

Texas Comprehensive Wildlife Conservation Strategy

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Texas Parks and Wildlife Department
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Comprehensive Wildlife Conservation Strategy

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Edited by:
Steven Bender
Stephanie Shelton
Kelly Conrad Bender
Arlene Kalmbach

Section I - Foreword

Texas is the most beautiful state or province in North America! It covers greater than 250,000 square miles of prairie, forests, canyon lands, rivers, streams and ocean. It is not only ecologically diverse it is culturally radiant due in no small part to its shared border with Mexico. Texas is home to a vast array of wildlife with opportunities to view and commune with nature around every bend.

Texas is at a critical point in its history in terms of nature. One hundred years ago this land was still being discovered by early field biologists. Eminent scientists such as C. Hart Merriam and Vernon Bailey, along with a group of skilled naturalists, carefully and thoroughly surveyed the state of Texas from 1889 to 1905. These gentlemen traveled the state by every known means to record information on mammals, birds and plants. What motivated Merriam and his team to come to Texas was the diversity of soil types, climates and topography that could generate a vast range of plant and wildlife species (Schmidley 2002). Game species as well as non-game species were an abundant resource at the time. Today, life is slightly different. While some species are still abundant some of our most treasured wildlife species are at crossroads. Through the efforts of wildlife biologists and caring citizens, many of these species will remain a constant source of pleasure for generations to come. However, without some help and care, these species could end up going the way of the passenger pigeon. A sure example of this is the Atwater's prairie chickens on the coastal plains. With less than 70 individuals, a catastrophic event could place them into the history books in the category of what once was. If it was not for the help of Texas Parks and Wildlife biologists, caring Texans, private landowners, and partners like the Houston Zoo, this species might already be gone.

Recently, the Department of the Interior has appropriated money to all states and territories to assist with non-game species initiatives. This money is important to Texas and will help a number of species and habitats stay healthy and prosper in the future.

Collecting information and doing good wildlife management cost money with hopeful results always pending. Texas Parks and Wildlife Department is proud to invest this new source of money in the future of Texas wildlife and reverse the downward trend of so many species. This is an investment in the wildlife, no doubt, but it is also an investment in the children and grandchildren of all Texas citizens. Used wisely it is a powerful investment in the future. It is important to remember that we only get one opportunity to fail but we have vast opportunities to succeed. Texas intends to succeed.

This strategy is a major step in the direction of success. Texas Parks and Wildlife Department employees have worked with private landowners, citizens, and agency and non-profit partners to make this strategy a reality. We plan to use this strategy and the relationships that were made stronger in its production, to create a successful future for all wildlife in the Texas.

Robert L. Cook
Executive Director
Texas Parks and Wildlife Commission

Executive Summary

The purpose of the Texas Comprehensive Wildlife Conservation Strategy (CWCS) is two fold; the most important purpose is to develop a strategy that will assist the Texas Parks and Wildlife Department (TPWD) and its conservation partners with the development of nongame initiatives and goals that will address the needs of animal species and habitats; the second is to meet the eight required elements of the State Wildlife Grant program which are outlined by the U.S. Fish and Wildlife Service (USFWS).

The strategy was developed by TPWD with the input of many groups and individuals over a year long process that began at the 2004 Wildlife Diversity Conference held in August, 2004 at Texas State University, San Marcos. Species-based working groups were developed at this conference and those groups worked for several months to provide a list of Species of Concern along with information on those species and the habitats where those species exist. In addition to providing detailed species information, broad scale habitat information was compiled that is based on the major ecoregions of Texas with more detailed information compiled on the habitat types within those ecoregions. This information included problems and needed conservation actions that are associated with those habitats.

