

Upland Game Bird Strategic Plan

A Five Year Roadmap
(2011–2015)



Upland Game Bird Strategic Plan: A Five Year Roadmap (2011–2015)

Produced by
The Texas Parks and Wildlife Department Small Game Program Staff

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Overview

As we move into the 21st century the role of natural resource conservation has never been so important. Increased demands on our environment are beginning to permanently alter natural habitats. Population growth results in an increased consumption of natural resources. Energy, water and other resource demands continue to grow to help fuel our economy, but ultimately, how we use our wealth will make the difference between declining or prospering wildlife populations. It is possible to grow and conserve habitats simultaneously through sound planning directed at minimizing negative impacts. Resource conservation is the ultimate form of conservatism, for as we invest in our environment, we invest in the quality of the air we breathe, the water we drink and the ecosystems that support natural diversity. This diversity is essential to healthy plant and animal populations that provide food and other ecosystem benefits for all life on earth.

Realistically, no individual agency or entity can ensure the conservation of every species or unique habitat. This is why partnerships and pooling of resources are so important and why diligent planning efforts help make better decisions regarding conservation investments. The Texas Parks and Wildlife Department (TPWD) is the state agency charged with the conservation of our state's natural and

cultural resources. TPWD, in partnership with many federal, state and private groups initiate actions to achieve large, landscape level goals that no individual group could achieve alone. Because many of these entities have similar goals, working together is essential and mutually beneficial. The overlying road map for TPWD's efforts is the *Land and Water Resources Conservation and Recreation Plan (2010)*. Within this context and under the guidance of the *Wildlife Division Strategic Plan*, the Small Game Program has developed the *Upland Game Bird Strategic Plan (UGBSP)* to ensure the preservation of upland game birds in Texas and their diverse natural habitats for present and future generations.

There are limits to our ability to implement change on the landscape. No change can occur without the interest and participation of landowners and land managers. Strategic planning ensures that our funding, manpower and partnerships are directed toward projects and programs that yield the highest return for the species we are charged with conserving. The *UGBSP* addresses these challenges and lays the ground work for overcoming them. It also prioritizes the needs of game birds and gives us the means to evaluate progress, adapt our methods and approaches and keep us moving forward to achieve clearly defined goals.

"We have to make hard judgments about what investments will yield the biggest returns for conservation. And that means we make choices about what species to invest in, and about what strategies make the most difference." – James Leape, *Planet Earth: The Future*

Acronym Key

<u>Title or Phrase</u>	<u>Acronym</u>
Best Management Practice	BMP
Breeding Bird Survey	BBS
Candidate Conservation Agreement with Assurances	CCAA
Certificates of Inclusion	CI
Christmas Bird Count	CBC
Climate Science Center	CSC
Conservation Reserve Program	CRP
Department of Interior	DOI
Environmental Quality Incentives Program	EQIP
Farm Service Agency	FSA
Full Time Equivalent	FTE
Joint Venture	JV
Land and Water Resources Conservation and Recreation Plan	LWRCRP
Lesser Prairie-Chicken	LPC
Landscape Conservation Cooperative	LCC
Lesser Prairie-Chicken Conservation Initiative	LPCCI
Memorandum of Understanding	MOU
National Wild Turkey Federation	NWTF
Natural Resources Conservation Service	NRCS
Non-Governmental Organization	NGO
Northern Bobwhite Conservation Initiative	NBCI
Partners for Fish and Wildlife Program	PFW
Pastures for Upland Birds	PUB
Private Lands and Public Hunting Program	PLPH
State Technical Advisory Committee	STAC
Soil and Water Conservation District	SWCD
Technical Service Provider	TSP
Texas Land Trust Council	TLTC
Texas Parks and Wildlife Department	TPWD
Texas Department of Transportation	TxDOT
Texas Quail Conservation Initiative	TQCI
Trap, Transport and Transplant	TTT
United States Department of Agriculture	USDA
United States Fish and Wildlife Service	USFWS
Upland Game Bird Advisory Council	UGBAC
Upland Game Bird Management Handbook	UGBMH
Upland Game Bird Strategic Plan	UGBSP
Western Quail Management Plan	WQMP
Wildlife Division Strategic Plan	WDSP
Wildlife Management Area	WMA
Wildlife Management Plan	WMP

Introduction

The *Upland Game Bird Strategic Plan (UGBSP)* addresses the conservation needs of two of three subspecies of wild turkey, four species of quail, lesser prairie-chicken, pheasant and chachalaca within Texas. Specifically the *UGBSP*:

1. Defines the challenges upland game birds face.
2. Identifies landscape level conservation goals to meet management concerns of a variety of species.
3. Categorizes the most pressing issues facing game birds and their habitats.
4. Offers strategies to ensure population viability for future generations.
5. Identifies research priorities for each species.

The *UGBSP* is similar to the Strategic Habitat Conservation approach adopted by the United States Fish and Wildlife Service (USFWS) and Joint Ventures (JVs). Basically, it is an adaptive management approach that is aimed at conserving and enhancing wildlife populations and the ecological functions that sustain them. This strategic approach incorporates a “Plan-Do-Learn” model, which combines biological planning, conservation design, conservation delivery, monitoring and research in a positive feedback loop (Appendix A).

Texas Upland Game Birds

There are ten species of Texas upland game birds, of which nine will be covered in this plan. The four species of quail that can be found in Texas include the Northern bobwhite (*Colinus virginianus*) hereafter bobwhite, scaled quail (*Callipepla squamata*), Gambel’s quail (*Callipepla gambelii*) and Montezuma quail (*Cyrtonyx montezumae*). There are three subspecies of wild

turkey (*Meleagris gallopavo*), Merriam’s wild turkey (*M. g. merriami*), Rio Grande wild turkey (*M. g. intermedia*) and Eastern wild turkey (*M. g. silvestris*). The remaining Texas game birds include the lesser prairie-chicken (*Tympanuchus pallidicinctus*), a naturalized population of ring-necked pheasant (*Phasianus colchicus*) hereafter pheasant and plain chachalaca (*Ortalis vetula*) hereafter chachalaca. A brief summary of species information is provided in each species section in this plan. A more detailed account of Texas game birds and proven habitat management techniques and incentives can be found in the *Upland Game Bird Management Handbook (UGBMH)*. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_rp_w7000_1558.pdf

Upland Game Bird Biological Planning

To date there are several state, regional and national upland game bird conservation initiatives in North America. The impetus for these biological plans has been the precipitous decline of many game bird species that were once common. Each of the following species plans takes a strategic approach to conservation and recovery. The *UGBSP* incorporates many of the goals and objectives of the initiatives listed below.

- Northern Bobwhite Conservation Initiative – 2002
- Texas Quail Conservation Initiative – 2003
- Lesser Prairie-Chicken Conservation Initiative – 2008
- National Wild Turkey Federation—North American Wild Turkey Management Plan – 2010
- Western Quail Management Plan – 2010

Upland Game Bird Statewide Goals

- Goal 1.** Promote on-the-ground habitat restoration and conservation of upland game birds and their habitats using sound science and proven management techniques.
- Goal 2.** Maintain existing partnerships with state and federal agencies along with non-governmental organizations (NGOs) and form new partnerships with emerging conservation organizations, private landowners and industrial partners that echo the TPWD mission.
- Goal 3.** Develop incentives to promote sound science-based management activities on privately owned lands with priority conservation concerns.
- Goal 4.** Promote the hunting heritage of Texas and associated outdoor activities.
- Goal 5.** Increase educational opportunities for private landowners, managers and natural resource professionals to maintain up-to-date knowledge of native habitat management and wildlife-friendly agronomic systems and practices.
- Goal 6.** Increase funding and manpower targeting on-the-ground conservation of upland game bird habitats.

Within each statewide goal, objectives and strategies are clearly defined. The TPWD Small Game Program plans to undertake upland game bird conservation in Texas over the next five years using these goals, objectives and strategies. Species specific strategies and objectives are addressed within species chapters.

Some objectives overlap among goals and across species chapters. These objectives address common issues including fragmentation, population growth, habitat changes, constituency change and the difficulties of delivering conservation on the ground. Another central objective is the need for human dimensions research. It is imperative to have a clear understanding of the perceptions of hunters, landowners and the public regarding regulations and programs related to upland game birds.

Goal 1. Promote on-the-ground habitat restoration and conservation of upland game birds and their habitats using sound science and proven management techniques.

Objective 1 – Annually, reduce the impact of invasive and exotic species on native habitat communities.

- Strategy 1.1: Provide financial support for incentive programs that protect native grassland, restore native habitat and remove undesirable woody vegetation.
- Strategy 1.2: Collaborate with the Natural Resources Conservation Service (NRCS) State Technical Advisory Committee (STAC) to promote the provision of preference points through the Farm Bill to landowners willing to eradicate invasive and exotic species.
- Strategy 1.3: Promote training opportunities to field staff in the use of prescribed fire as a tool to reduce encroachment of woody plants into rangeland systems.
- Strategy 1.4: Complete the invasive species control segment of the Canadian River Cooperative Weed Management Area Project and explore opportunities for additional riparian management and restoration efforts.
- Strategy 1.5: Develop Best Management Practices (BMPs) for invasive and exotic plants to address immediate and long-term threats to game bird habitats.

Strategy 1.6: Increase the role of the Small Game Program in addressing feral hog problems in Texas.

Strategy 1.7: Establish a multi-partner invasive and exotic species task force.

Objective 2 – By 2012, address the most critical equipment needs on TPWD Wildlife Management Areas (WMAs).

Strategy 2.1: Identify the most critical equipment needs on all WMAs and update annually.

Strategy 2.2: Identify and obtain new funding from corporate endowments, NGO partner grants and state and federal funds to purchase needed equipment for WMAs.

Strategy 2.3: Increase the ability of TPWD's Wildlife Division to purchase capital items.

Objective 3 – By 2015, collaborate with other resource agencies, private landowners and NGOs to increase equipment availability for use by private landowners throughout the state.

Strategy 3.1: Cost-share the purchase of two fully equipped burn trailers per Wildlife Division district.

Strategy 3.2: Cost-share the purchase of two native grass seed drills for the restoration of native vegetation.

Strategy 3.3: Cost-share the purchase of one native grass seed harvester and one seed drill for TPWD's Pastures for Upland Birds Program (PUB).

Strategy 3.4: Create a budget line-item to fund maintenance of habitat management equipment.

Strategy 3.5: Investigate creating an escrow account for funds received from leasing equipment to cover the cost of maintenance and repair.

Strategy 3.6: Begin an official training program for the safe and effective use of habitat management equipment.

Objective 4 – By 2015, work with the TPWD Private Lands and Public Hunting Program (PLPH) to better enable landowners to implement prescribed burning on their lands.

Strategy 4.1: Develop a list of frequently asked questions to distribute to local communities and county commissioners outlining the purpose and benefits of prescribed burning.

Strategy 4.2: Work with TPWD Communications Division to promote the importance of fire to enhance Texas ecosystems.

Objective 5 – By 2015, address problems associated with human population expansion and the resulting habitat fragmentation.

Strategy 5.1: Promote conservation of critical habitats through land trusts, conservation easements and acquisition.

Strategy 5.2: Promote the development of demonstration WMAs near urban areas as outlined in the *Land and Water Resources Conservation and Recreation Plan (LWRCRP)*.

Strategy 5.3: Work with TPWD Communications Division to promote the importance of open space and native grassland habitats.

Strategy 5.4: Work with other natural resource agencies and groups that represent landowners to promote the formation of wildlife cooperatives, wildlife management associations and prescribed burn associations.

Objective 6 – By 2015, improve Small Game Program staff coordination with the Habitat Assessment Program to restore 100,000 acres of habitat within utility right-of-ways.

Strategy 6.1: Develop Memorandums of Understanding (MOU) that promote the use of native grass species by companies responsible for construction and maintenance of right-of-ways.

- Strategy 6.2: Develop MOUs with utility companies to minimize negative impacts on critical habitats within the transmission line corridors.
- Strategy 6.3: Create BMPs for utility company contractors that protects native game bird habitat.
- Strategy 6.4: Work with native seed producers to increase availability of native seed.
- Strategy 6.5: Work with Texas Department of Transportation (TxDOT) to seek policy changes on ground cover time requirements in critical areas to facilitate use of native grasses.

Goal 2. Maintain existing partnerships with state and federal agencies along with non-governmental organizations (NGOs) and form new partnerships with emerging conservation organizations, private landowners and industrial partners that meet the TPWD mission.

Objective 1 – Annually, work with JVs to facilitate landscape conservation of critical habitats and improve the cooperative relationship between Wildlife Division staff and JVs.

