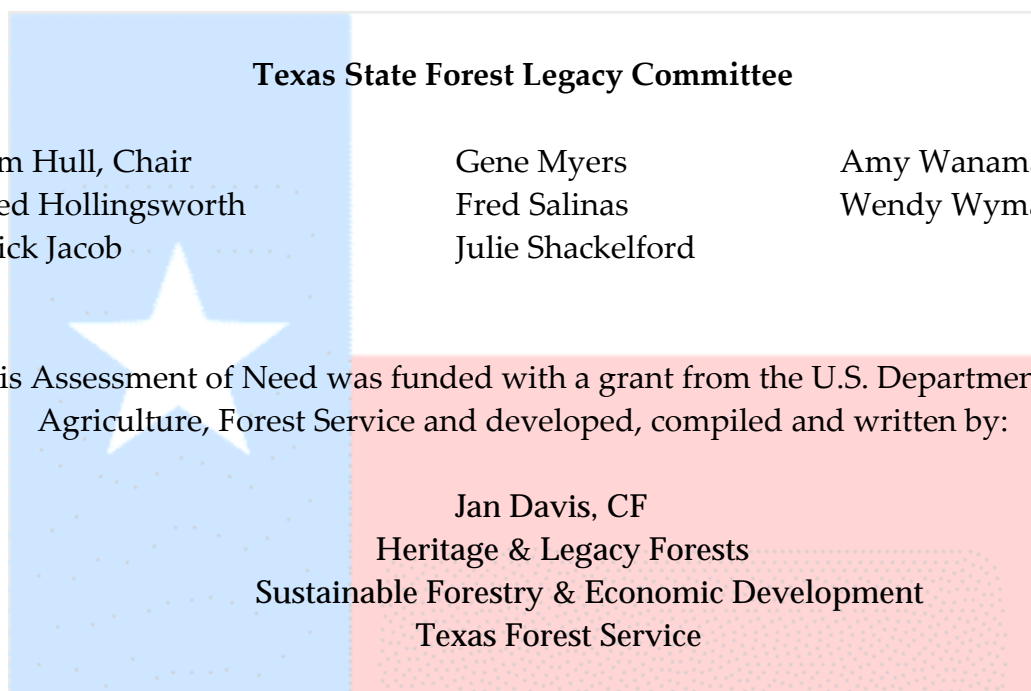


Texas Forest Legacy Program – Assessment of Need

September 2004

Texas Forest Service
301 Tarrow, Suite 364
College Station, TX 77840-7896

James B. Hull, State Forester and Director, Texas Forest Service



Texas State Forest Legacy Committee

Jim Hull, Chair	Gene Myers	Amy Wanamaker
Ted Hollingsworth	Fred Salinas	Wendy Wyman
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This Assessment of Need was funded with a grant from the U.S. Department of Agriculture, Forest Service and developed, compiled and written by:

Jan Davis, CF
Heritage & Legacy Forests
Sustainable Forestry & Economic Development
Texas Forest Service

Laura Kenesson
Legacy Program Aid
Texas Forest Service



5.3212332

June 15, 2004

Dear Citizens of Texas:

The document you hold in your hands is an Assessment of Need for an exciting new opportunity known as the Forest Legacy Program. This program is offered cooperatively by the USDA Forest Service and the Texas Forest Service to help Texans protect their forests through the funding of conservation easements.

The utilization of conservation easements allows forest landowners in Texas to protect conservation values as well as maintain economic uses of forests. Such easements, purchased from *willing* landowners, preclude development and subdivision while permitting traditional forest uses such as timber harvesting and outdoor recreation.

By offering interested Texans this opportunity, the Forest Legacy Program will help sustain the benefits of Texas forests, such as economic development, enhanced water and air quality, habitat diversity, and historical preservation. These forest qualities are often threatened in Texas by our exploding population growth, land fragmentation, changing timberland ownerships, and increasingly competitive global markets.

I would like to thank the Texas Forest Legacy Committee for their work in structuring and developing this Assessment of Need as well as all the federal, state, and non-governmental entities that have provided information and support for this document.

I hope you enjoy reading this report and join me with a strong desire to participate in the Forest Legacy Program and help protect the enormous benefits offered by Texas forests.

Sincerely,

A handwritten signature in black ink, appearing to read "James B. Hull".

James B. Hull
State Forester & Director

JD/JBH/jo
Enclosure

STATEMENT OF PURPOSE

The State of Texas contains 26 million acres of forestland, primarily in the Eastern third of the state. This forestland provides the state with its third most valuable agricultural commodity, creating more than 91,000 jobs with more than \$2.3 billion in wages and salaries. In addition, forests in Texas provide non-timber benefits such as clean water, habitats for diverse wildlife, eco-tourism, historical preservation, and carbon sequestration abilities. For these reasons, it is vitally important to protect forestland in Texas.

Private non-industrial landowners own approximately 63% of the forestland in Texas, while the forest industry accounts for about 16% of forest ownership in Texas. These landowners face increasing incentives to utilize their land for non-forest purposes due to population growth and a rising demand for non-agriculturally developed land. Because of these pressures, forestland in Texas is becoming increasingly fragmented and thus the benefits of forests are being negated. Therefore, Texas displays a need for a program that fosters a long-term commitment to sustainable forest management.

The United States Department of Agriculture Forest Service (USFS) provides just such a program, known as the Forest Legacy Program (FLP). Established in the 1990 Farm Bill, the FLP strives to protect environmentally sensitive forestlands through the acquisition of conservation easements, which are legally binding agreements transferring a negotiated set of property rights from one party to another without removing the property from private ownership. The process of acquiring conservation easements through the FLP is accomplished through interactions of federal, state, and local branches of government as well as non-governmental organizations. Landowner participation in the program is entirely voluntary, and no land or interest in land will be forcefully sold.

In September of 2003, Governor Rick Perry designated the Texas Forest Service (TFS) as the lead state agency to coordinate the FLP in Texas, authorizing the TFS to prepare this Assessment of Need (AON) document. The following information summarizes the history, inventory, benefits, threats, and trends of Texas forests. Based on this information, the document designates four program goals for the FLP in Texas as well as seven selection priorities. Additionally, the three ecoregions that make up Texas' proposed Forest Legacy Area (FLA), as determined by the program goals and criteria, are outlined in this AON. Developing a FLP in Texas will provide landowners an opportunity to protect valuable forest resources while retaining ownership of the land.

PLEASE NOTE

The information contained in this document is a compilation of data from existing published reports and considerable local knowledge. Each source will be referenced on the cover page of each chapter containing information from that source. However, in the interest of readability we have not cited the sources within the text.

It is the hope of the TFLC and the TFS that this document will not only fulfill the FLP requirements, but also serve many other purposes relating to forests in Texas.

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**INTRODUCTION:
CHAPTERS I - II**

CHAPTER I: EXECUTIVE SUMMARY

This Assessment of Need evaluates the need for and describes the implementation of the FLP in the State of Texas. Through an analysis of existing forest data, environmentally important forestlands were identified as threatened to conversion to non-forest uses. Additionally, it establishes the proposed FLA in the state and determines the goals and criteria that will be used to decide priorities for tracts submitted by willing landowners within the FLA.

The benefits provided by Texas forests include:

- The economic importance of the Texas forest industry
- Enhanced water quality and quantity
- Habitat diversity
- Eco-tourism and economic development
- Historical preservation
- Carbon sequestration and air quality
- Wildlife and recreation

Current cultural changes affecting forest sustainability in Texas include:

- Population growth
- Water resource demand
- Transportation corridors
- Forest fragmentation
- Changing timberland ownership
- Global markets

Considering these benefits and threats, the four overall goals of the FLP in Texas are to:

- 1) Support Texas rural communities, traditional land uses, and cultural heritage by maintaining large, privately owned working forest landscapes managed according to sustainable best management practices
- 2) Promote conservation of biological diversity by protecting habitat connectivity, unique ecosystems, and endangered species.
- 3) Promote watershed protection to enhance water quality and quantity and to protect aquatic habitats.
- 4) Support open space initiatives to decrease forest fragmentation, protect unique habitats or ecological features, and reduce negative effects of urban sprawl.

CHAPTER II: ENABLING LEGISLATION

The Cooperative Forestry Assistance Act of 1978, as amended, (16 U.S.C. 2101) provides authority for the U.S. Secretary of Agriculture to provide financial, technical, educational, and related assistance to states, communities, and private forest landowners. Section 1217 of Title XII of the Food, Agriculture, Conservation and Trade Act of 1990 (P.L. 101-624, 104 stat. 3528), also referred to as the 1990 Farm Bill, amended the Cooperative Forestry Assistance Act and allows the Secretary to establish the FLP to protect environmentally important forest areas that are threatened by conversion to non-forest uses. This authority continues indefinitely. If the authority is revoked or the program ceases to be funded, existing Forest Legacy (FL) projects are not affected but no new projects will be solicited. Appropriations are provided on an annual basis at Congressional discretion. The FY 2004 program funding was \$71 million for 44 projects nationwide.

Through the 1996 Farm Bill (Federal Agricultural Improvement and Reform Act of 1996; Public Law 104-127); Title III - Conservation; Subtitle G - Forestry; Section 374, Optional State Grants for Forest Legacy Program), the Secretary is authorized, at the request of a participating state, to make a grant to the state to carry out the FLP in the state, including the acquisition by the state of lands and interests in lands. Texas has requested the option to hold full title to conservation easement interests in lands rather than acquisition fee purchase of lands.

In a September 2003 letter, Governor Rick Perry designated the TFS as the lead agency for the FLP in Texas.

The Cooperative Forestry Assistance Act directs the Secretary to establish eligibility criteria for the designation of FLAs, in consultation with the State Forest Stewardship Coordinating Committee (SFSCC) through a Forest Legacy Sub-committee of the SFSCC. These eligibility criteria are developed based upon the AON for establishing a state FLP.

Conservation easements are recognized for legal and tax purposes by the State of Texas (Chapter 183, Texas Natural Resources Code) and the Internal Revenue Service (Internal Revenue Code, Section 170(h)). In addition, the qualifications of conservation easement holders and the public benefit requirements necessary for easement donations to be eligible for income tax deductions are defined in Section 501(c)(3) of the Internal Revenue Code of 1985 (Public Law 99-514, 26 U.S.C. Section 501(c)(3)).

For current information regarding FLP project selections and appropriations, please visit the USFS website at <http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml>.



OFFICE OF THE GOVERNOR

RICK PERRY
GOVERNOR

September 3, 2003

Mr. Dale Bosworth
Chief
USDA Forest Service
P.O. Box 96090
Washington, D.C. 20090-6090

Dear Chief Bosworth:

The purpose of this letter is to initiate activity on the USDA's Forest Legacy Program for the State of Texas, as authorized under Section 1217 of Title XII of the Food, Agriculture, Conservation and Trade Act of 1990. I am designating the Texas Forest Service (TFS) as the lead agency in Texas for the Forest Legacy Program.

The TFS is responsible for the protection and conservation of forestlands in Texas. Also, the TFS serves as the lead agency for the State Forest Stewardship Coordinating Committee, which provides direction and public input for the Forest Legacy Program.

I am pleased that Texas is being considered as a project area for this timely and needed forest conservation program. Thank you for your support on this and other forestry matters as they pertain to conservation and use of forests in Texas.

Sincerely,

A handwritten signature in black ink that reads "Rick Perry". The signature is written in a cursive, slightly slanted style.

Rick Perry
Governor

RP:wwp

cc: Mr. Jim Hall, State Forester



5.3212332 / 5.3112

September 12, 2003

The Honorable Rick Perry
Governor, State of Texas
P. O. Box 12428
Austin, TX 78711

Dear Governor Perry:

Thank you very much for authorizing the Forest Legacy Program to move forward in the State of Texas. As your designated lead agency of Forest Legacy, I can assure you that the Texas Forest Service will deliver this program with excellence.

I appreciate your confidence and support of the Texas Forest Service and look forward to working with you and your fabulous staff to implement the Forest Legacy Program.

Highest regards,

James B. Hull
State Forester & Director

JBH/jo

cc Jan Davis, TFS Forest Legacy Program Coordinator

Office of the Director
John B. Connally Building ★ 301 Tarrow, Suite 364 ★ College Station, Texas 77840 7896
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**SECTION 1:
CHAPTERS III - V**

CHAPTER III: STATE OF TEXAS FORESTS

- ❖ Natural resource professionals have delineated 11 ecoregions in the state of Texas on the basis of physiography, climatic factors, vegetation, and fauna. 3 of these ecoregions contain significant forests.
- ❖ There are 26 million acres of forestland in Texas, mostly located in East Texas
- ❖ The timber industry is currently the most important agricultural commodity in 28 East Texas counties, and the 3rd most important agricultural commodity in Texas

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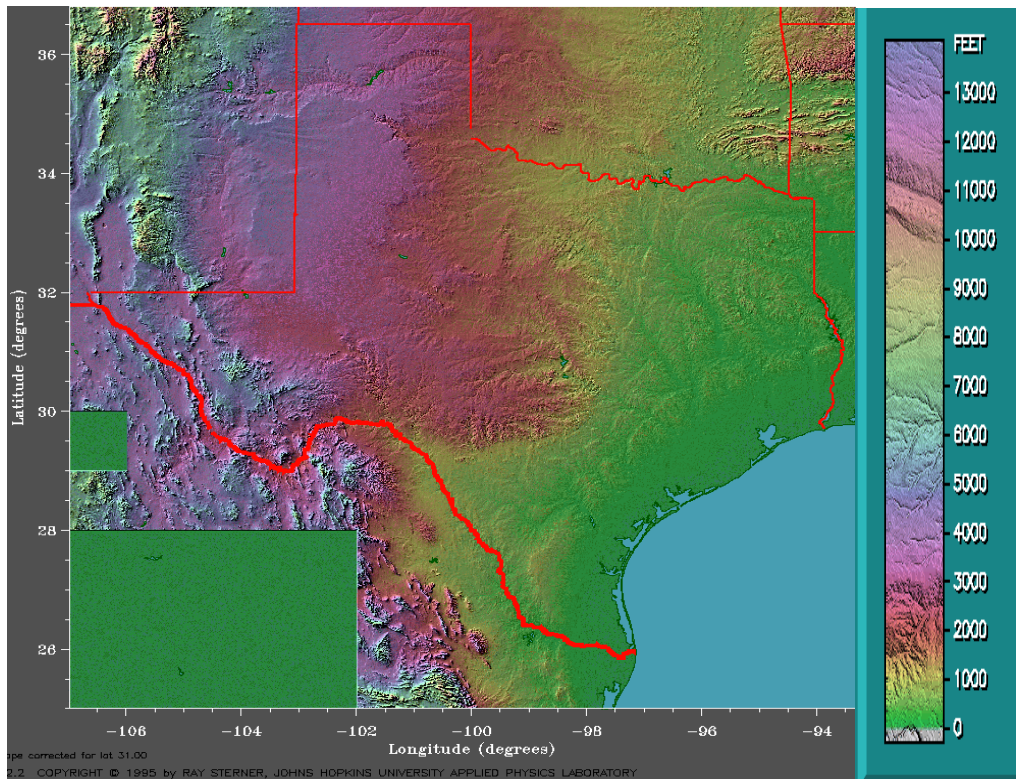
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SETTING

The State of Texas is located at the crossroads of four major natural subdivisions of North America - Gulf Coastal Forests and Prairies, Great Western Lower Plains, Great Western High Plains, and the Rocky Mountain Region. Topographically, excluding the mountainous region west of the Pecos River, Texas is a series of plains and prairies that descend in elevation from northwest to southeast. There are three prominent topographic features: the Basin and Range physiographic province in the Trans-Pecos, the north-south Caprock Escarpment of the High Plains in the Panhandle, and the arc-shaped Balcones Escarpment in the central area of the state.

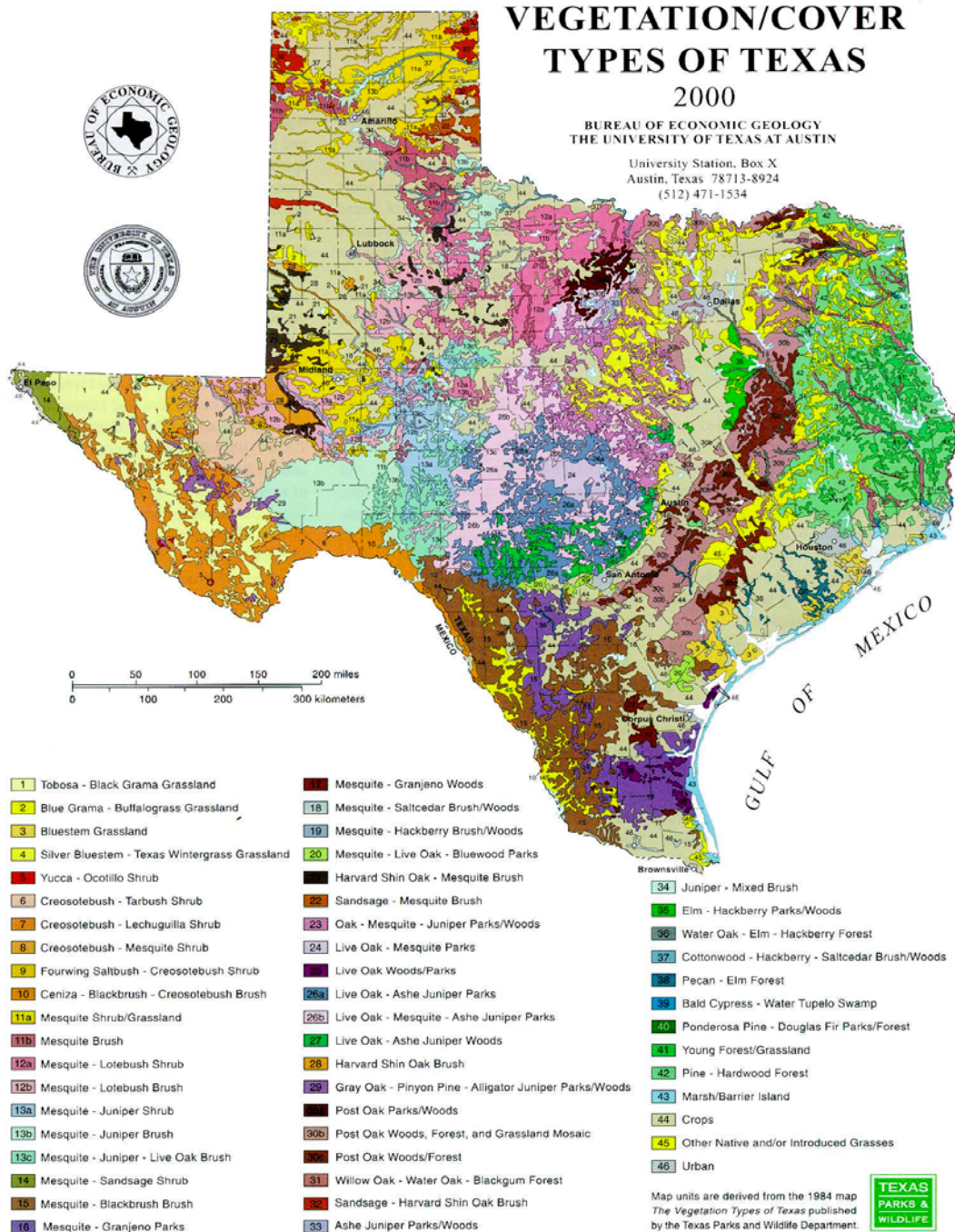
MAP 1:



-map provided by Ray Sterner and the Johns Hopkins University Applied Physics Laboratory, as licensed by North Star Science and Technology, LLC

Great plant diversity and complex patterns of plant distribution in Texas developed in response to a matrix of complex environmental factors including geology, topography, climatic zones, rainfall belts, and soil types. There are more than 5,000 species of vascular plants (trees, shrubs, vines, wildflowers, grasses, and grasslike plants such as sedges and rushes). Of this number, about 400 are endemic. Nearly half (523) of the grass species indigenous to the United States occur in Texas.

MAP 2:



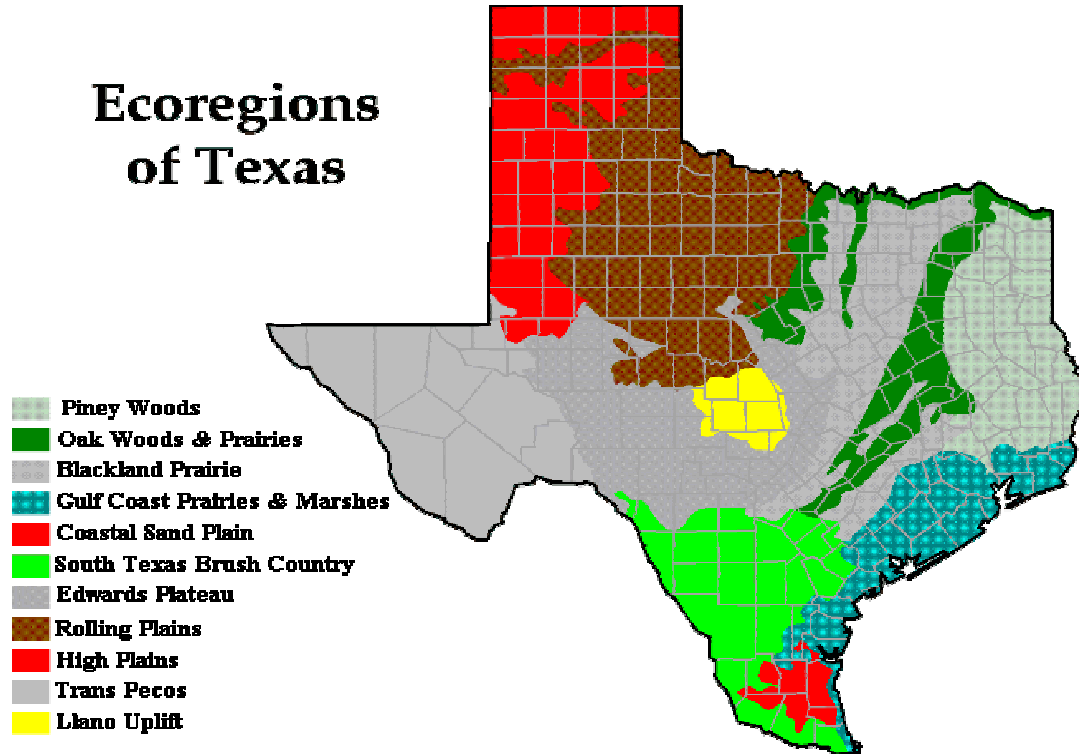
As shown on Map 2 above, the vegetation of Texas reflects a total of 53 cover types, including 47 plant associations of 2 or 3 characteristic dominant or codominant species. While the vegetation shown above includes tree species in all parts of Texas, cover types that are primarily grasslands, succulents, mesquites, junipers, and mixed oaks have not historically been considered marketable for forest products resources. Although these cover types are used for specialty products, they have never been commercially managed primarily because of their scattered growth patterns and because their ecological value outweighs their potential commercial benefits.

Grasslands, succulents, mesquites, junipers, and mixed oaks are most commonly found in the following ecoregions:

- **Blackland Prairie:** The Blackland Prairies are a true tallgrass prairie with little bluestem as a climax dominant. Other important grasses are big bluestem, Indiangrass, switchgrass, sideoats grama, hairy grama (*Bouteloua hirsuta*), tall dropseed (*Sporobolus asper*), silver bluestem and Texas winter-grass.
- **Coastal Sand Plain:** Thorny brush is the predominant vegetation type in this region, including mesquite, acacia, prickly pear, and mimosa, among others. Areas of shallow soils and rapid drainage generally support this plant life. A grassland or savanna type vegetation which also occurs was somewhat more extensive in the 19th century and earlier, but long continued grazing and other factors have altered the plant communities to such a degree that ranches of the region now face a severe brush problem.
- **South Texas Brush Country:** This region is characterized by a mixture of tall brush on deep soils with mesquite and spiny hackberry, and short dense brush on caliche soils.
- **Edwards Plateau:** Scrub forest is the most characteristic plant association of this area. Ash, juniper, Texas oak, and stunted live oak are dominant in the more dissected southern and eastern canyonlands of the region. Mesquite occurs throughout the Edwards Plateau; together with live oak, it dominates the wood vegetation in the west.
- **Rolling Plains:** The original prairie vegetation included tall and midgrasses such as bluestems and grammas. Buffalo grass and species of three-awn, among others, tend to increase under grazing. Mesquite is a common invader on all soils.
- **High Plains:** A short-grass association dominated by buffalo grass is the most important plant association on the High Plains. However, distinctly different plant communities exist on the hardlands, mixed lands, sandy lands, and draws. The region characteristically is free from brush, but mesquite and yucca have invaded parts of the area. Sandy lands support shinnery oak, and sand sage and junipers have spread out of some of the breaks onto the Plains proper.
- **Trans Pecos:** The most important plant communities in this region are creosote-tarbrush desert shrub, grama grassland, yucca and juniper savannahs, pinon pine and oak forests, and a limited amount of ponderosa pine forests. Saline sites support salt brush (*Atriplex* spp.), alkali sacaton (*Sporobolous airoides*) and other salt tolerant plants.
- **Llano Uplift:** Oak and oak-hickory woodlands are common vegetational types in the Llano Uplift, along with mesquite savanna and some grassland types that were once more widely distributed. The Savanna occurs on loamier soils underlain by caliche.

In addition to a historic lack of forest product utilization, the proceeding sections will show that cover types in these ecoregions are not as threatened by population growth, urban sprawl, transportation corridors, forest fragmentation, changing timberland ownership, or global markets as forests in the Eastern third of the state. Therefore, even though these types of vegetation are ecologically important, they are not seriously threatened at this time nor do they align with the original intent of the USFS FLP, which is to protect forestland with a history of being utilized for timber production.

MAP 3:



The proposed Texas FLA is contained within the Piney Woods, Gulf Coast Prairies and Marshes, and the Oak Woods and Prairies ecoregions. This is the chosen area because it has a history of being utilized for timber production and thus best fits the original intent of the USFS FLP. The remainder of this AON will focus primarily on these three ecoregions, showing the benefits provided as well as the threats facing the Eastern third of the state.

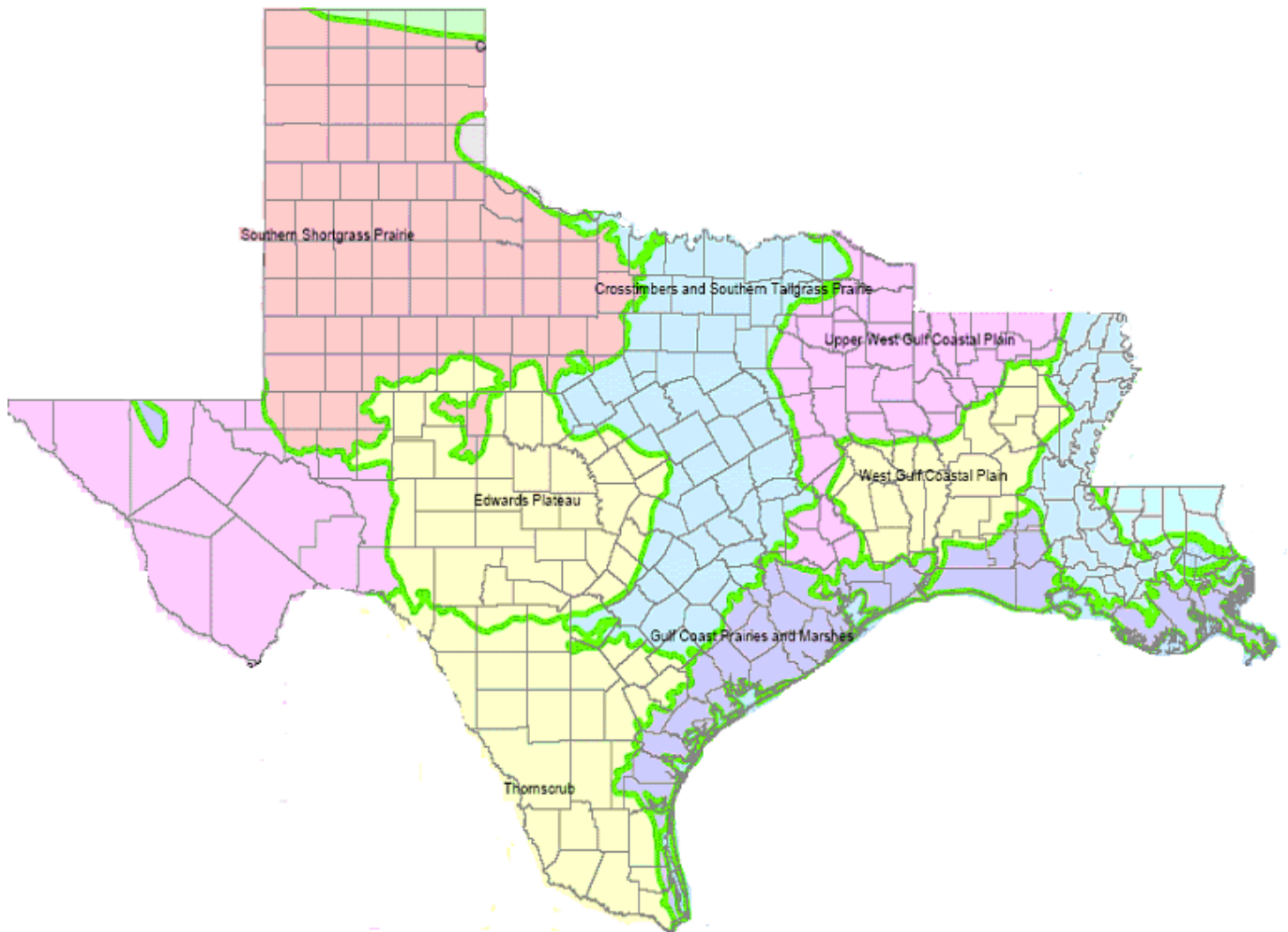
- **Piney Woods:** Rolling terrain covered with pines and oaks as well as rich bottomlands with tall hardwoods characterize the forests of the East Texas Piney Woods. This region is part of a much larger area of pine-hardwood forest that extends into Louisiana, Arkansas, and Oklahoma.
- **Gulf Coast Prairies and Marshes:** The Gulf Coast Prairies and Marshes region is comprised of a nearly level, slowly drained plain dissected by streams and rivers flowing into the Gulf of Mexico. The region includes barrier islands along the coast, salt grass marshes surrounding bays and estuaries, remnant tallgrass prairies, oak parklands and oak mottes scattered along the coast, and tall woodlands in the river bottomlands.
- **Oak Woods and Prairies:** The Oak Woods and Prairies region is a transitional area whose ranges extend northward into the Great Plains or eastward into the forests. This region, sometimes called the Cross-Timbers, was named by early settlers, who found belts of oak forest crossing strips of prairie grassland.

HISTORY AND DEVELOPMENT

Information from The Nature Conservancy's Upper West Gulf Coastal Plain (UWGCP) and Gulf Coast Prairies and Marshes (GCP&M) Ecoregional Plans, will be used to describe pre-1900 cultural history in the proposed Texas FLA as these areas encompass much of the proposed FLA.

MAP 4:

The Nature Conservancy Texas Ecoregions



Culture

European visitors to the UWGCP in the early 1800s reported that Native Americans in the ecoregion were engaged in limited farming as well as hunting and gathering. It is believed that the Caddo tribe augmented the natural fire process in the ecoregion to clear areas, enhance crops, and flush game. Though there was a European presence in the area as early as the 17th century, the 1820s are considered the real beginning of settlement in the UWGCP (Shepherd, 1984).

Railroad construction through the UWGCP in the early 1800s facilitated traffic and development into the ecoregion, expanding timber and agriculture markets. Lumber mills followed rail lines into the area, leading the timber industry to reach its peak in the 1880s. By the 1920s, most of the ecoregion had been logged and cut over at least once.

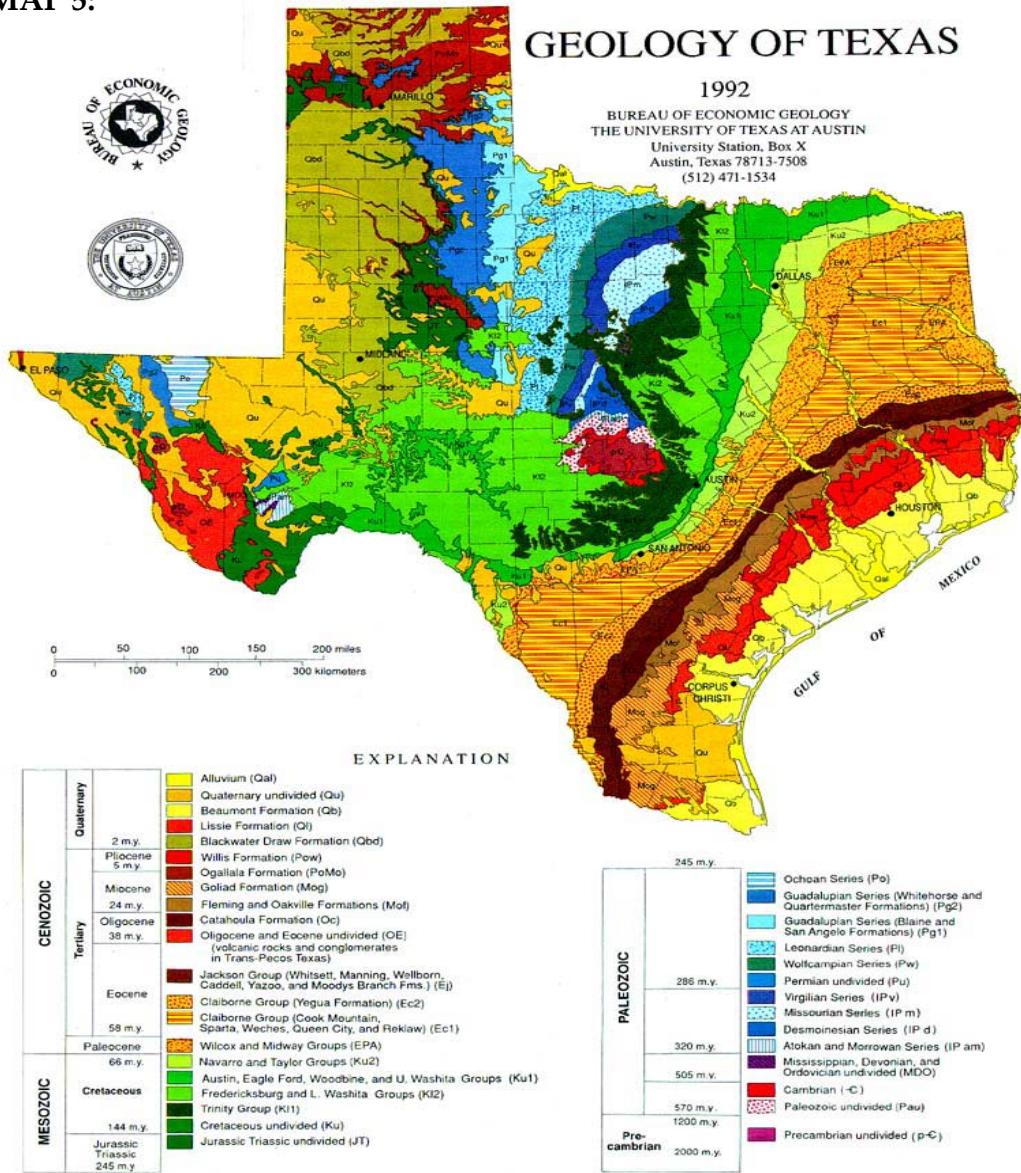
Following the first round of timber extraction, many cleared areas were converted to pasture or cotton fields. Cleared areas that failed to grow cotton may have been abandoned to return to a wooded state, and areas that were clear-cut for the first time in the 1920s or 1930s are now showing older-growth forest; similarly, areas that have proven unsuccessful at hosting commercial forest are being restored to their natural state.

Before European settlement, the GCP&M was composed of a mosaic of tallgrass coastal prairie, riparian bottomland hardwood forests, ephemeral freshwater wetlands, canebrake swamps, extensive coastal forests, chenier woodlands, freshwater tidal wetlands, brush mottes and corridors, barrier islands, estuaries, saltwater marshes, hypersaline lagoons, lomas and associated Tamaulipan Thornscrub habitats. This integrated matrix of habitat types combined to form one of the most productive and biologically rich ecosystems in the world (Briggs 1974, Smeins et al. 1991).

Human inhabitants have always been drawn to the GCP&M because of the attributes provided by the Gulf of Mexico. Nomadic native peoples took advantage of the bounty of food resources, such as oysters, shrimp, fish, alligators, and birds available in the nearshore waters and coastal prairies (Ricklis 1997). This attraction created consequences to the vegetation. Coastal forests have been cleared and fragmented (Lange 1996), and the chenier woodlands of the upper Texas coast are essentially gone (Gosselink et al. 1979).

Geology

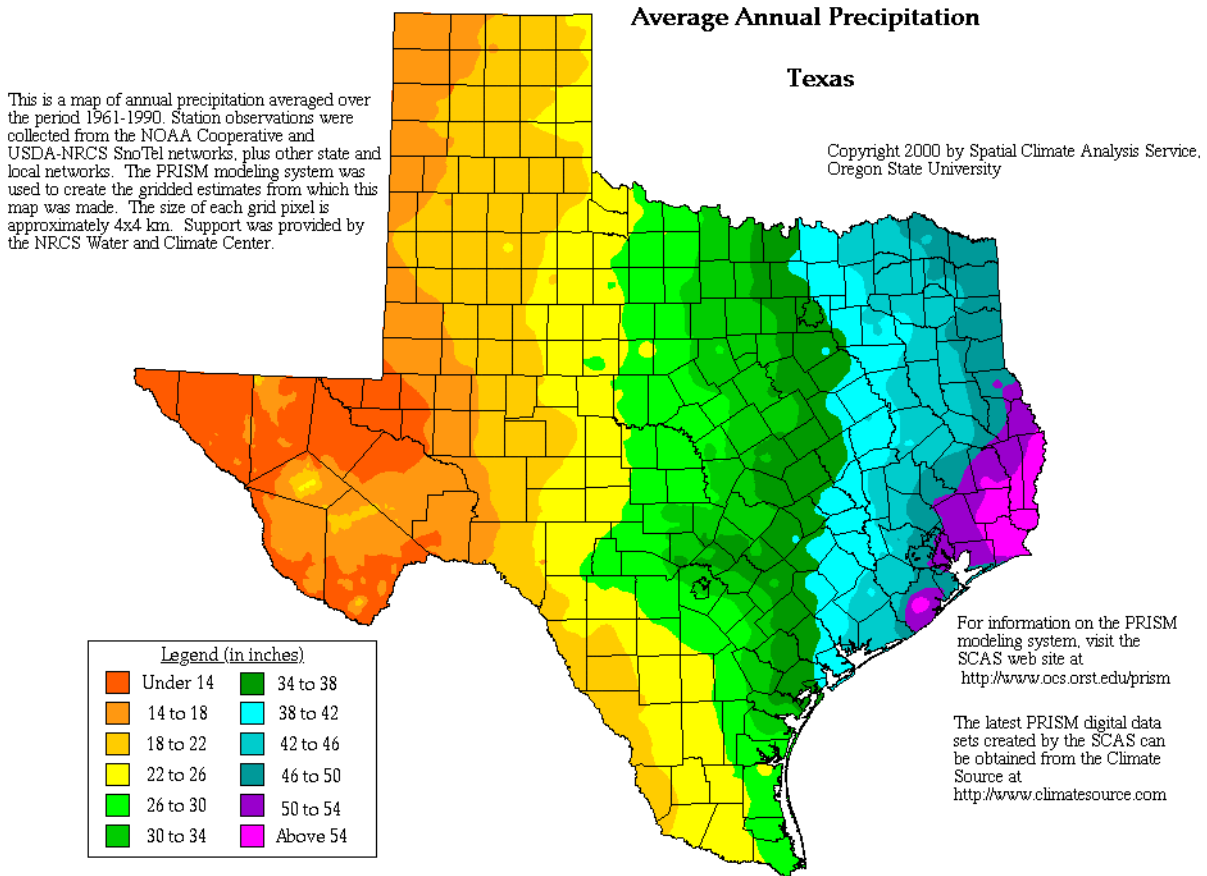
MAP 5:



The geologic characteristics of Texas are roughly bisected by The Balcones Escarpment from northeast to southwest. East and south of the escarpment is the Gulf Coastal Plain, a flat or rolling plain consisting of sedimentary formations deposited during the Mesozoic by riverine deposition and shallow marine deposition in the Gulf of Mexico. In uplands of eastern Texas, including the Piney Woods and Oak Woods and Prairies ecoregions, these formations have weathered into sandy clays and sands supporting pine-hardwood forests or, where drier, post oaks. Geologically recent (mostly Pleistocene) formations in the Gulf Coast Prairies and Marshes ecoregion are covered by a belt of nutrient-rich, often poorly drained clays that support coastal prairies and marshes. Around the edges of the coastal prairies are formations of harder sandstone supporting post oaks.

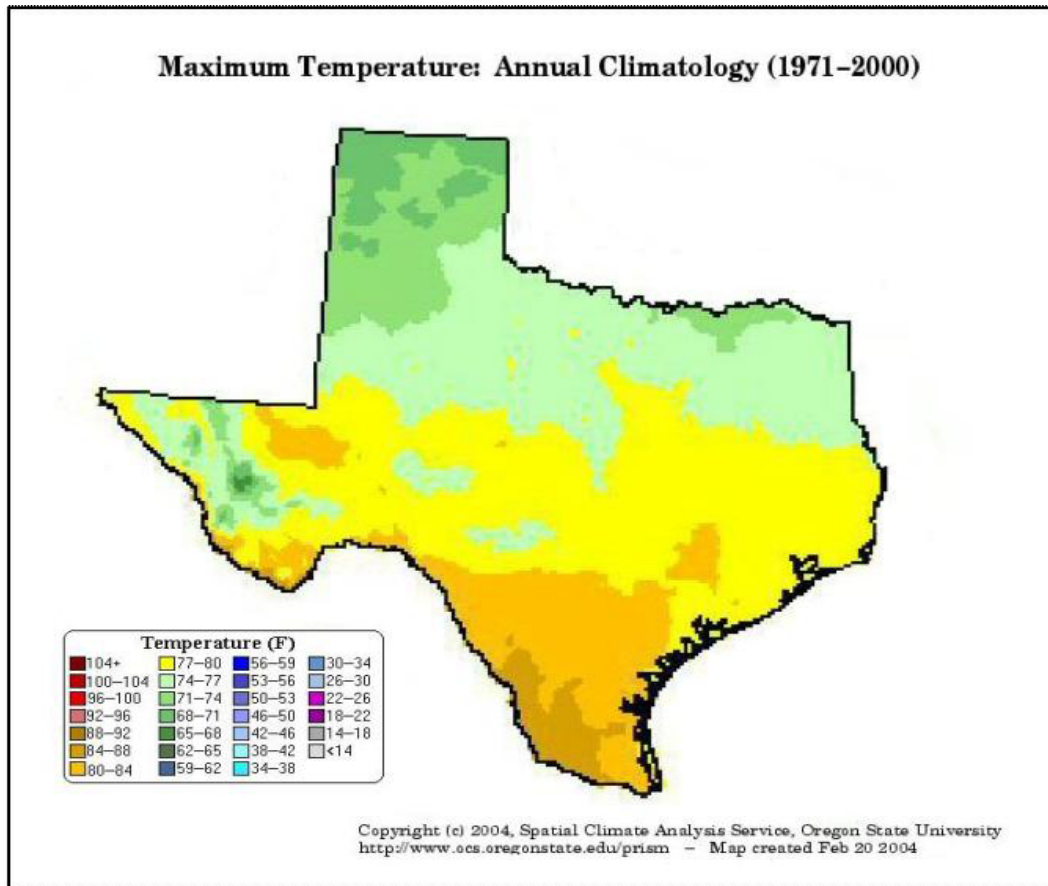
Climate

MAP 6:



Rainfall is probably the most obvious factor influencing the structure and composition of vegetation in Texas. The Piney Woods and Gulf Coast Prairies and Marshes regions in the easternmost one-fourth of Texas receive more than 40 inches of annual rainfall and are almost entirely forested except for the grasslands that occur on clay soils nearest the Gulf coast. The east-central one-fourth of Texas, which includes part of the Oak Woods and Prairies ecoregion, receives roughly 30 to 40 inches of annual rainfall. The natural vegetation in this area prior to settlement was a mosaic of tallgrass prairie on clay soils, oak woodlands on sandy soils, and juniper-oak woodlands on caliche.

MAP 7:

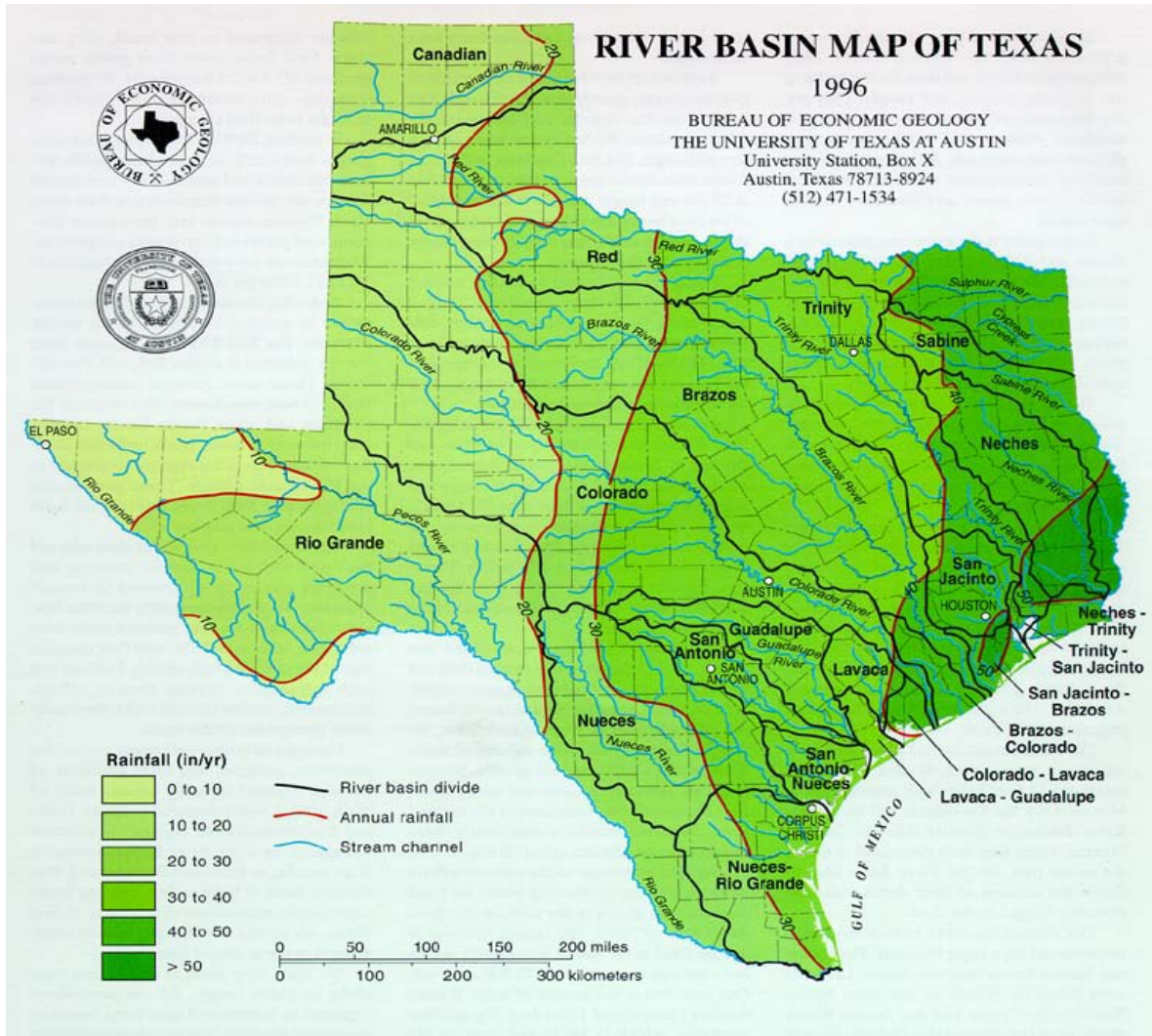


Temperature also affects the vegetation in Texas. Most of Texas is located in a warm-temperate climate zone, with average temperatures and length of growing season decreasing gradually from south to north. Areas adjacent to the Gulf of Mexico, including the Gulf Coastal Prairies are subtropical. The average length of growing season ranges from 178 days in the northern High Plains to 341 days at Brownsville (Dallas Morning News 1994). Climatic variation and corresponding change in vegetation, across the state is significant but gradual (Bray 1906, Hatch et al. 1990). As shown on the above map, average maximum temperatures in East Texas, where the proposed FLA exists, range from 71 degrees Fahrenheit to 84 degrees Fahrenheit.

Because East Texas is an area of rolling hills and hilltops, those surfaced by deep sandy soils become dry during hot summer months. As a result, species that are more drought resistant are found on these sites. The most common dry upland tree species are post oak (*Quercus stellata*), black hickory (*Carya texana*), blackjack oak (*Quercus marilandica*), sandjack oak (*Quercus incana*) and black oak (*Quercus velutina*). Shortleaf pine (*Pinus echinata*) is occasionally associated with the oaks and hickory, and in southeastern Texas it is not uncommon to find almost pure stands of longleaf pine (*Pinus palustris*) on dry upland sites.

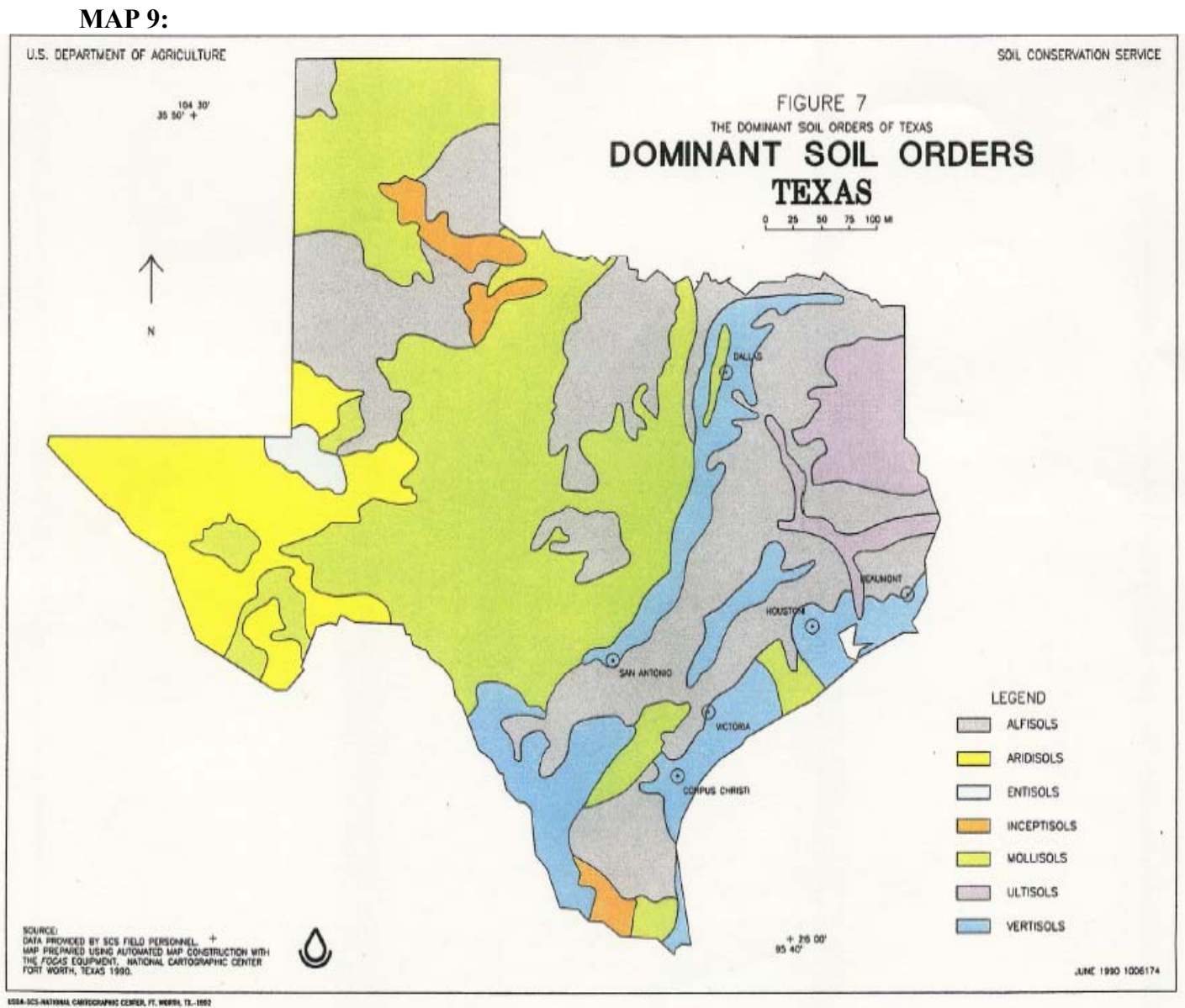
Watershed

MAP 8:



Hardwood forests occupying river-bottoms in eastern Texas include trees and other plants that are able to tolerate fairly long periods of flooding. Bottomland forests, as a result, are quite distinct floristically from more upland communities. They are generally characterized by the presence of such trees as overcup oak (*Quercus lyrata*), willow oak (*Quercus phellos*), water oak (*Quercus nigra*), green ash (*Fraxinus pennsylvanica*), sweetgum (*Liquidambar styraciflua* L.), blackgum (*Nyssa sylvatica*), cedar elm (*Ulmus crassifolia*), red maple (*Acer rubrum* L.), and Texas sugarberry (*Celtis laevigata*). Associated midstory species are Carolina ash (*Fraxinus caroliniana*), American hornbeam (*Carpinus caroliniana*), and hawthorn (*Crataegus* spp).

