands and associated grassland (e.g. many wetland dependent birds are grassland nesters), it's important to discuss South Dakota wetlands in the context of grassland resources. Excluding the Black Hills, most ecologists consider South Dakota to be comprised of an eastern tier of true tall grass prairie, with the balance of the state being characterized by mixed-grass prairie. Much of the native grass prairie (an estimated 75 percent) in PPR portion of South Dakota has been lost due to agricultural conversion. Conversion of mixed-grass prairie in the western part of the state is considerably less severe.

According to Johnson and Higgins (1997), 2.2 million acres of wetlands and deepwater habitats comprise nearly 10 percent of eastern South Dakota's landscape. In turn, these habitats consist of approximately 80 percent palustrine wetlands, 17 percent lacustrine wetlands and deepwater habitats and 3 percent riverine wetlands. These three wetland systems are further divided by subsystems, class, water regime and special modifiers. Because of their ecologic importance to many species, patterns of historic loss and future agricultural and development related threats, palustrine wetlands (particularly eastern prairie potholes) are a conservation priority in South Dakota. 77.5 percent of the palustrine wetlands are classified as emergent wetlands, 15.8 percent are emergent/aquatic bed, 3.4 percent are aquatic bed and 3.3 percent are other classes. In terms of water regime, 43.5 percent of palustrine wetlands have a seasonal water regime, 32.8 percent are temporary, 23.3 percent are semi-permanent and 0.2 percent are intermittently exposed. The reader should refer to Johnson and Higgins (1997) and Cowardin and others (1979) for more detailed treatment of eastern South Dakota's other wetland resources.

Rieger et al. (2006) summarized that surface water covers 635,054 acres or about 2.4% of the western South Dakota landscape. These waters are comprised of approximately 50% palustrine, 42% lacustrine and 8% riverine wetlands. There are nearly 173,000 wetland basins in western South Dakota and they are further categorized by the following water regimes: 36% temporary water; 29% seasonal; 34% semipermanent; and about 1% permanent. Just over 50% of the total number of basins, or approximately 87,000 are created wetlands. Over 72,500 of these are relatively small impoundments or stock dams. Just over 14,000 are livestock watering dugouts and about 300 are natural beaver dams/ponds.

In general, many of the wetlands in the mixed-grass prairie portion of western South Dakota are associated with stream and river corridors and associated riparian areas. Palustrine forested wetlands (e.g. forested oxbows) are relatively common along larger river systems.

While western South Dakota has less than 1/3 of the wetland area of eastern South Dakota, western palustrine emergent wetlands provide similar functions and values. In some areas, wetland densities are quite high (e.g. Lyman, Jones, Stanley, Dewey, Ziebach and Corson counties) with wetlands occurring within large tracts of native or planted grassland habitats. Such areas provide very productive and important breeding, brood rearing and migration habitat for waterfowl, shorebirds and other wetland dependent species when water conditions are favorable.

The Black Hills region of southwestern South Dakota is a unique ecoregion more similar to mountainous ecoregions in the Rocky Mountains to the west. Like other areas in unglaciated western South Dakota, wetlands in the Black Hills are primarily related to streams (riverine system) and related riparian areas. Saturated wet meadow montane wetlands characterized by sedges and associated wetland plants occur along some stream/riparian corridors. Most of these wetlands are classified as palustrine, emergent, saturated wetlands. Saturated scrub/shrub or forested palustrine wetlands, with various water regimes also occur in association with these riverine systems. Additionally, beaver ponds along stream corridors are of local significance and add a unique diversity to these riverine systems.

Protection

South Dakota Department of Game Fish and Parks owns and manages approximately 281,358 acres of Game Production Areas (GPA's) across the state. Wildlife habitat on these areas is managed to benefit game and non-game species alike. These areas are open to public hunting, fishing, wildlife watching and other outdoor activities. East of the Missouri River, essentially all such areas consist of wetland/grassland complexes and developed upland habitats such as woody winter cover and food plots. We estimate that between 85,000 and 90,000 acres east of the river are wetland acres. Many of the GPA's west of the Missouri River are associated with the Missouri River reservoir system or smaller impoundments.

