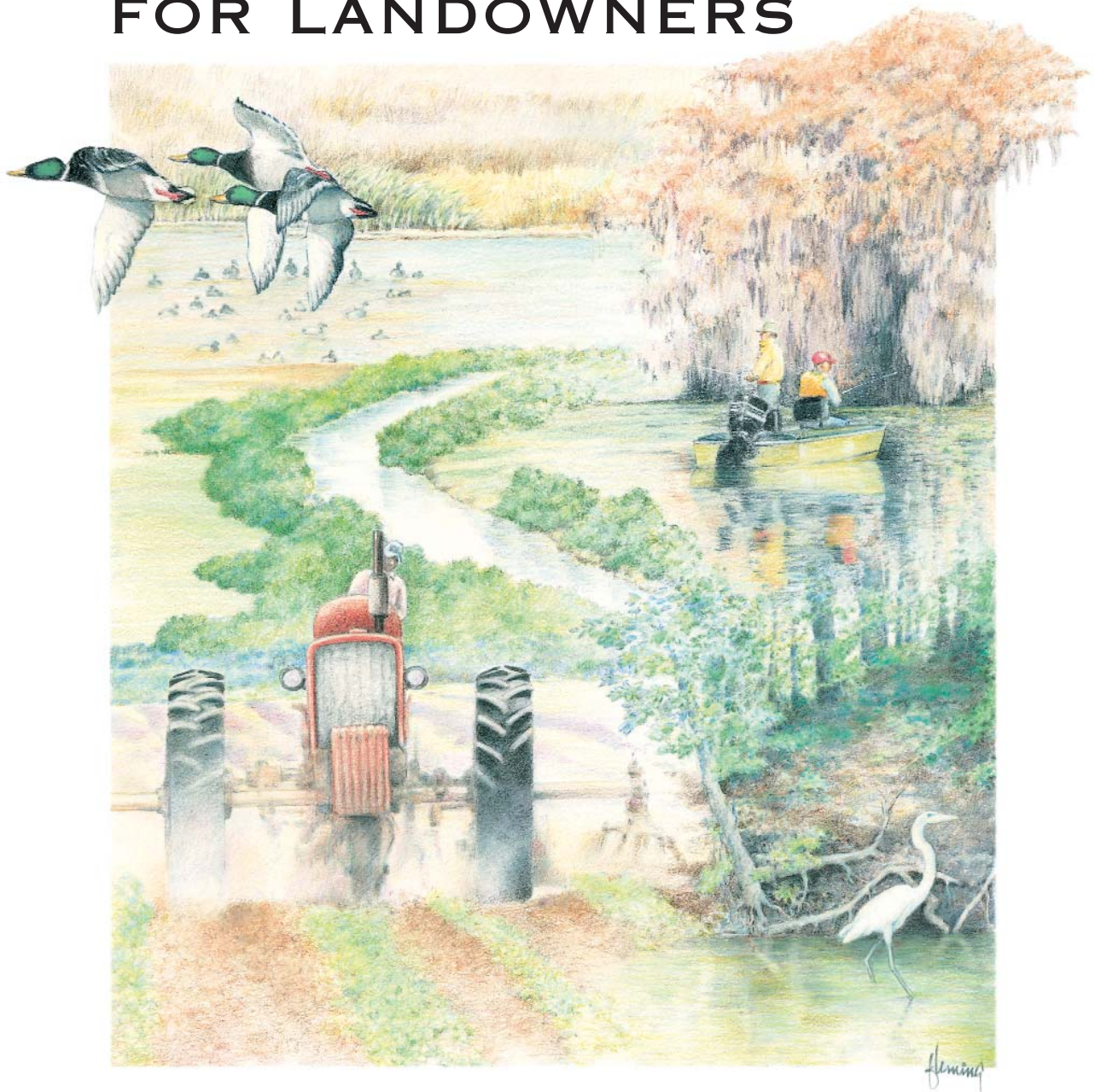


TEXAS PARKS AND WILDLIFE

WETLANDS ASSISTANCE GUIDE FOR LANDOWNERS





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Dear Landowner:

In the past decade or so, many landowners have viewed wetlands as a burden, an obstacle, and a problem standing between them and the use or development of their property. Resource agencies seeking to protect wetlands have been seen as adversaries.

The purpose of this Guide is to look at the other side of the coin. For many landowners, wetland protection has meant increased, not decreased, property values. Indeed, growing numbers of landowners now view wetlands as valuable assets to a broad range of land uses. Healthy riparian habitat keeps stream banks from eroding, aids in groundwater recharge, and improves fish and wildlife habitat. Water management and soil conservation practices nourish crops as well as wildlife, and help to keep topsoil from washing away.

In Texas, a wide variety of voluntary approaches are available to assist landowners in protecting wetlands according to their different needs, within the context of broader conservation goals. The array of options includes technical information and advice, financial contributions for projects or practices that provide long-term improvements in wetland values, and payment at fair market rates for permanent protection on wetland areas.

Until this Guide, there was no one place where you, the landowner, could turn for easy-to-read information on wetlands and how you can benefit from them. The Guide provides basic information about each assistance option, along with program contacts for those who desire additional information. We hope that we have simplified the first step that property owners can take for help or advice on protecting, enhancing or creating wetlands on their land.

Sincerely,

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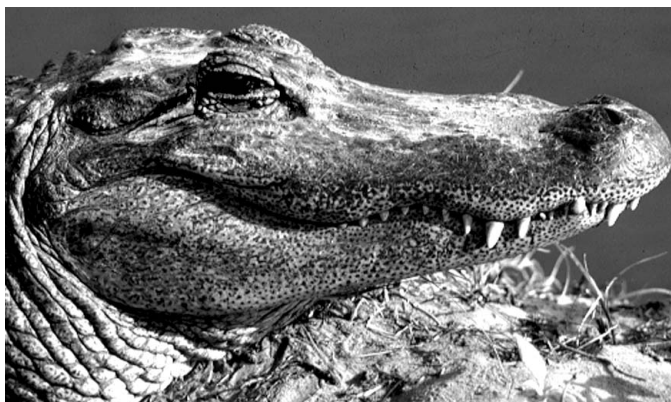
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We are grateful to the many people who, throughout the course of preparing this guide, gave generously of their time and experience in answering questions, providing information and photographs, and reviewing drafts.

For copies of A Wetlands Assistance Guide for Landowners, or more information about the Texas Wetlands Conservation Plan, contact the Texas Wetlands Conservation Program, Resource Protection Division, Texas Parks and Wildlife, 4200 Smith School Road, Austin, TX 78744, Phone: (512) 389-4328, FAX: (512) 389-8059. Visit Texas Parks and Wildlife's Web site for more information on wetlands at: www.tpwd.state.tx.us



The eastern wild turkey and the American alligator are among the many animals that depend on Texas' inland and coastal wetlands for their survival.

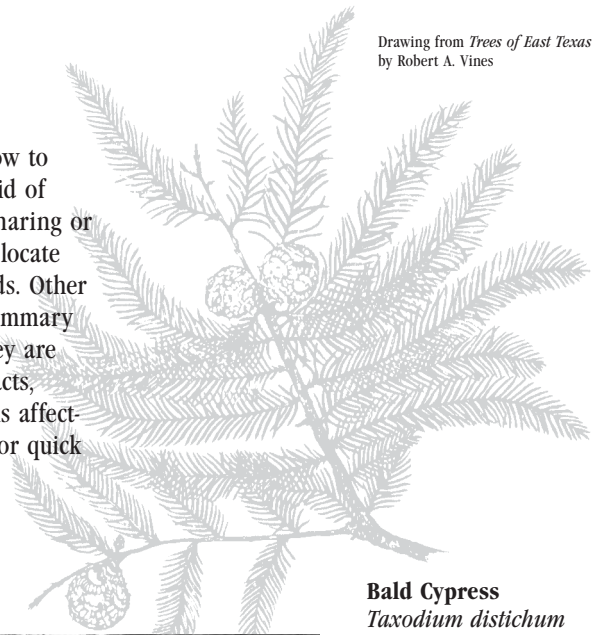
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About the Wetlands Assistance Guide for Landowners

Drawing from *Trees of East Texas*
by Robert A. Vines

The State recognizes that private landowners are stewards of a natural resource in which many of the benefits are accrued to the public. Ninety-seven percent of Texas' land is privately owned and managed, and as such, management decisions on these lands are made by private landowners. Because economics often dictate what these management strategies will be, the Wetlands Assistance Guide for Landowners was developed as a comprehensive guide to federal, state, and private programs offering technical and/or financial assistance to private wetland owners within the State of Texas. The programs are designed to enhance, create, and conserve wetlands in Texas in exchange for technical, financial, and educational assistance to private landowners. Each program description contains: (1) a brief summary of the program, its goals, funding, the process necessary to participate, and benefits to the landowner; and (2) eligibility requirements. Through the information offered in this Guide, Texas landowners will be able

to make informed decisions on how to manage their wetlands with the aid of financial incentives such as cost-sharing or rental payments. Landowners can locate programs best suited to their needs. Other sections of the Guide include a summary of what wetlands are and why they are important, agency roles and contacts, clarification of existing regulations affecting wetlands, and various tables for quick reference.



Bald cypress trees in Caddo Lake.
©TPW



Bald Cypress
Taxodium distichum
(freshwater swamps and
riparian areas in Central
and East Texas)

Wetlands are one of Texas' most valuable natural resources. Bottomland hardwoods, riparian corridors, coastal wetlands, and playa lakes are vital to maintaining our unequaled fish and wildlife resources. Wetlands provide flood protection, improve water quality and provide the basis for other economic benefits totaling billions of dollars nationwide each year.

Estimates reveal that Texas has lost over half of its original wetlands. Much of this loss has been in response to meeting our needs for food, fiber, housing, industrial, and reservoir development – all of which are vital to maintaining the economic health of Texas. If we are to assure that same economic vitality and quality of life for future Texans, we must work together now to conserve our remaining wetlands, which are an important natural and economic resource.

Texas Wetlands — A Vanishing Resource

What is a Wetland?

To know what to protect, we must first know what a wetland *is*. Wetlands are among the most important ecosystems on earth. They not only provide numerous products for human use and consumption, including fossil fuels and food, but are invaluable as the “kidneys of the landscape” for their ability to purify polluted rivers, prevent and minimize flooding, protect shorelines, and replenish groundwater sources. Wetlands also provide valuable habitat to numerous species of waterfowl and wildlife.

But what *is* a wetland? Wetlands are defined by the State of Texas as areas

“including swamp, marsh, bog, prairie pot-hole, or similar area, having a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, the growth and regeneration of hydrophytic vegetation.” Simply stated, wetlands contain (1) water or saturated soils for at least part of the year, (2) plants that have adapted to life in wet environments (hydrophytic vegetation), and (3) special soils that develop under depleted oxygen conditions (hydric soils).

Wetlands can be swamps, bottomland hardwoods, marshes, bogs, springs, resacas, playa lakes, and saline (alkaline)

Three parameters are used to define wetlands: hydrology, soils and vegetation.

©Jack Bauer



lakes. Wetlands are found along rivers, streams, lakes and ponds; in upland depressions where surface water collects; and at points of groundwater discharge such as springs or seeps. They are found in both saltwater and freshwater systems, on every continent except Antarctica, and in every climate from the tropics to the tundra. As their name indicates, they are “wet land,” since they are located in the transition zone between upland and open water. Both aquatic and upland plant and animal species may therefore depend on wetlands for their survival.

Texas Wetland Types

What kinds of wetlands do we have in Texas? In this state, the different regional climates result in regional differences in wetland types. While different types of wetlands are found statewide, those described below are some of the more common wetlands in Texas.

East Texas is dominated by **bottomland hardwood forest ecosystems**.

These forests are characterized by broad-leaved (e.g., oak, elm, ash) and needle-leaved (e.g., cypress) deciduous

plants that typically grow in creek and river floodplains. Not all bottomland hardwoods meet the wetland definition, however. Ridges, mounds, and terraces within the bottomland hardwood ecosystem are often located at a landscape position too high to remain flooded, ponded, or saturated long enough to meet wetland criteria. These areas typically support a very diverse forest with a mix of cherrybark oak, swamp chestnut oak, Shumard oak, water oak, sweetgum, sweet pecan, American elm, eastern red cedar and loblolly pine. A slight drop in landscape position will result in changes in species diversity, as those species intolerant of long-term wetness are lost. Typically these areas support willow oak, laurel oak, green ash, and cedar elm. Often the species composition is dominated by one or two species. These

transitional areas often meet the definition of wetlands. Another drop in landscape position and species diversity is reduced even more. Lower areas that pond or flood for long durations typically support water tolerant species in monocultures of overcup oak, red maple, water elm (planar tree), or bald cypress depending on site conditions. Bottomland hardwood forest ecosystems contain a great variety of trees, shrubs and vines that grow together in different vegetation assemblages depending on soil type, water depth, velocity, and flood duration in Texas. Bottomland hardwoods support over 180 species of trees. Characteristic herbaceous species include sedges, arrowheads, smartweed, spider lilies, and bladderwort. Common animals found in these forests include waterfowl, eastern wild turkey, swamp rabbit, furbearers, and gray and fox squirrels.

Conversion of floodplain forests to other land uses places bottomland hardwood forests ecosystems among the most severely altered ecosystems in the United States. Loss of these forests has been caused by many activities, including water control structures, agriculture, logging, mining, petroleum extraction, development, and pollution.

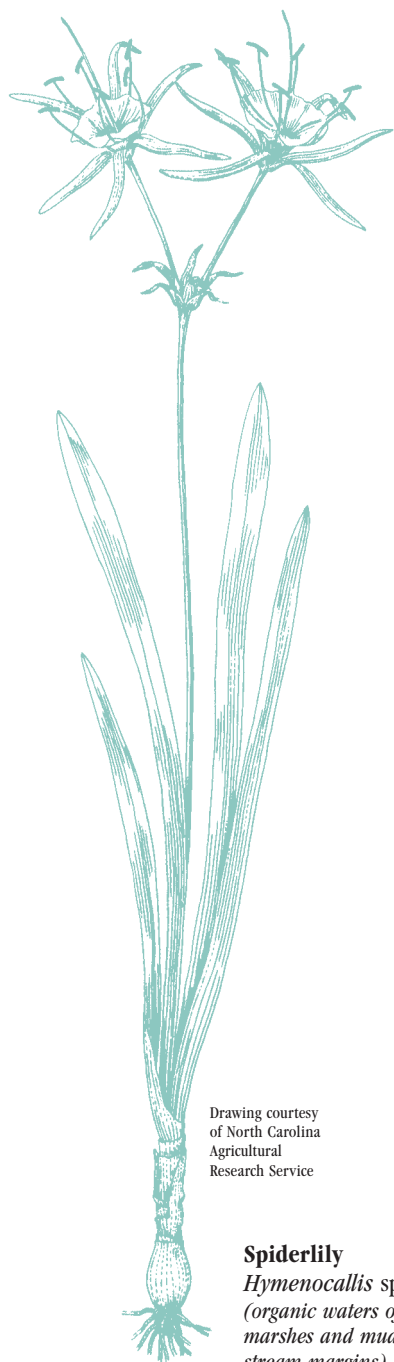
The Gulf coast contains a diversity of **saline, brackish, intermediate and fresh marsh wetlands**, including wet prairies, forested wetlands, barrier islands,



Pitcher plants in an East Texas bog.
©TPW



Conversion of floodplain forests to other land uses places bottomland hardwood forests among the most severely altered ecosystems in the United States.
©TPW



Drawing courtesy
of North Carolina
Agricultural
Research Service

Spiderlily
Hymenocallis spp.
(organic waters of
marshes and muddy
stream margins)

*The brown pelican and the whooping crane
are two federally listed endangered species that
benefit from wetlands enhancement programs.*

©TPW



*Coastal wetlands in Texas provide one of the most
important wintering and migration areas in North
America for waterfowl using the Central and
Mississippi flyways.*

mud flats, estuarine bays, bayous and rivers. Saline and brackish marshes are most widely distributed south of the Galveston Bay, while intermediate and fresh marshes are the most extensive marsh type east of Galveston Bay. The existence and extent of specific plant species within these different wetland types depends on their specific tolerances to salt concentrations and variability in water depth. Some overlap of species can be found within the different wetland types on the Gulf Coast.

Along the Texas coast as you transition from open water to marsh habitat several important habitats lie in between. Seagrass beds are submerged wetlands that are inundated a majority of the time by seawater. These beds are vegetated by a number of grass-like plant species, which can tolerate short-term aerial exposure but generally prefer prolonged/permanent shallow inundation. These areas are extremely important in the life cycle many marine species. Tidal/mud flats are unvegetated mud or sandy sediments, which are alternately flooded and exposed with the changing tides. In some cases these areas can become covered in algae and are then considered “algal flats.” These areas provide important foraging areas to many species of shorebirds.

Saline marshes are wetlands areas dominated by the influence of full strength or near full-strength seawater and tidal action along the Texas coast. Seawater has a salinity of 36 grams (g) of salt/L

of H₂O. Salt and flood tolerant grasses and herbs are the predominant plant species in saline marshes such as smooth cordgrass, blackrush, saline marsh aster, saltwort, glasswort, and sea-lavender. Brackish marsh (mesohaline) communities, the most extensive communities in the Galveston Bay system, are transitional between saline and intermediate marshes and are tidal wetlands subject to salinities generally between 5 and 20-25 g/L. Areas are vegetated with grasses and herbs capable of tolerating variable salinity and flooding conditions such as marshhay cordgrass, saltgrass, saltmarsh bulrush, marsh hemp and hairypod cowpea.

Intermediate marshes (oligohaline) reflect greater plant diversity than the saline or brackish marsh assemblages and are tidal wetlands subject to salinities between 0.5 and 5 g/L. Areas are vegetated by flood tolerant grass and herb species, which are also capable of tolerating some variability in salinity. Some of these plants include seashore paspalum, marshhay cordgrass, Olney bulrush, Colorado River hemp, common reedgrass, coastal water-hyssop, bearded sprangletop, and cattail. Fresh marshes support the greatest diversity in plant species of all marsh types and are tidal or non-tidal wetlands subject to salinities of less than 0.5 g/L. Dominant vegetation include giant cutgrass, American lotus, white water-lily, smartweed, marsh millet, arrowhead, seedbox, cattail, alligator weed, and many others.

South Texas freshwater or brackish wetlands include small, isolated depressions and resacas (or oxbows), which are relic meanders of the Rio Grande River. Coastal depressions were formed when clay soils exposed by wind action trap and hold water, often supply the only fresh water for resident wildlife in an area generally devoid of creeks and rivers. Interdunal swales are depressional wetlands located in between beach dunes along the coastline. Areas can range in salinity from fresh to saline depending on time of year, proximity to the coastline, storm events, etc. Vegetation is usually dominated by brackish to fresh grasses and other herbaceous species. Mangrove swamps are saline wetlands located in far south Texas that are dominated by salt and tidally adapted tree species (mangroves). These wetlands replace salt marshes as the dominant coastal wetland type in tidal saline environments as climates transition from temperate to sub-tropical and tropical latitudes (i.e., as you move toward the equator).

In far southeast Texas, large clay flats meet the wetland definition due to very high rainfall averages (50-55 inches/year), flat topography, and clayey soils. These wet prairie wetland systems are seldom ponded but for a few days and remain saturated throughout much of the late winter and early spring. Many of these areas are used for rice production and are valuable waterfowl habitat. When not farmed these areas support herbaceous wetland plants such as flatsedge, annual sumpweed, smartweed, switchgrass, broomsedge bluestem, and rattlebox. If not controlled, the highly invasive exotic tree, Chinese tallow, will completely dominate many of these areas, converting these valuable his-

toric prairie wetlands to scrub/shrub wetland with little or no understory.

Coastal wetlands in Texas provide one of the most important wintering and migration areas in North America for waterfowl using the Central and Mississippi flyways. The bald eagle, peregrine falcon, brown pelican, and whooping crane all depend on the marshes and estuaries for food, as do otter, alligator and swamp rabbit.

Coastal development poses a severe threat to coastal wetlands through conversion to other habitats, saltwater intrusion, subsidence, groundwater withdrawal, erosion, sedimentation, decreased water quality and impacts to wildlife and waterfowl.

The High Plains and Rolling Plains of the Panhandle support wetlands predominantly in **playa lakes** and **saline lakes** (High Plains), and in water-table influenced basins and **riparian habitats** (Rolling Plains). Playas are ephemeral wetlands characterized by Randall or Ness clay soils, and are very similar to potholes, but have a different geologic origin. Saline lakes are generally larger than playas, are very saline, and are influenced by groundwater. A few playas and playa-like basins with connections to groundwater occur in the Rolling Plains. Riparian wetlands include main channels of creeks and rivers and associated wet meadow, bog and beaver pond habitats.

The playa lakes region of the United States includes portions of Colorado, Kansas, New Mexico, Oklahoma, and northwestern Texas. Texas alone has over 19,000 playas. Playas are the wintering and breeding area for several million ducks,

geese and other migratory birds. Several threatened and endangered species use wetland habitat in the playa lakes region, including the bald eagle. Many neotropical migrant birds use playas as well, including the long-billed curlew, American avocet, killdeer, Mississippi kite, mountain plover, lark bunting, and American kestrel. Because playa lakes are fed by rainwater, many may be dry for extended periods of time. The 86 plant species living in playas have adapted to this unpredictable, rapidly changing environment. The most common plants found in the playa lakes include spikerush, curly dock, bulrush, cattail, pink and willow smartweed, pondweed, wolflyleaf bursage, and barnyard grass. Woody species in riparian habitats include Plains cottonwood, buttonbush, net-leaf hackberry, native plum, western dogwood, and persimmon.