Soils



As Map 9 shows, the United States Department of Agriculture reports seven different soil orders prevalent in Texas. The orders most commonly found in the proposed Texas FLA are: Ultisols, Alfisols, and Vertisols.

Most of the soils in northeast Texas are Uducls. They are deep, moderately coarse textured and coarse textured. These soils have a moderately coarse textured to fine textured subsoil, a thermic temperature regime, an udic moisture regime, and siliceous or mixed mineralogy. Moderately well drained Paleudults (Bowie, Felder and Malbis series), well drained Paleudults (Briley, Libbert, Darco, Ruston, Shubuta, and Smithdale series), well

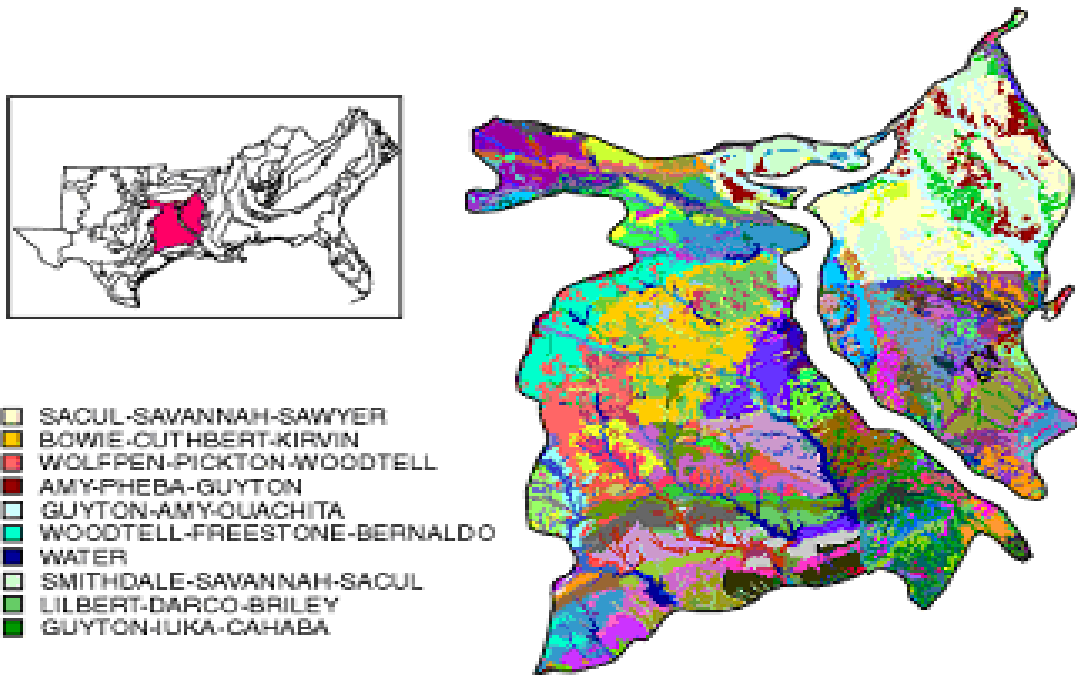
drained Hapludults (Kirvin and Cuthbert series), moderately well drained Hapludults (Sacul series), moderately well drained Hapludalfs (Woodtell and Cadeville series), well drained Paleudalfs (Nacogdoches and Bernow series), well drained Hapludalfs (Kisatchie series), somewhat poorly drained Albaqualfs (Anacoco series), and somewhat excessively drained Paleudults (Eustis series) are on uplands. Fluvaquents (Mantachie, Boggy, and Nahatche series), Udifluvents (Iuka, Oklared, and Severn series), Eutrochrepts (Marietta and Redlake series), and Glossaqualfs (Guyton series) are along major streams that drain the area. Most of the soils are weathered from sandstone and shale.

The majority of the soils further south in the eastern third of the state have a water table near the surface during at least part of the year. The dominant soils are Udalfs. They are deep and medium textured or moderately coarse textured. These soils have a thermic temperature regime, an udic moisture regime, siliceous mineralogy, and a weak fragipan or plinthite. Somewhat poorly drained Fragiudalfs (Splendora series), moderately well drained Paleudalfs (Segno and Hockley series), and poorly drained Ochraqualfs (Sorter and Acadia series) are dominant in Texas. Poorly drained Glossaqualfs (Waller, Wrightsville, Guyton, Aldine, and Ozan series) are in depressions. Moderately well drained Paleudults (Malbis series) and well drained Paleudults (Ruston series) are on some of the higher ridges. Fluvaquents (Mantachie series), Eutrochrepts (Marietta series), Haplaquepts (Urbo series), and Glossaqualfs (Guyton series) are on the bottom land of the streams. The entire area is underlain by unconsolidated sediments.

Uderts are found along the Gulf Coast. They are deep, clayey soils that have a very slowly permeable subsoil and montmorillonitic mineralogy. Aqualfs are also present in this area. They are deep and loamy and have a clayey, very slowly permeable subsoil, an aquic moisture regime, and montmorillonitic mineralogy. Most of the soils have a thermic temperature regime, but those south and west of Lavaca Bay have a hyperthermic temperature regime. Poorly drained and somewhat poorly drained, nearly level Pelluderts (Beaumont and Lake Charles series) and Pellusterts (Victoria series) are on lowlands. Poorly drained and somewhat poorly drained Albaqualfs (Crowley and Edna series), Ochraqualfs (Midland and Orelia series), and Glossaqualfs (Mowata series) are on slightly concave lowlands. Argiaquolls (Bernard and Morey series) and Haplaquolls (Kaman series), Fluvaquents (Mantachie series), and Haplaquepts (Urbo series) are on the flood plains of the Brazos and Trinity Rivers. The entire area is underlain by unconsolidated sediments.

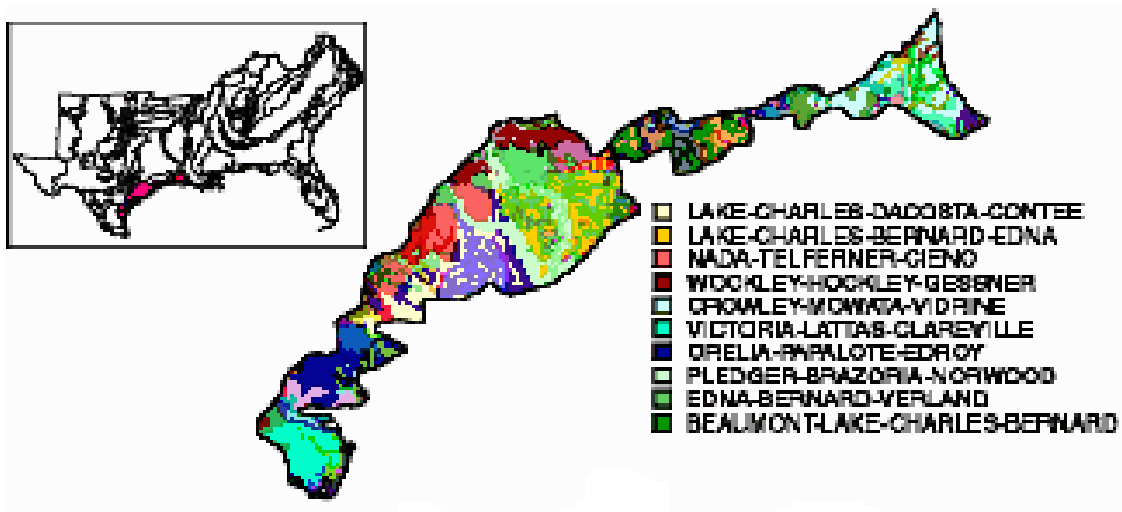
MAP 10:

Soils of the Piney Woods and Oak Woods and Prairies Ecoregions



MAP 11:

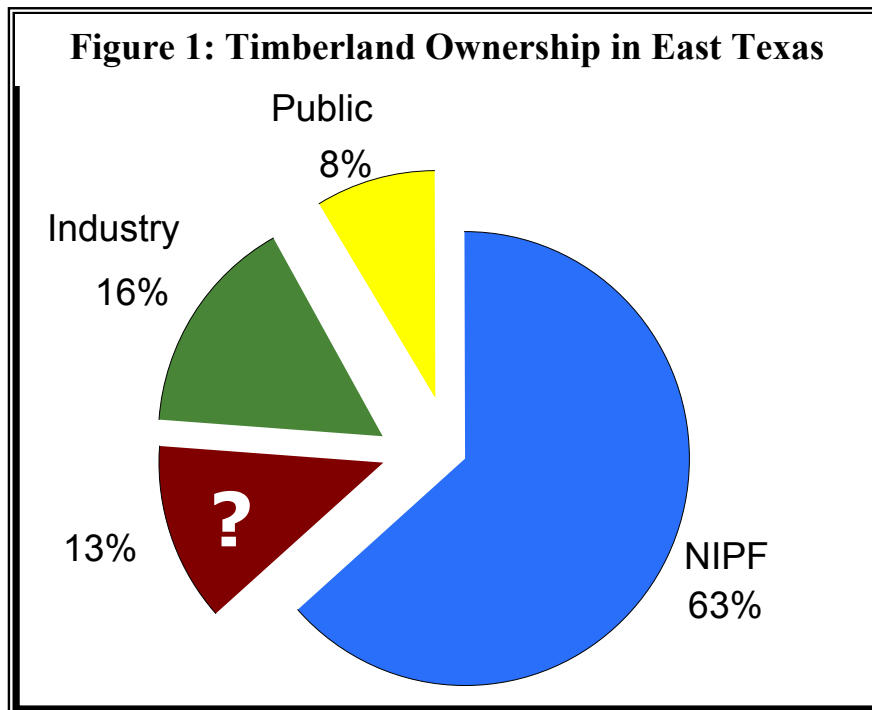
Soils of the Gulf Coast Prairies and Marshes Ecoregion



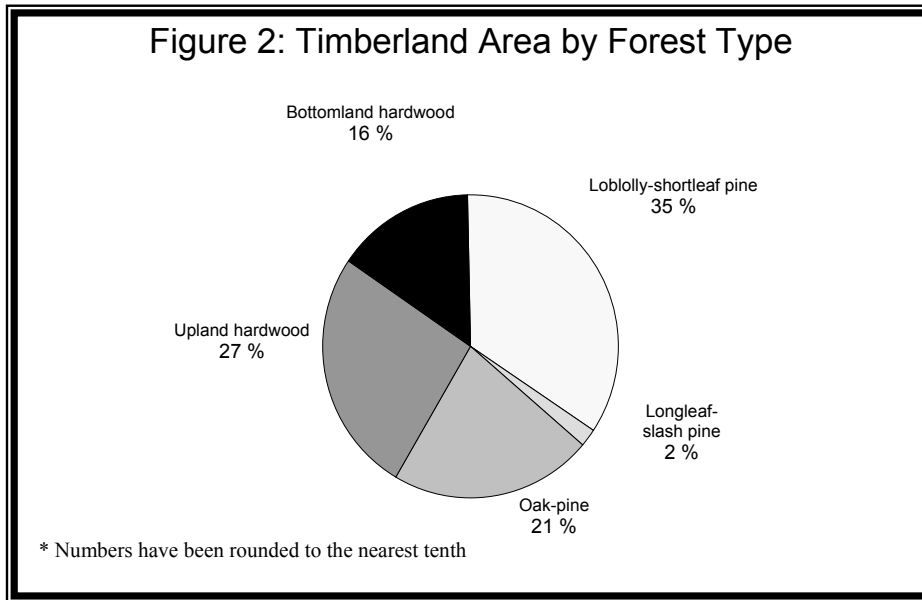
Timberland Ownership

There are 26 million acres of forestland in Texas, 11.8 million acres of which is commercially valuable timberland. 63% of this land is owned by non-industrial private forest landowners (NIPF). The forest products industry owns 16%, and public forests—primarily in four National Forests—account for 8% of East Texas forestland. The remaining 13% of the land has been sold in the last two years by the forest products industry.

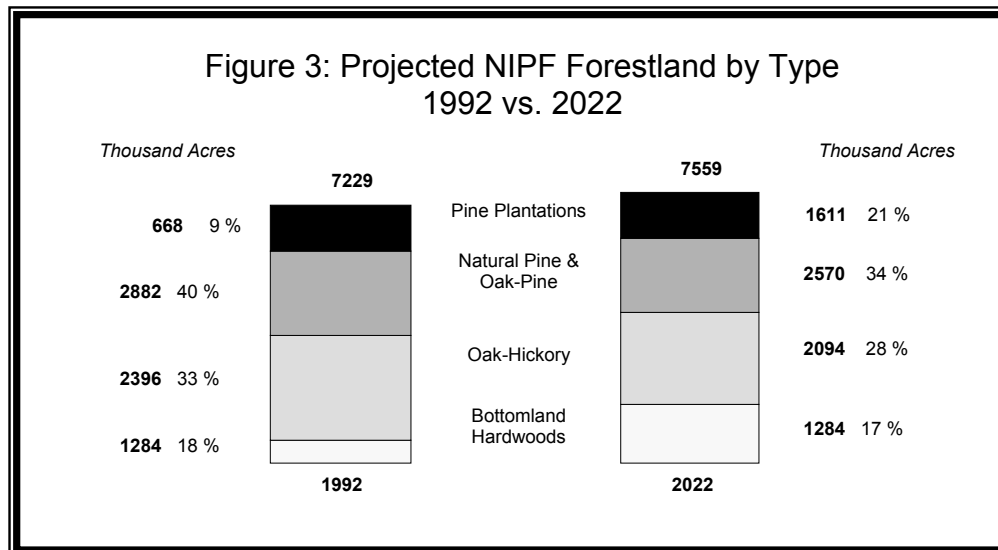
Of the 1.5 million acres sold by the timber industry, about two-thirds is now owned by Timber Investment Management Organizations (TIMO'S), whose clients include pension funds, institutional investors, foundations, endowments, and others. They are primarily purchasing the land to grow timber as an investment. The other buyers are largely individuals and partnerships whose objectives for investing vary. In many cases, the land is being acquired as a short-term real-estate investment. Some of the larger tracts have been purchased by conservation organizations for their environmental traits.



As Figure 2 shows, more than a third of the timberland is classified as pine forest type. Pine and oak-pine together comprise 58% of the timberland. The remaining 42% of the timberland is in hardwood forest types, two-thirds of which is upland hardwood.



NIPF timberland is characterized as having a smaller proportion of the total in pine and oak-pine than timberland owned by forest industry and the public. For instance, NIPF pine and oak-pine timberland made up only 49% of the total in 1992. In that year, 668,000 acres of NIPF timberland were in pine plantations, which is only 9% of the total NIPF timberland acreage. It is projected that even with the increased reforestation that is occurring, by the year 2022 only 21% of NIPF timberland will be in pine plantations.



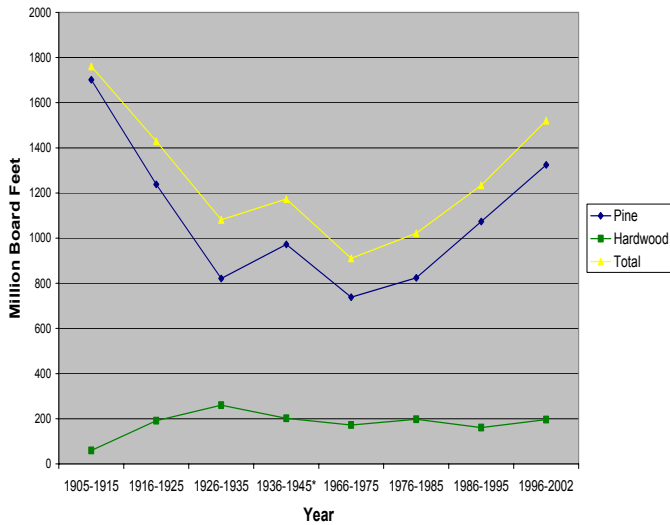
MODERN BENEFITS OF TEXAS FORESTS

Texas forests provide many benefits to the state, including economic revenue, water quality and quantity, habitat diversity, eco-tourism, historical preservation, and carbon sequestration capabilities. This section will examine and describe the important economic, cultural, and environmental roles forests play in the state of Texas.

Harvest Trends

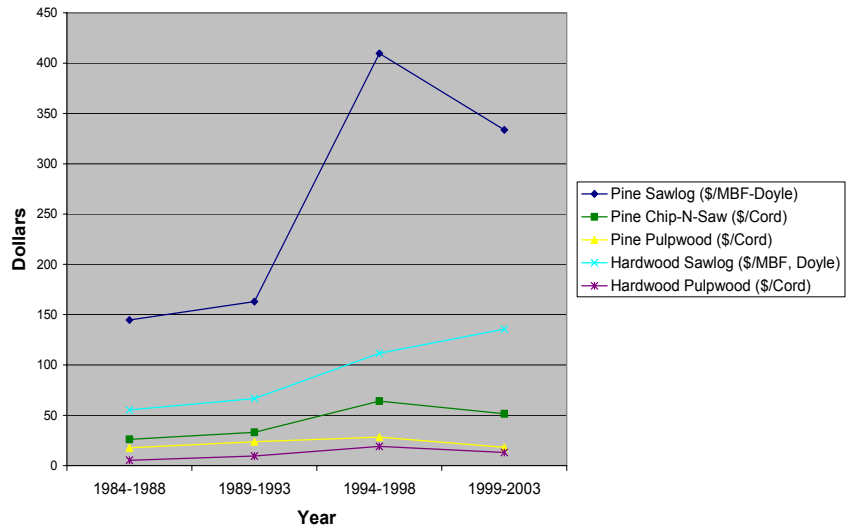
As mentioned, the timber industry has been vital to the economy of the eastern part of Texas since the beginning of settlement in the early 1800s. The economic importance of the timber industry grew as demand increased due to settlers moving west and the railroad system expanding.

Figure 4: Total Estimated Texas Lumber Production, 1905-2002



* 1946-1965 data not available

Figure 5: Average Price Texas Lumber, 1984-2003



The timber industry continues to be vital to the Texas economy. It is currently the most important agricultural commodity in 28 East Texas counties, and it is the 3rd most important agricultural commodity across the state, following beef and greenhouse and nursery products. The annual total economic impact of the Texas forest sector was \$22.1 billion in 1999, \$9.9 billion of which were value-added. In the same year, the Texas forest sector generated 169,200 jobs and created \$6.0 billion in labor income. Figure 6 illustrates the breakdown of the economic impact within six forest sector sub-industries.

Figure 6: Shares of Direct Economic Impact of Texas Forest Sector by Sub-Industry, 1999

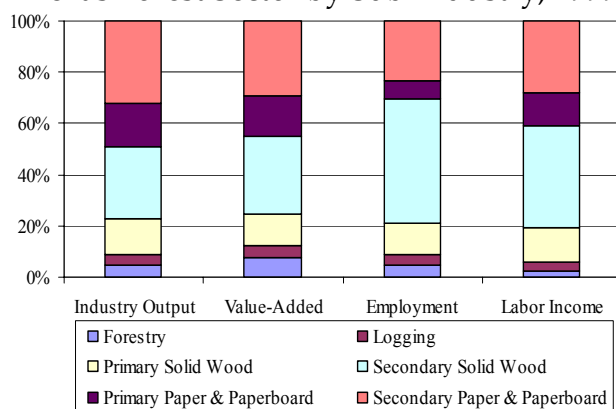
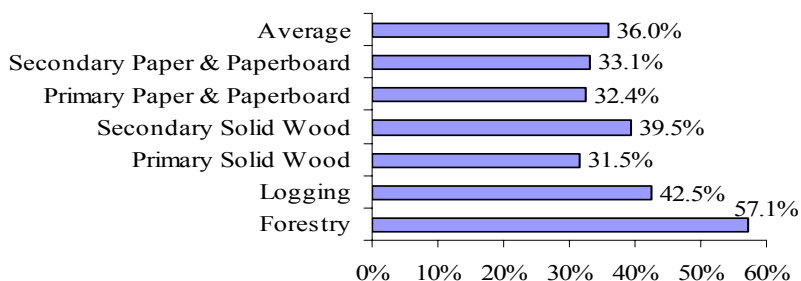


Figure 7 provides the value-added to output ratio of the six Texas forest sub-industries. Value-added to output ratio was calculated to measure the percentage of returns to capital and labor in a sector. The difference between value-added and output is the intermediate inputs, such as raw materials and energy. Forestry had the highest ratio of value-added to output (57.1%), followed by logging (42.5%) and secondary solid wood (38.0%). The ratios in the other three sub-industries were slightly lower.

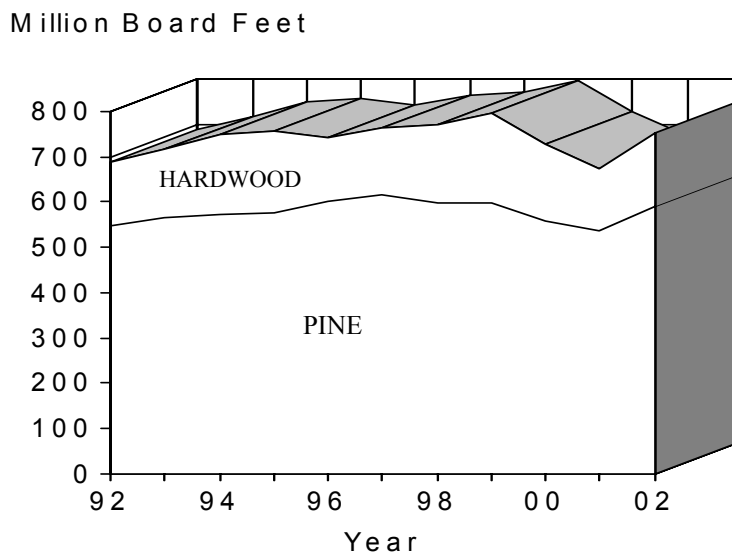
Figure 7: Value-added to Output Ratio of the Texas Forest Sector



Total removal of growing stock in East Texas in 2002, including both pine and hardwood, rebounded from the declining trend it had experienced over the previous two years. The total volume removed from the region rose 11.8 percent to 753.9 million cubic feet in 2002, up from 674.2 million in 2001. Included in the total removal are timber harvested for industrial use and an estimate of logging residue and other timber removals.

By species group, the total removal is comprised of 591.2 million cubic feet of pine and 162.7 million cubic feet of hardwood. Pine removal was up 10.3 percent and hardwood removal rose 17.8 percent from 2001.

Figure 8: Total Timber Removals, 1992-2002

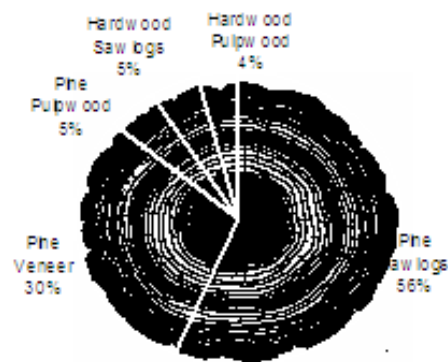


Harvest of sawlogs for lumber production was up slightly by 0.2 percent to 1.49 billion board feet, which accounted for 33 percent of the 2002 total timber harvest. The pine sawlog cut totaled 1.28 billion board feet, up 1.6 percent while the hardwood sawlog harvest was down 7.1 percent to 210.7 million board feet.

Over the past ten years the forest-based industry of East Texas has changed a great deal. This industry can be divided into three categories: building products, paper and paperboard, and hardwood lumber. Building products consist of pine lumber and structural panel, which includes pine oriented strand board and plywood. The former increased output by 27% going from 1.1 billion board feet to 1.4 in 2002. Structural panel increased 10.6%, going from 2.5 billion square feet to 2.82. The paper and paper board group includes paper (writing, newsprint, and tissue), paperboard (container board, brown cardboard, coated board, white folding cartons, and market pulp). Paper production dropped 6% from 1 million tons to .4 million tons over the last ten years, mainly in newsprint due to declining markets from global competition and electronic media. Paperboard was up 5%, 2.0 million tons to 2.1. Market pulp, which is a basic paper-making raw material produced from both recycled paper and timber or mill wood residues sold to paper mills to manufacture into either paper or paperboard, declined 100%. The decline is due to global competition from low cost sources such as Brazil, Chile and Indonesia selling into rapidly expanding markets like Asia and to our domestic markets, especially with Eucalyptus pulp as well as softwoods.

Hardwood lumber production increased 61% over the past ten years, 138.9 million board feet to 223.9 in 2002. This is being driven by increased demand for railroad ties, grade lumber, pallet stock and flooring. Flooring demand has grown ten fold in the last ten years, the fastest growing sector of wood products. Unfortunately much of the better quality hardwood logs and lumber is being exported to value-added facilities in other states. This is huge opportunity to raise the value of timber resources, boost the state's economy, and add incentive for landowners with suitable land to grow hardwood forests.

Figure 9: Stumpage Value
(474.8 Million)



The annual removal reversed the steady declining trend in the last three years. The pine removal was 525.0 million cubic feet, which was 6.6 percent less than the estimated growth of 523 million cubic feet in 2002. Hardwood removal totaled 162.7 million cubic feet, compared to 215.4 million cubic feet of estimated growth, indicating that only 75.5 percent of growth was removed during the year. The estimated hardwood growth, however, included growth that occurred in environmentally sensitive areas that may not be accessible for harvest.

Table 1 lists growth and removal estimates since 1986. Growth estimates after 1994 were developed using the growth factors derived from the 1992 Forest Inventory Survey of East Texas. The preliminary data from the Texas 2002 Forest Inventory Analysis (FIA) data indicated that the hardwood growth figure from 1992 to 2002 in the table might have been overestimated.

Table 1: Growth and Removals of Growing Stock in East Texas, 1986-2002

Year	Removals			Total	Growth ⁴	Harvest as a Percent of Growth
	Industrial Roundwood Harvest	Logging Residue	Other Removals ¹			
----- Pine (million cubic feet) -----						
1986 Forest Survey average annual ²				479.2	463.3	103.4
1986	437.4	26.3	49.0	512.7	518.6	98.9
1987	447.3	26.9	49.0	523.2	520.8	100.5
1988	459.4	27.6	49.0	536.0	522.4	102.6
1989	462.2	27.8	49.0	539.0	523.7	102.9
1990	458.1	27.5	49.0	534.6	525.1	101.8
1991	460.9	27.7	49.0	537.6	526.5	102.1
1992 Forest Survey average annual ³				530.5	522.9	101.5
1992	496.6	34.8	16.8	548.2	527.6	103.9
1993	512.1	35.9	17.3	565.4	537.3	105.2
1994	522.3	34.8	17.3	574.4	547.2	105.0
1995	523.5	36.2	17.6	577.3	557.2	103.6
1996	543.5	38.4	18.4	600.3	567.5	105.8
1997	557.5	40.7	19.1	617.3	577.9	106.8
1998	542.4	38.0	18.3	598.7	588.5	101.7
1999	541.4	37.3	18.2	596.9	599.3	99.6
2000	508.9	32.6	16.7	558.2	610.4	91.4
2001	488.5	31.6	16.0	536.1	621.6	86.2
2002	537.0	36.3	17.9	591.2	633.0	93.4
----- Hardwood (million cubic feet) -----						
1986 Forest Survey average annual ²				132.8	163.6	81.2
1986	91.5	13.6	48.3	153.4	198.5	77.3
1987	95.4	14.2	48.3	157.9	201.4	78.4
1988	95.7	14.2	48.3	158.2	204.3	77.4
1989	104.8	15.5	48.3	168.6	207.3	81.3
1990	97.3	14.4	48.3	160.0	209.9	76.2
1991	104.5	15.4	48.3	168.2	213.0	79.0
1992 Forest Survey average annual ³				161.1	205.7	78.3
1992	111.4	16.1	13.2	140.7	214.1	65.7
1993	121.7	17.4	14.2	153.3	217.0	70.6
1994	139.6	19.2	15.8	174.6	219.3	79.6
1995	143.1	19.2	15.9	178.3	221.1	80.6
1996	116.5	13.8	11.8	142.1	223.7	63.5
1997	118.4	15.1	12.7	146.2	227.1	64.4
1998	136.4	19.6	16.0	172.1	230.1	74.8
1999	157.8	23.5	19.1	200.5	231.9	86.4
2000	135.0	19.4	15.9	170.3	233.9	72.8
2001	111.4	14.5	12.1	138.1	237.4	58.2
2002	129.7	18.1	14.9	162.7	241.1	67.5

¹Other removals were calculated so that the annual Harvest Trends removal estimates were consistent with the Forest survey periodic estimates. Other removals for 1992 and 1993 were revised based on 1992 Forest Survey.

²1986 Forest Survey provides average annual growth and removals data for the years 1975 through 1985.

³1992 Forest Survey provides average annual growth and removals data for the years 1986 through 1991.

⁴ growth estimates were based on Forest Survey growth data plus annual reforestation, harvest information.

Accomplishments in reforestation by funding source and ownership are presented below. A total of 114,392 acres were planted during the winter 2001/spring 2002 planting season, which was a 27.1 percent drop from the previous year. Industrial landowners planted 80,388 acres, a 25.7 percent decrease from the previous year. NIPF landowners planted 33,164 acres, down 31.5 percent. Public landowners only planted 840 acres in 2002. The declining pine stumpage prices and the droughts in the past few years may have contributed to the reduction of tree planting.

Table 2: Tree Planting by Ownership and Funding Source in Texas, 1994-2002

Year ¹	Nonindustrial Private						Industry	Public	Total	
	Federal Cost Share Program ²		Texas Reforestation Foundation (TRe)		Non-Cost Share ³	Total Acres	Total Cost Share \$	Acres	Acres	Acres
	Acres	Cost Share \$	Acres	Cost Share \$	Acres					
1993	17,264	684,441	9,361	386,090	5,267	31,892	1,070,531	77,386	1,640	110,918
1994	19,675	907,584	10,483	470,806	4,259	34,417	1,378,390	56,580	1,211	92,208
1995	17,414	911,500	10,108	464,645	13,318	40,840	1,376,145	70,731	974	112,545
1996	17,414	866,500	10,108	441,370	8,391	35,913	1,307,870	85,680	358	121,951
1997	9,254	409,272	13,041	485,242	24,715	47,010	894,514	78,730	496	126,236
1998	13,371	347,693	13,272	500,919	31,951	58,594	848,612	93,991	363	152,948
1999	11,998	262,590	11,628	441,787	24,732	48,358	704,377	98,449	282	147,089
2000	11,496	489,165	5,401	270,451	26,284	43,181	694,103	120,523	725	164,430
2001	15,818	602,700	6,325	315,030	26,295	48,438	917,730	108,254	183	156,875
2002	10,772	581,833	5,649	348,273	16,743	33,164	930,106	80,388	840	114,392

¹ Federal fiscal year. For example, fiscal year 1995 begins on October 1, 1994 and ends on September 30, 1995.

² Includes Forestry Incentives Program (FIP), Stewardship Incentives Program (SIP), Environmental Quality Incentives Program (EQIP), Conservation Reserve Program (CRP), and Forest Land Enhancement Program (FLEP) accomplishments.

³ Non-cost share acres include only NIPF acres planted with TFS assistance.



Billy Humphries, Forest Resource Consultants, Inc., www.forestryimages.org

Another important issue concerning harvest trends in Texas is the tax responsibility associated with timber. Although tax laws change over time, the following information provides the current Texas tax laws regarding timber.

Property Classification:

Generally, Texas does not assign different types of property to different classes for property tax purposes. Texas law does provide preferential property tax treatment for forest and open-space lands that fall within the following categories:

- (1) open-space land devoted to agriculture;
- (2) land restricted to recreational, park, or scenic use; and
- (3) open-space land devoted to timber production.

Landowners may apply for special appraisal based on their land's productivity value rather than what the land would sell for on the open market. Typically, a productivity value is lower than market value, which lowers property taxes. Open-space land devoted to timber production is entitled to taxation on the basis of its productive capacity.

There is no minimum acreage requirement for property to qualify for present-use valuation as timberland.

Land qualifies for appraisal as timberland if it: (Sec. 23.72, Tax Code)

- (1) is currently and actively devoted principally to production of timber or forest products to the degree of intensity generally accepted in the area with intent to produce income, and
- (2) has been devoted principally for five of the preceding seven years to the production of timber or forest products or to agricultural use that would qualify it for appraisal as open-space or agricultural use land.

Land is not eligible for appraisal as timberland if: (Sec. 23.77, Tax Code)

- (1) the land is located inside the corporate limits of an incorporated city or town, unless:
 - (A) the city or town is not providing the land with governmental and proprietary services substantially equivalent in standard and scope to those services it provides

in other parts of the city or town with similar topography, land utilization, and population density; or

(B) the land has been devoted principally to production of timber or forest products continuously for the preceding five years;

(2) the land is owned by an individual who is a nonresident alien or by a foreign government if that individual or government is required by federal law or by rule adopted pursuant to federal law to register his ownership or acquisition of that property; or

(3) the land is owned by a corporation, partnership, trust, or other legal entity if the entity is required by federal law or by rule adopted pursuant to federal law to register its ownership or acquisition of that land and a nonresident alien or a foreign government or any combination of nonresident aliens and foreign governments own a majority interest in the entity.

Application: (Sec. 23.75, Tax Code)

A person claiming that his land is eligible for appraisal as timberland must file an application with the chief appraiser on a form provided by the appraisal office and prescribed by the comptroller, and contain the information necessary to determine the validity of the claim. The form must be filed before May 1st.

If a person fails to file a valid application on time, the land is ineligible for appraisal for that year. Once an application is filed and appraisal as timberland is allowed, the land is eligible for appraisal in subsequent years without a new application unless the ownership of the land changes or its eligibility ends.

Change in use of land: (Sec. 23.76, Tax Code)

If the use of land that has been appraised as timberland changes, an additional tax is imposed on the land equal to the difference between the taxes imposed on the land for each of the five years preceding the year in which the change of use occurs and the tax that would have been imposed had the land been taxed on the basis of market value in each of those years, plus interest at an annual rate of 7% calculated from the dates on which the differences would have become due.

If the change of use applies to only part of a parcel that has been appraised as timberland the additional tax applies only to that part of the parcel and equals the difference between

the taxes imposed on that part of the parcel and the taxes that would have been imposed had that part been taxed on the basis of market value.

Special Circumstances:

Appraisal as restricted use timber land - Timber land on which harvesting is restricted for aesthetic, conservation, water protection, or plant or animal protection may qualify for appraisal for Texas property tax purposes as restricted-use timber land (Sec. 23.9801, Tax Code).

The land must be in an aesthetic management zone, critical wildlife habitat zone, or streamside management zone. The appraised value is one-half of what it would have been appraised at under normal circumstances. The appraised value may not exceed the lesser of the market value of the land or the appraised value of the land in the year preceding the first year it is appraised as restricted use timber land. An application must be filed with the chief appraiser by May 1. If use of the timber land changes so that it no longer qualifies as restricted-use timber land, an additional tax equal to what the land would have been assessed at will be imposed including interest.

Open-space land converted to timber production - If land that has been appraised as open-space land for at least five years is converted after September 1, 1997, to the production of timber, the owner may elect to continue having the land appraised as open-space land under Subchapter D for 15 years after the conversion, so long as the land qualifies during that period for appraisal as timberland. (Sec. 23.59, Tax Code)

The following sources are available for reviewing current tax laws, proposed changes, and current rulings:

Office of the Texas Comptroller
P.O. Box 13528, Capitol Station
Austin, TX 78711-3528
(512) 305-9847
ptd.cpa@cpa.state.tx.us

Forest Landowners Tax Council
P.O. Box 636
Washington, DC 20044-0636
(703) 549-0747
<http://www.fltc.net/>

2004 Income Tax of Timber
Texas Forest Service
301 Tarrow, Suite 364
College Station, TX 77840-7896
979-458-6606
<http://txforestservation.tamu.edu>

National Timber Tax Website
Purdue University
Dept. of Forestry & Natural Resources
195 Marsteller Street
West Lafayette, IN 47907-2033
<http://www.timbertax.org/>

Water Quality and Quantity

In addition to forestry, another important function of Texas forests is their role in the production of clean water. Forested land absorbs rain, refills underground aquifers, cools and cleanses water, slows storm runoff, reduces flooding, and sustains watershed stability and resilience. Large tracts of forestland also help to reduce the downstream effects of nutrient loading by reducing erosion and runoff. Map 12 and Table 3 show the number of Texans dependent on clean water in the proposed Texas FLA.

MAP 12:

Texas Hydrologic Units

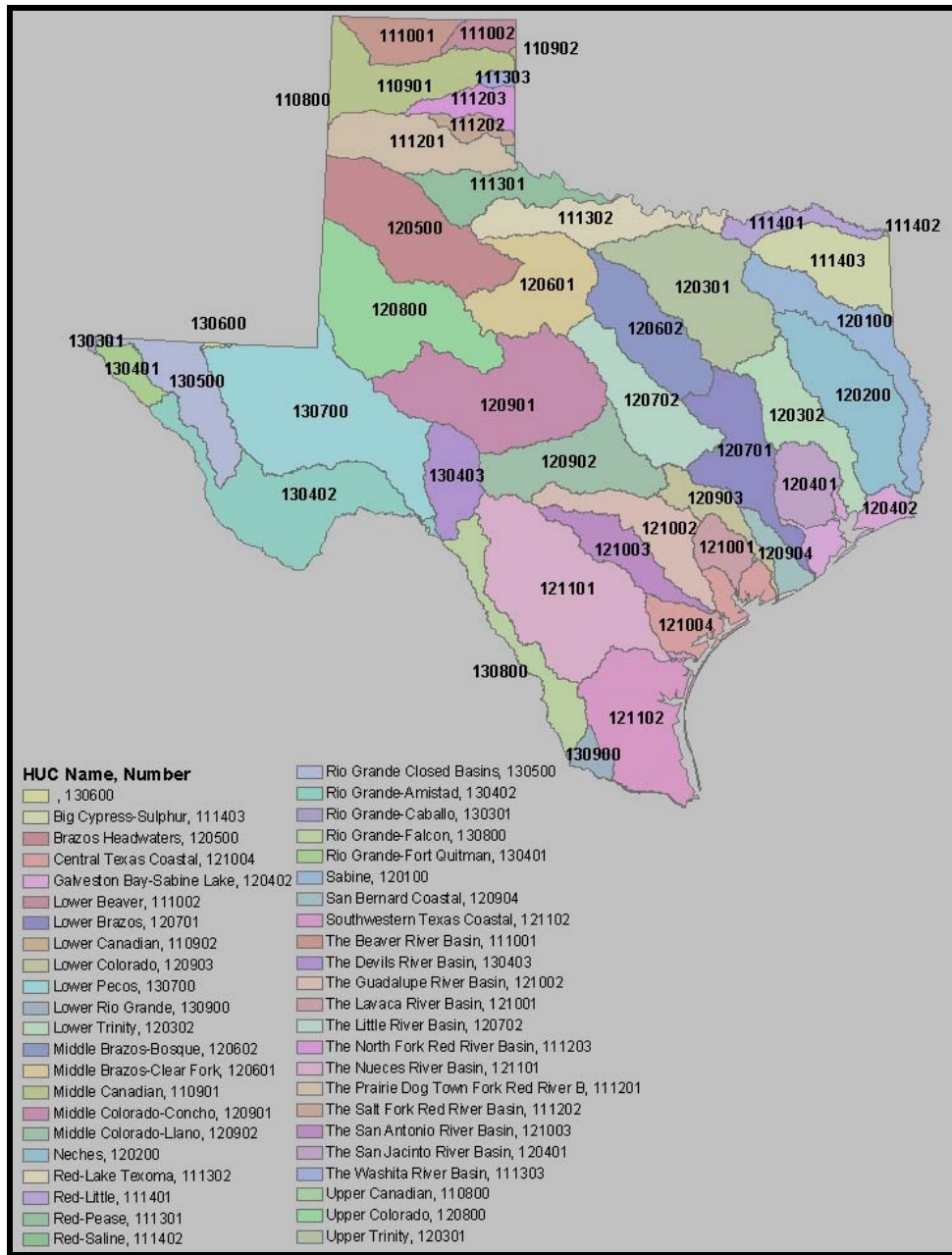
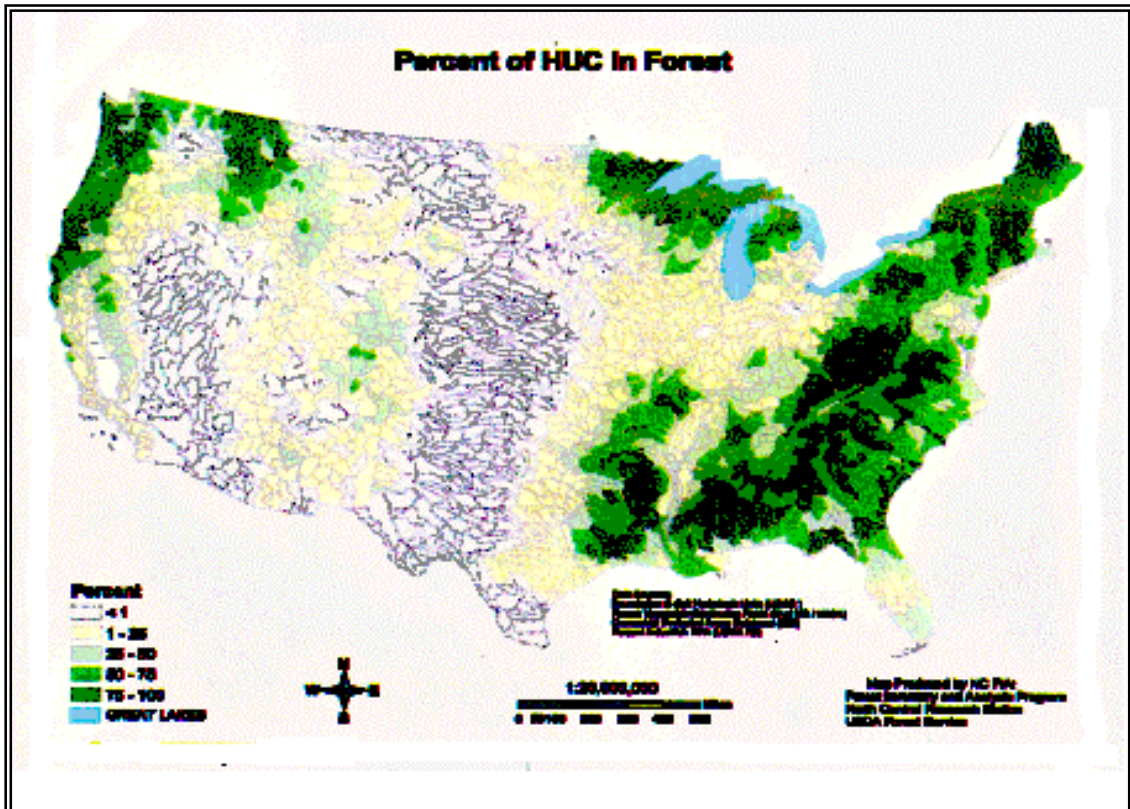


Table 3: Proposed Texas FLA Hydrologic Units

Hydrologic Unit	Acres	Population - 1990	Population - 2000
Lower Colorado	2447357	158593	201058
Central Texas Coastal	3274206	138266	168092
The San Jacinto River Basin	2090449	5534278	6837619
Red-Little	1211738	339679	373788
Lower Brazos	5221022	909783	1236155
Sabine	4825251	835713	942615
Lower Trinity	4438071	449728	552742
Neches	6099233	1199233	1376021
Southwestern Texas Coastal	7998473	1990690	2570251
Big Cypress-Sulphur	4217868	678153	749455

MAP 13:

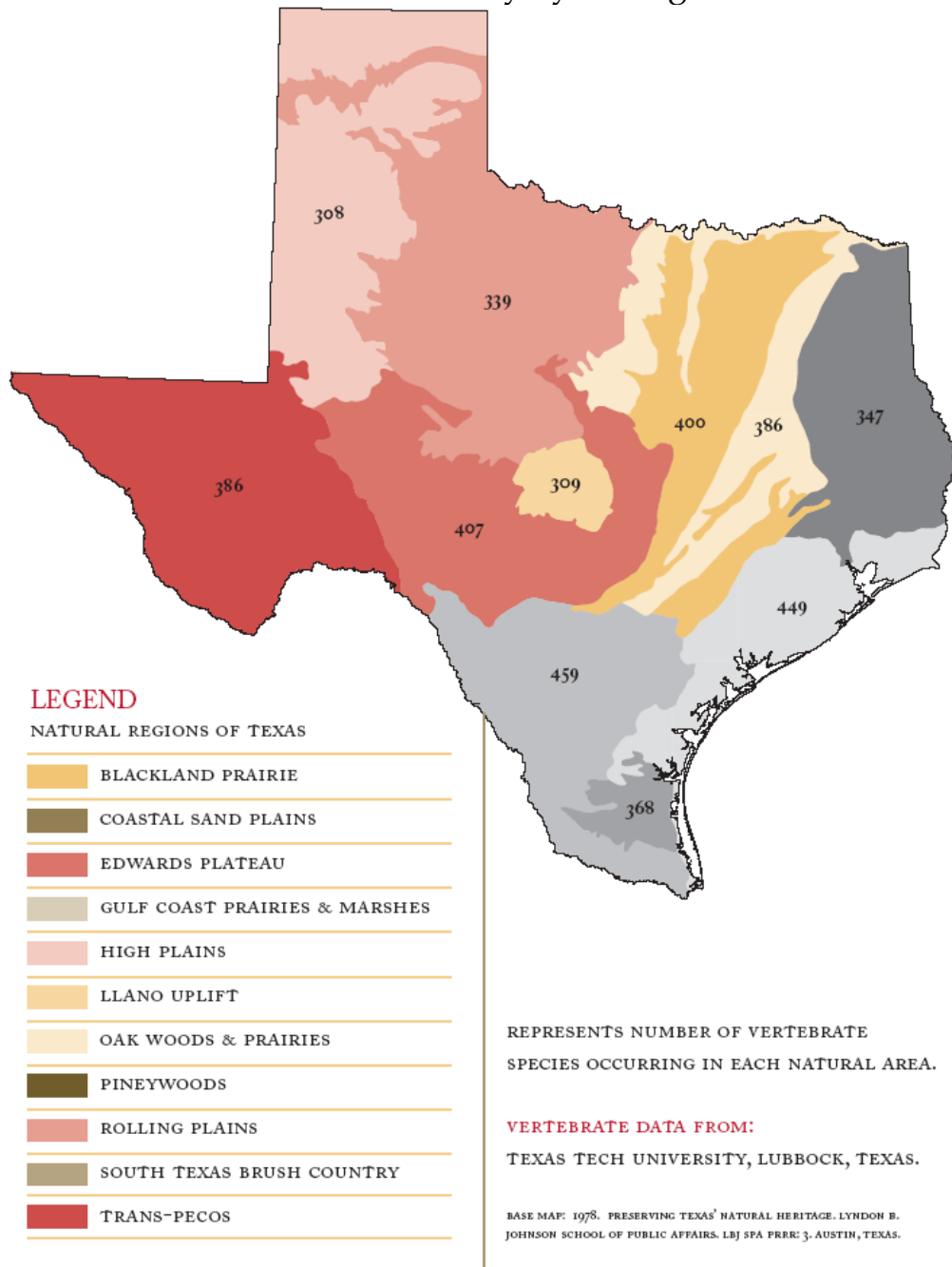


Habitat Diversity

Texas forests contain a vast amount and variety of plant and animal species. Maps 14 and 15 and Table 4 show the great diversity of living organisms prevalent in Texas, as well as those species currently under state and/or federal protection located in the counties of the proposed Texas FLA.

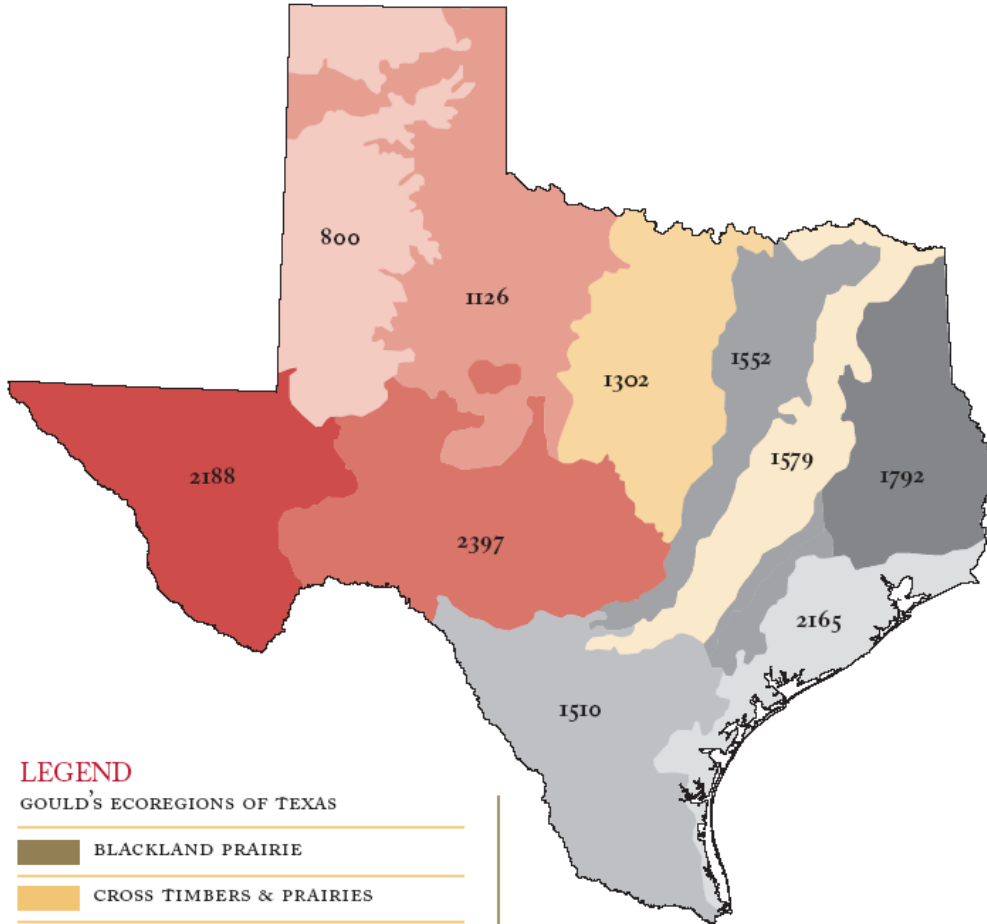
MAP 14:

Vertebrate Diversity by Ecoregion



MAP 15:

Plant Taxa by Ecoregion



LEGEND

GOULD'S ECOREGIONS OF TEXAS

- BLACKLAND PRAIRIE
- CROSS TIMBERS & PRAIRIES
- EDWARDS PLATEAU
- GULF COAST PRAIRIES & MARSHES
- HIGH PLAINS
- PINEYWOODS
- POST OAK SAVANNAH
- ROLLING PLAINS
- SOUTH TEXAS PLAINS
- TRANS-PECOS

REPRESENTS NUMBER OF PLANT SPECIES OCCURRING IN EACH ECOREGION.

SOURCE DATA FROM:

HATCH, STEPHAN L., KANCHEEPURAM N. GANDHI, AND LARRY E. BROWN. 2001. A CHECKLIST OF THE VASCULAR PLANTS OF TEXAS, VERSION 2001. TEXAS A&M UNIVERSITY.

BASE MAP: GOULD, F.W. 1975. TEXAS PLANTS - A CHECKLIST AND ECOLOGICAL SUMMARY. TEXAS AGRICULTURAL EXPERIMENT STATION, PUBLICATION 585.

