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Chapter 1
INTRODUCTION AND PURPOSE

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Planning and actions to recover species that have become endangered are controversial and expensive. Annual spending on listed species in the United States has increased more than six fold over the past 10 years, to a level of over $600 million a year. Nationally, in 2004, there were 1,260 species listed as threatened and endangered, 31 species proposed for listing, and 256 more considered to be candidate species (http://www.teaming.com). Approximately 10% of New Mexico's fish and wildlife are listed as State Endangered or Threatened and many others have declined significantly (see Statewide Assessment and Strategies). In 2001, through the efforts of the 3000 member groups of the Teaming With Wildlife Coalition, the US Congress passed legislation now known as the State and Tribal Wildlife Grants Program and created the nation's core initiative for conserving our country's biodiversity and thereby precluding the necessity of listing more species as threatened and endangered. The Program promotes proactive and collaborative conservation action *before* wildlife reaches that serious and controversial status. Since 2001 Congress has allocated about $400 million to the states for this purpose, apportioned on the basis of their respective land areas and human populations. New Mexico's share has averaged about $1 million per year. In order to maintain eligibility for this funding, each state must develop and submit a Comprehensive Wildlife Conservation Strategy (CWCS) no later than October 1, 2005.

> The CWCS is a blueprint for conservation, through which federal, tribal, state, and local governments and private entities can coordinate conservation efforts and reduce expenses associated with the processes of listing and recovering endangered species.

The New Mexico Department of Game and Fish (NMDGF) is mandated to protect and provide an adequate supply of game, fish, and furbearers and to carry out the provisions of the Wildlife Conservation Act pertaining to indigenous species of wildlife suspected or found to be threatened or endangered (Chapter 17 NMSA, 1978). We expect this CWCS to make our wildlife conservation efforts in this regard more strategic, holistic, and pro-active. The funding enabled by this document will allow the Department to broaden its attention beyond single species that are hunted, fished, trapped or endangered to include those that are of interest simply because they are necessary elements of the biodiversity that supports all New Mexico wildlife. We think this CWCS presents a sensible, collaborative approach that can function as a conservation blueprint through which interested federal, tribal, state, and local governments, and private entities might coordinate their conservation efforts and reduce the potential of incurring the conflicts and expenses associated with the processes of listing and recovering endangered species. The direct economic value of wildlife-associated recreation in New Mexico has been estimated at $1 billion annually, about $558 million of which is contributed by appreciative users. We think the CWCS will contribute significantly to the economy and quality of life in New Mexico by helping to sustain or improve opportunities for hunting, fishing, trapping, and appreciative, scientific, and educational uses of wildlife. We anticipate the CWCS will assist in averting the necessity of engaging in the costly and controversial recovery process for additional endangered species.

CONGRESSIONAL MANDATE AND GUIDANCE

Federal legislation requires that the CWCS focus upon the Species in Greatest Need of Conservation (SGCN), yet address the full array of wildlife and wildlife-related issues. The CWCS 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 condition of key habitats and community types essential to conservation of species identified in (1).

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 determined to be necessary 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 the 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 to the extent feasible, the development, implementation, review, and revision of the CWCS 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 affirmed through the Wildlife Conservation and Restoration Program and State and Tribal Wildlife Grants Program that broad public participation is an essential element of developing and implementing these CWCS, the projects that are carried out while these CWCS are developed, and the Species in Greatest Need of Conservation that Congress has indicated such programs and projects are intended to emphasize.

> The CWCS for New Mexico focuses upon Species in Greatest Need of Conservation yet addresses the full array of wildlife and wildlife-related issues.

The International Association of Fish and Wildlife Agencies (IAFWA) views development of the CWCS as an opportunity for state wildlife agencies to provide effective and visionary leadership in wildlife conservation and has suggested several guiding principles in this regard. The IAFWA encourages broad participation at multiple staff levels within each agency and public-private partnerships and shared responsibility in developing and implementing the CWCS. It recommends early and frequent communication, making the process and rationale for decisions obvious to those who read and use the CWCS, and that we make it highly readable through the inclusion of glossaries of technical terms. The IAFWA suggests we set measurable outcomes, achievable strategies, and address statewide issues across jurisdictions and interests, and coordinate with other states and countries. They suggest we use existing information and integrate elements from other plans and initiatives, identify information gaps, and not let lack of information inhibit decision making. IAFWA suggests we make the CWCS spatially explicit with a full complement of GIS and other maps, figures, and graphics and that we develop an updateable information system to monitor implementation and the status and trends of wildlife and habitat. Finally, the IAFWA suggests we make the CWCS a blueprint for action – a driving force in guiding diverse wildlife and habitat initiatives and land use decision-making by government, corporate, and private entities. NMDGF has attempted to adhere to these guiding principles in leading the development of the CWCS for New Mexico.

> Broad agency and public participation, coordination, and partnerships with shared responsibility in developing and implementing the CWCS are fundamental for effective conservation programs.