Few playa lakes have escaped alteration by humans. Many have been altered for irrigation, grazing, and cropping purposes. Many other playas provide important wetland habitat for Panhandle wildlife including pheasants, shorebirds, sandhill cranes and waterfowl.

The Playa Lakes Region



Most playa lakes, found in the High Plains of the Panhandle, have been altered by mankind.
©TPW



Many playas provide important wetland habitat for Panhandle wildlife including pheasants, shorebirds, sandhill cranes, and waterfowl.

Wetlands Loss

Historically, wetlands were not widely recognized as valuable or appreciated. In fact, wetlands were often regarded as “waste-lands” and breeding grounds for insects, pests and disease, and were considered impediments to development and progress. As a result of this reputation, wetlands were readily converted to other land uses.

According to a 1997 survey performed by the U.S. Fish and Wildlife Service, approximately 392 million acres of wetlands existed in 1780 in lands that now form the United States. Of that, 221 million acres were found in the lower 48 states. Since that time, humankind has caused a significant reduction in wetlands. Currently, the lower 48 states support only an estimated 100.9 million acres, or 46% of the original wetland acreage. It appears, though, that wetlands losses have slowed to a rate 60% below that experienced in the 1970s and 1980s. Net losses from 1985-1995 totaled 117,000 acres per year, much of which occurred in highly productive freshwater forested wetlands. Much of those losses can be attributed to continued construction of reservoirs in eastern Texas as many acres of bottomland hardwood forests have been covered by water.

Factors contributing to this decline in the loss rate include increased public awareness and support for conservation, expansion of public and private-sector restoration programs, enactment of Swamp-buster measures in the Farm Bill since

1985, Clean Water Act Section 404 implementation, and a decline in converting wetlands due to the tax reform of 1986.

Texas, has lost significant quantities of wetlands, having experienced an estimated fifty-four percent loss in the past 200 years. While wetland losses have resulted from a number of actions, the principal ones are: filling, draining, excavating, diverting, clearing, flooding, shading, adverse impacts from adjacent land uses, grazing, farming, and others.

Why are Wetlands Important?

Wetlands provide a variety of ecological functions both to the natural ecosystem and to humans that are now widely recognized as beneficial. Functions that are useful to humankind are called “values.” These values are typically regulated under

legislation such as the Clean Water Act. Some values provided by wetlands include:

- flood control
- erosion control
- removal of sediment and toxicants
- removal or transformation of nutrients
- groundwater recharge or discharge
- fish and wildlife habitat
- natural area buffers
- outdoor recreation/education
- commercial uses (e.g., shellfishing or timber).

Not all wetlands provide all functions and values, and each wetland is unique. Several of these values are particularly important in Texas.

Flood Control

Rivers, streams and other wetlands form natural floodplain systems that play an invaluable role in offsetting flood damage



Urbanization is a major cause of wetlands loss in the United States.
©TPW



Wetlands vegetation is important to prevent erosion problems.
©Texas Dept. of Agriculture

by regulating and maintaining the hydrology in rivers and streams during flood events. The dense wetland vegetation reduces the velocity of floodwaters that travel through the system, which allows water to percolate into and be stored in the underlying soils. Over time, the floodwaters are slowly released back into the river or stream, the atmosphere and the groundwater. By reducing the rate and amount of storm water entering the river or stream, wetlands lessen the destructiveness of the flood. In Wisconsin, a study demonstrated that a watershed composed of at least 30% wetlands could reduce floodwater levels by 60-80% compared to watersheds containing no wetlands.

Erosion Control

Erosion of soils can be caused by increases in water velocities from upstream construction sites, unvegetated ground or agricultural fields. Wetland vegetation provides an important buffer to adjacent waterbodies by filtering and holding sediments that would otherwise enter lakes and streams and eventually fill them.

Reduction of Water Pollution

Wetlands absorb and filter a variety of sediments, nutrients and other natural and manmade pollutants that would otherwise degrade rivers, streams, and lakes. Water

flowing from uplands into water bodies often passes through wetlands, which maintain and improve water quality by filtering out nutrients and sediments before they reach the river or stream. Wetlands lessen the effects of nonpoint source runoff into water bodies by reducing flow velocities and by acting as a sediment, nutrient and heavy metal trap. One study found that nitrogen and phosphorus retention in riparian forests were 89% and 80%, respectively, compared to 8% and 40% in cropland. Additionally, forested areas adjacent to rivers lower the water temperature in hot summer months, which reduces undesirable algal blooms that decrease water quality and can kill aquatic organisms. In estuaries, sediment can harm filter feeders such as oysters and also impedes sight-dependent feeders such as trout.

Wildlife Habitat

Wetlands provide essential nesting, migratory and wintering areas for more than 50% of the country's migratory bird species. Texas is one of the most important waterfowl wintering areas in the Central Flyway, and provides habitat for 3-5 million birds each year. Wetlands provide habitat for one-third of the federally listed endangered and threatened plant and animal species. Additional benefits

include supplying important nursery and spawning habitat for 60-90% of the commercial fish species.

Recreation

Many recreational activities take place in and around wetlands. Popular recreational activities include hiking, waterfowl hunting, fishing, nature observation and canoeing. Wetlands provide a multi-billion dollar fishing, hunting, and outdoor recreation industry nationwide.

The Difference between Wetlands Creation, Enhancement, and Restoration

- Wetland restoration is defined as the rehabilitation of a degraded wetland or hydric soil area that was previously a naturally functioning wetland.
- Wetland enhancement is defined as improvement, maintenance, and management of existing wetlands for a particular function or value, possibly at the expense of others.
- Wetland creation is defined as the conversion of a non-wetland area into a wetland where a wetland never existed.
- Constructed wetlands are specifically designed to treat both non-point and point sources of water pollution.



Private landowners have protected thousands of wetlands for recreation, including hunting and fishing.

©TPW



Roles of Federal and State Agencies in Wetlands

Many government agencies within Texas are involved in varying aspects of wetland management, regulation, and technical and financial assistance. Appendix II lists agency addresses and phone numbers if you would like additional information.

Texas Agricultural Extension Service (TAEX), a part of the Texas A&M University System, educates Texans in the areas of agriculture, environmental stewardship, youth, and adult life skills, human capital and leadership, and community economic development. Two of the four strategic goals of the Extension Service relate to the environment: (1) educate citizens to improve their stewardship of the environment and Texas natural resources through its network of educators in county offices. In addition to other responsibilities, county agents provide technical assistance

in habitat management to landowners; and (2) foster the development of responsible, productive and self-motivated youth and adults. TAEX provides wetlands information to landowners and has organized several educational programs for children.

Texas Forest Service (TFS) is involved in wetlands primarily in an advisory capacity to private landowners. The TFS provides management assistance to owners of forest lands, many of which are in wetland areas. Present policies accept or encourage timber harvest in wetlands.

Texas General Land Office (GLO) is the state agency responsible for the management of state-owned public lands not specifically purchased by or deeded to other agencies. These lands include coastal wetlands inland to the line of mean high tide and up rivers to the limit of tidal influence. The GLO is a proprietary and not a regulatory state agency. Users of state-owned lands obtain leases or easements and pay a fee for mineral extraction, occupancy, or encumbrance of public lands. The GLO is also the state's lead agency for coordinating the Coastal Management Plan designed to preserve public beach access, protect coastal wetlands and other coastal natural resources, and respond to beach erosion along the Texas coast.

Texas Natural Resources Conservation Commission (TNRCC) implements many sections of the Texas Water Code and the federal Clean Water Act and Safe Drinking Water Act. The TNRCC develops water quality requirements designed to protect attainable uses and to maintain the quality of waters in the state. These standards are the basis for permits issued by the TNRCC authorizing discharges into or next to waters in the state. TNRCC also reviews applications for Clean Water Act Section 404 permits, which require a state water quality certification under Section 401 of the Clean Water Act. TNRCC administers wastewater and water rights permit and enforcement programs.

Drawing courtesy
of North Carolina
Agricultural
Research Service



Smartweed
Polygonum spp.
(found in freshwater;
fruits provide excellent
waterfowl forage)



Cypress swamp in East Texas.
©TPW

Texas Hill Country stream.
©Jack Bauer



Texas Parks and Wildlife (TPW) has primary responsibility for protecting the state's fish and wildlife resources. TPW acquires, manages, and protects wildlife and its habitat, and acquires and manages park lands and historic areas.

TPW has numerous programs to protect or manage wetlands. The agency coordinated development of the Texas Wetlands Conservation Plan. In addition, the state park system, which provides attractive and educational areas for public recreation, also features many aquatic and wetland habitats. Master plans are prepared for each park prior to development to ensure that important natural areas such as wetlands are protected.

TPW has acquired lands in virtually every part of the state for the conservation, management, and study of wildlife species. Wildlife management areas typically include wetlands and open water for use by resident and migratory wildlife. Wildlife management areas specifically managed for waterfowl have been purchased with federal funding and by funds generated by the state waterfowl stamp required of all waterfowl hunters. In addition, TPW conducts research to help determine management practices for waters and wetlands necessary to promote and sustain fisheries.

Texas Soil and Water Conservation Board (TSWCB), working in conjunction with Texas' 216 soil and water conservation districts, encourages the wise and productive use of the state's soil and water resources through technical assistance programs and conservation activities. The State Board is the lead agency responsible for planning and management of nonpoint source pollution control relating to agriculture and silviculture. Field staff located through the state consult with local soil and water districts and landowners to ensure that appropriate land and water conservation methods are applied.

Texas Water Development Board (TWDB) administers state and federal financing programs for water-related projects, and forecasts and plans for long-term water needs with associated data collecting and resource studies. The Board prepares the State Water Plan, which outlines current and future needs for water and wastewater treatment projects in Texas for

the next fifty years. In response to increasing competition for water, escalating infrastructure costs and statewide drought conditions, the 75th Texas Legislature passed Senate Bill 1, the Brown-Lewis Water Plan. Senate Bill 1 directs 16 Regional Water Planning Groups (RWPGs) to plan for a region's 30 and 50 year water needs by identifying the most cost effective and environmentally sound water management strategies. The TWDB will develop a statewide water plan using the regional plans.

United States Army Corps of Engineers (Corps) provides design and engineering services and construction support for a variety of military and civilian projects worldwide. One civil duty includes protecting the integrity of the navigable waters of the United States, wetland resources, and the nation's water resources. These responsibilities are carried out through the issuance or denial of Clean Water Act Section 404 and other permits authorizing certain activities in wetlands and other waters of the United States. The Corps' duties also include maintaining navigation and shipping channels, providing emergency response to natural disasters, regulating discharges of dredged or fill material, operating and maintaining flood control reservoirs, and regulating activities in wetlands.

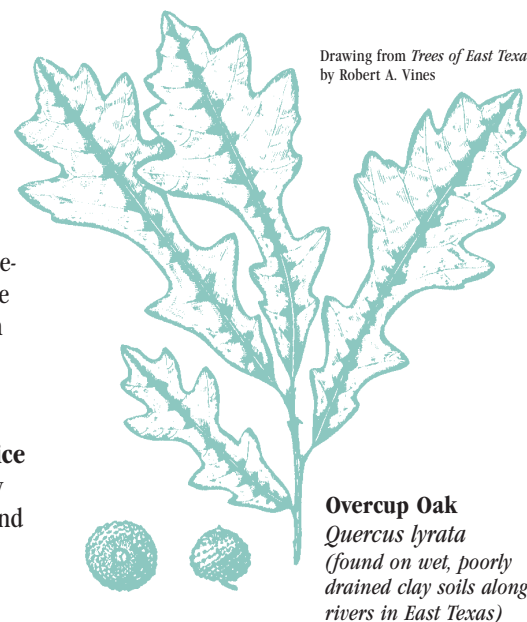
United States Environmental Protection Agency (EPA) is responsible for implementing federal laws designed to protect the nation's natural resources. This is done primarily through regulation, but EPA has also developed a wide variety of funding, planning, and education programs. EPA has the authority to regulate wetlands under Section 404 of the Clean Water Act. The EPA offers a Wetlands Protection Hotline that responds to questions and provides materials on a variety of wetlands topics. The Hotline can be reached Monday through Friday from 9:00 am to 5:30 pm EST, at (800) 832-7828.

United States Fish and Wildlife Service (USFWS) is the principal federal agency responsible for conserving, protecting and enhancing certain fish and wildlife and their habitats, in particular migratory species, including waterfowl, shorebirds

and songbirds, and federally listed threatened and endangered species. Among other roles, the Fish and Wildlife Service administers the federal Endangered Species Act and establishes and maintains a system of over 500 National Wildlife Refuges nationwide. The USFWS also manages the taking of migratory waterfowl and conducts research and monitoring programs to inventory and record changes in populations of fish and wildlife and in habitats.

USDA Farm Service Agency (FSA) is a branch of the U.S. Department of Agriculture formed to administer commodity price and income support programs, farm operating loans, the federal crop insurance program and conservation cost-share programs. The agency was formed from all or part of three other agencies – the ASCS, the Farmers Home Administration, and the Federal Crop Insurance Corporation.

USDA Natural Resources Conservation Service (NRCS) provides technical and financial assistance to landowners in development and implementation of resource management systems that conserve soil, air, water, plant and animal resources. This agency employs soil scientists, plant scientists and engineers that can provide assistance in identifying, restoring, enhancing and creating wetlands. The NRCS is the lead agency for identifying and delineating wetlands on both grazing and agricultural lands in the U.S.



Drawing from *Trees of East Texas*
by Robert A. Vines

Overcup Oak
Quercus lyrata
(found on wet, poorly
drained clay soils along
rivers in East Texas)

Private landowners play a critical role in conserving wildlife habitat in Texas.
©Texas Dept. of Agriculture



Wetland Conservation Initiatives in Texas

The Texas Wetlands Conservation Plan

This Assistance Guide is one component of the Texas Wetlands Conservation Plan (SWCP). Texas Parks and Wildlife, in a statewide cooperative effort, completed the Texas Wetlands Conservation Plan in 1997. The Plan focuses on non-regulatory, voluntary approaches to conserving Texas' wetlands. Its contributions to wetlands conservation include:

- Enhancing landowner's access to new and existing incentive programs and other land use options through outreach and assistance;
- Developing and encouraging land management options that provide an economic incentive for conserving existing wetlands or restoring former ones; and,
- Coordinating regional wetlands conservation efforts.

Over the course of a year (1995-1996), three Regional Advisory Groups (East Texas, the coast and the Panhandle) periodically met to identify regional and statewide issues associated with conserving Texas wetlands. Through these meetings, landowners and representatives from agriculture, industry, business, conservation, and government developed recommendations and proposals for action to address the identified wetland issues. These results form the core of the Texas Wetlands Conservation Plan. The Texas Parks and Wildlife Commission approved a resolution on April 17, 1997 supporting the Texas Wetlands Conservation Plan and the Governor signed it in July 1997.

Numerous implementation efforts are underway related to wetlands conservation

and education on private lands, including the Wetlands Project Site Registry, the Forested Wetlands Incentive Program, and a variety of technical publications. If you would like more information about the Plan or would like to receive the newsletter feel free to contact Jeff Raasch, State Wetlands Planner, Texas Parks and Wildlife, 4200 Smith School Rd., Austin, TX 78744, (512) 389-4328 or jeff.raasch@tpwd.state.tx.us.

Lone Star Land Steward Awards

Since 1995, Texas Parks and Wildlife has recognized and honored private landowners for their accomplishments in habitat management and wildlife conservation through the Lone Star Land Steward Awards. The program, now in its fourth year, recognizes landowners in all habitat types within the 10 ecological areas of Texas, from timberlands to native prairies and from marshes to mountain ranges. One landowner is recognized from each of the ten ecological regions. In addition, a wildlife management association, and a corporation or foundation are recognized in two special categories.

Landowner participation in existing incentives programs (e.g. Private Lands Initiative, Wetland Reserve Program) is one positive way of demonstrating commitment to wildlife conservation. Most of the goals of the incentive programs are consistent with those set forth in the Lone Star Land Steward Awards Program.

The objectives of the Lone Star Land Steward Awards Program are to:

- Recognize private landowners for excellence in habitat management

and wildlife conservation on their lands.

- Publicize the best examples of sound natural resource management practices.
- Encourage the education and participation of youth in promoting responsible habitat management and improved ecosystem health.
- Promote long-term conservation of unique natural and cultural resources.
- Promote ecosystem awareness and acknowledge the best conservation practices in the state's 10 ecosystems.
- Improve relationships between private landowners and Texas' natural resource agencies; and to
- Illustrate the important role of Texas' private landowners in the future of our natural resources.

Winners are honored at a special reception hosted by the Texas Parks and Wildlife Commission and the Private Lands Advisory Board each spring. One landowner will be honored as the statewide Lone Star Land Steward.

Landowners may apply or be nominated by any individual or organization. Ranchers, farmers, foresters, and other land managers and cooperatives may participate.

Applications for nominations are available at TPW, Private Lands and Habitat Program, 4200 Smith School Road, Austin, Texas 78744, or call 1-800-792-1112 or (512) 389-4407.

Land Trusts Offer Long Term Land Protection

A land trust is a local, regional or national nonprofit organization that protects land for its natural, recreational, scenic or productive value. Land trusts have varying conservation objectives; some work in specific geographic areas or concentrate on protecting different natural or cultural features. Generally, land trusts manage purchased or donated land and easements for conservation purposes. Currently, more than 34 land trust organizations operate in Texas. For information on Texas' land trusts, please contact Carolyn Scheffer, Texas Parks and Wildlife, (512) 389-4779 or carolyn.scheffer@tpwd.state.tx.us.

The Texas Wetlands Grants Database

The Wetlands Grants Database is a searchable compilation of more than 165 federal, state and private assistance programs available to Texans to fund wetland restoration, research, program development and education. The Texas Wetlands Grants database is intended to assist citizens in initiating a search for wetlands project funding. Both specific grant programs and other database connections have been provided to assist funding seekers in expanding their search on their own. This database will be available on TPW's Web site by the Fall of 2000. Keep an eye out for it at www.tpwd.state.tx.us. If you have questions please contact Jeff Raasch at jeff.raasch@tpwd.state.tx.us.

Wetlands Project Site Registry

Although many incentive programs are currently available, the Texas Wetlands Conservation Plan indicated the need for additional non-regulatory conservation programs geared toward private landowners. As a result, the Wetlands Project Site Registry was developed, which joins interested landowners with those who are required to mitigate for wetlands lost during the process of development. The Registry is intended to help those Texas landowners already interested in wetlands restoration achieve their goals while greatly increasing the quantity and diversity of landscapes from which the best mitigation sites may be selected.

The Wetlands Project Site Registry is a voluntary, non-regulatory alternative for public and private landowners desiring wetlands conservation on their property. Like "want ads," the Registry functions to link those who need or want to restore wetlands with interested property owners. The Registry consists of an Internet accessible database of public and private sites that are available for wetlands restoration throughout Texas. Landowners can use the Registry to describe their property, indicate their interest in wetlands restoration and their personal conservation goals, while agencies searching for wetlands to restore can access the database to identify potential properties that meet their needs.

The Registry has been active on Texas Parks and Wildlife's Internet site since August, 1998. Currently, the Registry lists over 41,000 acres of wetlands and wetland associated uplands available for conservation on the properties of over 100 private landowners throughout the state. A database of over sixty wetland projects available on public lands was added in 1999.

Public lands project descriptions include contact information and a map of the project area; however, because of legal obligations to maintain the confidentiality of private landowners, the specific details of private lands sites are released only with the permission of the landowner. Once contact between these two parties has been established, the process of developing a mitigation plan will continue as it does currently. Landowners who agree to have mitigation sites on their property retain ownership, the right to restrict access, and may arrange mutually-beneficial financial agreements with a developer; however, landowners must be aware that certain restrictions on land use may apply based upon the terms negotiated in a permanent easement.

The Registry is available on-line through Texas Parks and Wildlife's homepage at www.tpwd.state.tx.us. If you have questions about the Registry, please contact Jennifer Key at jennifer.key@tpwd.state.tx.us or (512) 389-8521.

Facts and Fiction: Wetlands Conservation on Private Lands

Throughout Texas, many landowners are interested in habitat conservation on their property. However, two common concerns prevent them from restoring or enhancing habitat: fear of any ensuing regulations and a lack of funds to defray restoration costs. The Regional Advisory Groups agreed that obstacles to wetlands conservation on private lands could best be overcome by offering landowners incentives to conserve their wetlands. Incentives, rather than regulations, foster pride and land stewardship since landowners are integrally involved in decision-making and planning throughout the duration of the project.

The elimination of disincentives to wetland conservation would encourage landowners to consider initiating conservation activities on their property. While some disincentives do exist that may limit certain activities in wetlands, many are misperceptions; in other words, they are simply untrue or have limited application. As a general rule, incentive programs do not prohibit common land use practices (e.g., grazing, hunting); however, those activities may be managed to prevent adverse impacts to the wetland project.