Table 4: Threatened or Endangered Species in Proposed Texas FLA

Species Common Name	Scientific Name	Listing Status
A Purse Casemaker Caddisfly	<i>Hydroptila ouachita</i>	
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	T
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	DL, E
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	DL, T
Arkansas meadow-rue	<i>Thalictrum arkansanum</i>	
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E
Attwater's greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	E
Bachman's Sparrow	<i>Aimophila aestivalis</i>	T
Bald Eagle	<i>Haliaeetus leucocephalus</i>	AD,T
Big Thicket Emerald Dragonfly	<i>Somatochlora margarita</i>	
Black Bear	<i>Ursus americanus</i>	
Black Rail	<i>Laterallus jamaicensis</i>	
Blackside Darter	<i>Percina maculata</i>	T
Blue Sucker	<i>Cycleptus elongatus</i>	T
Bog coneflower	<i>Rudbeckia scabrifolia</i>	
Branched gay-feather	<i>Liatris cymosa</i>	
Brown pelican	<i>Pelecanus occidentalis</i>	E
Cagle's map turtle	<i>Graptemys caglei</i>	C
Cave Myotis Bat	<i>Myotis velifer</i>	
Cerulean Warbler	<i>Dendroica cerulea</i>	
Chapman's yellow-eyed grass	<i>Xyris chapmanii</i>	
Coastal gay-feather	<i>Liatris bracteata</i>	
Creek Chubsucker	<i>Erimyzon oblongus</i>	T
Earth-fruit	<i>Geocarpon minimum</i>	LT
Elliot's Short-tailed Shrew	<i>Blarina hylophaga hylophaga</i>	
Eskimo curlew	<i>Numenius Borealis</i>	E
Green sea turtle	<i>Chelonia mydas</i>	T
Guadalupe Bass	<i>Micropterus treculi</i>	
Gulf Saltmarsh Snake	<i>Nerodia clarkii</i>	
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E
Henslow's Sparrow	<i>Ammodramus henslowii</i>	
Holzenthal's Philopotamid Caddisfly	<i>Chimarra holzenthali</i>	
Houston Toad	<i>Bufo houstonensis</i>	E
Interior Least Tern	<i>Sterna antillarum athalassos</i>	E
Jaguarundi	<i>Herpailurus yaguarondi</i>	E
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	E
Large-fruited sand-verbena	<i>Abronia macrocarpa</i>	E
Least tern	<i>Sterna antillarum</i>	E
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E
Loggerhead sea turtle	<i>Caretta caretta</i>	T
Louisiana black bear	<i>Ursus americanus luteolus</i>	T
Louisiana pine snake	<i>Pituophis ruthveni</i>	C
Morse's Net-spinning Caddisfly	<i>Cheumatopsyche morsei</i>	
Mountain Plover	<i>Charadrius montanus</i>	
Navasota ladies'-tresses	<i>Spiranthes parksii</i>	E
Neches River rose-mallow	<i>Hibiscus dasycalyx</i>	C

Species Common Name	Scientific Name	Listing Status
No Common Name	<i>Phylocentropus harrisi</i>	
Northern Scarlet Snake	<i>Cemophora coccinea copei</i>	T
Ocelot	<i>Leopardus pardalis</i>	E
Paddlefish	<i>Polyodon spathula</i>	T
Parks' jointweed	<i>Polygonella parksii</i>	
Piping Plover	<i>Charadrius melodus</i>	T
Plains Spotted Skunk	<i>Spilogale putorius interrupta</i>	
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>	T
Red Wolf	<i>Canis rufus</i>	E
Reddish Egret	<i>Egretta rufescens</i>	T
Rough-stem aster	<i>Aster puniceus var. scabricaulis</i>	
Sandhill woollywhite	<i>Hymenopappus carrizoanus</i>	
Sharpnose Shiner	<i>Notropis oxyrhynchus</i>	C
Smalleye Shiner	<i>Notropis buccula</i>	C
Small-headed pipewort	<i>Eriocaulon kornickianum</i>	
Smooth Green Snake	<i>Liochlorophis vernalis</i>	
Snowy Plover	<i>Charadrius alexandrinus</i>	
Sooty Tern	<i>Sterna fuscata</i>	T
Southeastern Myotis Bat	<i>Myotis austroriparius</i>	
Spot-tailed Earless Lizard	<i>Holbrookia lacerata</i>	
Swallow-tailed Kite	<i>Elanoides forficatus</i>	T
Texas Diamondback Terrapin	<i>Malaclemys terrapin littoralis</i>	
Texas Garter Snake	<i>Thamnophis sirtalis annectens</i>	
Texas golden Gladecress	<i>Leavenworthia texana</i>	C
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	T
Texas meadow-rue	<i>Thalictrum texanum</i>	
Texas prairie dawn-flower	<i>Hymenoxys texana</i>	E
Texas screwstem	<i>Bartonia texana</i>	
Texas trailing phlox	<i>Phlox nivalis ssp. Texensis</i>	E
Texas trillium	<i>Trillium pusillum var. texanum</i>	
Texas windmill-grass	<i>Chloris texensis</i>	
Threeflower broomweed	<i>Thurovia triflora</i>	
Timber/Canebrake Rattlesnake	<i>Crotalus horridus</i>	T
West Indian Manatee	<i>Trichechus manatus</i>	E
Western Sand Darter	<i>Ammocrypta clara</i>	
White bladderpod	<i>Lesquerella pallida</i>	E
White-faced Ibis	<i>Plegadis chihi</i>	T
White-tailed Hawk	<i>Buteo albicaudatus</i>	T
Whooping Crane	<i>Grus americana</i>	E
Wood Stork	<i>Mycteria americana</i>	T
Woodpecker, red-cockaded	<i>Picoides borealis</i>	E

Status Key:

T – Threatened (State and Federal) DL – Federally Delisted
C – Candidate Taxon AD – Proposed Delisting
E – Endangered (State and Federal) “blank” – Rare, but with no regulatory listing status
LT – Federally Threatened

Eco-Tourism

Studies have shown that parks and open space, including forests, increase the value of neighboring residential property. Growing evidence points to a similar benefit on commercial property value. Additionally, the availability of park, open space, and recreation facilities is an important quality-of-life factor for corporations choosing where to locate facilities and for well-educated individuals choosing a place to live.

In his 2000 report, John L. Crompton reviewed 25 studies investigating whether parks and open space contributed to property values of neighboring properties. He found that 20 of the results indicated such an increase. Additionally, according to the Trust for Public Land, parks and open spaces often become signature attractions and thus a prime marketing tool to attract tourists, conventions, and businesses.

Tables 5 and 6 show the importance prospective tourists to Texas place on leisure activities that are provided by forests as well as the Texas Comptroller's estimates of sales tax revenues related to sporting goods products that could be useful in recreation and leisure opportunities provided by forests.

Table 5: Mean Score Importance Ratings of Forest-Related Leisure Activities of Prospective Tourists to Texas

SURVEY ITEMS	MEAN SCORE IMPORTANCE RATINGS
State Parks	3.5
Good Campgrounds	2.8
Good Hiking Trails	2.9
Historical Sites	3.9
Interesting Wildlife	3.6
Museums	3.5
Opportunities for Adventure	3.6
Pretty Scenery	4.4

SOURCE: Tourism Division, Texas Department of Economic Development, ratings based on a 5-point scale.

Many landowners in Texas derive substantial income from wildlife-associated recreation in the form of hunting and fishing on their private lands. The Fish and Wildlife Service reports that wildlife-associated recreation (fishing, hunting, wildlife viewing) contributed \$4.7 billion to the Texas economy in 2001. In addition, 2001 state sales taxes generated from fish and wildlife related recreation in Texas was estimated at \$298 million. Interest in nature-based tourism is rooted in a growing understanding among landowners that providing recreational opportunities for emerging markets of experiential tourists is another important way to derive economic benefit from the natural resources, such as forests, found on private lands. Activities like bird-watching, photography, backpacking, horseback riding, mountain biking, wildlife viewing, and canoeing are increasingly popular as urban residents and visitors strive to connect with the outdoors.

**Table 6: Texas Comptroller's Estimates of Sales Tax Revenues Attributable to Forest Related Sporting Goods
(2001 Data)**

Item	U.S. Value	% Regional Share ¹	SWC Region	Texas Value ²	Sales Tax Received ³
CAMPING					
Heaters (Gas/Propane)	\$10,800.00	8.00	\$864.00	\$613.44	\$38.34
Lanterns (Gas/Propane)	\$39,200.00	8.00	\$3,136.00	\$2,226.56	\$139.16
Sleeping Bags	\$223,745.00	5.30	\$11,858.49	\$8,419.52	\$526.22
Tents (3 person or more)	\$181,385.00	7.30	\$13,241.11	\$9,401.18	\$587.57
Tents (1-2 person)	\$84,227.00	9.30	\$7,833.11	\$5,561.51	\$347.59
Backpacks	\$400,100.00	10.40	\$41,610.40	\$29,543.38	\$1,846.46
Camping Stoves, Ice Chests	\$342,010.00	7.60	\$25,992.76	\$18,454.86	\$1,153.43
Hiking Shoes and Boots	\$899,300,000.00	9.10	\$81,836,300.00	\$58,103,773.00	\$3,600,000.00
Jugs, Coolers, Lanterns (Bat)	\$88,200.00	8.00	\$7,056.00	\$5,009.76	\$313.11
HUNTING & FIREARM					
Handguns	\$358,652.00	9.40	\$33,713.29	\$23,936.43	\$1,496.03
Shotguns	\$381,918.00	12.60	\$48,121.67	\$34,166.38	\$2,135.40
Rifles	\$444,302.00	16.70	\$74,198.43	\$52,680.89	\$3,292.56
Reloading Equipment	\$344,786.00	14.60	\$50,338.76	\$35,740.52	\$2,233.78
Other Hunting/Firearm Equipment & Ammunition	\$975,867.00	14.60	\$142,476.58	\$101,158.37	\$6,322.40
Sunglasses, Binoculars, Etc.	\$766,700.00	11.50	\$88,170.50	\$62,601.06	\$3,912.57
Hunting Boots	\$183,100,000.00	13.30	\$24,352,300.00	\$17,290,133.00	\$1,100,000.00
TOTALS	\$903,941,892.00		\$82,384,911.09	\$58,493,286.87	\$4,724,344.62

¹ Regional share is given in the report for some items in each component category where no category share was reported, the percent of US households in the West South Central (SWC) region (11.1%) was used.

² Texas Value was derived by applying the ratio of Texas population to the SWC regional value (SWC region is composed of Arkansas, Louisiana, Oklahoma and Texas).

Historical Preservation

The following information is from Texas Society of American Foresters Historian, Dr. Bob Baker. It details the historical significance of forests in Texas.

Highlights of Texas Forestry Texas Society of American Foresters

This information is excerpted from a publication in a series that started as *Highlights in Texas Forest History*, published by the Texas Forestry Association in 1964. The Texas Society of American Foresters, under the title *Highlights of Texas Forestry*, published it in 1984, and was later revised as of 1998. Some of this has not been authenticated.

1819

One of Texas' earliest sawmills was in operation. Until 1890 the mills were small. In that year big milling was under way; three large mills were operating in Beaumont.

1821

Stephen F. Austin and the early Texas settlers benefited by an occurrence of east Texas pine forests found in Bastrop, Fayette and Colorado counties. The first capitol at Austin was built of pine logs and rock and sawn lumber brought from Bastrop.

1827

The Congress of that portion of the Mexican Confederacy which included the present state of Texas decreed that certain designated towns might cut timber along the Sabine River without payment of tax, provided the cutting was done with a permit. The decree required that anyone negligently causing a fire while conducting such cutting operation had to pay for the damage and plant trees upon the area burned.

1856

An act was passed by the State Legislature providing for punishment to any person willfully or negligently setting fire to, burning, or causing to be burned, any woodland or prairie not his own.

1860

During the Civil War nearly all milling ceases.

1869

Texas ranked 24th among lumber producing states.

1880

The railroads just began construction into the piney woods of East Texas for the lumber industry.

1883

Sergeant's Report on Forests of North America stated that there were 20.5 billion board feet of longleaf pine, 26.1 billion board feet of shortleaf pine, and 20.9 billion board feet of loblolly pine in Texas.

1894

T.L.L. Temple constructed a circular sawmill with 50 thousand board feet daily capacity at Diboll. This was the beginning of the Southern Pine Lumber Company, which evolved over the years through many purchases and mergers to the present-day Temple-Inland.

1898

At the request of the Chief of the Division of Forestry of the U. S. Department of Agriculture, W. Goodrich Jones made a horseback survey of the pine forests of East Texas. Jones issued a bleak narrative survey. Chief Fernow urged Mr. Jones to work toward the establishment of a State Department of Forestry. This was Jones' second horseback trip into East Texas; the first was in 1885.

1909

Gifford Pinchot was in Texas to discuss forest conservation matters with members of the Southern Pine Manufacturing Association. Professor H. H. Chapman from Yale published a growth and yield study of longleaf pine in Tyler County. He estimated that it would take from 75 to 100 years to make a commercial crop of longleaf pine. He advised that private investment would not work on such an undertaking; that it would take a public forest reserve.

1914

W. Goodrich Jones organized the Texas Forestry Association at Temple, Texas. It was a non-governmental, non-profit, statewide, privately supported organization to promote the economic development and utilization of the State's forest and related resources. Mr. Jones served as the organization's first president. In 1970 the Texas Forestry Association merged with the Texas Lumber Manufacturers Association and continues today as the Texas Forestry Association.

The USDA Forest Service, Washington Office, wrote "A Forest Policy for Texas," as a forerunner to helping work toward an office of State Forester in Texas.

1915

Through the efforts of W. Goodrich Jones, later known as the "Father of Forestry" in Texas, The Office of State Forester was created by the Texas Legislature with an accompanying \$10,000 appropriations for the first year of operation. The office became part of the A&M College of Texas. The legislation specified that a graduate forester fill the office. The Office of State Forester was first in charge of the Department of Forestry, then the Texas Forestry Department and finally the Texas Forest Service and continues today as part of the Texas A & M University System.

1916

The State/Federal program for control of wildfires in Texas was initiated with funds authorized by the 1911 Weeks Law (36 Stat. 961) and matching state funds. Six patrolmen were employed in southeast Texas. By 1922, 1.5 million acres had intensive fire protection and another 6.5 million acres had extensive or "blanket" patrol.

The Texas Office of State Forester produced its first publication, Bulletin-1, "Grass and Woodland Fires in Texas".

1917

The Texas Forest Service issued two bulletins, General Survey of Texas Woodland, to “acquaint the public with the forest and woodland conditions as they exist in a general way over the entire state,” and Forest Resources of Eastern Texas. Of forty counties in East Texas, 1.7 million acres were thought to never have been cut, 7.8 million acres were second growth, and there was estimated to be 8.3 billion board feet of pine and hardwood saw timber in Texas.

1919

The publication, Texas Forest News, was started by the State Forester’s Office. It was published as a newsletter in cooperation with the TFA. It was issued continuously, except for a short time during the depression, until 1991 when the publication was discontinued.

The Texas Forestry Association issued a small 20-page booklet, *Forestry and the Texas Citizen*, in which it outlined the need for a forest policy in Texas. One of the items in the booklet called for a “nominal tax on forest land supporting immature stands of timber and a yield tax when the timber is marketed.”

1920

The city of Dallas employed its first City Forester, Alfred Macdonald who was a member of the Texas Forestry Association.

1922

A Division of Forest Resource Protection within the State Office of the Department of Forestry (TFS) was formed.

1923

The Texas Legislature enacted its first forest fire prevention law providing that locomotives fueled by wood must be equipped with spark arresters. The law also made it a misdemeanor to willfully or negligently cause fire to be set in forest of cutover land.

1924

Texas’ first State forest of 1,702 acres was acquired near Kirbyville. In 1951 it was named E. O. Siecke State Forest in honor of the State Forester who was instrumental in its purchase. By 1925 a state forest in Cherokee county containing 2,250 acres and one in Montgomery County containing 1,116 acres were also purchased.

1925

A cooperative agreement was executed between the USDA Forest Service and the State Forester of Texas for a cooperative in forest fire protection authorized under the Clarke-McNary Act of 1924 (43 Stat. 653).

The first large-scale attempt to reforest cutover land by direct seeding was done by the Angelina County Lumber Company when it used 100 pounds of longleaf seed on 100 acres of company land near Zavalla.

The 38th Texas Legislature directed a study of conditions affecting the supply of timber in Texas and requested the submission of recommendations for the conservation of the State’s timber resources and the establishment of constructive forest policy. The principal recommendation was for reforestation of timberlands by private owners.

The I. D. Fairchild State forest (2,360 acres) was acquired from the State Prison Board. In 1963, the State Legislature transferred an additional 536 acres from the Rusk State Hospital.

1926

The Texas Forest Service established Texas’ first tree nurseries on the State Forests at Kirbyville and Conroe, to sell seedlings to private timberland owners for reforestation.

The first slash pines in Texas were planted on three acres of the Siecke State Forest.

The Extension Service introduced the first forestry projects to 4-H clubs.

The first steel lookout fire tower was erected on the E. O. Siecke State Forest. It was 80 feet tall.

1927

The Texas Forest Service started a participating landowner program that provided fire protection services to landowners who agreed to an annual assessment based on acreage

1933

Seventeen Civilian Conservation Corps (CCC) camps—having the Prefix “P” —were assigned to the Texas Forest Service. On private lands their labor was confined to protection from wild forest fires. They built truck trail construction to facilitate vehicle access to where fires were burning, erected fire lookout towers, installed telephone communication lines between towers, and suppressed fires. On the State Forests labor was permitted in fence and road construction, timber stand improvement, and construction of structures. There were later also prefix “F” camps administered by the Texas Forest Service.

The 43rd Texas Legislature, to authorize the United States to purchase land in Texas for the purpose of establishing National Forests, passed SCR-73, introduced by Senator John Reddit of Lufkin. It was approved by Governor M. A. (Ma) Ferguson.

1934

USDA Forest Service land acquisition personnel established an office in Houston and began to purchase forestlands in each of the four purchase units. These lands later became the Angelina, Davy Crockett, Sabine and Sam Houston National Forests.

The administrations of four CCC Camps were transferred from the Texas Forest Service to the USDA Forest Service for work on the National Forests. There were 14 such camps by 1936.

1935

A tract of 94,000 acres, at an average price of \$ 8.90 per acre, was acquired from the Houston County Lumber Company on July 1, to begin forming the USFS National Forests in Texas.

Work began on preparing the first timber management plans for the Davy Crockett and Sam Houston National Forests. These plans provided for improvement cuts to remove poor risk and sanitation trees and to thin crowded groups. Regulation of cut was by volume of timber. Also, work began on the new administrative site in Lufkin.

1936

President Roosevelt proclaimed the National Forests in Texas on October 15.

During his assignment as Staff Forester with the CCC program, D. A. (Andy) Anderson, at the Trinity CCC Camp, initiated the use of two-way radios for communications in wildlife suppression work.

The Soil Conservation Service with headquarters in Fort Worth establishment a tree nursery in Minden, Louisiana. It produced seedlings for planting on private lands throughout the region. Some of this planting stock was used on SCS Land-Use Projects (now Caddo and Lyndon B. Johnson National Grasslands).

A “very complete” recreation plan for the National Forests in Texas was prepared.

1937

The first sale of timber occurred on the Davy Crockett National Forest. It consisted of poor, risk, sanitation trees and thinning from crowded groups. Sales such as these provided jobs and left 25 percent of the sale income in local counties for schools and roads. There were an estimated 20,000 head of cattle on the open ranges of the Forest. Recreation on the National Forests in Texas began and CCC labor was used to develop Ratcliff Lake.

1938

Southland Paper Mills began to acquire land to support its planned newsprint mill at Lufkin. The mill produced the first roll of newsprint made from southern yellow pine in 1940.

1939

The Texas Legislature authorized Soil Conservation Districts as a subdivision of State Government. Some districts, notably Marion-Cass and Nacogdoches-Rusk, were active in promoting pine plantations in the 1940s.

1940

Community Forests were established at Luling, Caldwell, Lufkin, Port Arthur and Texarkana.

A forest products laboratory was created in Lufkin. This was a first for a State forestry agency. The use of sawmill residues by paper mills invented in 1957 was one result of this laboratory's work.

1941

Aircraft for forest fire detection began and the planes were equipped with two-way radios.

1942

The USDA Forest Service began to use tree measured volumes in timber sales. Prior to this all timber sales were based on volumes determined by scaling or weighing the cut products. In this new system, each tree is measured standing and the volume computed from volume tables adapted to the stand. The procedure was enhanced in 1947 by statistically based sampling methods developed by the Southern Forest Experiment Station.

1943

Several large non-industrial forest ownerships have had a significant role in the practice of professional forestry in Texas. These estate foresters had an active role in Texas forestry as well as placing their employer's lands under excellent forest management.

1944

The American Tree Farm System was organized in Texas.

German prisoners of war were used to salvage broken and downed timber caused by a January ice storm.

The Stephen F. Austin Experimental Forest was established by a 1944 Act of Congress (PL 78-539).

1945

The Texas Forestry Association and the Texas Forest Service sponsored by the East Texas Chamber of Commerce made a survey. Texas Forest Facts concluded that the forests of East Texas should be managed as a crop.

1946

The first Texas Forestry Association/Texas Forest Service summer camp for 4-H and FFA youths was held at the E. O. Siecke State Forest.

The first consulting forester in Texas, Frank Spearey, opened an office in Nacogdoches. In the spring of 1981 the Consulting Foresters of Texas was organized.

Stephen F. Austin State College initiated a forestry program. In 1966 the SAF accredited the school's program. M. S. F. and D. F. degrees were added in 1969 and 1973, respectively. It was renamed the Arthur Temple College of Forestry in 1997.

Texas A&M University established a Forest Science degree program in the Department of Range Management. This was expanded to include a Ph.D. degree program in 1965. In 1969 the present Department of Forest Science came into being with B.S. and M.S. degree programs. SAF accreditation was granted in 1975.

1948

USDA Forest Service started using prescribed fire for control of yaupon in loblolly pine stands on the Sam Houston National Forest. Previous prescribed burning had been confined to longleaf pine stands.

Eleven independent pulpwood producers who saw the effect of poor timber cutting practices that occurred during the period immediately after World War II formed the Independent Pulpwood Producers, Inc. (IPPI). The organization dissolved in 1974.

1949

The first operational use of benzene hexachloride (BHC) in fuel oil for bark beetle control in the United States occurred in Hardin County, Texas. It remained the standard control until 1969.

Communication for fire control purposes was changed from grounded telephone line to two-way radio.

1951

With financial help from several Texas forest product industries, the Texas Forest Service initiated the first cooperative forest tree improvement program undertaken by a southern organization, public or private. Initial test areas were located on Southern Pine Lumber Company holdings in Cherokee County.

Longleaf pine stumps left on cutover areas in southeast Texas were utilized by Newport Industries of DeQuincy, Louisiana for turpentine extraction. This was an unused industrial resource and made planting operations easier for the participating companies.

1955

Texas ratified the South Central Interstate Forest Fire Protection Compact. The agreement provided for aid between several states in the control of forest fires especially during periods of high hazard when local facilities are inadequate.

1957

A 100-acre infestation of southern pine beetles near Saratoga was the beginning of an outbreak that would persist over the next 20 years.

Stephen F. Austin State College's forestry summer camp near Milan, on the Sabine National Forest, began its operations. In 1987 the camp was transferred to a new location on the shores of the Lake Sam Rayburn and became the Piney Woods Conservation Center enabled by a gift of land from Temple – EasTex.

Membership in the Texas Forestry Association reached 1000.

1959

The Texas Forest Service and the Alabama Coushatta Indian Tribal, situated in Polk County, concluded an agreement where by the agency was authorized to administer forest management on the tribe's forestlands amounting to approximately 1, 2280 acres. The agreement was terminated in 1975.

1961

The last known naval stores chipping operation was conducted in Jasper and Newton Counties in old-growth longleaf pine. The gum was distilled at a plant in DeQuincy, Louisiana.

Large reservoirs constructed in East Texas during the 1960s and 1970s put much timber on the market. Timber harvests from the land to be inundated for the McGee Bend/Sam Rayburn and the Toledo Bend Reservoir caused large amounts of timber to be put on the market resulting in depressed stumpage prices from 1961-1967.

1962

Resources Conservation and Development Projects were authorized under the Food and Agricultural Act of 1962. Soil Conservation Districts in several counties organized the multi-county projects to speed up resource conservation, including forest products.

The TFS established the Forest Pest control Section

The Big Ticket Scenic Area, comprising 1,947 acres, on the Sam Houston National Forest was established and dedicated in 1963

The TFS Forest Products Laboratory developed weight scaling of logs as a replacement of stick scaling.

1963

The Southern Pine Lumber Company initiated tree-length logging and log scaling by weight.

International Paper Company successfully urged the Texas Legislature to enact a State Forest Pest Act. It made landowners responsible for controlling pest infestations on their land and gave the Texas Forest Service authority to enter private forestland to control infestations if the landowner failed to act.

The forest industry leaders organized and founded the Southern Forest Research Institute to develop more effective controls for the southern pine beetle. Until 1969, when some state funds were used, the Institute was financed entirely by private forest industries. Research led to the isolation and identification of attractant "frontalin" and contributed to the development of control tactics such as cut-and-leave.

1964

Kirby Lumber Company and Southern Pine Lumber Company each built a plywood plant pioneering the manufacture of plywood from the southern pines.

1965

Under the direction of USDA Forest Service, the New Waverly Job Corps Center opened on the site of an old CCC camp on the Sam Houston National Forest. The center opened with visions of potential benefits to National Forest programs as well as to the thousands of youth who might be served. The potential was cut short in 1969 but the program left many recreational and administrative improvements. The site is now leased to the Gulf Coast Trades Center.

1966

Owens-Illinois began to acquire timberlands in Texas to supply a pulp mill under construction in Orange. A key acquisition was the lands and operating plywood plant of Angelina County Lumber Company at Keltys. The Company added a Plywood plant and Stud Mill at Jasper in 1970 and 1974. Temple-Inland Forest Products Corporation purchased the land and L-I's paper mill at Orange. O-I's other mills in Jasper and Lufkin were purchased by Louisiana-Pacific.

1967

The intensification of timber management practices, especially regeneration cutting, brought a need to control livestock numbers on the National Forests in Texas. This was a move with considerable social impact and potential for conflict. The careful planning and the fortuitous timing of a statewide stock law avoided this.

1968

The Georgia-Pacific Corporation purchased Reynolds-Wilson Lumber Company with sawmills at Corrigan, Jasper and Kountze. In 1971 they built a large pine plywood plant at New Waverly and later another at Corrigan. In 1973 Georgia-Pacific became Louisiana-Pacific and continued to expand operations in Texas. In 1980 Louisiana-Pacific began its "Tree Enterprise" program, which consists of providing forest management assistance to non-industrial forest landowners under a written agreement.

1969

The Texas Forestry Association initiated a program of Woodland Trails on industrial forestlands. The purpose was to enable the public to observe unique forest ecological associations and forest management practices. The first trail was on Southwestern Timber Company land east of Newton and dedicated in 1970. The program grew to a system of 15 separate trails throughout East Texas.

The Texas Forest Service began a Windbreak Tree program in west Texas to address soil erosion by wind.

The Western Gulf Forest Tree Improvement Cooperative of southern states and wood-using industries was officially organized. Initial work was to select genetically superior forest tree individuals to serve as stock for seed tree orchards.

1970

Two National Grasslands, the Caddo and Cross-Timbers (now Lyndon B. Johnson), formerly Land-Use Purchase areas, were added to the National forests in Texas.

Texas' Famous Trees were immortalized in a 200 page hardcover book. Production of the book was made possible by a \$50,000 grant from the Moody Foundation.

1971

From 1971 to 1975 the personnel on the National Forests in Texas held a series of "public listening sessions." Topics included management plans on the two national grasslands, eastern wilderness, the Conroe and Saline unit plans, off-road vehicle plans, and the Resource Planning Act. Membership in the Texas Forestry Association reached 2,000.

1972

The Texas Forest Service initiated a program of urban forestry and urban forestry positions in Dallas, Houston, and San Antonio. They also developed the urban Forest Tree Improvement Program to find and develop individuals among suitable tree species for the urban environment and began a Rural Fire Defense Program for the protection of improved property in rural communities. Surplus military equipment, chiefly light trucks and jeeps, equipped with water devices, were supplied to quality rural protection organizations statewide. The program continues today.

1974

USFS adopted the then new approach of public involvement in land-use planning inviting participation in short term planning efforts. Over two hundred people from diverse interest groups, in ten "teams," met on the Sam Houston National Forest for a weekend of around-the-clock intensified planning activity, followed by a week of intense consolidation of results by the national Forests in Texas' planning team. Their effort was a significant contribution to the Conroe Unit plan for the Sam Houston national Forest. Subsequent meetings were held for the Sabine and San Jacinto Unit Plans.

Forestry Incentives Program implemented by USDA Forest Service, with cooperation of Texas Forest Service in Texas, to encourage reforestation of non-industrial private lands.

The Texas Forest Service's fire control program converted from part-time employees to full-time employees.

Texas A&M's forestry program began a summer field course. The course has operated in several locations in East Texas.

1975

Panola Junior College started a forest Technician program that has lasted until a recent reorganization in 2002.

1976

The Draft Sabine Unit Plan was issued. The Texas Committee on Natural Resources supported by other preservation groups brought suit against Forest Supervisors to stop even-aged management on the National Forest in Texas. Several timber industries and the Texas Forestry Association intervened in support of the USFS. The District Court ruled against the USFS but was overturned in the Court of Appeals.

The 20-year southern pine beetle outbreak reached unprecedented levels with over 11,000 infestations and 34 counties were declared a disaster area. The outbreak subsided abruptly in 1977.

1977

The Texas Forestry Association organized a Forestry Political Action Committee (FORPAC) to promote forestry in Texas by supporting the campaigns of those seeking election or re-election to the Texas legislature.

The Draft Sam Houston National Forest Plan was issued and the Final plan was issued in 1978.

1979

House Bill 1060 passed the Texas Legislature and was signed by Governor Clements to help preserve long-term timber growing in Texas.

The Texas Forest Service abandoned all lookout towers as a means of forest fire detection in favor of periodic aircraft patrols.

The Draft Davy Crockett National Forest Timber Management Plan was issued in 1979 and the Final Plan was issued in 1980.

A nursery greenhouse was established in Lubbock to grow 50,000 containerized tree seedlings for west Texas windbreak projects.

1981

The Texas Forest Service established a forest fire control training center in Lufkin to train State, Federal and industrial fire control people in suppression techniques with fire simulators.

The Texas Forestry Association organized the Texas Reforestation foundation (TRe). The purpose was to cost share reforestation on private, non-industrial lands.

The value of timber harvested from the National Forests in Texas exceeded \$10 million. It had exceeded \$1 million in 1949 and \$5 million in 1976.

1983

The first known control effort of a large southern pine beetle infestation took place northeast of Evadale in loblolly owned by Kirby Lumber Company. USFS Southern Forest Experiment Station entomologists and the Texas Forest Service were responsible for the control actions consisting of cutting all pines on a swath one-half mile wide around the infested area. The action was successful.

The TFS Pest Control Section implemented a system for hazard rating grid blocks (18,000 acre units) based on their likelihood to support outbreak populations of southern pine beetle. This system used high altitude aerial photography to evaluate host abundance and distribution. The first large-scale use of a helicopter for logging in Texas to control beetle outbreaks drew heavy media attention. The first oriented strand board mill in Texas was brought into Corrigan by Louisiana Pacific Corp.

Texas A&M University Press published the book Sawdust Empire, outlining the history of the forest industry and forest conservation in Texas from 1830 to 1940.

1984

The Texas Society of American Foresters published a booklet, Highlights of Texas Forestry, which chronicled the history of professional forestry and forestry professionals in Texas and included other significant events in the evolution of utilization of products of Texas forests and forest conservation in the State.

A cooperative venture between the School of Forestry at Stephen F. Austin State University and Harbin University from the Peoples Republic of China was initiated. This enabled students from China to do graduate work at SFASU and SFASU faculty members to lecture at Harbin.

Five wilderness areas were created on the National Forests in Texas.

International Paper Company's plywood mill in Nacogdoches was destroyed by fire.

1985

Project Learning Tree was initiated in Texas and continues to be active in Texas today.

A second lawsuit on behalf of the Texas Committee on Natural Resource against the National Forests in Texas was filed revolving around southern pine beetle suppression on national forest wilderness areas and clearcutting on the National Forests in Texas. An injunction on timber cutting was put in place in 1997.

1986

The Southern Forest Experiment Station completed the first periodic survey of the East Texas Forest resource. The Survey confirmed the belief that annual softwood removals had risen above average annual growth. The Texas Forest Service, Temple-EasTex, Champion International, International Paper Co., Louisiana- Pacific, and Kirby forest Industries assisted in data collection.

To further leverage the impact of the agency's small urban forestry staffing, the focus of the TFS urban program began to shift in the middle 1980s and The Texas Urban Forestry Council (TUFC) and 10 supporting regional councils were formed to bring several levels of government and non profit organizations together to promote community tree planting and maintenance.

The National Forests in Texas celebrated its 50th Anniversary.

1987

The TUFC hosted the first statewide Urban Forestry Conference in Austin. Today there are twelve regional urban forestry councils organized under the Texas Urban Forestry Council. Texas Forest Service now has full time urban forester in Fort Worth, San Antonio, Houston, Dallas, Abilene, El Paso, Corpus Christi, El Paso, Lubbock, Brownwood, and College Station.

A final Land and Resource management Plan and final EIS for the national Forests and Grasslands in Texas was issued.

1988

Two large sawmills came on-line during the year: Temple-EasTex's Mill near Buna, Jasper County, and the Cal-tex sawmill in Nacogdoches. The latter represented the first major move into Texas by a Pacific Northwest based company due to timber supply uncertainties in that region. The Texas Forest Service initiated the Oak Wilt Suppression Project. The goal of the project was to combat the spread of the oak wilt disease throughout the central Texas region.

The East Texas Federal District Court issued a permanent injunction against the National Forests in Texas for failing to implement certain practices and activities within 1,200 meters from red cockaded woodpecker cluster sites.

The Southern Forest Experiment Station reported on nontimber values of East Texas timberland, including water and soils, range, wildlife, recreation and other values.

1989

The Texas Forest Service in its 1989 report, harvest trends, indicated that the harvest of timber in Texas exceeded that of 1907.

The Texas Forestry Association celebrated its 75th Anniversary.

1990

It was decided that the Land and Resource Management Plan for the National Forests and Grasslands in Texas would be revised. In response to the increasing concern over nonpoint source pollution of water the Texas Forest Service, in cooperation with the Texas Forestry Association, developed a set of Best Management Practices for forestry operations. The TFS developed an EPA-funded educational outreach program to encourage adoption by the forestry community. The Texas Forestry Association published the Texas best management Practices for Silviculture Handbook and sponsored a series of regional workshops.

The First Annual Teachers Conservation Institute was convened in June at the Piney woods Conservation Center. It replaces the long-standing TFA youth Forestry camp. In 1991 TCI was awarded national recognition by the Associations Advance American Awards program for being on innovation education program.

Membership in the Texas Forestry Association reached 3,000.

1991

Nationwide concern over the issue of global warming, deforestation, and energy conservation lead President Bush to expand Federal urban forestry programs. "America the Beautiful" urban forestry grants program, administered by the TFS in Texas, provided my communities and non profit organizations means to develop and implement long term community forestry programs.

The Small Business Administration initiated a nationwide urban forestry grants program to encourage tree planting in communities.

The National Tree Farm Program celebrated its Fiftieth Anniversary.

The Forest Stewardship Program, a Federal multi-resource technical assistance and cost share program, was established.

Texas' fourth OSB mill was put on-line by Louisiana Pacific in Silsbee, on the site of a Kirby plywood plant that had closed in 1987

1992

The Texas Silvicultural Best management Practices Project, a Texas Forest Service program funded by a Clean Water Act grant, received the EPA Region 6 Regional Administrator's Nonpoint Source Pollution Environmental Excellence Award in recognition of s successful education outreach program. The Texas Forestry Association also received recognition as a cooperator.

The Texas Logging Council (TLC) and the Texas Forest Landowners Council (TFLC) were established as part of the Texas Forestry Association.

The first shipload of hardwood chips left the Port of Beaumont for Japan in December as a result of a joint venture between the Mitsubishi International Corp. The USDA Forest Service announced "... that the Forest Service is committed to using an ecological approach in the management of the National Forests and Grasslands" including longleaf pine restoration work.

1994

A new Draft land and Resource Management Plan and Draft Environmental impact statement for the National Forests in Texas was issued.

1995

TFA hired the first Forestry Environmental Education Director, expanding the Association's role in Project learning Tree and spreading the forestry message to educators across the state.

The Texas Reforestation Foundation (TRe) exceeded 100,000 acres planted since the program was initiated in 1981. The Sustainable Forestry Initiative (SFI) committee was established under the Texas Forestry Association umbrella.

1997

The first Director of the Texas Logging Council was inaugurated.

The 75th State Legislature passed four major forestry bills:

- *Reforestation of open space lands allowing agricultural tax values for the first 15 years before applying timber values.
- *Timber theft bill requiring landowners to be paid in full within 15 days of harvest
- *Truck safety bill allowing log trucks to legally carry 80,000 lb. loads.
- *Trespass bill recognizing purple plait as a legal alternative for landowners to post their property.

1998

Several East Texas counties experienced 135 mph winds that blow down an estimated 400 million board feet of timber blown down.

The 76th State Legislature passed a bill, which allowed certain private timberlands to be assessed at 50% of their timber use-value. Areas include streamside management zones, special areas, and plantation for their first ten years.

Carbon Sequestration and Air Quality

Carbon sequestration refers to the provision of long-term storage of carbon in the terrestrial biosphere, underground, or the oceans so that the buildup of carbon dioxide (the principal greenhouse gas) concentration in the atmosphere will reduce or slow. In some cases, this is accomplished by maintaining or enhancing natural processes; in other cases, novel techniques are developed to dispose of carbon.

In recent years, policy makers have focused on the ability of forests to mitigate the potential impacts of climate change. Because forests convert atmospheric carbon into vegetation, increasing the quantity of carbon stored in forests has the potential to offset carbon released from other activities, such as fossil fuel burning.

Forests already serve as a substantial warehouse for carbon. Dixon et al. (1994), for example, estimate that approximately 1146 Petagrams (a Petagram is 10¹⁵ grams or a billion metric tons) of carbon are stored in the world's forested ecosystems. Increasing this sink by even modest amounts could provide additional protection from future climate change.

As Figure 10 shows, urban areas near and in the proposed Texas FLA suffer from a buildup of carbon dioxide, producing unhealthy amounts of ozone in the atmosphere. Therefore, they could benefit from the carbon sequestration abilities provided by Texas forests. In addition, Figure 11 shows that the forest types found in the proposed FLA, particularly the hardwoods and natural loblolly pine, sequester on average 80 to 150 thousand pounds of carbon per acre.

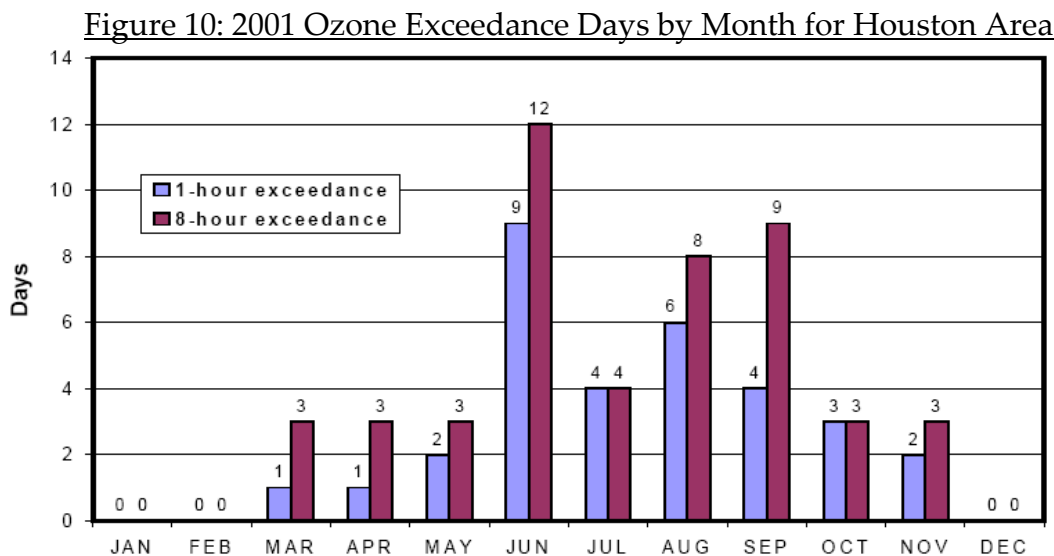


Figure 11: Average Carbon Storage for Selected Forest Types

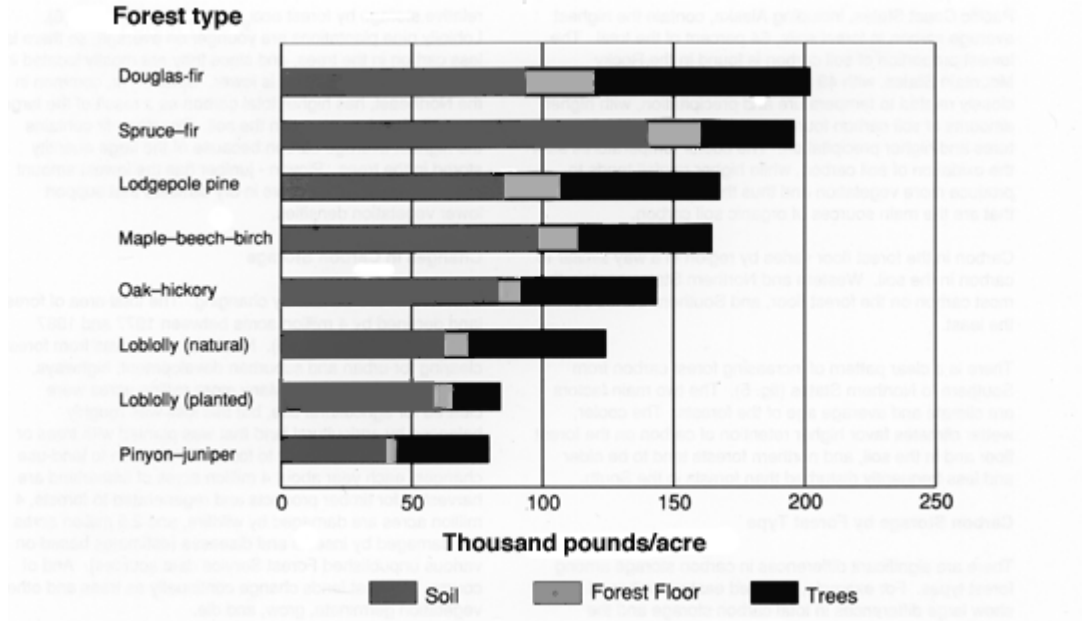
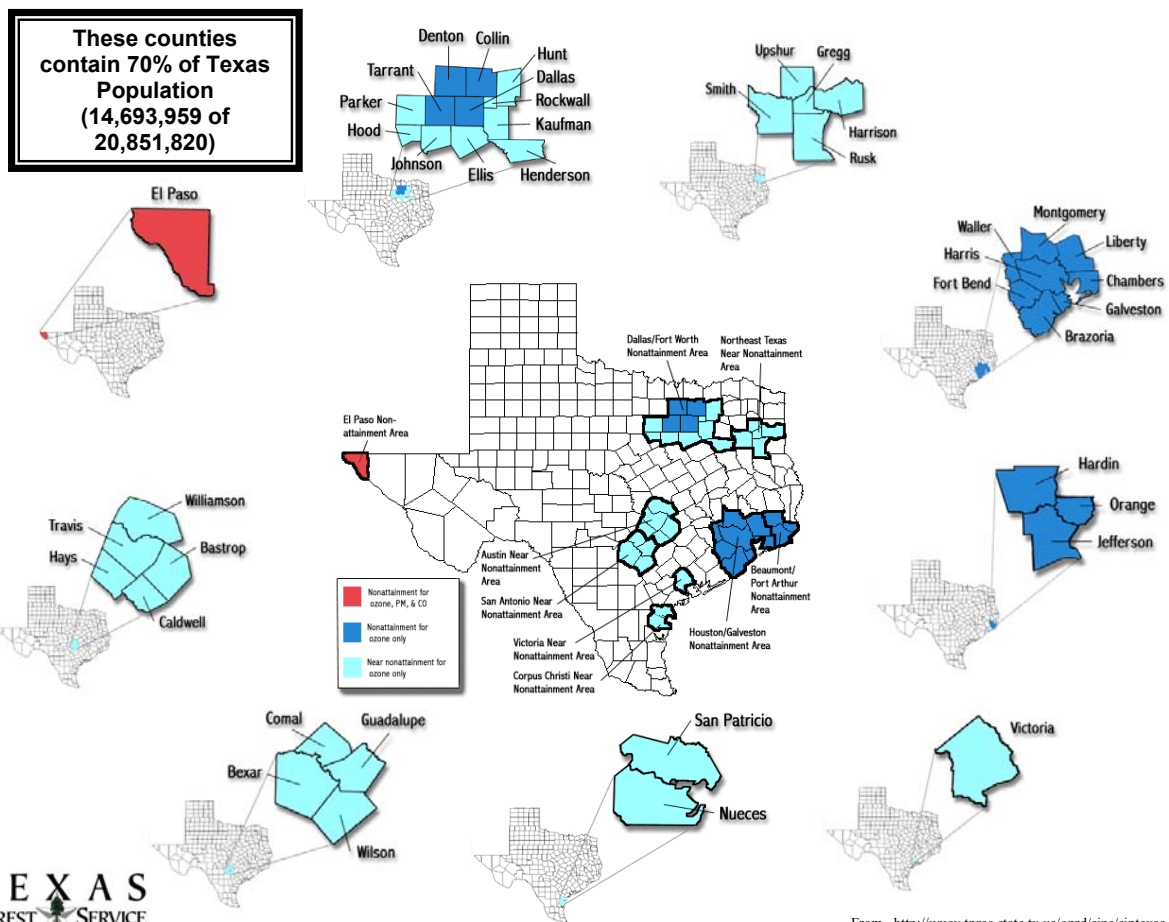


Figure 12: Air Quality Nonattainment and Near Nonattainment Areas in Texas



FOREST INVENTORY

In Northeast Texas, NIPF dominates the ownership and thus the bulk of timber resources; 71% of the 178.4 million cubic feet of annual production. Forest industries have most of the balance of 26%. For all of Northeast Texas, removals exceed growth by six percent. Most of the deficit is on NIPF where harvest has exceeded growth by 18% over the past ten years.

NIPF pine sawtimber removals for all East Texas exceeded growth over the past ten years by 13%, whereas on industry land, removals were sustainable at 80% of annual growth. Pine sawtimber growth removals by product are revealing; for example, large pine sawlog removals exceed growth by 44%, and small logs or chip-n-saw, by 26%. Pulpwood removal accounted for only 75.4% of growth.

In Southeast Texas, forest industry and NIPF are substantial timber producers and overall production is almost twice as much as Northeast Texas. The most striking similarity is the growth/removal picture for NIPF, where in both cases, removals exceeded growth by a wide margin, about 20% in Southeast Texas. Industry has a surplus in this region of 41.9 million cubic feet. Public forests here are significant, making up 14% of the annual softwood timber production; however, they only contribute 7% of the total harvest.

There is not a lot of difference between regions in product removal trends. Sawlog removals exceed growth by 54%, chip-n-saw growth and removal are in balance, and pulpwood removals are only 80% of growth.

There is a surplus of hardwood growth versus removals in East Texas. Removals are 76% of growth. Most of the growth is on NIPF lands—74%. Northeast Texas has 56% of the total annual hardwood growth. Northeast Texas does not have as much surplus growth, since removals on NIPF land is 85% of annual growth.

Given the amount of hardwood timber contained in streamside management zones and cutting restrictions, availability is an issue to consider relative to the 52.4 million cubic feet of hardwood surplus.

A significant issue to address is the relative low price landowners receive for hardwood in East Texas in relation to neighboring states. As of October 2003, the average stumpage price was \$162.55/thousand board feet (MBF) (*Texas Timber Price Trends, September-October 2003*) versus \$314.05 in Louisiana (*Louisiana Forest Product Market Report, Oct-Dec. 2003*).

By forest product, hardwood sawlog removals are 83%, Chip-n-Saw 81.4%, and pulpwood 53.1% of growth, which is a desirable trend. The real opportunity relative to hardwoods is to transition more of the saw timber utilization into grade lumber and veneer.

The change in acres by forest type is significant given productivity differences between categories. About 80% of the forests in East Texas are suited to pine production, and lands primarily stocked with pine are more productive than mixed pine, and certainly more productive than upland hardwoods. Bottomland forests are forested wetlands and the most productive hardwood forests. The production of timber is one of the most important functions of these important wetlands. Because of this economic value, these resources are vital to local economics and contribute to the tax base for local government, including schools.

Acreage in pine forests increased by 30%, mixed dropped 2%, upland hardwood dropped 45%, and bottomland hardwood was up 10% since 1992. These are all positive trends. Upland hardwood stands are generally high-graded former mixed stands, so the big drop in that category is positive and corresponds with the big jump in pine types. This trend shows landowners are making substantial capital investments in site preparation and planting to convert cut-over sites back into productive forests.

Average annual mortality of growing stock was much higher than it was in 1992; softwood was 74.4 million cubic feet (MMCF) versus 55.5 MMCF ten years ago, and for hardwoods 64.6 MMCF versus 40.3 MMCF ten years ago. This was mainly driven by the worst drought cycle in the last fifty years, from 1998 to 2002.

There are 21 million acres of land in East Texas, about twelve million is in timberland, and of that 2.7 million acres, are plantation. These plantation forests, especially smaller units common today with the streamside management zones (largely hardwoods along the most productive soils), are some of the most valuable wildlife sites because of the diversity of age classes, openings created, etc.

Forested wetlands have largely gone unchanged in total acres except for reservoirs constructed over the past 30 years. These are very valuable sites for their many benefits including ecological values like groundwater recharge, sedimentation reduction, and soil erosion control, as well as wildlife habitat and quality hardwood production. It is important to realize that these lands are mainly privately owned, and continue to be sustainable on all counts.

Over the past ten years, plantation acreage on forest industry lands increased 41% to 1.8 million acres, and on NIPF, it jumped 134% to 902 thousand acres. Industry lands are more intensively managed, since they are mainly owned to support their mills. They are probably reaching their maximum in terms of pine sites that can economically support the cost at 77% of their total pine lands. By contrast, NIPF pine sites in plantations are 34% of their pine forests. NIPF land is managed in smaller tracts, and not necessarily to maximize forest production.

CHAPTER IV: CULTURAL CHANGES AFFECTING FOREST SUSTAINABILITY

- ❖ By the year 2040, Texas' population could reach as many as 50,582,961 with the highest population density in East Texas
- ❖ Texas led the nation in land converted to urban uses between 1992 and 1997 with 893,500 acres of rural land developed
- ❖ An estimated 3,000 jobs were lost in East Texas between 1999 and 2003 as a result of timber industry restructuring and timberland sales

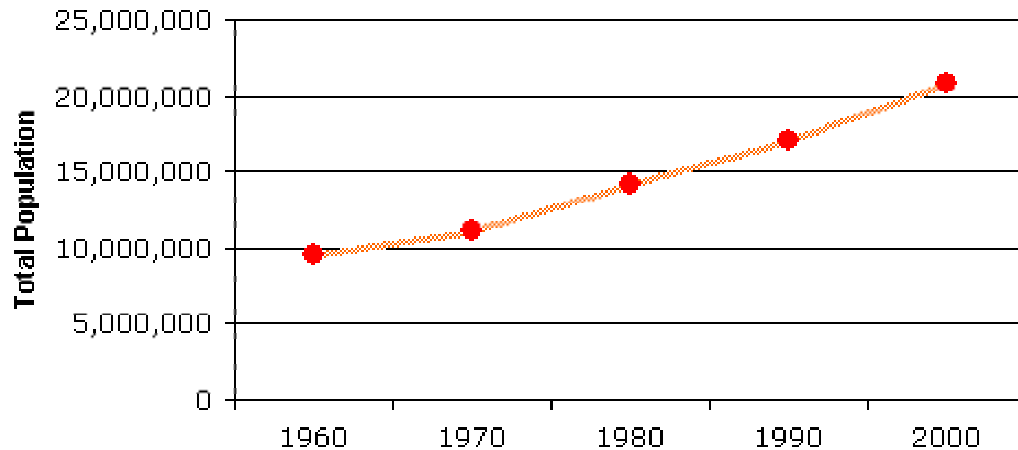
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POPULATION GROWTH AND URBAN SPRAWL

Figure 13: Texas Population, 1960-2000



As Figure 13 shows, the population of Texas has grown rapidly over the past 40 years. The ecoregions represented in Texas' proposed FLA have reflected this trend as population increased significantly from 1990 to 2000 in the Piney Woods, Gulf Coast Prairies and Marshes, and Oak Woods and Prairies ecoregions.

Table 7: Texas Population by Ecoregion, 1990 & 2000

Ecoregion	1990	2000	% Change
Pineywoods	2,485,312	2,982,817	16.70%
Gulf Coast Prairies and Marshes	8,299,840	9,972,675	16.80%
Oak Woods and Prairies	1,414,871	1,750,555	19.20%

This trend is expected to continue. Between 2000 and 2020, the South's population is projected to increase by 23.8 million, reaching almost 114 million people by the close of those two decades. Texas is no exception. By the year 2040, the state's population could reach as many as 50,582,961.

Table 8: Texas Population Projections

Year	Anglo	Black	Hispanic	Other	Total
<u>Assuming Zero Net Migration</u>					
2000	11,074,716	2,421,653	6,669,666	685,785	20,851,820
2010	11,292,858	2,604,162	7,986,640	776,088	22,659,748
2020	11,320,857	2,727,365	9,220,971	828,786	24,097,979
2030	11,086,475	2,756,470	10,406,060	856,437	25,105,442
2040	10,599,190	2,697,888	11,408,456	856,047	25,561,581
<u>Assuming Net Migration Equal to One-Half of 1990-2000</u>					
2000	11,074,716	2,421,653	6,669,666	685,785	20,851,820
2010	11,494,673	2,730,659	8,999,827	953,348	24,178,507
2020	11,735,043	3,004,173	11,742,820	1,256,342	27,738,378
2030	11,701,065	3,191,230	14,900,692	1,596,578	31,389,565
2040	11,382,992	3,283,413	18,391,333	1,954,592	35,012,330
<u>Assuming Net Migration Equal to 1990-2000</u>					
2000	11,074,716	2,421,653	6,669,666	685,785	20,851,820
2010	11,700,471	2,863,397	10,164,378	1,168,772	25,897,018
2020	12,165,004	3,309,068	15,056,028	1,897,182	32,427,282
2030	12,350,427	3,694,283	21,533,219	2,960,361	40,538,290
2040	12,225,486	3,995,349	29,926,210	4,435,916	50,582,961

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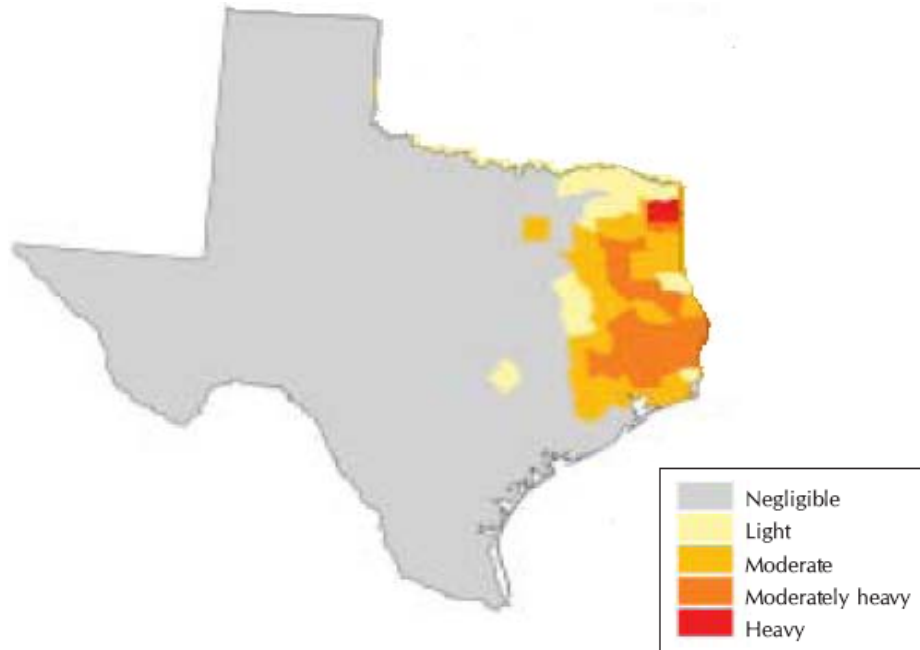
In the South and the Nation as a whole, population growth is primarily in urban areas. Urban sprawl is occurring at unprecedented rates in the United States and the South. Between 1992 and 1997, nearly 16 million acres of formerly rural land across the Nation were converted to developed urban land uses. At this rate, over 3 million acres of urban development are being added annually.