- Strategy 1.1: Ensure the goals and objectives of the *LWRCRP* and the *UGBSP* integrate into Texas JV planning.
- Strategy 1.2: Support JV activities by providing staff support, expertise and stamp funds as match to projects in line with the *UGBSP*.
- Strategy 1.3: Participate in JV technical teams to ensure that *UGBSP* priorities are incorporated in the JV's biological planning and implementation.

Objective 2 – By 2015, partner with Texas surface mining companies to increase the amount of acres restored to native habitat.

- Strategy 2.1: Create new partnerships for upland game bird habitat restoration projects on mined lands by promoting mine company partnerships with Texas conservation organizations.
- Strategy 2.2: Conduct research to determine the effects of native habitat restoration on grassland birds on mined lands.
- Strategy 2.3: Partner with individual mines to restore unique habitats and host landowner demonstration field days to promote native habitat restoration.

Objective 3 – By 2015, provide incentives and information to realtors that directs clients to TPWD and other natural resource agencies and partners for technical assistance.

- Strategy 3.1: Develop a classroom or web-based certification process for real estate agents and brokers to become knowledgeable on wildlife habitat.
- Strategy 3.2: Work with the Texas Board of Realtors to accept the certification as a part of their industry standards.
- Strategy 3.3: Develop course work to provide Continuing Education Units for the responsible marketing of rural properties.
- Strategy 3.4: Form a partnership with the Texas Real Estate Center at Texas A&M University – Terra Grande Research Center.

Goal 3. Develop incentives to promote sound science-based management activities on privately owned lands with priority conservation concerns.

Objective 1 – By 2015, establish 100,000 acres of habitat projects within each of the five JVs (500,000 acres total) by promoting incentive programs and other funding sources.

- Strategy 1.1: Work with United States Department of Agriculture (USDA) to consider new approaches to the point systems that give weight to wildlife friendly land management practices.

- Strategy 1.2: Support policy efforts to improve and maintain or increase the Conservation Reserve Program (CRP) in future Farm Bills.
- Strategy 1.3: Support the creation of Environmental Quality Incentives Program (EQIP) and Wetlands Reserve Program priority areas for riparian system management.
- Strategy 1.4: Use Upland Game Bird Stamp funds as state match to federal cost share projects that are in line with the *UGBSP*.
- Strategy 1.5: Work with the USFWS Partners for Fish and Wildlife (PFW) program to identify and fund priority upland restoration projects.

Goal 4. Promote the hunting heritage of Texas and associated outdoor activities.

Objective 1 – By 2015, increase public hunting opportunities for upland game birds on 100,000 acres

- Strategy 1.1: Work with NGOs, government agencies and various river authorities to encourage greater public hunting access and opportunities.
- Strategy 1.2: Work with SWCDs to promote the use of Farm Bill programs which could provide rental payments to property owners in exchange for allowing public hunting opportunities.
- Strategy 1.3: Work with TPWD’s PLPH to increase upland game bird hunter opportunities on leased and state-owned lands.
- Strategy 1.4: Form an agreement with National Wild Turkey Federation (NWTF) to use their More Places to Hunt Program to find, lease or purchase lands for public hunting.

Goal 5. Increase educational opportunities for private landowners, managers and TPWD biologists to maintain up-to-date knowledge of native habitat management and wildlife-friendly agronomic systems and practices.

Objective 1 – Annually, provide continuing education opportunities for natural resource professionals.

- Strategy 1.1: Promote continuing education opportunities in wildlife management, agriculture production and range management for Wildlife Division biologists.
- Strategy 1.2: Encourage collaborative efforts between program staff and field staff to reduce information gaps and develop training opportunities.
- Strategy 1.3: Provide opportunities for staff and conservation partners to complete National Wildfire Coordinating Group approved training modules required for red card certification.
- Strategy 1.4: Provide hands-on training opportunities for staff on the proper use of equipment such as seed drills, seed harvesters and bale busters.
- Strategy 1.5: Encourage staff to participate in NGO educational conservation events.

Objective 2 – Annually, provide continuing education opportunities for landowners and land managers.

- Strategy 2.1: Develop an instructional habitat management video identifying best habitat management practices, census techniques and habitat assistance programs.
- Strategy 2.2: Conduct landowner field days focused on multi-species landscape approaches to improve native habitat and wildlife populations.
- Strategy 2.3: Create a web-based landowner resource to help landowners restore and manage native prairie, savannah and riparian habitats for upland game birds.
- Strategy 2.4: Work more effectively with TPWD staff and outside partners to improve the delivery of conservation tools to private landowners.

Strategy 2.5: Educate landowners about federal and state cost incentive and technical assistance programs.

Objective 3 – By 2013, determine the economic and environmental benefits of native grass restoration.

Strategy 3.1: Initiate research to evaluate the economics of various grazing systems including all native, native and “improved” and all “improved” grassland systems. Outcomes should include landowner educational materials by 2013.

Goal 6. Increase funding and manpower targeting on-the-ground conservation of upland game bird habitats.

Objective 1 – By 2013, identify non-traditional funding sources that can provide effective landscape habitat management and restoration.

Strategy 1.1: Use the MOU contracting system to work with non-profit organizations to increase on-the-ground habitat work.

Strategy 1.2: Create a competitive program funded by the Upland Game Bird Stamp that allows wildlife cooperatives to apply for native game bird habitat restoration equipment, seed and herbicide.

Strategy 1.3: Apply for funding through the mitigation process (Supplemental Environmental Project Funds).

Strategy 1.4: Apply for funding through the NWTF Hunting Heritage Super Fund for habitat projects on public lands.

Objective 2 – By 2015, create 12 new Full Time Equivalent (FTEs) in the TPWD Wildlife Division focused on native habitat conservation and restoration.

Strategy 2.1: Use the Upland Game Bird Stamp fund to create eight new FTEs that are focused on native habitat restoration.

Strategy 2.2: Work with NRCS to cost-share eight Technical Service Provider (TSP) positions (equivalent to four TPWD FTEs) to be housed within NRCS facilities.

Wild Turkey



Eastern Wild Turkey

TPWD

The restoration of wild turkey across the bird's historic range has been a significant wildlife management success. However, threats to future management of the population remain. The key issue within the state is loss of habitat and fragmentation. This includes roost sites, brood rearing and nesting locations. Added impacts are being noted from expansion of exotic plants and animals.

TPWD continues to address conservation challenges through partnerships with federal, state and private organizations. Additionally, the JV model in Texas offers a great opportunity to positively impact turkey habitat by focusing on guilds of species that utilize similar habitat types.

The diversity of habitats and species in Texas creates a unique set of management challenges. This strategic plan addresses key issues impacting the subspecies of wild turkey in Texas and management strategies are recommended.

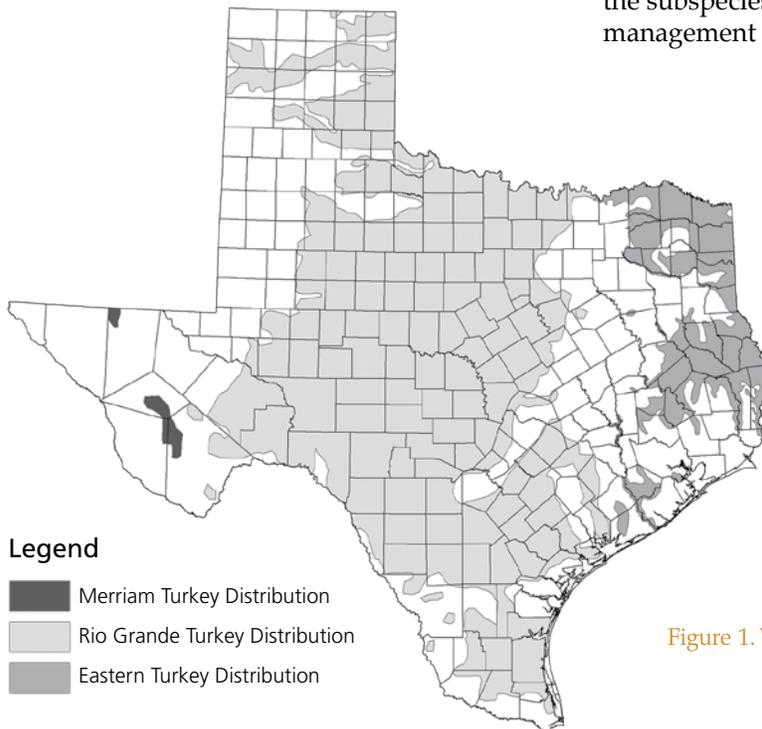


Figure 1. Wild turkey distribution in Texas.

Merriam's Wild Turkey

The Merriam's wild turkey was found historically in ponderosa pines within the mountainous regions of Arizona, New Mexico and Colorado. This subspecies has been successfully introduced to several areas beyond its historic range. In Texas, a small isolated population is found in portions of the Davis and Guadalupe Mountains (Figure 1). Over the past few decades this isolated population of Merriam's wild turkey has hybridized with the more prevalent Rio Grande subspecies. Population estimates for Merriam's wild turkey are approximately 500 individuals. Due to the potential for hybridization, low densities and no natural source of ingress from outside populations, biologists have made the assumption that the population will eventually become completely hybridized. Since both subspecies occupy the same range within the Davis Mountains, management recommendations and research priorities will focus on the needs for the Rio Grande subspecies.

Eastern Wild Turkey

The Eastern wild turkey historically occupied habitats throughout the pineywoods and post oak savanna of Texas (Figure 1). Around the turn of the 20th century the rapid conversion and loss of habitat combined with market hunting resulted in near extirpation of the species. TPWD staff believes the Eastern wild turkey population is currently static or in some cases declining. Although some populations continue to thrive in localized or island populations, years of restocking efforts (Figure 2) have not been successful in reestablishing turkeys to their former range. Reintroductions have not been successful for many reasons and may include lack of quality habitat, proactive management and in some cases inadequate brood stock at the time of restocking.

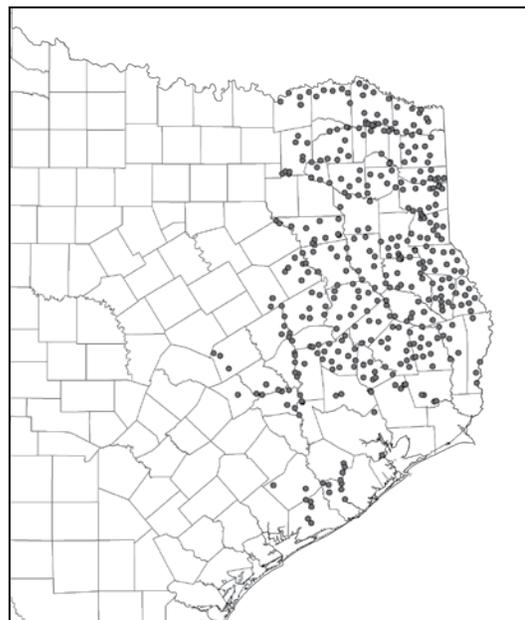


Figure 2. Historic Eastern wild turkey release sites 1979-2003.

Rio Grande Wild Turkey

The Rio Grande wild turkey was historically distributed throughout the central portion of the state from the Rio Grande Plains to the High Plains. However, due to a loss of habitat and excessive hunting around the turn of the 20th century the bird was nearly extirpated across much of its range. Restoration and conservation efforts have been instrumental in restoring this bird back to its historic range (Figure 1). Despite isolated reports of population declines, there is no evidence to suggest that the statewide population is declining beyond the typical weather driven fluctuations related to the duration of wet-dry cycles in Texas. Although this subspecies appears to be highly tolerant of human interaction, the long-term sustainability of the population in conjunction with human population growth remains unknown.



Jason Hardin

Rio Grande Wild Turkey

Eastern Wild Turkey Objectives and Strategies

Objective 1 – Annually, evaluate proposed regulation packages to ensure that both the resource and hunter interests are best represented.

- Strategy 1.1: Continue hunter opinion surveys, focus group evaluations and public hearings to determine hunter attitudes.
- Strategy 1.2: By 2011, evaluate potential regulation changes for implementation in the 2012-13 regulation cycle.
- Strategy 1.3: Use current research findings to more accurately set season dates based on breeding chronology.
- Strategy 1.4: Work with the TPWD Upland Game Bird Regulations Committee and the Upland Game Bird Advisory Council (UGBAC) to ensure that proposed regulations are consistent with proper management of the species and public sentiment.

Objective 2 – Annually, use harvest and population data to regulate and manage Eastern wild turkey at the county level.

