



Texas Oak Wilt Suppression Project

Challenges

Accomplishments

&

Lessons Learned

Ronald F. Billings
Texas Forest Service



Oak Wilt

- Caused by the fungal pathogen *Ceratocystis fagacearum*
- This native pathogen affects oaks in some 20 eastern and mid-western states (worst outbreak is in Texas)
- Fungal spores vectored by insects, primarily nitidulid beetles
- Veinal necrosis is a diagnostic symptom on live oak leaves.

Oak Wilt in Texas



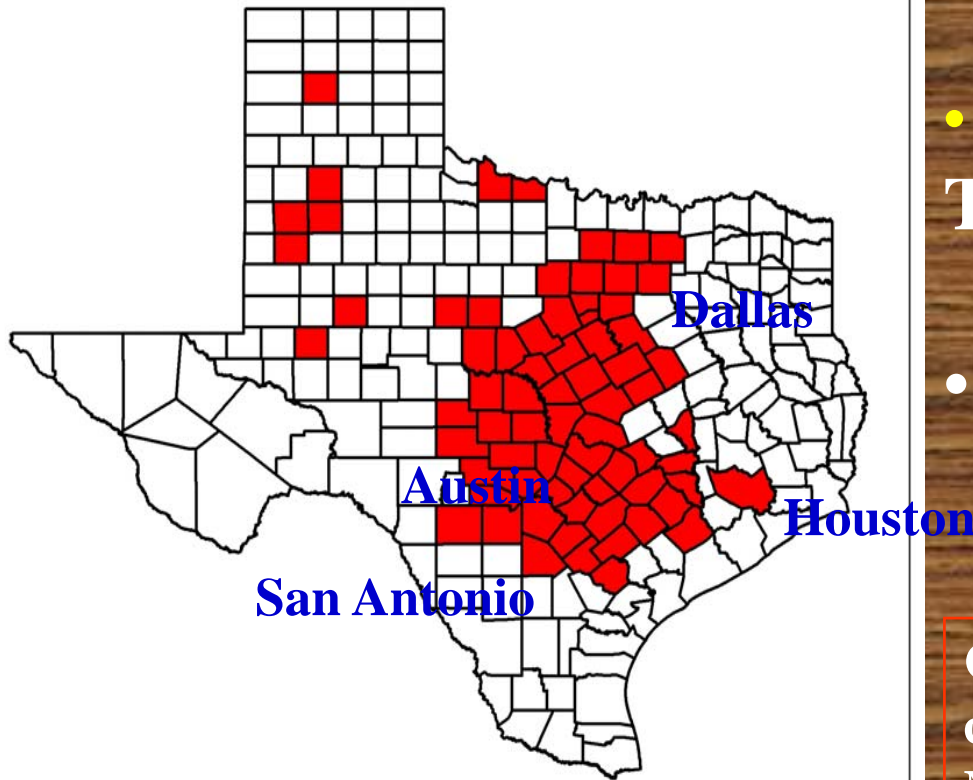
*Veinal necrosis
on live oak*

- Oak wilt first identified in Texas in Dallas in 1961.
- Prior to mid-1970s, live oak mortality in Central Texas attributed to other causes.
- Live oaks and red (Spanish) oaks are most severely affected by oak wilt in Texas.
- Only red oaks produce fungal mats.
- Most tree losses occur from pathogen spread through connected root systems (common in live oaks) or root grafts.



Oak wilt fungal mat on red oak

Distribution of Oak Wilt in Texas



- 64 counties in Central Texas
- 7 counties in West Texas

Counties in Texas with oak wilt cover an area larger than VT, NH, MA, CT, NJ, RI and MD combined.



Texas Oak Wilt Suppression Project

Since 1988



Texas Oak Wilt Suppression Project Background



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- Initiated in 1988, by TFS & City of Austin following a 5-year federal:state Oak Wilt Demonstration Project
- U.S. Congressman Jake Pickle was instrumental in providing initial federal funding



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- TFS staff in 1988 = one forester in Austin, urban foresters in Fort Worth and San Antonio.