As part of its National Wildlife Refuge System, the United States Fish and Wildlife Service (USFWS) owns in fee title a considerable amount of land within seven designated refuges (103,885 acres) and in the form of Waterfowl Production Areas (WPA's – 160,432 acres). The service has also purchased wetland and grassland conservation easements from willing sellers. Habitat protected with these perpetual easements totals 1,296,840 acres of wetland/grassland complexes. Wetlands on these areas cannot be drained, burned or filled and grasslands cannot be plowed and converted to cropland. Haying is allowed after July 15. Management focus on all these USFWS areas is for waterfowl and other migratory bird species. Funds for these programs comes from Federal Migratory Bird Hunting and Conservation Stamp sales and in recent years, from the Land and Water Conservation Fund.

Wetland Threats

A national status and trends study showed that from 1954 to 1974 certain wetland types had high rates of conversion to other land uses in specific regions of the United States, including palustrine emergent wetlands in the Prairie Pothole Region of the Dakotas and Minnesota. The study also noted South Dakota as being one of 19 states that had significant decreases in wetlands over the 20-year period (Frayer and others, 1983). Subsequent reports (Dahl, 2000) indicate that agriculture related losses of freshwater wetlands nationwide decreased from about 1.0 million acres between the mid 1970's and 1984 down to about 198,000 acres between 1986 and 1997. Implementation and enforcement of the "Swampbuster" provisions of the 1985 Food Security Act (Farm Bill), as well as other land retirement or conservation programs (e.g. CRP, WRP, EWRP, etc.) were the primary reasons for this significant reduction in wetland losses. More recent reports (Dahl, 2006 and Dahl, 2011) indicate that freshwater wetlands have increased nationwide due in large part to wetland restoration activities through programs noted above and due to construction of ponds and other non-vegetated wetlands in urban and suburban settings. However, in South Dakota and neighboring prairie pothole states, losses of emergent wetlands have outpaced gains. Losses are primarily attributed to agricultural conversion, urban expansion and rural development (Dahl, 2011).

Trends in Agricultural Drainage

Recent trends of record commodity prices and double digit annual increases in land values across South Dakota have fueled big investments in agricultural drainage infrastructure to improve crop production conditions and yields. At rates not seen in decades, crop fields in eastern South Dakota are being ditched, or plastic drainage tile is being installed in herringbone patterns on entire fields to drain excess water. Many such fields contain numerous small temporary and seasonal wetlands. In some instances, larger seasonal and even semi-permanent marshes have been drained. While conservation provisions in the federal Farm Bill known as “Swampbuster” are intended to prevent wetland drainage on lands for which producers receive federal farm program benefits, subtle changes in administration of those provisions, as well as producers dropping out federal programs subject to the Swampbuster provisions are apparently contributing to wetland losses noted in the field by wildlife managers. Furthermore, much improved federally subsidized crop insurance programs are not subject to “Swampbuster” and other conservation provisions. Consequently, producers who have dropped out of the farm programs altogether still qualify for crop insurance premium subsidies even if they have drained wetlands for the purposes of crop production. A legislative fix to this loophole in the Farm Bill has been the topic of much debate during Congress’s deliberation of the 2012/2013 Farm Bill reauthorization. An unprecedented alliance of conservation and agricultural groups has urged Congress to amend the bill with such a fix. The Senate-passed version of the bill included it as of July 2013. Final disposition of this important provision will have major ramifications for the future conservation of South Dakota’s wetland resources.

While the scale of wetland drainage and loss in eastern South Dakota has alarmed the conservation and wildlife management community, efforts to quantify actual losses have been hampered by lack of sufficient funding to update the National Wetlands Inventory on a regional basis. The lack of a comprehensive USDA tracking system to monitor changes to wetlands on agricultural lands has also made it extremely difficult to verify real trends in wetland losses.

Changes in Wetland Protection under the Federal Clean Water Act

The United States Supreme Court’s 2001 decision in *Solid Waste Agency of Northern Cook County (SWANNC) v. U.S. Army Corps of Engineers*, and its’ 2006 decision in the joint cases of *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* significantly lessened federal authority to protect certain isolated wetlands and small streams across the nation, particularly from urban, suburban and rural development. Loss of federal Clean Water Act protection of isolated wetlands, wetlands not directly connected to navigable waters and small, often intermittent, tributary streams in South Dakota puts these wetlands and waters at increased risk of outright loss.

