CHAPTER 1 INTRODUCTION

European settlers coming to South Dakota in the 1800s found and exploited a wealth of natural resources, including abundant wildlife populations. Species such as the American bison, pronghorn, and white-tailed deer were decimated by the early 1900s and others, such as the passenger pigeon, eastern elk, and Audubon's bighorn sheep, were lost forever to extinction. Fearing further losses, hunters led a new movement of wildlife conservation, which included new hunting ethics, the science of wildlife management, and other protection measures.

A survey by South Dakota Game, Fish and Parks (SDGFP) found that more than 90% of the public believe that South Dakota should preserve as much wildlife as possible and that healthy wildlife populations are important to our economy and our well-being. They consistently classified wildlife and natural resource conservation as a critical part of our outdoor heritage. This result wasn't surprising to those of us who have both worked in the wildlife field and enjoyed our state's tremendous fish and wildlife resources in our leisure time.

Our forward-thinking ancestors helped assure that we would have fish to catch, game to hunt, and other critters to view, photograph and just simply enjoy having around. The Sport Fish and Wildlife Restoration Programs were established to steer hunter and angler dollars back to the management and restoration of fish and game and to stem the tide of resource exploitation and misuse. Other laws have helped in the awesome challenge of monitoring and managing the complex pieces of our natural world.

But we still have far to go to do something as meaningful as our ancestors did when they passed the landmark bills that set the stage for sound fish and wildlife management. Wildlife managers have tended to focus on certain game species and their habitats, with less emphasis on nongame species and some landscapes that may not fit our traditional view of "good" habitat. Many of the species on state and federal lists of endangered species may have unfamiliar names and small distributions – they've fallen through the cracks of wildlife management, but we know that each component of our natural world is a critical piece.

Many dedicated people continue to search for a long-term solution to fill these cracks in our conservation efforts. In the meantime annual funding from Congress has helped immensely in assisting states to meet their increasing responsibilities to manage for the needs of all fish and wildlife species

and their habitats. State Wildlife Grant funding is one example, and the South Dakota Department of Game, Fish and Parks (SDGFP) will continue to make the best use possible of this important funding source as long as it lasts. When we accepted these funds, we committed to preparing a comprehensive plan for all fish and wildlife species in the state (SDGFP 2006). This revised plan (Plan) offered a great opportunity to revisit where we are and where we should go from here.

This Plan is a voluntary guidance document with an emphasis on conserving biological diversity in South Dakota through partnerships and cooperation. The Plan is not a set of mandates or a land acquisition model. Nor is the plan specific to SDGFP. To be successful in avoiding future endangered species conflicts and jeopardizing unique habitats, we must engage private landowners, tribes, environmental and agricultural organizations, government entities ranging from local to federal agencies, as well as the more than 90% of our citizens who believe in the importance of wildlife to our quality of life and to our economy.

We recognize the sovereign status of tribes in South Dakota. Since the vast majority of lands in South Dakota are privately held, private land management and voluntary landowner participation are essential to successful wildlife management. The Plan's approach is to consider what our landscape was like before settlement, but that doesn't mean we would like to turn back the clock to a time before agriculture or other land-altering practices came to South Dakota. The Plan focuses on native species and habitats, but we have no intention of abandoning our commitment to introduced species, such as the ring-necked pheasant, which is an irreplaceable part of our agency's history and our state's hunting legacy. This plan does not replace other planning efforts, such as those dealing with game management, but attempts to address broader, unmet needs. We hope to build on our traditional strengths and constituents in expanding our stewardship to resources that need our attention and care. We support the use of the best science available and the continued collection of sound information to help SDGFP and the SDGFP Commission make informed decisions. We plan to use the best practices available for conservation education to teach South Dakota's children and adults about our unique natural resources.

Each of us, whether we hunt, fish, hike, feed birds, or photograph nature, has a treasured memory or a special place that helped to cultivate and personalize our connection with nature. It may be a memory of the first fish we caught, an amazing retrieve by a hunting dog, a traditional family camping spot, or an unforgettable chance encounter with something wild. Our vision for this Plan is that each of us can find a way to contribute to our state's future natural diversity to replicate what our ancestors did for us in fish and wildlife conservation. We hope that our commitment to making things better will assure that our grandkids and yours have the chance to create their own treasured memories and find their own special places in nature.