Oak Wilt in Texas

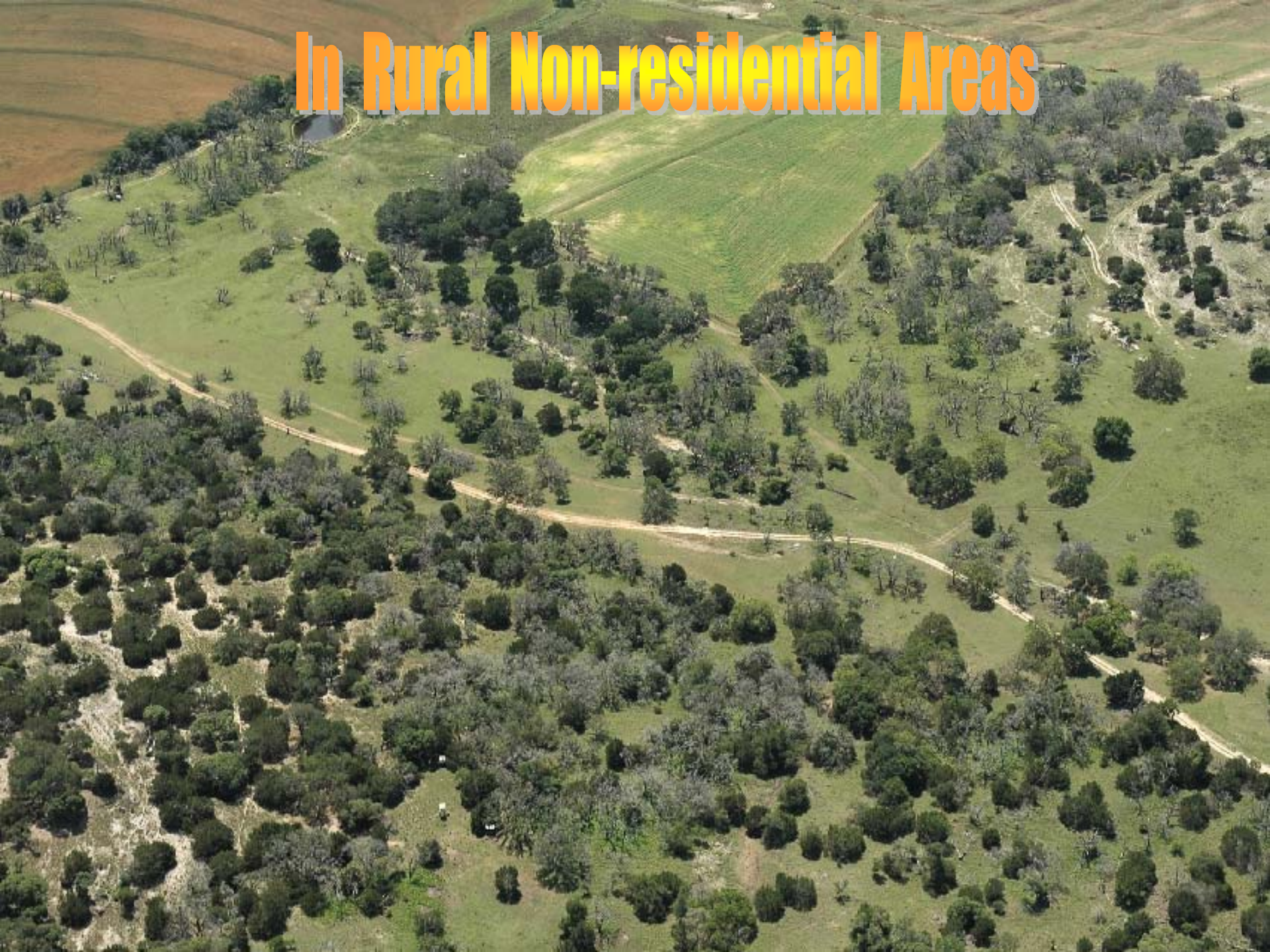
(Initial Perception = Small problem, easy to contain)



Oak Wilt in Texas: Actual Situation (A Huge Problem)