- Strategy 2.1: Work with Regional staff to develop a process to evaluate counties for potential season closure.
- Strategy 2.2: Develop a habitat suitability index to establish criteria for restocking.
- Strategy 2.3: Initiate super stockings of Eastern wild turkeys in counties with no open season.
- Strategy 2.4: Begin surveys in counties with no open season to determine if population levels are capable of sustainable harvest.

Objective 3 – By 2015, restore or enhance one million acres of nesting and brood-rearing habitat.

- Strategy 3.1: Promote the use of habitat management techniques that promote native herbaceous vegetation and increase insect diversity.
- Strategy 3.2: Work with landowners to form new prescribed burn associations and provide support to existing associations.
- Strategy 3.3: Train at least 10 staff per region to a level of being fully qualified to assist landowners in planning and implementing prescribed burns.
- Strategy 3.4: Promote grazing practices that provide patches of herbaceous vegetation for nesting and brood rearing cover.
- Strategy 3.5: Promote timber management practices to create forest openings that provide brood rearing habitat.

Objective 4 – By 2015, utilize incentive programs to promote Eastern wild turkey conservation and habitat restoration.

- Strategy 4.1: Use the Farm Bill and other incentive programs to conserve or restore Eastern wild turkey habitat on private lands and provide technical assistance for habitat management.
- Strategy 4.2: Improve and create additional private lands incentives and cost share programs that encourage landowners to initiate restoration and management of Eastern wild turkey habitat.
- Strategy 4.3: Work with the NRCS State Technical Advisory Committee (STAC) to develop criteria that establish preference points or increase cost sharing for landowners that are members of wildlife management cooperatives.

Objective 5 – By 2015, work with conservation partners to increase public and protected land acreage in east Texas.

Strategy 5.1: Develop a priority list of lands near WMAs and other public lands that should be targeted for purchase.

Strategy 5.2: Establish conservation easements along major riparian zones throughout east Texas.

Strategy 5.3: Partner with NWTF to utilize their More Places to Hunt Program to assist with the purchase of public lands.

Objective 6 – By 2015, become more engaged in water development activities to reduce the loss of bottomland hardwoods.

Strategy 6.1: TPWD should increase our role and encourage partners to become more involved with water development boards.

Strategy 6.2: Work with the Habitat Assessment Program to maximize mitigation opportunities that restore or protect forested bottomlands.

Objective 7 – By 2015, develop new harvest data reporting and population monitoring techniques.

Strategy 7.1: Evaluate alternative monitoring techniques for harvested birds such as tele-check and internet-based systems.

Strategy 7.2: Explore the option of using an internet-based landowner reporting system for Eastern wild turkey observations.

Strategy 7.3: Initiate a landowner mail card brood survey system for Eastern wild turkey.

Rio Grande Wild Turkey Objectives and Strategies

Objective 1 – Annually, evaluate proposed regulation packages to ensure that both the resource and hunter interests are best represented.

Strategy 1.1: Continue hunter opinion surveys, focus group evaluations and public hearings to determine hunter attitudes.

Strategy 1.2: By 2011, evaluate potential regulation changes for implementation in the 2012-13 regulation cycle.

Action 1: Evaluate modifying Rio Grande spring turkey regulations to allow the harvest of any bearded bird (including hens).

Strategy 1.3: Use current research findings to more accurately set season dates based on breeding chronology.

Strategy 1.4: Work with the TPWD Upland Game Bird Regulations Committee and the UGBAC to ensure that proposed regulations are consistent with proper management of the species and public sentiment.

Objective 2 – By 2011, work with the Wildlife Division Permit Section to develop a protocol with respect to the Trap, Transport and Transplant (TTT) for wild turkeys.

Strategy 2.1: Develop a standardized TPWD stocking protocol for Rio Grande wild turkey on private lands.

Strategy 2.2: Provide the Upland Game Bird Program with records of sex, age and band data for all trapped and transplanted birds.

Objective 3 – By 2015, restore and conserve three million acres of nesting and brood-rearing habitat throughout the Rio Grande wild turkey range.

- Strategy 3.1: Promote grazing practices in rangelands and riparian systems that provide patches of herbaceous vegetation for nesting and brood rearing cover.
- Strategy 3.2: Work with landowners to form new prescribed burn associations and provide support to existing associations.
- Strategy 3.3: Train at least 10 staff per region to a level of being fully qualified to assist landowners in planning and implementing prescribed burns.
- Strategy 3.4: Promote brush management practices to create habitat mosaics that improve nesting and brood-rearing cover.
- Strategy 3.5: Work with conservation partners to initiate BMPs impacting 200,000 acres annually.

Objective 4 – By 2015, use incentive programs to promote Rio Grande wild turkey conservation and habitat restoration.

- Strategy 4.1: Use the Farm Bill and other incentive programs to conserve or restore Rio Grande wild turkey habitat on private lands and provide technical assistance for habitat management.
- Strategy 4.2: Improve and create additional private lands incentives and cost share programs that encourage landowners to initiate restoration and management of Rio Grande wild turkey habitat.
- Strategy 4.3: Work with the NRCS STAC to develop criteria that establish preference points or increase cost sharing for landowners that are members of wildlife management cooperatives.

Objective 5 – By 2015, implement management practices on riparian habitats necessary for the conservation of Rio Grande wild turkeys.

- Strategy 5.1: Complete the invasive species control segment of the Canadian River Cooperative Weed Management Area Project and explore opportunities for additional riparian management and restoration efforts.
- Strategy 5.2: Work with conservation partners to have an active presence on water development boards to ensure that wildlife needs are included in planning efforts.
- Strategy 5.3: Develop programs to establish roost site regeneration projects on private lands.
- Strategy 5.4: Develop BMPs to guide restoration of critical riparian habitats.

Objective 6 – By 2015, work with conservation partners to increase public and protected land acreage throughout the Rio Grande wild turkey range.

- Strategy 6.1: Develop a priority list of lands near WMAs and other public lands that should be targeted for purchase.
- Strategy 6.2: Work with conservation partners to establish conservation easements along riparian corridors.
- Strategy 6.3: Partner with NWTF to utilize their More Places to Hunt Program to assist with the purchase of public lands.

Wild Turkey Research Priorities

Eastern Wild Turkey

1. Develop a population monitoring technique for Eastern wild turkeys.
2. Determine the minimum size management unit capable of supporting a sustainable population of Eastern wild turkey.
3. Develop a habitat suitability index capable of accurately quantifying habitat features necessary for successful stockings.
4. Monitor turkey daily use patterns using GPS transmitters to evaluate the habitat suitability index.
5. Conduct a mark-recapture research project using male turkeys marked with reward bands.

Rio Grande Wild Turkey

1. Develop a population monitoring technique for Rio Grande wild turkey.
2. Determine the long-term impact of riparian restoration in degraded systems.
3. Determine the impacts of hunting pressure on localized Rio Grande turkey populations.
4. Determine habitat requirements of Rio Grande wild turkey in fragmented landscapes.
5. Determine limiting factors for Rio Grande turkeys in each eco-region.
6. Conduct hunter and landowner attitude surveys to aid in the regulatory process.
7. Determine poult survival and habitat use by eco-region.
8. Determine the impact of feeding and baiting practices on Rio Grande wild turkeys.
9. Determine the effects of short-term and long-term weather fluctuations on Rio Grande wild turkey populations.
10. Determine the impact of feral hogs on Rio Grande wild turkey populations and determine if control measures benefit turkeys.
11. Examine the impacts of energy infrastructure on Rio Grande turkey habitat use.

Quail



Jason Hardin

Bobwhite Quail



TPWD

Scaled Quail



TPWD

Gambel's Quail



TPWD

Montezuma Quail

Conservation initiatives for quail recovery and management have been implemented on a state, regional and national level. In October 2003, the Texas Quail Conservation Initiative (TQCI) was developed by TPWD with input provided by numerous stakeholders. The TQCI initiative includes population goals and habitat objectives for bobwhite and scaled quail. The TQCI is a step-down version of the national plan, the Northern Bobwhite Conservation Initiative (NBCI), which has the goal of restoring bobwhite

populations to their 1980 baseline density. In 2010 a western regional plan, the *Western Quail Management Plan (WQMP)*, was completed that provided habitat and population objectives for Montezuma and Gambel's quail in Texas.

The NBCI and the TQCI are currently undergoing revision and update. The objectives and strategies outlined in this section of the *UGBSP* reflect the planning and needs of the NBCI, TQCI and *WQMP* and reflect the major goals of the TPWD *WDSP*.

Bobwhite Quail

Bobwhite quail are the most popular and abundant quail found in Texas (Figure 3). Bobwhite quail prefer mixed brush and grassland habitat. Although they are found in a variety of habitats, bobwhite quail have been declining across their range for the past few decades. TPWD roadside surveys, the Breeding Bird Survey (BBS) and the Christmas Bird Count (CBC) all show similar downward trends. The BBS shows a decline in Texas bobwhite quail breeding numbers at a rate of 3.9% per year from 1970 to 2009 (Figure 4). Texas bobwhite harvest has declined by 80% over the past three decades (Figure 5). Although this decline is not as steep as seen in southeastern states, it is still cause for concern. Potential threats to bobwhite include loss of habitat due to degradation of native grasslands and savanna, changes in agricultural practices, direct human development and the establishment of non-native grasses.

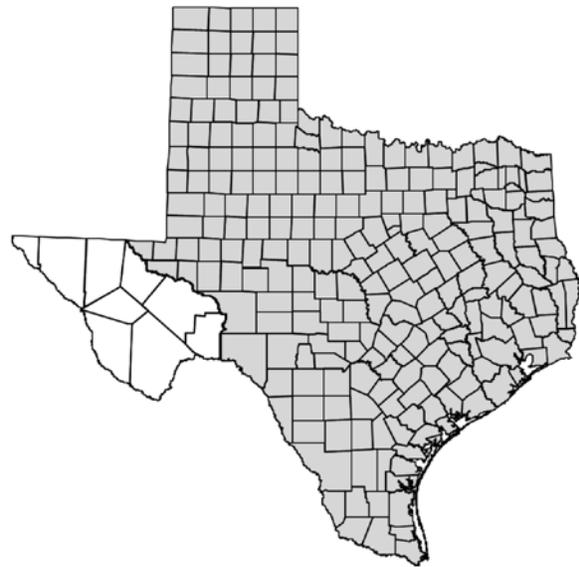


Figure 3. Bobwhite quail distribution in Texas.

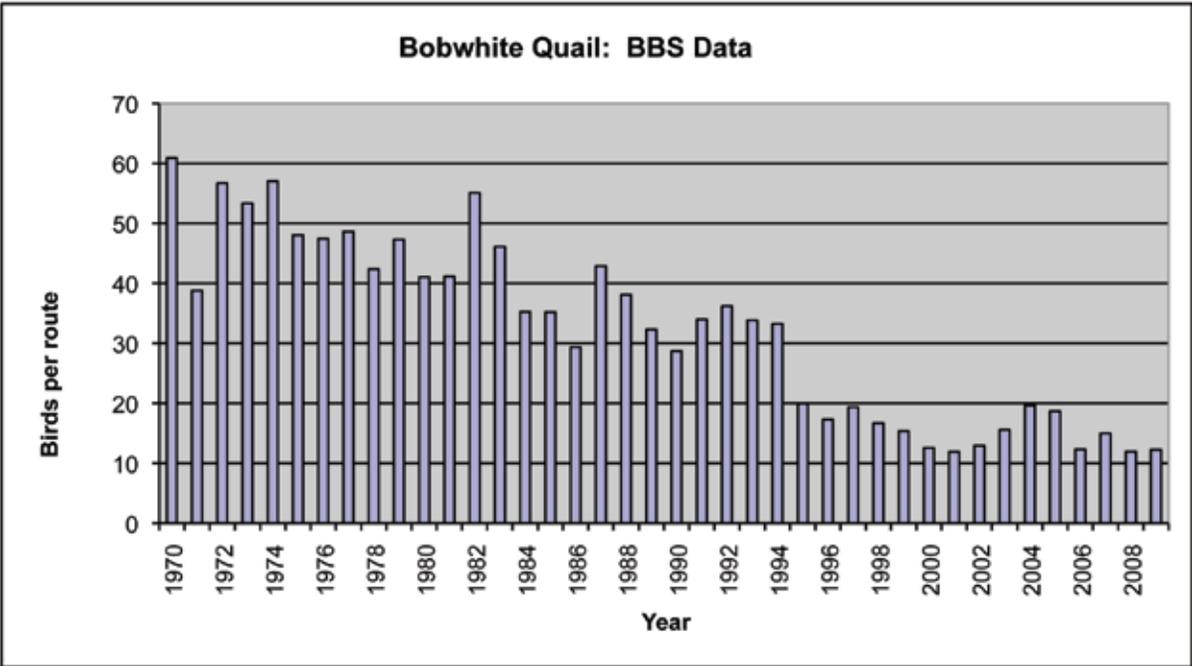


Figure 4. Breeding Bird Survey trends for bobwhite quail in Texas 1970–2009.