Once this information was compiled, a public comment session was developed and multiple press releases were sent out to assemble individuals and other interested organizations into venues across the state to allow them to review and critique the strategy. The venues were mostly zoos or aquaria within the state where the public could review the major sections of the strategy and discuss those sections with a TPWD biologist. After the public comment session, these individuals and organizations were encouraged to visit the TPWD website where the strategy could be fully read, comment forms filled out, and suggested comments sent directly to TPWD employees via email for acclimation into the strategy.

The strategy was developed using four major sections. The first section includes introductory information and the table of contents. Section II involves the major elements associated with the strategy such as information on the development of the strategy, procedures for review, partnership information, and monitoring and habitat information for terrestrial, inland and coastal conservation priorities. In addition to the eight required elements, there is information concerning education and outreach issues as well as a section on urban issues. While these sections are not directly related to the eight elements, TPWD feels they are critical to conservation in Texas. Without a strong education program, it is impossible to work with the citizens of Texas to gain support for general conservation as well as specific projects. Since Texas is greater than 94% privately owned, TPWD and its partners must be able to work on private lands to conduct regional research or on-the-ground management practices. A strong education program is necessary to attain the support and access that is required. The urban program is critical due to the vast majority of Texans living in major cities and towns across Texas. Many of the “new rural landowners” that exist in Texas are absentee, meaning they own land out of town, separate from their primary residence. These people need education as well as technical guidance to assist with their conservation initiatives.

The third section includes acknowledgements, literature cited, a glossary, and abbreviations and acronyms. Acknowledgements were a priority as many partnerships were created or strengthened during the creation of the CWCS. These partners were an integral part in the construction and editing of this strategy and will be necessary for its implementation in the future. The literature cited section is extensive for this document and broken down into sections in order to assist with finding individual references. The glossary should assist readers with the myriad of technical terms that exist in documents like this. The glossary was developed with the layperson in mind.

The final section serves as an appendix with the final species list and the associated guidelines for review of that list. In addition, supplemental information on species, additional conservation actions, plant information and all strategy maps have been placed in this section. The supplemental mammal and herptile information was developed by

the working groups to meet elements one through five. This information was then used to develop the comprehensive species list (described below). The plant information consists of a plant species list associated with the habitat write-ups in section II. This is an overall list of plants that identifies common names taken directly from the Terrestrial Conservation Priorities text. It is not an exhaustive list of plant species for the state of Texas. Additional plant information comes in the form of a “plant strategy” that was developed by botanists from TPWD to begin the process of developing a comprehensive statewide strategy. This strategy will assist Texas naturalists with issues associated with rare and endangered plants as well as exotic species and their encroachment. The plant strategy will be fully developed in the future, more quickly if the State Wildlife Grant program ever expands to encompass species specific plant projects.

One of the main documents used in the production of this strategy was the Land and Water Resources Conservation and Recreation Plan (Land and Water Plan) which was developed by TPWD in 2002 to guide the department in the conservation of Texas’ natural resources over the next 10 years. This document was developed with a series of broad goals that were based on the ecoregions of Texas, the river basins of Texas, and the bays and estuaries of Texas. To ensure the alignment of the two documents goals, strategies, and priorities were taken directly from the Land and Water Plan and placed into the CWCS as part of the introductions to the individual habitat write-ups. Because the goals of the Land and Water Plan were fairly broad, additional goals were developed that are more specific to the associated habitats. These goals were developed by professional biologists that work in these regions and understand the structure and health of these habitats.

In addition to the Land and Water Plan, other conservation documents were referenced or used to create the final strategy. The Texas Shrimp Fishery (2002) report to the Governor of Texas was used as the base for the Coastal habitat section. This document, while designed to answer questions concerning fisheries issues, was drafted in a holistic manner which made it ideal for use in this strategy. Additional documents used included the Texas Wetlands Plan which was developed to guide wetlands conservation in Texas.

Texas wetlands are critical and their conservation is a high priority for the state and this strategy. By using this document as a guidepost there is an increased likelihood that the outlined initiatives will be followed. All of these documents were developed to facilitate the alignment of conservation of resources and initiatives for Texas. The information and conservation priorities are already being used by some organizations; therefore, their incorporation into the CWCS should strengthen all of the documents including this strategy leading to more focused conservation.