In Rural Non-residential Areas





In Rural Residential Areas



In Suburban Areas



In Urban Areas



In High Class Urban Areas

Oak Wilt Project Administrators

College Station - 2009



Bill Oates
Project Director

TFS Project Supervisors



Dr. Ron Billings
Administrative Coordinator

TFS Project Support Staff



Dr. Brad Barber
Technology Program Manager



Michelle Gonzales
FRD Business Associate



Sharon Klinker
FRD Business Coordinator

Oak Wilt Project - TFS Staff Foresters in Central Texas

2009



Jim Rooni
Regional Forester, Austin



James Houser
Oak Wilt Technical Coordinator
Austin



Carrie Smith
Granbury



Renee Burks
Meridian



Rob Grotty
Austin



Eric Beckers
Austin



Robert Edmonson
Johnson City



Mark Duff
San Antonio



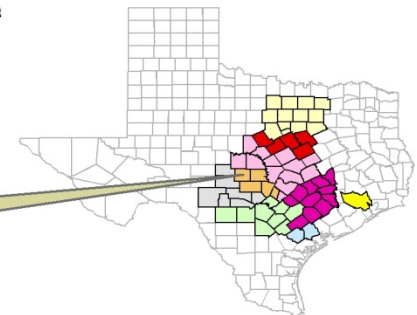
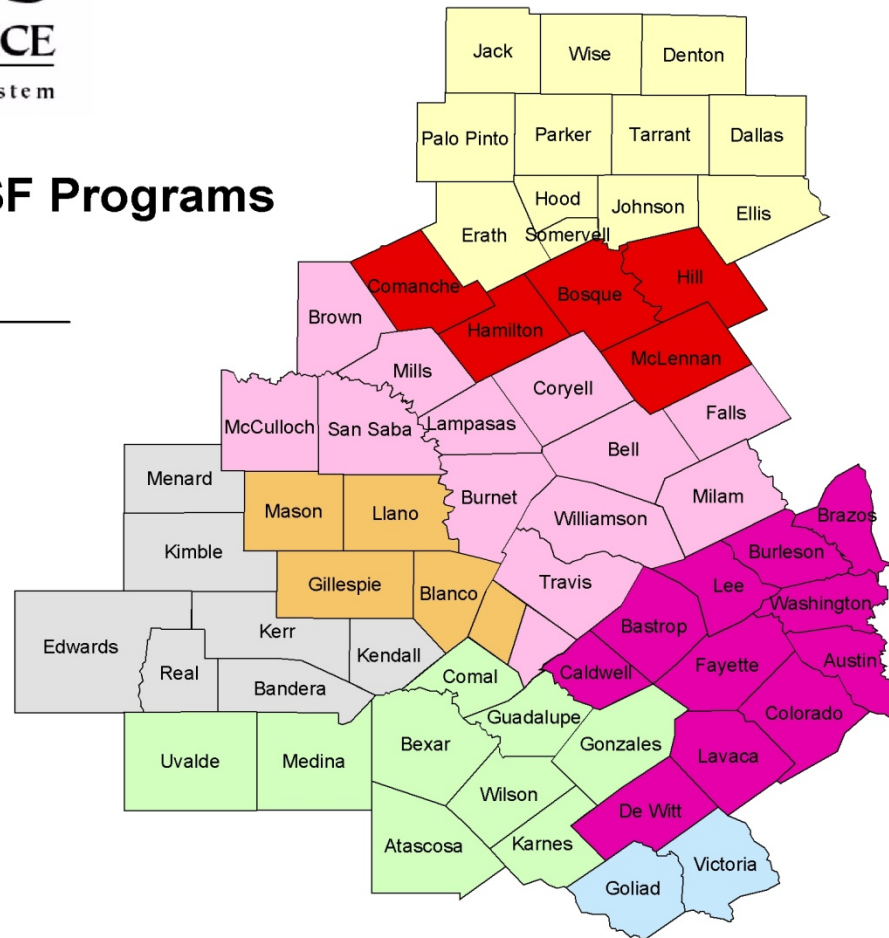
Daniel Lewis
La Grange



Central Texas FRD & SF Programs

Regional Coverage Areas

- Oak Wilt Suppression
- Forest Stewardship
- Forest Inventory & Analysis
- Urban & Community Forestry



Texas Forest Service
Central Texas Region

- | | |
|--|-----------------------|
| | Granbury Region |
| | Meridian Region |
| | Austin Region |
| | Johnson City Region |
| | Kerrville Region |
| | San Antonio Region |
| | LaGrange Region |
| | Houston Region |
| | Corpus Christi Region |



Dr. David Appel, Texas A&M University Forest Pathologist
Provides Technical Expertise