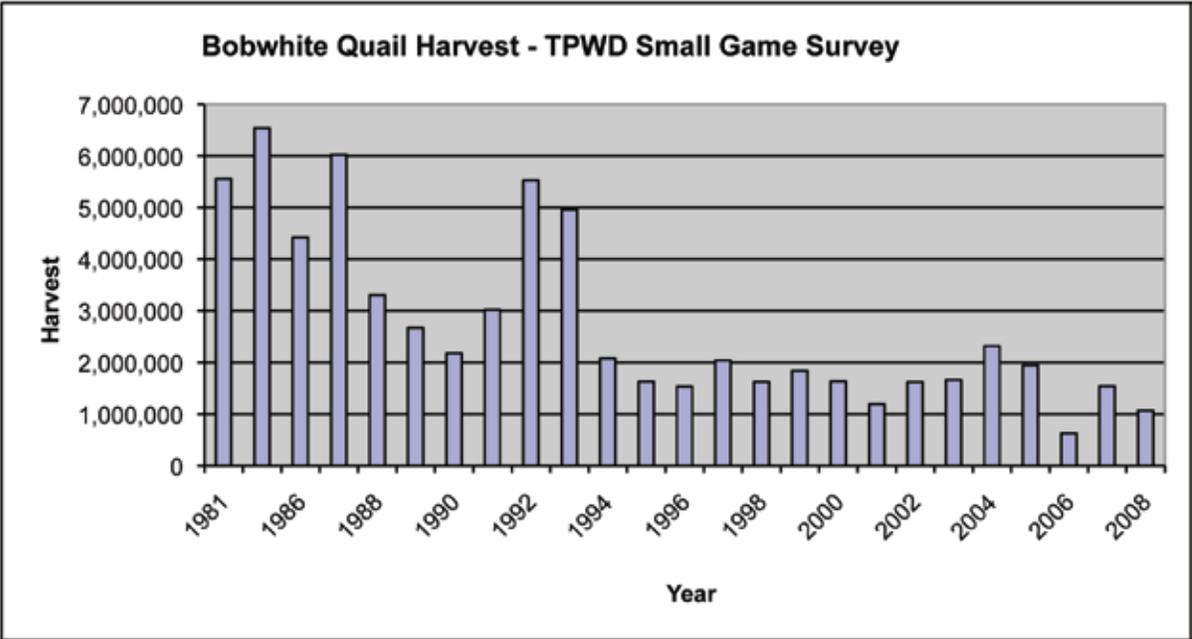


Figure 5. Total bobwhite quail harvest in Texas 1981–2009.

Scaled Quail

Scaled quail are often called blue quail due to the bluish gray coloration over most of their body and are found throughout the western portion of the state (Figure 6). Scaled quail are usually found in semiarid rangelands characterized by a mixture of shrubs, grass and bare ground. Mesquite, prickly pear and sparse grasses are common habitat components for this species. Scaled quail populations have been declining across their range for the past few decades. TPWD roadside surveys, BBS and the CBC all show similar downward trends. The BBS shows a decline in Texas of 3.1% per year from 1970 to 2009 (Figure 7). Scaled quail harvest has also significantly declined (Figure 8). Harvest and survey data all suggest conservation action is necessary to stabilize quail populations in Texas. Potential threats to scaled quail include degradation of desert grasslands by improper grazing, long term drought and conversion of habitat to agriculture and development.

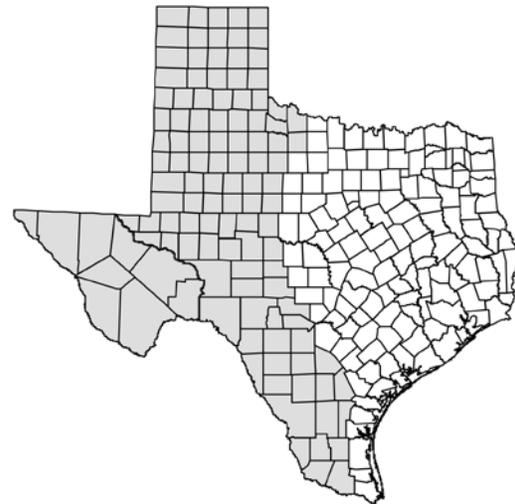


Figure 6. Scaled quail distribution in Texas.

Gambel's Quail

Gambel's quail occur along the Rio Grande from El Paso to Big Bend (Figure 9). Gambel's quail prefer brushy drainages and shallow arroyos with a mix of mesquite, acacia and mimosa species. The Gambel's quail population in Texas currently appears stable, although they have experienced a protraction in their range during the mid-20th century. Potential threats to Gambel's quail populations in Texas include habitat loss due to urban sprawl (El Paso County) and invasion of salt cedar (*Tamarix* spp.) along desert arroyos.

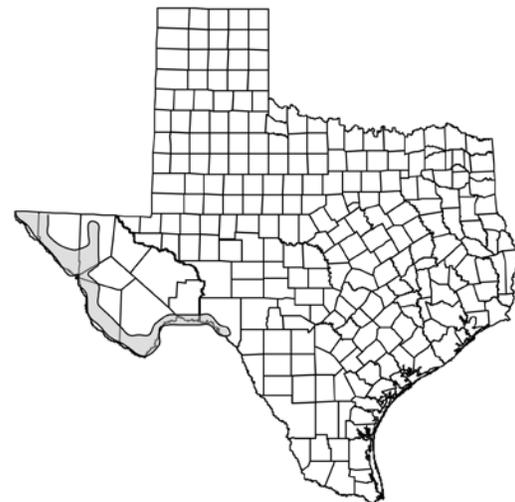


Figure 9. Gambel's quail distribution in Texas.

Montezuma Quail

Montezuma quail occur in the Trans-Pecos region, the western portion of the Edwards Plateau and were historically found in the Concho Valley (Figure 10). Montezuma quail prefer pine, oak and juniper grasslands. This species experienced significant declines across its range in Texas during the 20th century and has been extirpated from some regions. There is no open hunting season in Texas for Montezuma quail and it is currently unknown if populations could sustain sport harvest. Threats to Montezuma quail populations in Texas include degradation of native grasslands, habitat loss from brush invasion and direct human development, establishment of non-native grasses and natural predation in degraded habitats.

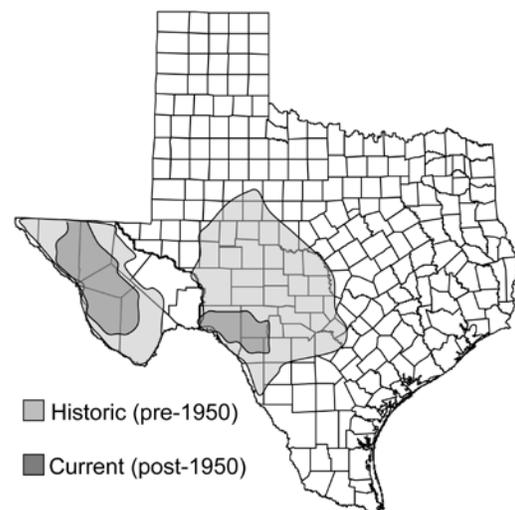


Figure 10. Montezuma quail distribution in Texas.

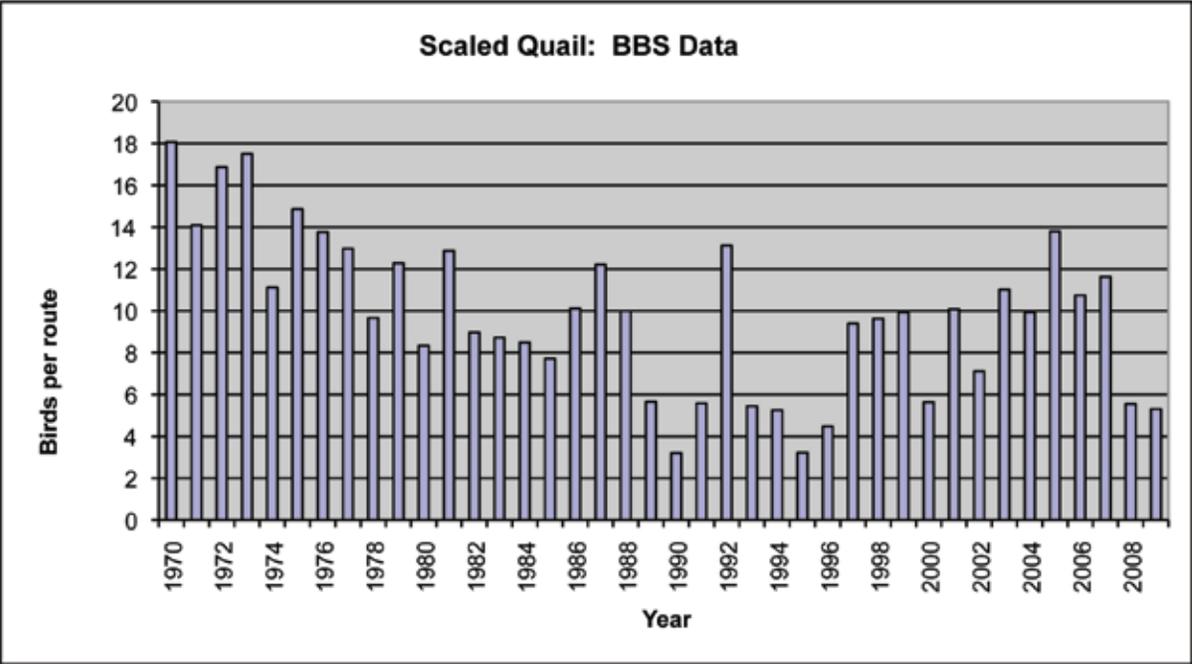


Figure 7. Breeding Bird Survey trends for scaled quail in Texas 1967–2009.

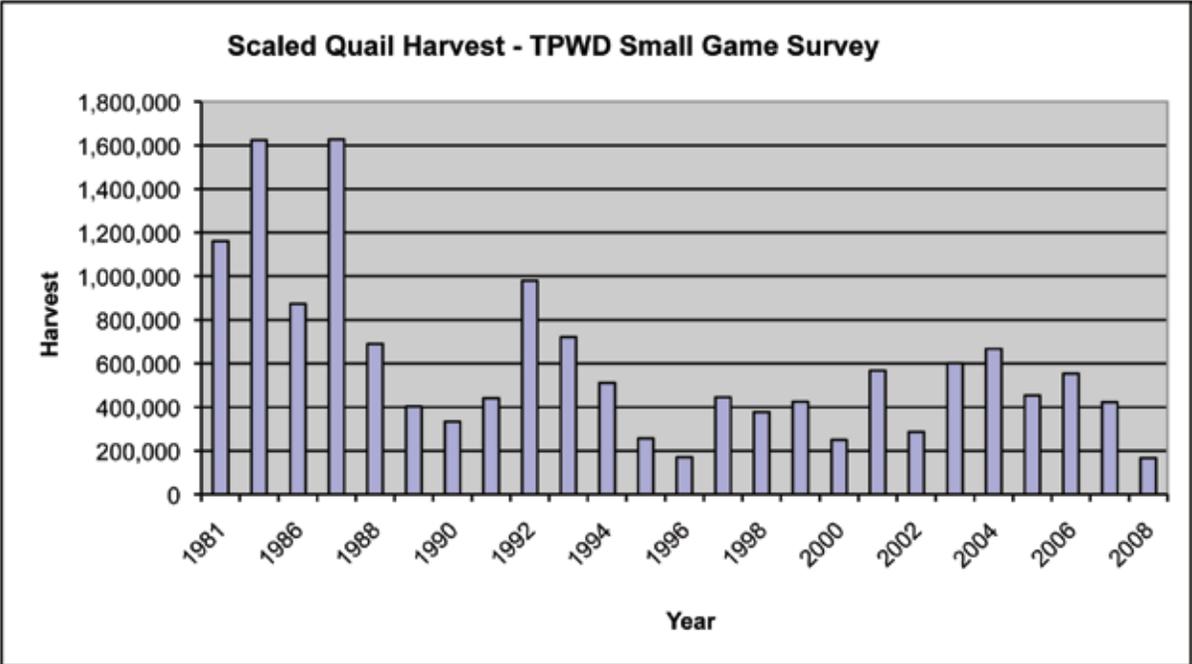


Figure 8. Total scaled quail harvest in Texas 1981–2009.

Bobwhite and Scaled Quail Objectives and Strategies

Objective 1 – Annually, submit at least one grant application for funding habitat restoration and population monitoring on state and private lands.