Nationally, the total acreage of land developed for urban uses between 1992 and 1997 was greatest in 10 States. Six of those States were in the South, and in each of those Southern States, more than 500,000 acres had been converted to urban development. Topping the list nationally was Texas with 893,500 acres developed for urban use.

This urban sprawl will create a variety of pressures on forests, including demands for development, forest gathering, timber harvesting, recreation, and road building. Map 16 shows the clusters of counties where these population pressures will be greatest, and Figure 14 and Table 9 show the effects of urban sprawl on the Houston metro area.

MAP 16:

Projected Population Pressures on Forests: 2020



Urban sprawl pressures on forestland produce the following risks:

- **Water Issues** - Water may become the most critical limiting natural resource anywhere in the southern United States. Water shortages, which used to be associated only with the dry Western States, increasingly are a reality for the South.
- **Public Land Issues** - Most of the public land in the South is forested and makes major contributions to the amenity character of southern landscapes. Public land includes national forests, national parks, wildlife refuges, Federal reservoirs, and State parks and forests. Migration to high-amenity areas where these public lands are located is putting unprecedented pressures on public land managers.
- **Wildlife Habitat Issues** - Wildlife habitat occurs where there is public land, a large stretch of forest or other undisturbed natural land, and wetlands. Of all the attributes of natural land in the South, wildlife habitat may be the most endangered by human growth pressures.

In addition to the physical strains urban sprawl places on forests, it also has political consequences. For example, East Texas is represented by 40 of 150 votes in the state House of Representatives. However, 25 of those 40 votes are in Harris County, which includes the major urban center of Houston. In the State Senate, East Texas is represented by 8 of 31 votes, with 5 of those 8 from Harris County. Therefore, despite being vital to the Texas economy, the political voice of East Texas forests is becoming increasingly weaker in Texas government as the population grows in urban areas.

Figure 14: Vegetation Change
Houston Metro Area, 1972-2014

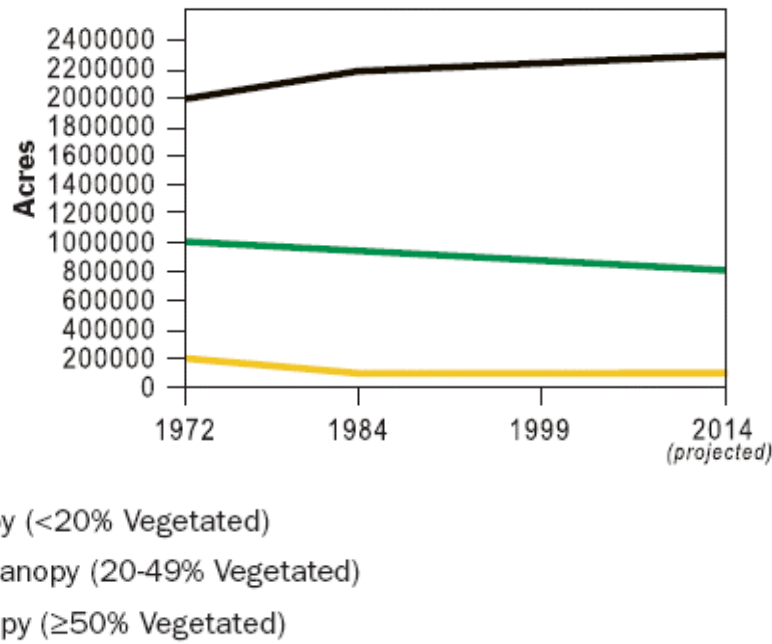


Table 9: Houston Metro Area's Vegetation Change and Associated Benefits*

	1972	1999	Loss/Gain 1972-1999
Acres with more than 50% tree cover	1,004,361 (31%)	844,923 (26%)	-16%
Acres with 20%-49% tree cover	188,042 (6%)	86,859 (3%)	-54%
Acres with less than 20% tree cover	2,007,321 (63%)	2,267,942 (71%)	13%
Stormwater Management Value	\$1.56 billion	\$1.33 billion	-\$237 million total** -\$17 million annually***
Air Pollution Removal Value (annually)	\$247 million	\$209 million	-\$38 million
Energy Savings**** (annually)	-----	\$26 million	-----
Avoided Carbon*****	-----	10.8 million tons	-----
Stored Carbon	45 million tons	37.5 million tons	-7.5 million tons

* Numbers may not add to 100% due to rounding

** Represents a one time savings, and does not include additional savings from annual maintenance

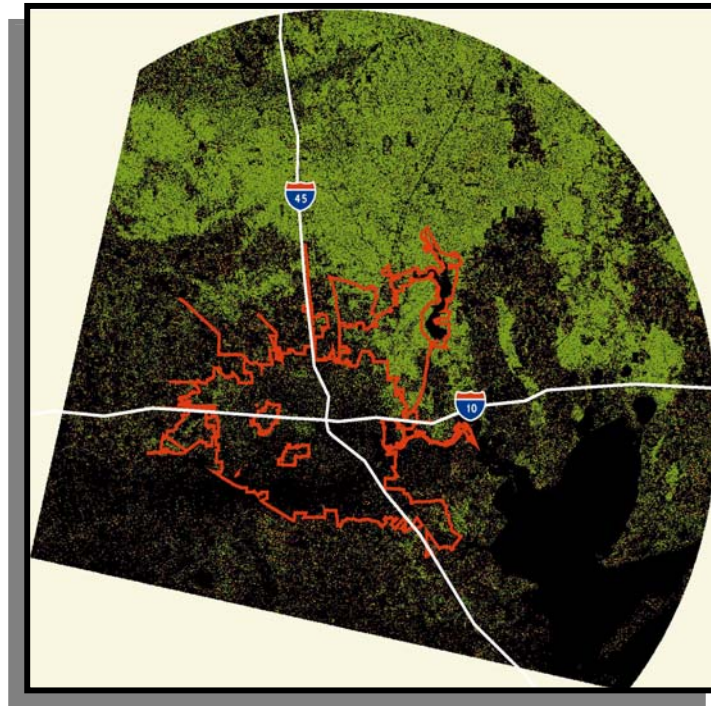
*** Annual benefits are calculated on a stormwater management facility's construction costs, plus the cost of the loan or bond to finance construction (assuming a 6% interest rate for a 30 year lifespan of the facility).

**** Residential summer energy savings from trees' direct shading of one and two-story detached residences.

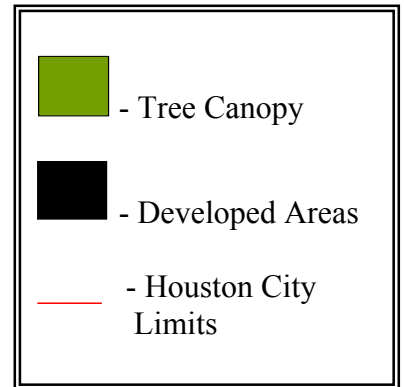
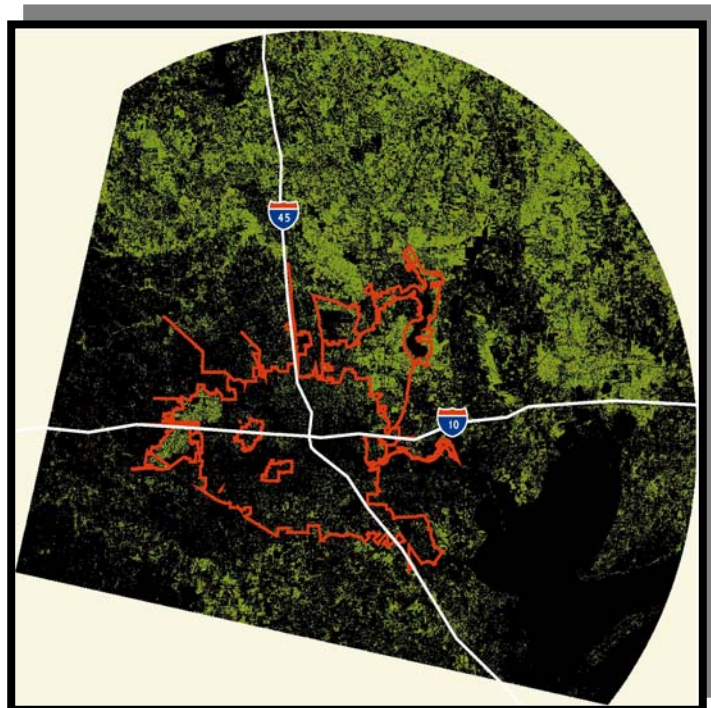
***** Avoided carbon emission as a result of reduced air conditioning use

MAP 17

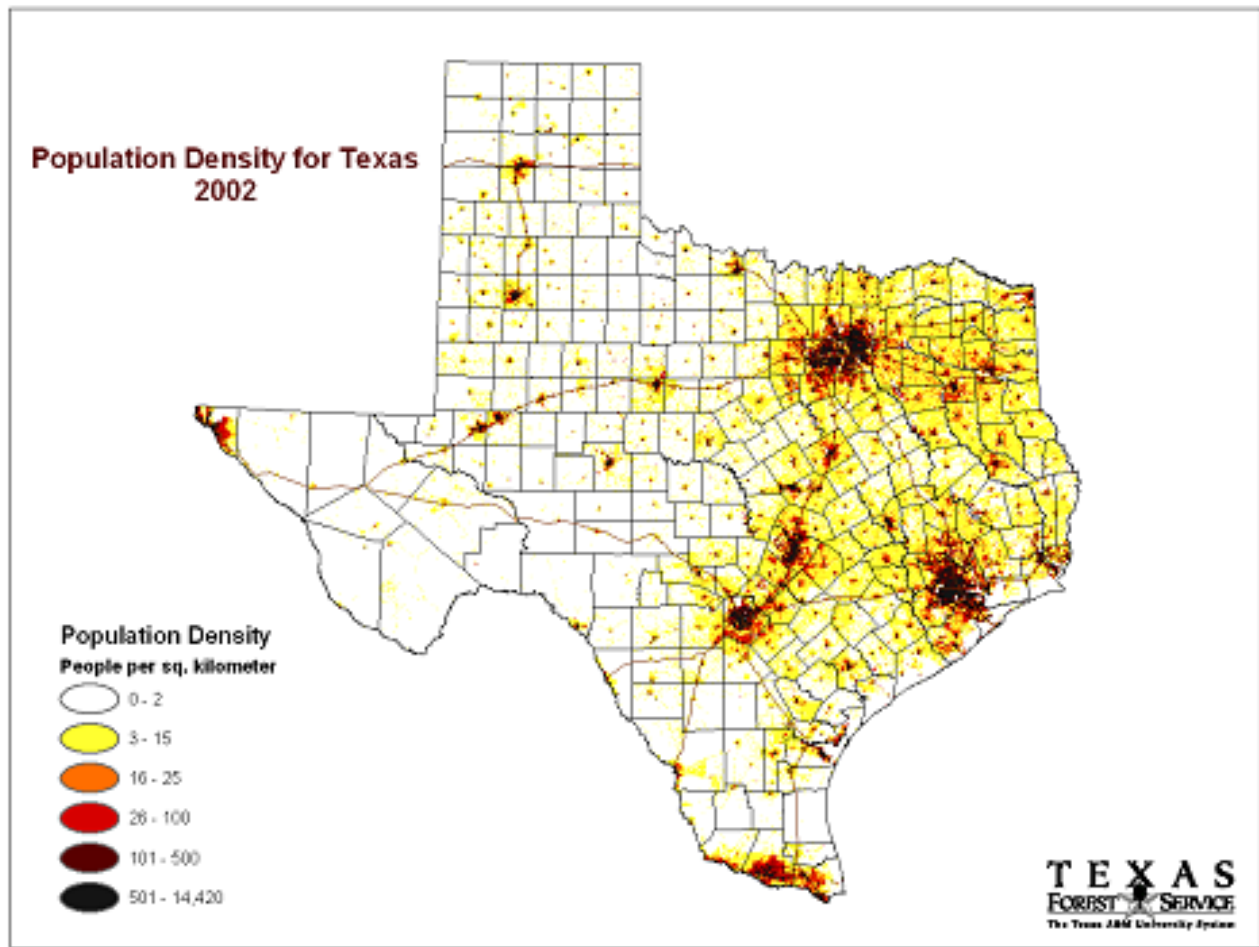
Houston Area Tree Canopy: 1972



Houston Area Tree Canopy: 1999



MAP 18:

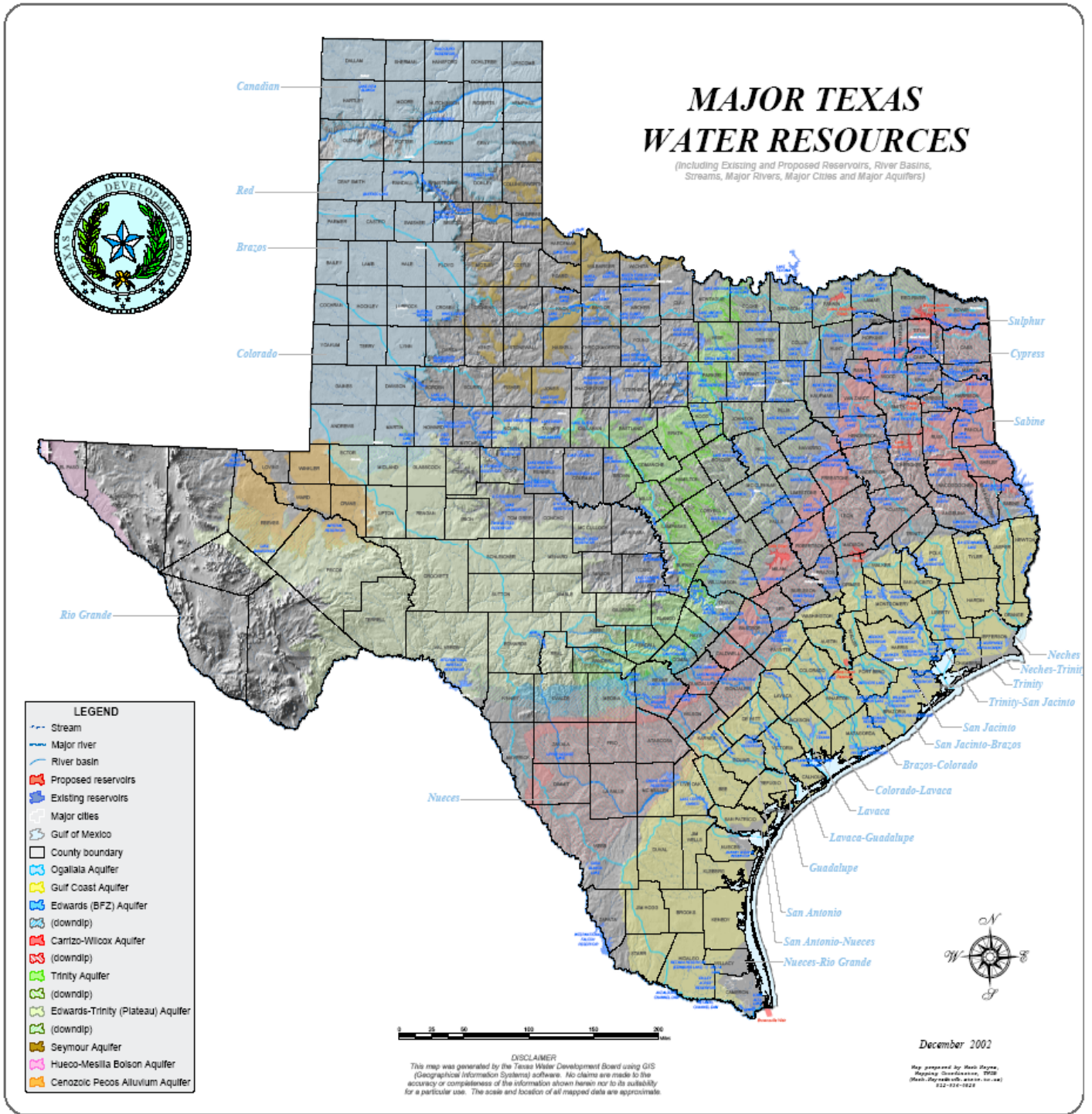


Source: US Census Bureau, 2002

TFS Risk Assessment Section - 10/6/2004

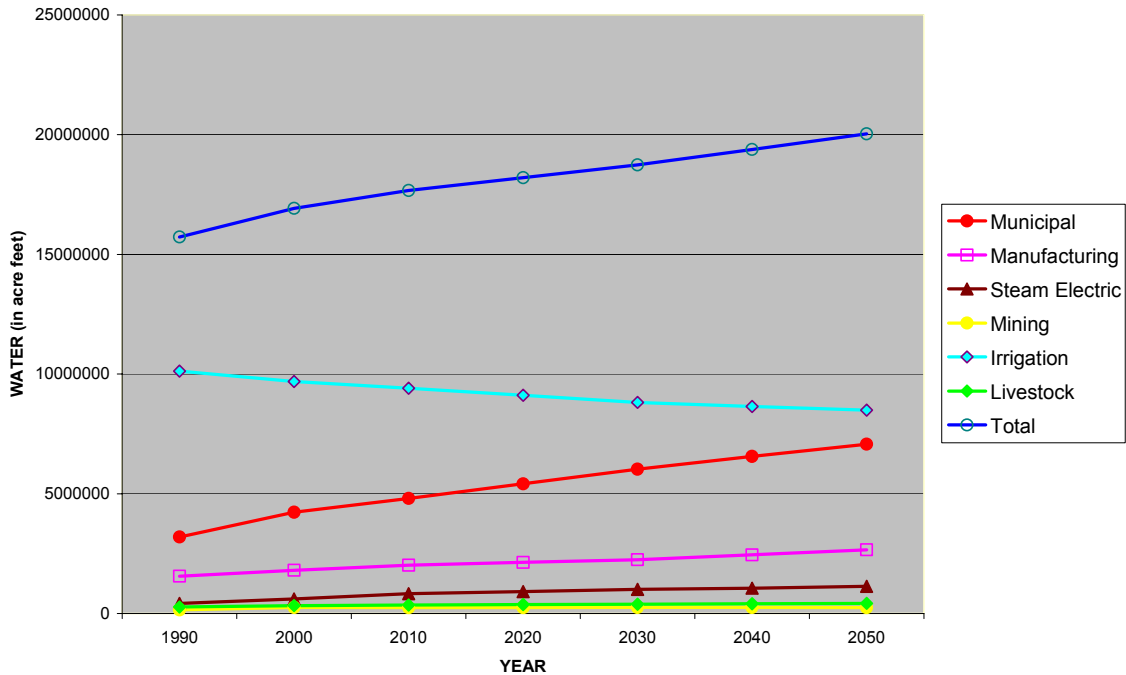
WATER RESOURCE DEMAND

MAP 19:



Demand for water in Texas is increasing. By the year 2050, the Texas Water Development Board (TWDB) predicts demand for water will reach over 20,000,000 acre feet.

Figure 15: Total Texas Water Demand Projections, 1990-2050

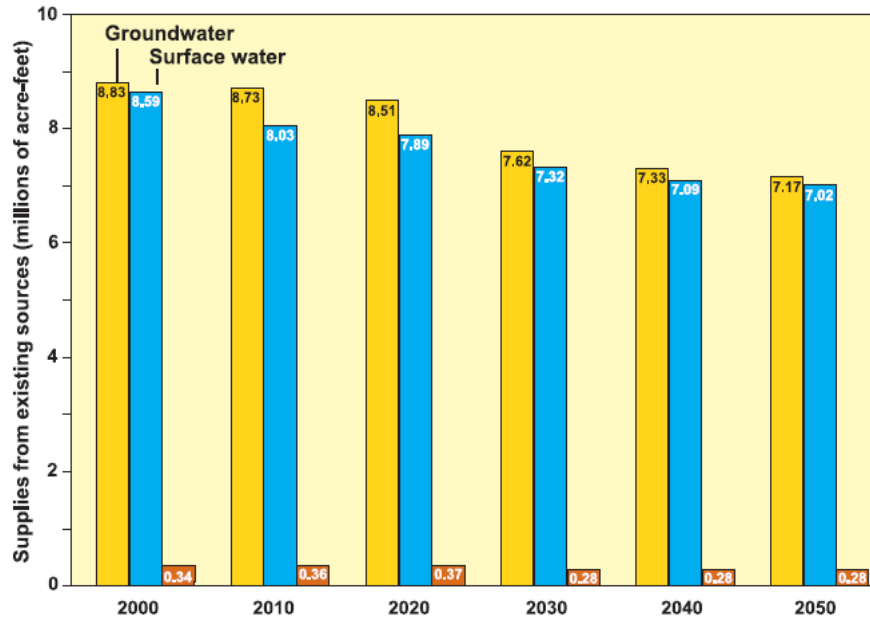


At the same time, the TWDB predicts water supplies from existing groundwater sources to decrease 19 percent, from 8.8 million acre feet per year (AFY) in 2000 to 7.2 million AFY in 2050. Most of the western half of the state and a good part of the eastern half of the state rely primarily on groundwater resources.

About 42 percent of the total 16.0 million acre-feet of water used by the State in 1999 was surface water. Surface water supplies account for about 70 percent of all water used for municipal, manufacturing, and steam-electric power generation, primarily because of current infrastructure as well as natural access and treatability. Most of the north-central area of the State, the Gulf Coast area, and the Lower Rio Grande Valley rely primarily on surface water resources. Water supplies from existing surface water sources are expected to decrease 18 percent, from around 8.6 million AFY in 2000 to 7.0 million AFY in 2050.

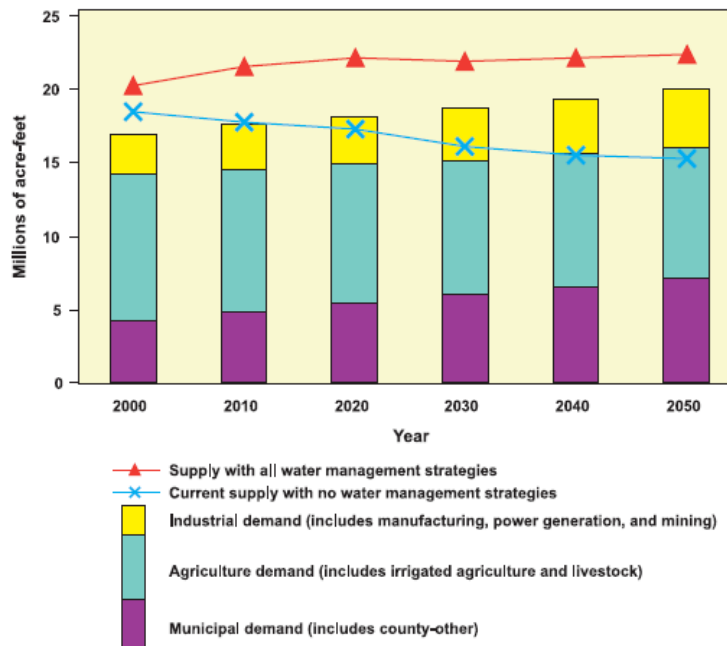
All in all, total water supplies for the State are expected to decline from about 17.8 million AFY in 2000 to 14.5 million AFY in 2050.

Figure 16: Current Groundwater, Surface Water, and Wastewater Reuse Supplies from Existing Sources through 2050 Under Drought Conditions



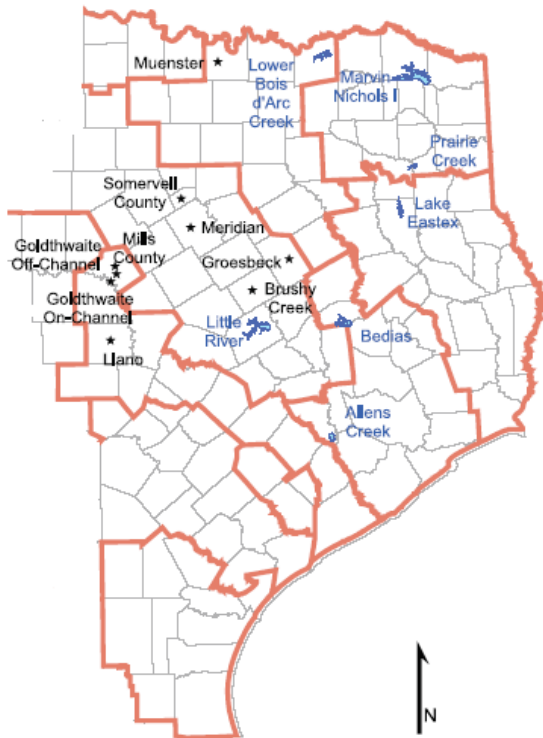
Due to the increasing demand and decreasing supply of water in Texas, the TWDB has devised and published a State Water Plan. The water management strategies included in the plan are: conservation, groundwater management strategies such as installing new wells, surface water management strategies like the construction of new reservoirs, reuse, desalinization, brush control, and the construction of new major conveyances.

Figure 17: Projected Statewide Water Supplies and Demands

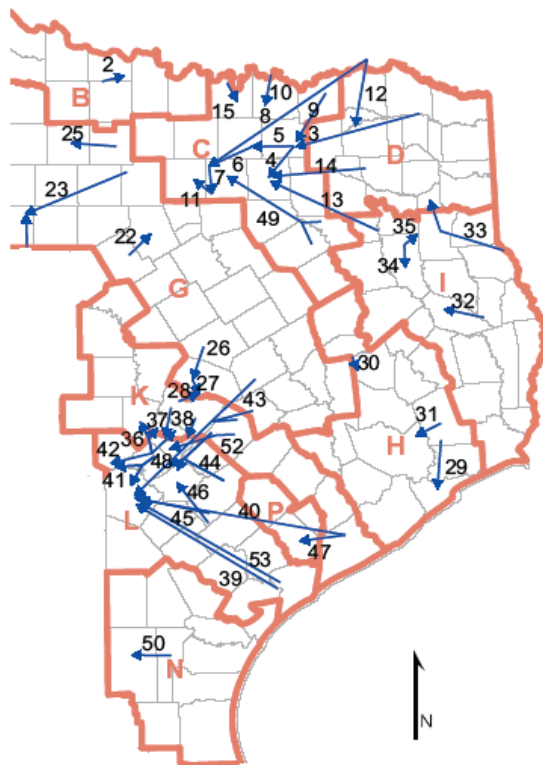


Two aspects of the Water Plan that will impact forests in the proposed Texas FLA are the construction of new reservoirs and major conveyances. Map 20 illustrates these proposed alternatives and is followed by a case study showing the potential impacts on forestland.

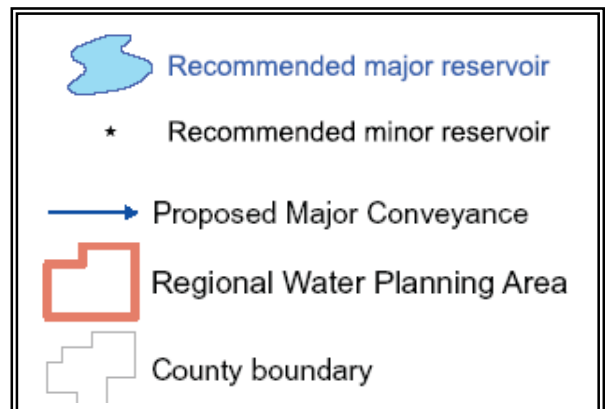
MAP 20:



Recommended Major and Minor Reservoirs

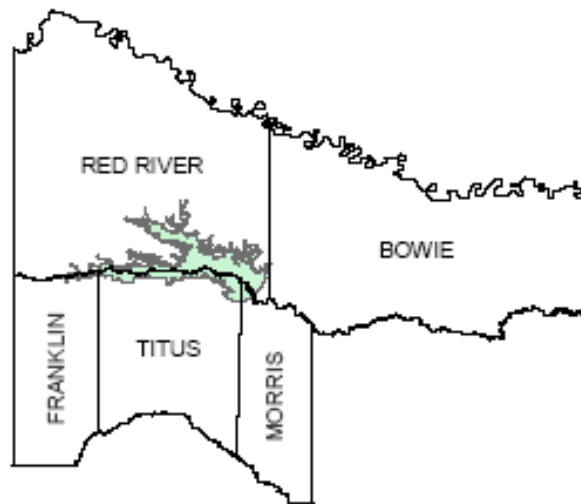


Proposed Major Water Conveyances



The proposed Marvin Nichols I Reservoir (location shown in Map 21) is in Red River, Titus, Morris, Franklin, and Bowie counties, on the main stem of the Sulphur River in Northeast Texas. Bottomland hardwood and other forest types at the reservoir site will be affected by the establishment of the reservoir. In addition to the loss of timber in the reservoir itself and accompanying lakeside property, federal and state regulations require that the lost wildlife habitats in the reservoir must be fully offset by managing habitats of similar qualities elsewhere (habitat mitigation requirements). The affected forests on the reservoir site and the management restrictions on the forests used for habitat mitigation will reduce timber supply in the area, impacting the local forest industry.

MAP 21:



According to a recent study by the Texas Parks and Wildlife Department (Liu et al. 1997), the total area of the Marvin Nichols I Reservoir in the conservation pool (at 312 feet) is 67,957 acres. The forested area in the conservation pool includes 36,178 acres of bottomland hardwood and 19,453 acres of upland hardwood. In addition, there are 4,735 acres of bottomland hardwood and 10,662 acres of upland hardwood in the flood pool of the reservoir (between the mean [312 feet] and maximum [322.5 feet] pool levels). Sub-forest types are combined for simplicity. The rest of the proposed reservoir area consists of water, grassland, crops/managed grassland and bare land.

Tables 10 and 11 show the impact the construction of the reservoir will have on the timber industry in the Northeast Texas region of the proposed FLA.

Table 10: Annual Timber Volume and Value Lost in the Reservoir and Mitigation Area

Forest Type	Management Option		Total Industrial Roundwood Lost (mmcf/year)	Sawlog Lost (mmcf/year)	Pulpwood Lost (mmcf/year)	Stumpage Value Lost			Delivered Value Lost		
						Total (mm \$/year)	Sawlog (mm \$/year)	Pulpwood (mm \$/year)	Total (mm \$/year)	Sawlog (mm \$/year)	Pulpwood (mm \$/year)
Bottomland Hardwood	Minimum	25%	24.39	6.32	18.07	6.63	3.86	2.76	19.88	7.37	12.51
	Moderate	50%	12.95	3.36	9.60	3.52	2.05	1.47	10.56	3.91	6.65
	Maximum	100%	7.24	1.87	5.36	1.97	1.15	0.82	5.90	2.19	3.71
Upland Hardwood	Minimum	25%	4.94	1.28	3.66	1.34	0.78	0.56	4.03	1.49	2.53
	Moderate	50%	2.93	0.76	2.17	0.80	0.46	0.33	2.39	0.88	1.50
	Maximum	100%	1.92	0.50	1.42	0.52	0.30	0.22	1.57	0.58	0.99
Total	Minimum	25%	29.33	7.60	21.74	7.97	4.64	3.32	23.91	8.86	15.05
	Moderate	50%	15.88	4.11	11.77	4.32	2.51	1.80	12.95	4.80	8.15
	Maximum	100%	9.16	2.37	6.79	2.49	1.45	1.04	7.46	2.77	4.70

Table 11: Potential Lost Outputs in Northeast Texas Caused by Construction of the Reservoir

Sector	Management Option			Calculation of the Ratios
	Minimum	Moderate	Maximum	
Forestry	3.72%	2.02%	1.16%	Total stumpage value lost / total stumpage value in 1999 in NE TX ²
Logging	6.13%	3.32%	1.92%	Total delivered value lost ¹ / total delivered value in 1999 in NE TX ³
Primary Solid Wood Products	3.30%	1.78%	1.03%	Total sawlog delivered value lost ¹ / total sawlog delivered value of 1999 in NE TX ⁴
Secondary Solid Wood Products	3.30%	1.78%	1.03%	Total sawlog delivered value lost ¹ / total sawlog delivered value of 1999 in NE TX ⁴
Primary Paper & Paperboard Products	12.46%	6.74%	3.89%	Total pulpwood delivered value lost ¹ / total pulpwood delivered value of 1999 in NE TX ⁵
Secondary Paper & Paperboard Products	12.46%	6.74%	3.89%	Total pulpwood delivered value lost ¹ / total pulpwood delivered value of 1999 in NE TX ⁵

Note:

²The total stumpage value of Northeast Texas in 1999 was \$214 million (Xu, 2000)

³The total delivered value of Northeast Texas in 1999 was \$390 million (Xu, 2000)

⁴The total sawlog delivered value of Northeast Texas in 1999 was \$269 million (Xu, 2000)

⁵The total pulpwood delivered value of Northeast Texas in 1999 was \$121 million (Xu, 2000)

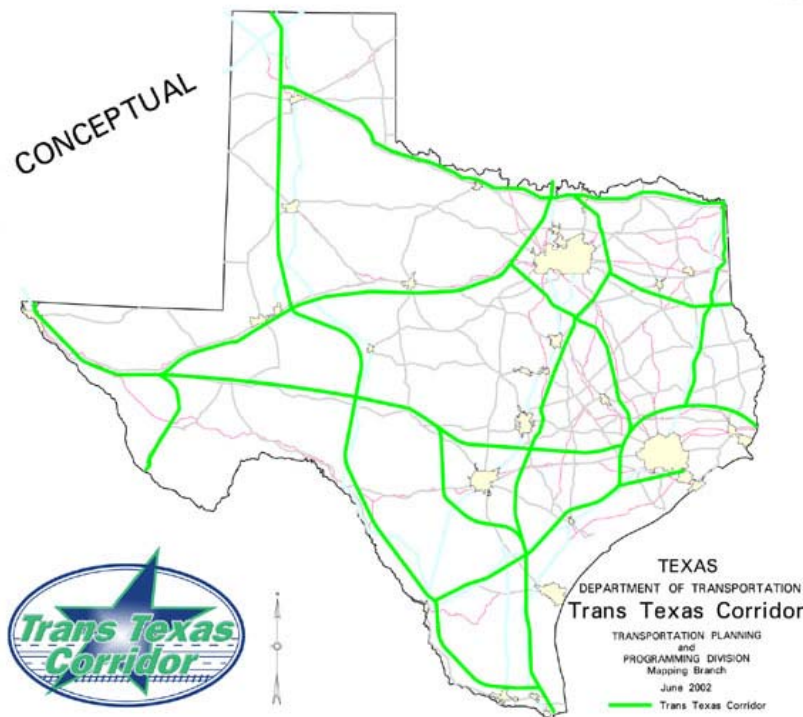
TRANSPORTATION CORRIDORS

Texas is currently in the process of designing a new type of transportation system, known as the Trans Texas Corridor. It will be made up of a network of wide corridors designed to move people and goods faster and more safely than ever before.

The current plan consists of a 4,000-mile network of corridors up to 1,200 feet wide with separate lanes for passenger vehicles (three in each direction) and trucks (two in each direction). The corridor will also include six rail lines (three in each direction), one for high-speed passenger rail between cities, one for high-speed freight and one for conventional commuter and freight. The third component of the corridor will be a 200-foot wide dedicated utility zone.

While an extensive environmental review will be an integral part of the process to develop the Trans Texas Corridor, the Texas Department of Transportation predicts that 146 acres of right way will be required per mile, which will affect forestland in East Texas. Map 22 shows both the potential fragmentation the corridor may cause to large contiguous blocks of forestland in Texas' proposed FLA as well as the increased accessibility of East Texas forests to the citizens of Texas. It is important to note that the FLP will not hinder the advancement of the Trans Texas Corridor in East Texas.

MAP 22:



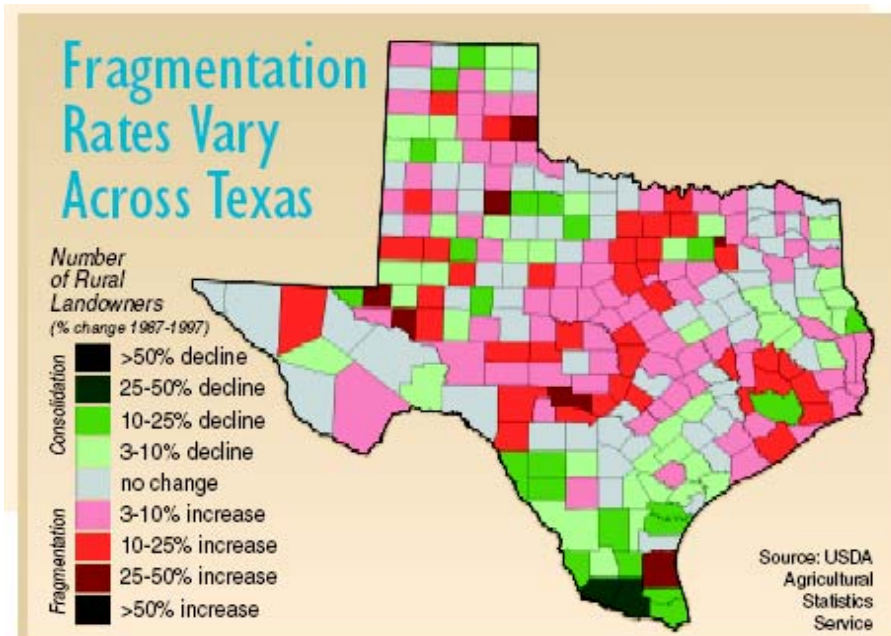
FOREST FRAGMENTATION

The rapid fragmentation of forests in the South due to increasing populations is contributing to the decline of forest health and increased risk of catastrophic wildfire damage. Negative impacts of fragmentation include decreased water quality and quantity, the decline of freshwater aquatic species, loss of migratory pathways for migratory birds, and diminished biodiversity. Fragmentation also increases opportunities and pathways for invasive species.

The fragmentation of rural lands in Texas is accelerating. This trend is mainly due to the combined influence of weakened agricultural economies and the increasing demands of a large, urban population. Overall, landowner numbers are increasing while property size is decreasing. Average rural ownership size has declined in 74 percent of Texas' counties since 1992.

While average ownership size seems to be closely related to the distribution of the state's population, the most recent fragmentation trends seem to be influenced more by ecological region. More people are buying land for its beauty and recreation value, including proximity to trees, water, rolling hills, and wildlife.

MAP 23:



From 1992 to 1997, the median price of rural lands in Texas increased by nearly 35 percent. Prices tended to be higher in the eastern half of the state, where Texas' proposed FLA is located, and peaked in those areas closest to major metropolitan areas. During this same period, most traditional agricultural ventures have become less profitable. As a result, there is a growing disparity between market values and agricultural productivity values.

Table 12: Agricultural Productivity vs. Market Values

Type	Acres	Market Value	Ag Productivity Value
Irrigated Crop	5,406,751	900	261
Dryland crop	21,060,259	831	138
Barren/Wasteland	2,727,124	434	24
Orchards	138,906	3,117	436
Improved pasture	10,642,159	1,531	102
Native pasture	94,101,372	568	41
Wildlife Mgmt.	858,142	1,574	54
Timberland	6,476,900	864	279
Timberland (1978)	530,088	1,664	588
Timberland-in Transition	41,770	791	131
Timberland-Restricted Use	518,181	762	150
Total Timberland:	7,566,939	913	291
Other ag. land	680,955	1,193	135
Total	143,182,607	102,792,537,346	11,700,112,221

Appraisals of agricultural productivity value are based on a property's ability to produce agricultural or timber products, while market value is based on the fair market price of a property on the open real estate market. As the agricultural productivity value of land decreases in relation to the market value, larger farm and ranch lands tend to be subdivided into smaller parcels to gain a higher per acre market value. The average appraised market value of the 144 million Texas acres considered agricultural lands in 1998 was about \$519 per acre, while the appraised productivity value on that same land was about \$83 per acre.

CHANGING TIMBERLAND OWNERSHIP

Timber property can essentially be held for one of the three basic purposes discussed below, or some combination of them.

Personal Use: Property not used to produce income is classified as being held for personal use. An example of this is the house and land that serve as a residence. Even though one might expect to sell it some day for more than he paid, the primary reason for having a residence is to provide a place to live. Likewise, forest property ownership may be for personal enjoyment — such as for hunting, fishing, or other recreational pursuits— or as a second-home site.

Investment: Woodland used to produce income may in many cases be investment property rather than a business. If timber production is not the principal—or major—source of income, but one otherwise manages the property for the eventual realization of a profit, he may be holding it as an investment. Absentee owners often qualify as investors because their timber-related activities are motivated primarily by profitability rather than by other purposes. Timberland investment management organizations (TIMO's) acquire, manage and eventually sell timberland for clients. They provide the timberland investing clients a full range of administrative and operational forest management services.

Business: Property is considered as held for use in a business if it is part of an activity entered into and carried out for profit on a more regular basis than in the case of an investment. In addition, timber may be held “primarily for sale” to customers in the ordinary course of a trade or business. Two characteristic elements of a business are:

- (1) Regularity of activities and transactions and
- (2) The production of income (see IRS Publication 334, *Tax Guide for Small Business*, Chapter 1).

A relationship with any business in which one owns an interest is considered to be either “active” or “passive” in nature.

Active Business Interest: One is actively engaged in a business if he “materially participates” in conducting it. To materially participate, one must personally participate on a regular, continuous, and substantial basis in the conduct of the activity.

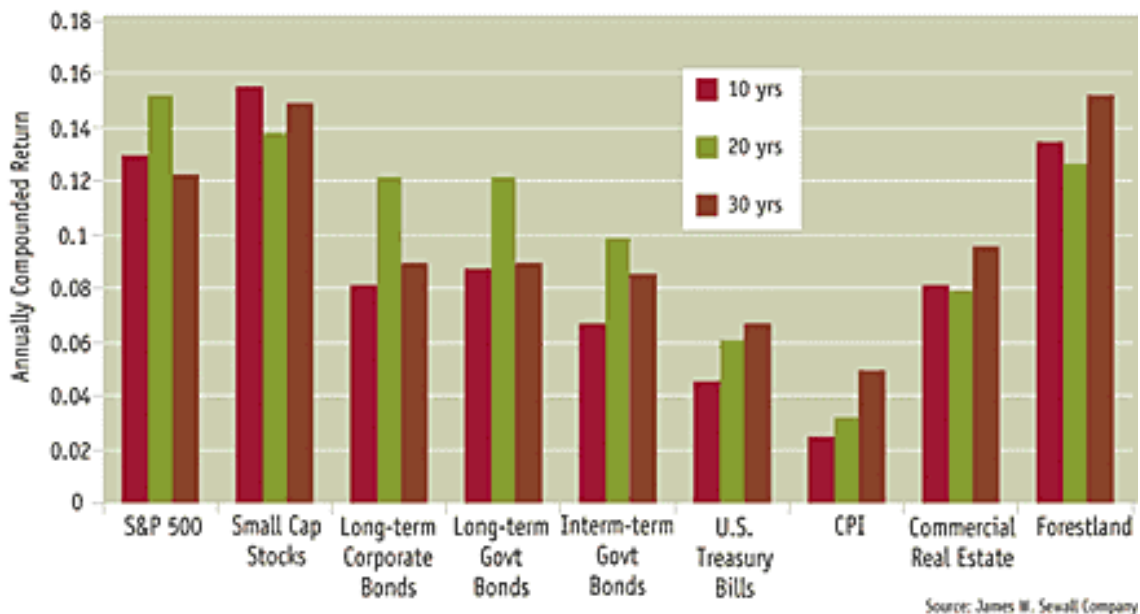
Passive Interest: The relationship with trade or business is passive if one does not materially participate in its operations.

The forest product industry has recently trended toward increased land sales in East Texas. This corresponds with a nationwide trend reflecting the need of the forest industry to be more efficient and more competitive in the global market. In the timberland management sector, TIMO's are replacing a substantial part of the industrial ownership. TIMO's are using less in-house staff and more contractors for timberland management and are more flexible in their timberland management strategies, which is likely to improve the efficiency of timberland management.

This selling of the land to TIMO's, coupled with other factors such as industry restructuring and mill closures, has affected employment in East Texas. Specifically, an estimated total of 3000 jobs were lost between 1999 and 2003 as a result of industry restructuring, mill closures, and timberland sales.

TIMO's are attracted to this investment because through the years forestland has provided investors with a relatively predictable income stream and consistent value growth through appreciation. It is viewed as having strong diversification attributes because it is not correlated with the performance of the stock market. It also is seen as being negatively correlated with other types of financial assets, including long-term bonds and commercial real estate. Finally, it is considered an excellent capital preservation tool because it appears to be positively correlated with inflation.

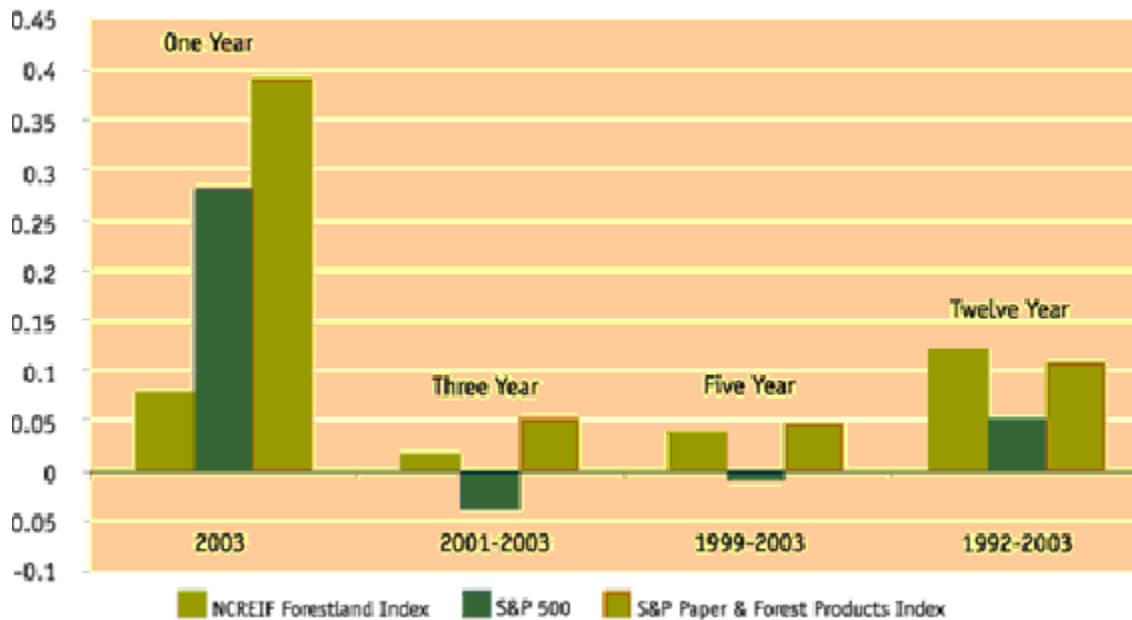
Figure 18: Forestland vs. Other Asset Classes Over Varying Horizons



Investors make money investing in forests in two ways. First, income is generated from the sale of harvested timber; the sale of hunting and recreational leases; royalties generated from oil, gas and mineral extraction; and the sale of development rights, sensitive lands and conservation easements. These sources of income account for roughly a third of a forest investment's annual return. The balance is attributable to appreciation, which is heavily influenced by market conditions and forest management activities, like fertilization and timber thinning and enhancement regimes.

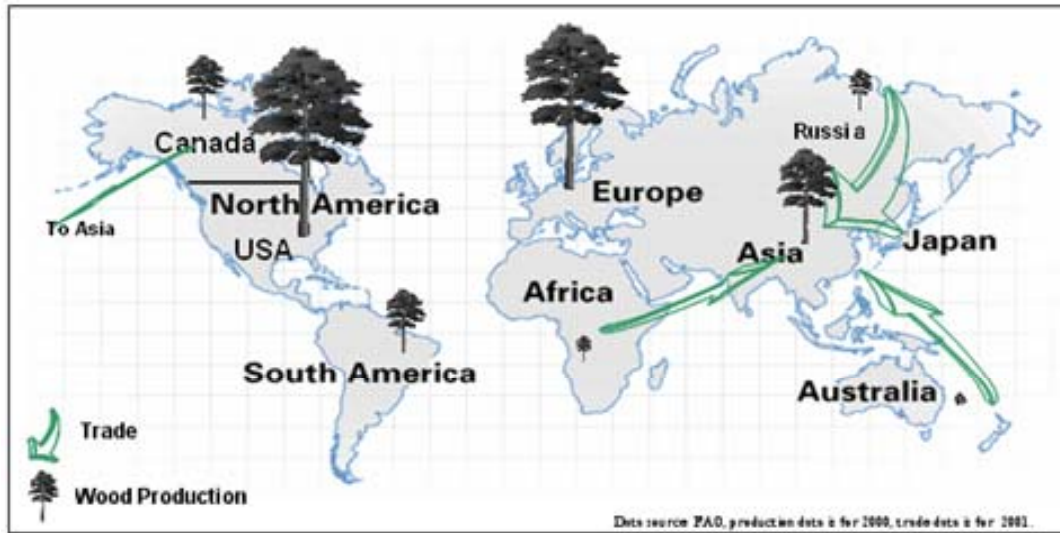
A working forest that is well managed tends to grow in value through time because it behaves like both a factory and a warehouse. It produces timber on an ongoing basis (like a factory) and increases in value as that timber continues to grow (storing more and more wood fiber as if it was a warehouse). Generally, the more trees a forest has, and the bigger they are, the more valuable the forest is. That is because larger trees can be used to produce higher value products – like furniture, high-grade lumber and fine veneers. This unique characteristic is one reason owning forests is an excellent way to preserve capital. In short, a forest's timber can be cut when market prices are favorable, but when they are not, it can be stored on the stump where it is likely to increase in value through time.

Figure 19: Forestland Total Return Comparison



GLOBAL MARKETS

Figure 20: Global Forest Industry



Industrialized and developing countries and countries in transition are facing different sets of challenges and opportunities related to changes in their respective marketing environments for forest products. The major changes to which industrial countries are responding are: the emergence of a range of new products resulting from new processing technologies, including composites (wood/plastic), engineered wood products, increased use of recycled material, and imports of plantation-grown timber. In addition, a new, albeit still relatively small, market niche has arisen for wood products from sustainably managed forests and for specialty non-wood "natural" forest products, particularly from tropical forests. Decreasing availability of well-known, good-quality tropical hardwoods is directing the products made of the remaining resources to high-value end-use sectors.

Countries in transition are facing a totally new situation in marketing their products. Markets have had to be changed from the rather captive to the very competitive domestic and export markets. Partially government-owned organizations responsible for placing the products in the markets of centrally planned countries are transitioning to privatized industries and their emerging organizations.

Changes in demographic structures, economic development and expectations, various value structures like concern for social welfare and environment and consumer tastes are some of the major factors having an impact on forest products demand. The development in various parts of the world will not be even. This is likely to lead over time to changes in factors determining the prominent tastes and fashions in consumption of goods and services including also those provided by forests.

The uneven growth of population in different parts of the world is gradually creating new centers of consumption of forest products with their specific desires. In developing countries the specific needs and wants of large masses will lead to growing demand for significant quantities of low-price, medium-quality products.

In developed countries, especially in Europe, the stagnating population growth is creating new market segments. The growth of construction of new buildings is being overtaken by reconstruction and maintenance of existing buildings. Very often the renovation works are associated with upgrading of buildings for which higher value materials are needed. Ageing populations and single-member families in developed countries also open up particular market segments and niches for forest products.

Increasing urbanization will differentiate the needs and wants for various forest products. It will lead to the emergence of not only concentrated mass markets for standardized, low-price products but will also encourage the creation of specialized, high-price segments to cater for the needs of the wealthier portion of urban populations.

Urbanization will further strengthen the special markets for "nostalgia", "green" and "natural" products which in the case of forest products will most particularly include many of the non-wood forest products. Growing urban populations are also likely to increasingly demand services provided by forests the marketing of which is still to be developed.

The economic growth in developing countries will be significantly higher than in developed countries. Although the average, aggregate-level growth rates do not reveal any of the differences between or within the countries, they do give an indication of prospects of growth in economic wealth with consequent increase in demand for forest products. In order to take full advantage of the emerging differences, proper segmentation of markets will be necessary. Saturating market segments for bulk products in developed countries will encourage suppliers to look for segments for specialty products.