Oak Wilt Technical Advisory Board

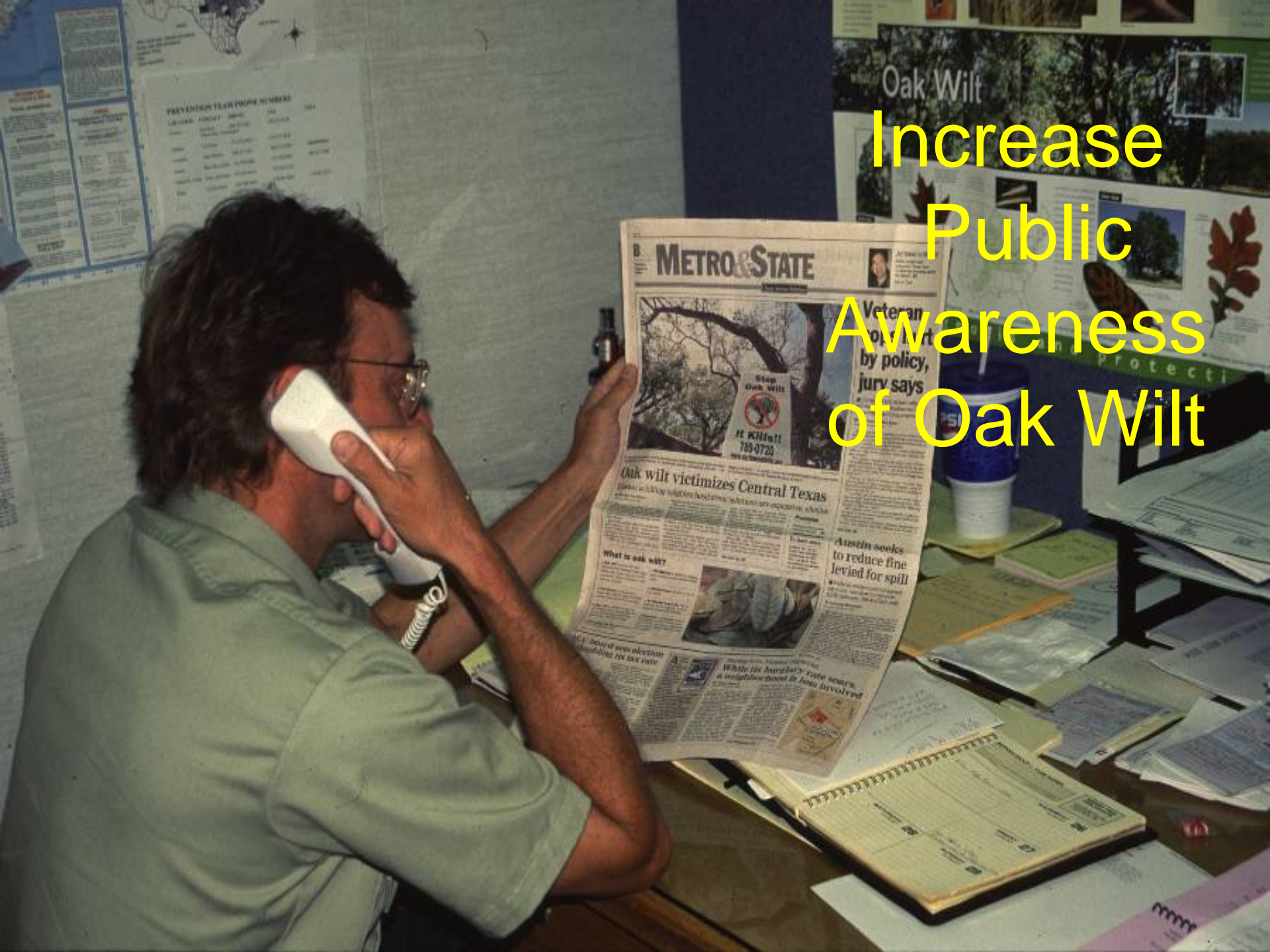
- **Dr. Dave Appel**, TAMU
- **Dr. Brad Barber**, TFS
- **Dr. Ron Billings**, TFS
- **Carrie Burns**, City of Lakeway
- **James Houser**, TFS
- **Gene Gehring**, Arborist
- **Shane Hrobar**, Bartlett Tree Service
- **Jim Rooni**, TFS
- **Brian Davis**, Texas AgriLife Extension
- **Dr. Forrest Oliveria**, US Forest Service
- **Dale Starkey**, US Forest Service
- **Damon Waitt**, L.B. J. Wildflower Center
- **Chris Dolan**, City of Austin



Project Objectives

- **Public awareness**
- **Detection and evaluation**
- **Technical assistance to landowners**
- **Cost shares for oak wilt control**
- **Train oak wilt specialists**
- **Develop and implement strategic plan**