The species list associated with this document contains a great deal of information including the species conservation priority rating of high, medium, or low, any federal designations, abundance rankings, associated ecoregion and habitat information, problems associated with the species, conservation actions, and monitoring information. All of this is “boiled down” to one chart for ease of use. Additional information on mammals and herptiles can be found in Section IV under *Supplemental Species Information*, which gives a more detailed account of each species and more specific information on problems, conservation actions, and suggested monitoring.

Major conservation problems for species and habitats are outlined primarily in Section II under the *Species and Habitat Assessments and Conservation Strategies*. There are also conservation concerns within the species list in Section IV. All of these problems are detailed for each of the species with some overlap being apparent, especially regionally.

Conservation actions associated with this document were broken down into two major classes: high and medium. The **high** priority conservation actions were all issues at a statewide level. In order to achieve regional goals some statewide goals must be met first. Two of the major goals include a statewide mapping project in which accurate and up-to-date vegetative information can be displayed and a classification system can be developed and agreed upon by all of the major conservation groups in the state. This information can then be used to conduct statewide surveys for mammals, herptiles and terrestrial invertebrates to determine the status of the species of concern. Once these projects are enacted, data will be used to develop a more accurate picture of the state’s

floral and faunal health. At that point, regional projects become very important to the species and habitats that are discussed in this strategy. Appropriate projects can begin to reshape the landscape or counteract the effects of inadequate or nonexistent management. These regional conservation projects are considered **medium** priorities within this strategy and are outlined within the habitat write-ups in Section II, the species list, and *Medium Priority Conservation Actions* in Section IV.

In order to meet the second major purpose of this strategy, a “road map” or elements guide, was developed to ensure that the eight required elements are easy to manage and review. This road map includes page numbers of sections that are associated with the individual eight elements. They are broken down to address each of the elements associated with the National Advisory Acceptance Team (NAAT) Review Reference Guide that was developed and sent to the states to assist with the strategy development. In addition to the road map, each section has notations along the margins that identify which element is being met with that portion of the strategy. The combination of the road map and the notations should facilitate an easier review.

Elements Guide

1st Element. 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.

NAAT Review Elements	Section	Page
A. The Strategy indicates sources of information (e.g., literature, data bases, agencies, individuals) on wildlife abundance and distribution consulted during the planning process.	II IV	5-10 791-874
B. The Strategy includes information about both abundance <u>and</u> distribution for species in all major groups to the extent that data are available. There are plans for acquiring information about species for which adequate abundance and/or distribution information is unavailable.	II IV	5-8; 21-31 733-777;897-1131
C. The Strategy identifies low and declining populations to the extent data are available.	II IV	5-8;21-39,49-59,72-84,95-101,114-125,145-150,162-166,178-184,195-200,214-220;249,267,279-281,295,304,313,320,331,339,354-357,371,382-384,391,397,404;418-422;425-430 733-777;897-1131
D. All major groups of wildlife have been considered or an explanation is provided as to why they were not (e.g., including reference to implemented marine fisheries management plans). The State may indicate whether these groups are to be included in a future Strategy revision.	II IV	5-8;21-39;49-59,72-84,95-101,114-125,145-150,162-166,178-184,195-200,214-220;249,267,279-281,295,304,313,320,331,339,354-357,371,382-384,391,397,404;418-422;425-430 733-777
E. The Strategy describes the process used to select the species in greatest need of conservation. The quantity of information in the Strategy is determined by the State with input from its partners, based on what is available to the State.	II	5-10

2nd Element. Descriptions of locations and relative condition of key habitats and community types essential to conservation of species identified in the 1st element.