Strategy 1.1: Incorporate grant writing duties into functional job descriptions of Upland Game Bird Program staff and provide professional grant writing training.

Strategy 1.2: Establish relationships with foundations and endowments with interests in quail conservation, wildlife management and hunting.

Objective 2 – Annually, evaluate proposed regulations to ensure that the both the resource and hunters are best represented.

Strategy 2.1: Conduct hunter opinion surveys, focus group evaluations and public hearings to better understand hunter attitudes.

Strategy 2.2: Work with the TPWD Upland Game Bird Regulations Committee and the UGBAC to ensure that proposed regulations are consistent with proper management of the species and public interest.

Objective 3 – By 2013, conduct three workshops to promote the benefits of native grasses to land managers and the general public.

Strategy 3.1: Work with partners to develop workshops targeting the Post Oak Savannah, Cross Timbers and Prairies and the Gulf Coastal Prairies ecosystems.

Objective 4 – By 2013, establish two quail landowner cooperatives in important quail eco-regions.

Strategy 4.1: Work with Joint Ventures to develop landscape level decision support tools to identify priority areas for quail and grassland bird management and habitat on private lands.

Action 1: Conduct a survey of Texas landowner attitudes to determine their willingness to accept incentives and cost-sharing programs to implement habitat management for quail.

Strategy 4.2: Use the Wildlife Habitat Federation and Western Navarro Bobwhite Restoration Initiative as models for landowner cooperatives on private lands.

Strategy 4.3: Conduct field days and produce outreach materials to provide information on the benefits of habitat management and cooperatives. Highlight management success stories through the use of field days, outreach material and the media.

Action 1: Produce two popular articles on quail management cooperatives and available technical and financial assistance.

Strategy 4.4: Identify and demonstrate the economic benefits of quail management on private lands.

Objective 5 – By 2015, produce self-sustaining quail populations on two WMAs through active habitat management.

Strategy 5.1: Provide information and support to managers to ensure that TPWD WMAs continue to serve as demonstration sites for private landowners.

Strategy 5.2: Establish a science-based monitoring program to determine the success of habitat management on WMAs that can be used to establish annual harvest.

Strategy 5.3: Develop eco-region specific habitat management plans for quail to be used by WMA staff.

Objective 6 – By 2015, restore or improve one million acres of quail habitat in priority eco-regions.

Strategy 6.1: Work with NRCS, Farm Service Agency (FSA) and SWCD to implement Farm Bill programs that benefit quail conservation.

- Strategy 6.2: Work with conservation partners and the NRCS STAC to develop new quail and grassland bird specific opportunities within the Farm Bill.
- Strategy 6.3: Work with the USFWS's PFW Program to deliver landowner incentive programs in critical areas of the state for upland habitat restoration.
- Strategy 6.4: Partner with JVs, bird conservation groups and native prairie associations to coordinate quail and grassland bird conservation efforts.
- Strategy 6.5: Establish quail management/research demonstration sites on private and public lands in priority eco-regions.
- Strategy 6.6: Work with the Native Prairie Association of Texas and similar organizations to identify relic stands of native prairie that can serve as a native seed source or hay for restoration projects.

Objective 7 – By 2015, develop brochures, videos and other materials outlining best management practices for all quail species for each of the priority eco-regions.

- Strategy 7.1: Develop fact sheets that discourage common management misconceptions (e.g., using pen-reared quail to augment populations).
- Strategy 7.2: Produce a technical bulletin for each of the four species of quail.
- Strategy 7.3: Publish popular literature on the economic and environmental benefits of native grasses.
- Strategy 7.4: Publish eco-region specific, user-friendly informational materials describing how to establish and maintain native grasses.

Objective 8 – By 2015, Develop an evaluation mechanism for the TTT program to determine success rate of quail translocations.

- Strategy 8.1: Incorporate recent quail translocation research findings in site evaluations.
- Strategy 8.2: Utilize spring call counts for presence/absence data and fall morning covey call counts for density estimates.

Objective 9 – By 2015, initiate a program aimed at recruiting and retaining quail hunters.

- Strategy 9.1: Work with the PLPH program to explore additional youth-only quail seasons where appropriate.
- Strategy 9.2: Work with conservation partners to expand support for existing youth conservation programs.

Montezuma and Gambel's Quail Objectives and Strategies

Objective 1 – Annually, work with the Resident Game Bird Working Group of the Association of Fish and Wildlife Agencies to implement the 2010 WQMP.

Strategy 1.1: Ensure TPWD representation at meetings to comment on revisions, updates and development of Texas specific population goals and objectives and conservation strategies for Montezuma and Gambel's quail.

Objective 2 – By 2013, develop historic and current distribution maps of Montezuma and Gambel's quail.

Strategy 2.1: Develop a survey to be distributed to major land holders in the historic parts of the Montezuma and Gambel's quail ranges to determine presence/absence.

Strategy 2.2: Identify habitat used by Montezuma and Gambel's quail and develop a habitat index for these species.

Objective 3 – By 2015, develop survey techniques for Montezuma and Gambel's quail.

Strategy 3.1: Develop population density survey techniques based on the results of TPWD funded occupancy density modeling research for Montezuma quail.

Strategy 3.2: Test current quail roadside survey as a potential survey method for Gambel's quail.



Scaled Quail Habitat

Phillip Dickerson

Quail Research Priorities

1. Evaluate the impact of the exotic and invasive vegetation on bobwhite quail density and viability. In cases where impacts are detrimental to quail, evaluate methods to alter these plant communities to favor native warm season grasses and increase plant diversity.
2. Develop a comprehensive assessment of landowner attitudes toward quail management and grassland bird conservation in different regions of Texas. This should focus on determining the kinds of incentives and policies (economic and otherwise) that will promote quail habitat improvement and conservation.
3. Determine the economic effects of quail hunting. What landscape components are needed to support quail hunting?
4. Evaluate brush management systems for sustaining or increasing wild quail.
5. Establish the best strategies for promoting the conservation and persistence of Montezuma and Gambel's quail.
6. Develop a habitat assessment technique for occupied Montezuma quail habitat in the Edward's Plateau and the Trans Pecos. Can restored sites support translocated Montezuma and Gambel's quail?
7. Conduct research on the basic ecology of Montezuma and Gambel's quail in Texas (food habits, survival, distribution and reproduction).
8. Determine the limiting factors for scaled quail populations. Examine recruitment, survival, nest success and chick mortality where scaled quail are successful compared to areas where they occur in low densities.
9. Establish protocols for the public to submit suspect quail carcasses for use in the evaluation of the prevalence of communicable diseases in wild quail populations.
10. Investigate the prevalence and potential impacts of West Nile virus, avian influenza and other communicable diseases suspected to occur in wild game bird populations.
11. Re-evaluate the impacts of predators on quail populations in fragmented landscapes. Promote field studies that use infrared video technology and other emerging technology (GPS transmitters) to compile a comprehensive set of quail predation events and use these data to model predation as a process that can be applied to quail management in relation to patch size and fragmentation.
12. Evaluate the impacts of pre and post construction of wind farms on quail and other grassland birds.
13. Evaluate potential impacts of increased frequency of catastrophic weather events (in relation to quail survival and reproduction) using population viability analysis. Funding sources for this research may include federal climate change and Landscape Conservation Cooperative grants.

Pheasant

The pheasant is an introduced game bird that is native to eastern Asia. Initial pheasant stockings in Texas were completed by private landowners in the 1930s and 1940s. TPWD, through the Exotic Bird Project, stocked pheasants from 1965 until the 1990s. Pheasant now occur throughout the Texas panhandle and portions of the upper coast (Figure 11). Pheasant populations have experienced long term declines primarily associated with major changes in agricultural practices (Figure 12). Although populations are unlikely to return to the highs of the 1980s, pheasant numbers can be increased in localized areas by incorporating management practices that provide suitable food and cover. Pheasant habitat management strategies are recommended for playa lakes and waterways, agriculture lands, CRP lands, roadsides and right-of-ways. This strategic plan addresses key issues impacting pheasant in Texas and management strategies are recommended.



Pheasant

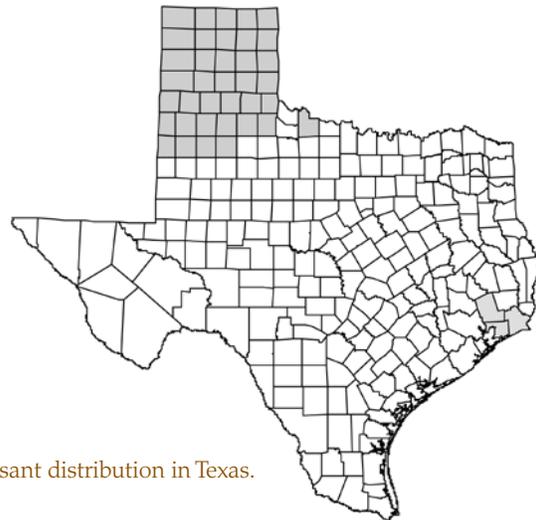


Figure 11. Pheasant distribution in Texas.

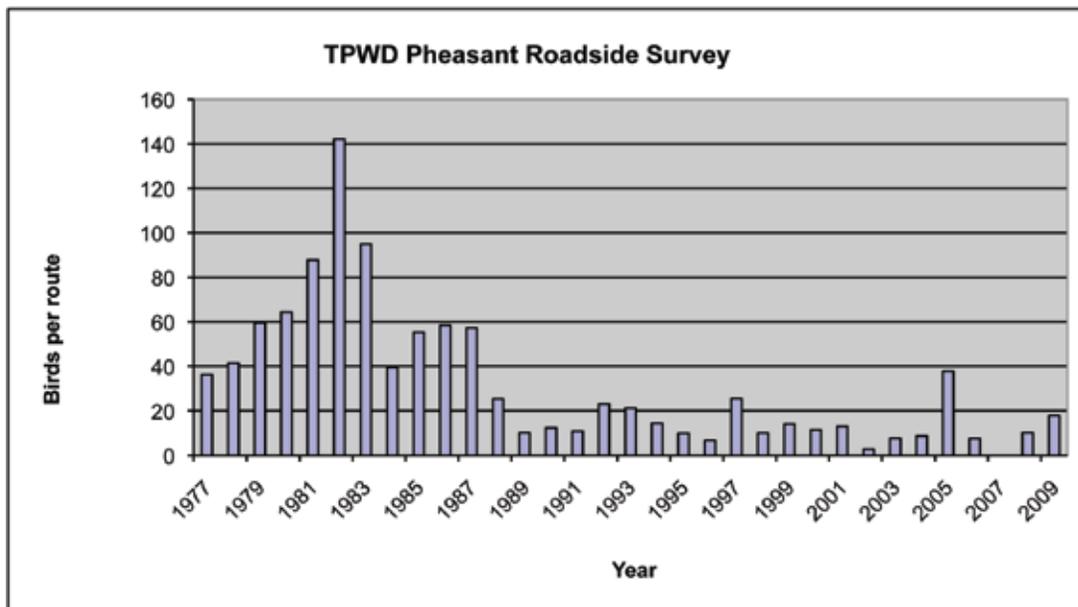


Figure 12. Pheasant roadside survey data in the Texas panhandle 1977-2009.

Pheasant Objectives and Strategies

Objective 1 – Annually, partner with FSA to encourage strategically located CRP fields within intensively farmed landscapes.

Strategy 1.1: Promote CRP contract extensions in key pheasant habitats.

Strategy 1.2: Work cooperatively with FSA to identify key CRP acreages that are most beneficial to pheasant populations.

Strategy 1.3: Encourage management of CRP tracts to maximize benefit to pheasants.

Objective 2 – Annually, work with TxDOT to promote native vegetation cover along roadside right-of-ways and ditches in important pheasant areas.

Strategy 2.1: Develop a roadside management plan that identifies appropriate mowing activities that benefit nesting and brood-rearing habitat.

Strategy 2.2: Promote planting perennial vegetation that will provide cover for pheasants.

Objective 3 – By 2012, provide pheasant education and outreach to private landowners.

Strategy 3.1: Create videos that provide management strategies for a variety of species.

Strategy 3.2: Conduct annual workshops to promote game bird management and the economic benefits pheasant hunters bring to farm communities.

Strategy 3.3: Create a management bulletin for landowners interested in improving habitat for pheasants.

Objective 4 – By 2013, work with private landowners to improve pheasant habitat.

Strategy 4.1: Establish a set of BMPs for landowners to enhance pheasant habitat.

Strategy 4.2: Encourage agricultural practices that provide for retention of crop residue and minimum stubble height.