Increase Public Awareness of Oak Wilt





Deal One-on-one with Affected Property Owners





Partnerships and Cooperation

- **LBJ Wildflower Center**
- **Houston Advanced Research Center (NBII)**
- **Cities of Austin, Lakeway**
- **Master Gardeners/Master Naturalists**
- **ISA Certified Arborists**



Oak Wilt Web Page

Since 2003

A cooperative project involving:

- Lady Bird Johnson Wildflower Center
- Houston Advanced Research Center
- National Biological Information Infrastructure
- Texas Forest Service
- USDA Forest Service, Forest Health Protection
- ISA, Texas Chapter

<http://www.texasoakwilt.org/>

<http://www.texasoakwilt.org>



Over 19,000
page views and
79,000 hits
per month

TEXAS OAK WILT INFORMATION PARTNERSHIP



Home
Oak Wilt in Texas
Oak Wilt FAQs
Oak Wilt Assistance
Vendor Directory
Stewardship
For Professionals
Additional Resources
Oak Wilt Symposium

WELCOME TO WWW.TEXASOAKWILT.ORG

Within these pages you will find an array of oak wilt resources covering everything from oak wilt biology to diagnosis, treatment, and management. Clicking the banner will return you to the Oak Wilt Information Partnership home.

The Oak Wilt Information Partnership is a collaborative project among the Texas Forest Service, the Forest Health Protection branch of the U.S. Department of Agriculture (USDA) Forest Service, the Central Southwest/Gulf Coast Information Node of NBII housed at the Houston Advanced Research Center, the Texas Chapter of the International Society of Arboriculture, and the Lady Bird Johnson Wildflower Center.

The goals of the Oak Wilt Information Partnership are:

- To deliver oak wilt educational materials to the general public;
- Facilitate communication among private and public stakeholders who have a vested interest in oak wilt; and
- Provide a venue for sharing information about oak wilt identification, management, and research.

What's New

Upcoming Workshops

June 19, 2007 Master Gardener-Oak Wilt Specialist-Brady, TX. Contact Jim Houser-TFS Oak Wilt Technical Coordinator (512) 339-4589 or Jerry Kidd-McCulloch County Extension Agent (915) 597-1295 for details. Click [here](#) for this workshop schedule.

June 28, 2007 Master Gardener-Oak Wilt Specialist-Granbury, TX. Contact Jim Houser-TFS Oak Wilt Technical Coordinator (512) 339-4589 or Carrie Atchison-TFS Staff Forester (817) 579-5773 for details.

Attention Oak Wilt Vendors Please read [this](#) and update your information [here](#) or [here](#).

Studies on Pruning Cuts and Wound Dressings for Oak Wilt Control (Used by permission. Copyright International Society of Arboriculture, Arboriculture & Urban Forestry 2007. 33 (2) 132-139) ([Download PDF](#))

National Oak Wilt Symposium

June 4-7 at the Austin Hilton Hotel. [Click here](#) to register for the NOWS Conference online or [click Here](#) to learn more.



OAK WILT SPECIALISTS OF TEXAS, INC.



🌳 Suppression Trenching
🌳 Alamo® Tree Injections

🌳 Disease Management Plans
🌳 Specialized Cedar Control

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stopoakwilt.com

GOD BLESS AMERICA

35 Oak Wilt Vendors Listed on Web Page

60 Oak Wilt Certified Arborists Listed on Web Page

ISA Certified Arborist Training



- 66 trained in San Antonio in 2006
- 51 trained in Austin and Dallas in 2007
- 23 trained in Austin in 2008



Master Gardener/Master Naturalists



Prevention



Systemic fungicides are available to protect individual trees from oak wilt, but these do not stop tree-to-tree spread.