South Dakota's prairie pothole wetlands are of international importance in sustaining viable populations of migratory birds and other wildlife, but are now suffering the consequences of rolling the regulatory calendar back by more than 30 years. It is estimated that that between 91% and 95% of the isolated wetlands in portions of eastern South Dakota are no longer afforded Clean Water Act protection due to the above court decisions. Efforts to restore protection of such wetlands have failed to gain traction in Congress, despite national initiatives by the conservation and wildlife communities.

Functions and Values of South Dakota Wetlands

There is a large body of literature that documents the wide range of important functions and values that wetlands provide. Besides supporting a diversity of wildlife and plant communities, including threatened and endangered species, wetlands of various types provide numerous other functions and values that are well documented in the literature. These include water storage, flood attenuation and reduction, ground water recharge, water quality enhancement, erosion control, nutrient retention and recycling, sediment retention, carbon sequestration, food production, stock water, forage production, fishing, hunting, other forms of outdoor recreation, education, and aesthetics. The environmental and socio-economic benefits of wetlands are also well documented and recognized by the scientific community, policy makers, as well as most of the general public. We will only briefly discuss some of these functions and values as they relate to South Dakota's fish, wildlife, habitat and recreational resources.

Outdoor recreation and education

The recreational value of South Dakota's wetlands is important to residents and nonresidents alike. Wetlands provide places for hunting, fishing, trapping, bird watching, photography, boating and other outdoor recreation activities. Wetlands also provide outdoor classrooms and laboratories for school children, college students, wildlife biologists and other researchers studying wetland ecosystems.

Water levels in natural lakes in South Dakota can fluctuate widely from year to year. These variable water levels can seriously affect recreational use of the waters as boat ramps and beaches become unusable at low lake levels. Wetlands within lake watersheds, can moderate lake inflows or maintain stream flows throughout the year. Wetlands recharging local aquifers can also function to stabilize lake levels.

Wildlife

As summarized above most of South Dakota's wetland resources lie in the glaciated eastern Prairie Pothole Region (PPR) portion of the state. Portions of this landscape are dotted by as many as 100 small wetland basins per square mile (Johnson and others, 1997). Complexes of small temporary and seasonal wetlands in conjunction with larger semi-permanent marshes are vitally important for breeding, foraging and migrating waterfowl, shorebirds and other water birds (Evans and Black, 1956; Hubbard, 1988; and Kantrud and others, 1989).

The PPR is the most critical waterfowl breeding habitat in North America. It encompasses only 10 percent of the waterfowl breeding habitat in North America, yet can produce as much as 50 to 70 percent of the continental duck population during wet years (Batt and others, 1989, Ducks Unlimited, 2001). Many areas in eastern South Dakota can support over 100 breeding pairs of ducks per sq. mile when water conditions are favorable. In 2001, such conditions in the eastern Dakotas alone supported an estimated 25% of all breeding ducks in the north central North America traditional survey area (USFWS, 2001). Often South Dakota is ranked number two in total waterfowl production for the contiguous 48 states. However, in some recent years, depending on water conditions and available nesting cover (e.g. remaining native prairie and Conservation Reserve Program grass cover), South Dakota's overall waterfowl production ranked first for the contiguous 48 states. As alluded to above, re-establishing federal Farm Bill

and Clean Water Act protection of South Dakota's PPR wetlands, as well as other wetlands across the state, is critical to sustain nationally and internationally important waterfowl populations. This protection is also vital to maintain viable populations of dozens of other wetland dependent migratory passerine, shorebird and waterbird species, including state and/or federally listed endangered and threatened species such as the Interior least tern, Piping plover, Eskimo curlew, Whooping crane, Bald eagle, Osprey and Peregrine falcon.

South Dakota's wetlands, particularly those characterized by dense stands of emergent cattails also provide extremely important winter cover for popular resident game species such as ring-necked pheasants and white-tailed deer. Additionally, wetlands are the most important furbearer habitat in South Dakota. Mink, muskrats and raccoons are particularly abundant in areas characterized by numerous wetlands.

Wildlife Related Economic Benefits

The total wildlife-related economic value of wetlands is difficult to ascertain, but is undoubtedly important to South Dakota's economy. According to the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, 662 thousand residents and non-residents spent \$1.2 billion on wildlife-related recreation in South Dakota. 270 thousand resident and nonresident hunters alone spent over \$596 million that same year, with the migratory bird hunters' share totaling over \$63 million. It is noteworthy that migratory bird hunters primarily pursue ducks and geese and spend much of their time on or near wetlands of various types where waterfowl congregate in the fall. Other hunters spend considerable time near or on wetlands because of the quality cover some wetlands (e.g. seasonal wetlands) provide for pheasants and deer.