NAAT Review Elements	Section	Page
A. The Strategy provides a reasonable explanation for the level of detail provided; if insufficient, the Strategy identifies the types of future actions that will be taken to obtain the information.	II IV MAPS	19-516 875-896;1107-1131 1-34
B. Key habitats and their relative conditions are described in enough detail such that the State can determine where (i.e., in which regions, watersheds, or landscapes within the State) and what conservation actions need to take place.	II IV MAPS	19-516 875-896;1107-1131 1-34

3rd Element. Descriptions of problems which may adversely affect species identified in the 1st element 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.		
NAAT Review Elements	Section	Page
A. The Strategy indicates sources of information (e.g., literature, databases, agencies, or individuals) used to determine the problems or threats.	II	5-10
	IV	850-874
B. The threats/problems are described in sufficient detail to develop focused conservation actions (for example, “increased highway mortalities” or “acid mine drainage” rather than generic descriptions such as “development” or “poor water quality”).	II	17-19;45,69,92,110,140-142,158,175,193,210,235;241-243,263,274,291,300,310,317,327,336,349-351,364-368,379,388,395,401,414;417-418;454-511;353;546
	IV	733-777;781-782;897-1106
C. The Strategy considers threats/problems, regardless of their origins (local, State, regional, national and international), where relevant to the State’s species and habitats.	II	17-31;45,69,92,110,140-142,158,175,193,210,235;241-243,263,274,291,300,310,317,327,336,349-351,364-368,379,388,395,401,414;417-418;454-511;353;546
	IV	733-777;781-782;897-1106
D. If available information is insufficient to describe threats/problems, research and survey efforts are identified to obtain needed information.	II	17-19;21-31;45,69,92,110,140-142,158,175,193,210,235;241-243,263,274,291,300,310,317,327,336,349-351,364-368,379,388,395,401,414;417-418;454-511;353;546
	IV	733-777;781-782;897-1106
E. The priority research and survey needs, and resulting products, are described sufficiently to allow for the development of research and survey projects after the Strategy is approved.	II	17-19;21-31;45,69,92,110,140-142,158,175,193,210,235;241-243,263,274,291,300,310,317,327,336,349-351,364-368,379,388,395,401,414;417-418;454-511;353;546
	IV	733-777;781-782;897-1106

4th Element. Descriptions of conservation actions determined to be necessary to conserve the identified species and habitats and priorities for implementing such actions.		
NAAT Review Elements	Section	Page
A. The Strategy identifies how conservation actions address identified threats to species of greatest conservation need and their habitats.	II	47,71,93,112,143,160,176,194,212,237;243-247,265,278,294,302,312,318,329,337,353,369,381,389,396,403,416;422;511-517; 517-533 ;548-558
	IV	733-777;783-789;897-1106
B. The Strategy describes conservation actions sufficiently to guide implementation of those actions through the development and execution of specific projects and programs.	II	30-31;47,71,93,112,143,160,176,194,212,237;243-247,265,278,294,302,312,318,329,337,353,369,381,389,396,403,416;422;511-517; 517-533 ;536-540;541-545;544;548-558
	IV	733-777;783-789;897-1106
C. The Strategy links conservation actions to objectives and indicators that will facilitate monitoring and performance measurement of those conservation actions (outlined in Element #5).	II	30-31;47,71,93,112,143,160,176,194,212,237;243-247,265,278,294,302,312,318,329,337,353,369,381,389,396,403,416;422;511-517; 517-533 ;536-540;541-545;544;548-558
	IV	733-777;783-789;897-1106
D. The Strategy describes conservation actions (where relevant to the State's species and habitats) that could be addressed by Federal agencies or regional, national or international partners and shared with other States.	II	30-31;47,71,93,112,143,160,176,194,212,237;243-247,265,278,294,302,312,318,329,337,353,369,381,389,396,403,416;422;511-517; 517-533 ;536-540;541-545;544;548-558
	IV	733-777;783-789;897-1106
E. If available information is insufficient to describe needed conservation actions, the Strategy identifies research or survey needs for obtaining information to develop specific conservation actions.	II	30-31;47,71,93,112,143,160,176,194,212,237;243-247,265,278,294,302,312,318,329,337,353,369,381,389,396,403,416;422;511-517; 517-533 ;548-558
	IV	733-777;783-789;897-1106
F. The Strategy identifies the relative priority of conservation actions.	II	21-31;47,71,93,112,143,160,176,194,212,237; 517-533 ;536-540;541-545;544;548-558
	IV	733-777;783-789;897-1106