Most economic incentives to landowners are offered through specific wetlands programs. Because wetlands incentive programs are voluntary, landowners assist in determining the terms of their own conservation agreement. Each program offers different incentives; therefore, landowners should select a program that best suits their individual needs and interests.

Some of the most common perceived disincentives to wetland conservation include:

PERCEPTION 1: "Creating, restoring or enhancing wetlands subjects landowners to wetlands regulations."

FACT: Several scenarios exist for landowners that have created, restored or enhanced wetlands:

- 1) Created, restored or enhanced wetlands that are maintained as part of an ongoing agricultural operation are exempt from Clean Water Act regulations.
- 2) Agricultural fields flooded during the winter for waterfowl will not be impacted by Clean Water Act regulations unless discharges of dredged or fill material occur.
- 3) Landowners who enhance, restore or create non-tidal wetlands but who think they may later want to return them to their condition prior to the conservation activity can, with some advanced planning, be authorized to do so under Clean Water Act Nationwide Permit 27. This permit authorizes reversion of restored, enhanced or created non-tidal wetlands and riparian areas back to their prior condition if certain conditions are met. Interested landowners should contact the U.S. Army Corps of Engineers for details.

PERCEPTION 2: *“Having or managing habitat that encourages endangered species eliminates future land use options.”*

FACT: Landowners are responsible for existing endangered species habitat already present on their property. However, landowners can avoid liability for endangered species or even species under consideration for listing (i.e., a candidate species), that may be attracted to any new habitat by entering into a “Safe Harbor” agreement. Under this initiative, a landowner who intends to manage habitat in a way that attracts or benefits a listed species may enter into a cooperative agreement with the U.S. Fish and Wildlife Service or a state agency that protects the landowner from any additional responsibility under the Endangered Species Act, beyond those that existed at the time a landowner enters into the agreement. While landowners are required to protect the habitat of any species present at the time the agreement was signed (their baseline responsibilities), they are under no obligation to protect additional suitable habitat which may have developed or any additional individuals or species that may have been attracted by the habitat improvements. Landowners not participating in a Safe Harbor or Candidate Conservation Agreement will be responsible for any new individuals residing on the property.

PERCEPTION 3: *“Hunting is not allowed under wetland agreements.”*

FACT: Habitat incentive programs generally do not restrict hunting by owners or lessees. Hunting is normally limited only by federal and state regulations.

PERCEPTION 4: *“Pest treatment on crops is regulated under wetland agreements.”*

FACT: Pesticide or herbicide treatment of adjacent cropland is generally not regulated by wetland agreements.

PERCEPTION 5: *“Grazing, haying or mowing is not allowed.”*

FACT: *Managed* grazing, haying or mowing is permitted in most situations when it does not adversely impact the restoration project. The request must be made in advance and written into the easement.

PERCEPTION 6: *“Timber harvest is not allowed.”*

FACT: Limited timber removal is permitted in most situations when it does not adversely impact the restoration project. The request must be made in advance and written into the easement.

PERCEPTION 7: *“My land will become open to the public.”*

FACT: Public access is not a condition of wetland agreements. The incentive program contact may check on the project’s success throughout the contract period, but will notify the landowner in advance.

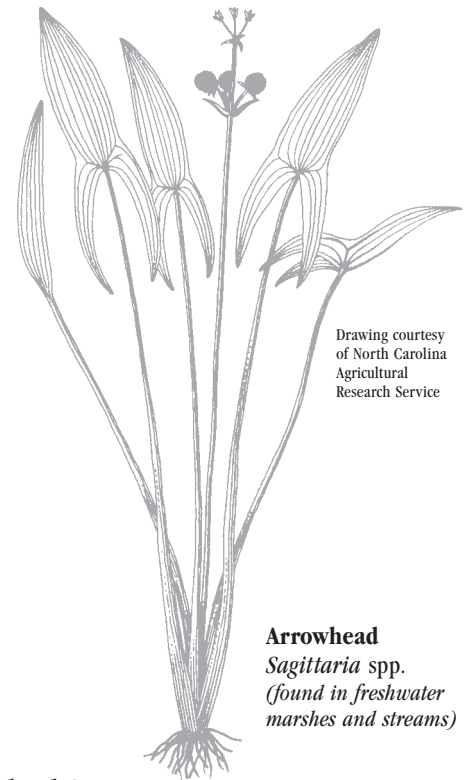


Great Blue Heron
©TPW

The Decision Tree – Choosing the Best Option or Options for the Landowner

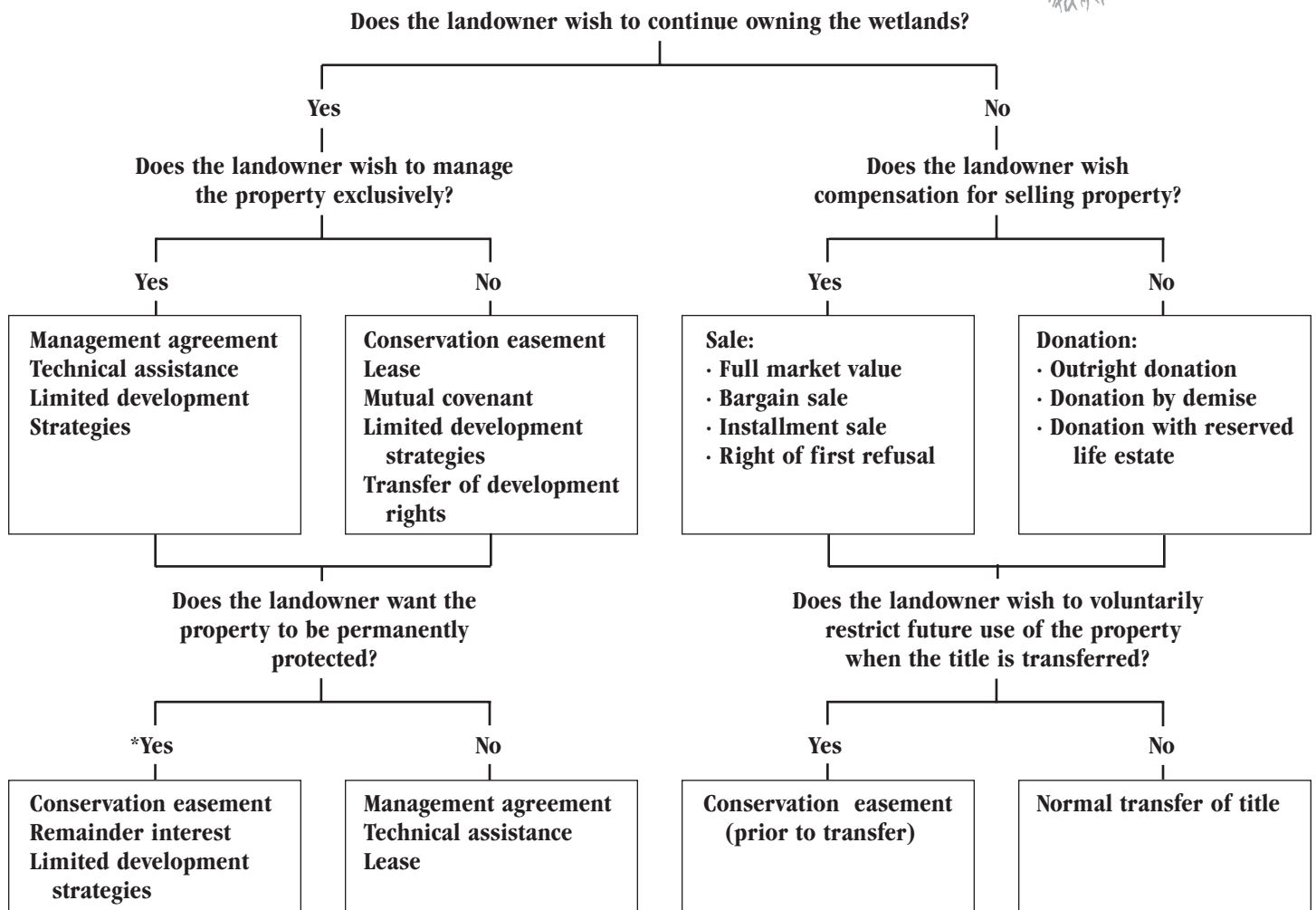
The future of our wetlands is closely linked to land-use decisions made by the stewards of the wetlands resource. Approximately 97% of Texas' lands are privately owned. Therefore, the role of the private landowner in wetlands conservation is crucial. As understanding and appreciation for wetlands increases, there has been a growing number of voluntary programs to help landowners act as stewards of their land by conserving and restoring wetlands. To help landowners become more effective stewards, they should be provided with a broad array of voluntary conservation and management options from which to choose a stewardship strategy.

With a firm understanding of the landowner's objectives, property, and potential problems and opportunities, it is possible to proceed towards choosing the option or options best suited for the landowner. A simple, frequently used approach for choosing the best options for a landowner is found in the decision tree. The foremost questions to ask in choosing the best options are (1) does the landowner want to do something with the wetlands on his/her land, (2) does the landowner wish to retain ownership of the land, and (3) does the landowner wish to manage the property exclusively?



Drawing courtesy of North Carolina Agricultural Research Service

Arrowhead
Sagittaria spp.
(found in freshwater marshes and streams)



* If landowners wish to guide future use of the property through transfer of the property, they should consider donating a conservation easement for the property to another organization before transferring the property in fee through a normal transfer (i.e., sale or donation). If landowners do not wish to restrict future use of the property, they can transfer the property through a normal transfer.

General Landowner Options

The following options are available if the landowner wishes to retain ownership and guide future use of the property.

Conservation Easements

A perpetual legal agreement between a private property owner and a qualified conservation organization to voluntarily place restrictions on the type and amount of development that may take place on a piece of property and to protect significant natural features including wildlife or wildlife habitat, cultural or productive features of the land. For more information on easements, please contact Carolyn Scheffer, TPW, at (512) 389-4779.

Advantages

- Easements provide federal income, estate, and gift tax benefits if easement is donated or conveyed at less than fair market value;
- Allows the property owner to retain ownership of the wetland while potentially receiving income, estate, and property tax reductions;
- Easement restrictions are flexible within certain guidelines and can be adapted to fit the needs of the landowner; and
- Easements may provide permanent protection for the wetland.

Disadvantages

- Usually involves giving up some rights relating to the use of property; and
- The landowner is responsible for maintenance and other costs of the land.

Leases

Agreements for the rental of land by a landowner to a conservation organization or agency for a specified period of time.

Advantages

- The landowner receives periodic payments for the leased property;
- Leases provide an alternative if landowners do not wish to transfer their land to a conservation agency or organization but want to see it used or protected by such a group for a period of years;
- Certain restrictions can be incorporated into the lease to guide the activities of

the conservation agency on the land, including provisions to terminate the lease if the conservation agency does not use the property as directed; and

- The impact of the lease on the value of the land may be taken into account when estate taxes are calculated.

Disadvantages

- Unless restrictions are made by the landowner, leases generally allow unrestricted and exclusive control of the land by the agency leasing the property; and
- Not perpetual.

Management Agreements

An agreement between the landowner and a conservation agency whereby either the landowner or conservation agency agrees to manage his/her property in a certain manner consistent with the goals of the conservation agency and the landowner.

Advantages

- Direct payments and other types of cost-share assistance may be available to the landowner;
- Management of a property involves creating a landowner management plan based on one's needs;
- The organization that helps develop the plan often provides management assistance and monitors compliance; and
- Ordinarily it is easier to terminate a lease and does not involve exclusive possession of property.

Disadvantages

- Management agreements are not permanent.

Mutual Covenants

Mutual covenants involve agreements between nearby or adjacent landowners to control the future use of their land through restrictions agreed upon by all participating landowners.

Advantages

- Mutual covenants are permanent and can be enforced by any of the landowners of the involved properties;
- There is significant incentive to comply with the restrictions knowing the landowner's neighbors are aware of what can and cannot be done on their property; and
- Mutual covenants can reduce property taxes.

Disadvantages

- The loss in market value from mutual covenants cannot be claimed as a charitable deduction income tax returns.

Wildlife Management Associations and Co-operatives

Wildlife Management Associations and Co-operatives are groups formed by landowners to improve wildlife habitats and associated wildlife populations. Nearly 100 associations and co-ops operate in Texas and the number grows each year.

Advantages

- Landowner gains personal knowledge through educational programs and materials;
- Landowners become better land stewards, which improves the quantity and quality of wildlife;
- Landowners get to know the neighbors;
- Decreased poaching;
- Enhanced habitat diversity and reduced fragmentation.

Potential pitfalls of ineffective

Co-ops or reasons to join a Co-op

- Inadequate wildlife census and harvest information available;
- Lack of consensus among members about goals and objectives;
- Lack of enthusiasm, interest or participation due to skepticism; and
- Lack of attention to habitat.

Qualification of Agricultural Land in Wildlife Management Use

In 1995, Texas voters approved Proposition 11, amending the Texas Constitution to permit wildlife management as a valid agricultural practice on land which already has an agricultural property tax valuation. HB 1358 implemented the amendment by designating certain wildlife management practices to comply with the law. General guidelines for “active wildlife management” are available from TPW. In addition, regional guidelines for development of management plans are available from Texas Parks and Wildlife. Many of the guidelines are (or soon will be) available on the TPW Internet Conservation Page. For more information, visit the TPW Web site at <http://www.tpwd.state.tx.us>.

Advantages

- Lands can be managed for wildlife while maintaining current agricultural valuation status.

Disadvantages

- Only lands having an existing agricultural valuation can qualify.
- Timber lands having an agricultural valuation for timber production currently do not qualify for conversion to wildlife management.

For more information, call your county tax appraiser.

Restoration

Involves the active rehabilitation of a degraded wetland to recover its natural attributes, functions, and values.

Advantages

- Technical and financial assistance is available for restoration projects; and
- Landowner can realize economic gains from the recreational and commodity benefits of (restored) wetlands.

Disadvantages

- Can be expensive; and
- Restoration success varies with the extent of hydrologic damage.

Limited Development Strategies

Involves the sensitive development of the least environmentally significant portions of the property in order to finance conservation of the remaining property and meet landowner economic needs and goals.

Advantages

- Limited development strategies may allow enough funds to be raised to protect the remaining significant environmental areas, especially where land values are high;
- A combination of limited development strategies combined with conservation techniques may achieve the landowner's financial needs; and
- Tax advantages may be realized from recording an easement over the undeveloped part of the land.

Disadvantages

- Limiting development of the land entails foregoing some of its potential profitability; and
- It may be difficult to determine which areas of the property are the least environmentally significant.

Remainder Interests

Dedication of a remainder interest transfers full or partial interest in a property to an appropriate grantee, such as a nonprofit conservation organization, after the death of the landowner and of any subsequent title holders whom the landowner names.

Advantages

- Landowners enjoy all rights to the property during their lifetime (except uses

that degrade natural resource values) while providing for permanent protection in the future.

- Donation for conservation purposes qualifies landowner for a tax deduction, discounted in proportion to the anticipated length of time before the grantee takes over the interest.
- Whether sold or donated, dedication of remainder interest lessens the burden of estate taxes.

Disadvantages

- May restrict uses that degrade natural resource values.

Transfer of Development Rights (TDRs)

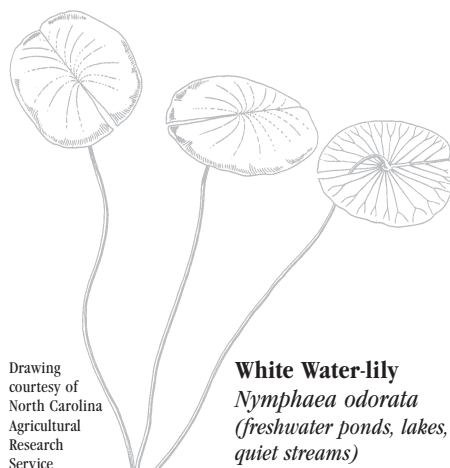
A method of relocating potential development from an area where the local government wishes to limit development to an area where it is willing to see increased development; local government enacts TDR structure through local zoning or other land use ordinance or regulation; the landowner is allowed to sell development “credits” to a purchaser in an area where the local government is prepared to allow development at increased densities.

Advantages

- The transfer protects wetlands and other ecologically significant features of the land without curtailing development in the area;
- TDRs allow land to remain in the private sector while avoiding undesirable development;
- TDRs do not require the expenditure of public funds for acquisition, but have the same effect; and
- TDRs may result in a reduced property tax assessment of the “donor” land after transfer of the development credit.

Disadvantages

- Use is limited to states and counties with enabling legislation;
- Complicated standards for the allocation, purchase, and sale of development rights must be established to provide a legally defensible system;
- Planning and administrative costs are high; and
- It is difficult to accurately apportion development credits among landowners.



Drawing
courtesy of
North Carolina
Agricultural
Research
Service

White Water-lily
Nymphaea odorata
(freshwater ponds, lakes,
quiet streams)

The following options are available if the landowner wishes to transfer the title with compensation.

Sale Option

There are four sales options that can be applied to wetlands:

1. *Sale at fair market value* – the landowner receives full market value for the land.
2. *Bargain sale* – the landowner agrees to sell the land to a conservation organization at a price below full market value. The difference between the full market price and the selling price becomes a donation.
3. *Installment sale* – outright sale of a piece of property by a landowner where all or part of the consideration is deferred and paid in successive
4. *Right of first refusal* – binds a landowner to giving a conservation agency the option to match the purchase offer and acquire the land if the owner is approached by another buyer.

Advantages

- Sale at full market value allows the landowner to receive full value for land;
- Bargain sale may make the landowner eligible for charitable tax deduction and reduces the capital gains tax;
- Installment sale defers actual payment of tax on the capital gain until the pur-

- chase money with which to pay the tax is actually in hand; and
- Right of first refusal gives a conservation organization extra time to acquire the funds necessary for purchasing the land.

Disadvantages

- Most conservation groups have limited budgets and cannot afford the full market value for wetlands;
- If the land value has appreciated since it was bought, the landowner will be liable for income tax on the capital gain; and
- Government agencies may have the funds but they apply selective criteria to their purchases.

The following options are available if the landowner wishes to transfer the title without compensation.

Donation of land

There are three types of land donations:

1. *Outright donation* – Grants full title and ownership to the conservation organization, community, or government agency receiving the donated property.
 2. *Donation by death time transfer* – Donation of land through a will.
 3. *Donation with reserved life estate* – Donation of land with retention of rights by the landowner to use all or part of the donated land during his/her lifetime and the lifetimes of designated family members.
- Donation by deathtime transfer allows the landowner to retain full use and control over his or her land while alive and to ensure the land's protection after the owner is deceased;
 - Donation by deathtime transfer reduces estate taxes and may benefit heirs with reduced inheritance taxes;
 - Donation with reserved life estate allows the landowner to continue to live on and use the property during his/her lifetime while also securing the land's future protection; and
 - Donation with reserved life estate allows designation for family members or other persons only, without any reservations by the landowner.
 - Maintenance and other associated costs taken on by the organization or agency receiving the property may be more costly than easements to the agency or group;
 - There is no income tax deduction for a donation by deathtime transfer;
 - The landowner is responsible for property taxes for as long as he or she remains in possession of the land;
 - Tax relief from a donation with reserved life estate generally applies to personal residence or farm – wetlands may not necessarily qualify; and
 - There may not be a guarantee of perpetual preservation unless legally enforceable controls are imposed in the grant.

Advantages

- Donation is an excellent way to provide total protection for wetlands and ensure the wetlands will be maintained and enhanced;
- Landowners can receive income tax deductions and possible estate, gift, and property tax breaks;
- Grants communities and conservation organizations vital wetland areas they might not have been able to purchase;
- Outright donation is simple, eliminates most negotiations, and can be conducted quickly;

Disadvantages

- The landowner loses potential income from the sale of the land;

Many wetlands assistance agreements allow cattle grazing on a short-duration basis.

©Texas Dept. of Agriculture



Sources of Assistance

Programs and Land Characteristics: A Quick Reference Guide

Many federal, state and private programs are available to meet the needs of landowners and their properties. Landowners may choose programs applicable to their financial needs, specific concerns, restoration and conservation goals, federal and state regulations, and more importantly, the existing management or creation of wetlands on their properties. The voluntary programs and contacts described in the following pages are designed to provide the essential tools for effective stewardship. The private landowner interested in any of these programs may contact the agency or local office in their area.

The following matrix lists the programs explained in this Guide and the characteristics that are applicable to each program. Also listed are the acronyms and abbreviations used in the matrix.