ORGANIZATION AND FORMAT

New Mexico's CWCS is organized into seven chapters. Chapter 2 presents our approach to identifying species of greatest conservation need (SGCN), their abundance and distribution, key habitats, and the problems affecting both. We also summarize therein the opportunities for involvement we provided to local, state, and federal government agencies, tribes, non-government organizations (NGOs), and interested individuals as well as some of the issues they brought to our attention. In Chapter 3 we present information about New Mexico's floral and faunal biodiversity, climate, geology, population and economy, and land stewardship. Chapter 3 also presents information about New Mexico's ecoregions and key habitats as well as the status of its wildlife species. Chapter 4, Statewide Assessment and Strategies, identifies our SGCN and provides information about their abundance and distribution throughout New Mexico. In this chapter we summarize, on a statewide scale, problems affecting species or their habitats and identify the most important information gaps, research, survey, and monitoring needs, conservation actions, and the key areas for focusing conservation efforts.

> Chapter 4 provides a synthesis of conservation priorities on a statewide scale, and suggests key areas for focusing conservation efforts.

Chapter 5, entitled Assessments and Strategies for SGCN and Key Habitats, is perhaps the heart of the CWCS. This chapter is organized by ecological frameworks; ecoregions for terrestrial habitats, watersheds for aquatic habitats, and statewide considerations for riparian and ephemeral aquatic habitats. Here we discuss the condition of key habitats, identify associated SGCN, and identify problems affecting both. But, there is much we don't know about New Mexico's SGCN, their key habitats, and the scope, scale, and effects of problems affecting them. Therefore in this chapter we've also identified information gaps and the research, survey, and monitoring work needed to fill them. Finally, we conclude each consideration of key habitats and associated SGCN by identifying desired future outcomes and prescribing prioritized conservation actions necessary to attain them. Also included in Chapter 5 is a discussion of SGCN that are not associated with key habitats, including arthropod SGCN other than crustaceans. Here we identify information gaps that limit our ability to associate these species with key habitats and summarize what we know about their distribution and abundance, habitat associations, limiting factors, and conservation actions. In Chapter 6 we summarize ongoing status and trends monitoring efforts for New Mexico's wildlife and habitats, note the importance of collaborative monitoring efforts, and present a synopsis of current monitoring needs.

> Chapter 5 is the heart of the CWCS, and contains:
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> - Condition of key habitats,
> - SGCN,
> - Problems affecting species and habitats,
> - Information gaps,
> - Research, survey, and monitoring needs,
> - Desired future conditions, and
> - Prioritized conservation actions.

Chapter 7, entitled Implementation, Review, and Revision, describes how we will next develop a wildlife action plan comprised of near-term priorities and employ an operational planning process to guide and effect its implementation. In this chapter we discuss how the operational planning process will include appropriate coordination with local, state, and federal government agencies and tribes and afford these entities, NGOs, and interested publics opportunities to influence and participate in project design and implementation. We also describe our planned CWCS review and revision

process, associated agency coordination and public involvement, and how we will integrate monitoring and adaptive management to measure progress toward stated biological outcomes, become aware of and adapt to new information or changing conditions, and to inform necessary revisions to conservation actions shown to be ineffective.

We hope our readers will find this document informative and useful in becoming aware of New Mexico's biodiversity, the problems affecting wildlife and its habitats, and in identifying appropriate conservation actions. Sources of information consulted in the development of the CWCS appear in the Supporting Documentation. A glossary of terms (Appendix A), complete lists of SGCN and their attributes, lists of habitats in New Mexico, and other supporting information are provided in the appendices. Defined below are the acronyms and abbreviations that are employed throughout the CWCS:

ACOE	Army Corps of Engineers
BISON-M	Biota Information System of New Mexico
BLM	United States Bureau of Land Management
BOR	United States Bureau of Reclamation
CASE	Center for Applied Spatial Ecology
CDOW	Colorado Division of Wildlife
CRP	Conservation Reserve Program
CWCS	Comprehensive Wildlife Conservation Strategy
EPA	United States Environmental Protection Agency
HUCs	Hydrological Unit Codes
ISC	Interstate Stream Commission (New Mexico)
NAS	National Academy of Science
NGO	Non-Governmental Organization
NM	New Mexico
NMCFWRU	New Mexico Cooperative Fish and Wildlife Research Unit
NMDGF	New Mexico Department of Game and Fish
NMSU	New Mexico State University
NRC	National Research Council
OSE	Office of the State Engineer (New Mexico)
SGCN	Species of Greatest Conservation Need
SWReGAP	Southwestern Regional Gap Analysis Project
TNC	The Nature Conservancy
UNM	University of New Mexico
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Abbreviations

ac = acre	**yd** = yard	**m^3** = cubic meter
mi = mile	**yd^3** = cubic yard	**in** = inch
ha = hectare	**m** = meter	**km** = kilometer