5th Element. Descriptions of the proposed plans for monitoring species identified in the 1st element and their habitats, for monitoring the effectiveness of the conservation actions proposed in the 4th element, and for adapting these conservation actions to respond appropriately to new information or changing conditions.

NAAT Review Elements	Section	Page
A. The Strategy describes plans for monitoring species identified in Element #1, and their habitats.	II	46,70,93,111,142,159,175,193,211,236;247-248,264,277,293,301,310,317,328,336,351,368,380,388,395,402,415;423-424;513-516;517-533;556; 559-577
	IV	733-777;790;904-1130
B. The Strategy describes how the outcomes of the conservation actions will be monitored.	II	247-248;423-424;517-533;556; 559-577
	IV	733-777;790;904-1130
C. If monitoring is not identified for a species or species group, the Strategy explains why it is not appropriate, necessary or possible.	II	46,70,93,111,142,159,175,193,211,236;247-248,264,277,293,301,310,317,328,336,351,368,380,388,395,402,415;513-516; 559-577
	IV	733-777;790;904-1130
D. Monitoring is to be accomplished at one of several levels including individual species, guilds, or natural communities.	II	46,70,93,111,142,159,175,193,211,236;247-248,264,277,293,301,310,317,328,336,351,368,380,388,395,402,415;423-424;513-516;517-533;556; 559-577
	IV	733-777;790;904-1130
E. The monitoring utilizes or builds on existing monitoring and survey systems or explains how information will be obtained to determine the effectiveness of conservation actions.	II	46,70,93,111,142,159,175,193,211,236;247-248,264,277,293,301,310,317,328,336,351,368,380,388,395,402,415;423-424;513-516;517-533;556; 559-577
	IV	733-777;790;904-1130
F. The monitoring considers the appropriate geographic scale to evaluate the status of species or species groups and the effectiveness of conservation actions.	II	19;46,70,93,111,142,159,175,193,211,236;247-248,264,277,293,301,310,317,328,336,351,368,380,388,395,402,415;423-424;513-516;517-533;556; 559-577
	IV	733-777;790;904-1130
G. The Strategy is adaptive in that it allows for evaluating conservation actions and implementing new actions accordingly.	II	247-248;423-424;517-533; 559-577

6th Element. Descriptions of procedures to review the Strategy/Plan at intervals not to exceed ten years.		
NAAT Review Elements	Section	Page
A. The State describes the process that will be used to review the Strategy within the next ten years.	II	11-12;21

7th Element. Descriptions of the plans for coordinating, to the extent feasible, the development, implementation, review, and revision of the Plan-Strategy 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.		
NAAT Review Elements	Section	Page
A. The State describes the extent of its coordination with and efforts to involve Federal, State and local agencies, and Indian Tribes in the development of its Strategy.	II	4-16;21;547
	III	578-584
B. The State describes its continued coordination with these agencies and tribes in the implementation, review and revision of its Strategy.	II	4-16;21;547

8th Element. Descriptions of the necessary public participation in the development, revision, and implementation of the Plan.		
NAAT Review Elements	Section	Page
A. The State describes the extent of its efforts to involve the public in the development of its Strategy.	II	11-16;21;552-558
	III	578-584
B. The State describes its continued public involvement in the implementation and revision of its Strategy.	II	11-16;21;552-558

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