Strategy 4.3: Provide cost-share opportunities to landowners that manage for pheasant habitat and provide public hunting opportunities.

Strategy 4.4: In agricultural areas, encourage landowners to leave grass buffers around playas.

Strategy 4.5: Work with conservation partners to use existing and develop new landowner incentive programs for restoration and conservation of pheasant habitat.

Strategy 4.6: Work with partners to develop programs that will encourage landowners to plant native vegetation in center pivot corners.

Pheasant Research Priorities

1. Develop and test new survey methods such as distance sampling and occupancy estimation models.
2. Develop a comprehensive assessment of farmer and pheasant hunter attitudes toward pheasant management and grassland bird conservation.
3. Determine habitat selection and use in differing habitat types by pheasant.
4. Use GPS and GIS technology to develop habitat suitability models for Texas panhandle pheasant populations.

Lesser Prairie-Chicken

In 1995, the USFWS was petitioned to list the lesser prairie-chicken (LPC) as threatened under provisions of the Endangered Species Act. The USFWS's finding was "warranted but precluded." Since that determination, the LPC has been classified as a candidate species. Most recently the LPC's status has moved closer to Federal listing with a change in listing priority from eight to two.

In 2008, the Lesser Prairie-Chicken Interstate Working Group produced a range-wide recovery plan entitled Lesser Prairie-Chicken Conservation Initiative (LPCCI). This document was intended to guide and facilitate species management and established a recovery goal of a range-wide breeding population of 80,000 birds. Many positive steps have been taken on behalf of the LPC through outreach and education efforts, priority research initiatives and government incentive programs focused on habitat restoration. Additionally, energy producing industries will have a direct responsibility and impact on future conservation of the LPC. Their decisions in placing infrastructure and managing activities will be a linchpin for survival of the species. The objectives and strategies outlined in this section of the UGSP reflect goals outlined in LPCCI in addition to addressing issues unique to Texas.



Lesser Prairie-Chicken

Lesser Prairie-Chicken Population Status and Distribution

Within the five states of its historic range, the LPC remains present on sand sagebrush (*Artemisia filifolia*) and mixed-grass prairies of western Kansas and eastern Colorado, through portions of northwest Oklahoma, the northeast Texas Panhandle and into the shinnersy oak (*Quercus havardii*) and sand sage habitats of eastern New Mexico and bordering areas of Texas. Although historic records are too limited to precisely define the species' original range, about 90% is no longer suitable for LPC. A primary reason for the decline in the range has been the extensive conversion of southern High Plains Prairies to croplands and degradation of many remaining prairie habitats by improper management. Range-wide estimates of the species' total population range between 30,000 and 50,000 birds. The current Texas population is estimated at 6,000 birds. Figure 13 depicts the current estimated distribution of LPCs in Texas.



Figure 13. Lesser prairie-chicken distribution in Texas.

Lesser Prairie-Chicken Objectives and Strategies

Objective 1 – Work with energy industry, through the Habitat Assessment Program, to develop a mitigation process for energy development projects that threaten LPC habitats.

Strategy 1.1: Develop appropriate mitigation strategies for all potential types of energy development.

Action 1: Work with energy development industry to encourage voluntary funding of mitigation for LPC habitat.

Action 2: Work with regulatory agencies to pursue a regulated mitigation process if voluntary mitigation proves insufficient.

Action 3: Update *TPWD Guidelines for Lesser Prairie-Chicken Transmission Voluntary Mitigation and Conservation* to include effective measures for avoidance and minimize impacts.

Action 4: Identify partners willing to hold compensation funds.

Action 5: Prioritize expenditures of compensation funds for acquisitions and permanent easements of LPC habitat.

Action 6: Work directly with energy developers and distributors on avoidance measures for LPC population and habitat.

Objective 2 – By 2011, work with partners to increase TPWD's ability to meet constituent demands and delivery of LPC programs.

Strategy 2.1: Encourage the USFWS and NRCS to devote staff time toward CCAA development.

Strategy 2.2: Seek additional manpower for completing CCAs for LPC conservation.

Action 1: Advocate for inclusion of a TSP in the high plains region as an action item in the *Wildlife Division Strategic Plan (WDSP)*.

Action 2: Encourage Audubon Texas to expand their Quail and Grassland Bird Initiative to include LPC landowner assistance.

Action 3: Work with the USFWS to create a co-funded full time position focused on conservation delivery in the Great Plains region of Texas.

Objective 3 – By 2012, improve population monitoring and understanding of LPC distribution and habitat requirements

Strategy 3.1: Complete aerial surveys in Fiscal Year 2010 and Fiscal Year 2011 to establish baseline population data.

Strategy 3.2: Develop spatially explicit population model to prioritize and direct conservation efforts.

Strategy 3.3: Improve and standardize current LPC survey methodologies.

Strategy 3.4: Establish a centralized database of lek coordinates.

Strategy 3.5: Work with the Playa Lakes JV and other conservation partners to identify priority areas for conservation efforts.

Strategy 3.6: Initiate habitat work in priority areas that maintains, restores or increases population connectivity and encourages population expansion.

Strategy 3.7: Partner with federal and state agencies to make LPC management a high priority on public lands.

Objective 4 – By 2012, develop partnerships to implement LPC conservation practices.

Strategy 4.1: Develop a LPC working group in Texas.

- Strategy 4.2: Work with NRCS and FSA to improve delivery and implementation of cost sharing and incentive conservation programs within the Farm Bill for LPC and grassland bird habitat conservation and management.
- Strategy 4.3: Develop and/or maintain active involvement with relevant conservation initiatives and partnerships.
- Strategy 4.4: Encourage the LPC Interstate Working Group to lobby for increased program funding for LPC conservation.

Objective 5 – By 2013, improve understanding of issues and topics related to LPC conservation, management and ecology.

- Strategy 5.1: Increase personal contacts to provide technical assistance to landowners on LPC conservation and management.
- Strategy 5.2: Create, update and disseminate outreach products that promote LPC conservation.
 - Action 1: Work with the Dorothy Marcille Wood Foundation to develop informational tools that explain incentive programs that provide funding for LPC habitat restoration and management.
- Strategy 5.3: Encourage reporting of LPC sightings by private landowners.
- Strategy 5.4: Host public meetings to provide LPC habitat and management information to private landowners.
 - Action 1: Develop and disseminate LPC conservation message to media outlets, landowner and energy producers.
- Strategy 5.5: Develop landowner LPC conservation workshops.
- Strategy 5.6: Initiate human dimensions work to meet critical deadlines with species listing and landowner incentive programs.
- Strategy 5.7: Identify roadblocks preventing landowner participation in the Texas Candidate Conservation Agreement with Assurances (CCAA).
 - Action 1: Develop a LPC wildlife management plan template to be used to enroll landowners into CCAAs.
 - Action 2: Host LPC partnership training meetings related to CCAA for resource agencies.
 - Action 3: Develop a CCAA informational fact sheet for landowners.
- Strategy 5.8: Educate energy developers and distributors (e.g., utilities, pipeline companies) about the need for LPC conservation.
- Strategy 5.9: Educate the general public about the impacts energy providers may have on LPC habitat and population.

Objective 6 – By 2015, implement habitat restoration and conservation of 300,000 acres of LPC habitat.

- Strategy 6.1: Develop and implement science-based BMPs for landowners to address LPC conservation.
- Strategy 6.2: Use the Farm Bill and other incentive programs to conserve and restore LPC habitat on private lands and provide technical assistance related to LPC habitat management.
- Strategy 6.3: Create new private lands incentives and cost sharing programs that encourage landowners to initiate restoration and management of LPC habitat.
- Strategy 6.4: Assist landowners with economic enterprises related to nature tourism to aid in restoration and management of LPC habitat.
- Strategy 6.5: Work with federal and state agencies to develop and implement guidelines for energy development on public lands in order to reduce or eliminate detrimental impacts on LPC.

Lesser Prairie-Chicken Research Priorities

1. Conduct a spatially explicit population viability analysis for LPC across their range.
2. Evaluate impacts of changing agricultural practices on LPC populations.
3. Expand knowledge of seasonal habitat requirements of LPC through radio telemetry and remote camera studies.
4. Evaluate translocation as a tool to establish new populations and enhance isolated populations.
5. Identify potential corridors through which LPC populations may move to suitable unoccupied habitat.
6. Evaluate impacts of climate change on LPC and determine if barriers must be overcome to facilitate any shifts in populations.
7. Investigate the role of shrubs (e.g., shinnery oak, sagebrush) and vegetation structure relative to LPC habitat needs.
8. Determine if West Nile Virus impacts LPC populations.
9. Evaluate relationships between lek locations (e.g., primary and satellite) and other seasonal requirements and use patterns (e.g., brood-rearing, feeding, winter cover, loafing and nesting cover).

Chachalaca



The chachalaca is a large chicken-like bird about the size of a crow that is generally restricted to Cameron, Hidalgo, Starr, Willacy and Zapata Counties in the Lower Rio Grande Valley where adequate habitat exists (Figure 14). Localized populations have been established through restocking efforts in several areas beyond the species historic range and are known to occur in San Patricio County along the Aransas River and in portions of Kennedy County. There are also isolated reports of localized populations in Brooks, Dimmitt, Jim Wells, Kleberg, LaSalle and Nueces Counties that are likely descendants of birds released during the mid-1980s.

Chachalaca occupy dense thornscrub and riparian woodland habitats. The species' status is often referred to as "common" where suitable habitat occurs. Although little is known of the population status of the chachalaca, CBC data is available for the species (Figure 15).

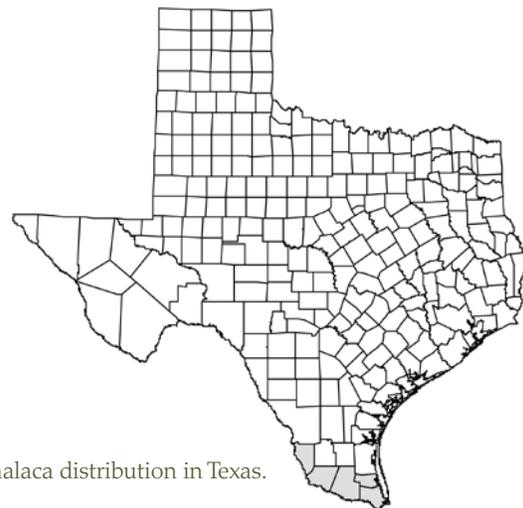


Figure 14. Chachalaca distribution in Texas.

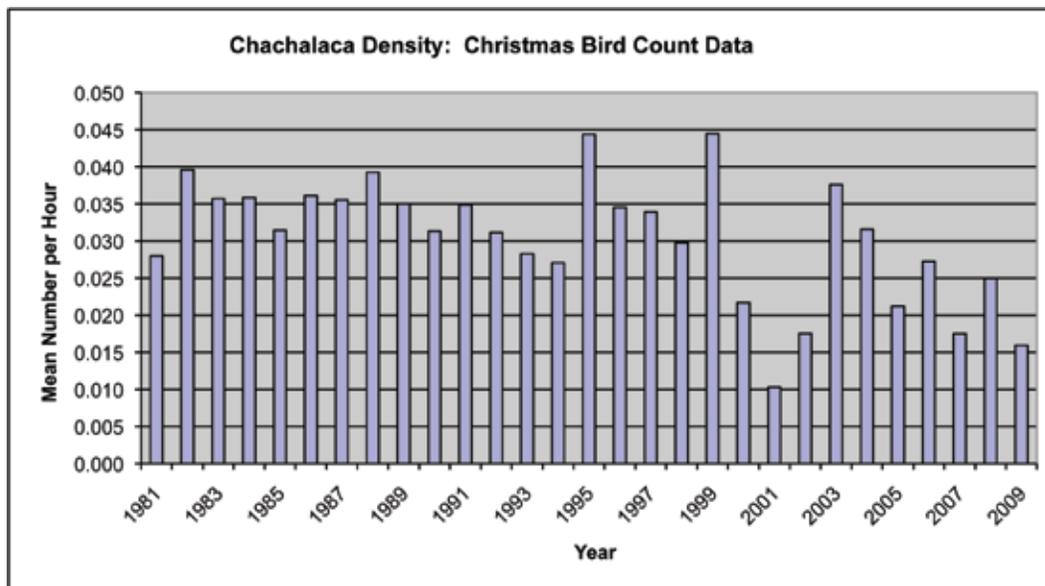


Figure 15. Christmas Bird Count Survey trends for chachalaca in south Texas 1981–2009.

Chachalaca habitat management centers on thornscrub conservation and restoration efforts. Seedling production of common brush species has been pursued by various partners as a viable method to strategically restore brush tracts.