The 2011 national survey also indicates that 384 thousand residents and nonresidents spent nearly \$167 million in South Dakota on wildlife-watching activities such as observing, feeding or photographing wildlife. Nearly 200 thousand wildlife watchers observed waterfowl and shorebird species, most of which would have been observed on or near wetlands. Similar 1996 survey results showed that 65 thousand wildlife-watchers that visited some type of public land visited a marsh or wetland site. Although numbers are unavailable, many other folks likely participated in these activities on or near privately owned wetlands.

Due to fluctuating markets and demand, as well as highly variables furbearer populations, the annual value of furs harvested in South Dakota varies significantly year to year. According to South Dakota Department of Game, Fish and Parks harvest estimates based on fur dealer reports, annual total values recently have ranged from \$500,000 to slightly over \$1million. While it may not be as important as it once was, trapping is an important source of income for many South Dakota families. Furbearers often trapped on or near wetlands include mink, muskrats, raccoons, beaver and skunk.

Commercial and sport fisheries and economic benefits

Wetlands adjacent to lakes, immediately upstream from lakes, or elsewhere in a watershed serve as spawning and nursery areas for many species of fish. Wetland areas near rivers and streams also provide important habitat for spawning and juvenile fish. Consequently, wetlands play a key role in supporting high quality fisheries across the state.

Baitfish harvest from South Dakota waters is a commercial activity regulated by the Department of Game, Fish and Parks. It has an economic impact of over \$3 million a year, with over 75% of the approximately 170,000 gallons of baitfish netted in South Dakota exported to other states (Ward, 2008). Baitfish were harvested from waters in 25 different counties, with the greatest harvest occurring in Day County. Fathead minnows comprised 99.7% of the harvest, with much smaller numbers of white suckers, creek chubs, and golden shiners also collected. These baitfish are harvested primarily in wetlands in the eastern part of the state.

Sport fishing in South Dakota is a very popular pursuit for resident and non-resident anglers alike. According to the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation 268 thousand anglers spent nearly \$203 million on fishing-related expenses in the state. The numerous natural lakes and associated wetlands in eastern South Dakota support a significant portion of this angling and economic activity.

Surface and groundwater supplies

Prairie wetlands play a very important role in the hydrologic cycle and are a key element in maintaining and conserving South Dakota's water resources. Wetlands provide benefits to farmers, ranchers and rural and urban citizens in their capacity to store flood water, recharge groundwater, provide nutrient recycling and stabilize stream flows.

The U.S. Army Corps of Engineers recognized wetland values for flood water storage in at least two South Dakota projects (Harmon, 1976). Various federally and state funded projects have advocated restoration and/or acquisition of wetlands to store water on the landscape in lieu on constructing additional flood control dams.

Prairie pothole wetlands are capable of storing a tremendous amount of water on the landscape. Shjeflo (1968) and Eisenlohr and others (1972) have shown that from May to October wetlands lose approximately 2.5 feet of water to evapotranspiration. In other words, intact wetlands on the landscape can provide a 2.5 foot cushion of storage of spring runoff and precipitation. In a recent study completed in the Devils Lake Basin in North Dakota, Ludden and others (1983) found that small wetlands could contain 657,000 acre-feet of water — equivalent to about 72 percent of the total runoff from a 2-year frequency runoff and about 41 percent of the total runoff from a 100-year frequency runoff. The US Fish and Wildlife Service estimates that each acre of small wetland reduces flood damage to roads by \$6.11 per year. Each acre of small wetland also provides \$29.23 worth of flood damage protection to agricultural land per year.

Maintenance of Lake Water Quality

Sedimentation is a water quality concern in lakes or permanent wetlands used for recreation. Several dredging projects have been initiated to remove sediment in lakes. The preservation of wetlands controlling inflows into lakes and permanent wetlands is an important watershed management strategy to address sediment inflows.

Protection Strategies

Conservation of South Dakota's wetland resources is vital if the above described functions and values are to be preserved for future generations. Gigliotti (2002) demonstrated that over 85 percent of South Dakotans believe that wetlands are important in preserving clean water and

should be protected. Eighty-nine percent of them also feel that healthy wildlife populations are very (59 percent) or moderately (33 percent) important to the economy and well-being of South Dakota residents. These data demonstrate that there is significant public support for conservation of wetlands and wetland dependent wildlife in the state. South Dakota GF&P's wetland conservation efforts fall into several broad categories including: education; management; acquisition; continued support of various state and federal regulatory; and legislative measures.