1.1 Background

Since the advent of wildlife management, federal laws and policies have placed the primary responsibility for wildlife management programs in the hands of the 50 states. However, the effective

implementation of these programs has long depended on adequate federal funding. To fund these programs, Congress passed the 1937 Wildlife Restoration Act, also known as the Pittman-Robertson Act, which imposed a 10% manufacturer's tax on hunting ammunition and firearms. Tax proceeds generated from this Act are distributed to state fish and wildlife agencies for research, habitat protection, and species recovery. Anglers followed suit in 1950, urging passage of the Sport Fish Restoration Act, also called the Dingell-Johnson Act. The Dingell-Johnson Act placed a 10% manufacturer's tax on fishing rods, reels, and tackle to be distributed to state fish and wildlife agencies for sport fish restoration. The Wallop-Breaux Amendment was passed in 1984 to expand the Dingell-Johnson Act by including boating and angling gear for financial support of recreation access and education programs. With the primary source of funding for state wildlife programs coming from hunters and anglers, state wildlife managers implemented very successful management programs to recover or improve game species. However, nongame and endangered species funding needs have not been linked with a similar funding solution. Today, hundreds of species are considered in danger of extinction. Endangered Species Act (ESA) funds have helped recover some well-known species, such as the bald eagle and peregrine falcon but hundreds more are declining every year. Efforts to recover declining species are extremely expensive, and most wildlife advocates agree that preventive actions that keep species from needing to be listed under ESA are the answer to assure the future of America's fish and wildlife resources.

Recognizing the need to take action to prevent species declines, more than 6,400 groups have come together as the Teaming with Wildlife Coalition. This Coalition includes wildlife managers, conservationists, hunters and anglers, businesses, and many others who support the goal of restoring and conserving our nation's wildlife. Teaming with Wildlife is a legislative effort to identify and secure a stable, long-term funding source for fish and wildlife species that have not been traditionally funded by existing federal programs. A well-funded, coordinated approach to inventories, management, and related educational efforts can help prevent future endangered species listings and help state wildlife agencies fulfill their trust responsibility to manage for the needs of all wildlife species.

As a result of the efforts of the Teaming with Wildlife Coalition and others, the Federal Government developed the State Wildlife Grant Program. The State Wildlife Grant Program provides funding to every state and territory to support conservation aimed at keeping wildlife from becoming endangered. This program continues the long history of cooperation between the federal government and the states for managing and conserving wildlife species. To receive future federal funds through the State Wildlife Grant program, Congress charged each state and territory with developing a Wildlife Action Plan. The wildlife plans provide an essential foundation for the future of wildlife conservation and an opportunity for states, federal agencies, and other conservation partners to strategically think about their individual and coordinated roles in conservation efforts across the nation.

The South Dakota Department of Game, Fish, and Parks completed its statewide Comprehensive Wildlife Conservation Plan, now called the South Dakota Wildlife Action Plan (SDWAP) in 2006, and it was approved by the U.S. Fish and Wildlife Service shortly thereafter. The SDWAP serves as a strategic vision and plan of action for statewide wildlife conservation and makes South Dakota eligible for Federal conservation funding. The SDWAP identifies conservation needs and actions that can be implemented

by landowners, agencies, partnerships, or private organizations. Further, it prioritizes resources and activities to prevent future decline of species and ecosystems in South Dakota. It places emphasis on ecosystems and species of greatest conservation need (SGCN).

The purpose of the SDWAP is to provide:

1. A strategic vision and plan of action for statewide wildlife conservation and funding; a declaration of goals and how to achieve them.
2. A means for collaboration among diverse interests that helps achieve the goals of maintaining or enhancing South Dakota's ecosystems and wildlife resources.