- Challenge Cost Share Program
- Conservation Contract Program
- CRP, Conservation Reserve Program
- EQIP, Environmental Quality Incentives Program
- FIP, Forestry Incentives Program
- FSP, Forest Stewardship Program
- FWIP, Forested Wetlands Incentive Program
- LIP, Landowner Incentive Program
- MARSH, Matching Aid to Restore States Habitat
- NAWCA, North American Wetlands Conservation Act
- NAWMP, North American Waterfowl Management Plan Joint Venture Project
- PFW, Partners for Fish and Wildlife Program
- PLHP, Private Lands and Habitat Program
- PLI, Private Lands Initiative
- TPWP, Texas Prairie Wetlands Project
- WHAT, Wetland Habitat Alliance of Texas
- WHIP, Wildlife Habitat Incentives Program
- WRP, Wetlands Reserve Program

Program Name	Eligible Lands				Assistance		Program Sponsor
	Wetlands	Prior converted wetlands	Farmed wetlands	Riparian	Financial	Technical	F=Federal S=State P=Private
Challenge Cost Share Program	•	•	•	•	•	•	F
Conservation Contract Program	•			•	•		F
CRP	•	•		•	•	•	F
FIP	•	•	•	•	•	•	F, S
EQIP			•	•	•	•	F
MARSH	•	•	•	•	•	•	P, S
NAWCA	•	•	•	•	•	•	F
NAWMP	•	•	•	•	•	•	F, S
FWIP	•	•		•	•	•	S
PFW	•	•	•	•	•	•	F
PLHP	•	•	•	•		•	S
PLI	•	•	•	•	•	•	S
TPWP	•	•	•		•	•	S, P, F
LIP	•			•	•	•	S
FSP	•	•	•		•	•	F, S
WHAT	•	•	•		•	•	P
WHIP	•	•	•	•	•	•	F, S
WRP	•	•	•	•	•	•	F



Drawing courtesy of North Carolina Agricultural Research Service

Bladderwort
Utricularia spp.
(found in freshwater bottomlands, marshes, bogs and seeps)

Non-Regulatory Federal Programs

Challenge Cost Share Program

U.S. Fish and Wildlife Service (USFWS)

Program Description

In 1988, the U.S. Fish and Wildlife Service (USFWS) launched the Challenge Cost Share Program to manage, restore and enhance fish and wildlife resources and natural habitats on public and private lands. The program is a partnership with nonfederal public and private institutions, organizations, and individuals. Challenge Cost Share allows the USFWS to provide matching funds for projects that support the management, restoration and protection of natural resources on more than 500 National Wildlife Refuges.

How the Program Works

The USFWS provides up to 50% of the total project cost, while the partners provide no less than 50% of the cost. The partner may contribute cash, material, equipment, land, water or in-kind services.

Regional Use

Nationwide

Eligibility

Public and private lands are eligible as long as projects directly benefit refuges. Funds provided by the USFWS for projects cannot be matched with other federal funds.

Contact

Challenge Cost Share Program

Bill Myer or Sonya Brown
U.S. Fish and Wildlife Service
Division of Budget
500 Gold SW
Albuquerque, NM 87103
(505) 248-6824

Conservation Contract Program

Farm Service Agency (FSA)

Program Description

A Conservation Contract may be exchanged, when requested by a current or delinquent borrower, for a cancellation of some or all of the borrower's FSA Farm Loan Program loan indebtedness. The Contract may be considered alone, or with certain other Primary Loan Service Programs. These contracts can be established for con-

servation, recreational and wildlife purposes on farm property that is wetland, wildlife habitat, upland or highly erodible land. Such land must be suitable for the purposes involved. All Farm Loan Program loans that are secured by real estate may be considered for a Conservation Contract. Non-program loan debtors are not eligible to receive any benefits under this program.

How the Program Works

Borrowers participating in the debt cancellation Conservation Contract Program can select 50, 30 or 10 year contract terms. The amount of debt to be canceled will be directly proportional to the length of the contract. The area placed under the Conservation Contract cannot be used for the production of agricultural commodities by the borrower during the term of the contract. Proposals will be reviewed by a team consisting of NRCS, FSA and FWS representatives and others.

Regional Use

Nationwide

Eligibility

Eligibility will be determined by the following: (1) All Farm Loan Program loans that are secured by real estate may be considered for a Conservation Contract; (2) The proposed contract helps a qualified borrower to repay the loan in a timely manner; and (3) If the land being proposed for the contract is within the FSA Conservation Reserve Program, both the requirements of that program and this section can be met.

Contact

Conservation Contract Program

Farm Loan Programs Division
Farm Service Agency
P.O. Box 2900
College Station, TX 77841
(409) 260-3707
Fax: (409) 260-3712

Conservation Reserve Program (CRP)

Farm Service Agency (FSA)

Program Description

The Conservation Reserve Program (CRP) was amended in the Federal Agriculture Improvement and Reform Act of 1996

(1996 Farm Bill). The CRP is a voluntary program offering annual rental payments, incentive payments for certain activities and cost-share assistance to plant long-term resource-conserving covers to improve soil, water and wildlife resources. Cropland must be considered highly erodible land, be a cropped wetland, be a filter strip, riparian buffer, grass waterway, shelter belt or similar practice, be subject to scour erosion, be located in a national or state CRP priority area, or be cropland associated with or surrounding non-cropped wetlands.

The CRP is administered by the Farm Service Agency (FSA). Agencies that provide assistance to FSA include the Natural Resources Conservation Service (NRCS), Texas Agricultural Extension Service, Texas Forest Service, and local soil and water conservation districts.

How the Program Works

Farmers can bid to enroll their land in the CRP program at their local USDA Service Centers. Selections are made based on the relative environmental benefits for the land offered. Environmental benefits include wildlife habitat, water quality improvements, reduced erosion, long-term benefits from practices such as tree planting, air quality benefits from reduced wind erosion, enrollment in priority areas and cost.

The standard reserve contract is 10 years, but FSA accepts easement contracts of 15 or 30 years for special conservation activities. The landowners' bids state the annual rental payment per acre the farmer would be willing to accept for converting their eligible cropland to permanent vegetative cover. Annual rental payments may not exceed \$50,000 per person per year. By law, payments cannot be higher than local rental rates for comparable land.

In addition to rental payments, CRP participants can receive up to 50 percent cost-share for establishing vegetation and 25 percent cost-share for wetlands restoration. Once the land has been accepted into the Reserve program, the land cannot be farmed during the term of the contract.

Eligible acreage devoted to conservation practices such as riparian buffers, filter strips, grassed waterways, shelter belts, living snow fences, contour grass strips,

salt tolerant vegetation and shallow water areas for wildlife may be enrolled at any time under the continuous sign-up and are not subject to competitive bidding. All other eligible acreage must be enrolled during a CRP sign-up period.

Regional Use

Nationwide

Eligibility

To be eligible to be placed in CRP, land must be (1) cropland that is planted to an agricultural commodity two of the five most recent crop years, or (2) marginal pasture that is suitable for use as a riparian buffer to be established to trees. The applicant must have owned or operated the land for at least 12 months prior to close of the sign-up period with certain exceptions relating to death, foreclosure or purchase for the purpose of enrolling in CRP.

Contact

Conservation Reserve Program

Sammy Orange
Farm Service Agency
P.O. Box 2900
College Station, TX 77841
(409) 260-9235

East Texas Wetlands Project (ETWP)

U.S. Fish and Wildlife Service (USFWS), Texas Parks and Wildlife (TPW), Natural Resources Conservation Service (NRCS), Ducks Unlimited (DU)

Program Description

The project will provide landowners with technical assistance and/or financial incentives to restore, enhance, and/or create natural or man-made wetlands and associated upland habitats within the Texas portion of the Lower Mississippi Valley Joint Venture initiative area. Wetland habitat types will include forested wetlands, moist soil areas, harvested croplands, or waterfowl food plots to increase biodiversity for waterfowl, other migratory birds (including Neotropical birds, shorebirds and wading birds), and related wetland wildlife. Project objectives will be accomplished utilizing the following management practices: hydrology restoration, reforestation, plant propagation, vegetation management, site preparation, fencing to control grazing, and conservation easements. Landowners will enter into a Wetland Development Agreement (WDA) to assure project objec-

tives are fulfilled for a minimum of 10 years.

How the Program Works

Since this is a brand new program, not all of the details have been finalized as this document went to press. Look for the program to be up and running in early 2001. For more information contact any of the agency listed above.

Regional Use

Counties of eastern Texas

Eligibility

Private landowners and farm operators located in East Texas.

Environmental Quality Incentives Program

NRCS has leadership for EQIP. It works with FSA to set the program's policies, priorities, and guidelines.

Program Description

The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill to provide a voluntary conservation program for farmers and ranchers who face serious threats to soil, water, and related natural resources. EQIP provides technical, financial, and educational assistance primarily in designated priority areas, with half the funding targeted to livestock-related natural resource concerns and the remainder to other significant conservation priorities.

How the Program Works

EQIP offers financial, educational, and technical help to install or implement structural, vegetative, and management practices called for in 5- to 10-year contracts for most agricultural land uses. EQIP works primarily in priority areas where significant natural resource problems exist. In general, priority areas are defined as watersheds, regions, or areas of special environmental sensitivity or having significant soil, water, or related natural resource concerns. These concerns could include soil erosion, water quality and quantity, wildlife habitat, wetlands, and forest and grazing lands. EQIP can also address additional significant statewide concerns that may occur outside designated priority areas. All EQIP activities must be carried out according to a conservation plan, which are site-specific for each farm or ranch and can be developed

by producers with help from NRCS or other service providers.

Regional Use

The program is available in every state, with an emphasis on either state-identified priority areas or significant statewide concerns.

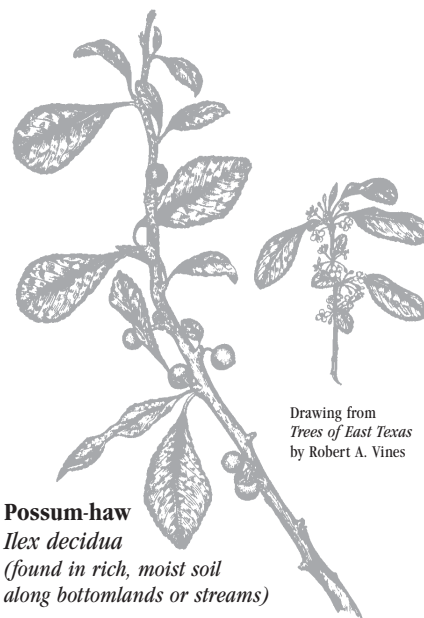
Eligibility

Eligibility is limited to persons who are engaged in livestock or agricultural production. Eligible land includes cropland, rangeland, pasture, forestland, and other farm or ranch lands where the program is delivered. The 1996 Farm Bill prohibits owners of large confined livestock operations from being eligible for cost-share assistance for animal waste storage or treatment facilities. However, technical, educational, and financial assistance may be provided for other conservation practices on these "large" operations.

EQIP offers 5- to 10-year contracts that provide incentive payments and cost sharing for conservation practices called for in the site-specific plan. Contract applications will be accepted throughout the year. Cost sharing may pay up to 75 percent of the costs of certain conservation practices, such as grassed waterways, filter strips, manure management facilities, capping abandoned wells, and other practices important to improving and maintaining the health of natural resources in the area.

Contact

NRCS, FSA, the local Extension Service, or your local conservation district can provide more information. Local USDA Service Centers are listed in the telephone



Drawing from
Trees of East Texas
by Robert A. Vines

Possum-haw

Ilex decidua

(found in rich, moist soil
along bottomlands or streams)

book under U.S. Department of Agriculture. Information is also available here on NRCS's World Wide Web site.

Forestry Incentives Program (FIP)

U.S. Forest Service (USFS), Natural Resources Conservation Service (NRCS), Texas Forest Service (TFS)

Program Description

The Forestry Incentives Program (FIP) is intended to increase the Nation's supply of timber products from private non-industrial forest lands and conserve and improve the environment. The program may apply to wetlands conservation and restoration of wooded swamps. FIP provides technical and cost-share assistance to landowners participating in any one of the four national forestry practices eligible under FIP. These practices include: tree planting, improving a stand of forest trees and site preparation for natural regeneration of trees. The Natural Resources Conservation Service (NRCS) and the U.S. Forest Service in cooperation with the Texas Forest Service (TFS) jointly administer FIP.

How the Program Works

Landowners apply for participation in the program at the county NRCS office. Upon request from NRCS, the TFS examines the property, develops the Forest Management Plan, and certifies the need for the practice. The TFS will also provide technical advice and help locate approved vendors for accomplishing the work. The TFS must certify that the work has been completed in accordance with the approved plan before payment is made to the landowner by the county NRCS office. Cost-share assistance cannot exceed 50 percent of the actual cost of performing the practice. The maximum cost-share that a participant can receive annually for forestry practices under FIP is \$10,000. All FIP practices require a minimum 10-year maintenance agreement from the landowner.

Regional Use

Primarily in East Texas Pineywoods. FIP is offered only in the 38 East Texas counties where a suitable number of ownerships capable of producing at least 50 cubic feet of timber per acre per year exist.

Eligibility

FIP is limited to landowners of 10 to 1,000 acres. Exceptions to the acreage limi-

tation may be obtained for up to 5,000 acres. Ornamental, Christmas tree production, and orchard tree plantings are not eligible for FIP funding.

Contact

Forestry Incentives Program

Brad Barber
Texas Forest Service (TFS)
College Station, TX 77843-2136
(409) 845-2641

Mark Freeman
USDA-NRCS
101 South Main Street
Temple, TX 76501
(254) 742-9822

Forest Stewardship Program (FSP)

Texas Forest Service (TFS)

The Forest Stewardship Program (FSP) was created by the Food, Agriculture, Conservation and Trade Act (Farm Bill) of 1990. It provides technical assistance to landowners for the enhancement of multiple resources associated with non-industrial private forestlands including water, wildlife, recreation, aesthetics, and timber production.

A cost-share component, the Stewardship Incentives Program (SIP), was a complementary program that is currently discontinued.

Program Description

The FSP includes the development of a Forest Stewardship Plan to meet the landowner's objectives relating to the property's natural resources. Technical assistance is available to help landowners enhance the timber, fish and wildlife habitat, water quality, wetlands, recreational, and aesthetic values of their property.

The FSP is administered by the Texas Forest Service and guided by the 30-plus members of the State Stewardship Steering Committee.

How the Program Works

Texas Forest Service foresters or certified private consultants work with private landowners to provide technical assistance and/or develop a multi-use Forest Stewardship Plan that details the landowner's objectives. The Plan puts in writing the objectives of the landowner in enhancing his or her forest resources.

Certified Forest Stewards

Landowners that have followed their written Stewardship plans by installing on-the-ground practices can become a Certified Forest Steward. The goal of the Forest Stewardship Program is to write multiple-use management plans for landowners so they can accomplish their ownership objectives, this recognition rewards those who follow their plans.

Once the plan has been implemented for a few years, a landowner can request certification or be nominated by a local resource professional. Nomination forms can be obtained at any Texas Forest Service office and must be attached to a copy of the Stewardship plan when submitted. The nominator lists the practices that have been installed in the last five years that help meet the objectives stated in the plan.

Each accomplishment listed on the form will be awarded up to ten points, based on the relative merits of each practice to the long-term benefit of the land. Thus, a thinning that improves a timber stand and is conducted in accordance with all Best Management Practices (BMPs) will be worth more points than a practice such as fencing to better manage woods grazing. Successful reforestation will be worth more points than firelane maintenance. The point system rewards more points to activities that were recommended in the Stewardship plan. Landowners will be notified of their selection and will be presented a certificate and a "Forest Stewardship" sign for their property at a public ceremony of their choosing.

Contact

Forest Stewardship Program
Burl Carraway
Texas Forest Service
P.O. Box 310
Lufkin, TX 75902-0310
(409) 639-8180
Fax: (409) 639-8185
E-mail: carraway@LCC.net

North American Wetlands Conservation Act of 1989 (NAWCA)

United States Fish and Wildlife Service (USFWS)

Program Description

The North American Wetlands Conservation Act (NAWCA), established in 1989,

encourages partnerships between and/or among public agencies and private interests within the United States, Canada and Mexico to (1) protect, enhance, restore, and manage wetland ecosystems and other habitats for migratory birds, fish, and wildlife in North America; (2) maintain current or improve distribution of migratory bird populations; and (3) sustain an abundance of waterfowl and other migratory birds consistent with the goals of the North American Waterfowl Management Plan and international treaty obligations.

The Act provides funding for wetlands conservation projects involving restoration, enhancement, and acquisition. Funding is approved by the Migratory Bird Conservation Commission (MBCC) based on recommendations from the North American Wetlands Conservation Council (Council). The USFWS coordinates with the Council on the NAWCA and can provide assistance to landowners to develop proposals for submission to the Council and MBCC. Funding for the Act is appropriated by Congress and has ranged up to \$15 million a year.

How the Program Works

Proposals may be submitted by any group or individual by the last Friday in March and July. Funding becomes available following MBCC approval, which occurs approximately five months following application submission. A proposal must describe how the proposed work fits into a larger project (if applicable); the need for the proposal; where the work is to be done; the affect of the proposal on animals, plants, and wetland functions; how much the project will cost; and partner commitments and responsibilities. The grant application instructions are available on the NAWCA Web site at <http://northamerican.fws.gov/nawcahp.html>

NAWCA grants require a minimum one-to-one grant match from any non-federal source, such as a state, non-profit group, or the landowner, or a combination of these. Proposals with higher match ratios are preferred. Annual payments for leases or easements require a minimum 10-year agreement and demonstration projects require a minimum 5-year agreement.

Individuals and organizations seeking funding for on-the-ground wetlands restoration, management, or enhancement projects to benefit wildlife can now access Standard Grant Instructions for the North American Wetlands

Rice stubble provides excellent forage for migrating waterfowl and wildlife along the Texas coast.
©Texas Dept. of Agriculture



Conservation Act over the Internet at <http://northamerican.fws.gov/nawcahp.html>

Regional Use Nationwide

Eligibility

Projects involving acquisition, restoration, enhancement, creation, management, and other activities that conserve wetland ecosystems and the fish and wildlife that depend on such habitats are eligible for the Act or matching partner funds. Areas of special concern and larger areas are usually given priority in grant consideration.

Contact

North American Wetlands Conservation Act

Vernon Bevil
Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744
(512) 389-4578
Fax: (512) 389-4398

North American Waterfowl Management Plan Joint Venture Projects (NAWMP)

United States Fish and Wildlife Service (USFWS)/Texas Parks and Wildlife/ Non-Governmental Partnership

Program Description

The North American Waterfowl Management Plan (NAWMP) was signed in 1986 between the United States and Canada to protect, restore, and enhance wetlands important to

waterfowl and other wetland-dependent bird species. Mexico joined as a signatory in 1994 when the NAWMP was first updated. The NAWMP's primary objective is to return waterfowl populations to levels observed in the 1970s, when fall flights exceeded 80 million ducks. The plan is implemented at the grassroots level by partnerships called Joint Ventures. Wetlands identified under NAWMP as "areas of major concern" for waterfowl habitat (e.g., migration, nesting and forage areas) are targets for these joint ventures.

How the Program Works

Joint Venture Management Boards, consisting of federal, state, and private agencies and private individuals, have been established to coordinate work within the Joint Venture areas. Because most lands in Texas are privately owned, landowner involvement is crucial for the joint ventures to succeed. Private landowners of wetlands significant to waterfowl may receive technical and financial assistance through a variety of cooperative programs within their geographic area. Participation is not exclusive to individual landowners, however. Corporations such as Phillips Petroleum, Exxon, DuPont, and Central Power and Light in Corpus Christi have all become involved in wetland conservation projects on their land and/or participate in various joint venture projects.

The Plan also supports research on wetlands restoration, wetlands status surveys, and wetlands inventories.

Regional Use

There are currently eleven habitat joint ventures underway in the United States. Principal areas targeted by the plan are the Atlantic Coast; the Lower Mississippi River Region; the Upper Mississippi River-Great Lakes Region; the Gulf Coast; the Playa Lakes Region; California's Central Valley; the Pacific Coast; the Rainwater Basin; the Prairie Pothole Region; the Intermountain West, and San Francisco Bay.

Eligibility

Any landowner (federal, state, group, or individual) with property of significance to waterfowl and other wetland-dependent species who wishes to restore or enhance the land may apply through the specific Joint Venture Management Board. Both financial and technical assistance may be available.

In Texas, three joint ventures exist: The Gulf Coast Joint Venture (GCJV), the Playa Lakes Joint Venture (PLJV), and the Lower Mississippi Valley Joint Venture (LMVJV). The Texas Prairie Wetlands Project (TPWP) has been created as part of the GCJV. These programs are summarized below.

Contact

North American Waterfowl Management Plan

Vernon Bevill
Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744
(512) 389-4578
Fax: (512) 389-4398

Gulf Coast Joint Venture (GCJV)

The Gulf Coast Joint Venture (GCJV) focuses on perpetuating healthy wintering grounds for migrating waterfowl and other birds and wildlife species along the Gulf Coast from Alabama to Texas. Over 4.5

million acres along the Gulf Coast are important waterfowl habitat. The GCJV targets specific sites along the coast including Laguna Madre, Texas Mid-Coast, the Texas Chenier Plain and all coastal areas of Louisiana, Mississippi and Alabama. Established in 1988, the GCJV is a partnership of landowners, federal and state agencies, and conservation organizations dedicated to protect, enhance and restore wetlands on the Gulf Coast. As of 1998, the GCJV has protected 145,740 acres, restored 20,676 acres and enhanced 166,988 acres in Texas. GCJV project funding for Texas landowners is primarily offered through the Texas Prairie Wetlands Project.

Contact

Gulf Coast Joint Venture

David S. Lobpries
Texas Parks and Wildlife
6414 Deer Trail Drive
Wharton, TX 77488
(409) 532-2170

Lower Mississippi Valley Joint Venture (LMVJV)

The LMVJV encompasses 22 million acres in portions of 10 Delta states, including East Texas. One of its primary goals is to integrate waterfowl management and wetlands conservation into the broader realm of soil and water conservation. Projects under the LMVJV should address one of these four topics: (1) private lands enhancement, (2) public lands enhancement, (3) water resources development, and (4) wetland protection and restoration.