Old growth brush with a closed canopy and some bare ground underneath support the highest densities of birds. This habitat type has largely been lost over the last several decades to agriculture. The majority of remaining brush tracts are conserved by federal, state or private entities. Protection of

remaining tracts through acquisition, land trust or easement is a high priority for the species.

Within the Lower Rio Grande Valley chachalaca have responded well to translocation. Biologists reestablished chachalaca in areas of previously unoccupied habitat during the 1950s. One of the best examples is the Longoria Unit of the Las Palomas WMA. The birds responded so well to the 1959–60 release that during the late 1960s the area was being used as a source for additional stockings.

Chachalaca Objectives and Strategies

Objective 1 – Annually, identify and protect priority chachalaca habitat.

Strategy 1.1: Work with conservation partners to protect priority brush tracts.

Strategy 1.2: Use soil and spatial data to identify priority chachalaca habitat restoration sites.

Objective 2 – Annually, promote chachalaca public hunting opportunities in the Rio Grande Valley.

Strategy 2.1: Educate the public on hunting opportunities on state owned lands.

Objective 3 – By 2011, improve coordination with existing JVs.

Strategy 3.1: Work with the Rio Grande JV to ensure chachalaca remain a priority species in planning efforts and seek out partnership opportunities.

Objective 4 – By 2013, reinstate TPWD brush tract restoration projects.

Strategy 4.1: Use tree planters or contract seedling cultivation for restoration on WMAs and partner lands.

Strategy 4.2: Request one FTE to coordinate the brush restoration project.

Strategy 4.3: Acquire the necessary equipment to control exotic grasses.

Objective 5 – By 2015, create new cost incentive programs and promote existing ones that benefit chachalaca.

Strategy 5.1: Work with conservation partners to encourage landowners to participate in incentive programs beneficial to chachalaca.

Chachalaca Research Priorities

1. Determine the minimum viable population requirements for chachalaca in native habitat and in mixed urban/native habitat.
2. Develop a survey technique that incorporates auditory counts and distance sampling.
3. Determine habitat use in restored brush tracts of differing ages.
4. Examine the impact of exotic guinea grass and buffelgrass on habitat use.
5. Use available spatial and soil survey data to find potential habitat within the historic range of the species for future translocation efforts.
6. Gather data on basic ecology and habitat use via radio telemetry.
7. Analyze historic dove call count data where chachalaca were also recorded. Determine if data can be used for historical presence-absence, index or density information.

Appendix A.

Bird Habitat Joint Ventures and Adaptive Management

Wildlife Conservation has started to change. Historically TPWD has generally approached wildlife conservation by responding to the desire of the landowners that contact them and developing conservation plans privately with very little consideration for the surrounding landscape and priority habitat needs. Though it is important to us to be responsive to our constituents, this “reactive” approach does little to tackle the landscape level issues that Texas wildlife faces. There has to be a better way.

The complexity of bird conservation is set within an atmosphere of changing expectations from our conservation enterprises. Recently, the National Ecological Assessment Team identified three primary drivers of changing expectations including advances in conservation theory, emerging

geospatial technology and increasing accountability. Changes in expectations resulting from these drivers include moving from site-scale conservation to a focus on producing sustainable populations and landscapes and from activity-based conservation (where “more of everything is better”) to science-based activities with measurable objectives. These increasing expectations relate less to any one taxonomic group or type of wildlife habitat and more to a general trend in natural resources conservation. The reality is that conservationists are embarking on a journey to manage complex issues at large spatial scales...and the question is “how do we best get there?” The formation of the Bird Habitat Joint Ventures provides the framework for bringing together partners with overlapping interests in habitat conservation to share resources and knowledge to address the large-scale and complex issues through the creation of science-based bird population and habitat objectives.

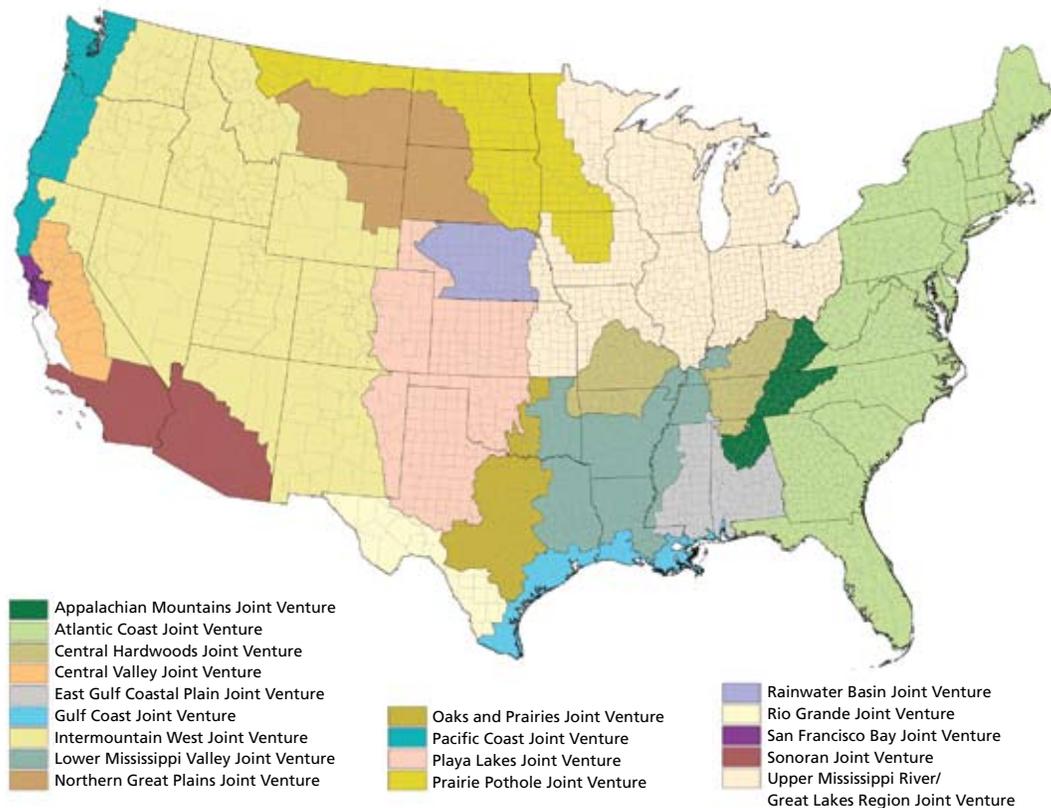


Figure 16. Joint Ventures of the United States.

Bird Habitat Joint Ventures are regional, self-directed partnership of government and non-governmental organizations as well as individuals working across administrative boundaries to deliver landscape-level planning and science-based conservation, linking on-the-ground management with national population goals. Joint Ventures are organized into Bird Conservation Regions (BCR) that encompass landscapes having similar bird communities, habitats and resource issues (Figure 16). Joint Ventures (JVs) work to implement national and international bird conservation plans [i.e., waterfowl (North American Waterfowl Management Plan Committee 2004), bobwhite (Northern Bobwhite Conservation Initiative), landbird (Rich et al. 2004), waterbird (Kuslan et al. 2002) and shorebird (Brown et al. 2001)] by “stepping down” the population goals of the larger plans to regional or landscape habitat goals, while feeding local information up to the national and international planning groups. This process helps to bring national and international level priorities and resources to address local level conservation issues, while working to ensure local level conservation issues are incorporated into national and international policy making. JVs help to bridge the gap between national level planning and local level actions of conservation organizations and agencies. To that end, individual JVs focus on a broad spectrum of activities including conservation planning, conducting “on-the-ground” projects, organizing outreach, research, monitoring, creating decision support tools and raising money for these activities through partner contributions and grants for conservation.

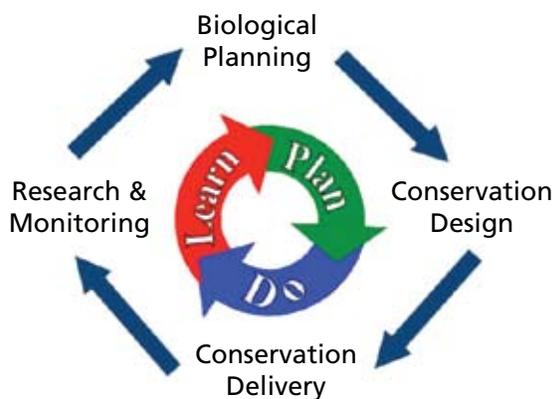


Figure 17. Illustration of the Strategic Habitat Conservation approach adopted by the USFWS.

Because of the broad scope and the diversity of habitat needs for bird species, 1) no one conservation entity is ideally suited to the task, and 2) significant knowledge gaps exist and will continue to exist (due to the complex nature of the problems). Adaptive conservation (Figure 17) can be an effective approach to dealing with large-scale, complex problems. As defined here, adaptive conservation is a model that follows a **Plan, Do and Learn** cycle to iteratively improve our knowledge of the system and allows us to evaluate the success of management practices, as well as the assumptions underlying its direction. In this model, *biological planning* (**Plan**) uses best available scientific knowledge to set population objectives and identify and prioritize conservation needs of bird species by identifying limiting factors and developing working models that link bird populations to habitat conditions and specific management actions (Johnson et al. 2009). This information serves as the basis for a spatially-targeted *conservation design* (**Plan**) where habitat objectives are formulated, the current state of the ecosystem is assessed and spatially explicit management plans are formulated. Management prescriptions for *conservation delivery* (**Do**) are then put together based on science and experience with both the natural and social systems in play. Assumption-based *research* programs (**Learn**) are designed with management prescriptions to test the assumptions underlying biological planning and conservation design. Mission-based *monitoring* (**Learn**) before, during and after management provides a reference for gauging the success of conservation planning and delivery (i.e., accountability). Research and monitoring then become an integral part of the adaptive conservation cycle instead of a costly luxury that can be cut when budgets are constrained.

The Plan-Do-Learn process will help encourage communication among partners throughout the process and eventually create interdependency among partner organizations working to complete the cycle. Partners that focus on the “Do,” like state and federal agencies, land conservancies and other environmental organizations, will work more directly with partners that focus on the “Learn,” like universities and other research organizations, to build the “Plan.” Then all will have a stake in ensuring the success of the whole process. The Plan-Do-Learn process also results in an increased understanding of the biology and management of bird species and this increased understanding

can be plugged back into the planning and design elements, thus completing the cycle. The important point here is that an approach that embraces adaptive conservation allows us to overcome both of the previously mentioned difficulties by: 1) laying out a framework for effective partnerships, and 2) using the Plan-Do-Learn model to create the feedback loop necessary to maintain sustainable bird populations in an uncertain environment. Currently Texas has five JV partnerships that provide “wall-to-wall” coverage for strategic bird conservation. This strategic plan will strive to utilize the JV partnerships and its approach to conservation whenever possible to utilize the best information available to make the best decisions on the landscape.

The Role of Cooperatives, Land Trusts and Easements

History of wildlife management associations and cooperatives

Wildlife management associations and cooperatives are groups formed by landowners to improve wildlife habitats and associated wildlife populations. The idea of wildlife management associations and/or cooperatives has been around since the early 1930s.

In Texas, the first wildlife cooperatives are thought to have evolved during the 1950s in the Hill Country for management of white-tailed deer (*Odocoileus virginianus*) (G. Homerstad, TPWD, Victoria, Texas). The first-known wildlife management association in Texas, the Peach Creek Wildlife Management Cooperative, was organized in 1973. The Cooperative was developed in response to landowners’ desire to improve the quality of white-tailed deer habitat.

This Cooperative forged a new type of cooperation among Texas landowners – a process where groups of landowners work together with wildlife biologists to learn about wildlife and make improvements to wildlife habitat and populations on the cooperative acreage.

Wildlife cooperatives (or similar entity) have been defined and amended by the Texas Legislature since 1975 (1975 Parks and Wildlife Code, Title 5, Subtitle A, Chapter 43, Subchapter D, § 43,041). Wildlife Associations were defined by the Texas Legislature in 1993 (1993 Parks and Wildlife Code, Title 5, Subtitle E, Chapter 81, Subchapter D, § 81.301). The definition of a co-op has remained

similar, but the semantics have changed through the years. Roughly, a cooperative is more than two landowners within a county managing wildlife. An association is more than two contiguous landowners managing wildlife within a county.

Why cooperatives are essential

Land ownership fragmentation is defined as the division of rural lands into smaller parcels that remain in rural land uses. Ownership fragmentation is a result of the combined influence of weakened agricultural economies and increasing demands from large, urban populations. Impacts of land ownership fragmentation include loss of open space or localized loss of farm, ranch and forest production or higher demand for public services in rural areas; and reduced space for wildlife and their habitats (Wilkins et al. 2000).