Education

South Dakota GF&P will continue to provide educational materials in various media formats to the public regarding wetland functions and values and the importance of wetland conservation. We will also continue to support and provide technical assistance to other state and federal agencies producing such materials.

Management

Management of wetlands and associated grasslands on existing state Game Production Areas (GPA's) for the benefit of game and non-game species is a top priority for the Wildlife Division. Control of noxious weeds and other invasive species is an integral component of GF&P public land management. Assisting private landowners with wetland and grassland management by providing technical assistance, cost-share and/or incentive payments will continue and is likely to become more important. Practices including: wetland restoration, enhancement and creation, as well as grazing management and grassland restoration are all eligible for cost share.

Acquisition

South Dakota GF&P will continue to opportunistically purchase new lands from willing sellers. Priority for new land acquisitions will include "round outs" of existing areas through purchase of private inholdings within, or areas immediately adjacent to, existing GPA's. Prairie pothole wetlands of virtually any type, as well as associated grassland (or cropland that can be restored to grassland) within the Prairie Pothole Region of eastern South Dakota are acquisition priorities. Riverine wetlands associated with stream and river corridors (riparian areas) statewide are acquisition priorities as well. Lastly, fens, due to their rarity, special vulnerability and the unique plant communities they support also deserve special consideration by GF&P, although open access to such areas may need to be controlled due to the fragile nature of fens.

Support of State and Federal Regulations or Legislation

As discussed above, most regulations, laws or provisions that protect wetlands in South Dakota are federal (Clean Water Act, Farm Bill). Wetlands regulations have historically been very controversial in the state, and despite popular opinion, legislative support for more protection in state law seems unlikely. Continued state and public support of federal programs is important for wetland protection in lieu of formal state regulatory protection. South Dakota GF&P will continue to provide the Army Corps of Engineers and the Natural Resources Conservation Service with technical guidance regarding proposed regulation changes and specific projects that are likely to adversely affect wetland resources. Such guidance will include supporting avoidance, minimization and mitigation of wetland losses on State and Federally-funded projects, with priority given to restoring drained wetlands. State laws and regulations that protect water quality of all waters, including wetlands should be supported and enforced.

Improved state level wetland protection legislation should be considered in the future if and when public support demands it.

Wetlands Assessment Criteria

The following criteria are based on the National Wetlands Priority Conservation Plan (U.S. Department of the Interior, 1989) for protection of wetlands through various forms of acquisition. The NWPC Plan has been developed by the US Fish and Wildlife Service for the Department of Interior. The Emergency Wetlands Resources Act requires consistency between the Statewide Comprehensive Outdoor Recreation Plan process and the NWPC Plan. Therefore, we have adequate NWPC Plan criteria in South Dakota.

Although the National Wetlands Priority Conservation Plan only applies to wetlands acquired by Federal Agencies and "wetlands acquired by the States through the Land and Water Conservation Fund grants program administered by the National Park Service", these criteria may be useful in guiding other wetland protection programs as well. The NWPC Plan represents only one tool to be used for the protection of valuable wetland ecosystems. Only through the coordinated efforts of all interests, public and private, can wetland resources be adequately protected for future generations.

All South Dakota wetland types, as defined by Cowardin (1979), will be considered for acquisition. There are many factors that must be considered in setting the priority for the acquisition of wetlands. Those identified within the NWPC Plan and adapted to South Dakota include:

1. Wetland losses: Wetland types may be given priority consideration for acquisition if they have declined within an ecoregion.

- Palustrine emergent, forested and scrub-shrub wetland types warrant priority consideration for Federal and State acquisition.
- An ecoregion sustaining a high or moderate loss of the base area of wetland types could warrant priority consideration over an ecoregion having a Low Index of Loss of original wetlands.
- Statistically valid data or supportable information could be used to substantiate significant losses for a specified wetland type or types within an ecoregion, a State or portion of a State when National Wetlands Inventory (NWI) trends study data do not show a high or moderate Index of Loss.

2. Threat of Future Wetland Loss: Wetlands may be given priority if they are facing imminent threat or long-term cumulative loss or degradation of functions and values to receive priority consideration.