Several developing countries have banned log exports and in some instances also export of sawnwood in their efforts to encourage local processing of raw materials. This is moving the industry from raw material marketing to marketing of value-added products with related implications.

On the supply-side the changes in the range of raw materials will increase and change. Efforts to intensify the use of forest resources will increase the offer of non-wood forest products and increase the use of forest residues. Pressures to limit availability of wood raw material from natural forests will increasingly direct the products derived to high-value, special products segments in the markets. Use of recycled materials, especially waste paper, will increase.

Increasing wood supply from plantations will help in producing standardized, low-price products for mass markets. The relatively limited number of dominant plantation timber species will require innovative product development efforts to meet the varying wants of customers. In developing countries, efforts are being made to increase production of value-added products and move away from raw material exports.

Development of processing technologies is opening up new opportunities for improving efficiency in raw material utilization and production of high-quality products. Technology is also assisting in the improvement of delivery systems to take advantage of modern container-based transport facilities.

The increase in competition from various world players described above has an impact on the forest industry in East Texas. Therefore, it will influence the ownership and management decisions of forestland owners. Currently, no broad-scale markets exist for forest products in every part of the state. Until such markets develop, global changes will affect the eastern third of the state more than other regions.

The increasingly global nature of the eco-tourism industry also affects the decisions of forestland owners in East Texas. Tourism as a whole has become a symbol of opportunity in virtually every corner of the globe. International travelers and tourists directly and indirectly create more than 10% of the world's Gross Domestic Product (GDP) and capital investment (Goledner, C.R. 1997. *The 1997 Travel Outlook*. *J. Travel Res.*, 35(3): 51-65). This accounts for 11% of all consumer expenditure and 7% of total world government spending. Tourism has shown a remarkable record of consistent growth, expanding faster than the world's GDP in the last four decades (Vialle, O. 1995. *Global Distribution Systems (GDSs) in the Tourism Industry*. World Trade Organization, Madrid, Spain). During the last 40 years, travel and tourism has been growing 7.2% in volume and 12.3% in value per year.

Nature tourism and eco-tourism are high growth areas within the general tourism industry sector. Because of its implied reliance on good quality environments, eco-tourism has even been considered by worldwide organizations as the industry that will lead the world into sustainable development. In addition, the nature-based business characteristics of eco-tourism can offer a new platform for enhancing the competitive strength of regions as international destinations because very little infrastructure is required and the economic benefits seem to be higher due to lower leakage of monies and resources out of a region.

CHAPTER V: CURRENT FORESTLAND CONSERVATION

- ❖ Texas contains 3 National Forests, 5 State Forests, and 1 National Preserve, all located in the Eastern third of the state
- ❖ There are currently 39 land trusts operating in Texas
- ❖ State programs available to assist private landowners are provided by the following agencies: Texas Forest Service, Texas Parks and Wildlife Department, Texas State Soil and Water Conservation Board, and the Texas Cooperative Extension

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- TPWD. 2004a. Texas Land Trusts. [Online WWW]. Available URL: <http://www.tpwd.state.tx.us/consERVE/fltc/> [Accessed 19 May 2004].
- TPWD. 2004b. TPWD and Federal Properties Map.

FEDERAL AND STATE FORESTLAND MANAGEMENT

MAP 24:

Currently Protected Lands in Texas

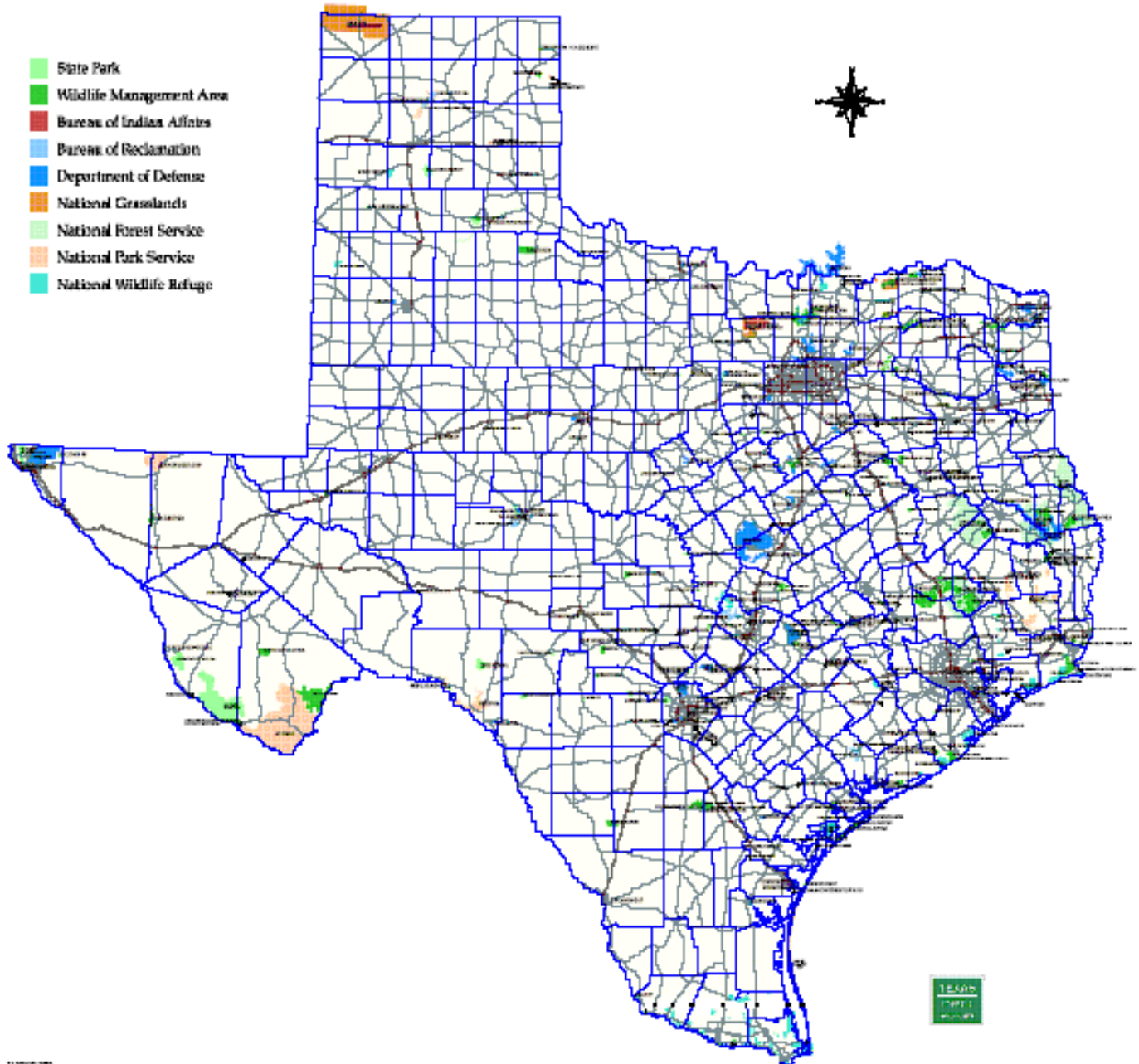


Table 13: Parks, Forests, and Refuge Acreage in Texas

AGENCY	ACREAGE
U.S. Forest Service	
<ul style="list-style-type: none"> • National Forests 	637,000 Acres
<ul style="list-style-type: none"> • National Grasslands 	118,000 Acres
National Park Service	1,223,133 Acres
U.S. Fish and Wildlife Service	643,697 Acres
US Army Corp of Engineers	795,543 Acres
Bureau of Reclamation	65,471 Acres
Bureau of Land Management	11,707 Acres
National Oceanic and Atmospheric Administration	35,960 Acres
Texas Parks and Wildlife (State Parks, Natural Areas, Historical Sites, Wildlife Management Areas)	1,387,073 Acres
Texas Forest Service	8,386 Acres
Texas River Authorities	15,172 Acres
Texas Cities & Counties	264,460 Acres
Private Hunting and Fishing Club	3,806 Acres
Total:	4,186,580 Acres

PRIVATE FORESTLAND MANAGEMENT

Land Trusts in Texas

A land trust is a local, state, regional, or national nonprofit organization directly involved in protecting land for its natural, recreational, scenic, historical or productive value. Land trusts have been essential partners in the FLP and can participate in the following ways:

- Serving on the SFSCC. The 1990 law establishing one of these committees in each state specifically identifies land trusts, if applicable in the state, as one of several groups that should be represented on the committee. Serving on the committee offers an opportunity to be at the table where private forestland and management issues are discussed.
- Helping prepare the AON. States may use the services of land trusts in preparing this initial planning document.
- Bringing landowners and projects to the table. Land trusts have played an essential role in identifying conservation easement sellers in FLAs. Equally important, land trusts have "sold" the program to the landowners, explaining how it works and how it could be advantageous for them. Land trusts can serve an important role educating the public when potential sellers are unfamiliar with conservation easements.
- Helping structure and negotiate the project. A land trust may need to help structure the project so it meets the landowner's needs and advances conservation.
- Assist in acquisition. In a FLP conservation easement acquisition, the government's timing may not be the same as the landowner's. Thus a land trust may need to pre-acquire a property or easement, hold it while appraisals and legal documents are finalized and/or until funding comes through. Sometimes the landowner may be willing to sell an easement only if the land trust agrees to continue to play a go-between role during the project.
- Help provide the cost-share match. Land trusts can help provide the required minimum 25 percent nonfederal cost-share--most importantly by acquiring easements in the FLA. The FLP does not provide funding for easement monitoring. Nevertheless, land trusts have in certain cases agreed to play a monitoring role, usually where the FLP easement is in the same area as or adjacent to land trust easements.
- Participate in state grant programs. The FLP state grant program is used by most states with land trusts playing all of the roles above and more. This is especially true in states where land trusts have established a relationship with the state lead agency. The state program will have to adhere to certain FLP requirements. Only approved FLAs will be eligible for funding and federal acquisition procedures and standards must still be followed.
- Participate in FLP Reviews. Federal oversight through program reviews is a necessary part of the program and another area where land trusts can highlight success stories and the continuing need for the program.

The Texas Land Trust Council is committed to promoting and sustaining the conservation efforts of Texas' land trusts. A directory of the 39 land trusts currently operating in Texas can be found at <http://www.tpwd.state.tx.us/consERVE/tltc/> or by contacting Texas Parks & Wildlife Department.

Government Programs for Private Landowners

Utilizing the FLP to compliment existing government programs for private landowners that also enhance forestland and forest management will be an important consideration when making FLP determinations.

This informational piece aims to cover a broad range of programs that are available to private landowners in Texas. The programs are categorized according to their administration through state and federal agencies as well as private/alternative programs. Information provided includes the name and purpose of each program.

As it stands now, this resource list is a project in progress. The Texas Land Trust Council will continue to add and revise information as the project moves forward.

State Programs

Texas Forest Service

<http://txforestservicetamu.edu>

301 Tarrow, Suite 364

College Station, Texas 77845

- Southern Pine Beetle Prevention: *landowner assistance from district biologists including advice and recommendations, management plan, and tax valuation*
- Forest Stewardship Program: *to make land more productive including cleaner air and water, wildlife habitat, recreation, and forest products*
- Texas Heritage Program: *Planned giving programs*
- TFS Technical Guidance Program: *Landowner assistance from district foresters*

Texas Parks & Wildlife

http://www.tpwd.state.tx.us/conserve/private_lands

4200 Smith School Road

Austin, Texas 78744

- ★ East Texas Wetlands Project: *sustainable forestry practices that produce bottomland hardwood and improved wildlife habitat*
- ★ Landowner Incentive Program: *voluntary management that conserves rare species and their habitat*
- Private Lands Initiative: *voluntary enhancement of wildlife habitat*
- TPWD Technical Guidance Program: *landowner assistance from district biologists*

Texas State Soil & Water Conservation Board

<http://www.tsswcb.state.tx.us/swed/swed/map.html>

311 N. 5th

Temple, Texas 76503

- Best Management Practices: *improve water quality through agricultural best management practices*
- Brush Control Program: *resources management plans to address brush control, soil erosion, water quality, and habitat*
- Comprehensive Nutrient Management Plan (CNMP): *recommended for dairy producers in the watershed to voluntarily develop and implement a Comprehensive Nutrient Management Plan*

Texas Cooperative Extension (TAMU system): *Landowner Information Services-Texas Cooperative Extension offers a wide range of landowner resources including informative reports and publications as well as technical guidance and research projects regarding all aspects of agriculture.*

Federal Programs

- Conservation Reserve Program (CRP): *management to reduce soil erosion, improve water quality and habitat*
- Continuous Conservation Reserve Program (CRP): *improve air and water quality through buffers, windbreaks, filter strips, and field borders*
- ★ Conservation Security Program (CSP): *reward best land management practices*

- ★ Farm and Ranch Lands Protection Program (FRPP): *prevent conversion of productive agricultural land to other purposes*
- Forestland Enhancement Program: *to promote sustainable forestry such as pine and/or hardwood reforestation, wildlife habitat enhancement, soil and water protection*
- ★ Grasslands Reserve Program (GRP): *prevent conversion of productive agricultural and grassland to other purposes*
- ★ 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.*
- Wildlife Habitat Incentives Program (WHIP): *WHIP is a voluntary program for people who want to develop and improve wildlife habitat primarily on private lands.*
- U.S. Department of Agriculture Programs (Non-Farm Bill Programs) Commodity Loans and Loan Deficiency Payments: *improve and stabilize farm income, to assist in bringing about a better balance between supply and demand of the commodities, and to assist farmers in the orderly marketing of their crops*
- Conservation of Private Grazing Land (CPGL): *CPGL is a voluntary program that helps owners and managers of private grazing lands address natural resource concerns while enhancing the economic and social stability of grazing land enterprises and the rural communities that rely on them*
- Crop Insurance: *to promote the national welfare by improving the economic stability of agriculture through a sound system of crop insurance and providing the means for the research and experience helpful in devising and establishing such insurance*
- Debt for Nature Program: *program offers possible cancellation of portion of FSA indebtedness in exchange for conservation contract on land suitable for conservation, recreation and/or wildlife.*
- Farm Operating Loans: *enables operators of not larger than family farms through the extension of credit and supervisory assistance, to make efficient use of their land, labor, and other resources, and to establish and maintain financially viable farming and ranching operations*
- Farm Ownership Loans: *to assist eligible farmers, ranchers, and aquaculture operators, including farming cooperatives, corporations, partnerships, and joint operations, through the extension of credit and supervisory assistance: Become owner-operators of not larger than family farms; make efficient use of the land, labor, and other resources; carry on sound and successful farming operations; and enable farm families to have a reasonable standard of living.*
- Forest Legacy Program (administered by Texas Forest Service): *protect and conserve environmentally important forest areas that are threatened by conversion to non-forest uses, through conservation easements and other mechanism*
- Forest Stewardship Program (administered by Texas Forest Service): *to promote and enable the long-term active management of non-industrial private and other nonfederal forest land to sustain the multiple values and uses that depend on such lands*
- Forest Service Fisheries: *protect and restore national forest fish habitats and enhance opportunities for use and enjoyment of national forest fisheries*
- Forest Taxation: *to provide advice and information to landowners to increase their knowledge of tax incentives intended to encourage forestry investments and management of forest resources.*
- Grazing Lands Conservation Initiative (GLCI): *supports the stewardship of Texas grazing lands and to sustain Texas' valuable natural resources*
- Great Plains Conservation: *conserves and develops the Great Plains soil and water resources by providing technical and financial assistance to farmers, ranchers, and others in planning and implementing conservation practices*
- Interest Assistance Program: *provides a 4 percent subsidy to farmers and ranchers, who do not qualify for standard commercial credit.*
- Livestock Compensation Program: *provides immediate assistance to livestock producers in counties that have received primary disaster designation due to drought in 2001 and/or 2002*
- Rural Abandoned Mine Program: *to help people conserve, improve, and sustain our natural resources and environment*
- Soil and Water Conservation Program: *protects people and the environment from the adverse effects of past coal mining practices, and to promote the development of soil and water resources of un-reclaimed mined lands*
- Taking Wing: *protects, maintains, restores and improves habitat in national forest and grasslands*
- Trade Adjustment Assistance: *helps producers respond proactively to import competition through training, cash benefits, and employment services.*
- Water Bank Program: *conserve surface waters, wetlands, breeding, and feeding areas, and secure environmental benefits*

- Watershed and Air Management Cost-Share: *work with partners to evaluate, protect and restore water, soil, and air resources*
- Watershed Surveys and Planning Program: *restores and protects watersheds by solving natural resource and related economic problems within the watershed*
- Department of Commerce Programs – Marine Fisheries Initiative (MARFIN): *support research and development projects in SE and NE Atlantic and Gulf of Mexico*
- Saltonstall-Kennedy Program Grants and Cooperative Agreements: *increase sustainable fisheries and provide finances for research and development projects that benefit US fishing*
- Unallied Management Project Grants: *conserves fishery resources and protects species and their environments in territorial waters*
- Unallied Management Project Grants: *provide grants and cooperative agreements of biological, socio-economic and physical science research on the stocks of fishery and protected resources of the United States and their environment that will contribute to their optimal management for the benefit of the Nation; also, to award grants and cooperative agreements to develop innovative approaches and methods for marine and estuarine science*
- Department of Defense Programs – Flood Plain Management Services: *to promote appropriate recognition of flood hazards in land and water use planning and development through the provision of flood and flood plain related data, technical services, and guidance.*
- ★ Department of Defense Army Compatible Buffers Programs – *Purchase of conservation easements on private property adjacent to DOD training and operations facilities*
- Environmental Protection Agency Programs – EPA Clean Water State Revolving Fund (may have to go through states for funding) *this program helps fund projects for wastewater treatment, non-point source pollution control, and watershed and estuary management*
- Water Quality Cooperative Agreements: *promotes coordination of environmentally beneficial activities including storm water control, sludge management, and pretreatment*
- Environmental Protection Consolidated Research: *to enhance or install habitat management practices, e.g. grazing management, pollution control techniques*
- ★ Department of the Interior Programs – Coastal Program: *protects coastal habitats through conservation easement and acquisition; restore coastal wetlands, uplands, and riparian areas; remove barriers to fish passage in coastal watersheds; control and monitor exotic and invasive species that threaten estuarine health*
- ★ Cooperative Conservation Initiative: *supports efforts to restore natural resources and establish or expand wildlife habitat; program aims to increase citizen participation in stewardship.*
- Fish Passage Program: *voluntary program that reconnects fish species to historic habitats; funding for restoration by removing or bypassing barriers including dam removal, culvert renovation, installing fishways and screens, and identification of impediments*
- Neotropical Migratory Bird Conservation Program: *promote conservation of neotropical migratory birds in US, Latin American and Caribbean; assist in the conservation of neotropical migratory birds by providing financial resources for the projects of partnerships in countries within the ranges of neotropical migratory birds*
- North American Wetlands Conservation Act of 1989 (NAWCA): *wetland ecosystems, migratory bird habitats; larger and special concern areas given priority assistance; technical and financial – duration: minimum 10 year agreement (5 years for demonstration projects) –cost-share: one-to-one match for federal and non-federal funds—contact: USFWS; nationwide*
- North American Waterfowl Management Plan (NAWMP): *conserves wetlands important to waterfowl and other birds*
- Private Stewardship for Imperiled Species Grants: *assistance is provided to individuals and groups to fund the voluntary restoration, management, or enhancement of habitat on private lands for endangered, threatened, proposed, candidate, or other at-risk species*
- Safe Harbor Agreements (Atwater's Prairie Chicken, Endangered Songbirds, Houston Toad, Red-Cockaded Woodpecker): *assistance to landowners in managing their lands in ways that benefit species and their habitats*
- Bureau of Reclamation Programs—Partners for Reclamation: *restores private lands that have been impacted by abandoned coal mining operations*
- US Fish and Wildlife Service Programs –Debt Cancellation Conservation Contract Program—Private Stewardship Program Grants: *these grants are intended to benefit to species listed, proposed, candidate for listing under Endangered Species Act, candidate species, or other at-risk species on private lands within the United States*
- Partners for Fish & Wildlife Program (PFW): *to restore, enhance, manage habitat; re-establishment of natural communities*

- USFW Challenge Cost Share Program: *management, restoration, and enhancement of wildlife resources and habitats*
- ★ USFS Conservation Contract Program: *reduces FmHA debt for permanent conservation easement*
- ★ Healthy Forest Reserve Program: *provides authority for the NRCS to partner with other entities to acquire conservation easements.*
- East Texas Wetlands Project: *to restore/enhance/create wetlands in Texas portion of Lower Miss Valley Joint Venture area*
- Texas Prairie Wetlands Project (PWP): *to create, restore or enhance wetlands beneficial for waterfowl and other wildlife*
- Environmental Quality Incentives Program (EQIP): *provides a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality by offering financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.*

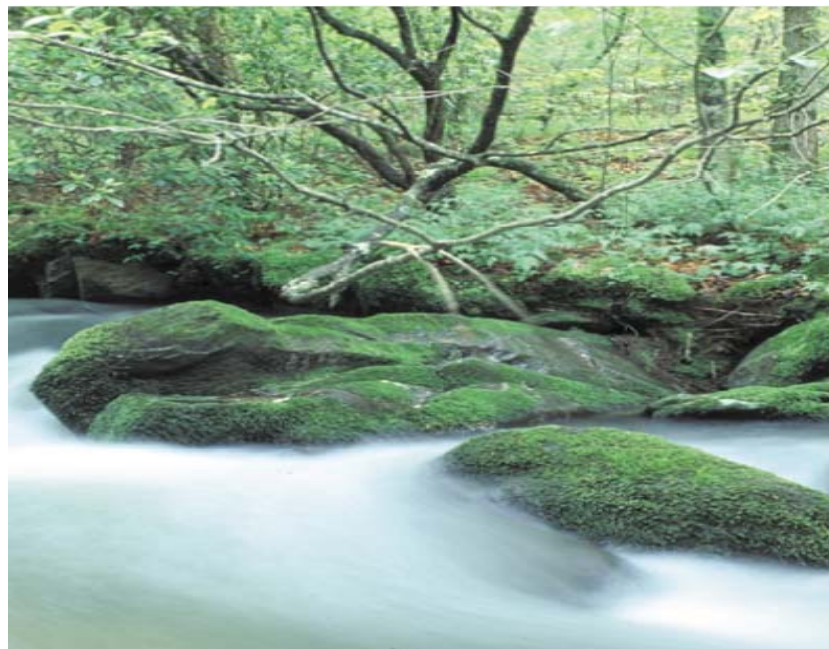
Non Profit Land Trusts

- Land Trusts operating in Texas or Texas Land Trust Council—(administered by Texas Parks & Wildlife): *umbrella organization for land trusts operating in Texas-complete listing of land trust conservation programs*

Private/Alternative Programs

- Ducks Unlimited – Matching Aid to Restore States Habitat Program (MARSH): *to enhance or install habitat management practices, e.g. grazing management, pollution control techniques*
- Texas Forest Association—Texas Reforestation Foundation (TRE): *reforestation by keeping improved land in trees and practicing good forest management*
- Wetland Habitat Alliance of Texas (WHAT)—Landowner Assistance: *program addresses management, restoration, enhancement & creation of wetlands*
- Texas Wildlife Association –Education Programs: *TWA hosts a number of events and educational programs including wildlife management, field days, youth hunting programs, conservation and outdoor skills training. Conservation initiatives are also a focus, ranging from data collection on cowbird trapping, examining best management practices, and the Leon River Valley Project.*
- American Forests Global ReLeaf: *education and action program that helps individuals, organizations, agencies, and corporations improve the local and global environment by planting and caring for trees.*

- ★ Denotes programs that utilize conservation easements





**SECTION 2:
CHAPTERS VI - VIII**

CHAPTER VI: FOREST LEGACY PROGRAM IN TEXAS

The preceding sections have shown the significant contributions East Texas forests make to the state of Texas as well as the current cultural trends that are threatening the vitality of the forests, particularly in the Eastern third of the state. Texas forests offer:

- Economic Benefits – Timber is currently the 3rd most important agricultural commodity in Texas, and the most important agriculture commodity in the eastern part of the state. Forests also provide wildlife-related recreational opportunities that add an estimated \$4.7 billion to the Texas economy annually.
- Water/Air Quality – Forests enhance the quality of two vital resources: water and air. Texas forests absorb rain, refill underground aquifers, cool and cleanse water, slow storm runoff, reduce flooding, and sustain watershed stability and resilience. In addition, forests provide one avenue of carbon sequestration, which helps to mitigate the potential impacts of climate change.
- Biodiversity – Texas forests provide habitats to a wide range of plant and animal species, including 87 threatened, endangered, or rare species.
- Historical Preservation – Texas forests hold a meaningful place in the state’s culture and history. The forests provide cultural resources as well as a way of life for many Texans.
- Wildlife and Recreation – The public benefits from exposure to wildlife and recreation opportunities provided in the Eastern third of the state.

Texas forests currently face many serious threats. As the previous chapters document, these threats are especially prevalent in the eastern third of the state:

- Population Growth/Fragmentation – Texas’ population currently numbers over 20,000,000. Some predictions claim this number will reach over 50,500,000 by 2040. Most of this growth is occurring in urban areas, creating added conversion pressures to rural lands and forest fragmentation. Studies show that Texas leads all states in rural land converted to urban uses, and average rural land ownership size has decreased in 74% of Texas counties. This trend poses serious consequences such as poor forest health and increased risk of wildfire.
- Water Resource Demand – Demand for water in Texas is growing. By 2050, total demand is expected to reach 20,000,000 acre-feet. This increasing demand is meeting a shortage of water in some areas of the state, which could lead to dramatic alternatives that will affect Texas forests.
- Other Threats – The proposed transportation corridor and changes in timberland ownership are also impacting forests in Texas. As proposed, the Trans Texas Corridor may further fragment East Texas forestland. Also, industries are selling their lands to TIMO’s and others who may not highly value sustainable forest management.

Based on the benefits Texas forests provide as well as the threats they currently face, the Texas Forest Legacy Committee (TFLC) has identified four overall goals of the FLP in Texas. They are to:

- ★ Support Texas rural communities, traditional land uses, and cultural heritage by maintaining large privately owned working forest landscapes managed according to sustainable best management practices.
- ★ Promote conservation of biological diversity by protecting habitat connectivity, unique ecosystems, and endangered species.
- ★ Promote watershed protection to enhance water quality and quantity and to protect aquatic habitats.
- ★ Support open space initiatives to decrease forest fragmentation, protect unique habitats or ecological features, and reduce negative effects of urban sprawl.

As shown through the above goals, the Texas FLP focuses on protecting large blocks of forestlands from parcelization and fragmentation in areas that are important to the forest products industry, promote ecological benefits, provide watershed protection, and offer open space for public value. Smaller properties that are either connective or contain key features associated with larger land protection projects with the attributes listed above are also included in the Texas FLP.

The state lead agency will prioritize FLP projects using the following criteria:

- ★ Degree of threat: Priority will be given to projects on properties that have proof of a high degree of threat of development or parcelization.
- ★ Forest resource economic benefits: Priority will be given to properties that are likely to have significant forest resource economic benefits.
- ★ Public benefits: Priority will be given to properties that are likely to have direct and indirect scenic and/or outdoor recreation benefits.
- ★ Water quality and watershed protection: Priority will be given to properties that are likely to have significant water quality and watershed protection benefits.
- ★ Ecological/Cultural benefits: Priority will be given to properties that are likely to have significant ecological, cultural, and environmental education benefits.
- ★ Proof of Readiness: Priority will be given to projects that have community support, identified matching funds and partnership involvement.
- ★ Strategic Initiative: Priority will be given to projects that fit within a larger conservation plan, strategy, or initiative, and connect to or lead to additional conservation investments in the region.

CHAPTER VII: PROPOSED FOREST LEGACY AREA

- ❖ Texas' proposed FLA is located in the eastern ¼ of the state, contains 59 counties, and encompasses 30,163,400 acres
 - ❖ The FLA is subdivided into 4 regions - Northeast Texas, Southeast Texas, East Central, and Gulf Coast – based on cover type, benefits offered, and threats faced
-

References:

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Department of Plant & Soil Sciences, Oklahoma State University. [Online WWW].

Available URL: <http://soilphysics.okstate.edu/S257/tx/select2.htm> [Accessed 18 May 2004].

USDA Forest Service. 2003. Forest Legacy Program Implementation Guidelines. [Online WWW]. Available URL: http://www.fs.fed.us/spf/coop/library/2003_fpl_guidelines.pdf [Accessed 19 May 2004].

LEGACY AREA SELECTION PROCESS

As stated, the FLP in Texas will focus on protecting large blocks of forest land from parcelization and fragmentation in areas that are important for forest products industry, promote ecological benefits, provide watershed protection, and offer open space for public value. Smaller properties that are either connective or contain key features associated with larger land protection projects will also be a priority.

The goals stated in Chapter VI on page 90 each help to protect the benefits of forests and prevent the cultural trends threatening them. The Texas FLP goals are listed below with the specific benefits and trends they are intended to address. The page numbers on which one can locate more information about particular benefits or trends are also included.

GOAL: Support Texas rural communities, traditional land uses, and cultural heritage by maintaining large privately owned working forest landscapes managed according to sustainable best management practices.

Protect:

Diversified timberland ownership (26)
Economic growth (28)
Cultural heritage (46)

Prevent:

Forest fragmentation (70)
Changing timberland ownership (72)
Lack of competition in global markets (75)

GOAL: Promote conservation of biological diversity by protecting habitat connectivity, unique ecosystems, and endangered species.

Protect:

Habitat diversity (39)
Eco-tourism (43)

Prevent:

Urban sprawl (57)
Forest fragmentation (70)

GOAL: Promote watershed protection to enhance water quality and quantity and to protect aquatic habitats.

Protect:

Water quality and quantity (37)
Habitat Diversity (39)

Prevent:

Soil erosion (63)
Downstream sedimentation (63)

GOAL: Support open space initiatives to decrease forest fragmentation, protect unique habitats or ecological features, and reduce negative effects of urban sprawl.

Protect:

Economic growth (43)
Air quality (51)

Prevent:

Urban sprawl (57)
Forest fragmentation (70)

After determining the goals of the Texas FLP based on the benefits the program would strive to protect as well as the trends it would attempt to prevent, the TFLC then established the area of Texas that would be most able to achieve those goals. The proposed FLA, shown on Map 25, was chosen because forests in these 59 counties provide all of the benefits and are threatened by all of the trends described in Section 1 of this document.

While forests in other areas of Texas possess some of the attributes and threats mentioned, no other area provides all of the benefits or faces all of the threats as does East Texas. Most notably, when compared to the rest of the state, these 30,163,400 acres are most reliant on the timber industry and face the gravest threat of fragmentation - two of the driving forces behind the FLP.

The boundary lines for the FLA are defined using county lines, state borders, and coastal borders. Other currently utilized boundaries, such as hydrologic units, were considered when creating the proposed FLA. However, the TFLC and the state lead agency determined that county lines, state borders, and coastal borders would be more easily identified by practitioners in the field than other delineations.

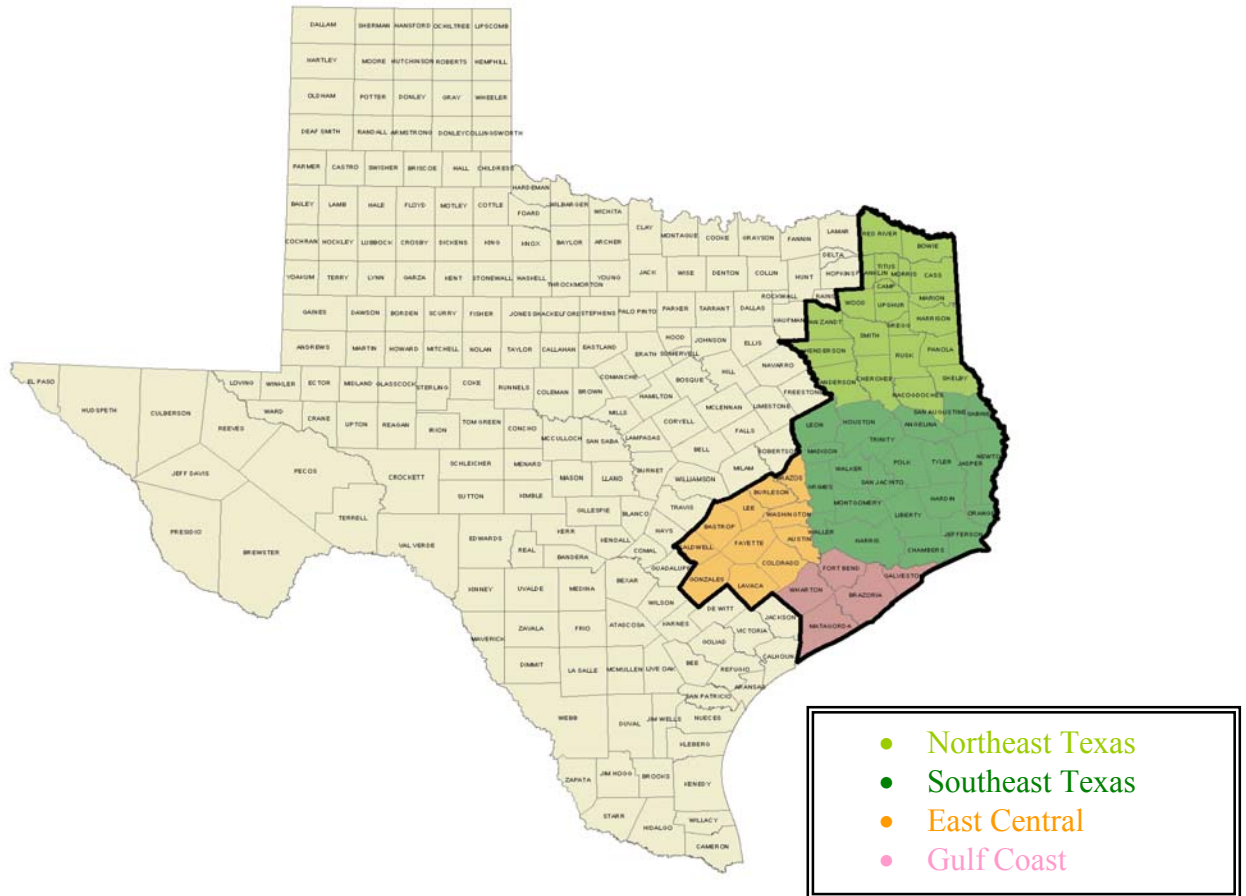
According to National FLP Guidelines, criteria for a FLA should be based upon the FLP purpose to protect environmentally important forest areas that are threatened by conversion to non-forest uses and be further developed through the AON. FLA boundaries must encompass forestlands with significant environmental and other resource-based values. Areas may also include non-forested areas such as farms and villages if they are an integral part of the landscape and are within logical boundaries. Since FLA boundaries may not correspond to property boundaries, tracts located partially within the geographically defined FLA are eligible for the FLP upon approval of a boundary adjustment by the USFS Region.

Indian reservations and tribal lands, such as the Alabama-Coushatta Indian Reservation, may have important features on the forested landscape. Indian tribes and states are encouraged to collaborate and to consider only nontrust allotment lands for designation as, or inclusion within, a FLA. Other tribal lands are already protected through the trust relationship between the U.S. Department of the Interior and the tribe and are ineligible for the FLP.

LEGACY AREA BOUNDARIES

MAP 25:

Texas' Proposed Legacy Area by Region



The proposed FLA for Texas is divided into four regions: Northeast Texas, Southeast Texas, East Central, and Gulf Coast. Each of these areas contains forestland that is vital to the state of Texas. However, the cover types, benefits offered, and threats facing each differ by region. Therefore, in order to provide an accurate description of the entire Legacy Area and to aid in prioritizing projects, the TFLC decided to recognize four different regions within the one Legacy Area.

Northeast Texas Region

<u>Total Acreage:</u>	9,706,500
<u>Counties:</u>	Shelby, Bowie, Gregg, Titus, Morris, Camp, Wood, Smith, Panola, Rusk, Upshur, Marion, Harrison, Franklin, Red River, Cherokee, Nacogdoches, Van Zandt, Henderson, Anderson, Cass
<u>Metropolitan Area:</u>	Tyler
<u>Rivers:</u>	Sabine, Sulphur
<u>National Forest:</u>	Sabine National Forest
<u>Conservation Strategy:</u>	Large contiguous blocks of forestland; biodiversity

Southeast Texas Region

<u>Total Acreage:</u>	11,887,500
<u>Counties:</u>	San Jacinto, Montgomery, San Augustine, Madison, Sabine, Jefferson, Liberty, Chambers, Angelina, Orange, Tyler, Jasper, Trinity, Harris, Grimes, Houston, Newton, Hardin, Waller, Walker, Polk, Leon
<u>Metropolitan Area:</u>	Houston
<u>Rivers:</u>	Angelina, Neches, Sabine, Trinity
<u>National Forests:</u>	Sabine, Angelina, Davy Crockett, Sam Houston
<u>National Park:</u>	Big Thicket National Preserve
<u>Conservation Strategy:</u>	Large contiguous blocks of forestland; small connective tracts of forestland; biodiversity; air quality

East Central Region

<u>Total Acreage:</u>	5,457,100
<u>Counties:</u>	Brazos, Burleson, Lee, Bastrop, Caldwell, Austin, Washington, Fayette, Colorado, Lavaca, Gonzales
<u>Metropolitan Area:</u>	Bastrop
<u>Rivers:</u>	Brazos, Colorado
<u>Other:</u>	Lost Pines
<u>Conservation Strategy:</u>	Water quality; biodiversity

Gulf Coast Region

<u>Total Acreage:</u>	3,112,300
<u>Counties:</u>	Wharton, Fort Bend, Brazoria, Matagorda, Galveston
<u>Metropolitan Area:</u>	Galveston
<u>Rivers:</u>	Brazos, Trinity, East Fork San Jacinto
<u>Other:</u>	Galveston Bay
<u>Conservation Strategy:</u>	Water quality; biodiversity; air quality

LEGACY AREA COVER TYPES

Northeast Texas Region

The Northeast Texas region is composed of 9,706,500 acres, much of which is utilized for farming. Between one-half and three-fourths is forest and woodland. A few large tracts are owned by large corporations and the federal government (national forests), and lumber and pulp wood production is important. Land that is cleared is used mostly for pasture and hay crops. About one-sixth is used for cropland. Common crops grown are corn, grain sorghum, oats, soybeans, peanuts, rice, and vegetable crops.

This area supports pine-hardwood forest vegetation. Loblolly pine and shortleaf pine grow with sweetgum, southern red oak, white oak, flowering dogwood, and post oak. American beautyberry, greenbrier, hawthorns, berry vines, and others make up the woody understory. Little bluestem and pinhole bluestem are the dominant herbaceous species. Other major grasses include beaked panicum, longleaf uniola, spike uniola, and yellow indiagrass. Many species of low-growing panicums and paspalums and perennial forbs such as tickclovers, lespedezas, wildbean, and several composites contribute significantly to the total annual yield.

Southeast Texas Region

Much of the Southeast Texas region is also in farms. About three-fourths of this 11,887,500 acre area is forest, principally pine and pine-hardwood. Some of the forest acreage is owned by large corporations, and lumber and pulpwood are the chief products. Cleared areas are used mostly for pasture, but some are used for crops. Rice, grain sorghum, corn, and soybeans are commonly grown. Many small subdivisions are being developed throughout the area.

This area supports pine-hardwood forest vegetation characterized by loblolly pine with remnant stands of isolated longleaf pine. Sweetgum, blackgum, post oak, blackjack oak, and southern red oak are the principal hardwood species. Hawthorns, myrtle, and shining sumac make up the woody understory. Mid and tall grasses are dominant in open areas. Little bluestem, pinhole bluestem, big bluestem, switchgrass, and indiagrass are the principal grasses. Longleaf uniola, Virginia wildrye, Florida paspalum, beaked panicum, and several low-growing panicums and paspalums are the principal grasses in shady areas. Lespedezas, tickclovers, wildbeans, and several composites constitute the principal forbs of the area.

East Central Region

Most of the 5,457,100 acre East Central Region is in farms. Urban use is inextensive but is expanding in a few places. Most of the farmland is used for pasture and range; some of the pasture was formerly cropped. About half is in improved grasses that are fertilized. Much of the rangeland has been overgrazed. The remaining acreage is in native and annual grasses. The cropland is used principally for grain sorghum, but cotton, corn, peanuts, hay, and truck crops are important in some places. About a third of the farmland is in woodlots.

The climax plant community in this area is oak savanna. Little bluestem is dominant on all sites except those that are poorly drained. Little bluestem and beaked panicum are dominant in poorly drained areas. Indiangrass, brownseed paspalum, beaked panicum, switchgrass, and big bluestem grow throughout the area. The area also supports a wide variety of forbs, legumes, shrubs, and woody vines such as dayflower, spiderwort, bundleflower, lespedezas, sensitivebrier, hawthorn, yaupon, elbowbush, greenbrier, and honeysuckle. Some mixed pine-hardwood forests are in the southwest and in the east. Hardwood forests of oak, elm, pecan, hackberry, and other species grow on the bottom lands.

Gulf Coast Region

The Gulf Coast Region consists of 3,112,300 acres mostly in farms. Nearly 40 percent of this region is used for crops or hay. Rice, soybeans, grain sorghum, cotton, corn, and hay are the chief crops. About one-third of the area is range or pasture. About one-sixth is in forests, chiefly hardwood, bordering the rivers and streams that cross the area. In some places, urban development is rapidly expanding onto cropland and agricultural land.

This area supports a true prairie plant community. Little bluestem, indiangrass, switchgrass, and big bluestem are the dominant species. A few groves of live oak dot the landscape. Vegetation types range from upland prairies to saturated and saline grasslands, vegetated dunes, and fresh, brackish and salt marshes near the coast. The region ranks high in floral diversity due to its broad east-west extent, the variety of soils, and adaptation to high moisture and salinity levels. Each of the large coastal bay systems supports extensive areas of emergent marsh dominated by cordgrasses and other halophytic grasses, shrubs, and forbs. Tidally inundated stands of smooth cordgrass provide vital nursery habitat for estuarine and marine fauna. Live oak woodlands occur on clay flats. River floodplains support bottomland forests. Isolated sandier areas support loblolly pine and post oaks. The Laguna Madre on the lower coast is one of the few large hypersaline bays in the world and contains extensive seagrass beds and wind-tidal flats (Brown et al. 1980).

CHAPTER VIII: IMPLEMENTATION OF THE FLP IN TEXAS

- ❖ Texas is currently one in eight states in the FLP “planning in progress” stage
- ❖ The Texas Legacy Committee is made up of 7 members representing diversified interests within the forest sectors of Texas

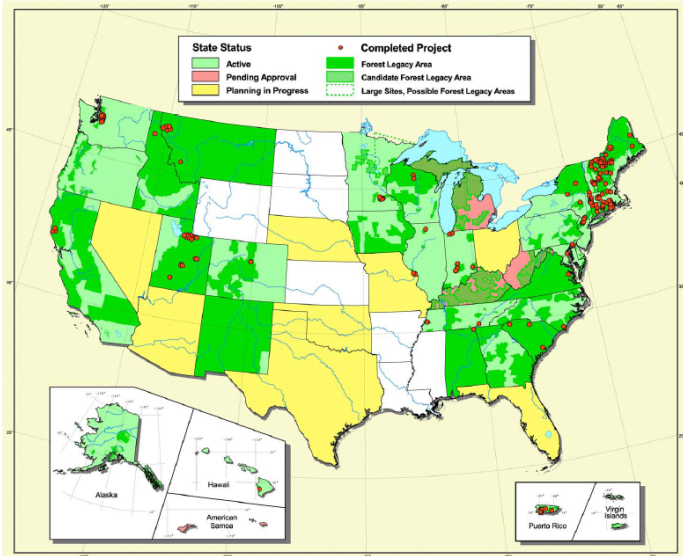
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NATIONAL LEGACY PROGRAM PROCESS SUMMARY

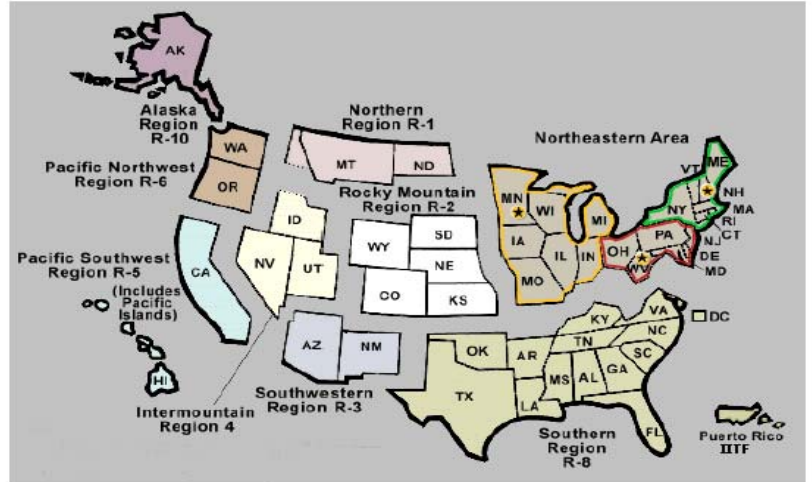
MAP 26:

States participating in FLP as of 2003



MAP 27:

USFS Regional Coverage Areas



A complete version of the FLP process can be found in a June 30, 2003 document by the USFS State & Private Forestry, Cooperative Forestry department entitled *Forest Legacy Program National Implementation Guidelines*.

Included here is a brief summary of the FLP program with regard to project criteria, calculating cost shares, and the submission process in the form of a sample time line for submitting projects for FLP appropriation considerations.

National Priority Core Criteria

- Important – The public benefits gained from the protection and management of the property including environmental values, and the economic and social aspects;
- Threatened – Conversion to non-forest uses is likely or imminent and will result in a loss of forest values and public benefits;
- Strategic – Fits with a larger conservation plan, strategy, and initiative and enhances previous conservation investments; and
- Ready – The level of commitment and likelihood that a project will be completed in a predictable timeline.

TEXAS LEGACY PROGRAM PROCESS

After meeting with top-level TFS and USFS representatives in the summer and fall of 2003 in order to alleviate concerns regarding property rights and imminent domain, Governor Rick Perry signed the letter to the USFS requesting Texas join the FLP on September 1, 2003. At that time, he designated the TFS as the state lead agency for the FLP in Texas. Texas will enter into the FLP under the State Grant Program Option. With the State Grant Program option, a state elects to obtain ownership of lands or ownership of interests in lands and those interests are vested in a State or subdivision of a State.

Formation of the Texas Forest Legacy Committee

The Cooperative Forestry Assistance Act, as amended by the 1990 & 1996 Farm Bills states that after a governor has requested entrance into the FLP, the SFSCC must convene in order to guide the FLP in that state.

After Governor Rick Perry signed the September 1, 2003, letter requesting Texas' entrance into the FLP, the SFSCC met on December 22, 2003. The SFSCC is chaired and administered by the State Forester with membership composed of representatives from the following agencies, organizations, or entities: USFS; Natural Resources Conservation Service; Farm Services Agency; Cooperative State Research, Education, and Extension Service; local government; consulting foresters; environmental organizations; forest products industry; forest land owners; land trusts; conservation organizations; the State fish and wildlife agency; and others determined appropriate.

A sub-committee of the SFSCC was formed in February 2004 in order to guide the FLP in Texas. This sub-committee, the TFLC, makes recommendations to the State lead agency regarding FLP implementation and will report to the SFSCC on an annual basis. By July 15, 2004, this committee will have established eligibility criteria for the designation of forest areas from which lands may be entered into the FLP and subsequently select such appropriate areas.

The TFLC will cooperatively review applications with the TFS and establish the state's easement acquisition priorities as well as continue with landowner consultation. The TFS, with involvement from the TFLC and USFS will review property owner applications, prioritize tracts, obtain state approval, and submit properties to USFS Region 8 for approval. Upon request from the state lead agency, the TFLC can undertake additional responsibilities if agreed to by the committee.

TFLC members are appointed by the State Forester and represent diversified interests within the forestland sectors of Texas. Each entity has expressed a prior interest in the state's role in managing the FLP in Texas. The 2004 TFLC membership is as follows:

TFLC Members

(Alphabetical order)

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Formation of the AON

The AON is a document produced by a state or a federally recognized Indian Tribe in consultation with the SFSCC. The AON process is intended to:

- 1) Describe the current condition of the forest land in the state
- 2) Describe the forest land use changes and threats
- 3) Document the need for the program in the state
- 4) Determine overall goals and priorities for the program in Texas
- 5) Determine eligibility criteria for Legacy Areas in the state
- 6) Delineate boundaries around areas with the most need for the program
- 7) Describe how the program will be implemented in Texas within those areas
- 8) Describe evaluation criteria and processes that will be used in project selection
- 9) Seek and document public input regarding the above determinations

The AON must be approved by the U.S. Secretary of Agriculture prior to release of the project funds.

This AON was prepared by the TFS, in consultation with the TFLC for submission to the USFS. This document was developed by the TFS in cooperation with a masters level internship program within the Bush School of Government and Public Service's Masters of Public Service Administration Program at Texas A&M University. The AON may only be amended upon approval by the TFS, TFLC, and USFS.

This AON was developed on the basis of existing published data, much of which is available on the Internet, TFS surveys, Texas Parks and Wildlife (TPWD) reports, conservation organization documentation, and considerable local knowledge. Examples of sources include State Forest Resources Plans, State Comprehensive Outdoor Recreation Plans, growth management studies, state cultural site inventories, records of threatened and endangered species, and other state, regional and local plans, studies and reports. All relevant sources are documented but will not appear as citations for readability considerations.

To initiate the AON process a survey was sent to the TFLC and 50 other private, public, educational, and institutional individuals within the forestry field. Participants were asked to rank overall goals and criteria for project selection, select public input venue styles and locations, and delineate on a Texas map counties they would like to consider for inclusion in a FLA. Survey choices were derived by combining all goals, priorities, and eligibility criteria of all the other states that have participated in the FLP. Although all seven TFLC members responded, only 4 other individuals participated in the survey. A copy of this initial survey can be found in Appendix A - Public Comments.

Survey results, preliminary Legacy Area designations, and a draft outline of the AON were discussed and agreed upon during a March 29, 2004, TFLC conference call. April and May were spent developing the core AON draft. The TFLC reviewed the draft AON during a June 3, 2004, conference call, and public meetings were held the week of June 22-24, 2004.

Public Input Process

Public acceptance and input is crucial to the development of the AON and establishment of the FLP in Texas. Effort has been expended to inform as broad a base of interested stakeholders as possible about the program and the AON. In order to meet this goal, three meetings were held and a web page link about the FLP was posted to the TFS website at <http://www.txforestservation.tamu.edu> on June 15. This site included general information about the FLP and a downloadable copy of the Draft AON. To make public comment convenient and accessible, comment forms were also posted on the website. The public was encouraged to submit these forms, or any comments, by mail, email, fax or phone.

Public Input Meetings were conducted in late June 2004 to introduce the FLP, share information and conclusions from the Draft AON, assess the public's opinion about the criteria for selection of the FLA, obtain reactions to the FLA chosen to be included in the program, and to give the public some background on how the program would be implemented in Texas.

Information was advertised in several ways:

- TFS Press Release sent to 90 media outlets on May 28, 2004
- Meeting advisory notice sent on June 21, 2004 to the same media outlets
- Inclusion in the Society of American Foresters, Texas Forestry Association, and Texas Land Trust Council Bulletins.
- Word of mouth to interested parties by the TFLC, TFS, The Nature Conservancy, and Trust for Public Land.
- Personal invitations to 90 individuals and 180 political representatives
- Extension Service Electronic Bulletin Board
- Other land conservation organization's websites
- All County Landowner Association Chairs

Three meeting locations dispersed geographically throughout the state where there has been an interest in forestland management were chosen to enable as many people as possible easy access to public meetings. Meetings were held in the following locations:

- Austin: June 22 at 6:30pm, Holiday Inn South, 3401 South IH-35, Executive Instruction Center
- Nacogdoches: June 23 at 6:30pm, Stephen F. Austin School of Forestry, Arthur Temple Forestry Building, corner of East College & Raguet, Room 117
- Conroe: June 24 at 6:30pm, Montgomery County College General Academic Center Building B, Hwy 242 & West College Park Drive, Presentation Room B102

There was a wide range of interests represented at these meetings. Attendees included:

- Representatives from Congressional and State Senate offices
- Staff of the Texas Forest Service
- Members of the State Forest Stewardship Coordinating Committee
- Members of the Texas Forest Legacy Committee
- Representatives of land trusts, Texas Forestry Association, the forest products industry, recreation based industries, and interest groups
- Private landowners

At each meeting the public was shown a presentation giving a general introduction to the FLP, background information on the planning team responsible for the development of the AON, structure and development of the AON, information gathered to create the AON, sample draft of application procedure and process. In addition to this information the public was also asked to consider some discussion questions to spark comments. These included FLA designation criteria, and what criteria were important for project selection within areas proposed as the Forest Legacy Area.

Public response to the establishment of the Forest Legacy Program in Texas was generally positive with some negative reaction concerning private property issues. There was an overwhelming acceptance of the areas that were designated as FLAs, with no one arguing that chosen areas should be revised or not included. However, some discussion did occur concerning areas that were not included as FLAs. Interest among several concerned individuals centered on the post oak belts and Trinity River Bottom areas of the Dallas/Fort Worth metroplex. These respondents felt this is an ecologically important enough area to warrant inclusion, even though there was less demonstrable resource management importance and/or history of forest product management of these forests.

Attendees were encouraged to make comments or suggestions as soon after the meeting as possible, so that they could be included in the final AON. See Appendix A for a summary of public comments.