As such, the SDWAP is designed to maintain and conserve the State's biodiversity. It is designed to operate using proactive measures and incentive-based programs on private lands, and cooperative efforts with other agencies on public lands. It is a plan not just for SDGFP but for cooperative efforts to include landowners, other agencies, and organizations. It emphasizes the State's native biodiversity, but is not designed to detract from the value of important nonnative species, and in fact, provides many indirect benefits to many of these species such as ring-necked pheasants. The plan does not replace other planning efforts, such as those developed for game management, but rather addresses broader biodiversity objectives using complementary programs.

The SDWAP helps guide voluntary and cooperative actions, and does not place mandates or restrictions on uses of private land. It uses an historical reference to help characterize and understand biological diversity, but is not a plan to return to historical conditions. The programs and approaches recommended are based on a recognition and respect for private property rights as well as recognizing the importance of tribal sovereignty in any cooperative programs. It is developed with the view that working cooperatively and identifying mutually agreed upon programs and actions will produce desired conservation benefits that can be effectively integrated with other land uses and objectives.

1.2 Summary of Plan Updates and Changes

For the last several years, SDGFP has been coordinating and leading a planning team to revise the SDWAP to incorporate new or updated information and evaluate the potential impacts of climate change on South Dakota's ecosystems and species. Specifically, the SDWAP has revised its terrestrial ecological boundaries to take advantage of improved tools and ecological information developed for Major Land Resource Areas (MLRAs), as classified and mapped by the Natural Resources Conservation Service. Within each MLRA, the native ecosystem diversity for forest, grass, and shrub ecosystems has been updated to reflect the current knowledge of ecosystem diversity applied at this scale. This additional information will better assist managers in implementation of restoration activities. Further, wetland and riparian ecosystem classification is updated and mapped using improved data and methods. In addition, the recently updated Aquatic GAP information has been incorporated to map key

watersheds and identify key stream and river reaches with high conservation value or management needs.

Concerns over climate change have dramatically increased since the original plan was developed. Congress has allocated funding to specifically incorporate climate change considerations into state Wildlife Action Plans. The SDWAP, with its ecosystem-based approach, is very well positioned to incorporate meaningful considerations for climate change. The effect of climate change on ecosystems in terms of potential changes to species compositions and structures is incorporated, where information is available. The results of the evaluation of climate change effects on ecosystems were then used to evaluate the potential effects on SGCN.

The Plan included 90 SGCN in 2006 and after review this was increased to 101 species in 2014. Requirements for many of these species as well as their status in South Dakota may not be well documented. New information on some of these species has been generated during recent years. In addition, some species of concern have been added where information on habitat or population status indicate possible declines or projections for climate change in South Dakota indicate significant future challenges for a species.

To assist with targeted planning for conservation actions, conservation opportunity areas are identified for the updated SDWAP. These areas represent the best opportunities for voluntary ecosystem restoration or other effective management actions within South Dakota and may also include areas with large numbers of SGCN or important linkage zones. Identification of conservation opportunity areas also allows for improved or renewed opportunities to build collaborative relationships with landowners and stakeholders in those landscapes, especially those with an interest in fish and wildlife conservation in South Dakota. See Figures 6-5 and 6-11.

An additional objective for the 2014 update of the SDWAP is to make the document more user-friendly as well as improve our online supporting resources. To accomplish this, the data developed for the 2014 update will be made available to the public in a new web-based tool available for conservation planning. The SDWAP itself has been streamlined to present key information on the overall ecosystem-based process, identification of SGCN, predicted effects of climate change, discussion of conservation challenges, recommendations for conservation actions, and identification of conservation opportunity areas.

Incorporation of Wildlife Action Plan Best Practices

Wildlife Action Plan revisions offer the opportunity to craft plans that increase consistency across state boundaries. A committee working under the Association of Fish and Wildlife Agencies (AFWA) provided voluntary guidance for consideration during plan revisions (AFWA 2012). Although the AFWA report was finalized after much of South Dakota's Plan was drafted or the revision processes finalized, this Plan incorporated many of the suggested best practices. A summary is presented in Appendix B.