Although the LMVJV has targeted enhancement of wetlands on private lands, a program has not been specifically developed to accept individual project proposals from private landowners, in contrast to other Texas joint ventures. This situation results from a lack of partnership funding

sources that are available with the other Texas joint ventures. Currently, the only viable funding opportunities are through proposals to the North American Wetlands Conservation Act (NAWCA) Council. Requests to the NAWCA Council are referred to the LMVJV Management Board for review and priority rating. Recommendations are then returned to the NAWCA Council for further action.

Because TPW recognizes the need for private wetland projects in the LMVJV area, the Department is initiating activities to develop a NAWCA grant request or other funding opportunities for funding private wetland developments in East Texas. Currently, no timetable exists for planning or conducting this proposed initiative. However, landowners with interest in these future prospects should contact the TPW LMVJV Coordinator. This would help identify two points: (1) the degree of private landowner interest in funding assistance for wetland enhancement, and (2) a listing of individual candidate projects (i.e., a catalog of project requests from individual landowners interested in participation) that could be implemented when funding becomes available.

Contact

Lower Mississippi Valley Joint Venture

Carl D. Frentress
Texas Parks and Wildlife
Route 3, Box 3273
Athens, TX 75751
(903) 675-4177

Playa Lakes Joint Venture (PLJV)

The Playa Lakes Joint Venture (PLJV) promotes partnerships between agencies and private landowners to conserve playa lakes in Colorado, Kansas, New Mexico, Oklahoma, and Texas. The PLJV seeks landowner participation to enhance or protect playa lakes and other wetland habitat. The PLJV hopes to ensure adequate and well distributed habitats to maintain healthy populations of waterfowl and other wildlife. Since 1990, over 3,000 acres of playa lakes have been protected, restored or enhanced in Texas through PLJV partnerships. Technical assistance and cooperative funding is available for approved projects.

State and federal wildlife biologists will work with individual landowners to



A landowner in the Panhandle manages his property as both productive farmland and waterfowl habitat through the Playa Lakes Joint Venture.
©TPW

create management plans for specific properties. These plans may include:

- projects in or near playas to provide cover and food;
- participation in state and federal programs to provide adequate nesting cover and brooding habitat; and
- maintenance of playa water levels, pumping water to them if necessary.

In return, the Joint Venture offers landowners incentives, such as:

- water and pumping payments,
- cost share for fencing, grass buffer establishment, and
- compensation from other applicable state and federal land management programs.

Texas Parks and Wildlife (TPW) coordinates review of project proposals through the Playa Lakes Region of Texas Steering Committee, and the PLJV's Monitoring, Evaluation and Research Team, and Management Board. The Department also provides funding for habitat projects on private lands under an agreement signed by both the landowner and the Department.

Up to 50% cost-shared assistance is available from the U.S. Fish and Wildlife Service (USFWS). Cost-shared assistance of up to 100% is available through TPW. PLJV incentives may work in conjunction with other federal and state programs, including the Partners for Wildlife Program.

Contact

Playa Lakes Joint Venture

Bill Johnson
Texas Parks and Wildlife
P.O. Box 659
Canyon, TX 79015
(806) 655-3975

Partners for Fish and Wildlife Program (PFW)

U.S. Fish and Wildlife Service

Program Description

The Partners for Fish and Wildlife program offers technical and financial assistance to private (non-federal) landowners to voluntarily restore wetlands and other fish and wildlife habitats on their land. The program emphasizes the reestablishment of native vegetation and ecological communities for the benefit of fish and wildlife in concert with the needs and desires of private landowners.

How the Program Works

Since the program began in 1987, the PFW has primarily focused on the restoration of wetlands, native grasslands, stream banks, riparian areas, and in-stream aquatic habitats. The assistance that the U.S. Fish and Wildlife Service offers to private landowners may take the form of informal advice on the design and location of potential restoration projects, or it may consist of designing and funding restoration projects under a voluntary cooperative agreement with the landowner. Under the cooperative agreements, the landowner agrees to maintain the restoration project as specified in the agreement for a minimum of 10 years. While not a program requirement, a dollar-for-dollar cost share is usually sought on a project-by-project basis.

Restoration projects may include, but are not limited to: (1) **Restoring wetland hydrology** by plugging drainage ditches, breaking tile drainage systems, installing water control structures, dike construction, and re-establishing old connections with waterways; (2) **Planting native trees and shrubs** in formerly forested wetlands and other habitats; (3) **Planting native grasslands** and other vegetation; (4) **Installing fencing and off-stream live-stock watering facilities** to allow for restoration of stream and riparian areas; (5) **Removal of exotic plants and animals** which compete with native fish and wildlife and alter their natural habitats; (6) **Prescribed burning** as a method of removing exotic species and to restore natural disturbance regimes necessary for some species survival; and (7) **Reconstruction of in-stream aquatic habitat** through bioengineering techniques.

The Partners for Fish and Wildlife program also provides enhanced fishery management expertise for projects that benefit interjurisdictional and declining fish species. This expertise is directed towards lakes, streams, estuaries, and associated riparian and upland buffer habitats to restore and enhance fishery resources. Practices include the techniques listed above as well as streambank revegetation, silt removal, restoration of water circulation, streambed renovation, reduction of non-point sources of pollution, and fish passage reestablishment for migratory fish. These actions increase native fish populations and improve the water quality in downstream reaches.

Regional Use

Nationwide

Eligibility

Subject to restoration priorities stated above, any wetland is eligible for restoration with technical and financial assistance by the Service. Upland habitats are eligible for financial assistance only if their restoration will contribute to certain program goals. Once the agreement period has expired, the landowner is not obligated to follow the Cooperative Agreement guidelines. Agricultural practices that do not conflict with conservation purposes are allowed on restoration sites.

Contact

Partners for Fish and Wildlife

Program

Don Wilhelm
U.S. Fish and Wildlife Service
711 Stadium Dr., Suite 252
Arlington, TX 76011
(817) 277-1100
Fax: (817) 277-1129
E-mail: Don_Wilhelm@fws.gov

Texas Prairie Wetlands Project (TPWP)

U.S. Fish and Wildlife Service (USFWS), Texas Parks and Wildlife (TPW), Natural Resources Conservation Service (NRCS), Ducks Unlimited (DU)

Program Description

The Texas Prairie Wetlands Project (TPWP) is designed to accomplish the goals and objectives of the Gulf Coast Joint Venture (GCJV), and is a partnership effort to restore, create, or enhance wetlands beneficial for waterfowl and other wildlife use. TPWP projects include management of winter water on cropped lands, restoration of converted wetlands, enhancement of natural wetlands, or creation of wetlands on non-wetland sites. Between 1991 and March 2000, approximately 430 project sites have been enrolled for 184 landowners on 19,921 acres of wetland developments.

How the Program Works

Landowners interested in creating and maintaining habitat for waterfowl or other wildlife on their property are offered financial and technical assistance through the Texas Prairie Wetlands Project. The landowner may also contact the U.S. Fish and Wildlife Service (USFWS), Natural

Resources Conservation Service (NRCS), Texas Parks and Wildlife (TPW) or Ducks Unlimited (DU), who will coordinate with the TPWP office. Cost-shared assistance of up to 75% is available (100% where supplemental water is provided by the landowner). In return, the landowner and TPWP agree on management practices in the 10-year Wetland Development Agreement (WDA). The WDA is a management plan designed to satisfy landowner desires as well as provide sufficient habitat for waterfowl and other migratory birds.

Technical assistance for creating, restoring and maintaining habitat is also provided through workshops. The Texas Prairie Wetlands Project allows for normal agricultural practices.

Regional Use

28 Gulf coastal counties.

Eligibility

Private landowners and farm operators (landowners must co-sign agreements) within the 28 county project area are eligible.

Contact

David Curtis
Texas Prairie Wetlands Project
U.S. Fish and Wildlife Service
312 S. Main Street, Room 310
Victoria, TX 77901
(361) 576-0282
Fax: (361) 575-9537
or
Craig LeSchack
Texas Prairie Wetlands Project/Ducks Unlimited, Inc.
2205 Ave. I, #114
Rosenberg, TX 77471
(281) 341-7968
Fax: (281) 341-6317

Wetlands Reserve Program (WRP)

Natural Resources Conservation Service (NRCS) administers the program and may consult with the U.S. Fish and Wildlife Service.

Program Description

The Wetlands Reserve Program (WRP) was amended by the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Bill). The WRP is a voluntary program exclusively applicable to wetlands offering payments to landowners for restoring or enhancing wetlands on their

property. The WRP provides a unique opportunity for farmers to retire marginal agricultural lands and reap the many benefits of having wetlands on their property. Under WRP, the Natural Resources Conservation Service (NRCS) staff work with participating landowners to secure conservation easements and provide cost-sharing assistance for wetlands restoration.

How the Program Works

Landowners who choose to participate in WRP may sell a conservation easement or enter into a cost-share restoration agreement with USDA to restore and protect wetlands. The landowner voluntarily limits future use of the land, yet retains private ownership. The landowner and NRCS develop a plan for the restoration and maintenance of the wetland.

The program offers landowners three options: permanent easements, 30-year easements, and restoration cost-share agreements of a minimum 10-year duration. *Permanent Easements* are conservation easement in perpetuity. Easement payment will be the lesser of: the agricultural value of the land, an established payment cap (\$550/acre maximum) (may be higher in Cameron, Hidalgo, and Starr counties), or an amount offered by the landowner. In addition to paying for the easement, NRCS pays 100 percent of the costs of restoring the wetland. In a *30-Year Easement*, payments are 75 percent of what would be paid for a permanent easement. NRCS also pays 75 percent of restoration costs. *Restoration Cost-Share Agreements* (generally for 10 years in duration) re-establish degraded or lost wetland habitat. NRCS pays 75 percent of the cost of the restoration activity. This does not place an easement on the property. The landowner provides the restoration site without reimbursement.

Other agencies and private conservation organizations may provide additional assistance for easement payment and wetland restoration costs as a way to reduce the landowner's share of the costs. Such special partnership efforts are encouraged.

Landowners interested in participating in the WRP should apply to the program through their county Natural Resources Conservation Service office anytime. The NRCS and the U.S. Fish and Wildlife Service will determine eligibility of the acres offered and landowners with

high priority acres – based on competitive selection – will receive an offer.

Regional Use

Nationwide

Eligibility

Landowner. To offer a conservation easement, the landowner must have owned the land for at least one year prior to enrolling the land in the program unless the land was inherited or the landowner can prove the land was not obtained for the purpose of enrolling it in the program. To participate in a restoration cost-share agreement, the landowner must show evidence of ownership.

Land. To be eligible for WRP, land must be restorable and be suitable for wildlife benefits. This includes:

- Wetlands farmed under natural conditions;
- Farmed wetlands;
- Prior converted cropland;
- Farmed wetland pasture;
- Farmland that has become a wetland as a result of flooding;
- Rangeland, pasture or production forestland where the hydrology has been significantly degraded and can be restored;
- Riparian areas which link protected wetlands;
- Lands adjacent to protected wetlands that contribute significantly to wetland functions and values; and
- Wetlands restored under State, federal or private programs that meet NRCS specifications are eligible for WRP, including the USFWS Partners for Wildlife program.

Ineligible Land. Ineligible land includes wetlands converted after December 23, 1985; lands with timber stands established under a CRP contract; Federal lands; and lands where conditions make restoration impossible.

A landowner continues to control access to the land and may lease the land for hunting, fishing, and other undeveloped recreational activities. At any time, a landowner may request that additional activities be evaluated to determine if they are compatible uses for the site. This request may include such items as permission to cut hay, graze livestock or harvest wood products. Compatible uses are allowed if they are fully consistent with the protection and enhancement of the wetland.

States were authorized to begin a continuous sign-up as of October 1, 1996. Check with your local USDA Service Center or conservation district office for the sign-up schedule in your State.

Contact

Wetlands Reserve Program

Doug Sharer
Natural Resources Conservation Service
101 S. Main Street
Temple, TX 76501-7682
(254) 742-9825
Fax: (254) 742-9828

Wildlife Habitat Incentives Program (WHIP)

Natural Resources Conservation Service (NRCS) administers the program.

Program Description

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for people who want to develop and improve wildlife habitat primarily on private lands. It provides both technical assistance and cost-share payments to help establish and improve fish and wildlife habitat. The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) offers participants technical and financial assistance for the establishment of wildlife habitat development practices. In addition, if the landowner agrees, cooperating State wildlife agencies and non-profit or private organizations may provide expertise or additional funding to help complete a project.

How the Program Works

WHIP funds are distributed to States based on State wildlife habitat priorities, which may include wildlife habitat areas, targeted species and their habitats, and specific practices. With the assistance of NRCS, participants who own or control land agree to prepare and implement a wildlife habitat development plan. This plan may or may not be part of a larger conservation plan that addresses other resource needs such as water quality and soil erosion.

USDA and the participant enter into a cost-share agreement for wildlife habitat development. This agreement generally lasts from 5 or 10 years from the date the agreement is signed. Under the agreement:

- The landowner agrees to install and maintain the WHIP practices and

Programs such as the Prairie Wetlands Project provide seasonal wetlands on rice fields, which supply thousands of acres of wintering habitat for migratory waterfowl.
©Texas Dept. of Agriculture



allow NRCS or its agent access to monitor the effectiveness of the practices.

- USDA agrees to provide technical assistance and pay up to 75 percent of the cost of installing the wildlife habitat practices.

Cost-share payments may be used to establish new practices or replace practices that fail for reasons beyond the landowner's control.

Eligibility

Eligible participants include those who own or have control of the land under consideration. All lands are eligible for WHIP, except:

- Federal land;
- Land currently enrolled in the Conservation Reserve Program, Wetlands Reserve Program or other similar programs;

- Land subject to an Emergency Watershed Protection Program floodplain easement; and
- Land where USDA determines that impacts from onsite or offsite conditions make the success of habitat improvement unlikely.
- WHIP funds cannot be used for mitigation or on land designated as converted wetland.

Contact

NRCS; Farm Service Agency; Cooperative State Research, Education, and Extension Service; or your local conservation district can provide more information. Your USDA Service Center is listed in the telephone book under U.S. Department of Agriculture. Information is also available on NRCS's World Wide Web site: <http://www.nrcs.usda.gov>.

Non-Regulatory State Programs

Forested Wetlands Incentive Program (FWIP)

Texas Parks and Wildlife (TPW)

Program Description

The Forested Wetlands Incentive Program is a pilot project providing East Texas landowners with funds to use sustainable forestry practices that produces bottomland hardwood sawtimber and improved wildlife habitat. TPW hopes to create a permanent Forested Wetlands Incentive Program.

How the Program Works

Enhancements to existing forested wetlands are preferred to restoration of forests on agricultural land in floodplains (this activity is funded through the USDA's Wetlands Reserve Program). Examples of the most desirable enhancement projects include site preparation and planting, or stand improvement on previously high-graded bottomland forests. Projects involving water impoundments, greentree reservoirs and wetlands restoration on converted cropland will be given a lower priority since these activities are already covered through existing incentive programs.

Landowners must provide a 15% cost-share, which may be in-kind and/or cash, and project agreements will extend for 15 years. TPW prefers proposals not exceeding \$10,000 per project, although funding levels are flexible depending on project benefits.

This was a demonstration project in which nine landowners were selected for this program. At this time there is no money available for this program. Due to the success of the program, Texas Parks and Wildlife is committed to establishing a permanent incentive program for East Texas.

Regional Use

Eastern Texas

Eligibility

Non-industrial private landowners owning bottomlands in East Texas will have priority for funding.

Contact

For more information, please contact TPW's Texas Wetlands Conservation Program at (512) 389-4328, Jeff Raasch.

Landowner Incentive Program (LIP)

Texas Parks and Wildlife (TPW)

Program Description

Most rare species inhabit privately owned and managed lands in Texas. Incentive programs to assist private landowners in protecting and managing habitat for rare species can have a direct and positive impact on their conservation. It is the goal of this program to provide financial incentives that encourage landowners to help conserve rare species and their habitat.

How the Program Works

The proposed action by the landowner must contribute to the enhancement of at least one rare species or its habitat. Rare species include those species that are federally or state listed as threatened or endangered as well as selected vertebrates, invertebrates and plants included in the 1995 Endangered Resources Action Plan. A copy of the rare species list for your county and Action Plan are available to prospective applicants upon request. The landowner's property must be able to provide suitable habitat for a rare species. The natural movement or reintroduction of individuals onto that property must be feasible and the property must be within the historic range of the targeted species. The results of the action must be measurable. Therefore, the landowner must agree to allow biologists onto their property for a pre-agreement survey and periodic progress checks to assess the success of the project objectives. The kind and amount of information recorded can be negotiated by the landowner. The landowner must be willing to sign a project agreement or management plan. Each agreement or management plan will be designed to meet the landowner's individual conservation and land use needs and objectives.

Applications will be reviewed semi-annually (January and July) and will be ranked sequentially by the Landowner Incentive Program Committee. The committee consists of landowners and various natural resource agency representatives. The primary selection criteria will be based on the extent to which the action achieves species recovery or alleviates threats to the species balanced against the cost effectiveness of the proposed action.

Ranks will be summarized, and those applications with the best scores will be selected such that the total amount awarded to all applicants will not exceed the allotted annual funding. Applicants not selected during one review period will be eligible for the subsequent period. Successful applicants will be notified and arrangements will be made to discuss and draft a conservation plan and the terms of the agreement. Funds will be dispersed after TPW and the private landowner have signed the conservation agreement.

Although there are no project duration limitations, results of management actions that can be documented in less than 5 years are preferred. The applicant should contribute at least 20% of the total cost of project. Cost-share can include labor and materials. A minimum of 10% of the funds will be retained until conclusion and final assessment of the project.

TPW wants to encourage creative projects for conserving rare species. Some ideas that funds can be used for may include (but are not limited to) offsetting the cost of management activities such as habitat improvements (restoring native vegetation, prescribed burns, selective brush management, grazing management systems) or habitat protection (constructing enclosure fences, gating caves). Funds can also be awarded to help with legal fees necessary to develop a conservation easement. Other actions not listed here that will accomplish conservation goals at reasonable cost are encouraged and will be considered.

Regional Use

Statewide

Eligibility

The program is flexible and is open to all private landowners that have a desire to voluntarily manage habitat for rare species on their land.

Contact

Contact your Texas Parks and Wildlife Regional Endangered Species Biologist to discuss your options. If necessary, a site visit will be scheduled to further discuss appropriate management activities for your property.

MARSH Program

Matching Aid to Restore States Habitat – Ducks Unlimited, Inc. (DU)

Program Description

The Matching Aid to Restore States Habitat (MARSH) Program began in 1985 to provide matching funds to the Texas Parks and Wildlife (TPW) and private cooperators for projects significantly benefiting waterfowl. Normally, all projects must be on lands under the control of a public agency, or private individuals who have been approved by the Ducks Unlimited Conservation Programs Committee. The cooperator's control must be through ownership, lease, easement or management agreement. MARSH is administered through five Regional Ducks Unlimited (DU) offices.

How the Program Works

Projects that will receive first consideration are those that lead to the protection or restoration of North American Waterfowl Management Plan (NAWMP) sites, and those that protect and enhance other important waterfowl habitat. Preference is also given to projects that benefit non-game, threatened or endangered species, and are in unique habitats or ecosystems having high public visibility or interpretive value.

MARSH project proposals are developed by TPW or other cooperators, and are submitted to the Regional Flyway MARSH coordinator for evaluation. These proposals should include all pertinent information regarding location, legal description, ownership, management objectives, description of work, projected costs, and any supplementary support information applicable to the project. After receiving all of the necessary information, the MARSH coordinator will assess those sites with the most potential and prepare project evaluations. Final selection for funding depends on the biological and public relations values, membership interest, and fund-raising potential. An approved project can receive up to 50% cost-share expenses. Projects exceeding the one-to-one threshold require special approval.

Regional Use

Nationwide

Eligibility

DU will consider proposals from any public agency or private conservation group that is (1) able to execute long-term habi-

tat agreements, (2) capable of delivering and managing the projects proposed, and (3) willing to assume all liability associated with the project.

Contact

MARSH Program

Ed Ritter

Ducks Unlimited, Inc.

2205 Ave. I, #114

Rosenberg, TX 77471

(281) 341-7968

Fax: (281) 341-6317

Private Lands and Habitat Program (PLHP)

Texas Parks and Wildlife (TPW)

Program Description

Texas Parks and Wildlife provides technical assistance to persons desiring to include wildlife management considerations in present and future land use practices. This service is strictly advisory and is provided without charge to cooperating landowners. The goal of the Private Lands and Habitat Program is to provide expertise to land managers in the conservation and development of wildlife habitat and the various wildlife populations that utilize that habitat.

How the Program Works

Upon the landowners' written request, a TPW biologist schedules a personal meeting and a property inspection with the landowner. The landowner defines the various needs and uses of the property and establishes objectives for wildlife consideration. The biologist then recommends actions to achieve the landowner's objectives. A written management plan may be developed upon request. Components of the plan may include objectives, past history, and an explanation of proper harvest

and surveying techniques. Wildlife biologists will continue to assist landowners through periodic visits to help interpret survey information and formulate harvest recommendations.