- Priority may be assigned to a site regardless of size.

3. Wetland Functions and Values: Wetlands to be given priority consideration for acquisition are those with diverse functions and values and/or especially high or special values for specific wetland functions.

- Priority consideration will be given to wetlands whose public values and benefits cannot be maintained or realized, except through acquisition.

- Priority consideration will be given to interests in wetland acquisition methods that are the most cost-effective available while fully and permanently allowing for protection and/or improvement of the public values provided by the wetland. Fee title, perpetual easements, leases, deed restrictions, land donations and exchanges or other methods may be employed.
- Priority consideration will normally be given to wetlands which can be acquired from willing sellers.
- The relative size of a wetland, particularly smaller wetlands, will not in itself disqualify it from priority consideration.
- Restorable wetland sites or systems warrant priority consideration for acquisition.
- Wetland sites that would require minimal operation and maintenance requirements warrant priority consideration for acquisition.

IMPLEMENTATION AND GUIDANCE

Although the Emergency Wetlands Resources Act of 1986 authorizes the use of the Land and Water Conservation Fund (LWCF) for the acquisition of wetlands, no additional money has been appropriated to this already diminished funding source.

The LWCF is a federal program that was established for the acquisition and development of outdoor recreation opportunities. Through a system of matching grants, states have traditionally used their apportionment for acquiring and improving state parks and municipal recreation facilities. Applications for these types of projects already far exceed the level of funding available.

However, as stated earlier in this plan (page 4-5), wetlands do provide important recreational values. If a local government identifies wetlands acquisition as an important project to provide recreational opportunities in their area, such a project would be eligible for funding. The current procedures for evaluating LWCF applications do allow wetland related projects to compete with other project applications.

When funding is specifically appropriated to the LWCF for state acquisition of wetlands (as originally intended by the Emergency Wetlands Resources Act or the level of funding for the LWCF program in general reaches a point where a broader range of recreational needs can be addressed) wetland acquisition will be considered a priority for the use of LWCF funds.

In addition to the LWCF, the Department has the authority to use several other funding sources for wetlands acquisition. The use of any particular source will depend on the purpose of the acquisition and the amount of money available in the fund. The following is a list of sources with a brief description of each fund:

Game Fund

1. License Revenue. The Game, Fish and Parks Commission can authorize the use of these revenues for approved projects, including land acquisition.
2. SD Migratory Bird Certification Stamp. This stamp was established as a source of revenue for waterfowl habitat development which could include wetland acquisition.

Acquisition Fund

Pursuant to state statute portions of each nonresident waterfowl (\$4.00) and small game (\$3.00) license sold are placed in this fund. This fund can be used both for paying real estate taxes and acquiring new lands.

Federal Aid

Wildlife Restoration funds (Pittman-Robertson or PR) and Sportfish Restoration funds (Dingell-Johnson or DJ) can be used to reimburse the Department 75 percent of the acquisition costs depending on the purpose. PR funds could be used to acquire wetlands to be managed for wildlife habitat purposes. DJ funds can be used to acquire wetlands that are suited for fisheries habitat management.

Other Funding Partnerships

Partnerships with other governmental entities or programs such as the U.S. Fish & Wildlife Service, North American Wetlands Conservation Act Grants Program, County Conservation Districts, the State Conservation Commission or non-governmental organizations such as Ducks Unlimited, The Nature Conservancy, Pheasants Forever, Rocky Mountain Elk Foundation, other conservation organizations or clubs and private landowners are very important sources of funding for continued wetland and grassland conservation efforts in South Dakota.

Review and Revision

This document and priority wetlands identified will be reviewed and updated at least every 5 years or during the revision of the SCORP. Feedback into the National Wetlands Priority Plan will take place as supported technical data is made available.