NEWS

from the Texas Forest Service

May 28, 2004

Texas to Participate in Forest Legacy Program

Texas Forest Service holds public meetings to gather required information

COLLEGE STATION, Texas—The forests of Texas provide employment for thousands of workers and recreational opportunities for millions of residents and visitors annually.

At the same time, the state's woodlands serve as habitat for a rich variety of native wildlife and plants. To protect the state's forested lands and the jobs, recreation, and wildlife they support, Governor Perry gave approval for the Texas Forest Service to initiate participation in the federal Forest Legacy Program.

Program funding provided by the USDA Forest Service allows landowners to utilize conservation easements on private forestland, thereby protecting it from conversion to non-forest uses.

Such easements allow the landowner to sell the development rights while maintaining ownership and use of the forestland, including the ability to continue to grow and sell forest products. This results in sustained wildlife habitats and other environmentally beneficial values in addition to revenue generated from timber sales and leases. The landowner will continue to cover the expenses associated with management of the forestland.

For Texas to become a participant in the Forest Legacy Program, the state must first complete an Assessment of Need, a report that evaluates the condition of existing forest resources, identifies threats to the state's forests, and designates a Forest Legacy Area. After approval of the Assessment of Need by the USDA Forest Service, Texas will be enrolled in the Forest Legacy Program and landowners may begin submitting projects.

For additional information or comments, contact:

Jan Davis, program coordinator

Ph: 979-458-6630

Fax: 979-458-6655

E-mail: jdavis@tfs.tamu.edu

Lands will be selected based on a priority system that considers the land's unique features that need to be protected.

The Texas Forest Service is responsible for drafting the report and soliciting public comments, as guided by the Texas Forest Legacy Committee, a sub-committee of the State Forest Stewardship Coordinating Committee.

Public meetings in Austin, Nacogdoches and Conroe will solicit comments regarding the draft version of the Assessment of Need and the Forest Legacy Program. A short questionnaire will be provided and public comments will be recorded.

Public meetings will be held at the following locations:

Austin: June 22 at 6:30pm, Holiday Inn South, 3401 South IH-35, Executive Instruction Center

Nacogdoches: June 23 at 6:30pm, Stephen F. Austin School of Forestry, Arthur Temple Forestry Building, corner of East College & Raguet, Room 117

Conroe: June 24 at 6:30pm, Montgomery County College General Academic Center Building B, Hwy 242 & West College Park Drive, Presentation Room B102

The draft version of the Texas Forest Legacy Program Assessment of Need and a questionnaire will be available for online review from **June 15 to July 15, 2004**, on the Texas Forest Service Web site at <http://www.texasforestservation.tamu.edu>. For general information about the USDA Forest Service Forest Legacy Program, visit <http://www.fs.fed.us/spf/coop/flp.htm>.

Program Promotion

In order for Texas landowners to utilize the opportunity provided by the FLP, they must first know the program exists. Promotion of the FLP will include:

- Information regarding the FLP posted on the state lead agency's website, <http://www.txforestservicetamu.edu>, including general information, the project application and submission process, and a downloadable copy of the Draft AON;
- Articles and press releases in local papers throughout the FLA; and,
- Dissemination of information by county agents and foresters in the FLA

An effort will also be made to inform interested groups and organizations through presentations at regularly scheduled meetings, and by available media outlets such as:

- Society of American Foresters local, state, and national meetings
- County Landowner Association meetings
- Forester Training Workshops
- Texas Land Trust Council meetings
- Local community association meetings
- Chamber of Commerce meetings

Additionally, other state agencies and nongovernmental organizations will assist in the promotion of the FLP in Texas.



Project Submission Process

The FLP offers private forestland owners the option of voluntarily utilizing conservation easements as a tool to help keep working forest lands as a part of Texas' future environment and economy. Through conservation easements that require forest stewardship management plans, landowners can be assured of retaining the right to earn income from their forests, control access, and help maintain local forest economies while protecting forestland from conversion to non-forest uses and providing open space for public good.

All FL acquisitions of lands or interests in lands shall be made in accordance with Federal appraisal and acquisition standards and procedures. The acquired interests in lands entered into the FLP shall be adequate for FL purposes and be perpetual. These interests in lands will be managed and administered for goals consistent with FL conservation purposes declared in the AON by the state lead agency. Except for special situations requiring written agreements with partnering state agencies, the TFS will be responsible for all monitoring and management of conservation easements on land that has entered into the FLP to which the agency holds title. Interests in lands located within a FLA and simultaneously within other Federal boundaries (e.g. national forest, national park, or national wildlife refuge) are eligible for the FLP provided that the responsible Federal agency concurs with the FLP state acquisition. If Texas passes legislation that extinguishes claims to or restrictions on real property, the state shall use all available authorities, including that of acting as an agent of the U.S., to achieve the purposes of the Cooperative Forestry Assistance Act.

It is preferred by the TFS that the state lead agency, the TFS, only hold interests in lands in the form of title to conservation easements rather than ownership of land. In special situations, it will be at the discretion of the State Forester as to whether or not the state will utilize FLP funding to make fee simple purchases with FLP funding through the State Grant Option.

It is also preferred by the TFS that the state lead agency, the TFS, act as the sole titleholder of lands or interests in lands that enter into the FLP. However, at the discretion of the State Forester, other state government entities may either hold title to conservation easements or be allowed to own land that has entered into the FLP. For example, there may be projects adjacent to previously protected lands managed by another state agency. In this case, it would be more cost effective for that state agency to monitor the property in conjunction with existing management strategies. Should this occur, it would be expected that the partnering entity will be responsible for monitoring and enforcement of the easement and language in the easement title will define and reflect these agreements. Again, at the discretion of the State Forester, should the partnering state government entity be allowed

to make a fee purchase acquisition of land through the FLP, the partnering entity will be responsible for following the guidelines set forth by the FLP as well as the State's AON. If the AON is approved by the USFS and Texas becomes enrolled in the FLP, projects will be selected and funded on a voluntary and competitive basis. Interested landowners will submit a non-binding application that gives pertinent information on the property's resources and expected value.

Landowners who wish to participate in the program may be asked to provide the following information:

- 1) Name, address and phone number of applicant landowner.
- 2) All other owners of record for this tract, and their addresses.
- 3) Name, address and phone number of authorized agent representing landowner(s), if applicable.
- 4) Location of property.
- 5) If the landowner intends to reserve rights to forestry uses or other resource management activities, a copy or reference to the State-approved landowner Forest Stewardship Plan or multi-resource management plan.**
- 6) List of the significant scenic, natural, recreational, wildlife, timber and other resource values contained on the property.
- 7) Identification of all dams, dumps or waste disposal sites on the property.
- 8) Signed statement giving the FS and State lead agency permission to enter the property for review and appraisal purposes.
- 9) Legal description.
- 10) List any encumbrances or liens existing on the property including, but not limited to contracts, leases, or outstanding rights not of record.
- 11) Copy of plat or survey map of the property, if existing. If only a portion of the property is being offered, identify it on a plat showing the portion offered in the context of the entire tract.
- 12) Tract acreage and total number of acres of forests and cleared/open land.
- 13) List of existing permanent improvements on the tract, including houses, barns, lakes, ponds, dams, wells, roads, and other structures, and total number of acres occupied by improvements.

** A State approved Forest Stewardship Management Plan must be in place at the time of the closing. Language in the easement will refer to the plan and will require that the plan be reviewed every 5 years. Sample Content for a Forest Stewardship Management Plan follows at the end of this section on page 116 and a Sample Forest Stewardship Management Plan can be found on page 163 in Appendix E.

If the landowner intends to reserve rights to forestry uses or other resource management activities, it is not a requirement of the FLP at this time for the landowner to seek third

party Forest Management Certification. However, projects meeting third party certification will more likely rank higher in the project selection process at both the state and national levels as this certification shows the landowner's commitment to sustainable forest management. It also publicly demonstrates dedication for management practices that meet standards considered to be environmentally appropriate, socially beneficial, and economically viable. For more information on Forest Certification, please also refer to the Pinchot Institute for Conservation's August 2003 *Guidebook for Forest Management Certification on Private Forestlands in the US* by Naureen Rana et al.

Under Federal land acquisition requirements, an independent appraisal of the real property or interests in real property in the form of conservation easement must be completed and reviewed. The landowner must be informed of the outcome of that process. Minimum requirements for a qualified Appraiser or Review Appraiser follow this section on page 118.

The FLP requires 25% non-federal matching funds for all projects. This requirement can be satisfied in a number of ways, including matching acquisition funds from state, local or private sources or landowner donation of a portion of the value. Alternatively complementary activities may also qualify, such as the acquisition or donation of property or interests in property nearby.

When requesting cost share funding for projects, the Cooperative Forestry Assistance Act directs that the maximum federal contribution for total program costs may not exceed 75 percent. To assure program-wide cost share goals are met, each project budget must include a minimum non-federal contribution of 25 percent.

Equation for Calculating Cost Share Requirement

(Federal FLP Share) X (0.333) = the minimum Non-Federal Contribution

OR

(Total Project Costs) X (0.75) = the maximum Federal Contribution

Principals to Guide Calculating the Cost-Share Requirements

- To calculate the cost share requirement, the Program Manager should use the federal FLP contribution, and not the total project costs.
- The cost share requirement should be at least 33.3% of the total federal FLP contribution towards the project, which will equal at least 25% of the total FLP project (federal FLP contribution plus cost share).
- The federal contribution (USFS's FLP plus all other federal contributions) cannot exceed 75% of the total project costs (all cost requirements to complete the project, including federal and non-federal contributions).
- The non-federal cost share portion cannot be used as cost share for another federal program that also requires a cost share.

This non-federal cost share must meet FL purposes. It may consist of:

- The value of land, or interest in land, dedicated to the FLP that is not paid for by the federal government.
- Non-federal costs associated with program implementation.
- Other non-federal costs associated with a grant or other agreement that meets FLP purpose.

The nonfederal cost share must be documented, and in the case of a grant, must meet the timing, terms, and conditions of the grant. The cost share can occur at any phase of the FLP including planning, developing future projects, acquisition, capital improvement, management, or administrative activities. When a grant is involved, the cost share must occur within the life of a grant and meet all grant requirements. Federal requirements identify the grant period as beginning when the grant is formally awarded and ends after two years to ensure that the federal funds are spent promptly.

Donations of land or interests in land must be documented to count as part of the non-federal cost share. The title does not need to be transferred to the state or federal government in order for the donation to qualify as cost share.

Project funds are those used to directly purchase lands or interests in land joining the FLP. Project funds may be expended by the state lead agency or the USFS, as applicable, to cover transaction costs, including but not limited to: appraisals and appraisal review, land surveys, closing costs, establishing baseline information, title work, purchase of title insurance, conservation easement drafting, and other real estate transaction expenses for those tracts. Project funds may also be expended to facilitate donations of land or interests in lands to a qualified and willing donor for FLP purposes, by paying for expenses directly related to the donation, including but not limited to, land surveys, conservation easement drafting, title work, and establishing baseline information. For an outright donation of a conservation easement or land, FLP program funds may not be used to pay for an appraisal.

The USFS will conduct a project selection process to arrive at a prioritized national project list for consideration in the President's budget for the upcoming fiscal year. The project selection process and calendar of due date milestones are developed in consultation with the USFS Washington Office, USFS Region 8, and the TFS.

At this time, project proposals will be accepted from January 1 to August 15. Once a year in September the TFS will review applications and the TFLC will rank projects based on their ability to satisfy the objectives of the program. Texas' proposed projects would then be evaluated against other projects in the USFS Southern Region and then nationally.

Should the national process timeline change, the lead agency will adjust the timeline for submission accordingly.

The FLP has been funded at \$60-90 million for the past three years, with 30 to 55 projects funded annually. It is usually at least a year between submittal of a project and funding becoming available. For example, a project submitted in September 2005 would be part of a national ranking process completed in January 2006 for inclusion in the FY2007 President's budget proposal, which would typically be reviewed by the House and Senate Appropriations Committees for final budget approval. The USFS may have minimal program administration funds available for costs of surveys and appraisals. A sample timeline for project selection follows at the end of this section on page 120. A project submission form also follows on page 114.



Requirements

(No to any of the first five questions disqualifies the project)

- | | | | |
|--|---|---|---|
| 1) Willing seller? | Y | N | ? |
| 2) 25% Matching funds available?
Description/source: _____

_____ | Y | N | ? |
| 3) Clear title from willing seller/donor?
Description of any outstanding rights: _____

_____ | Y | N | ? |
| 4) The project is located within an established Forest Legacy Area? | Y | N | ? |
| 5) The project meets the criteria as established in the states FLP Assessment of Need? | Y | N | ? |
| 6) Are there other partners associated with this project?
If so, list and describe who and what role they will play: _____

_____ | Y | N | ? |
| 7) Forest management plan in place or commitment to prepare one before closing?
State approved forest stewardship plan in place? | Y | N | ? |
| 8) Anticipated price: \$ _____/acre \$ _____ total | | | |
| 9) Donations beyond the 25% cost-share match or a less than 75% request?
Value/amount, explain: _____

_____ | Y | N | ? |
| 10) Project area is at least 75% forested? | Y | N | ? |

Evaluation criteria

(This project application will be used to evaluate projects and help prioritize competing projects. Therefore quantified information is encouraged)

Attach a letter (three page maximum) that describes this project's or property's:

1. Threat of conversion to a non-forest use
2. Forest resource economic benefit
3. Public benefit
4. Water quality/quantity benefit
5. Ecological or cultural benefit
6. The project's readiness to close/community support or partnerships
7. The project's purpose within a regional and strategic conservation plan

Basic Components of a Stewardship Plan

The following is information from the Forest Stewardship Program's *National Standards and Guidelines* and the *Forest Legacy Program Implementation Guidelines*. Please also refer to the Forest Stewardship Program's, *Planning for Forest Stewardship: A Desk Guide*, as well as States' Statewide Forest Stewardship Plan for additional information regarding Forest Stewardship Plans.

Landowner Forest Stewardship Plans must:

- be prepared or verified as meeting the minimum standards of a forest stewardship plan by a professional resource manager
- identify and describe actions to protect, manage, maintain and enhance relevant resources listed in the law (soil, water, range aesthetic quality, recreation, timber, water, and fish and wildlife) in a manner compatible with landowner objectives
- be approved by the State Forester or a representative of the State Forester
- involve the landowner in the plan development by setting clear objectives and be clearly understood by the landowner
- a well prepared plan will: clearly state landowner objectives, have a cover page, and provide for authorship and/or signature lines within the document.

Basic components of the plan include:

1. General Property Description - A paragraph describing the location, topography, current management situation, major timber types, and other notable features that are unique, sensitive and/or special.
2. Resource Objectives - obtained from the landowner for the resources present on the property. These resources should be protected, managed, maintained and enhanced.
 - (a) fish and wildlife; (b) timber; (c) aesthetics & recreation; (d) soil; (e) water; (f) range; (g) forest health; (h) archeological, cultural, and historical sites; (i) wetlands
3. Resource Evaluation - for each of the resources present
 - (a) Timber - include species, age, density/stocking, site index or productivity potential
 - (b) Fish and Wildlife - describe existing populations and note potential for other populations
 - (c) Soils - include soil series, interpretation, productivity potential, and limitations
 - (d) Water - identify category, condition and protection needs
 - (e) Aesthetics & Recreation - current uses, potential for other uses
 - (f) Range
 - (g) Archeological, Cultural and Historical Sites
 - (h) Wetlands
4. Management Recommendations/Prescriptions for Each Area - based on owner's objectives
 - (a) What specific practice/treatment is needed
 - (b) How practice/treatment is to be carried out, including details of implementation
 - (c) Who will be or who is available to carry out this practice/treatment
 - (d) When is the best time frame to implement this practice/treatment
 - (e) Why is this practice/treatment needed (How will it meet the owner's objectives)

5. Schedule of Management Activities - This may not be needed on properties with few recommendations. On larger, more complex properties with multiple recommendations over several years this schedule will help the owner summarize the recommendations for the entire property and install the practices in a logical sequence over the next ten-year period.
6. Map and/or Photograph of the Stewardship Forest - (complete with scale, north arrow, legend) to identify and delineate:
 - (a) Forest types/timber stands
 - (b) Streams, water bodies and other important water features
 - (c) Non-forested areas (fields, pastures, orchards, home sites, etc.)
 - (d) Key wildlife areas and features
 - (e) Recreational and/or aesthetic areas
 - (f) Unique and sensitive features (wetlands, T&E species, cultural resource sites, etc.)
 - (g) Other important features as needed; forest roads and trails, gates, fences, landmarks, etc.
7. Soils Map and Legend - This is optional on small tracts with one or two soil types, but should be included on properties with three or more soil types and on tracts where there are significant limitations due to soil and/or site factors. Include an aerial photo or other map that shows the location and boundaries of the various soil types identified in #3 above.
8. Record of Activities - include a blank form for the owner to record the practices and treatments that were installed.
9. Optional Items - include a cover sheet when appropriate and supporting reference materials. Landowners' understanding may be improved by including activity summaries and appendices. Appendices might include:
 - Description of assistance available and incentive programs
 - Educational materials
 - A glossary of terms
 - An explanation of applicable federal, state, and/or county regulatory programs, especially as they apply to:
 - a) Archeological, cultural and historical sites
 - b) Wetlands
 - c) Threatened and endangered species

**These last three items are covered by legislation other than the Cooperative Forestry Assistance Act of 1978, as amended by title XII of the Food, Agriculture, Conservation, and Trade Act of 1990 (16 U.S.C. 2101, et seq.), but must be considered for federally funded programs. The professional resource manager should discuss the Forest Stewardship Plan with the landowner, following completion, to assure understanding.

Minimum requirements for a qualified Appraiser or Review Appraiser:

A. Appraiser - In order to be a qualified appraiser for purposes of FLP appraisals, an individual must be:

1. a federal land acquisition agency staff appraiser who
 - a. is certified as a general appraiser in compliance with OMB Bulletin 92-06, and
 - b. has completed training in application of the December 2000 edition of *Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA)** approved for appraiser continuing education credit in the State where the appraiser is certified, or
2. a non-federal staff or fee appraiser who
 - a. is certified as a general appraiser in the state where the appraised property is located, or can obtain reciprocity or a temporary practice permit in the state where the appraised property is located, and
 - b. has, within the past 10 years, completed at least the minimum classroom hours of non-duplicative education prescribed for the certified general real property appraiser classification by the Appraisal Standards Board of The Appraisal Foundation, and
 - c. has completed at least 12 self-contained or summary appraisal reports of properties similar in scope and complexity to the appraised property in the preceding three years, and
 - d. has completed training in application of the December 2000 edition of *UASFLA* approved for appraiser continuing education credit in the state where the appraiser is certified.

The qualified appraiser shall prepare an appraisal report in compliance with the *UASFLA* and supplemental written appraisal instructions issued by the client. Federal land acquisition agencies are the member agencies of the Interagency Land Acquisition Conference.

B. Review Appraiser- In order to be a qualified review appraiser for purposes of FLP appraisals, an individual must be:

1. a federal land acquisition agency staff appraiser who
 - a. is certified as a general appraiser in compliance with OMB Bulletin 92-06, and
 - b. holds specific delegated authority to review and approve or recommend appraisals for agency use, and
 - c. has completed training in application of the December 2000 edition of *UASFLA** approved for appraiser continuing education credit in the state where the reviewer is certified, or
2. a non-federal staff or fee appraiser who
 - a. is certified as a general appraiser in the state where the appraised property is located, or can obtain reciprocity or a temporary practice permit in the state where the appraised property is located, and
 - b. has, within the past 10 years, completed at least the minimum classroom hours of non-duplicative education prescribed for the certified general real property appraiser classification by the Appraisal Standards Board of The Appraisal Foundation and at least 32 classroom hours of approved training in appraisal review, or otherwise demonstrates competency in appraisal review in compliance with the Competency Rule of the *Uniform Standards of Professional Appraisal Practice (USPAP)*, and
 - c. has completed at least 12 self-contained or summary appraisal reports of properties similar to the appraised property in the preceding three years or at least 12 technical appraisal review reports for appraisal reports of properties similar in scope and complexity to the appraised property in the preceding three years, and
 - d. has completed training in application of the December 2000 edition of *UASFLA* approved for appraiser continuing education credit in the state where the reviewer is certified.

The qualified review appraiser shall prepare a technical appraisal review report that includes a determination of whether the appraisal report under review complies with the *UASFLA*. Federal land acquisition agencies are the member agencies of the Interagency Land Acquisition Conference.

*The seminar, *Federal Land Exchanges and Acquisitions: Appraisal Issues and Applications*, offered by the American Society of Farm Managers and Rural Appraisers and the Appraisal Institute is the only acceptable substitute for *UASFLA* training.

FOREST LEGACY PROGRAM APPRAISAL CHECKLIST

Forest Legacy Project Name _____ Appraiser

Tract Appraisal Required Elements

Appraisal Summary (extract from appraisal)

Reason for appraisal _____

Intended use _____

Intended user _____

Total acreage _____ Conservation easement acreage

Date of value _____

There is no specific "federal standard" for a timeframe within which the transaction must close before a value is "too old." As the state is acquiring title, a reasonable shelf life of an appraisal is their call. The reviewer will not form an opinion of this, the reviewer is only reporting if the appraisal report meets standards.

Property Information Query:

Is the legal description of the appraised property the same as the proposed acquisition? _____

Is the estate being appraised the same as the estate proposed for acquisition? _____

Does the proposed acquisition describe the estate being appraised? _____

Is the conservation easement language the same as the conservation easement that was appraised? _____

Is this Part of a Phased Acquisition Project from the same landowner? _____

Is the definition of Market Value Included _____

The following definition of market value must be used: "Market value is the amount in cash, or on terms reasonably equivalent to cash, for which in all probability the property would have sold on the effective date of the appraisal, after a reasonable exposure time on the open competitive market, from a willing and reasonably knowledgeable seller to a willing and reasonably knowledgeable buyer, with neither acting under any compulsion to buy or sell, giving due consideration to all available economic uses of the property at the time of the appraisal." (Source: Uniform Appraisal Standards for Federal Land Acquisitions, 2000)

The following items are required —please check off Quality map of subject-topographical map with property lines depicted

Quality maps of sales

Quality photos

Please provide any additional comments on a separate sheet of paper

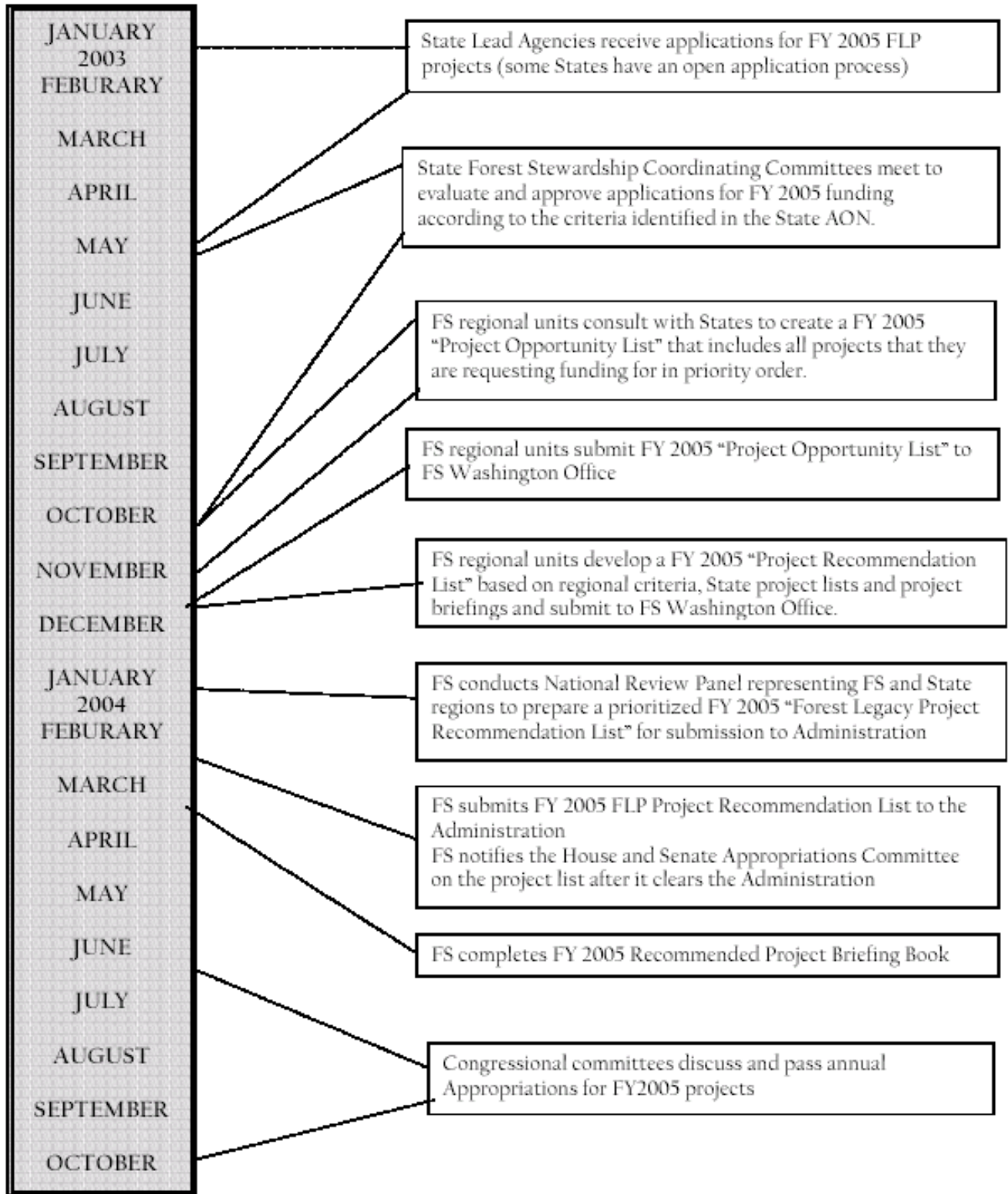
Answer with page number

Administrative Reviewer

Date

Sample timeline for project selection:

This flowchart outlines the basic FLP project selection process.



PROJECT SELECTION PROCESS

Projects can be submitted to the TFS from January 1 to August 15 through a periodic request process. During August and September, the TFLC will meet and review the projects. Projects will be selected competitively in September using an evaluation process on the basis of addressing the four overall goals of the FLP in Texas. The five requirements outlined below and the seven criteria derived from the four overall priority goals will assist the TFLC in initial determination of project appropriateness and relative priority. If the landowner has acceptable conservation easement terms drafted prior to the ranking of projects, the project will be considered to have a higher degree of readiness and help the decision process run more smoothly.

Following the outcome of the matrix model evaluation process, project priority assessment by the TFLC, and a possible on-site visit and interview with the landowner, approval from the State Forester will be required. After projects have been selected, TFLC committee members and/or other natural resource professionals will work with the landowner to prepare the project to be submitted to the USFS Region 8 in Atlanta, Georgia. At this time, no more than three projects per year/per state, or a total cost share request amount per year/per state that exceeds \$10 million may be submitted to a USFS region for project selection review. Individuals for those projects that are not submitted to the USFS region will be notified by the end of December and may resubmit the project proposal the following year. Once the projects are submitted to the USFS region, they will again be competitively evaluated using a similar matrix model evaluation process at both USFS regional and national levels.

There will be a review of all projects by the USFS and submittal of recommended projects to Congress as part of the President's budget request. After congressional appropriations are decided, there will be a preparation of the transaction (agreeing on conservation easement terms and purchase price) and then completion of the transaction (recording of deeds, payment to landowner).

A TFS staff person or TFLC member will be responsible for communicating with interested landowners and assisting them in understanding the program, the likelihood of their project being funded, deciding whether or not to apply, and completing the necessary application materials (although it is recommended that landowners seek legal counsel while reviewing conservation easement language, surveys, appraisals, and negotiations, etc). Projects that meet federal requirements for pass-through projects (e.g. projects where a non-profit land trust purchases and holds properties or easements on a temporary basis prior to state acquisition) may be considered under the Texas FLP.

Project Evaluation Criteria

Each project must demonstrate the following requirements and criteria in order to be eligible for the program:

Requirements

As reflected on the second page of the Texas FLP Application Form, which can be found on page 115 of this document, the National FLP Guidelines require that each project have a minimum standard of meeting each of these five requirements:

- 1. Willing Landowner:** Written expression of interest must be received from the landowner.
- 2. Financial Leverage:** At least 25% of the project costs must be secured from nonfederal cash or in-kind sources and project development including the preferred time line for transaction completion is clearly stated.
- 3. Proof of Clear Title:** Proof of a clear title and any description of outstanding rights. Landowners must either own subsurface rights or have formal assurance that major surface disruption is not possible.
- 4. Forest Legacy Area Inclusion:** The proposed property boundary must lie, at least in part, within the defined FLA.
- 5. Assessment of Need Guidelines Met:** Conservation easement terms must be clearly consistent with FLP guidelines including the landowner's commitment to comply with a Forest Stewardship Management Plan.

Project Priority Criteria:

The TFS and the TFLC will evaluate potential projects guided by the following evaluation criteria. Based on these four overall priority goals for the FLP in Texas and in alignment with the Texas FLP Application, each criterion will be considered relevant to projects' overall importance as determined by the TFLC. A Draft Project Evaluation Matrix Form as on page 128 may be used by the TFLC.

- 1. Degree of threat:** Priority will be given to properties that have a high degree of threat of development or parcelization. This will be assessed through desirability of location, site suitability for development, road frontage, access to utilities, and growth dynamics of the area.
- 2. Forest resource economic benefits:** Priority will be given to properties that are likely to have significant forest resource economic benefits. This will be assessed through forest and soil productivity, size of parcel, site index, history and objectives of forest management, forest conditions (stocking, maturity, etc), condition of road system, BMP compliance, access to markets, and likelihood of future forestry in landscape.

3. Public benefits: Priority will be given to properties that are likely to have direct and indirect scenic and/or outdoor recreation benefits. This will be assessed through access rights conveyed (if any), important scenic resources, viewshed benefits, proximity or adjacency to public land, trails or waters, and other community economic benefits.

4. Water quality and watershed protection: Priority will be given to properties that are likely to have significant water quality and watershed protection benefits. This will be assessed through importance of watershed for aquatic biodiversity, presence of high quality streams, wetland and riparian resources, benefits to municipal water recharge areas, and nearness to municipal water sources.

5. Ecological/Cultural benefits: Priority will be given to properties that are likely to have significant ecological benefits. This will be assessed through presence of rare or important forest types (e.g. old growth, unique, or restorative forests), important wildlife habitats or benefits, and proximity to ecologically important areas. Priority will be given to properties or projects that have historical or cultural resources that provide for forestry and/or environmental educational opportunities and/or provide for important values not adequately represented in the other criteria.

6. Proof of Readiness: Priority will be given to projects that have community support, identified matching funds, partnerships involved, donations that exceed the 25% cost-share match, negotiated conservation easements, completed appraisals, forest stewardship plans written, and monitoring enforcement plans in place.

7. Strategic Initiative: Priority will be given to projects that fit within a larger conservation plan, strategy, or initiative, that are connective to previously protected lands or water corridors, and that will lead to additional conservation action or investment in the region.

Means for Protection:

In order to maintain the resource values and goals of the FLP in Texas, the terms of each acquisition, whether a conservation easement or in special circumstances full-fee interest, will be subject to negotiation and can vary by project and property. The framework below is intended as a guide—all acquisitions are subject to approval by the State Forester, TFS, TFLC, USFS, and the landowner.

A. Acquisition of conservation easements is preferred and is appropriate for tracts within all the FLA. At the discretion of the State Forester, some full-fee interests in properties may occur in special situations and may be more appropriate on tracts that have specific features or significant recreational and/or ecological value.

B. Acquisition of development rights on all tracts, especially the rights to subdivide, construct buildings, and utilize the property for non-compatible commercial uses or uses that would be inconsistent with the purpose of the acquisition.

C. Timber harvesting rights should be conditioned with the following provisions:

1. Compliance with a Forest Stewardship Plan approved by the TFS.
2. Compliance with all applicable Best Management Practices.
3. Compliance with all applicable laws and regulations.

D. Mining, drilling of minerals, sand and gravel pits will be restricted to a minimum reasonable size and use. FLP requirements limit non-forest uses (e.g. borrow pits and roads) to no more than 10% of the area encumbered by a conservation easement. Allowed operations will only be considered if they are recoverable in a reasonable amount of time such that they are not inconsistent with the conservation purposes of the easement or fee-purchase acquisition. Upon the completion of operations, the land shall be reclaimed as much as practical to its original contour and re-vegetated.

E. No disposal of waste or hazardous material will be allowed on properties.

F. Prohibit the use of signs and billboards on all properties, except to state the name and address of the property owner, safety concerns, sale or management notifications (e.g. herbicide applications) or forest products from the property, access restrictions, and/or provide FL information.

G. Existing dams or water impoundments or similar structures may be allowed to remain and be maintained.

H. Industrial, commercial and residential activities, except forestry and limited mining uses (see above), are prohibited unless otherwise stated in the terms of the easement or fee purchase agreement.

I. The FLP will not give the public any additional standing to bring suit against private landowners.



Sample draft of questions that may be used to guide the TFLC when selecting projects

PROJECT NAME: _____ TFS Application # _____

EVALUATION CRITERIA

(Mark Y for Yes, N for No, and ? for do not understand or information is not known or not available)

A. Threat: (Desirability of property and location)

- | | | | |
|---|---|---|---|
| 1) Is the property currently for sale on the open market? | Y | N | ? |
| 2) Is the acreage suitable for building? | Y | N | ? |
| 3) Is there major road frontage or expected road frontage? | Y | N | ? |
| 4) Is there access to utilities? | Y | N | ? |
| 5) Is there data that is proof of % increase in population for the area? | Y | N | ? |
| 6) Is there conversion likely within the next 2 years? | Y | N | ? |
| 7) Is there conversion likely within the next 10 years? | Y | N | ? |
| 8) Will protecting this project affect non-conversion on this property? | Y | N | ? |
| 9) Will protecting this project affect non-conversion on adjacent property? | Y | N | ? |
| 10) Is the project within 5 miles of new development that has occurred within the last 2 years? | Y | N | ? |
| 11) Does the surrounding 5 miles attract development? (Ex. Large lake shoreline) | Y | N | ? |
| 12) Is the region recognized as having a landscape level threat of conversion to non-forest uses by the USFS Southern Forest Resource Assessment or Forest Inventory Analysis Survey? | Y | N | ? |
| 13) Is the threat of conversion measurable?
Explain: _____ | Y | N | ? |
| 14) Are there other factors that would place this tract in jeopardy?
Explain: _____ | Y | N | ? |
| 15) Is trespassing a current concern? | Y | N | ? |

B. Forest resource economic benefits: (Forest and soil productivity)

- | | | | |
|---|---|---|---|
| 1) Has forest management occurred on the project site within the last 10 years?
If so, what is the site index? _____ | Y | N | ? |
| 2) Will forest product management continue or begin to occur on the project site? | Y | N | ? |
| 3) Does the property help maintain economic vitality to the local region? | Y | N | ? |
| 4) What is the acreage of the forested portion of the project under forest product management? _____ | | | |
| 5) Are the roads in good conditions? | Y | N | ? |
| 6) Is forest management BMP compliant? | Y | N | ? |
| 7) Is there anticipated access to markets in the next 20 years? | Y | N | ? |
| 8) Is the forest managed under a third party certification system? | Y | N | ? |
| 9) Are landowner objectives consistent with FLP objectives? | Y | N | ? |
| 10) Is there proof that soil productivity will produce quality timber products? | Y | N | ? |
| 11) Can timber products be easily transported to users? | Y | N | ? |
| 12) Is the timber accessible for cost effective management? | Y | N | ? |
| 13) Is there a local infrastructure for supporting forest product production? | Y | N | ? |
| 14) Are slopes mild and soil stable? (as apposed to steep and erodible) | Y | N | ? |
| 15) What is the stocking capacity? _____ | | | |

C. Public benefit: (the public benefits gained from the protection and management of the property reflects the ecological assets and the economic and social values conserved by the project)

- | | | | |
|--|---|---|---|
| 1) Is the project in a viewshed of a designated scenic area? | Y | N | ? |
| 2) Is the project in an airshed in or adjacent to a nonattainment area? | Y | N | ? |
| 3) Will there be public access?
Describe terms and conditions: _____
_____ | Y | N | ? |
| 4) Is the project connective or adjacent to public outdoor recreational areas? | Y | N | ? |

5) Are there any local economic benefits currently associated with the project? Explain: _____	Y	N	?
6) Are there any anticipated economic benefits in the future associated with the project should protection occur? Explain: _____	Y	N	?
7) Can the project be effectively managed as a part of the FLP?	Y	N	?
8) Are the public benefits measurable? Explain: _____	Y	N	?
9) Are there direct or immediate public benefits? Explain: _____	Y	N	?
10) Are there indirect benefits? Explain: _____	Y	N	?
D. Water quality and watershed protection: (Importance of watershed for aquatic biodiversity and/or resource quality and quantity)			
1) Name of watershed system(s) where project is located: _____			
2) Is there river or lake frontage? Names of: _____	Y	N	?
3) Are there lakes, ponds, or wetlands? Surface size, depths? _____	Y	N	?
4) Is there a presence of high quality streams?	Y	N	?
5) Is the riparian habitat unique and/or endangered?	Y	N	?
6) Is the uniqueness or importance to water supply measurable?	Y	N	?
7) Are there benefits to municipal water source or recharge areas?	Y	N	?
8) Is the project within one mile of a public water supply?	Y	N	?
9) Does the project drain into a public water supply?	Y	N	?
10) What is the # of total acres of bottomland/wetland forest in the project? _____ Surrounding the project? _____			
E. Ecological/Cultural benefits: (rare or important cover types, importance to habitat diversity)			
1) Is the forest cover type or age class rare, unique, or declining?	Y	N	?
2) Is the project connective or adjacent to other ecologically important areas?	Y	N	?
3) Does the project contain habitat for declining or endangered species?	Y	N	?
4) Is the region recognized as ecologically significant by a government study or equivalently published and widely accepted private study?	Y	N	?
5) Are there currently any endangered or threatened species located within or on adjacent property to the project?	Y	N	?
6) Are there species of concern currently located within or on property adjacent to the project?	Y	N	?
7) Is the habitat currently suitable for reoccupation or harboring threatened or endangered species?	Y	N	?
8) Are there culturally significant, historical, or archaeological sites located on the project site?	Y	N	?
9) Has a state approved cultural resource survey been documented?	Y	N	?
10) Would the project include sites eligible for national or state historical registration?	Y	N	?
10) Are there educational opportunities within the project? Explain: _____	Y	N	?
11) Are there educational opportunities adjacent to or in conjunction with the project? Explain: _____	Y	N	?
12) Is there currently active management to enhance wildlife habitat?	Y	N	?

13) There is no presence of exotic or invasive species found on the property or within adjacent property near the project area.	Y	N	?
14) Are the ecological/cultural benefits measurable?	Y	N	?
15) Has a wildlife biologist or archeologist visited the site?	Y	N	?
F. Readiness: (the level of commitment and likelihood that a project will be completed in a predictable timeline)			
1) Is there a signed option or purchase and sales agreement?	Y	N	?
2) Is the appraisal completed?	Y	N	?
3) Is the survey completed?	Y	N	?
4) Is the easement title drafted?	Y	N	?
5) Is the title research complete and approved?	Y	N	?
6) Is the cost-share match committed?	Y	N	?
7) Has the landowner committed a donation of \$X or %X?	Y	N	?
8) Has a member of the Texas Forest Legacy Committee made an on site visit?	Y	N	?
9) Are early negotiations underway?	Y	N	?
10) Is it a phased project?	Y	N	?
If so, What are timeframes for closing subsequent phases? _____			
11) Is this project a top priority proven by a letter of support in a multi-partnership situation?	Y	N	?
If so, who are the partners and what are their performance records with regards to completing land conservation projects? _____			
12) Will the partners be conducting negotiations with landowners?	Y	N	?
13) Will the partners be assisting with baseline documentation?	Y	N	?
14) Will the partners be signing MOUs for monitoring and enforcement?	Y	N	?
15) Is there a monitoring and enforcement plan in place?	Y	N	?
16) Is there a monitoring and enforcement fund in place?	Y	N	?
18) Is there local political or community support for the project?	Y	N	?
19) Is there political or national support for the project? (provide letters)	Y	N	?
20) Is baseline documentation complete?	Y	N	?
G. Strategic: (the project fits within a larger conservation plan, strategy, or initiative)			
1) Is the property adjacent to or does the project enhance previous conservation investments on private lands such as certified tree farms or certified stewardship forest?	Y	N	?
2) Is the project key in a regional plan?	Y	N	?
3) Is the project key in a focused protection strategy?	Y	N	?
4) Will the project lead to additional conservation action or investment in its region?	Y	N	?
5) Is the property adjacent to or does the project enhance previous conservation investments such as state, tribal, or federally owned lands?	Y	N	?
6) Is the project connective to a water corridor or other protected waters?	Y	N	?
7) Will the project provide recreational access to the extent practical?	Y	N	?
Explain: _____			
8) The project is not likely to be converted to municipal, state, or county land after entering into the FLP?	Y	N	?
9) The project is part of a conservation plan that is city or county approved?	Y	N	?
10) The project has been included in other prior public hearings?	Y	N	?
H. Comments: (may add photos and/or additional documentation)			

CONSERVATION EASEMENTS

A conservation easement is a permanent deed restriction through which a landowner voluntarily gives up certain development rights on his/her property. Easements are held by non-profits or government agencies, and can keep forests as working forests or protect open space, wildlife, wilderness values, or other conservation values. Conservation easements can be customized to meet the needs of the landowner, including providing for the continued use of the land for agriculture or forestry.

The federal tax code recognizes that the value of an easement a landowner has donated or sold should be excluded from their taxable estate (IRC Section 2055(f)). These provisions provide a means for many forest landowners to realize tax benefits from the development values of their lands while still keeping their forestlands intact.

Landowners interested in keeping their land in forests can use easements to protect their forestland base while receiving both income and estate tax benefits. Landowners that receive payment for the value of the conservation easement may position their estates to take advantage of some inheritance tax benefits. Those landowners who donate an easement or portion of an easement may be able to take advantage of both estate and income tax benefits. Landowners can utilize easements to gain up-front liquidity on forestlands that otherwise might not return timber revenues for many years.

Texas' landscape and its people are diverse. Because every landowner and every property is unique, a conservation easement agreement can be designed to meet specific, individual needs. Landowners interested in conservation generally have two principal concerns. First is the desire to protect the natural or productive qualities of their property. The landowner is interested in conserving special features such as fertile soil, mature trees, wildlife habitat or a piece of history – even after his or her ownership comes to an end.

Along with conservation, landowners are also concerned about maintaining their property's productivity. The economics associated with land ownership are changing and fewer family-owned properties are the primary source of a family's income. Along with maintaining productivity, Texas landowners must also contend with the increasing tax burden associated with property ownership. Estate taxes, property taxes and the financial incentive to sell or develop are all factors that affect land use decisions.

Conservation easements enable landowners to protect resources they value for their children and future generations while maintaining private ownership.

Through conservation easements, landowners retain control of access to their property. They may choose to allow access to specific groups or the general public in their conservation easement agreement, but are not required to do so. Property with a conservation easement can be bought, sold and inherited. However, the conservation easement is tied to the land and binds all present and future owners to its terms and restrictions.

Conservationists, landowners, and the timber industry all view conservation easements as a useful tool for fighting the fragmentation of land, particularly in those areas most threatened by encroaching development.

Working Forest Conservation Easements

A “Working Forest Conservation Easement” (WFCE) does more than remove specified development rights from a property. Traditional conservation easements, sometimes called “open space” or “no build” easements remove a landowner’s right to engage in certain activities such as mining, subdivision, or commercial development and may not specifically mention forestry or allow timber harvesting. A WFCE adds language that guides forest management in order to protect specified forest values. A WFCE focuses on forestlands that are actively managed for goods or services that have a monetary value in the current marketplace such as timber, recreation, or water supply protection. Future WFCEs may someday also address carbon credits and ecological restoration.

WFCEs can protect property-specific forest values by prohibiting damaging forest practices and encouraging management practices that promote a desired forest type. WFCEs can also protect landscape values by encouraging management of forests in relation to their surroundings. By protecting a productive forest base, they can be used to address broader goals such as sustaining a forest economy for a local community. WFCEs enable landowners to derive economic value from the land to support the ongoing costs for ownership and stewardship.

All WFCEs are different from one another and unique to the property, the landowners’ interests, and purposes of the easement. A WFCE within the Texas FLP will need to include the following information, at a minimum:

- Names and addresses, size and location of property
- Purpose Statement: purpose of easement and reference to public policies
- Affirmative Rights: things grantee (state lead agency) is allowed to do on or with the property. Inspection, enforcement, emergency access, scientific study, educational uses, wildlife management, recreation access (as negotiated), prior notice to access property, signs, etc.

- Restrictions: things grantor is prohibited from doing on, to, or with the property such as development, sub-division, mining, dumping, billboards, etc. Neither the state lead agency nor the landowner has the power to ensure rights that are otherwise prohibited by law, zoning or other regulations (T&E species, wetlands, forest practices acts, etc.). Reserved rights must be consistent with the purpose of the easement. Here is where the landowner retains the right to practice forestry (harvest timber, build temporary or permanent logging roads and trails, reforest, harvest pine straw, burn, apply herbicides, lease for hunting and fishing, etc.). The Forest Stewardship Plan (or multiple resource management plan) needs to be consistent with these reserved rights. Allowing parts of property to be sold off increases monitoring costs.
- Reserved Rights: uses of property retained.
- Terms & conditions: anything else such as provisions related to taxes (spell out that landowner is still responsible for paying taxes), provisions to amend, how access works, notification methods, subordination of mortgages and liens, liability issues (warrant title, no pending litigation, property free of hazardous materials, etc.) and indemnifications (disasters).

A WFCE will be required on property on which forest resource production will occur. When drafting an easement specific to property that may become, or has been granted entrance into the FLP in Texas, the following items will also be required:

- Easement language will require a Forest Management or Forest Stewardship Plan - The plan must be prepared by a knowledgeable professional and include baseline documentation. It is advised that the easement terms require a specified periodic update of the plan but that the plan is prepared separately from the easement so that forest management can adapt to changing conditions over time so long as practices are within the bounds of the easement terms. The plan will be kept on file by the landowner and by the easement holder. Consider that this document not only expresses the conservation goals, rights sold, and objectives of the present owner and the state; it also expresses the land management objectives for future landowners and will be interpreted by the next generation whether the property is sold or inherited.
- The easement should include reversionary clauses.
- The easement should be designed such that it is “purpose or outcome-based” rather than “prescriptive or specific” to practices allowed or disallowed in order to take advantage of potential income sources that are not yet valued or recognized.
- Easement restrictions should be appraisable, measurable, monitorable, and enforceable by the state lead agency.
- As the LP requires, the title to the easement may only be held by a recognized governmental entity. In Texas, the preferred governmental entity will be the state

lead agency; however, in special situations the State Forester will have the discretion to determine if another state agency would be more appropriate.

- Conservation easement language should meet Texas' AON and Texas' LP objectives.
- In some situations, language in the conservation easement may need to address drilling for oil and gas on a property in a manner that does not interfere with the conservation purposes of that property. This language should require the landowner to provide prior written notice of any contemplated extraction that is permitted in order for the state lead agency to determine whether it will impact the conservation values.

Example language for a FLP WFCE, minimum baseline documentation requirements, and Texas' Natural Resources Code Title 8: Acquisition of Resources, Chapter 183 titled *Conservation Easements*, can be found in Appendix F on page 179.



MONITORING AND ENFORCEMENT

Monitoring is the systematic evaluation of the success of a particular management program over time and involves the measurement and evaluation of data as related to the easement's management goals (Lindenmayer and Franklin 2002). Since the success of management goals cannot be assessed without adequate monitoring, the monitoring of conservation easements is essential to assessing whether easements achieve conservation goals. Responsible stewardship requires the ability to assess environmental conditions and human impacts. For this reason, programs must continuously monitor ecosystem change and the uses and restrictions in an easement.

Monitoring can create more effective management of conservation areas by indicating which conservation strategies succeed and which fail. Several researchers assert that monitoring is the foundation for "adaptive management," by which new knowledge about managing resources and ecosystems will be developed and systematically incorporated into management plans (Lindenmayer and Franklin 2002; Saterson 1996; Ringold et al. 2003). Research on ecosystem management indicated that conservation efforts in the past fifteen years have moved away from management within administrative and political boundaries, and have focused increasingly on the regional, landscape, and ecosystem level (Yaffee 1996; Wondolleck and Yaffee 2000).

Based on this trend towards larger ecosystem-based, landscape-level conservation approaches, easement holders must accommodate imperfect information and knowledge. This is presumably the case with WFCEs, since they often embody long term landscape-level conservation by protecting vast forested areas and encompass a complex array of ecological systems and habitats. Adequate monitoring programs will serve to validate WFCEs as important conservation tools.

Monitoring is important for several reasons (Rod 2003). First, monitoring detects ecosystem change over time by regularly documenting conditions and changes at a variety of sites on a property. Information on environmental conditions and changes provides a "snapshot" of the area at a particular time, against which subsequent monitoring data can be compared. Second, regular visits to the property can reduce violations of the easement, enforce the uses and restrictions stipulated in the easement, and detect threats to the conservation values of the area. Third, a collection of monitoring data creates a documented history of the site, which can have implications for current and future management efforts. Fourth, regular monitoring enables an easement holder to interact with the landowner, which increases owner cooperation, understanding of the easement, and can consequently decrease the potential for violations. In addition, research by Noon (2003) contended that monitoring is increasingly being recognized as a complex but essential element in the effort to limit human activity on a tract of land in order to maintain ecological integrity.

Available Monitoring Techniques

A variety of monitoring techniques are available for use on conservation easements (Lind 1991; Lind 2001b; Noss 1990; Rod 2003; Salafsky and Margoluis 1999). Factors that influence the selection of monitoring techniques include the size of the parcel, the specific restrictions, the degree of precision needed, and the resources and capacity of the monitoring organization. The majority of conservation easement monitoring techniques can be applied to WFCEs, however since WFCEs are applied to a “working” landscape, some techniques chosen for WFCEs may differ from the norm.

Site Visits or Ground Monitoring

Site visits involve individuals surveying the protected property in person and obtaining a firsthand account of its condition. Studies and recommendations by monitoring experts show that this technique is appropriate for easements small enough to walk, or for spot-checking larger easements (Lind 1991; Rod 2003). Since most WFCEs are large and cover vast forested landscapes, on-site visits require a significant investment of human capital and may not be a viable option. In a study done by Levitt (2003) on the innovative few monitoring protocol developed for the 762,192 acre Pingree easement in Maine, ground monitoring is considered to be the most expensive technique for a landscape-scale easement. It is, however, effective for easements with restrictions that require close inspection, such as limits on certain recreational uses or observing sources of water pollution (Lind 1991).

Photo-point Monitoring

Photo-point monitoring is a popular technique used to provide an objective “snapshot” of the condition of certain areas on a protected property (Rod 2003). Typically, the monitor chooses several photo sites from which to photograph and document how an aspect of the property changes. This technique has two main advantages: it is relatively objective and easy to use. First, since this method provides an objective measure of how an area changes over time, it is useful as a means of comparing and contrasting current conditions with historical or reference conditions. This technique also limits differences inherent in written observations from site visits by different individuals, documents specific changes and conditions that may be difficult to describe, and is relatively inexpensive. Second, comparing “before and after” photographs is relatively easy and will illustrate the landscape/ecosystem change. Photo-point monitoring may be effective for WFCEs by documenting, for instance, an area of forest where limited, selective logging is allowed.

Indicators

Studies by Carignan and Villard (2002) and Noon (2003) defined an indicator as an element, process, or aspect of an ecosystem whose existence, absence, abundance, or overall health is indicative of the health of the entire ecosystem. According to these studies, an indicator ought to be: (1) sensitive enough to provide detection of change in or threats to ecosystem health, (2) distributed adequately throughout the area of interest, (3) cost effective and easy to measure, and (4) relevant to conservation and management goals (Carignan and Villard 2002; Noon 2003).

Many researchers have studied the importance and potential for using indicators to illustrate ecosystem change as well as how to effectively identify such indicators for particular conservation targets (Carignan and Villard 2002; Noon 2003; Noss 1990). In a study of indicators for biodiversity, Noss stated that while the concept is controversial, indicators are becoming increasingly popular and there is a long-standing tradition of using indicator species to monitor ecological and environmental conditions (1990). Opponents countered that so-called indicators do not adequately demonstrate environmental trends or changes in conditions (Noss 1990). Nevertheless, indicators such as “keystone species,” continue to be used in wildlife and habitat management policy.

Indicators should relate to an easement’s purposes, the goal(s) of the specific monitoring program, the questions that managers want answered through the monitoring process, and the scale or level at which monitoring will occur (Noss 1990; Carignan and Villard 2002). Noss provided a comprehensive discussion of how to determine which indicators to use in a monitoring program (1990). His research was focused primarily on monitoring biodiversity, but the strategies for selection of bioindicators can be applied to WFCEs. Although some indicators can be chosen easily, more research needs to be done to select optimal indicators for ecological trends and changes. Indicators that are highly successful at detecting such trends and changes in ecological conditions have great potential for monitoring WFCEs.

The Canadian Forest Service initiated Canada’s Model Forest Program in the early 1990s in an effort to identify and develop indicators of forest health and sustainable forest management (von Mirbach 2000). Through this program, eleven “model forests” were identified, where sustainable forest management practices and indicators are developed and tested. Since forest ecosystems and conditions differ across Canada, each forest in the Model Forest Program sought to develop indicators specific to local and regional conditions. These indicators and management practices were developed by a partnership comprised of representatives with different social, economic, and environmental interests in forest management, which purportedly led to more informed and fair forest management decisions (von Mirbach 2000). A user’s guide created to disseminate the

results of the Model Forest Program provided local level indicators of sustainable forest management for each model forest (von Mirbach 2000). No research has addressed whether the trend to include BMPs in WFCEs reflects a parallel effort to standardize indicators and sustainable forestry practices in the United States.