Regional Use

Statewide

Eligibility

Landowners interested in conserving and managing wildlife habitats on their property are eligible.

Contact

Private Lands and Habitat Program

Kirby Brown

Texas Parks and Wildlife

4200 Smith School Road

Austin, TX 78744

(512) 389-4395

Fax: (512) 389-4398

Private Lands Initiative (PLI)

Texas Parks and Wildlife (TPW)

Program Description

The Texas Private Lands Initiative (PLI) is a voluntary program in which landowners work with Texas Parks and Wildlife (TPW) and the National Fish and Wildlife Foundation (NFWF) to enhance wildlife habitat through partnerships. The PLI applies to a variety of landscapes in Texas, including wetlands such as bottomland hardwoods, playa lakes, and riparian areas. TPW has identified 16 types of projects to enhance habitat on private lands. In wetland areas, these projects may include moist-soil management, fencing, planting, and pumping agreements. These projects offer landowners a unique opportunity to use their wetlands as demonstration sites for future projects.

Migrating waterfowl in the Central Flyway use Panhandle playa lakes as stopover areas on their way south.

©TPW



How the Program Works

Projects under the PLI are cost-shared by the landowner and NFWF, while TPW offers technical assistance and program coordination. Funding is dependent on availability of grants.

Regional Use

Statewide

Eligibility

Wetland projects must be a minimum 10 year (negotiable) commitment and the landowner is obligated to maintain the improvements. An example of improvements include planting a diverse mixture of legumes and grass surrounded by a 4-strand barbed wire fence in playa lakes. Assistance is available on other improvements as well. No cost-sharing is available to reverse damage in playa basins caused by livestock grazing, such as soil erosion and runoff.

Contact

Private Lands Initiative

Kirby Brown

Texas Parks and Wildlife

4200 Smith School Road

Austin, TX 78744

(512) 389-4395

Fax: (512) 389-4398

Wetland Habitat Alliance of Texas (WHAT)

Program Description

Wetland Habitat Alliance of Texas (WHAT) is an organization dedicated to preserving Texas wetlands by raising public awareness and appreciation of wetlands and funding projects to protect, enhance, and restore natural wetlands. WHAT also provides youth and adult education and serves as a liaison to the government, conservation organizations, hunters, and the general public.

How the Program Works

WHAT solicits funds for projects such as management of water on cropped wetlands, restoration of converted wetlands, enhancement of natural wetlands, and creation of wetlands on non-wetland sites. Interested landowners can receive up to 100% financial assistance in return for a minimum 10-year agreement.

The cooperator maintains ownership of the land upon completion of the project. The cooperator and WHAT agree to any proposed development on the land before an agreement is sealed. The Natural Resources Conservation Service (NRCS) will verify the operable conditions; WHAT will pay costs and provide technical assistance to cooperators within the specifications of the agreement. WHAT is interested in working with landowners to find an agreement acceptable to all parties involved.

Regional Use

Statewide

Eligibility

Any landowner interested in accomplishing the same goals as WHAT is eligible to participate.

Contact

Wetland Habitat Alliance of Texas

Eric Frasier

WHAT

118 E. Hospital, Suite 208

Nacogdoches, TX 75961

(409) 569-9428

Fax: (409) 569-6349

Summary Table: *Federal Programs Providing Financial and Other Incentives for Wetlands Protection*

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
Challenge Cost Share Program Program promotes the management, restoration and enhancement of fish and wildlife resources and natural habitats on public and private lands in partnership with nonfederal entities.	Land: Projects may occur on National Wildlife Refuges, fish hatcheries, research facilities, and private lands. Funds provided by the USFWS for projects cannot be matched with other federal funds and are matched 50/50.	USFWS Nationwide	Matched 50/50.
Conservation Contract Program The Conservation Contract Program allows landowners to reduce their FmHA debt in exchange for a permanent conservation easement on valuable lands, including wetlands.	Time period: 10, 30 and 50 year easements. Other: Landowner must have borrowed from the FmHA. Debt reduction easements will not apply to debts with other lending institutions.	FSA, NRCS, USFWS Nationwide	Debt reduction on FSA loans.
Conservation Reserve Program CRP encourages landowners to enroll highly erodible cropland or land contributing to a serious water quality problem in the Reserve for 10 or 15 years. Landowners receive annual rental payments, technical assistance, and cost-sharing. Purpose is to reduce soil erosion and sedimentation, improve water quality, maintain fish, and wildlife habitat, and provide support income to the landowner.	Time period: at least 10 years. Land (must have one or more): planted as an agricultural commodity for 2 years out of the most recent 5 years; evidence of scour erosion; contributing to or creating a water quality problem; EPA designated wellhead area; participating in easement practices.	FSA Nationwide	Receive annual rental payment for land while in Reserve, not to exceed \$50,000 annually; 50% cost-share for establishing vegetation.

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
East Texas Wetlands Project (ETWP) The project will provide landowners with technical assistance and/or financial incentives to restore, enhance, and/or create natural or man-made wetlands and associated upland habitats within the Texas portion of the Lower Mississippi Valley Joint Venture initiative area.	Time Period: 10-year minimum agreement.	USFWS, TPW, NRCS, Ducks Unlimited East Texas	Program guidelines not finalized at press.
Environmental Quality Incentives Program The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill to provide a voluntary conservation program for farmers and ranchers who face serious threats to soil, water, and related natural resources. EQIP provides technical, financial, and educational assistance primarily in designated priority areas, with half of it targeted to livestock-related natural resource concerns and the remainder to other significant conservation priorities. Eligibility is limited to persons who are engaged in livestock or agricultural production. Eligible land includes cropland, rangeland, pasture, forestland, and other farm or ranch lands where the program is delivered.	Time Period: EQIP offers 5- to 10-year contracts that provide incentive payments and cost-sharing for conservation practices called for in the site-specific plan. Contract applications will be accepted throughout the year.	NRCS, FSA, Extension Service The program is available in every State, with an emphasis on either state-identified priority areas or significant statewide concerns.	Cost-sharing may pay up to 75 percent of the costs.
Forestry Incentives Program (FIP) FIP provides technical and cost-shared assistance to landowners participating in any one of the four national forestry practices eligible under FIP: tree planting, improving a stand of forest trees, site preparation for natural regeneration of trees, special forestry practices. FIP may apply to wetlands conservation and restoration of wooded swamps	Time period: 10-year maintenance agreement. Land: FIP is limited to landowners of 10 to 1,000 acres. Exceptions to the acreage limitation may be obtained for up to 5,000 acres. FIP is offered only in designated counties where a suitable number of ownerships capable of producing at least 50 cubic feet of timber per year each exist. Ornamental, Christmas tree production, and orchard tree plantings are not eligible for FIP funding.	TFS, USFS, NRCS Primarily East Texas Pineywoods	Cost-shared up to 50%. Maximum annual agency cost-share is \$10,000.
North American Wetlands Conservation Act of 1989 (NAWCA) Encourages partnerships among public agencies and other interests within the United States, Canada, and Mexico to protect, enhance, restore, and manage wetland ecosystems and other habitats for migratory species, especially birds, and their habitats. The Act provides funding for wetlands conservation projects involving acquisition, restoration, and enhancement.	Time Period: minimum 10-year agreement or a 5-year agreement for demonstration projects. Other: Projects involving acquisition, restoration, enhancement, creation, management, and other activities that conserve wetland ecosystems and the fish and wildlife that depend on such habitats are eligible for the Act or matching partner funds. Areas of special concern and larger areas are usually given priority in grant consideration.	USFWS Nationwide	Federal funding must be matched one-to-one with a non-federal source.

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
<p>North American Waterfowl Management Plan (NAWMP) NAWMP's purpose is to protect, restore, and enhance wetlands important to waterfowl and other wetland-dependent bird species in North America. The plan is implemented at the grassroots level by partnerships called joint ventures. Landowners of wetlands significant to waterfowl may receive technical and financial assistance through a variety of cooperative programs within their geographic area.</p>	<p>Any landowner (federal, state, group, or individual) with property of significance to waterfowl and other wetland-dependent species who wishes to restore or enhance land may apply.</p>	<p>USFWS, TPW, Ducks Unlimited, NRCS, WHAT</p> <p>Three regions in Texas: the Gulf Coast, Playa Lakes, and Lower Mississippi Valley (East Texas)</p>	<p>Funding variable with Joint Venture.</p>
<p>Partners for Fish and Wildlife Program (PFW) The objectives of PFW programs are to restore, enhance, and manage wetlands for fish and wildlife habitat; promote profitable land use for agriculture, industry, and private landowners; and promote a wise and lasting land-use ethic. The program focuses on re-establishment of original natural communities. Program offers technical and cost-shared assistance to landowners who wish to restore wildlife habitat, including degraded or converted wetlands and those upland habitats that meet specific eligibility criteria.</p>	<p>Time period: 10 or more years; demonstration projects may be less than 10 years.</p> <p>Land: Any wetland is eligible for restoration. Special consideration is given to projects meeting specified criteria (refer to program description). Agricultural practices that do not conflict with conservation purposes are allowed on restoration sites.</p>	<p>USFWS</p> <p>Nationwide</p>	<p>Cost-shared up to 100% of total cost. Demonstration projects 50% cost-shared, not to exceed \$5,000 if less than 10 years.</p>
<p>Texas Prairie Wetlands Project (PWP) The Texas Prairie Wetlands Project, designed to accomplish the goals and objectives of the Gulf Coast Joint Venture, is a partnership effort to restore, create or enhance wetlands beneficial for waterfowl and other wildlife use in 28 Gulf Coast counties. In exchange for financial and technical incentives, landowners develop a management plan, which may include management of water on cropped lands, restoration of converted wetlands, enhancement of natural wetlands or creation of wetlands on non-wetland sites.</p>	<p>Time period: 10-year minimum agreement.</p> <p>Land: Must be 5 acres minimum, have surface water potential for at least 4 months from September to May.</p>	<p>USFWS, TPW, Ducks Unlimited, NRCS</p> <p>28 Gulf Coast counties</p>	<p>Cost-shared up to 75% or 100% where supplemental water is provided.</p>
<p>Wetlands Reserve Program (WRP) WRP establishes conservation easements for which private landowners receive payments and cost-shared assistance for restoring and protecting wetlands on their property. WRP provides an excellent financial incentive to retire marginal cropland while retaining some agricultural and recreational uses.</p>	<p>Time period: permanent and 30-year easements are available.</p> <p>Land: no acreage limit. Eligible lands include cropped wetlands and prior-converted cropland, adjacent functionally related uplands, natural wetlands are eligible as adjacent lands, and riparian areas must link protected wetlands. (public lands, easements, etc.)</p>	<p>NRCS</p> <p>Nationwide</p>	<p>Participants receive easement payment based on the "agricultural value" of the land after restoration is complete; up to 100% cost-shared assistance for restoration.</p>

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
Wildlife Habitat Incentives Program (WHIP) The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for people who want to develop and improve wildlife habitat primarily on private lands. It provides both technical assistance and cost-share payments to help establish and improve fish and wildlife habitat. WHIP funds are distributed to States based on State wildlife habitat priorities, which may include wildlife habitat areas, targeted species and their habitats, and specific practices.	Time Period: generally 5- or 10-year agreements. Land: Landowner agrees to install and maintain all WHIP practices.	NRCS Lands are eligible statewide based on established program priorities.	The program provides technical assistance and up to 75% project costs.

Summary Table: State Programs Providing Financial and Other Incentives for Wetlands Protection

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
Forested Wetlands Incentive Program (FWIP) The Forested Wetlands Incentive Program is a pilot project providing eastern Texas landowners with funds to use sustainable forestry practices that produces bottomland hardwood sawtimber and improved wildlife habitat.	Time period: 15-year agreements. Non-industrial private landowners owning bottomlands in eastern Texas will have priority for funding.	TPW Eastern Texas	Landowners must provide a 15% cost-share, which may be in-kind and/or cash.
Landowner Incentive Program (LIP) Most rare species inhabit privately owned and managed lands in Texas. Incentive programs to assist private landowners in protecting and managing habitat for rare species can have a direct and positive impact on their conservation. It is the goal of this program to provide financial incentives that encourage landowners to help conserve rare species and their habitat. The program is flexible and is open to all private landowners that have a desire to voluntarily manage habitat for rare species on their land. TPW prefer projects with results being able to be documented within 5 years.	Time Period: no set length of the agreements.	TPW Statewide	There is a minimum of a 20% landowner match for the projects.
MARSH Matching Aid to Restore States Habitat Program MARSH provides matching funds to public agencies and private cooperators for projects significantly benefiting waterfowl. Projects that will receive first consideration are those that lead to the protection or restoration of North American Waterfowl Management Plan (NAWMP) sites, and those that protect and enhance other important waterfowl habitat. Preference is also given to projects that benefit non-game, threatened or endangered species, and are in unique habitats or ecosystems having high public visibility or interpretive value.	Time period: long-term habitat agreements. Land: Ducks Unlimited will consider proposals from any public agency or private conservation group that is (1) able to execute long-term habitat agreements, (2) capable of delivering and managing the projects proposed, and (3) willing to assume all liability associated with the project.	Ducks Unlimited Nationwide	Cost-shared assistance up to 50%. Costs exceeding this amount require special approval.

Program Summary	Eligibility	Contacts/Availability	Financial Assistance
Private Lands and Habitat Program (PLHP) The goal of the Private Lands and Habitat Program is to provide technical assistance to land managers in the conservation and development of various wildlife populations that utilize habitat found on landowner's property. This service is strictly advisory and is provided without charge to cooperating landowners.	Time period: None required. Land: Landowners interested in conserving and managing wildlife habitats on their property.	TPW Statewide	This program provides technical assistance only.
Private Lands Initiative (PLI) The Texas Private Lands Initiative (PLI) is a voluntary program, in which landowners enhance wildlife habitat through partnerships on their lands, including wetlands. TPW has identified 16 types of projects to enhance habitat on private lands. In wetland areas, these projects may include moist soil management, pumping agreements, and fencing.	Time period: 10-year minimum (negotiable). Land: Landowner maintains improvements.	TPW Statewide	Cost-shared by the landowner and National Fish and Wildlife Foundation. Funding is dependent on availability of grants.
Wetland Habitat Alliance of Texas (WHAT) WHAT solicits funds for projects such as management of water on cropped wetlands, restoration of converted wetlands, enhancement of natural wetlands, and creation of wetlands on non-wetland sites. The cooperator maintains ownership of the land upon completion of the project.	Time Period: 10-year minimum. Land: Any landowner interested in accomplishing the same goals as WHAT is eligible to participate.	WHAT Statewide	Up to 100% financial assistance.

Some programs, like the Texas Private Lands Initiative, provide financial assistance for fencing to manage grazing.
 ©Texas Dept. of Agriculture



Federal Regulations

Clean Water Act: Section 404 [33 U.S.C. § 1344 (1986 & Supp. 1991)]

The U.S. Congress enacted the Clean Water Act (the Act) to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 404 of the Clean Water Act regulates the placement of dredged and fill material into waters of the United States, including wetlands. The Act authorizes the issuance of permits for such discharges as long as the proposed activity complies with environmental requirements specified in Section

404(b)(1) of the Act. Section 404 is the primary federal program regulating activities in wetlands. The Section 404 program is administered by both the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA), while the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and several state agencies play important advisory roles.

The Corps has primary responsibility for the permit program and is authorized, after notice and opportunity for a public hearing, to issue Section 404 permits. In evaluating individual Section 404 permit

applications, the Corps determines compliance with Section 404(b)(1) guidelines and carries out a public-interest review. This review involves balancing such public-interest factors as conservation, economics, aesthetics, wetlands protection, cultural values, navigation, fish and wildlife values, water supply, and water quality. The Corps also considers comments received from the EPA, USFWS, NMFS, and state resource agencies.

EPA is responsible for reviewing and commenting on permit applications being evaluated by the Corps. In addition, EPA’s responsibilities include the following:

- Environmental guidelines: EPA and the Corps are responsible for establishing the environmental criteria used in permitting (referred to as the Section 404(b)(1) guidelines).
- Veto power: EPA can veto a Corps permit decision (Section 404(c)) if the proposed activity would have certain unacceptable adverse impacts on the resource, including unacceptable effects on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife or recreation areas.
- Exemptions: EPA determines the applicability of exemptions specified in Section 404(f) to the permitting requirements.
- Enforcement: EPA takes enforcement actions against people conducting unauthorized discharges of dredged or fill material into wetlands and other waters of the United States (Section 309). EPA shares this enforcement authority with the Corps.

The environmental guidelines used to evaluate Section 404 permits generally prohibit discharges of dredged or fill material into U.S. waters unless the following conditions apply:

- There is no available, practicable alternative with fewer adverse effects on the aquatic ecosystem.
- Dischargers will neither violate other applicable regulations or laws (e.g., state water quality standards, toxic effluent standards, Endangered Species Act), nor significantly degrade the waters into which they discharge.
- All appropriate and practicable steps have been taken to avoid, minimize and otherwise mitigate impacts on the aquatic ecosystem.
- The activity is water-dependent.

A February 6, 1990, Memorandum of Agreement between EPA and the Corps clarified that mitigation should occur in the following sequence: (1) avoidance of impacts through evaluation of practicable alternatives; (2) minimization of impacts; and (3) compensation for unavoidable impacts through restoration or creation.

Geographic Scope of Section 404

The geographic scope of regulatory authority under Section 404 has been the

subject of extensive litigation. In 1975, the courts confirmed that Congress had intended that the Section 404 program be broadly applied to all “waters of the United States,” not just traditionally navigable waters. This phrase includes waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including:

- all waters which are subject to the ebb and flow of the tide;
- the territorial sea;
- interstate waters and wetlands;
- all other waters (such as intrastate lakes, rivers, streams, and wetlands), if their use, degradation or destruction could affect interstate or foreign commerce;
- tributaries to waters or wetlands identified above; and
- wetlands adjacent to waters identified above.

In determining waters that are within the scope of the Clean Water Act, Congress intended to assert federal jurisdiction to the broadest extent permissible under the commerce clause of the Constitution. One factor that establishes a commerce connection is the use or potential use of waters for navigation. Other factors include (but are not limited to) use of wetland (or other water) as habitat by migratory birds, including waterfowl, use by federal listed endangered species or for recreation by interstate visitors.

As defined in Section 404 program regulations, wetlands are “those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” In applying this definition in the field, government agency scientists use indicators of vegetation that has adapted to life in wet environments (hydrophytic vegetation), hydric (anaerobic) soils and hydrology to identify wetlands and to establish their boundaries. In order for a wetland to be considered “jurisdictional” and therefore subject to Section 404 permit review, an area must have all three criteria (vegetation, soils, hydrology) present under normal circumstances to be considered a wetland. The “normal circumstances” criterion prevents the individual from eliminating the permit review requirements under Section 404 by destroying aquatic vegeta-

tion and therefore not meeting all three criteria. Thus, farmed wetlands that display hydric soils and wetland hydrology may still be considered wetlands even though crops have replaced aquatic vegetation.

Activities Regulated By Section 404

Section 404 regulates only the discharge of dredge or fill material into “waters of the United States.” Discharges of dredged and fill material are commonly associated with activities such as port development, channel construction and maintenance, fills to create development sites, transportation improvements, and water resource projects (such as dams, jetties, and levees). Excavation activities (e.g. mechanized land clearing, ditching, channelization, runoff from disposal areas, and others) also result in at least some discharge of dredged materials, and are thus regulated.

Some activities which can adversely affect or destroy wetlands do not involve the discharging of dredged or fill materials into U.S. waters, and are therefore not regulated under Section 404. These activities include maintenance draining (not new drainage), clearing, flooding, burning, and soil removal, to name a few.

Under the Clean Water Act, certain activities are exempt from permitting requirements (§404(f)(1)). These activities include:

- normal farming, silviculture, and ranching practices;
- maintenance, including emergency reconstruction of recently damaged parts of currently serviceable structures such as dikes, dams, levees, groins, rip rap, breakwaters, causeways, bridge abutments or approaches, and transportation structures;
- construction or maintenance of farm or stock ponds or irrigation ditches or the maintenance (but not construction) of drainage ditches;
- construction of temporary sedimentation basins on a construction site, which does not include placement of fill material into waters of the United States; and
- construction or maintenance of farm or forest roads or temporary roads for moving mining equipment if best management practices are followed.

Section 404(f)(1) is not intended to exempt activities with more than minor impacts on aquatic resources. The exemptions do not apply if the discharge is part of, or incidental to, an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. In other words, activities normally considered exempt (e.g., normal farming) will not be exempt if they are conducted with the intention of converting wetlands into uplands. For example, a farmer would be required to obtain a permit for a discharge to convert a wetland area to produce upland crops. The Natural Resources Conservation Service is responsible for making all wetland delineations on agricultural lands.

Introduction to the Permit Process

Discharges can be authorized by either individual or general permits under Section 404. If an individual permit is required, an application form describing the proposed activity is submitted to the Corps. Once a complete application is received, the permitting agency issues a public notice containing the information needed to evaluate the likely impact of the proposed activity. Notice is sent to all interested parties, including appropriate government agencies at the federal, state, and local level, and others as requested. Any person may request that a public hearing be held to consider the application.