LITERATURE CITED

- Bailey, Robert G. 1996. Description of the ecoregions of the United States. 2nd ed. rev. and expanded (1st ed. 1980) Misc. Publ. No. 1391 (rev.), Washington DC: USDA Forest Service, 108pp.
- Batt, B.D.J., M.G. Anderson, C.D. Anderson and F.D Caswall. 1989. The use of prairie potholes by North American ducks, *in* van der Valk A., ed., Northern prairie wetlands: Ames, Iowa, Iowa State University, p. 204-227.
- Cowardin, L.M., V. Carter, F.C. Golet and E.T. Laroe. 1979. Classification of wetlands and deepwater habitats of the United States; FWS/OBS-79/31. Washington, D.C.: U.S. Government Printing Office, 131pp.
- Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. Water resources and wetlands, *in* Wetland functions and values: The state of our understanding. American Water Resources Association. pp. 344-376.
- Dahl, T.E. 1990. Wetland losses in the United States 1780's to 1980's. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 21pp.
- Dahl, T.E. 2000. Status and trends of wetlands in the conterminous United States 1986 to 1997. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 82pp.
- Dahl, T.E. 2006. Status and trends of wetlands in the conterminous United States 1998 to 2004. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C. 112 pp.
- Dahl, T.E. 2011. Status and trends of wetlands in the conterminous United States 2004 to 2009. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C. 108 pp.
- Drewien, R.C. and P.F. Springer. 1969. Ecological relationships of breeding blue-winged teal to prairie potholes. pp. 102-115 in Saskatoon Wetlands Seminar. Can. Wildlife Service, Report Series 6.
- Ducks Unlimited, Inc. 2001. Ducks Unlimited's Conservation Plan: meeting the annual live cycle needs of North America's waterfowl. Memphis, TN. 212 pp.
- Duebbert, H.F. and J.T. Lokemoen. 1980. High duck nesting success in a predator-reduced environment, *in* Waterfowl ecology and management: selected readings: The Wildlife Society, pp 191-200.
- Eisenlohr, W.S., Jr., et al. 1972. Hydrologic investigations of prairie potholes in North Dakota. 1954-1968. Geological Survey Professional Paper 585-A, U.S. Government Printing Office, Washington, D.C. 102pp as cited in Shjeflo 1968.
- Evans, C.D. and K.E. Black. 1956. Duck production studies on the prairie potholes of South Dakota. U.S. Fish and Wildlife Service, Special Scientific Report Wildlife, No. 32, 59pp.

- Frayer, W.E., T.J. Monohan, D.C. Bowden and F.A. Graybill. 1983. Status and trends of wetlands and deepwater habitats in the conterminous United States, 1950's to 1970's. US Fish and Wildlife Service, National Wetlands Inventory. 32 pp.
- Gigliotti, L.M. 2002. Wildlife values and beliefs of South Dakota residents, HD-10-02.AMS. South Dakota Department of Game, Fish and Parks, Pierre, SD. 175 pp.
- Harmon, K.W. 1976. The economics of wetland values. US Fish and Wildlife Service Wetland Symposium, June 8-9, 1976. Printed in Wildlife Management Institute Newsletter. Washington, D.C.
- Johnson, R.R. and K.F. Higgins. 1997. Wetland resources of eastern South Dakota. Brookings: South Dakota State University. 102pp.
- Johnson, R.R., K.F. Higgins, M.L. Kjellsen and C.R. Elliott. 1997. Eastern South Dakota wetlands. Brookings: South Dakota State University. 28pp.
- Kantrud, H.A., G.L. Krapu, and G.A. Swanson. 1989. Prairie Basin Wetlands of the Dakotas: A Community Profile. Biological Report 85(7.28). United States Fish and Wildlife Service, Northern Prairie Wildlife Research Center. Jamestown, ND. 111 pp.
- Ludden, A.P., D.L. Frink and D.H. Johnson 1983. Water storage capacity of natural wetland depressions in the Devils Lake basin of North Dakota. Journal of Soil and Water Conservation, pp 45-48.
- Rieger, B.A., K.F. Higgings, J.A. Jenks and M. L. Kjellsen. 2006 Demographics of Western South Dakota Wetlands and Basins. Brookings: South Dakota State University. B748. 124pp.
- Shjeflo, J.B. 1968. Evapotranspiration and water budget of prairie potholes in North Dakota. U.S. Geological Survey Professional Paper 585-B, U.S. Government Printing Office, Washington, D.C.
- U.S. Department of the Interior, Fish and Wildlife Service. 1989 National Wetlands Priority Conservation Plan.
- U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of the Census. 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.
- U.S. Fish & Wildlife Service. 2001. Waterfowl population status, 2001. U.S. Department of the Interior, Washington D.C. 50pp.
- Ward, M. 2008. South Dakota Baitfish Harvest Summary, January 1 – December 31, 2007. Dakota Department of Game, Fish and Parks, Wildlife Division Completion Report 09-01.