Remote Sensing

As demonstrated by the monitoring protocol developed for the 762,192 acre Pingree easement in Maine, remote sensing is especially useful for monitoring large areas and forested landscapes (Levitt 2003; Sader and Reed 2003). In a report describing the monitoring protocol developed for the Pingree easement, remote sensing was defined as a technique that gathers, interprets, and evaluates data on a forested area using: (1) aerial photography, (2) Geographic Information Systems (GIS), or (3) satellite imagery (Sader 2002). By making comprehensive monitoring possible without sending personnel to ground monitor areas of a forest, remote sensing decreases the organizational resources required for monitoring (Levitt 2003). Remote sensing can be used for many forestry applications, including terrain analysis, forest management, reforestation, forest inventories, forest cover type, the delineation of burned areas, and mapping of clear-cut areas (Ross 2003). Thus, remote sensing techniques offer a practical alternative to expensive and time-consuming ground monitoring methods.

As with photo-point monitoring, the consistent periodic use of aerial photographs effectively illustrates changes in ecosystem conditions. Aerial photography is a good method for monitoring restrictions on development, clear-cuts, buffers on water bodies, etc. Although this technique can be expensive if a conservation organization has to arrange the flight and photography, it may be less expensive and more comprehensive for larger WFCE parcels than site visits or photo-points. Lind (1991) contends that aerial photography is useful because it provides a different perspective that may supplement site visits and even expose issues that ground monitoring initially would not have found. This popular technique for monitoring large properties may be especially useful for monitoring WFCEs, which can cover large areas of forest.

Satellite imagery provides images of an easement area at specific times, which can be compared over time to detect trends or changes in forest conditions. Satellite imagery makes it possible to monitor changes in forest cover, such as harvests and reforestation. For example, Sader and Reed (2003) described how the Maine Image Analysis Laboratory at the University of Maine has developed an algorithm for detecting disturbance in forest canopy using satellite imagery. Satellite imagery is also currently being implemented by the New England Forestry Foundation (NEFF) as part of a three level monitoring program on the Pingree easement (Sader and Reed 2003). Levitt explained how satellite imagery, unlike aerial photography, allows Pingree easement researchers to evaluate the entire

easement area quickly at a comparatively low cost per area (2003). Given the large size of many WFCEs, satellite imagery is considered a very promising tool for monitoring WFCEs.

In GIS, digitized data is transformed into “layers”, which can then be overlaid in any combination (usually over an aerial or satellite photograph of the area) to discern trends or changes in forest conditions. The Society for the Protection of New Hampshire Forests (SPNHF) has developed a GIS-based method to inventory forests (Lind 2001a). Personnel on the ground enter data, such as vegetative species counts, timber volumes, wildlife species, etc., which is then turned into usable GIS layers that can be compared and interpreted. Paul Doscher, Conservation Director for SPNHF, suggested that, “perhaps this tool could help us be sure we are documenting key ecological values on easement properties and then help us have confidence that our monitoring is sufficient to protect them” (Lind 2001a, 3).

Combinations of Techniques

Often, the ideal monitoring program will include a combination of the techniques noted above. For example, Levitt (2003) and Sader et al. (2002) detailed how the monitoring program created by NEFF to cover the Pingree WFCEs combines traditional ground-level monitoring, aerial photography, and satellite imagery. NEFF’s monitoring program is a hierarchical, three level monitoring program: level 1 uses satellite imagery, level 2 uses aerial photography to monitor priority sites determined by changes detected at level 1, and level 3 involves ground monitoring of sites identified by aerial photographs that may need more detailed measurement or observation (Levitt 2003; Sader et al. 2002; Sader and Reed 2003). Instead of monitoring and enforcing the landowner’s forest management plan, as many WFCEs monitoring programs do, NEFF’s monitoring program seeks to evaluate long-term results of forest management in order to promote those practices that are sustainable (Lind 2001a). Aside from research on the Pingree easement, little research has focused on whether a combination of monitoring techniques is “greater than the sum of its parts.”

As WFCEs become increasingly popular as a tool for conservation across the country, traditional monitoring programs may fail to adequately measure information relevant to the goals and purposes of easements on large acreages, creating an explicit need for new monitoring techniques for large-scale landscapes. The NEFF monitoring program is a proactive experiment attempting to determine the most effective methods to monitor large WFCEs. As it develops and is refined, Sader and Reed (2003) suggest that this monitoring system will likely become a model for monitoring landscape-scale WFCEs across the country, and may have important implications for monitoring smaller WFCEs as well.

FLP conservation easements in Texas will be monitored at least once per year. They will also be monitored in the event of a change of ownership when deemed appropriate by the state lead agency. Texas will utilize the monitoring techniques described above to monitor easements. The specific technique used will be determined by the size and conservation purposes of the easement.

The following monitoring directives are provided by the FLP Implementation Guidelines.

The governmental entity holding title to interests in land acquired under the FLP shall monitor and manage those interests in perpetuity. The holder may delegate or assign monitoring, management, and enforcement responsibilities over lands and interests in lands acquired under the FLP only to other federal agencies or state or local government entities. Such delegation or assignment of responsibility shall be documented by a written agreement. The landowner is not required to fund an endowment to cover monitoring costs. However, if an endowment is in place, the project may receive a higher ranking in the selection process.

The governmental entity responsible for monitoring, management and enforcement of the conservation easement may in turn delegate or assign management and monitoring authority to other parties, to include land trusts, conservation groups, and other governmental entities. Such delegation or assignment of authority shall be adequately documented and the USFS shall be notified. The USFS shall approve agreements involving any interests in lands held by the federal government prior to such delegation or assignment. Once interests in lands are acquired, the state lead agency, USFS, and others as appropriate, may negotiate tract-specific Memorandums of Understanding (MOU) as necessary to specify management and monitoring responsibilities for the interests in lands.

Optimal management and monitoring of tracts in FLAs is based upon partnerships between landowners, private non-profit organizations owning or managing lands, and state and federal officials. Land trusts and other private organizations will continue to manage and monitor their own easements and lands within designated FLAs, and while they may not manage government-owned interests in lands under the FLP, they may cooperate with or contract for monitoring and implement specific management activities. Management of federally owned interests in lands is reserved to the USFS, but may be assigned to state or local governments, or another federal agency through mutual agreement. Although delegable, enforcement actions for easements will generally be conducted by the easement holder, i.e., the state or the federal government.

Monitoring FLP conservation easements shall occur periodically, but not less than annually. Monitoring consists of visual inspection of the property, documented by a written report to explain the condition of the property at time of inspection. Any material

departure from the baseline documentation report or Forest Stewardship Plan should be noted. The easement holder should immediately address any violation of the conservation easement with the landowner. The landowner should have the opportunity to correct the breach. After a reasonable time period (e.g. 30 days), if the breach is not corrected, enforcement action may be taken, including but not limited to, legal means. The unit of government holding the conservation easement has the initial responsibility to enforce the conservation easement.

The state or easement holder shall promptly notify any future FLP tract owner of the FLP and the origin and requirements of the conservation easement. The Forest Stewardship Plans covering the tract shall be reviewed periodically and updated as needed. If there is a change in land ownership, then the Forest Stewardship Plan needs to be reviewed, and updated as needed.

As stated in the FLP Implementation Guidelines, in the event it is determined by the state lead agency that it is no longer desirable to hold lands or interests in lands acquired with federal funding and those lands are conveyed, exchanged, or otherwise disposed of, after providing notice to the FS, the State shall:

1. Reimburse the FS for the current market value in proportion to the original Federal investment; (said reimbursements to be used to further the purposes of the FLP); or
2. Exchange for other FLP eligible lands or interests in lands of at least equal market value and of reasonably equivalent location, with public purposes that equal or exceed those of the disposed tract, with FS approval.

Items 1 and 2 identified above must be included in deeds or conservation easements of all FLP tracts as well as in the USFS grant to the state.

The following Monitoring Cost Worksheet was published in “Trends in Easement Language and the Status of Current Monitoring on Working Forest Conservation Easements.”

MONITORING COST WORKSHEET¹

<u>Requirements & Activities</u>	<u>Rates/hr/mi</u>	<u>Total</u>
TRAINING Field Skills Data Documentation Technical/Equipment Negotiation		
TIME/STAFF COMMITMENT Data Collection Report Writing Follow-up Travel		
TRAVEL To & From the Property At the Property Type of Transportation		
MAPS & PHOTOS Aerial Photos Archival Photos		
ADMINISTRATION Phone Mailing Photocopying Archival Storage Associated Overhead Costs		
SPECIAL MONITORING Specialists Inspectors		
EQUIPMENT Vehicles Cameras & Photo Equipment Computers Measuring Equipment		
ENFORCEMENT COSTS Legal Fees		
TOTAL COST=		
3% x		
TOTAL ENDOWMENT CONTRIBUTION REQUESTED =		

¹ Adapted from Ratley-Beach, 2003.



**APPENDICES:
CHAPTERS IX – XIV**

CHAPTER IX: APPENDIX A - PUBLIC COMMENTS

INITIAL LEGACY COMMITTEE INPUT SURVEY

The purpose of the Assessment of Need (AON) process in the Forest Legacy Program (FLP) is to formulate recommendations that will guide the implementation of the program within the state of Texas. It is important that the final report submitted to the State Forester and to the USFS:

- 10) Describe the current condition of the forest land in the state
- 11) Describe the forest land use changes and threats
- 12) Document the need for the program in the state
- 13) Determine overall goals and priorities for the program in Texas
- 14) Determine eligibility criteria for Legacy Areas in the state
- 15) Delineate boundaries around areas with the most need for the program
- 16) Describe how the program will be implemented in Texas within those areas
- 17) Describe evaluation criteria and process that will be used in project selection
- 18) Seek and document public input regarding the above determinations
- 19) Prepare and submit an AON report documenting all of the above

The AON is being prepared by the Texas Forest Service (TFS) Forest Legacy State Coordinator and Forest Legacy Program Aid/Intern in consultation with the Legacy Committee (a sub-committee of the State Forest Stewardship Coordinating Committee (SFSCC)). The Legacy Committee consists of individuals who represent entities and/or that can access other entities that have an interest in the forested lands of Texas. In the interest of readability, relevant sources will be documented but without the use of many citations.

The AON will be developed on the basis of existing published data, much of which is available on the Internet as well as local knowledge, previously documented studies provided by the Legacy Committee, the Texas Forest Service, independent individuals, educational institutions, non-government organizations, and other government agencies.

A general time-line has been developed in order to submit the AON to the USFS by September 1, 2004.

Overall Goals

- Protect large blocks of forest land
- Protect large contiguous and productive forest blocks
- Reduce forest fragmentation
- Reduce forest fragmentation caused by development
- Work with existing open space initiatives to achieve maximum resource conservation
- Protect privately owned forest land threatened by conversion to non-forest uses
- Protect privately owned forest land threatened by conversion to non-forest uses within the next decade
- Provide buffers and linkages between public and protected properties
- Prevent future zoning reclassification due to economic pressure or government policy
- Provide a landowner-driven rather than administrator-driven regulatory approach
- Provide fair compensation for foregone property rights
- Protect specific tracts from development
- Prevent parcelization of ownerships
- Expand existing protected forests
- Protect Texas's forests for future generations
- Use conservation easements as the prime tool
- Maintain opportunities for continuing traditional forest uses
- Provide employment opportunities
- Provide economic stability
- Maintain cultural and economic vitality of rural communities
- Promote forest stewardship
- Promote best management practices for forestry
- Encourage active forest management
- Encourage sustainable timber management
- Protect forest land for future wood production
- Maintain productive forests
- Protect water quality
- Protect public water supply
- Provide watershed protection
- Protect habitat diversity
- Protect rare and endangered species
- Protect/restore riparian zones and wetlands
- Provide public recreational opportunities
- Maintain scenic resources
- Provide for carbon sequestration storage
- Protect rare, threatened and /or endangered species
- Provide educational and research opportunities
- Maintain and restore natural ecosystem functions
- Prevent development along pristine bodies of water
- Protect important historical and cultural sites
- Protect critical migration routes
- Other goals _____

Criteria for Legacy Region selection and Legacy Project selection

- Productive forest land
- Recreational opportunity
- Critical wildlife habitat
- Wildlife habitat diversity
- Wetland/Riparian protection
- Water quality/watershed protection
- Scenic landscape
- Unique ecological area
- Large and contiguous forest
- Hunting and fishing areas
- Growth/sprawl control
- Degree of threat
- Forest resource economic benefit
- Ecological benefits
- Community support for project
- Carbon sequestration benefits/storage capacity
- Historical or cultural resources
- Educational/research opportunities
- Other important values _____

Public Input Process-There is several approved ways of gathering and documenting public input.

- Evening public hearing with formal presentation and comment period afterward
- Come and go day long hearing with program kiosk and informal public input dialog
- Press release and internet/mail of fax in based public Other _____

What would be your location choices for 4 public hearings of either of the first two styles?

Forest Legacy Counties-What areas of Texas do you believe should be designated as Forest Legacy Areas? Please sketch the area on the map below. Describe boundaries by county lines, river, or highways and provide justification.



PUBLIC INPUT COMMENT FORM

The Forest Legacy Program is a voluntary program funded by the US Forest Service, working through state agencies and with local landowners, initiated to protect environmentally important forests that are threatened with conversion to non-forest uses. The program protects properties within areas designated by the state as important Forest Legacy Areas primarily through conservation easements or in special situations, fee-acquisition with willing and interested landowners. In order for Texas to become a participant in the Forest Legacy Program, the Texas Forest Service must conduct an Assessment of Need.

The Assessment of Need will evaluate existing forest resources and condition, identify threats to Texas forest sustainability, and designate Forest Legacy Areas. The Assessment of Need will be reviewed by the US Forest Service, and once accepted, Texas will be enrolled in the Forest Legacy Program.

The Texas Forest Service is now conducting the public input process phase of the Assessment of Need document. There will be four public meetings to introduce the Forest Legacy Program, to get input on resource assessments, and to get input on areas to be designated as Forest Legacy Areas. The answers you provide below will be used to help in the writing of the Draft Assessment of Need and in the selection of Forest Legacy Areas.

You may complete this form and return it at the end of the meeting. Or, you may fax your response to 1-979-458-6655 attention Jan Davis. Or mail to Texas Forest Service, attention Jan Davis, 301 Tarrow, Suite 364, College Station, Texas, 77840. You may also make your comments electronically by obtaining the form at www.txforestservicetamu.edu (Click on Texas Forest Legacy and the form is located under the "AON Public Comments" heading and emailing the form or other comments to jdavis@tfs.tamu.edu).

In order to make sure your comments are included in the draft of the Assessment of Need, they must be received by July 15, 2004.

Name:(Optional) _____ Date: ____/____/2004
Contact Address: (Optional)

_____ Zip Code: _____

1) Do you feel that Texas should become a participant in the Forest Legacy Program? Please check yes or no, and explain briefly.

_____ Yes Why?

_____ No Why?

2) For land that is to be protected by the Forest Legacy Program which of the following criteria do you think are important for project selection..

___ Productive Forest Land ___ Water Quality Issues ___ Hunting and Fishing Areas

___ Recreational Opportunity ___ Scenic Landscapes ___ Growth/Sprawl Control

___ Critical Wildlife Habitat ___ Unique Ecological Areas/Features

___ Connective Tracts ___ Buffers to Protected Lands

___ Wetland/Riparian Protection ___ Large Contiguous Forest

___ Other _____

3) What areas (Counties, Watersheds, Regions, etc.) in Texas should be designated as Forest Legacy Areas? Why? Please sketch the area on the map below.



4) Do you feel that the research (both the breadth and treatment of topics) incorporated in the Draft Assessment of Need is adequate?

Yes

No. If no, please indicate what information you feel is incorrect or lacking from this Draft.

5) Do you feel that the goals outlined for the Forest Legacy Program are adequate?

Yes

No. Please indicate which goals you disagree with, or which goals you feel should be included.

6) Do you feel that the criteria used to select Forest Legacy Areas were adequate?

Yes

No. Please indicate which criteria you disagree with, or which criteria you feel should be included.

7) Do you agree with the areas outlined as Forest Legacy Areas?

Yes

No. Please indicate what areas you would include or delete, or how you would change selected FLA boundaries.

8) Do you agree with the Project Selection Criteria?

Yes

NO. Please indicate which criteria you do not agree with, or which criteria you think should be included.

9) After reading the AON, do you have a clear understanding of the process for project selection and selection criteria?

YES

NO. Which portions of the AON need more explanation or clarity?

10) Please provide any other comments that you believe would be helpful to the writing of the Assessment of Need.

Texas Forest Legacy Program Public Comment Form

Name: _____ Date: _____

Hometown: _____

Please select the Legacy issues you would like to discuss:

Determination of the Forest Legacy Area: _____

Goals of the Forest Legacy Program in Texas: _____

Legacy project submission process: _____

Criteria on which projects will be chosen: _____

Other (please specify): _____

The comments received at the Texas FLP public input hearings did not directly coincide with the subject categories listed on the public comment forms. Instead, they could be categorized as follows: clarification regarding the FLP, questions/comments regarding conservation easements, questions/comments regarding the AON, and additional comments. The remarks from the public input meetings are paraphrased below.

FLP Clarification

- How much funding can Texas request per year?
- Could a state submit more than 3 projects per year if their first three totaled less than \$10 million?
- Can the non-federal match come from a donation of land by the landowner?
- Is it a 50% - 50% cost share?
- What is the most and least amount of funding a single project has gotten?
- What is the timeline for submitting a project?
- When is the first funding opportunity for Texas?
- Did Texas receive \$.5 million in start-up funds?
- Can the non-federal share be taken out of projected values of timber harvested?
- Is there any way to put different kinds of deed restrictions on one piece of property, like wetlands mitigation and FLP?
- Will TFS hold title to the land in the FLP, or just the conservation easements?

Conservation Easements

- Must the conservation easement be held by TFS?
- How is the value of the land determined?
- What is the benefit of a conservation easement to the landowner?
- How are proceeds treated?
- Could I build a house on land with a conservation easement?
- How do conservation easements affect ad-valorem taxes?
- Would the owner of the easement owe taxes?

- One of the biggest challenges facing conservation easements is legal challenges three or four generations later. Monitoring needs to be done closely so that these challenges do not hold up. Are the Governor and the Legislature willing to support these easements through monitoring and court challenges?
- How will the FLP deal with banks not wanting to lend money for land encumbered with a conservation easement?
- Can third party monitoring or biological surveys be used as an in-kind payment of the non-federal cost share?

AON Feedback

- Are the criteria for establishing environmentally important forestlands in the AON?
- Is the need for general open space within the guidelines in the AON?
- The AON is top-heavy with the revenue side of cost determination. It is important to note that the public pays for the cost of runoff and other ecological issues. Somewhere there must be a dollar value for this.
- A case study of how this has worked in another state would be helpful in the AON, as well as a glossary of terms.
- The fact that a willing seller is selling the easement, not the land is an important distinction that needs to be made clear in the AON.

Additional Comments

- Perhaps landowners should seek advice from natural resource professionals before filing an application.
- Are regional foresters informed about this program?
- Tight, short deadlines are real hurdles in projects like this
- There is not a lack of need or interest for projects like this. For a small landowner for whom the forest is not a profession, the red tape surrounding this program is too much because the costs are astronomical. The problem is too much governmental red tape. It should be easy to conserve land and difficult to destroy it – the system is upside-down. The FLP is a wonderful thing, there are just so many little people who are lost because we have no backing of money and power.
- Can the TFS hold easements that are not affiliated with the FLP?
- If you get into the FLP and the management plan is strict, then it could make logging almost impossible.
- The Nature Conservancy is proud to be involved in this process.
- East Texas has many large projects, but Harris County has tracts that are smaller but face greater threats. If not protected soon, they will disappear. Would the TFLC be willing to say Harris County gets one project in the first year FLP is offered in Texas?
- Would the TFLC be willing to fast-track a project that a land trust has already been working on?
- A true non-industrial private landowner cannot and should not be willing to meet the obligations required to qualify for this program.
- I do not think federal or state money should be spent to place private lands under government control with the “environmental” community calling the shots.
- This program strongly smells of “tree hugger agenda” and will create havoc for adjoining true private timberland owners. XXX and XXX are good examples. Federal and state money should not be used for this program
- Only corporation lands that would create problems for them to sell will qualify for this program. We should not be using government funds to bail out the timber corporations.
- This program has worked very well in Florida and will provide a much-needed option for Texans.
- It has been my experience that many of the conservation easement options in Texas are limited to restrictive, low production or recreation options. Active management of forests and woodlands will ensure not only productive resources and landowner income, but long-term availability of open space and scenery. In contrast to “Farm-Bill” type options, the FLP can continue to provide managed income through the natural resources available on that property, while still providing recreational and other non-consumptive value.
- The use of administrative units (county) simplifies the process, but some possible areas of inclusion may be left out along major river systems. I would suggest inclusion of Fannin, Lamar, Delta, Rains, and Hopkins as well as Navarro and Freestone counties – especially on and along the Trinity.

CHAPTER X: APPENDIX B - ACKNOWLEDGEMENTS

June 15, 2004

As the Texas State Legacy Program Coordinator, I would like to take this opportunity to express my gratitude to the many people who have helped produce this Assessment of Need document.

First, I would like to thank Governor Perry, who initiated the Forest Legacy Program in Texas and designated the Texas Forest Service as the State Lead Agency. Jim Hull, the Director of the Texas Forest Service and State Forester, also deserves a great deal of credit. His leadership, advice, and support throughout this process have helped us create an Assessment of Need that will serve as a useful guide should Texas have the opportunity to join the Forest Legacy Program.

Special thanks go to Texas Forest Service Associate Director Ed Barron and his staff in the Forest Sustainability and Economic Development Department. Much of the information included in this Assessment of Need is the product of their data and research. Also, Vasu Iyer and the Information Resources staff at the Texas Forest Service deserve recognition for their work on the technical aspects of the document and for ensuring public accessibility to the Forest Legacy Program by posting this Assessment of Need as well as other Legacy information on the internet.

Completion of this document would not have been possible without the knowledge and feedback from the Texas Forest Legacy Committee. Members of this committee offered their time, energy, and expertise, as well as access to the staffs of their organizations who provided valuable guidance and information. Their efforts have enabled us to put forth a complete and accurate report on the forests of Texas. In addition to the Committee, other state agencies, non-governmental organizations, and private landowners assisted in compiling the information we needed for this document.

I am also very grateful for the advice and input from the USDA Forest Service staff as well as other State Legacy Coordinators. Elizabeth Crane, Federal Legacy Program Coordinator for the Southern Region, and other Southern State Legacy Coordinators were exceptionally helpful.

The Legacy Program Aid, Laura Kenesson, did much of the writing, researching, and compiling of the report and helped to organize and facilitate the public review process. She was ably assisted and supported by Dawn Ferguson and Laura Thompson of the Texas Forest Service. The creation of the Legacy Program Aid position was a coordinated effort between the Texas Forest Service and the Bush School of Government and Public Service at Texas A&M University. Dr. Carol Silva deserves credit for helping to develop this position.

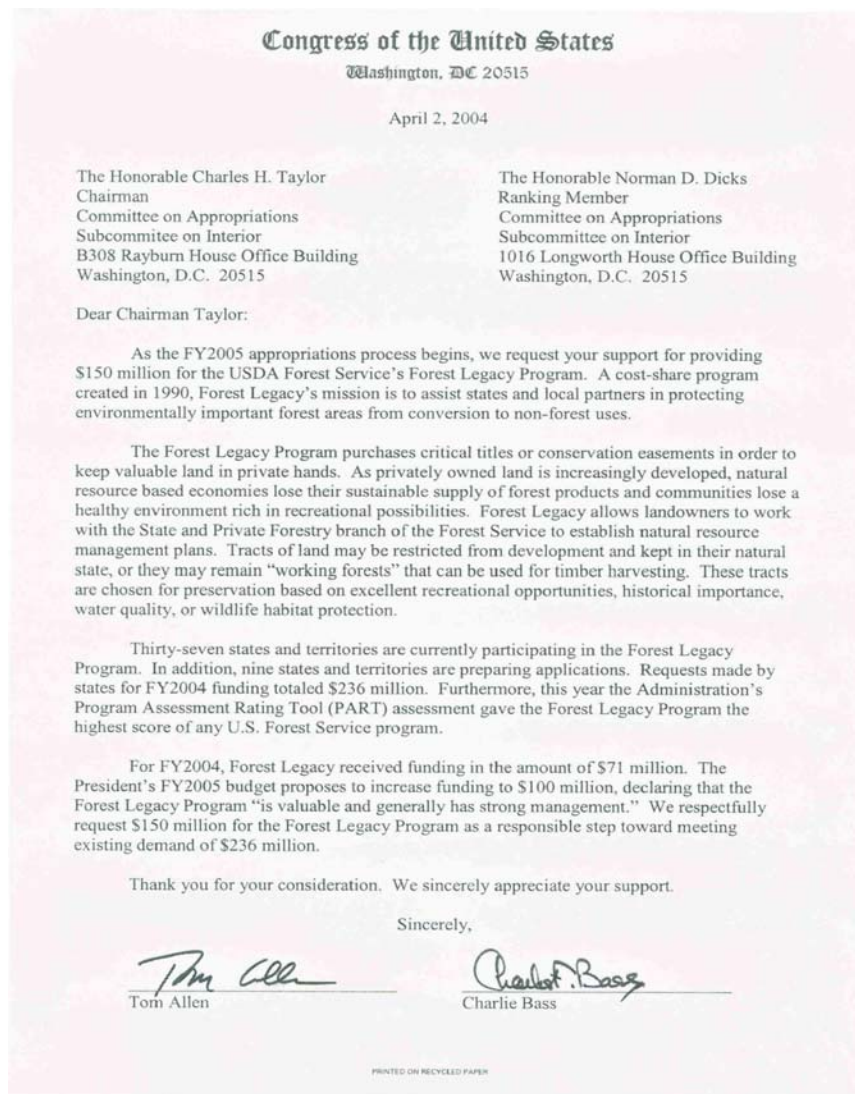
Finally, I would like to acknowledge the most important members of this process – the private landowners, business and organization leaders, and concerned citizens who attended our public meetings, sent letters of support, and encouraged the program to move forward. They are ultimately the clients and audience of this report. It is my wish that this program helps them create a future for Texas that includes the sustainable management of conserved forestland.

Sincerely,



Jan Davis
Legacy & Heritage Forests

CHAPTER XI: APPENDIX C – LETTERS OF SUPPORT



* 90 additional Congressional signatures accompanied this letter

United States Senate
WASHINGTON, DC 20510

April 21, 2004

The Honorable Conrad Burns
Appropriations Subcommittee on
Interior and Related Agencies
Senate Committee on Appropriations
131 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Byron L. Dorgan
Appropriations Subcommittee on
Interior and Related Agencies
Senate Committee on Appropriations
131 Dirksen Senate Office Building
Washington, DC 20510

Dear Senators Burns and Dorgan:

We write in support of the State and Private Forestry and Research Programs of USDA Forest Service. As you prepare the appropriations bill for Fiscal Year 2005, we urge you to increase the funding for these critical programs to improve the management, protection, and utilization of our 490 million acres of non-Federal forests.

These programs leverage Federal resources to increase wood production, prevent fires, control insects and disease, improve water quality, conserve open spaces, and enhance fish and wildlife habitat. Despite the importance of non-Federal forest lands, less than 20 percent are managed professionally to sustain health and productivity. Economic pressure is also forcing many landowners to sell their land, resulting in almost 687,000 acres of forest land being converted to non-forest uses each year.

The State and Private Forestry programs take a voluntary, incentive-based approach to conservation on these critical lands. Working with states, land trusts, and community groups, the State and Private Forestry programs reach out to the 10 million private landowners, urban and rural communities, and states to increase their capacity to manage their forest resources. These programs also protect forestlands from fire, insects, and disease. Sound management of urban and community trees and forests helps protect biological diversity, sequester carbon, stimulate sustainable economic growth, and ensure long-term supplies of wood fiber.

In particular, we request that the Committee reject the President's request to cancel the Forest Land Enhancement Program (FLEP), and instead give the program \$20 million in Fiscal Year 2005. Although the 2002 Farm Bill provides \$100 million for the program, it only received \$20 million in Fiscal Year 2003 and nothing in 2004, which is far short of the demand from private forest landowners. The Forest Stewardship program complements FLEP and other State and Private Forestry programs by helping more than 217,000 landowners develop stewardship plans in the last decade and covering 25 million

acres. Changing land ownership and fragmentation of forest tracts has increased the demand for this program. We support the President's request to provide \$41 million for Forest Stewardship.

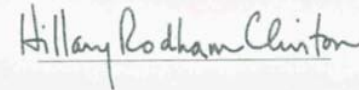
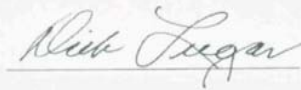
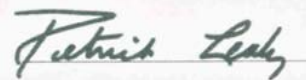
Each year, more and more forestland is threatened by sprawling development and economic pressures. To help prevent the conversion of private forestland into other uses and ensure it is still available for the sustainable production of forest products, wildlife habitat, and public access, we request \$150 million for the Forest Legacy program in Fiscal Year 2005. We also request \$25 million for the Economic Action Program that helps communities and the forest products industry expand their economic opportunities from forest resources. Restoring and enhancing forests within cities and towns is also critical to containing sprawl as well as reducing stormwater runoff and invasive pests. To meet these goals, we request \$36 million for the Urban and Community Forestry Program.

States, communities, and private forest landowners need continued support from the federal government to be the first line of defense against wildfires. We request \$79 million for state fire assistance under Cooperative Fire Protection and Wildland Fire Management. In addition, we request \$10 million for support of the Community and Private Land Fire Assistance program, which assists communities in leveraging state and local resources in developing wildfire protection plans. This program received \$35 million in 2001 but has not received funding since.

Protecting forest health is critical to all of the goals of the State and Private Forestry programs. We request \$64 million for the Forest Inventory and Analysis program, \$45 million for the Cooperative Forest Health Management program, \$15 million for the Research programs on destructive invasive species and \$15 million for the Watershed Forestry Assistance Program authorized in the Healthy Forests Restoration Act.

We hope that you will support funding levels that will enable the state and Private Forestry programs to meet their goals. Thank you for your consideration of this request.

Sincerely,



* 27 additional Senatorial signatures accompanied this letter

TEXAS LAND TRUST COUNCIL

March 21, 2003

The Honorable Rick Perry
Governor, State of Texas
PO Box 12428
Austin, TX 78711-2428

Re: Forest Legacy Program

Dear Governor Perry,

The Texas Parks and Wildlife *Land and Water Resources Conservation Plan 2002* reports that projected population growth and property fragmentation (the division of single ownership properties into two or more parcels) are two of the greatest threats to Texas' natural resources.

The Texas Land Trust Council (TLTC) was formed in 1999 in partnership with Texas Parks and Wildlife to serve as a support association for all land trust organizations in Texas. Currently, we are supporting 39 land trusts as they work on the front lines with local communities to help them save Texas' land heritage.

Texas has an opportunity to conserve much of this private land by participating in the federally sponsored Forest Legacy Program – a cooperative effort between states, non-profit organizations and the US Department of Agriculture. Designed to encourage the protection of privately owned forestlands, the Forest Legacy Program is entirely voluntary and it encourages and supports acquisition of conservation easements, without removing the property from private ownership.

On behalf of the Texas Land Trust Council, I encourage you to initiate activity on the USDA's Forest Legacy Program for the state of Texas and designate the Texas Forest Service as the lead agency in Texas for the Forest Legacy Program.

Given the tremendous yet inevitable population growth in Texas, projects like the Forest Legacy Program that are dedicated to preserving private lands are critical to maintaining quality of life standards as well as the cultural and economic heritage of the citizens of the state.

Sincerely,



John Hamilton, Chair

2001 Arthur Lane
Austin, Texas 78704-3235

cc: Jim Hull, Director, Texas Forest Service

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April 1, 2003

The Honorable Rick Perry
Governor, State of Texas
PO Box 12428
Austin, TX 78711-2428

Re: Forest Legacy Program

Dear Governor Perry,

On behalf of the American Farmland Trust's Texas office, I encourage you to initiate activity on the US Department of Agriculture's Forest Legacy Program in Texas by designating the Texas Forest Service as the lead agency for the Forest Legacy Program.

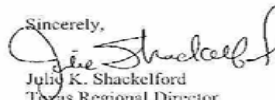
Timber is the state's third most valuable agricultural commodity, exceeding \$1 billion. In East Texas, timber is the number one agricultural crop. Private forest landowners interested in maintaining their forestry livelihoods have few voluntary, incentive-based options to conserve their family lands, especially in the face of increasing development pressures and rising land costs as Houston and other cities expand into formerly rural areas.

Texas has an opportunity to work with those landowners interested in conserving their private lands by participating in the federal Forest Legacy Program – a cooperative effort between states, non-profit organizations and the US Department of Agriculture. Designed to encourage the protection of privately-owned forestlands, the Forest Legacy Program is entirely voluntary and it encourages and supports the purchase of conservation easements, which keeps land in private hands and management and on the tax rolls. It provides much needed cash to forest landowners, which can be used to minimize debt, work out estate issues and increase operational efficiency.

Given the tremendous yet inevitable population growth in Texas, projects like the Forest Legacy Program that are dedicated to preserving private lands are critical to maintaining quality of life standards as well as the cultural and economic heritage of the citizens of the state. We should not leave federal dollars on the table that can help Texas' rural citizens keep private lands in private hands.

Thank you for your consideration of this request to make this program a choice in Texas by designating the Texas Forest Service as the lead agency for the Forest Legacy Program. If I can answer any questions you may have, feel free to contact me at (512) 396-5517.

Sincerely,



Julie K. Shackelford
Texas Regional Director

cc: Jim Hull, Director, Texas Forest Service

TEXAS FIELD OFFICE
101 Upland Road • Suite 205 • San Marcos, Texas 78666
Tel: (512) 396-5517 • Fax: (512) 396-5529
www.farmland.org

National Office: 1200 18th Street, NW Suite 800 Washington, D.C. 20036 Tel: (202) 331-7300 Fax: (202) 659-8539



May 7, 2003

The Honorable Rick Perry
Governor of Texas
State Capital, 2S.1
P.O. Box 12428
Austin, Texas 78711

Dear Governor Perry,

Texas is being considered by the United States Forest Service for participation in the Forest Legacy Program, (FLP). This federally sponsored cooperative effort between states, non-profit conservation organizations and the US Department of Agriculture will bring much needed funding to Texas for the preservation of working forestland that is under threat of conversion to non-forest uses.

The FLP is a totally voluntary program which will protect forestland from non-forest use development with the purchase of development rights and conservation easements from willing, conservation-minded private forest landowners.

Under the FLP forest landowners will retain revenues and all expense responsibilities of ownership including property tax liability. There will be no loss of revenues and no cost to the State of Texas associated with this program.

The state's responsibilities will include the appointment by the governor of the state's natural resource lead agency, the development of program goals by the State Forest Stewardship Coordinating Committee and program monitoring.

As you know Governor Perry, only 3% of the State of Texas is publicly owned and this 3% includes the highways and roads. A program such as this which protects private forestland from succumbing to the increasing pressures of conversion to non-forest use will help to protect regional identity, diversity and traditional ways of life for citizens who depend on forest products for a livelihood.

Other benefits of preserving forestland will be the protection of rivers and streams from soil erosion and the safeguarding of air quality. Visitors and residents will continue to enjoy the excellent fishing and bird watching they associate with the remarkable varieties of species that inhabit these forests and waterways.

Congress has earmarked \$18,000,000.00 for the FLP in region 8, which includes Texas. Texas is one of only 3 southern states not currently participating in the FLP.

The Board of Directors of the Pines and Prairies Land Trust believes it is time for Texas to participate in the Forest Legacy Program.

Sincerely,

Carrie Knox, President
Pines and Prairies Land Trust



Bastrop County Audubon Society

Volunteers helping to understand, conserve and restore natural ecosystems.

May 7, 2003

The Honorable Rick Perry
Governor of Texas
State Capital, 2S.1
P.O. Box 12428
Austin, Texas 78711

Dear Governor Perry,

Texas is being considered by the United States Forest Service for participation in the Forest Legacy Program, (FLP). This federally sponsored cooperative effort between states, non-profit conservation organizations and the US Department of Agriculture will bring much needed funding to Texas for the preservation of working forestland that is under threat of conversion to non-forest uses.

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Under the FLP forest landowners will retain revenues and all expense responsibilities of ownership including property tax liability. There will be no loss of revenues and no cost to the State of Texas associated with this program.

The Bastrop County Audubon Society is concerned that everything possible is being done to protect bird habitat from destruction. Texas boasts more species of birds than any other state in the union.

Hundreds of bird species nest and winter in Texas. Hundreds more species migrate through Texas on the central flyway. Millions of birds are dependent on the food and water they find here as they migrate through Texas from South America to northern states and Canada to nest. The forests of Texas are critical to these migrating birds for food, water and rest stops.

Texas is a destination for many thousands of bird watchers that come here at all times of the year to view nesting, wintering and migratory birds. Many businesses depend on these visitors. Preserving habitat for birds will ensure that there will be birds for everyone to watch and enjoy.

The Board of Directors and the members of the Bastrop County Audubon Society urge you to make sure that Texas does not lose any more of the forests so important to birds. Texas should participate in the Forest Legacy Program.

Sincerely,

William B. Montgomery, President
Bastrop County Audubon Society

cc: Jan Davis, Forest Resource Development

William B. Montgomery, President • PO Box 656 • Elgin, Texas 78621 • 512-281-0046 • www.bastropcountyaudubon.org

CHAPTER XII: APPENDIX D – MEDIA ARTICLES/PRESS RELEASES



The Cost of Battling Wildfires - The Senate passed the FY 2004 Interior Appropriations bill Wednesday by unanimous consent. Included in the bill is \$400 million in emergency funding for FY 2003 wildfire suppression, to pay back those accounts that have been borrowed from (\$325 for the Forest Service and \$75 for the Department of Interior). Senator Burns of Montana offered the amendment.

New President Directs NASF - Burnell C. Fischer was elected last week as the A new President of NASF. As State Forster for Indiana, Bernie has been an active member of NASF for 13 years. He earned his BS in Forestry, MS and PhD at Purdue University, where he is currently an adjunct professor.

Joint BMP Review Underway - During the week of October 8, Jeff Vowell (FL), Burl Carraway (TX) and John Greis (USFS) completed the first SGSF/USFS joint Best Management Practice program review and technical assistance visit to a southern state. The Kentucky Division of Forestry hosted the Team, which focused on all aspects of Kentucky's BMP program, including its unique regulatory requirements. These assistance visits were commissioned by the SGSF in 2002 in order to enhance the quality, consistency and overall credibility of southern states' forestry BMP programs. Visits are planned for Virginia and Arkansas by the end of October 2003, and several other states early next year. The 3 person Team consist of state forestry agency BMP specialists from 2 states (revolving among states) and John Greis, who represents the Forest Service on each visit.

Texas & Forest Legacy Program - In a letter to the Forest Service, Governor Rick Perry designated the Texas Forest Service (TFS) as the lead agent for The Forest Legacy Program (FLP). Since 2001, officials from the Trust for Public Land (TPL), The Conservation Fund and the Texas Forest Service have worked together to qualify the state of Texas for the Forest Legacy Program. "This program could not have come at a better time," said Andy Jones, director of The Conservation Fund's Texas office. "Implementation of the Forest Legacy Program will play a key role in combating the rate of land fragmentation in Texas by providing landowners with an additional tool to help them stay on their land, benefiting both the local economy and the environment."





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Texas Qualifies for Forest Legacy Program

Contact:
Paige Cooper, TPL (512) 478-4644
Jan Davis, TFS (979) 862-6697
Andy Jones, TCF (512) 477-1712

AUSTIN, Texas, 8/23/03 - A new source of funding will give state and local governments, land trusts and nonprofits a new method for protecting forestland in Texas. In a letter to the USDA Forest Service, Governor Rick Perry designated the Texas Forest Service (TFS) as the lead agent for The Forest Legacy Program (FLP), a national conservation program that provides federal assistance to protect forestland threatened by conversion to non-forest uses.

Since 2001, officials from the Trust for Public Land (TPL), The Conservation Fund and the Texas Forest Service have worked together to qualify the state of Texas for the Forest Legacy Program.

"We're very excited to have Governor Perry's support," said Paige Cooper, Government Affairs Director for the Trust for Public Land. "Landowners need options for protecting their property. The Forest Legacy Program will be a catalyst for conserving more forestland in Texas."

In 1990, prompted by increased pressure on private forest owners to convert their forestland to other uses, Congress created the Forest Legacy Program to identify and protect environmentally sensitive forestland in the Northern Forest region of the United States. FLP has contributed more than \$101 million towards projects valued at \$216 million, and has protected more than 396,000 acres. Notable recreational and ecological gems, such as the Mountains to Sound Greenway in Washington State and the Town Creek Initiative in North Carolina were protected with Forest Legacy funds.

The purpose of the Forest Legacy Program is to maintain forestland intact to provide traditional forest benefits including timber harvesting, wildlife habitat, watershed protection and open space conservation. FLP allows landowners to protect conservation values while also maintaining economic uses including timber production. Conservation easements can be used to protect "working forests," where forestland is managed for the production of forest products.

"This program could not have come at a better time," said Andy Jones, director of The Conservation Fund's Texas office. "Implementation of the Forest Legacy Program will play a key role in combating the rate of land fragmentation in Texas by providing landowners with an additional tool to help them stay on their land, benefiting both the local economy and the environment."

"Both the landowner and the community will benefit by the continued economic returns and the conservation benefits that are associated with such dynamic forest management planning," said Jim Hull, State Forester and Director of the Texas Forest Service.

FLP relies heavily on conservation easements-voluntary agreements between private landowners and non-profits or government agencies. Conservation easements allow landowners to maintain ownership of their property, while limiting one or more of the property rights such as the right to develop the property, manage resources, subdivide or develop or to allow public access.

To qualify for the program, the Texas Forest Service will develop an Assessment of Need (AON) to determine eligibility requirements, set state goals and identify areas of focus for FLP in Texas. The Secretary of Agriculture and TFS must approve the Assessment, before the state is eligible to receive FLP funds.

The Trust for Public Land is a national nonprofit land conservation organization that conserves land for people to enjoy as parks, gardens, and natural areas, ensuring livable communities for generations to come. Since its founding in 1972, TPL has helped protect more than 1.6 million acres of land in 45 states. In Texas, TPL has protected more than 22,000 acres for communities, including areas in and around Austin, Dallas, Houston and San Antonio. The Trust for Public Land depends on the support and generosity of individuals, foundations and businesses to achieve our land for people mission. For more information please visit us on the web at www.tpl.org

Established in 1915, the Texas Forest Service is responsible for developing, protecting and perpetuating the state's trees and forest resources. The agency provides a variety of programs such as forest management landowner assistance, tree improvement, urban forestry, reforestation, forest insect and disease control, forest resource protection, and rural VFD assistance. Rural fire protection is available to the 2,800 small communities where volunteer firefighters protect the lives and property of rural Texans. Additionally, the Texas Forest Service is designated as the incident management agency for state emergencies and can be called to action on any disaster where its leadership and resources are needed. More information is available from the web at <http://texasforestservice.tamu.edu>

The Conservation Fund, a national nonprofit organization, acts to protect the nation's legacy of land and water resources in partnership with other organizations, public agencies, foundations, corporations, and individuals. Seeking innovative conservation solutions for the 21st century, the Fund works to integrate economic and environmental goals. Since its founding in 1985, the Fund has helped its partners safeguard wildlife habitat, working landscapes, community "greenspace" and historic sites totaling more than 100,000 acres in Texas and 3.5 million acres throughout the nation.

PR-11

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Can't see Thicket for trees

By JAMIE REID
The Enterprise 09/24/2003

Over the past two years, Big Thicket National Preserve employee Chuck Hunt has watched timber companies that neighbor the preserve put 1.7 million acres on the market.

With each sale, he worries.

The timber companies, once the enemy of the preserve, now protect it.

The 97,000-acre Big Thicket has the appearance of a much larger park, thanks to timber company trees. Traveling through the historical Big Thicket, visitors look out into acres and acres of trees that are predominately owned by three timber companies - Louisiana-Pacific Company, International Paper Company and Temple-Inland Inc.

The Thicket is made up of 15 units, most of which are not connected. Timber company trees act as a visual bridge through areas not occupied by the preserve.

Without the timber companies, those lands would likely lose their trees and the Big Thicket would show its true shape - small and spindly. That danger landed the Big Thicket on the 2003 America's Ten Most Endangered Parks List, distributed by National Parks Conservation Association.

"Right now East Texas needs to pay attention to all land transactions," said Andy Jones, Texas office director for the non-profit The Conservation Fund. "If you lose the land, you will lose the integrity of East Texas."

Big Thicket officials are grasping for possible solutions.

Hunt has recently put hope in a program new to Texas, the Forest Legacy Program.

Through the program, the federal government puts up money to buy conservation easements from private landowners. The easements protect the land from becoming subdivisions, ranchettes and strip centers, while landowners maintain ownership of the property and harvest timber.

Each easement is written individually, so the terms between easements differ

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greatly, said Jan Davis of the Texas Forest Service. An appraisal will be done on the property before and after the easement. Landowners will collect what the easement is worth.

The Texas Forest Service, the agency responsible for protecting the state's forests, was designated by Gov. Rick Perry as the lead agent for the new program.

"This program could not have come at a better time," Jones said.

In Texas, 61 percent of forestland is owned by private landowners, while 32 percent is owned by companies and 7 percent by public agencies, Davis said.

"But that is rapidly changing," she said. "The landscape is becoming fragmented with more and more owners."

Landowners, the local community and conservationists can all go away happy, Jones said. The program continues to provide economic returns from timber harvesting, while protecting the land from future developments.

The program will play a key role in combating land fragmentation, which is enemy No. 1 to the Big Thicket in East Texas, Jones said.

Many other states use federal money from the Forest Legacy Program, which was created in 1990 by Congress. Nationally, the program has contributed more than \$101 million towards projects and protected more than 396,000 acres.

Federal funds pay for about 75 percent of the easements and the remaining money comes from donations, the landowner or land trusts.

That easement program is not yet available in Texas.

The Texas Forest Service and other agencies are currently developing a list of property they most want to protect. The list and accompanying material will likely take a year to amass, Jones said. When done, the United States Forest Service must approve the list before the state receives the federal funds.

"If we could get 100,000 to 200,000 acres that would be a good start," Jones said. "But that's not even putting a dent in the need."

The Texas Forestry Association, the Lufkin-based trade association for professional foresters, loggers and private landowners, did not take a stand on the program, said Ron Hufford, executive vice president.

"It still protects private property rights," Hufford said. "People can do it on their own free will. As long as the seller is willing, that's what it's all about. I have no problem with that approach."

Reach this reporter at:

(409) 833-3311, ext. 428

jreid@beaumontenterprise.com

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From Citizens Environmental Exchange List Serve
CEC: HOUSTON ENVIRONMENTAL NEWS UPDATE 6/04/04

NEWS

(1) FOREST LEGACY PROGRAM COMES TO TEXAS

by Sarah Morgan

Texas may soon join the U.S. Department of Agriculture Forest Service's Forest Legacy Program, a program aimed at protecting forested areas from development.

According to the USDA Forest Service, "The Forest Legacy Program was established in the 1990 Farm Bill to protect environmentally important forest areas that are threatened by conversion to non-forest uses and to promote forestland protection through the use of conservation easements and fee-simple purchase."

Through conservation easement, landowners can sell their development rights while maintaining ownership and use of the land. The land will be protected from all development and non-forest use, commercial or residential. Owners will maintain the ability to grow and sell forest products, and will receive a one-time cash payment from the Legacy Program along with the possibility of reduced property taxes.

The Forest Legacy Program provides up to 75 percent of the money needed to buy the land from the landowners. The other 25 percent must come from an outside source, which can include a donation from the landowner or a collection from outside groups interested in maintaining the current state of the land.

Since the program's inception, 36 U.S. states and territories have taken advantage of the opportunities provided, conserving about 600,000 acres since 1992. The bill was altered in 1996 giving the easement titles to the state government instead of the federal government, and now Texas is looking to join.

"The southern states in general have been some of the last states to become active most in the last five years," said Jan Davis, program coordinator with the Texas Forest Service.

Now that Gov. Rick Perry has approved state participation in the program, the next step is to complete an Assessment of Need, "a report that evaluates the condition of existing forest resources, identifies threats to the state's forests, and designates a Forest Legacy Area," according to the Texas Forest Service.

Davis explained that they are looking at a 59-county area covering north and southeast Texas from the Columbia bottomlands to the Bastrop area for possible conservation easement. Areas in Montgomery county and Liberty

county may be included.

"The focus will be on areas with a traditional history of forest-land products," Davis said.

This is because the Forest Legacy Program provides a working conservation easement, one where logging and other forest related work could continue as opposed to a regular conservation easement where the land is intended to remain in a natural state. However, work on the land must meet certain criteria laid out in a management plan.

Jennifer Lorenz, executive director of Legacy Land Trust, said that the plan should, "provide more oversight in the tree extraction process."

Lorenz explained that logging is not entirely bad if it is done at the right time of year. Some loggers pull trees out when the ground is still wet, creating ruts in the earth and ruining more fragile plants with shallow roots. On the other hand, young trees use more carbon than old trees, so logging processes can actually help with cleaner air. Lorenz's major concern is simply that the Legacy Program may not be enough.

"A managed tract is certainly better than a strip mall," said Lorenz, "I think, ultimately, it's a good thing."

The Texas Forest service is responsible for drafting the Assessment of Need and is holding meetings for public comments throughout the state. If approved, Texas could be ready to apply for funding by 2006.

A draft plan of the Assessment of Need will be available from June 15 to July 15 at <<http://www.texasforests.tamu.edu>>.

TFS plans Forest Legacy Program hearings

The forests of Texas provide employment for thousands of workers and recreational opportunities for millions of residents and visitors annually.

At the same time, the state's woodlands serve as habitat for a rich variety of native wildlife and plants. To protect the state's forested lands and the jobs, recreation, and wildlife they support, Governor Perry gave approval for the Texas Forest Service to initiate participation in the federal Forest Legacy Program.

Program funding provided by the USDA Forest Service allows landowners to utilize conservation easements on private forestland, thereby protecting it from conversion to non-forest uses.

Such easements allow the landowner to sell the development rights while maintaining ownership and use of the forestland, including the ability to continue to grow and sell forest products. This results in sustained wildlife habitats and other environmentally beneficial values in addition to revenue generated from timber sales and leases. The landowner will

continue to cover the expenses associated with management of the forestland.

For Texas to become a participant in the Forest Legacy Program, the state must first complete an Assessment of Need, a report that evaluates the condition of existing forest resources, identifies threats to the state's forests, and designates a Forest Legacy Area. After approval of the Assessment of Need by the USDA Forest Service, Texas will be enrolled in the Forest Legacy Program and landowners may begin submitting projects. Lands will be selected based on a priority system that considers the land's unique features that need to be protected.

The Texas Forest Service is responsible for drafting the report and soliciting public comments, as guided by the Texas Forest Legacy Committee, a sub-committee of the State Forest Stewardship Coordinating Committee.

Public meetings in Austin, Nacogdoches and Conroe will solicit comments regarding the draft version of the Assessment of Need and the

Forest Legacy Program. A short questionnaire will be provided and public comments will be recorded.

Public meetings will be held at the following locations:

Austin: June 22 at 6:30 p.m., Holiday Inn South, 3401 South IH-35, Executive Instruction Center

Nacogdoches: June 23 at 6:30 p.m., Stephen F. Austin School of Forestry, Arthur Temple Forestry Building, corner of East College & Raguet, Room 117

Conroe: June 24 at 6:30 p.m. Montgomery County College General Academic Center Building B, Hwy 242 & West College Park Drive, Presentation Room B102

The draft version of the Texas Forest Legacy Program Assessment of Need and a questionnaire will be available for online review from June 15 to July 15, 2004, on the Texas Forest Service Web site. For general information about the USDA Forest Service Forest Legacy Program, visit <http://www.fs.fed.us/spf/coop/flp.htm>.

Texas To Participate in Forest Program

COLLEGE STATION, Texas—The forests of Texas provide employment for thousands of workers and recreational opportunities for millions of residents and visitors annually.

At the same time, the state's woodlands serve as habitat for a rich variety of native wildlife and plants.

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After approval of the Assessment of Need by the USDA Forest Service, Texas will be enrolled in the Forest Legacy Program and landowners may begin submitting projects. Lands will be selected based on a pri-

ority system that considers the land's unique features that need to be protected.

The Texas Forest Service is responsible for drafting the report and soliciting public comments, as guided by the Texas Forest Legacy Committee, a sub-committee of the State Forest Stewardship Coordinating Committee.

Public meetings in Austin, Nacogdoches and Conroe will solicit comments regarding the draft version of the Assessment of Need and the Forest Legacy Program.

A short questionnaire will be provided and public comments will be recorded. Public meetings will be held at the following locations:

Austin: June 22 at 6:30 pm, Holiday Inn South, 3401 South IH-35;

Executive Instruction Center, Nacogdoches: June 23 at 6:30 pm, Stephen F. Austin School of Forestry, Arthur Temple Forestry Building, corner of East College and Raguet, Room 117;

Conroe: June 24 at 6:30 pm, Montgomery County College General Academic Center Building B, Highway 242 and West College Park Drive, Presentation Room B102.