The Corps is authorized to issue general permits on a nationwide, state, or regional basis for categories of activities that have minimal individual and cumulative impacts. General permits are issued for five-year periods. They allow certain activities to occur without individual federal permit approval as long as the discharger complies with standard conditions issued by the Corps. General permits eliminate individual review and thus allow certain activities to occur with little, if any, delay or paperwork. Once issued, a general permit may be modified or revoked if the permitted activities are found to have had adverse environmental impacts. On a case-by-case basis, the permitting agency may invoke discretionary authority and require a discharger that would otherwise be covered by a general permit to apply for an individual permit.

The most significant general permits are called nationwide permits, because they apply throughout the country. Forty nationwide permits exist. In some cases, the landowner is not required to inform the Corps before proceeding with the activity. However, it is a good idea to write the Corps and request a verification that the activity qualifies for a nationwide permit to avoid potential legal challenges in the future. Some activities included under nationwide permits include installing aids to navigation, minor discharges and dredging, wetland and riparian restoration and creation activities, temporary construction, boat ramps, and farm buildings.

Making the Permit Decision

The Corps' evaluation of a Section 404 permit application is a two part test involving (1) a determination of whether the project complies with the Section 404(b)(1) Guidelines, and (2) a public interest review. This public interest review is a balancing test in which the public and private benefits of a project are compared against its adverse impacts to the environment. It includes such considerations as conservation, economics, aesthetics, wetlands protection, cultural values, navigation, fish and wildlife values, water supply, water quality, energy needs and flood damage prevention. The Corps also considers all comments received in the permit process, whether in response to a public notice or a public hearing. A permit must be denied if the project fails to comply with the Guidelines or is found to be contrary to the public interest.

The Section 404(b)(1) Guidelines (Guidelines), published by EPA in conjunction with the Corps, contain substantive environmental criteria used in evaluating discharges of dredged or fill material. Under the Guidelines, no discharge can be permitted if there is a practicable alternative with less adverse impact on the aquatic environment (unless the identified alternative poses other significant environmental problems).

No discharge can be permitted under the Guidelines if it would violate other applicable laws, such as State water quality standards, toxic effluent standards, or the Endangered Species Act. The Guidelines also prohibit any discharge that would cause or contribute to significant degradation of waters of the United States. In addition, discharges can be permitted under the

Guidelines only if all appropriate and practicable steps are taken to minimize (i.e., mitigate) the adverse impacts of the discharge on the aquatic ecosystem, including compensating for unavoidable impacts.

In addition to the evaluation conducted by the Corps under the Guidelines and their public interest review, the permit application must comply with several other regulations, including (but not limited to):

- Section 401 of the Clean Water Act requires that the state in which an activity occurs must certify that the activity complies with the state's water quality requirements and other applicable laws.
- Similarly, in coastal states with federally approved Coastal Zone Management Programs, an applicant for a Section 404 permit must certify that the proposed activity complies with the policies of the state Coastal Management Program. For the permit to be issued, the state must concur with the applicant's certification.
- The National Environmental Policy Act (NEPA) requires that the Corps conduct an Environmental Assessment to determine whether an Environmental Impacts Statement (EIS) is required. An EIS is required for "major federal activities significantly affecting the environment." Consequently, EIS's are rarely required in typical permit applications.

Compliance with these Acts does not require any additional effort by the landowner; the Corps ensures that these authorizations are obtained as part of the application process.

Landowners considering manipulation of wetlands on their property are advised to be aware of and understand the regulatory programs or laws protecting wetland resources. Contact your nearest Corps office prior to undertaking wetlands activities on your property.

Contacts for permit information, determination of permit requirements, and permit application forms are found in Appendix II.

Enforcement of Section 404

A 1989 Memorandum of Agreement (MOA) between the Department of the Army and Environmental Protection Agency established policies and procedures between the two entities for federal implementation and

enforcement of Section 404 of the Clean Water Act. The primary purpose of this MOA is to maintain the integrity of the 404 program through enforcement of permit requirements while reducing overlap of responsibilities between the two agencies.

The Corps, as the permitting agency, has primary responsibility for investigating the majority of enforcement cases involving unpermitted discharges as well as for all Corps-issued permit violations.

The EPA can also enforce against non-compliance with permit conditions. EPA generally focuses its resources towards discovering and enforcing against unpermitted (unauthorized) discharges when the activity involves one or more of the following:

- repeat violator(s);
- flagrant violation(s);
- a Corps determination that an administrative penalty is warranted;
- an EPA request to the Corps that a particular case or category of cases be referred to the EPA.

Anyone in violation of the Section 404 program, either by conducting an unauthorized activity or by violating permit conditions, is subject to civil or criminal action or both. Penalties can be imposed by the agencies administratively, that is, without use of judicial procedures. When judicial action is pursued, the violator may be required to restore the site and may be subject to payment of fines, imprisonment or both. The agencies and the courts may require restoration of the site and/or mitigation at the expense of the violator, often in addition to other penalties.

Clean Water Act: Section 401 Water Quality Certification [33 U.S.C. § 1341 (1986)]

Section 401 of the Clean Water Act, the State Water Quality Certification program, requires that states certify compliance of federal permits or licenses with state water quality requirements and other applicable state laws. Under Section 401, states have authority to review any federal permit or license that may result in a discharge to wetlands and other waters under state jurisdiction, to ensure that the actions would be consistent with the state's water quality requirements. Federal permits that

do not meet these requirements will not receive a State Water Quality Certification, and thus cannot be issued. Section 401 certification authority is most often used in association with U.S. Army Corps of Engineers permits under Section 404 of the Clean Water Act. Other programs include Sections 9 and 10 of the Rivers and Harbors Act, and permits or licenses issued under the National Pollutant Discharge Elimination System (NPDES) of Section 402 of the Clean Water Act.

This certification process is routinely delegated in whole or in part to the state agency with the authority to regulate the quality of state waters. In Texas, the Texas Natural Resources Conservation Commission (TNRCC) provides a Section 401 certification to the Corps indicating that the proposed activity will comply with the applicable sections of the Clean Water Act pursuant to the Section 404 permitting program, and that such activity will not adversely affect the quality of state waters. A Section 404 permit for activities in wetlands cannot be issued by the Corps until this certification from TNRCC has been obtained or waived as provided by federal law. Further, no Section 404 permit shall be granted if the Section 401 certification has been denied by TNRCC. Texas oil and gas activities covered by Section 404 are certified by the Railroad Commission of Texas.

The U.S. Environmental Protection Agency (EPA) encourages states to define protection of water quality broadly to include protection of aquatic life, wildlife, aquatic habitat, vegetation, and hydrology required to maintain the aquatic system. Currently, Texas addresses only aquatic life. Certification is based on whether a proposed activity would meet requirements for conventional and nonconventional pollutants, water quality standards,



Drawing courtesy
of North Carolina
Agricultural
Research Service

Barn-yard grass
Echinochloa spp.
(found in freshwater marshes, provides
exceptional waterfowl forage)



*Riparian corridors are
valuable to wildlife as places
of refuge, travel lanes, and
feeding and nesting.*
©TPW

new source performance standards, and requirements for toxic pollutants (and any more stringent, relevant state law or regulation). Certification can address physical, chemical, and biological impacts, depending on how a state designs and applies its water quality standards and other appropriate requirements of state law. Currently, Texas does not address biological criteria.

However, in response to legislative action during the 1999 session, TNRCC has recently completed rulemaking intended to eliminate duplication between its 401 certification program and the U.S. Army Corps of Engineers review process. TNRCC would still be responsible for certifying projects for “federally delegated or approved programs,” which may include projects located within the Coastal Management Program boundaries. For updates on Section 401 status, please refer to www.tnrcc.state.tx.us or phone (512) 239-1000.

Clean Water Act Nationwide Permit 27

Nationwide Permit 27 of the Clean Water Act (see Introduction to the Permit Process, Section 404, above for an explanation of nationwide permits) allows lands that have been converted to non-tidal wetlands, through landowner agreements between the USFWS or the NRCS, to be reverted to prior condition and used within five years without requirement of an individual Section 404 permit or review by the Army Corps of Engineers. “Prior condition” is the condition as of the initial effective date of the agreement as it is documented by either the USFWS representative and/or the NRCS representative.

Section 10, Rivers and Harbors Act of 1899

United States Army Corps of Engineers

Section 10 of the Rivers and Harbors Act of 1899 requires a permit for dredging or the placement of fill or structures in navigable waters of the United States. “Navigable waters” have been defined by the U.S. Army Corps of Engineers (Corps) as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.” This includes the ability to float a water body and/or use by migratory birds. Section 10 is similar to Section 404 of the Clean Water Act; however, Section 404 covers all waters of the United States without regard to their navigability and is therefore much broader in scope than Section 10. Because of the broader geographic reach of Section 404, Section 10 is often not applicable to wetlands. The Corps typically combines Section 10 and Section 404 review where their coverage overlaps in an individual permit request. A proposed project may require one permit or the other, or may require both. For example, projects that may require a Section 10 permit but not a Section 404 permit are those that occur in navigable U.S. waters but do not require placement of fill into those waters, and include: channel clean-out, vegetative clearing, and marina expansion that requires no fill or dredging. Filling in a waterway or a wetland on a non-navigable river or stream requires only a Section 404 permit. Contact the nearest Corps office to insure compliance with Section 10 and/or Section 404 when a project may concern a waterway or a wetland.

Endangered Species Act

U.S. Fish and Wildlife Service

The Endangered Species Act requires federal agencies to conserve endangered and threatened species. It prohibits any person from “taking” endangered or threatened animal or plant species. “Taking” is interpreted broadly to include killing, harassing, or harming a protected species. The definition of “harm” includes modifying or degrading a species’ habitat such that the change would significantly impair breeding, feeding or shelter and would result in injury to the species.

Under Section 7 of this Act, all federal agencies must ensure that their actions are not likely to jeopardize the continued existence of any endangered or threatened species or adversely modify or destroy any of their habitat. These requirements apply to all activities carried out, funded, or regulated by a federal agency, including activities in wetlands.

A state can propose or support the listing of wetlands-dependent species, thereby bringing the Act’s protection to bear on its wetlands. Listing, however, is based on the status of the species and is not simply an attempt to protect wetlands. States can identify potential species, conduct the research necessary to determine status, and, if needed, petition the federal government to include these species. States may also seek to engage landowners in conservation agreements that may preclude the need for listing.

The federal government is also supposed to designate “critical habitat” for a species at the time it is listed. As noted, federal agencies are not authorized to modify adversely or destroy critical habitat.

For listed species, the U.S. Fish and Wildlife Service is required to prepare “recovery plans” that outline a strategy to conserve and recover the species. Recovery plans should outline habitat protection and other steps necessary for the conservation of the species. States and other stakeholders often play a role in the development of recovery plans.

Under Section 10, permits can be issued that allow the “taking” of endangered or threatened species that occurs incidentally to otherwise lawful activities. Long term habitat conservation plans (HCPs) must be developed as part of the permit application process. States may wish to initiate or participate in the prepa-



Caddo Lake
©Dan Moulton

ration of HCPs and to advocate for wetlands protection as part of the plans. However, HCPs may be of limited use for wetlands protection because they require the presence of a federally listed endangered or threatened species. In addition, they are intended for activities not subject to federal permits, and many wetlands activities require federal permits.

Food, Agriculture, Conservation and Trade Act of 1990 (Swampbuster Provisions)

United States Department of Agriculture (USDA)

The Swampbuster Provisions are part of the amended 1990 Food, Agriculture, Conservation and Trade Act (1990 Farm Bill). Swampbuster withholds USDA benefits to farmers who convert wetlands into croplands after December 23, 1985. Swampbuster reduces the incentives to convert wetlands to croplands by denying

eligibility for almost all farm program benefits on *all* acres operated by a grower who either converts a wetland or plants on a converted wetland. Benefits that may be withheld include:

- farm storage facility loans under the Commodity Credit Corporation (CCC) Charter Act;
- disaster payments under the Agricultural Act of 1949;
- crop insurance under the Federal Crop Insurance Act;
- FmHA loans payment for storage of an agricultural commodity under the CCC Charter Act.
- Program benefits may be lost in the following programs: Agricultural Conservation Program (ACP), Emergency Conservation Program (ECP), Small Watershed Program (SWP), Conservation Reserve Program (CRP), Environmental Easement Program (EEP), disaster assistance for tree planting, and Water Quality Protection Programs (WQP).

When applying for federal farm program benefits, landowners indicate whether they plan to manipulate any “wet” areas. If so, the USDA must determine if these “wet” areas are wetlands. Conversion of wetlands may result in Swampbuster violations. For violations, USDA must conduct a site visit before reducing program benefits. A violator can regain eligibility for future farm program benefits by restoring the converted wetland to its original condition. Landowners *may*, however, prepare a mitigation plan that allows them to produce an agricultural commodity on converted wetlands that were either frequently cropped, or converted between 1985 and 1990, in exchange for restoring prior converted cropland on their property. Mitigation plans must be approved prior to conversion of the wetlands. Landowners should contact the Farm Service Agency before working on any potential wetland areas on their land to avoid forfeiting USDA benefits, and to learn more about preparing mitigation plans.

State Programs and Regulations

Best Management Practices Project Texas Forest Service

With cooperative funding from the Environmental Protection Agency and the Texas State Soil and Water Conservation Board, the TFS implemented an educational project encouraging forest landowners, loggers and foresters to voluntarily implement forestry best management practices (BMPs). Texas forestry BMPs protect water quality and address planning, road construction and maintenance, harvesting, site preparation and planting, prescribed burning, silvicultural chemicals, and Streamside Management Zones (SMZs).

Major educational components of the BMP Project currently include a program on Continuing Education for logging professionals on Best Management Practices. This program, while initiated by the TFS BMP Project, now works cooperatively with the TFA and the SFI. Nearly 60 day-long workshops all across East Texas have provided in-depth BMP training both in the field and in the classroom to nearly 1,300 logging contractors and crew fore-

men. Workshop participants have given the workshop a 98% recommendation rate for others to attend. Other workshops for logging professionals cover wetlands, endangered species, silviculture, and wildlife habitat.

A Wetland/BMP Coordinating Committee, chaired by the BMP Project Leader, meets every nine months and consists of representatives from all major agencies and entities involved in forestry, wetlands, water quality in Texas. This group ensures that communication channels among various agencies remain open.

BMP demonstration forests are located on state lands in East Texas and are available for loggers, landowners or land managers to see side-by-side demonstrations of various BMPs. To accommodate those who are unable to visit a state forest, virtual tours of these demonstration areas can be found on the TFS home page at www.txforestservation.tamu.edu.

Educational efforts have included extensive use of radio, television, billboards, and newspapers to reach forest landowners and the general public. Thirty-second television commercials on BMPs

have aired extensively in East Texas. A cooperative billboard, funded by the TFS and each of the four major timber companies in the area, was installed along a major highway. It can be viewed by occupants of 11,000 vehicles per day.

Recognizing that unpaved county roads can have a major water quality impact, the BMP Project has provided water quality awareness training to county road crews and county commissioners. This newly formed relationship is expected to be mutually beneficial due to the natural linkages between forest industry and county roads.

Landowner workshops have been conducted in areas of the state where county landowner associations have been lacking. These workshops provided informational resources for landowners on not just water quality, but also other stewardship issues like tree planting, wildlife and sustainable forestry.

In 1998, the TFS BMP Project received the Governor's Environmental Excellence Award for its outstanding educational efforts.

The TFS BMP Project expects to concentrate educational efforts in the Cypress

Basin area of Northeast Texas through 2002. This highly sensitive watershed is a great location to target educational efforts, though a statewide presence will still be maintained. Monitoring for BMP compliance will continue to occur to evaluate the effectiveness of this non-regulatory BMP program.

Texas Coastal Management Program Texas General Land Office

The Texas Coastal Management Program (CMP) was developed to more effectively and efficiently manage coastal natural resource areas and the uses that affect them. The CMP is a tool for balancing protection of coastal natural resources with encouragement of economic growth. The Coastal Coordination Council, comprised of state, local, and public representatives, was formed to coordinate the current coastal programs, statutes, and rules administered by federal, state, and local agencies. The Council's rules establishing CMP goals and policies are based on existing local, state and federal law and regulations. A major role of the Coastal Coordination Council is to review agency actions for consistency with the goals and policies. Policies of greatest interest to landowners address:

- Oil and gas development, waste discharge, and oil spills;
- Non-point source pollution (includes only the voluntary program of the State Soil and Water Conservation Board);

- Development in Critical Areas, which include coastal wetlands, tidal sand and mudflats, oyster reefs, and seagrass beds;
- Construction of waterfront facilities on submerged lands;
- Development within coastal barrier resource systems; and,
- Instream flows and freshwater inflows to waters under tidal influence.

The rules explicitly state that the Council will not apply the goals and policies in a manner that would result in the taking, damage, or destruction of property, without adequate compensation, by the Council. The CMP covers 18 coastal counties that contain tidal waters (Orange, Jefferson, Chambers, Harris, Galveston, Brazoria, Matagorda, Jackson, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Willacy, Cameron). The following management policies related to wetlands are included in the CMP:

- The CMP contains policies for minimizing adverse effects of coastal activities on coastal wetlands;
- Coastal wetlands are defined according to the current federal jurisdictional definition. The inland boundary of coastal wetlands follows TNRCC tidal segment boundaries and road boundaries in the Oil Spill Prevention and Response Act of 1991;
- The goal for protection of coastal wetlands is "no net loss of functions and values;"

- The CMP does not add new regulatory requirements for wetlands, but it is based primarily on current regulations and authorities, such as Sections 404 and 401 of the Clean Water Act, and no new permits are required. More information on the CMP can be obtained by calling (512) 463-5385 or 475-1468.

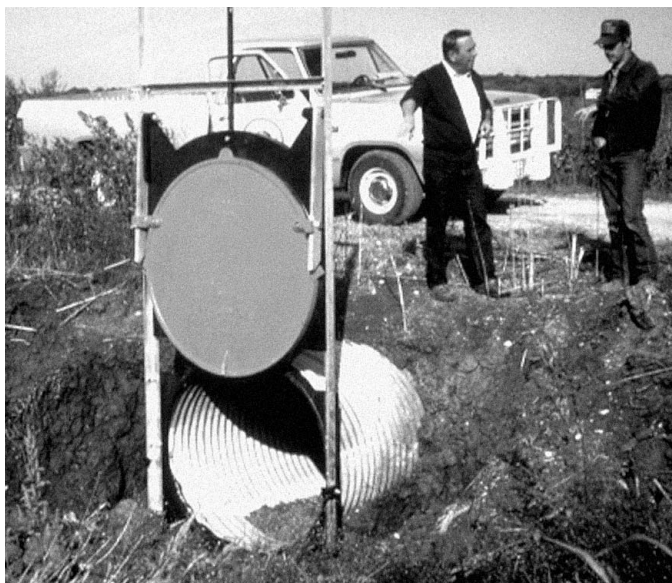
Water Diversion under the Texas Water Code (Section 11.121)

Texas Natural Resources Conservation Commission

The Texas Water Code states that individuals cannot appropriate state water, or begin construction of any work designed for the storage, taking, or diversion of water, without first obtaining a permit from the Texas Natural Resources Conservation Commission for the appropriation. However, persons wishing to construct for personal use on their own property a dam or reservoir to impound or contain not more than 200 acre-feet of water for domestic and livestock purposes, including wildlife habitat, are exempt from this permit requirement. For more information, please contact the Texas Natural Resources Conservation Commission, Water Policy and Regulations Division at (512) 239-4805.

Landowners can receive financial assistance for water control structures such as this one to manage water levels in their wetlands.