1.3 Key Elements

Congress identified eight required elements of a state wildlife action plan with the expectation that "species in greatest need of conservation" will be identified, while also addressing the "full array of wildlife" and wildlife-related issues. The strategies must provide and make use of:

1. Information on the distribution and abundance of species of wildlife, including low and declining populations as the State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the State's wildlife; and,
2. Descriptions of locations and relative conditions of key habitats and community types essential to conservation of species identified in (1); and,
3. Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats; and,
4. Descriptions of conservation actions proposed to conserve the identified species and habitats and priorities for implementing such actions; and,
5. Proposed plans for monitoring species identified in (1) and their habitats, for monitoring effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions; and,
6. Descriptions of procedures to review the strategy at intervals not to exceed ten years; and,
7. Plans for coordinating the development, implementation, review, and revision of the SDWAP with Federal, State, and local agencies and Indian tribes that manage significant land and water areas within the State or administer programs that significantly affect the conservation of identified species and habitats.
8. Congress also affirmed through this legislation that broad public participation is an essential element of developing and implementing these plans, the projects that are carried out while these plans are developed, and the Species of Greatest Need of Conservation that Congress has indicated such programs and projects are intended to emphasize.

1.4 Goals

The goals of the SDWAP are strategic and designed to:

1. Guide the conservation of biological diversity in South Dakota;
2. Initiate a process to identify and monitor the status of biological diversity in South Dakota;
3. Identify challenges to maintaining or restoring biodiversity and establish a conservation action process for native ecosystems and species of concern;
4. Develop objectives and action plans to achieve these goals;
5. Satisfy legal mandates for rare species recovery;
6. Satisfy eligibility requirements for applicable funding sources;

7. Develop a list of projects to help match available funds with resource priorities; and
8. Implement a process that allows and encourages participation by government agencies, tribes, conservation partners, and the public.

1.5 Species of Greatest Conservation Need - Overview

A primary element of the SDWAP is the identification of Species of Greatest Conservation Need (SGCN) across the state. The previous list of SGCN was reviewed and updated for 2014 by SDGFP in cooperation with South Dakota Natural Heritage Program ecologists and included input from many experts in the state and region. The review process involved identifying species or taxa experts who were asked for input and associated justifications for suggested additions or deletions. The Wildlife Action Plan Science Team (Science Team) reviewed this input. The draft list was shared multiple times with land and resource management agencies and tribes in South Dakota. All agency and tribal feedback was considered within the context of the selection criteria. The draft list was also shared with the general public in a specific public comment opportunity, and all feedback was again carefully considered before finalizing the SGCN list.

The SGCN list contains 101 animal species; 29 bird species, 11 mammal species, 12 reptile or amphibian species, 11 terrestrial insect species, 9 freshwater mussel species, 4 gastropod species, 21 fish species, and 4 aquatic insect species. Plant species were not included as species of greatest conservation need. The SDWAP's coarse filter approach, described later in the Plan, should accommodate the diversity of plant species when implemented appropriately.

1.6 Conservation Strategies - Overview

Conservation of a State's biological diversity and SGCN can be approached through several strategies based on different objectives and assumptions (Grossman et al. 1998, van Jaarsveld et al. 1998, Haufler 1999, Gutzwiller 2002, Noon et al. 2003). Selection of a strategy or multiple strategies depends on the unique objectives of a State's planning effort. Various strategies for conservation of biological diversity were evaluated and assessed for the SDWAP. Two different conservation strategies were selected to meet the State's objectives for conservation of biological diversity. The first uses a coarse-filter/fine-filter strategy to ensure the habitat needs of wildlife species by maintaining or restoring native ecosystem diversity for terrestrial and riparian-wetland systems across South Dakota. The second uses a modification of the aquatic GAP analysis strategy to identify needed conservation opportunity areas (COAs) to protect aquatic systems. The application and implementation of each of these conservation strategies will be discussed in detail in later sections of this document. For many of the SGCN identified for this effort, implementation of these two strategies will improve and restore habitat conditions across South Dakota. In some instances, SGCN may also experience non-habitat related challenges that must also be recognized and addressed to meet conservation objectives. These non-habitat related conservation challenges and actions are also discussed in later sections of this document.