The draft version of the Texas Forest Legacy Program Assessment of Need and a questionnaire will be available for online review from June 15 to July 15, 2004, on the Texas Forest Service Web site at <http://www.texasforestservice.tamu.edu>.

For general information about the USDA Forest Service Forest Legacy Program, visit <http://www.fs.fed.us/spf/coop/flp.htm>.

Texas to participate in Forest Legacy Program

350 By JAN DAVIS

The forests of Texas provide employment for thousands of workers and recreational opportunities for millions of residents and visitors annually. At the same time, the state's woodlands serve as habitat for a rich variety of native wildlife and plants. To protect the state's forested lands and the jobs, recreation and wildlife they support, Gov. Rick Perry gave approval for the Texas Forest Service to initiate participation in the federal Forest Legacy Program.

Program funding provided by the USDA Forest Service allows landowners to utilize conservation easements on private forestland, thereby protecting it from conversion to non-forest uses.

Such easements allow the landowner to sell the development rights while maintaining ownership and use of the forestland, including the ability to continue to grow and sell forest products. This results in sustained wildlife habitats and other environmentally beneficial values in addition to revenue generated from timber sales and leases. The landowner will continue to cover the expenses associated with management of the forestland.

For Texas to become a participant in the Forest Legacy Program, the state must first complete an Assessment of Need, a report that evaluates the condition of existing forest resources, identifies threats to the state's forests, and designates a Forest Legacy Area. After approval of the Assessment of Need by the USDA Forest Service, Texas will be enrolled in the Forest Legacy Program and landowners may begin submitting projects. Lands will be selected based on a priority system that considers the land's unique features that need to be protected.

The Texas Forest Service is responsible for drafting the report and soliciting public comments, as guided by the Texas Forest Legacy Committee, a subcommittee of the State Forest Stewardship Coordinating Committee.

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**CHAPTER XIII: APPENDIX E – SAMPLE FOREST
STEWARDSHIP MANAGEMENT PLAN**



Forest Stewardship Plan

Landowner Name

Address

Address

Date



The Texas A&M University System

Forester Name

Title

Technician Name

Title

District Office Name

District Office Phone

T E X A S
FOREST SERVICE
The Texas A&M University System

##/##/####

#####, ## #####

Dear #####,

It's great to see you taking an interest in your forestland. I recently visited your land to obtain forestry data to develop the following forest management plan. All recommendations contained herein are flexible and may be modified to meet the concerns and objectives you may have.

This forest management plan will enable you, as a landowner to make educated decisions concerning the future of your forest. This plan should be valid for the next ten years; however, market changes new developments in forest management or any unusual circumstances such as forest fires, insects and/or disease attacks may warrant a revision. Other economic or even personal factors could develop that might alter or change your primary goals. However, one of the virtues of professional forest management is its flexibility and a call to your local service forester will result in professional advice about changing circumstances.

You are to be congratulated for developing a management plan for your timberland. A managed forest produces a much greater yield of timber and a much greater profit than does an unmanaged forest. And, while doing so, it provides better fringe benefits—i.e., diverse wildlife, aesthetic appeal, and increased recreational opportunities. In my opinion, your desire to professionally manage your timberland will not only lead to a better and more productive forest for you and your family, but it will help insure the future economy of the State of Texas.

Thank you,

District Forester
Texas Forest Service – ##### District

Certified Forest Steward Awards Available to Landowners



Texas landowners now have another opportunity to brag about the good things they are doing on their property. They realize that owning land is a right valued by many, but with this right comes the responsibility to take care of it for the future. The Texas Forest Stewardship Program now recognizes these "good stewards of the land" with the Certified Forest Steward award.

This award is presented to any Texas landowner that meets the qualifying requirements of owning at least 10 acres, having a written Stewardship plan, and implementing aspects of that plan. It comes in the form of a metal sign for your property and a certificate signed by the State Forester. There are no timelines or deadlines to meet to receive this award and nominations can be made by anyone.

This federal/state partnership is beneficial to all Texas landowners, regardless of where their property might be located. The program stresses written objectives and recommendations tailored to be site specific, and is based on each individual landowner's goals.

Foresters with the Texas Forest Service or other natural resource professionals will help develop a Stewardship plan for your property, a 10-year course of action, outlining step-by-step measures to keep your land productive now and in the future. Other benefits may result from these recommendations, such as cleaner air and water, healthy populations of fish and wildlife, quality outdoor recreation, and profitable forest products.

Many landowners are already practicing good stewardship on their land. A few examples of this are using voluntary Best Management Practices, reforestation, and installing food plots.

The Texas Forest Stewardship Program is here for you, whether you're working on increasing the productivity of your land or improving your conservation efforts. Together, we can move toward a brighter future with thriving forest lands and healthy economic rewards.

If you have already implemented a recommended practice from your forest stewardship plan or you plan to implement a recommended practice in the future, please let me know so that I can nominate you for this award. I can be contacted at one of the following:

###-###-####

Email- ##### @#####.### or

District, P. O. Box #####, #####, TX

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BACKGROUND INFORMATION

Introduction

This Forest Stewardship Plan is a detailed, written plan to help you effectively manage your property according to your multiple objectives. These objectives are yours and should be based on your desires and needs and should be environmentally responsible. The Forest Stewardship Program is a cooperative effort among multiple agencies to enhance the forest resource while reaching the landowner's objectives.

Tract Location

This #####-acre tract is located in the ##### Survey, abstract ###, ##### County. Directions to the tract are as follows: From the intersection of ##### and Hwy ##, in #####, travel ##### #.# miles to a ##### road located on the ##### side of #####. Travel #/##th of a mile on the ##### road to a major #####; turn ##### on the ##### and go #/##th of a mile to the tract. (See attached location and tract maps).

Landowner Objectives

Primary: #####'s principal concerns for this tract are maintaining the health of the stand, maintaining or improving wildlife habitat, and managing the property for aesthetics.

General Resource Description

In ##### the land was put into ##### program and actively managed by Forester, #####. The property has been very well managed and is in great condition. Mr. ##### continues to maintain a file of the tracts history. Any question pertaining to ##### management can be addressed by Mr. #####; Office: ###-###-####, Cell:###-###-###

Timber: In 1987 the entire tract received a thinning. Eleven years later (1998) the upland portion of the tract, consisting of ## acres, received another thinning. From 1998 till the present the tract has seen no major harvesting activity. The predominant timber types currently on the property consist of a mixture of mature loblolly and shortleaf pine along with a variety of bottomland hardwoods.

Soils: The major soil associations found on the property are the #####-##### association and ##### soils. The #####-##### association consists of deep, gently undulating to hilly, moderately

well drained, slowly permeable soils on uplands. These soils formed in stratified loamy and clayey sediment. Slope ranges from 1 to 20 percent. The site index of this soil, for loblolly pine, ranges from 86-88, which is a good site index (site index is used to evaluate the productivity of the stand, and is defined as the estimated height of a specific tree species at age 50). The ##### soils consists of deep, nearly level, loamy moderately well drained, moderately permeable soils on bottomlands. These soils formed in recent sandy and loamy alluvium. The ##### soils are subject to flooding. Slope is generally less than 2 percent. The site index for loblolly pine on this soil is 100, which is very good.

Water: ##### Branch borders the tracts northeastern side and ##### Creek borders the tracts southeast side. ##### Branch appears to be an intermittent stream while ##### creek maintains water almost year round. It is recommended that all Best Management Practices (BMPs) be followed to protect water quality during all forestry operations.

Wildlife: There are several habitat types that are present on this #####-acre tract. The upland site is predominately mature pine trees while the lower site supports a hardwood/ pine mix. A powerline ROW crosses the tract, providing additional habitat diversity. The branch and creek areas provide yet another habitat for wildlife while also providing a water source for such wildlife. The diversity and interspersion of habitat present on the property will attract a wide variety of wildlife species. The goal should be to attract, hold and benefit, as many species as possible. For additional wildlife management assistance, contact #####, with the Texas Parks and Wildlife Department, at ###-###-#####.

RESOURCE RECOMMENDATIONS

Foresters may have varying opinions as to how each stand should be treated. Therefore, if the consulting forester you choose suggests other management procedures that do not conflict with your desire to manage timber and wildlife on your property, please do not feel bound to all of the suggestions mentioned in this plan.

Tract (134.5 acres): Establishing firebreaks along property lines would be a good practice to implement to reduce fire hazard. The stand is currently in good condition. Periodical monitoring of the stand should be done to ensure that losses due to beetles and other sources are minimized. There are several options open to you as a landowner for this tract. A conservative option would be to manage the tract for aesthetics and wildlife by simply maintaining firebreaks and boundary lines for the foreseeable future. With this option you do run an elevated risk of beetle attack on your pines. An economic option would be to conduct a timber stand improvement (TSI) in or near 2007. The tract can be evaluated for a TSI as the stand achieves crown closure, which will likely happen around 2007. The TSI would be done by thinning the entire tract. This thinning could mirror past thinning practices, targeting trees of poor form or poor quality for removal. This thinning operation will most likely be the last thinning to take place in this stand, simply due to the low number of residual stems after thinning. A variation of this method would be to thin the stand even heavier, to the point of establishing a seed tree regeneration method. This method involves harvesting all but 6-7 trees per acre. These residual trees are left for a seed source, allowing a naturally regenerated stand to establish itself. Once sufficient stocking has occurred the 6-7 “seed trees” per acre can be harvested, leaving a new pine forest to grow.

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are guidelines designed to minimize erosion, protect water quality, and maintain wildlife habitat during forestry operations. Use of BMPs in Texas is currently non-regulatory. However, voluntary compliance with BMPs could result in avoiding burdensome and costly government regulation associated with mandated forestry practices. Currently, about 89 percent of all logging operations comply with the voluntary BMP guidelines.

If in the future you should decide to sell your timber, encourage your consulting forester to solicit bids only from loggers who have been trained in Best Management Practices. All TFS offices have a list of these trained loggers. Your timber sale contract should specifically state that all Texas BMPs must be followed. If you have any further questions regarding BMPs, please contact the Texas Forest Service in ##### at ###-###-####.

Road System

The property is essentially landlocked and thus has no truly easy access from a major road system. Timber products company ##### surrounds three sides of this tract. A continued relationship with ##### would be encouraged to help facilitate access to this tract for forestry practices.

Property Boundaries

The property boundaries were last marked with yellow paint in 1983. ##### boundaries are well maintained and are located on 3 sides of the tract. Though it is not difficult to determine the bounds of this #####-acre tract, it would be in the landowner's best interest to maintain all lines with purple paint, as the state of Texas recognizes purple paint as a no trespassing indicator.

MAPS

**Texas Forest Service
Grid Block Map
(General Location Map)**

**Texas Forest Service
Timber Type DOQ Map
(Tract/Stand Map)**

• Tract and stand acres are estimated using digitized aerial photos

Jasper County – Digital Soil Survey Map

APPENDIX

MANAGEMENT PRACTICES SCHEDULE

Name: _____

Tract: _____

Address: _____

Prepared by: _____

<i>Area</i>	Acres	Practice Description	Implementation Date*
Entire Tract	#####	Monitor for disease and insects, if you see anything suspicious contact the Texas Forest Service District Forester in #####.	Continual
Entire Tract	#####	Firebreaks and landlines should be maintained.	Continual
Entire Tract	#####	The tract should be evaluated for a possible last thinning. This thinning can either be done as it was in the past or heavier, in order to establish a seed tree regeneration method.	2007
		Contact the Texas Forest Service District Forester in ##### to re-evaluate and update management plan.	2008

See the Forest Calendar for months of the year to begin each recommended management practice.

Forest Calendar*												
Month	J	F	M	A	M	J	J	A	S	O	N	D
Tree Planting												
Fire Season												
Insect/Disease Monitoring												
Boundary Marking												
Site Prep. Mowing												
Timber Sales												
Herbicide												
Wildlife Food Plots												
Understory Burning												
Site Prep. Burning												
Pruning												
Transplanting												
Management Plan												

* The forest calendar is a general tool for forest landowners to use in proper planning of forestry related activities on their land.

**GUIDELINES FOR PREVENTION AND CONTROL
OF FOREST PESTS AFFECTING PINE TREES IN EAST TEXAS**

A tree or forest is exposed to many dangers during the 30 to 50 years or more of its life. During this long time period, destructive agents such as fires, storms, insects, diseases, droughts, floods and animals may damage, weaken or kill trees. Obviously no one can control the ravages of weather, but in the case of insect and disease problems, economic losses can be greatly reduced through an effective protection and prevention program. For anyone concerned about insect and disease pests affecting trees, the first step is to be knowledgeable about common pests that may be encountered. Second, trees and forests should be examined periodically for presence of these pests. Since pine is the most common and economically valuable tree in East Texas, the more important forest insect and disease pests are associated with pine trees. In general, hardwood tree species in East Texas do not tend to have serious insect and disease pests that cause widespread tree mortality. Hardwood tree pests most commonly affect the tree by causing defoliation, reduced growth, dieback or decline. In many cases, hardwood trees are most impacted by man's activities and weather.

GENERAL PROCEDURES

- Survey trees or forest stands periodically to look for the presence of pests or pest damage.
- If damage is noted or a pest is present, correctly identify the causal agent if possible.
- Consult with a forest pest control specialist if the pest's identity is unknown and to learn treatment options.
- Become familiar with common forest pests, their damage and their habits; apply preventative measures to avoid major pest problems.
- Practice good forest management as the preferred method to minimize most pest problems.

MAJOR PINE PESTS

Trees less than 10 years old:

Texas leaf-cutting ant (town ant)
Fusiform rust
Reproduction weevils
Red-headed pine sawfly
Tip moth

Trees greater than 10 years old:

Southern pine beetle
Engraver beetles (*Ips* spp.)
Black turpentine beetle
Annosum root disease
Black-headed pine sawfly

MANAGING FOR PINE PESTS

PEST	PREVENTION	DIRECT CONTROL
Texas leaf-cutting ant (town ant)	Inspect for ant colonies before planting; ant colonies are most common in sandy soils; apply control before planting.	Apply Volcano® Leafcutter Ant Bait, preferably 4-6 weeks BEFORE the trees are planted.
Reproduction weevils (Pales weevil, pitch-eating weevil)	For sites logged after June 1, delay planting one year.	If planting within 6 months of harvest, consider purchasing seedlings treated with the insecticide Pounce®.
Pine tip moths (Nantucket and sub-tropical pine tip moth)	Maintain healthy, vigorous growing trees; consider seed tree or shelterwood harvests.	Spray high value trees with an insecticide such as Pounce®; control in forest plantations usually is not needed.
Pine sawflies (red-headed and black-headed pine sawfly)	Maintain healthy, vigorous growing trees.	Spray high value trees with an insecticide such as Sevin or Diazinon; control in forests or young plantations usually is not needed.
Southern pine beetle	Maintain healthy, vigorous stands using good forest management practices; harvest and regenerate mature stands; expect lightning-struck trees to be attacked; hazard rate stands for susceptibility.	For active, expanding infestations, control using cut-and-remove, cut-and-leave or the inhibitor verbenone; spray high value trees with an approved insecticide; pile and burn infested material.
Black turpentine beetle	Maintain healthy, vigorous stands using good forest management practices; avoid damage to residual trees when harvesting; expect lightning-struck or damaged trees to be attacked.	Remove infested trees; spray high value trees with an approved insecticide; pile and burn infested material.
Engraver beetles (<i>Ips</i> spp.)	Maintain healthy, vigorous stands using good forest management practices; avoid damage to residual trees when harvesting; expect lightning-struck or drought-stressed trees to be attacked.	Remove infested trees; spray high value trees with an approved insecticide; pile and burn infested material.
Fusiform rust	Cull rust-infected seedlings before planting; avoid planting slash pine; plant rust-resistant pines in high hazard areas; avoid fertilization and prescribed burns until after age 10.	Treat seedlings in nurseries with an approved fungicide; remove rust-infected trees when thinning; if annual mortality volume exceeds annual growth volume, harvest and regenerate the stand.
Annosum root disease (also attacks eastern red cedar)	Thin forest stands during summer months; delay thinning on high hazard sites (deep, sandy soils); conduct controlled burn twice before and once after thinning; plant high hazard sites at wide spacing to delay thinning.	When thinning stands on high hazard sites, treat fresh stumps with borax (Sporax); if annual mortality volume exceeds annual growth volume, harvest and regenerate the stand.

TIMBERLAND DECISION SUPPORT SYSTEM

The Texas Forest Service has developed a financial planning tool on its website (<http://tfsfrd.tamu.edu>) for landowners to use when considering timber as an investment. This tool explains basic financial concepts used in forestry, provides a calculator for determining expected returns given certain costs and revenues, and even includes a loblolly pine growth and yield simulator. The *Directory of Forest Products Industries in Texas* is also located at this site to inform you of possible marketing opportunities for your wood products.

WATER QUALITY MANAGEMENT PLANS

Water Quality Management Plans provide landowners with an easy way to manage their forest resources to protect water quality. These state certified plans explain which Best Management Practices will be used during forest management. In the event that a water quality standard was violated, the landowner would not be held accountable. It should be noted that this Stewardship Plan may also be certified as a Water Quality Management Plan through the Texas State Soil and Water Conservation Board if the proper information is included.

TEXAS REFORESTATION AND CONSERVATION ACT

The Texas Reforestation and Conservation Act (Senate Bill 977) was a very important piece of tax legislation. It encourages private landowners to invest in reforestation after harvest, sound management that protects water quality and critical wildlife, and timber production. This legislation finally allows forest landowners to receive many of the same tax incentives that agriculture already enjoys. Landowners can obtain a 50% reduction in their appraised land value after a final harvest if they plan on regenerating the site again for commercial timber production. This special appraisal will expire on the tenth anniversary of the date of harvest.

This act also provides for reduced appraisal of special forested zones. Aesthetic Management Zones, Critical Wildlife Habitat Zones and Streamside Management Zones all qualify for a 50 percent reduction in timber valuation. The Chief Appraiser cannot deny a landowner this special appraisal without first obtaining a letter of zone determination from the Texas Forest Service.

THREATENED AND ENDANGERED SPECIES

Threatened and endangered species are protected under the federal Endangered Species Act and can impose restrictions on a landowner's property. The red-cockaded woodpecker (RCW) is the primary endangered species in East Texas and can occur in long rotation pine forests. Landowners whose property is adjacent to National Forests should be aware of the possibility of attracting this endangered species onto their property. Good forest management can lead to improved habitat preferred by the red-cockaded woodpecker.

The Safe Harbor Program can help protect private landowners from additional land use restrictions due to endangered species. This voluntary program allows landowners to sign up with a certain baseline of birds determined from a field survey by the Texas Forest Service or the Texas Parks and Wildlife Department. The landowner then must practice good forest management, which will provide nesting and foraging habitat for their group(s) of RCW's, if any. Landowners are only responsible for maintaining their baseline of birds, not any additional ones that they might attract.

When it is time to harvest timber, the landowner must notify the Texas Forest Service or Texas Parks and Wildlife 45 days in advance, so groups of RCWs can be relocated.

SUPPLEMENTAL FOOD PLOTS

Supplemental food plots provide a highly nutritious food source that can be beneficial to many species of wildlife. The establishment of locally adapted annual (spring and fall) or perennial forages on suitable soils provide supplemental foods and cover during critical periods of the year. During the dry summer months, as plant growth slows nutrient levels in native vegetation is much lower than when the plants are actively growing in the spring. For this reason, summer is often the most stressful time of the year for wildlife, especially for white-tailed deer. High protein supplemental forage can help increase fawn survival, increase body weights, and improve antler development.

The shape, size, location, and percentage of the total land area should be based on the requirements for the target species (e.g. 2-5% of area for white-tailed deer) and should meet the goals of a comprehensive wildlife management plan. A minimum of 1% of the acreage should be planted in both winter and summer food plots. It is always best to establish a variety of species to provide more diversity and to insure against the failure of one type of planting. Livestock should always be excluded from small plots.

Forage quality native vegetation can be greatly improved by fertilizing preferred browse plants such as honeysuckle, greenbriar and blackberry. Fertilization extends the growing season of most plants longer into the summer. By maintaining this growth, the plants stay palatable and have higher nutrient levels, and protein content, longer into the summer than the surrounding vegetation. By applying a balanced fertilizer in the spring and then applying ammonium nitrate or a high nitrogen fertilizer at 60-day intervals during the growing season, palatability and protein levels can be increased.

Managing the habitat for proper nutrition should be the primary management goal. Food plots should not be considered a cure-all to correct habitat deficiencies. Plantings should be considered as supplements to well managed natural habitats. Supplemental feeding should always be combined with population management, or the resulting artificially higher numbers of animals will have a negative impact on native plants. Consult with the NRCS, TAEX, TPWD, and local seed dealers for food plot mixtures suitable for your area, as well as local conditions. Plant according to soil tests and fertilize as necessary.

CHAPTER XIV: APPENDIX F - SAMPLE EASEMENT LANGUAGE

Baseline Documentation

Baseline documentation is a snapshot of property in words as well as pictures. It is critical information needed to effectively monitor and enforce the agreements established between the landowner and the easement title owner relative to the future uses and management of the property in perpetuity.

The Internal Revenue Code requires baseline documentation whenever a landowner wishes to secure any federal tax benefits for the donation or bargain sale of a conservation easement on his or her property.

The State of Texas requires baseline documentation because the state is acquiring a legal obligation to protect the resource described in the conservation easement once it accepts and easement on the property through the Forest Legacy Program. It also gives the state the ability to assess positive or negative changes on the property relative to the easement purposes and helps provide a foundation for decisions regarding long-term protection and legal enforcement of the easement.

The baseline documentation will need to be prepared as of the date of the conservation easement transaction and should be updated when change occurs. As with every conservation easement, baseline documentation is also unique in its terms but generally the following materials should be included in the documentation process:

- Legal description of property
- Map of property location, map of easement location, map of surrounding area, map of areas of reserved rights, special features, and locations of photo points on the property
- Survey
- Contact information for project personnel, land managers, landowners, easement preparers, appraisal preparers, and adjoining property owners
- A copy of the executed conservation easement
- Photographs and physical and scientific value descriptions of the condition and management status of the conservation values needing protection such as natural, biological, and ecological resources, wildlife habitat, productive agricultural or timber lands, wetlands, riparian areas, and historical structures

Note: physical photographs are preferred over digitally stored images because future technological changes could render them unavailable

- Photographs and descriptions of the areas of development on the property such as roads, fences, barns, and other improvements situated on the property in relation to or within the easement area
- An acknowledgement statement signed by the state and the owner confirming that the property condition described in the baseline inventory accurately depicts the property.

Properties for consideration as Forest Legacy projects in Texas will require that the landowner arrange for the state or a third party to conduct the baseline documentation but that the landowner will be financially responsible for this process. The state will have the right to review and approve the documentation if it is prepared by either the landowner or a third party. The original version of the baseline documentation should be stored with the Texas Forest Service in a safe storage facility. Copies should be on file with the landowner and any third party entity that assisted in the documentation process.

SAMPLE EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT, made this ____ day of _____, 20__, by and between _____, herein referred to as the Grantor and the [State] Forestry Agency, herein referred to as Grantee. The Grantor and the Grantee are jointly referred to as the "Parties".

WITNESSETH:

PURPOSES. The purpose of this easement is to effect the Forest Legacy Program in accordance with the provisions of Title XII of the Food, Agriculture, Conservation and Trade Act of 1990 (16 U.S.C.-210c) as amended, on the herein described land, which purposes include protecting environmentally important forest areas that are threatened by conversion to non-forest uses and for promoting forest land protection and other conservation opportunities. The purposes also include the protection and preservation of important scenic, cultural, fish, wildlife and recreational resources, riparian areas, and other ecological values, and to ensure that the Property is available for the sustainable and cost effective harvesting of forest products in a silviculturally sound manner, all of which meet the objectives of the Forest Legacy Program. The purposes also include encouragement of management for and the production of economically sustainable and commercially viable forest products consistent with the other purposes of this easement and also include the long-term protection of the Conservation Property's capacity to produce economically valuable forestry products, and the encouragement of management of the property for industrial or commercial forestry only if consistent with the other purposes of this Conservation Easement.

The Parties agree that the purpose of this easement is also to assure that the Property herein described as Schedule "A" and hereby encumbered as set forth in Schedule "B" will be retained forever in its existing natural, scenic and forested condition and to prevent any use of the Property. The Grantor intends that this easement will confine the use of the Property to such activities specifically enumerated herein which are consistent with the overall purposes of the easement by protecting the following particular values of the easement area: specifically the scenic, cultural, fish, wildlife and recreational resources, riparian areas and similar ecological values.

The GRANTOR specifically reserves the right to use the Property herein encumbered by the easement for forest management and non-commercial recreation as herein defined and restricted.

Now, therefore, in consideration of _____, the Grantor, and its assigns, grants, conveys and assigns a PERPETUAL CONSERVATION EASEMENT, in over and upon the herein described Property. This easement shall constitute a servitude upon and shall run with the land in perpetuity. The GRANTOR covenants to abide by the restrictions and conditions stated herein.

The Property, which is subject to this easement, is more fully described by SCHEDULE A which is appended to and made a part of this easement agreement.

The easement terms, conditions, provisions and restrictions affecting the use and maintenance of the Property described in SCHEDULE A are set forth in SCHEDULE B which is also attached hereto and made a part hereof.

Any conveyance of the Property shall contain the following deed provisions:

The parties acknowledge that the Property is subject to an Easement Agreement granted by _____ by Easement Agreement dated _____, and recorded in the Registers office of [county, state]. That portion of the easement agreement encumbering the Property is to be assigned herein to the [state] Forestry Division, and in consideration for such assignment, is taking third party rights of enforcement in the Warranty Deed.

The Property is depicted on the tract map shown as SCHEDULE C, which is appended to and made a part of this deed.

TO HAVE AND TO HOLD, this easement agreement is granted to the [state] Forestry Division and is assigned forever. The GRANTOR covenants that it is vested with good title to the Property in fee simple and has good right and title to convey this easement agreement. The GRANTOR further covenants for itself, its successors, and assigns that it will warrant and defend title to the herein conveyed easement agreement on behalf of the [state] Forestry

Division against all claims and demands whatsoever. The GRANTOR also covenants to comply with or to abide by the terms and conditions of this easement agreement.

IN WITNESS WHEREOF, the Grantor has cased these presents to be executed the day and year first above written.

WITNESS

WITNESS-

SCHEDULE "B"

EASEMENT AGREEMENT TERMS

PART I.

RESTRICTIONS ON THE USE OF THE PROPERTY

The Grantor covenants to abide by the following restrictions on the use of the Property.

- A. Subdivision. The Property as described in Schedule A cannot be subdivided.
- B. Structures and Improvements. Except as expressly provided in Part II herein, there shall be no building, structure, or other improvements of any kind, temporary or permanent, constructed or maintained on the Property including, but not limited to, houses, towers, satellite dishes, windmills, wind turbines, sheds, tanks, mobile homes, dams, impoundment's and communication equipment.
- C. Mineral Development. No mining or mineral development shall be permitted in, under or upon the Conservation Area including, but not limited to, the development of minerals or common varieties or mineral materials such as sand, gravel, stone and clay, or the mining of organic materials such as peat. Drilling for and development of oil and gas shall be permitted. Such disturbance shall protect the property's conservation values and occur in no more than five locations within the Conservation Easement Area, each no greater than one (1) acre in size. The [state] Forestry Division shall be consulted prior to such activity. All oil and gas extraction procedures considered standard operating procedures by the [state] must be followed.
- D. Topography Modification. Changes in the existing general topography of the landscape or land surface of the Property, excluding minor changes as a result of activities permitted by the holder of this easement or for the purpose of fighting forest fires or responding to other emergencies that threaten human life and Property, are prohibited unless such changes were caused by the forces of nature.
- E. Waste Disposal and Hazardous Materials. No portion of the Property shall be used for dumps, landfills, or the storage or deposit of waste materials of any kind. Disposal on any slash and debris generated by forest management activities permitted under the easement shall be in accordance with applicable state law. Provisions for safe disposal of human waste at campsites is permitted, as consistent with State and local laws. In no event shall any effluent be discharged into surface waters.

- F. Industrial, Commercial and Residential activities. Except for forest management and recreational activities as defined in Part II herein, the use of the Property for industrial, commercial or residential activities is prohibited.
- G. Signs and Billboards. No sign or billboard shall be placed on the Property, except to state the name and address of the Property owner and manager; to advertise on-site activities which may be permitted on the Property.; to state participation in the Forest Legacy Program or the Tree Farm Program; to advertise the sale or rental of the Property; to identify trails, campsites and other recreational facilities or to control unauthorized entry or use as may be permitted herein. Signs shall be no larger than 4 square feet in area.
- H. Utility Rights-of-way. No utility rights-of-way shall be located within the easement area after the date of this instrument unless the authorized representative of the [state] Forestry Division approves them in advance and in writing. Generally, such approval will be withheld unless permissible utilities are located underground.

PART II. SPECIFIC RESERVATION BY THE GRANTOR

Subject to the expressed limitations and prohibitions of this easement, the Grantor reserves the right to use the Property for forest management and non-developed dispersed recreation, including hiking, hunting/fishing, camping, bird-watching, and others. This right can not be further conveyed.

- A. Forest Management. Given that Working Forest is the intent of the enabling Legislation, with the full intent that in pursuit of protecting and enhancing unique and important environmental values, these properties will continue to contribute to the forest-based economy. While other values will not be compromised, multiple-use will be a guiding principle. Grantee will not expect intensive timber management to be a dominant focus, however, some fairly intensive practices may be appropriate in certain cases where the forest needs to be re-established, such as with conversion to longleaf ecosystems. Given that these are privately owned properties and most central appraisal districts require proof of commercial forestry operations, Grantors – to maintain a fair property tax burden –may pursue timber objectives to the extent required to receive their timber-use appraisals versus market value. There are also forest health and protection issues that forest management will address.

The Grantor must submit to the State Forester within six months of executing this Agreement a comprehensive Forest Stewardship Plan (FSP). This FSP will include a statement as to the Grantor’s objectives for the forest resources on this property. It will address all the important resources on the property to be developed and protected, including biological as well as commercial timber, wildlife, water, and unique special resources. The FSP will include a map that shows forest types, biological, cultural, water, roads, trails, property boundaries and other special features. It will include an inventory of the timber, a harvest and reforestation plan, wildlife management plan, and plan to address biological and cultural resources. The FSP will address cultural practices for stand establishment and management in terms of intensity and frequency. The Plan will establish benchmarks to ensure the management program is on course to ensure sustainability of the forest and other biological resources. The FSP will address forest health, protection, and maintenance of roads, bridges, and property boundaries. The Plan will address recreational use of the property.

All timber harvesting and silvicultural practices will conform to the State Silvicultural and Best Management Practices to protect water quality. There will be a limit on size of clear cuts not to exceed 20% of the tract’s total acreage, and a minimum five year green-up in adjacent clear-cuts unless separated by stream side management zones of at least 200 feet in total width. The Grantor will have three years following harvest to reforest the site sufficient to meet TFS requirement for minimal stocking for the particular species or forest type. Grantor will grant ingress and egress to facilitate forest management and timber harvesting activities.

- 1. For the purposes of this instrument, a “clear-cut” has occurred when, immediately after timber harvesting on a forested site greater than five acres, the following conditions exist:

The average residual basal area of trees over 1” in diameter measured at 4.5 feet above the ground, is less than 30 square feet per acre; or,

The average residual basal area for trees over 1" in diameter, measured at 4.5 feet above the ground, is greater than or equal to 30 square feet per acre, and the average residual basal area of trees over 6 inches in diameter, measured at 4.5 feet above the ground, is less than 10 square feet per acre.

Except that, notwithstanding the existence of either of the above conditions, a clear-cut does not occur, when immediately after timber harvesting, the site has a well distributed stand of seedling size trees (0.1" – 1.0") dbh of at least 5 feet in height. A well-distributed stand of trees means that 60% of the harvest area is adequately stocked.

Within any ten (10) year period, no more than twenty (20) percent of the total easement area may be clear-cut unless approved in writing by the [state] Forestry Division. The start of the initial 10-year period would begin on the date the first clear-cut commences after the conveyance of this easement.

Notwithstanding this provision, the Grantor shall have the right to cut and remove, by clear-cut methods, dead, dying and diseased trees which result from natural occurrences, including wildfire, disease, insect infestation and blowdown, to prevent or mitigate greater harm to the silvicultural, scenic or recreational values of the easement area.

2. Any area that has been clear-cut shall be adequately restocked by natural or artificial means within five years of the date of harvesting pursuant to the then current requirement and guideline of the [state] Forestry Division for the particular species or forest type.
 3. Timber harvesting or cutting along the course of or adjacent to any natural or artificial waterway, pond, lake, stream, or river will follow the guidelines set forth in the Best Management Practices of the [state] Forestry Division.
 4. This forest management reservation includes the following activities conducted on the Property in a manner which complies with the provision of the easement and which is consistent with the standards, customs, and practices that are current and generally accepted by professional forest managers: timber cruising; timber harvesting and regeneration of forest stands as qualifies herein, reforestation process; mechanical site preparation, chemical site preparation, fertilization, tree planting; pesticide spraying for forest insect and disease control; pruning; and construction and maintenance of necessary log landings, skid trails, haul roads and land management roads. Land management roads are defined as a route or track consisting of a bed or exposed mineral soil, gravel or other surfacing material constructed for, or created by the repeated passage of motorized vehicles and used primarily for forest management activities, including associated bridges, culverts and log yards, but not including skid trails, skid roads and haul roads. No trails or roads shall be paved or treated with a petroleum derivative or concrete wearing surface. The Grantor will maintain any drainage structure such as culverts, bridges, or water-bars constructed on trails and roads as long as the said trails and roads remain open for use.
 5. Should the grantor determine that the expressed purposes of the Easement could better be effectuated by the conveyance of an additional easement, the Grantor may execute an additional easement to that effect, provided that the conservation purposes of this Easement are not diminished thereby and that a public agency or qualified organization accepts and records the additional easement. Should the Grantor determine that the expressed purposes of this Easement could be better effectuated by the conveyance of an additional easement, the Grantor may execute an additional easement to that effect, provided that the conservation purposes of this Easement are not diminished thereby, as determined by the Grantee in writing, said determination not to be unreasonably withheld, and that a public agency or qualified organization accepts and records the additional easement.
- B. Non-Commercial Recreation. Non-commercial recreation is permitted on the Property in accordance with all State laws and regulations in a manner which complies with the purposes, goals and provisions of this easement agreement and which is consistent with practices that are generally accepted by professional resource managers to protect and promote the natural resources. For purposes of this easement, noncommercial recreation is defined as non-developed dispersed recreational activities, including, but not limited to; camping, hunting, trapping, fishing, hiking, skiing, biking, boat launching, and snowmobile use. Use of the Property by

commercial guides and by customers of commercial sporting camps may be permitted by Grantor. The permission of the Grantor shall not be deemed a violation of this paragraph.

With respect to noncommercial recreational activities:

1. The Grantor may operate, construct, reconstruct, maintain, repair, remove, replace and relocate recreational use roads, hunting cabins, trail systems and parking areas, provided, that culverts, waterbars and use of gravel will be utilized to prevent and control erosion. However, no new recreational use road may be constructed or otherwise located within 50' of any pond or the high water mark of any natural river or waterway.
 2. Facilities associated with noncommercial recreational use shall be allowed, such as, but not limited to, trails, hunting cabins, outhouses/septic systems, signs, gates, railing, picnic tables and fire rings.
 3. Grantor may construct, reconstruct, maintain, repair, remove, replace and relocate trails on the Property as needed for recreational purposes.
 4. Grantor may charge fees for use of the Property for the recreational purposes of camping, hiking, hunting and fishing, and day use activities.
 5. Subject to the rights of the Grantee, the Grantor may restrict or prohibit the use of motorized vehicles within the easement area.
 6. The Grantor or the Grantee may restrict public use in certain areas where sensitive or unique natural resources are threatened by public use. Public use may also be restricted to avoid safety hazards resulting from active timber management operations and recreational uses such as hunting.
- C. Other. The Grantor retains the right to have located on the Property one and never more than one communication tower. Location and construction of access roads must met guidelines accepted by the [state] Forestry Division. The affected tower site cannot be more than .25 acres in size. The Grantor must return the access road and tower site to its original form and vegetation within 12 months after the site is abandoned or after the communication tower, for a period of at least one year, no longer fulfills its initial intended purpose. The Grantor must remove from the Property any communication equipment and material within 12 months after the site is abandoned or after the communication tower, for a period of at least one year, no longer fulfills its initial intended purpose.

PART III. USE OF THE PROPERTY BY THE STATE OF TEXAS

The [state] Forestry Division shall have the following rights:

- A. **Entry and Inspection.** To enter upon the Property to inspect for compliance with the terms of this easement, and otherwise administer use of the Property pursuant to the rights acquired hereunder. In exercising this right, the grantee may utilize motorized vehicles including, but not limited to, cars, trucks, all terrain vehicles, snowmobiles, helicopters and boats.
- B. **Access.** Any access to the easement area by the [state] Forestry Division shall be on reasonable advance notice to the Grantor except in cases of emergency.
- C. **Change in Management.**
 1. In the event of future reorganization of the [state] Forestry Division, resulting in the transfer of the functions and responsibilities of the Division to a comparable Department, or in event of future reorganization with the Division resulting in the transfer of the functions and responsibilities of the Division to a comparable division, the resulting division shall continue to exercise the right of the Division established hereby, and shall notify the Grantor of the transfer of function and responsibilities in the manner provided in Part V.J.4.

2. In the event that the director of the Division or of any successor agency forms the opinion that the ownership of this easement agreement, or the responsibility for management or monitoring of this easement agreement, might be better held or carried out by a different governmental agency, whose role includes promoting the purposes of the easement, the director shall notify the Grantor to that effect. The transfer or assignment shall be in recordable form and shall be recorded in the [state] Registry of Deeds.

PART IV. GENERAL TERMS AND CONDITIONS

- A. Duration of Easement. The Easement shall continue in perpetuity.
- B. The Grantor and Successors in Interest. All obligations of the Grantor under this easement deed shall also bind the Grantor's heirs, successors, agents, and assigns. All the Grantor who are parties to this easement deed, and all their heirs, successors, and assigns shall be jointly and severally liable for compliance with the terms and conditions of this easement deed.
- C. Violations and Remedies – Enforcement. Grantor shall use its best efforts to comply with each and every term and provision set forth in this easement. In the event that the Division deems the Grantor to be in violation of any portion of this easement, the Division will give the authorized representative of the Grantor written notice of the violation and a reasonable opportunity to cure the violation. Except for an emergency situation where there is an imminent threat of resource damage, a period of 30 days will generally be considered a reasonable opportunity to commence a cure of a violation. If, after notice and a failure by the Grantor to comply with the provisions of this easement if there is at any time a failure to provide the Division or its authorized representative, access to the Property, the Grantor hereby consents to and agrees that the Division shall have any or all of the following remedies:
 1. The right to enter upon the Property to perform necessary work for prevention or a remediation of damage in the event of any failure of the Grantor to comply with the provisions of this easement deed, and to bill and collect from the Grantor the costs of such work including administrative, legal and reasonable attorney's fees.
 2. The Division, and its authorized representative, may enforce any term or condition of this easement deed with any legal or equitable remedy provided by law. All expenses incurred by the Division and its authorized representatives incurred shall be assessed against the Grantor, shall be owed immediately to the Division or its authorized representative, and the Grantor consents and agrees that this instrument may be introduced in any enforcement proceedings as the stipulation of the parties hereto with regard to all matters contained herein.
 3. Enforcement of the terms of this easement shall be at the discretion of the Division and any forbearance by the Division to exercise its rights under this easement in the event of any breach of any term by the Grantor shall not be deemed or construed to be a waiver by the Division of such term or of any subsequent breach of the same or any other term of this easement or of any of the rights of the Division under this easement. No delay or omission by the Division in the exercise of any right or remedy upon any breach by the Grantor shall impair such right or remedy or be construed as a waiver.
 4. The Grantor waives and defense of laches, estoppel, or prescription.
 5. Nothing contained in this easement shall be construed to entitle the Division or its authorized representatives to bring any action against the Grantor for any injury to or change in the Property resulting from causes beyond the control of the Grantor including, but not limited to, fire, flood, storm, and earth movement.
- D. Grantor's obligations of ownership. The Grantor retains all responsibilities and shall bear all costs and liabilities of any kind relating to the ownership, operation, upkeep, and maintenance of the Property, including the maintenance of insurance coverage, and payment of taxes.
- E. Subsequent transfers of ownership. Except for the restrictions of the subdivision of the Property pursuant to paragraph I (A), nothing in this easement shall affect the right of the Grantor to convey the Grantor's interests in the Property at any time in the future subject to the terms, covenants and provisions of this easement grant.

The Grantor agrees further to incorporate the terms of this easement as subjections and encumbrances by reference in any deed or other instrument by which they divest themselves of any interest in all or a portion of the Property.

- F. Rule of Construction. It is expressly understood and agreed that this easement is acquired pursuant to and in furtherance of both State and Federal laws, and notwithstanding any other provision of state law, that this instrument shall be construed to affect the purposes of the Federal Forest Legacy Program and the conservation purposes for which this easement was acquired.
- G. Effect on other laws. Nothing in this easement deed shall be construed to permit any activity which is otherwise prohibited by the laws, regulations or requirements of any Federal, State or local government of agency thereof having jurisdiction, regulatory or otherwise, over the easement area.
- H. State Stewardship Plant. In addition to the terms and conditions of this easement, the Grantor shall abide by the terms of a Stewardship Plan consistent with the provision of section 5(f) of the Cooperative Forestry Assistance Act of 1978, as amended, 16 U.S.C.2103a (f). The Parties agree that the Stewardship Plan shall be subject to revision in order to incorporate forest management practices that are prescribed under federal or state law. In the event of any inconsistency or conflict between the provisions of this easement and any Stewardship Plan, the easement shall prevail.
- I. Miscellaneous.
 - 1. Nothing herein is to be construed as an authorization by the Division to expend or obligate monies of the Division in advance of appropriation thereof.
 - 2. Invalidity of any of these covenants and restriction or anything else contained herein or any part thereof by judgments or court orders shall in no way affect the validity of any of the other provisions hereof which shall remain in full force and effect.
 - 3. Not later than ten days prior to any transfer, sale, conveyance or lease of all or any portion of the easement area, the Grantor must notify the Grantee of such action.
 - 4. Any communication, request or notice required or appropriate to be given under the Agreement shall be in writing and mailed via United States Mail certified or Registered, Return Receipt requested, or sent via a recognized commercial carriers, as, but not limited to Federal Express, which requires a return receipt delivered to the sending party. Said communications or notices shall be sent to the other party using the address on file with the State Tax assessor.

Addresses may be changed by notice as provided herein. Notice shall be deemed given when mailed as aforesaid, postage prepaid.

MATRIX: EASEMENT LANGUAGE

WFCE:	
State:	
Grantee:	
Grantor:	
Reviewer:	
Year:	
Acres:	
I. PURPOSES :	
Ambient Conditions	
Anthropogenic Pursuits/Concerns/Development	
Economic Viability	
Ecosystem Health	
Recreation	
II. RESTRICTIONS & RESERVED RIGHTS:	
Agriculture	
Change in Topography / Mining	
Chemicals	
Developments, Improvements, & Structures	
Environmental Control	
Forestry	
Infrastructure	
Recreational Activities	
Signs	
Utilities	
Waste Disposal	
III. PURPOSES INDEX:	
<u>Anthropogenic pursuits/concerns/development</u>	
Archeological resources	
Architectural Aspects	
Audible effect/ noise reduction	
Cultural (aspects, heritage)	
Historical (aspects, resources, listed on register)	
Open-space values	
Public education / Awareness	
Quality of life	
Restrict Development	
Scenic (resources, values, visual effect, natural beauty)	
Scientific value	

Ambient conditions

Air quality

Atmospheric effect

Water quality

Ecosystem health

Biodiversity / Natural diversity

Biological / Natural resources

Ecological processes

Forest health / wooded condition

Fragile / Imperiled habitat

Habitat for fish/Aquatic habitat

Habitat for plants

Habitat for terrestrial wildlife

Old growth

Rare species

Shoreline/riparian integrity

Soil productivity / quality

Wetland area

Economic viability

Agricultural Resources

Exploitable natural resources (minerals, gas, timber, peat)

Horticulture resources

Silvicultural resources / Quality of Timber Resource

Recreation

Public Access

Recreation opportunities (passive/active)

IV. RESTRICTIONS INDEX:

Infrastructure

ROADS

Bridge

Culvert

Impervious surfaces

New road construction

Parking lots

Roads (in general)

Roadway maintenance / upgrade

WATER

Dams

Impoundments

	Water delivery systems	
	Water storage & wells	
	Water rights	
Aircraft landing strip		
Barriers / Fences		
Septic System		
Tanks		
Trails		
<u>Utilities</u>		
Utilities (in general)		
Communication towers		
Electricity towers		
Emergency access		
Exterior Lighting		
Generators		
Public water works		
Right-of-ways		
Sewer systems (septic facilities)		
Solar facilities		
Utility lines		
Windmills		
Wireless Service Facility		
<u>Signs</u>		
Signs (in general)		
Billboards		
Boundary markers		
For Sale (property/commercial products on premises)		
Hunting / trespassing indicators		
Property indicators		
Road signs		
<u>Development, Improvements, & Structures</u>		
BUILDINGS (in general)		
BOAT-RELATED		
	Boat ramps	
	Boat storage facility	
	Boathouse	
	Docks	
CAMPING		
	Camp ground (in general)	

	Commercial camping accommodations	
	Group camp conference or activity structures	
	Lean-tos	
	Outhouses	
	Recreational camping	
	Research-related camping	
	Warming huts	
COMMERCIAL & INDUSTRIAL		
	Commercial / Industrial development	
	Maple sugar house	
	Sawmills	
	Windmills	
DEVELOPMENT RULES		
	Development rights (density)	
	Subdivision	
HOUSES		
	Residential development / structures	
	Swimming pool	
	Temporary Dwellings	
	Tennis court	
	Trailers	
STORAGE STRUCTURES		
	Barn	
	Garages	
	Machine sheds	
	Out buildings	
	Sheds	
	Storage facilities	
OTHER		
	Checkpoints	
	Forest management camps	
	Livestock corrals	
	Logging camps	
	Satellite dishes & Antennae	
	Size limitations on development	
	Temporary Forestry Structures	
<u>Recreation activities</u>		
Biking		
Birdwatching / Wildlife observation		

Boating	
Camping	
Canoeing / kayaking	
Fires (camping, cooking, warmth, etc)	
Fishing	
Handicapped access	
Hiking / Snowshoeing	
Horses	
Hunting / Trapping	
Jet skiing	
ORVs	
Public access	
Snowmobiles	
Traditional non-motorized recreation (backcountry skiing, etc)	
Vehicles	
<u>Waste disposal</u>	
Biodegradable material	
Burning	
Burying	
Dumping (ash, trash, garbage, hazardous / toxic waste)	
Injection	
Storage tanks	
<u>Change in Topography / Mining</u>	
Diking	
Ditching	
Draining	
Dredging / filling	
Drilling (oil, natural gas)	
Excavating	
Grading	
Mining (in general)	
Quarrying	
Removal of topsoil, sand, gravel, rock, peat, minerals	
<u>Agriculture</u>	
Agriculture (in general)	
Animal husbandry	
Feed Lots	
Floriculture	
Grazing	

Horticulture	
Sale of Products (pick-your-own, maple syrups, etc)	

Chemicals

Agrichemicals	
Biocides	
Chemicals (in general)	
Fertilizers	
Fungicides	
Herbicides	
Insecticides	
Pesticides	
Rodenticides	

Environmental control

Ecological restoration	
Erosion	
Genetically Modified Organisms	
Introduction of non-native animals	
Introduction of non-native vegetation	
Manipulation/alteration of water bodies	
Noise	
Non-Timber Vegetation removal	
Pollution of water bodies	
Special high-elevation	
Stocking of fish and game species	
Wildlife / Habitat disturbance	

V. BMPs

VI. Plans/Supervision/Oversight/Notification

Annual conference between Grantee/Grantor	
Baseline Assessment Report	
Consultation with State agencies	
Forest Management Plan, General Management Plan, Stewardship Plan required	
Approval of Plan required	
Amendments to management plan	
Time schedule covered in plan	
Silviculture prescriptions	
Notice to Grantee regarding timber harvests	

NATURAL RESOURCES CODE
TITLE 8. ACQUISITION OF RESOURCES
CHAPTER 183. CONSERVATION EASEMENTS

Sec. 183.001. DEFINITIONS. In this chapter:

(1) "Conservation easement" means a nonpossessory interest of a holder in real property that imposes limitations or affirmative obligations designed to:

(A) retain or protect natural, scenic, or open-space values of real property or assure its availability for agricultural, forest, recreational, or open-space use;

(B) protect natural resources;

(C) maintain or enhance air or water quality; or

(D) preserve the historical, architectural, archeological, or cultural aspects of real property.

(2) "Holder" means:

(A) a governmental body empowered to hold an interest in real property under the laws of this state or the United States; or

(B) a charitable corporation, charitable association, or charitable trust created or empowered to:

(i) retain or protect the natural, scenic, or open-space values of real property;

(ii) assure the availability of real property for agricultural, forest, recreational, or open-space use;

(iii) protect natural resources;

(iv) maintain or enhance air or water quality; or

(v) preserve the historical, architectural, archeological, or cultural aspects of real property.

(3) "Third-party right of enforcement" means a right provided in a conservation easement to enforce any of its terms granted to a governmental body, charitable corporation, charitable association, or charitable trust that is eligible to be a holder but is not a holder.

(4) "Servient estate" means the real property burdened by the conservation easement.

Added by Acts 1983, 68th Leg., p. 2438, ch. 434, Sec. 1, eff. Sept. 1, 1983.

Sec. 183.002. CREATION, CONVEYANCES, ACCEPTANCES, AND DURATION.

(a) Except as otherwise provided in this chapter, a conservation easement may be created, conveyed, recorded, assigned, released, modified, terminated, or otherwise altered or affected in the same manner as other easements.

(b) A right or duty in favor of or against a holder and a right in favor of a person having a third-party right of enforcement does not arise under a conservation easement before its acceptance by the holder and the recordation of the acceptance.

(c) Except as provided by Section 183.003(b) of this code, a conservation easement is unlimited in duration unless the instrument creating it makes some other provision.

(d) An interest that exists in real property at the time a conservation easement is created is not impaired unless the owner of the interest is a party to the conservation easement or consents to it.

(e) A conservation easement must be created in writing, acknowledged and recorded in the deed records of the county in which the servient estate is located, and must include a legal description of the real property which constitutes the servient estate.

(f) If land that has been subject to a conservation easement is no longer subject to such easement, an additional tax is imposed on the land equal to the difference, if any, between the taxes imposed on the land for each of the five years preceding the year in which the easement terminates

and the taxes that would have been imposed had the land not been subject to a conservation easement in each of those years, plus interest at an annual rate of seven percent calculated from the dates on which the differences would have become due.

Added by Acts 1983, 68th Leg., p. 2438, ch. 434, Sec. 1, eff. Sept. 1, 1983.

Sec. 183.003. JUDICIAL ACTIONS. (a) An action affecting a conservation easement may be brought by:

- (1) an owner of an interest in the real property burdened by the easement;
- (2) a holder of the easement;
- (3) a person having a third-party right of enforcement; or
- (4) a person authorized by some other law.

(b) This chapter does not affect the power of a court to modify or terminate a conservation easement in accordance with the principles of law and equity.

Added by Acts 1983, 68th Leg., p. 2438, ch. 434, Sec. 1, eff. Sept. 1, 1983.

Sec. 183.004. VALIDITY. A conservation easement is valid even though:

- (1) it is not appurtenant to an interest in real property;
- (2) it can be or has been assigned to another holder;
- (3) it is not of a character that has been recognized traditionally at common law;
- (4) it imposes a negative burden;
- (5) it imposes affirmative obligations on the owner of an interest in the burdened property or on the holder;
- (6) the benefit does not touch or concern real property; or
- (7) there is no privity of estate or of contract.

Added by Acts 1983, 68th Leg., p. 2438, ch. 434, Sec. 1, eff. Sept. 1, 1983.

Sec. 183.005. APPLICABILITY. (a) This chapter applies to any interest created on or after September 1, 1983, that complies with this chapter, whether designated as a conservation easement or as a covenant, equitable servitude, restriction, easement, or otherwise.

(b) This chapter applies to any interest created before September 1, 1983, if it would have been enforceable had it been created on or after September 1, 1983, unless retroactive application contravenes the constitution or laws of this state or the United States.

(c) This chapter does not invalidate any interest, whether designated as a conservation or preservation easement or as a covenant, equitable servitude, restriction, easement, or otherwise, that is enforceable under other law of this state.

Added by Acts 1983, 68th Leg., p. 2438, ch. 434, Sec. 1, eff. Sept. 1, 1983.

CHAPTER XV: APPENDIX G - ACRONYMS

AFY – Acre Feet per Year

AON – Assessment of Need

FIA – Forest Inventory Analysis

FL – Forest Legacy

FLA – Forest Legacy Area

FLP – Forest Legacy Program

GCP&M – Gulf Coast Prairies and Marshes

MBF – Million Board Feet

MMCF – Million Cubic Feet

NIPF – Non-Industrial Private Forest Landowner

SFSCC – State Forest Stewardship Coordinating Committee

TFLC – Texas Forest Legacy Committee

TFS – Texas Forest Service

TIMO – Timber Management Organization

TPWD – Texas Parks and Wildlife Department

TWDB – Texas Water Development Board

UASFLA – Uniform Appraisal Standards for Federal Land Acquisitions

USFS – United States Forest Service

UWGCP – Upper West Gulf Coastal Plains

WFCE – Working Forest Conservation Easement