©TPW



Drawing courtesy of North Carolina Agricultural Research Service

Smooth Cord-grass
Spartina alterniflora
(found in saline marsh environments)

Appendix I – *Programs and Contacts*

Organizations and Program Abbreviations

FSA	Farm Service Agency
Corps	United States Army Corps of Engineers
CRP	Conservation Reserve Program
DU	Ducks Unlimited, Inc.
EPA	U.S. Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
FIP	Forestry Incentive Program
FSP	Forest Stewardship Program
FWIP	Forested Wetland Incentive Program
GCJV	Gulf Coast Joint Venture
GLO	General Land Office
GPCP	Great Plains Conservation Program
LIP	Landowner Incentive Program
LMJVJ	Lower Mississippi Valley Joint Venture
MARSH	Matching Aid to Restore States Habitat
NAWCA	North American Wetlands Conservation Act
NAWMP	North American Waterfowl Management Plan
NRCS	Natural Resources Conservation Service
PFW	Partners for Wildlife Program
PLHP	Private Lands and Habitat Program
PLI	Private Lands Initiative
PLJV	Playa Lakes Joint Venture
TPWP	Texas Prairie Wetlands Project
SIP	Stewardship Incentive Program
TFS	Texas Forest Service
TNRCC	Texas Natural Resources Conservation Commission
TPW	Texas Parks and Wildlife
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WHAT	Wetland Habitat Alliance of Texas
WHIP	Wildlife Habitat Incentives Program
WRP	Wetlands Reserve Program

Contacts in Texas for Wetland Incentive Programs

Challenge Cost Share Program

Sonya Brown
U.S. Fish and Wildlife Service
Refuges and Wildlife
500 Gold SW
Albuquerque, NM 87103
(505) 248-6824

Conservation Contract Program

Robert C. Hopper
Chief of Farmer Programs
Farm Service Agency
101 S. Main Street, Suite 102
Temple, TX 76501
(254) 774-1304
Fax (254) 774-1477

Conservation Reserve Program

Sammy Orange
Consolidated Farm Service Agency
P.O. Box 2900
College Station, TX 77841
(409) 260-9235
Fax (409) 260-9488

Wetlands Reserve Program

Doug Sharer
Natural Resources Conservation Service
101 S. Main Street
Temple, TX 76501-7682
(254) 298-9825
Fax (254) 742-9848

MARSH Program

Ed Ritter
Ducks Unlimited, Inc.
2205 Ave. I, #114
Rosenberg, TX 77471
(281) 341-7968
Fax: (281) 341-6317

North American Waterfowl Management Plan North American Wetlands Conservation Act

Vernon Beville
Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744
(512) 389-4578
Fax (512) 389-4398

- **Playa Lakes Joint Venture**
Bill Johnson
Texas Parks and Wildlife
P.O. Box 659
Canyon, TX 79105
(806) 655-3975

- **Gulf Coast Joint Venture**
David S. Lobpries
Texas Parks and Wildlife
6414 Deer Trail Drive
Wharton, TX 77488
(409) 532-5517

- **Lower Mississippi Valley Joint Venture**
Carl D. Frentress
Texas Parks and Wildlife
Route 3, Box 3273
Athens, TX 75751
(903) 675-4177

Partners for Fish and Wildlife Program

Mike McCollum
U.S. Fish and Wildlife Service
711 Stadium Dr., Suite 252
Arlington, TX 76011
(817) 885-7830
Fax (817) 885-7835

Texas Prairie Wetlands Project

David Curtis
Texas Prairie Wetlands Project
U.S. Fish and Wildlife Service
312 S. Main Street, Room 310
Victoria, TX 77901
(361) 576-0282
Fax: (361) 575-9537
or

Craig LeSchack
Texas Prairie Wetlands Project
Ducks Unlimited, Inc.
2205 Ave. I, #114
Rosenberg, TX 77471
(281) 341-7968
Fax: (281) 341-6317

Private Lands Initiative Private Lands and Habitat Program

Kirby Brown
Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744
(512) 389-4395
Fax (512) 389-4398

**Forestry Incentive Program
Forest Stewardship Program**

Tom Boggus
Texas Forest Service (TFS)
College Station, TX 77843-2136
(409) 845-2641
Fax (409) 845-5764

Mark Freeman
USDA-NRCS
101 South Main Street
Temple, TX 76501
(254) 742-9822

Scotty Parsons
Texas Parks and Wildlife
1805 E. Lufkin Ave.
Lufkin, TX 75901
(409) 639-1879

Wetland Habitat Alliance of Texas

Eric Frasier
WHAT
118 E. Hospital, Suite 208
Nacogdoches, TX 75961
(409) 569-9428
Fax (409) 569-6349

**The Private Lands and
Habitat Program
Texas Parks and Wildlife**

Region 1
Panhandle/West Texas
Director: Ruben Cantu
3407 S. Chadbourne
San Angelo, TX 76904
(915) 651-4748

Region 2
North Central
Director: Roy D. Welch
1601 East Crest
Waco, TX 76705
(817) 799-2564

Region 3
East Texas
Director: Nathan
Garner
11942 FM 848
Tyler, TX 75707
(903) 566-1626

Region 4
Coastal & South Texas
Director: David Mabie
715 S. Hwy. 35
Rockport, TX 78382
(512) 729-2315

Persons interested in receiving technical assistance for private lands enhancement should contact the above Wildlife Division regional office for their respective area or contact: Kirby Brown, Program Director, Private Lands and Habitat Program, Texas Parks and Wildlife, 4200 Smith School Road, Austin, Texas 78744, (512) 389-4395

Agencies like the Natural Resources Conservation Service provide technical assistance to landowners for wetland management.
©Texas Dept. of Agriculture



Appendix II – *Federal and State Offices*

Federal Agencies

Federal Information Center

Washington, D.C.
1 (800) 366-2998

USDA State Contacts

NRCS State Office
101 South Main Street
Temple, TX 76501
(254) 742-9800
The above number can direct you to the appropriate USDA Service Center.

U.S. Army Corps of Engineers

(Having jurisdiction in Texas)

Ft. Worth (817) 334-2681
Galveston (409) 766-3930
Tulsa (918) 581-7261
Albuquerque (505) 766-2776

USFWS Texas Regional Offices

U.S. Fish & Wildlife Service
Ecological Services Austin Field Office
10711 Burnet Road, Suite 200
Hartland Bank Building
Austin, TX 78758
(512) 490-0057
Fax (512) 490-0974

Field Supervisor
U.S. Fish & Wildlife Service
711 Stadium Drive, Suite 252
Arlington, TX 76011
(817) 885-7830
Fax (817) 277-1100

Field Supervisor
U.S. Fish & Wildlife Service
17629 El Camino Real, Suite 211
Houston, TX 77058
(281) 286-8282
Fax (281) 488-5882

Field Supervisor
U.S. Fish & Wildlife Service
c/o TAMU-CC
Campus Box 338
6300 Ocean Drive
Corpus Christi, TX 78412
(361) 994-9005
Fax (361) 994-8262

West Texas Suboffice
U.S. Fish and Wildlife Service
Contact the Arlington Office for the updated address and phone numbers.

U.S. Environmental Protection Agency

U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 665-8332
Wetlands Hotline: 1 (800) 832-7828

Texas State Agencies

Texas Department of Agriculture

P.O. Box 12847
Capitol Station
Austin, TX 78711
(512) 463-7476

Texas Forest Service

Forest Resource Development Department
College Station, TX 77843-2136
(409) 845-2641

Texas General Land Office

1700 N. Congress
Austin, TX 78701
(512) 463-5001

Texas Natural Resources Conservation Commission

P.O. Box 13087
Capitol Station
Austin, TX 78711-3087
(512) 239-1000

Texas Parks and Wildlife

4200 Smith School Road
Austin, TX 78744
(512) 389-4800

Texas Water Development Board

1700 N. Congress Avenue
Austin, TX 78711
(512) 463-7847

Natural Resources Conservation Service

NRCS State Office
101 South Main Street
Temple, TX 76501
(254) 742-9800
The above number can direct you to the appropriate local USDA Service Center.

Texas Agriculture Extension Service Area Offices

District 1

Panhandle

6500 Amarillo Blvd., W.
Amarillo, TX 79106
(806) 359-5401
Fax (806) 358-9718

District 2

South Plains

Route 3, Box 213 AA
Lubbock, TX 79401-9746
(806) 746-6101
Fax (806) 746-6528

District 3

Rolling Plains

P.O. Box 2159
Vernon, TX 76385-2159
(817) 552-9941
Fax (817) 553-4657

District 4

North

17360 Coit Road
Dallas, TX 75252-6599
(214) 231-5362
Fax (214) 231-5600

District 5

East

P.O. Box 38
Overton, TX 75684
(903) 834-6191
Fax (903) 834-7140

District 6

Far West

P.O. Box 1298
Ft. Stockton, TX 79735-1298
(915) 336-8585
Fax (915) 336-3813

District 7
West Central
7887 North Hwy. 87
San Angelo, TX 76901-9728
(915) 658-4576
Fax (915) 658-4364

District 8
Central
Route 2, Box 1
Stephenville, TX 76401
(817) 968-4144
Fax (817) 965-3759

District 9
Southeast
P.O. Box 2150
Bryan, TX 77806-2150
(409) 845-6800
Fax (409) 845-6501

District 10
Southwest
P.O. Box 1849
Uvalde, TX 78802-1849
(210) 278-9151
Fax (210) 278-4008

District 11
Coastal Bend
Route 2, Box 589
Corpus Christi, TX
(512) 265-9203
Fax (512) 265-9439

District 12
South
2401 East Hwy. 83
Weslaco, TX 78596
(210) 968-5581
Fax (210) 969-5639

Private Organizations

Ducks Unlimited
Ken Babcock
Director of Operations,
Southern Regional Office
Ducks Unlimited
193 Business Park Drive, Suite E
Ridgland, MS 39157
(601) 956-1936

Ed Ritter
Regional Biological Supervisor
Ducks Unlimited, Inc.
2205 Ave. I, #114
Rosenberg, TX 77471
(281) 341-7968



Spikerush
Eleocharis spp.
(freshwater marshes
and streams)

Drawing
courtesy of
North Carolina
Agricultural
Research
Service

Appendix III – Wetlands Education Assistance

A variety of wetlands education programs offered by a range of public and private groups are available that cover wetlands topics ranging from regulations to youth education. Please consult **Roles of Federal and State Agencies in Wetlands** in this document to match your area of interest to the appropriate agency. Agency contacts can be found in Appendix II. The programs summarized below may offer wetlands education and monitoring training opportunities to adults.

Adopt-A-Wetland Program

Nivra Kelley
Center for Coastal Studies
Texas A&M University – Corpus Christi
6300 Ocean Drive
Corpus Christi, TX 78412
(512) 994-9005

Purpose: Participants are encouraged to disseminate wetland information to youth by utilizing a variety of approaches including monthly monitoring of flora, fauna, and water quality at a wetland in their area. The program also encourages students to participate in wetland restoration, creation, and enhancement projects through surveying and monitoring activities.

Project and Aquatic WILD

Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744
(512) 328-6035

Purpose: The goal of Project WILD (Wildlife in Learning Design) is to assist learners of any age in developing awareness, knowledge, skills, and commitment that results in informed decisions, responsible behavior, and constructive actions concerning wildlife. Aquatic WILD is a similar program that offers conservation education of our aquatic resources.

Texas Watch

Texas Natural Resources
Conservation Commission
P.O. Box 13087 Capitol Station
Austin, TX 78711-3087
(512) 239-4738

Purpose: Texas Watch is designed to help volunteer environmental monitoring programs address environmental problems. This volunteer program helps to produce environmental information that agencies, waste generators, and the public need to make environmentally sound decisions.

MARSH M.A.L.L.O.W. Program

Will Cohen
Ty Harris
Texas Agricultural and Extension Service
Rt. 2 Box 589
Corpus Christi, TX 78406
(361) 265-9203

Purpose: Marsh Management Activities for Learning the Lifestyles Of Wildlife. Volunteer leaders, teachers and youth (ages 8 to 18) manage a wet area (i.e., pond, wetland) for one or two wildlife and/or fish species. They develop a management plan, implement the plan, evaluate the project, conduct community outreach, and present their results to their peers. Awards and trophies are presented to winners and certificates of achievement are given to all participants.

*Citizen monitoring of wetlands
can provide helpful data to
resource agencies.*

©TPW



L. H. Webb

Three white-tailed deer bounded out from the creek bottom and ran down the draw. A covey of bobwhite quail flushed from beneath a nearby tree, a belted kingfisher perched on an overhanging limb as he hunted for food, and evidence of Rio Grande turkey and porcupine was everywhere. Wetland vegetation including willow, buttonbush, cottonwood, hackberry, sedges, and black locust flourished. Groundwater formed small pools in the creek bottom, which are replaced by a swift flowing stream during spring rains.

It is easy to imagine that this creek bottom is part of a park, but in fact, it is on L.H. Webb's 9,440-acre Seven Cross Ranch in the Rolling Plains near Amarillo. This riparian area has benefited from a 4-strand barbed-wire fence built around 4.5 acres of creek bottom, which enhances the landowner's ability to manage the site. Since the fence was built in the summer of 1993, native vegetation beneficial to wildlife has been reestablished. The cost of the barbed-wire fence was shared by Mr. Webb and Texas Parks and Wildlife through the Private Lands Initiative, a state program that provides technical and financial assistance to landowners for wildlife enhancement projects.

Mr. Webb had previously considered controlled grazing on the bottom, when he was contacted by former TPW waterfowl biologist Jim Ray and TPW Technical Guidance Biologist Gene Miller. Mr. Webb was interested but reluctant to invite government involvement on his land. After assurances from Jim and Gene that the program was voluntary, Mr. Webb agreed to participate, and has been pleased with the results.

The Private Lands Initiative project involved installing one-half mile of fence around 4.5 acres of creek bottom. Four wood duck boxes, provided by TPW, were installed in the fenced riparian area. Under the agreement, Mr. Webb can graze cattle for short durations. Short duration grazing can be beneficial to plants by stimulating the growth of native vegetation. Hoof action loosens the soil and works seeds into it, and sunlight penetrates where feeding cattle have removed some of the thick vegetation. Fencing key wildlife areas like

this prevents overgrazing and protects native vegetation that stabilizes stream banks and provides wildlife cover. Often, water quality and erosion problems are improved.

Mr. Webb has seen the benefits of controlled grazing on his property. Eastern gamma grass, a native grass that provides food, cover and nesting for wildlife, has returned to the areas where grazing has been controlled. "You don't see it when the area is continuously grazed because it's like ice-cream to cows – it's the first thing they go for. It only comes in when cows are fenced out and rest periods are provided," observes Mr. Webb.

While fencing provides benefits to the land and the wildlife that live on it, the Private Lands Initiative project provides perhaps the biggest benefit to the cattle. Controlled grazing allows some of the more preferable grasses, such as eastern gamma grass, to re-establish. When this area is grazed, cattle feed on a higher quality forage, and more of it. This translates into direct benefits to the landowner by producing a healthier stock. "Cattle are the best tool a landowner has to maintain land in good condition," asserts Mr. Webb. "Controlled grazing through the use of fencing provides a win-win situation for the landowner, cattle, and the wildlife."

Fencing areas for wildlife on sites that are near each other provides a travel corridor for plains wildlife and could result in local population increases. Gene Miller states that, "As more landowners understand the value of fencing riparian areas

and playas to manage livestock grazing, Panhandle water, wetlands, and wildlife will benefit. If enough people managed riparian areas and playas for wildlife, the effect would be significant."

In 1999, Mr. Webb and his family received the *Excellence in Wildlife Conservation Land Stewardship Award* from the Texas Chapter of the Wildlife Society for his lifetime commitment to managing the ranch to conserve and benefit wildlife habitat. Mr. Webb hosted a Wildlife Management Field Day cosponsored by Texas Parks and Wildlife and the Texas Wildlife Association in July 1999. The Field Day was attended by over 110 participants, including many landowners, sportsman, and wildlife watchers.



L. H. Webb (above) and fencing project under the Private Lands Initiative (left).
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Jim, Judy and Jimmy Reed • Reed Wildlife Ranch

The Reed Ranch has been in the Reed family for a little over 50 years. Jim and his family took over management of the ranch about 4 years ago. This ranch was passed on to him by his father.

The first thing we did was to plan for what we wanted to do with the ranch. To us, this meant setting some goals that were in line with our values.

We found the best goal modeling process to be Holistic Resource Management (HRM designed by Allan Savory). The whole family participated and it was the best thing we could have done at that time. From that time on, we've made day-to-day decisions based on these goals. The involvement of the Texas HRM group has also been important to our family.

Mostly, these goals have to do with three things.

- diversification of the uses of the ranch
- maintaining a productive and flexible lifestyle
- being a good steward of the land and using informed decision-making principals which are in line with our goals

The use of the holistic management process is one of the major reasons we've made the progress we've made. We couldn't be doing what we're doing without this model to follow. When we're trying to make a decision about whether to do something or not, we test our decision against our goals using the seven testing guidelines that are found in the HRM model.

Right now, we have several income streams that everyone is enjoying. At one time, the only major income stream was the ranch's cow/calf operation. Cattle will always be a major player in the overall goals of the ranch. We recognize that cattle can be used as a tool in the improvement of the soil and grasses if a systematic grazing plan is utilized.

Now, the ranch is separated into many paddocks using electric fencing. The partitioning of the ranch into small operating units was one of the best things we could have done. The creation of a systematic grazing system was some best dollars we've spent. These small paddocks allow us to create Forage units and wildlife units at the same time. We rotate the uses of the various units whenever we feel the need suits our goals.

There's now a hunting club operating on the Reed Ranch. The creation of Ol Jim's Huntin' and Fishin' Club has allowed us to enjoy many more uses of the ranch and has increased the income flow, too.

We're now enjoying the hunting and fellowship of deer hunting, duck hunting, hog hunting, fishing, varmint hunting, camping, hanging out enjoying the outdoors with our friends, and watching the grass grow.

We use the Internet to share hunting stories, our photo's, and ranch projects. A ranch calendar is also kept on the Internet. This calendar is used by all the club members to know what's going on so they can plan their activities.

Our ranch photo albums can be found at: <http://www.photoloft.com/allalbums.asp?s=jasc&u=116511>

Our ranch calendar can be found at: <http://www.calendars.net:8189/jreed1>

A major emphasis has been placed on the return of some of the pastureland to native prairie grasses. More than half of the 1,780-acre ranch is located in the Trinity River wetlands basin. Grasses that were at one time native to the area are being planted to return the soil to its productive conditions once again.

The grasses selected will need to withstand the moisture and other bottomlands conditions. The grasses also need to supply ample cover and habitat for wildlife, and produce ample forage for cattle. So far, the two grasses that are being utilized now in the bottomlands for these purposes are alamo switchgrass and eastern gamagrass.

Our forested wetlands project with the Texas Parks and Wildlife Department has given us the opportunity to meet some of our major goals for the ranch. The forested

wetland project is allowing us to repair over 400 acres of bottomland hardwood forests that are severely degraded from years of high grading. In addition, we are returning large portions of the pastureland back into bottomland forests by planting seedlings. We're seeing that the management of our timber and wetlands is now receiving about the same emphasis as the native grassland prairie.

There's still lots to learn about timber management and wetland habitats. With the help given by our wildlife biologists and foresters, we feel we're heading in the right direction. One of our early-on goals had to do with the stewardship of healthy forests and wildlife habitat.

At first, we didn't have a clue about how to approach this. However, when the forested wetlands project came along, it gave us the opportunity to make informed, solid decisions based on our goals for the ranch. In addition, we continue to use HRM's seven testing guidelines in our decision making.

If anybody would like more information about the Reed Wildlife Ranch, Jim can be contacted at jreed1@airmail.net. Ol Jim can also be found participating on the talk forums at www.texasboards.com.



*Jim, Judy, and Jimmy Reed (above) and Reed Wildlife Ranch's bottomland (left).
©The Reeds*



Dr. Robert McFarlane

To Dr. Robert McFarlane, owning land is a privilege and a responsibility. His 7,200 acres in Anderson County is situated near the center of one of the richest habitats in Texas – the bottomland hardwood forests of the Trinity River Basin. In fact, three Wildlife Management Areas and one State Park are within 12 miles of his boundary. As a child, McFarlane roamed the Big Woods of the Trinity and Catfish Creek bottom where he learned the habits of white-tailed deer, ducks, and even mountain lions.

Dr. McFarlane's primary focus on the land has been habitat development for waterfowl and deer. His goal is to create a trophy deer lease operation without resorting to high fencing. He has learned that the wildlife, and the habitat upon which they depend, can only be enhanced to a point, unless the landowner goals fit in with the greater ecosystem around him. This is true especially with migratory birds like ducks that depend upon permanent wetlands on a regional scale. These ideas led to the development of the Trinity River Basin Conservation Cooperative, a public/private partnership with TPW lands, TDCJ lands, and private ranches involving over 100,000 acres Anderson and Freestone counties. The cooperative hopes to eventually create an extensive corridor of wildlife habitat along the Trinity River, from Kaufman County to Madison County. This effort would not only protect vital water-

fowl wintering habitat, but could eventually lead to large scale watershed management for insuring adequate water quality and quantity to meet future needs.

Dr. McFarlane's land investment today is from the heart – to permanently protect and restore the ecosystem he remembered as a child so that someday his children and grandchildren can share the same experiences. McFarlane realizes that today, permanent land conservation in a private land state like Texas requires more than a willing attitude – it must make economic sense. That's why he established a partnership with Pinnacle Gas Company and the Army Corp of Engineers to create a federal wetland mitigation bank. This innovative conservation tool will create a 50-acre marsh and restore approximately 400 acres of bottomland hardwoods through the purchase of mitigation "credits" by entities that have damaged wetlands elsewhere in the region. The Corp administers the credits from the "bank" in lieu of mitigating on-site damages through planting trees or re-creating wetlands. This speeds up the process of mitigation, an attractive alternative to industry with the finances to make habitat restoration a reality. Then, the "bank" essentially becomes a conservation easement, so that the mitigated habitat is protected in perpetuity.

In addition, Dr. McFarlane has developed another 900 acres of green-tree and open water marshes through the construc-

tion of a levee system, and has erected about 60 wood duck boxes. McFarlane's 13-year old son Scot relates a story about hunting ducks with his father in the marshes on their land: *"We were quiet as we drove in the still dark morning, but by the time we got to the area where the road putters out and walking was a must, the morning light was just coming out. On the walk to the marsh, there were owls in the trees, a wild boar cantered across the trail, and a young buck stopped on the trail to look at us. My father lives on this haven, but I board at school right in the heart of Houston, a busy metropolis filled with cars, buildings, roads, and crazy people. Off in the distance, I spotted a black cloud moving quickly, and as I looked at it for awhile, I could tell that it was not a cloud, but ducks. As they got close I could spot mallard, pintail, and teal, there were hundreds of them."*

Dr. McFarlane envisions himself as halfway between the tree huggers (folks who just want everything preserved with not even a slight nod to the economics of the project), and businesses that are just interested in making a profit. He says "Hopefully, what I am doing will leave the Big Woods as a self-supporting entity that will have enormous conservation benefits."