In Texas, about 80% of farms and ranches are less than 500 acres in size, most of these occurring in the eastern part of the state. About 81% of Texas rural land is owned by 23% rural landowners (Wilkins et al. 2000).

It becomes evident that the largest threats to game birds is increased fragmentation of habitat and as populations become more isolated from each other, the probability of local extinction increases. The use of wildlife associations and/or cooperatives can increase the acreage suitable for game birds and prevent populations from becoming isolated.

How big does a cooperative need to be? It depends, but the bigger the better. Each species has different area requirements. For example LPC may need up to 10,000 acres of contiguous habitat while bobwhite quail may only need 2,000 to 3,000 of high quality habitat. The position of the association or cooperative in relation to the surrounding landscape and the land use practices on those surrounding properties will also have an influence on success.

The potential benefits to landowners in wildlife management cooperatives include:

1. Personal knowledge gained through educational programs and materials.
2. Better stewardship of land (habitat).
3. Working with neighbors towards a common goal.
4. Improved quality and quantity of wildlife.
5. Re-establishment large blocks of suitable habitat.

“A true conservationist is a man who knows that the world is not given by his fathers but borrowed from his children.”

– John James Audubon

Overall, the continued development on wildlife cooperatives on the Texas landscape plays critical role in the future game bird conservation in Texas. TPWD personnel work directly with landowners and with partner groups including Audubon Texas to nurture and develop cooperatives.

Land trusts and conservation easements

Land conservation can take many forms and involve a long list of entities. Some landowners opt to put their lands in set aside programs such as land trusts or conservation easements. These types of programs conserve open spaces by restricting development and types of land use. Agreements can be as short as 5 years or as long as permanent. Landowners can reduce estate taxes or receive income tax benefits while receiving assurance that their land will continue to be productive and beneficial to wildlife. There are many benefits keeping open spaces open, for more information see the publication, *The Economic Benefits of Land Conservation*. http://www.tpl.org/tier3_cd.cfm?content_item_id=21251&folder_id=188

A land trust is a local, state or regional non-profit conservation organization involved in protecting land for its natural, recreational, scenic, historical, open space or educational value. Dozens of land trusts are at work in Texas assisting landowners with their long-term conservation goals.

TPWD supports the development of sustainable land trust organizations. These private organizations are generally local and can provide another conservation option for private landowners. The Texas Land Trust Council (TLTC) is a non-profit organization responsible for the education and training of land trusts and promoting national standards for these organizations. To date, land trusts have helped conserve more than 1.3 million acres in Texas. For more information regarding Texas land trusts visit the TLTC website. <http://www.texas-landtrustcouncil.org/>

A conservation easement is an excellent tool for landowners who wish to retain ownership and continue living on and managing their land. Conservation easements are essentially a restriction landowners voluntarily place on specified uses of their property to protect natural, productive or cultural features. A conservation easement is recorded as a written legal agreement between the landowner and the “holder” of the easement, which may be either a nonprofit conservation organization or government agency.

With a conservation easement the landowner retains legal title to the property and determines the types of land uses to continue and those to restrict. As part of the arrangement, the landowner grants the holder of the conservation easement the right to periodically assess the condition of the property to ensure that it is maintained according to the terms of the legal agreement. For more information about conservation easements see the TPWD publication *Conservation Easements – a guide for Texas landowners*. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0022.pdf

The continued development of land trusts and easement programs in the Texas landscape is an important component of game bird conservation. TPWD personnel work directly with other agencies and partner groups to encourage this type of land use as another conservation option for Texas landowners.

Incentive Programs

Texas is a large and ecologically complex state where conservation of wildlife species depends on landowners who manage the majority of the important habitats and thus maintain wildlife diversity. TPWD recognizes the intrinsic value of good stewardship and supports landowners who assume this responsibility. The TPWD WMP process is an integral component of the Department’s Private Lands and Public Hunting program (PLPH), which

also includes programs and services such as the technical guidance to landowners and managers, technical and financial assistance through the Landowner Incentive Program, Wildlife Management Tax Valuation planning assistance, information on conservation easements and other long term conservation tools and recognition of exceptional land stewardship through the Lone Star Land Steward Awards Program. The TPWD PLPH focuses on a diverse array of programmatic responsibilities for wildlife habitat management and development, technical assistance, incentive programs and habitat conservation. TPWD Wildlife Division personnel provide technical assistance to land managers and landowners upon written request for assistance to develop plans and recommendations for voluntary conservation, enhancement and/or development of wildlife habitat. In particular, at the request of landowners, TPWD prepares a written Wildlife Management Plan that incorporates recommendations for the specific area and addresses the conservation goals and objectives of the landowner.

The publication *Natural Resource Conservation Programs and Services for Texas Landowners* provides landowners with a resource that offers background information on these programs so that they may select those programs that best address their specific concerns. Landowners are encouraged to follow up with the appropriate agency after determining which programs might best suit their needs. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_1198.pdf

Another good source of information is the *Upland Game Bird Management Handbook (UGBMH)*, which outlines game bird habitat incentives available to landowners and land managers and describes how these incentives plug into the Joint Venture approach to integrated bird management. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_rp_w7000_1558.pdf

Landowner incentives play a major role in the conservation of game birds and their habitats in Texas. TPWD is committed to working with partner agencies and entities in the development of future incentive programs targeting priority habitats and their associated species.

Candidate Conservation Agreement with Assurances

Texas has completed a Candidate Conservation Agreement with Assurances (CCA) for LPC in the

state. The purpose of the CCA is for TPWD to join with the USFWS to implement conservation measures for the LPC in Texas, in support of TPWD's ongoing and future efforts to manage, conserve and recover the species. The CCA pertains to lands in Texas encompassed by the current distribution of LPC, those lands that are unoccupied potential habitat and those that could provide potential habitat if the current population and distribution of LPC should increase. TPWD will be the sole non-federal cooperator in the CCA and will be responsible for implementing and administering the CCA. TPWD will enroll property owners under the CCA through issuance of Certificates of Inclusion (CI) to those property owners who have entered into a TPWD-approved WMP for LPC and are actively implementing conservation measures for the species. TPWD will process and monitor all CIs to document that the conservation measures implemented on private property will provide a conservation benefit to LPC. The USFWS will issue a draft permit to TPWD under section 10(a)(1)(A) of the ESA of 1973, as amended in accordance with 50 CFR 17.22(d) or 17.32 (d), that will become effective if and when the LPC is listed as threatened or endangered. Property owners will enroll in the CCA by agreeing to participate in a TPWD-approved WMP (which will include a list of recommended conservation measures for LPC and their habitats) and by completing and submitting a CI application. An approved CI will provide the property owner protection under the Enhancement of Survival Permit associated with the CCA if the species is listed under the ESA in the future. The property owner will complete and maintain the conservation measures outlined in the WMP in order to maintain a valid and approved CI. Participating landowners will allow TPWD personnel (or an agreed upon designee) to survey enrolled lands for the presence of LPC and for habitat suitability. Participating landowners will allow TPWD personnel (or an agreed upon designee) access to the enrolled lands for purposes of monitoring LPC populations and habitat.

Other management practices and incentive programs in place for LPC conservation on privately owned and operated lands in Texas include the NRCS-administered EQIP for LPC, FSA SAFE program and the USFWS's PFW Program. All of these programs provide financial incentives to landowners who are implementing habitat improvement practices for LPC.

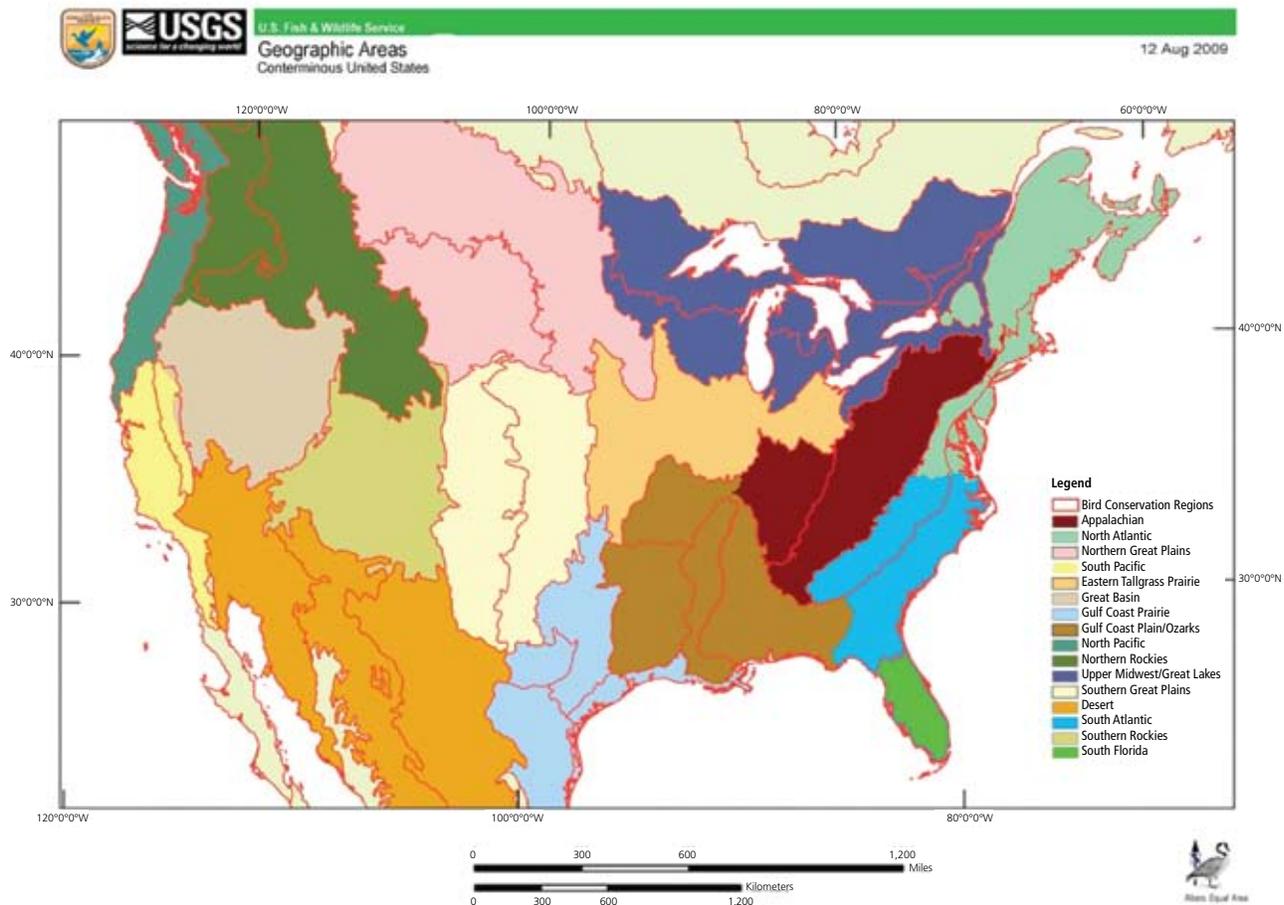
Landscape Conservation Cooperatives – Landscape Planning Beyond Birds

Landscape Conservation Cooperatives (LCCs) are applied science partnerships that the U.S. Fish and Wildlife Service (Service) and other Department of Interior (DOI) Bureaus are developing with partners nationwide. LCCs will engage in biological planning, conservation design, development of inventory and monitoring programs, and assumption-based research, in support of habitat delivery by the Service and partners. While the origin of LCCs is clearly based on the success of bird habitat joint venture partnerships (JVs), they differ from JVs in two important ways – 1) LCCs will operate from a unique geographic framework (<http://www.fws.gov/science/SHC/nationalgeographicframework.html>), and 2) LCCs will address resources beyond birds. The 21 planned LCCs are intended to operate autonomously as guided by each respective steering committee of partners, while also maintaining enough consistency to function as a seamless national network.

LCCs will pursue population and habitat models under alternative climate scenarios to inform spatially-explicit decision support. They will be integral to climate change adaptation efforts, but they will not be climate-centric. Climate science support for LCCs will be provided by new DOI Climate Science Centers (CSCs).

The exact structure of LCCs will vary depending on existing partnerships and capacities within each specified geography, but each LCC is expected to be guided by a steering committee of partner organization executives and a CSC representative, with a core of LCC staff consisting of a Coordinator, a Science & Technology Coordinator, Geographic Information System capacity, Population Modeler(s), Monitoring/Evaluation Specialist(s), and Decision Analysis Specialist(s). Reflecting the cooperative nature of LCCs, all staff positions may be supported by, or through, any LCC partner organization, or shared among partners.

For more information: <http://www.fws.gov/science/SHC/lcc.html>





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