State-of-the-art GIS and Data Management Systems



DOQQ Photo Maps of Treatments

TFS 6875

TEXAS FOREST SERVICE
Oak Wilt Suppression Project
Treatment Map



200 0 200 400 Feet



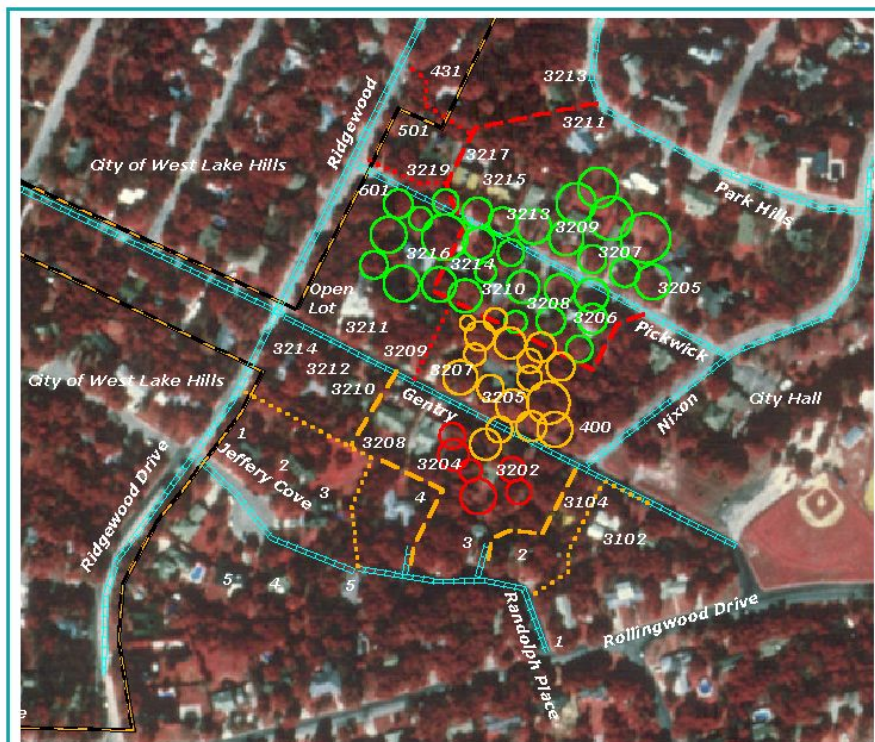
Trench - August 1999 - 1450'
Oak Wilt

Project: Marcum
County: Hays
Quad: Dripping Springs - NW
Loc: 290W, Bell Springs to Benjie
Prepared By: Eric Beckers
Last Revised: July 18, 2002

TFS Form 6875

TEXAS
FOREST SERVICE
The Texas A&M University System

Oak Wilt Treatment Plan



Map Scale
200 0 200 400 Feet



Map Legend

- Most Recent Spread - June 01
- Area of New Spread
- Previous Oak Wilt
- 2002 Primary Trench Location (52" depth - 980 ft.)
- 2002 Secondary Trench (52" depth - 850 ft.)
- 1998 Trench Locations (42" depth)
- 1994 Trench Locations (36" depth)
- Utility Trench Locations
- City Boundary

Project Information

Project Name: City of Rollingwood
Location: Gentry & Randolph
County: Travis County, TX
USGS Quad: Austin West
Latitude: N 30 16' 23"
Longitude: W 97 47' 23"
Prepared by: J. Rooni - TFS Austin
17-July-2002

Barrier Treatments

- In live oak motts, expanding oak wilt centers may spread through interconnected root systems up to 100 feet per year.
- Trenching (at least 4 feet deep) is required to halt oak wilt spread through interconnected root systems
- Roguing (removal of diseased trees within the trenched area) is recommended in rural areas



Most Common Trenching Equipment in Texas

Ripper Bar



Rock Saw



Back Hoe

52- or 60-inch Rock Saw



Total Trench Accomplishments 1988 - 2008

Centers trenched = 2,531

Feet of trench = 3.5 Million Feet (663 miles)

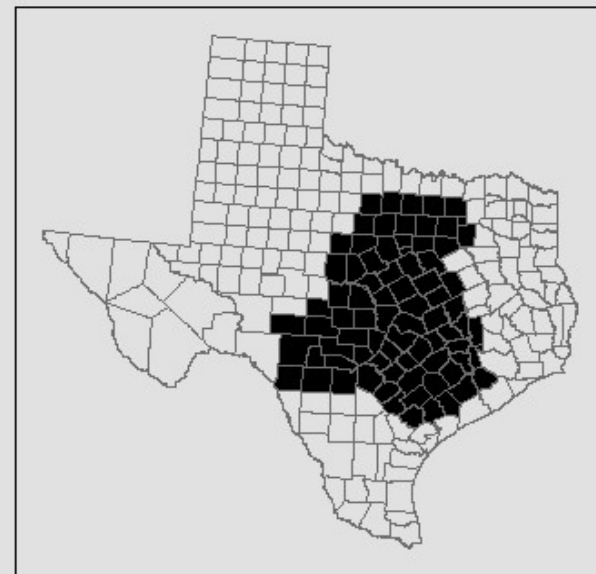
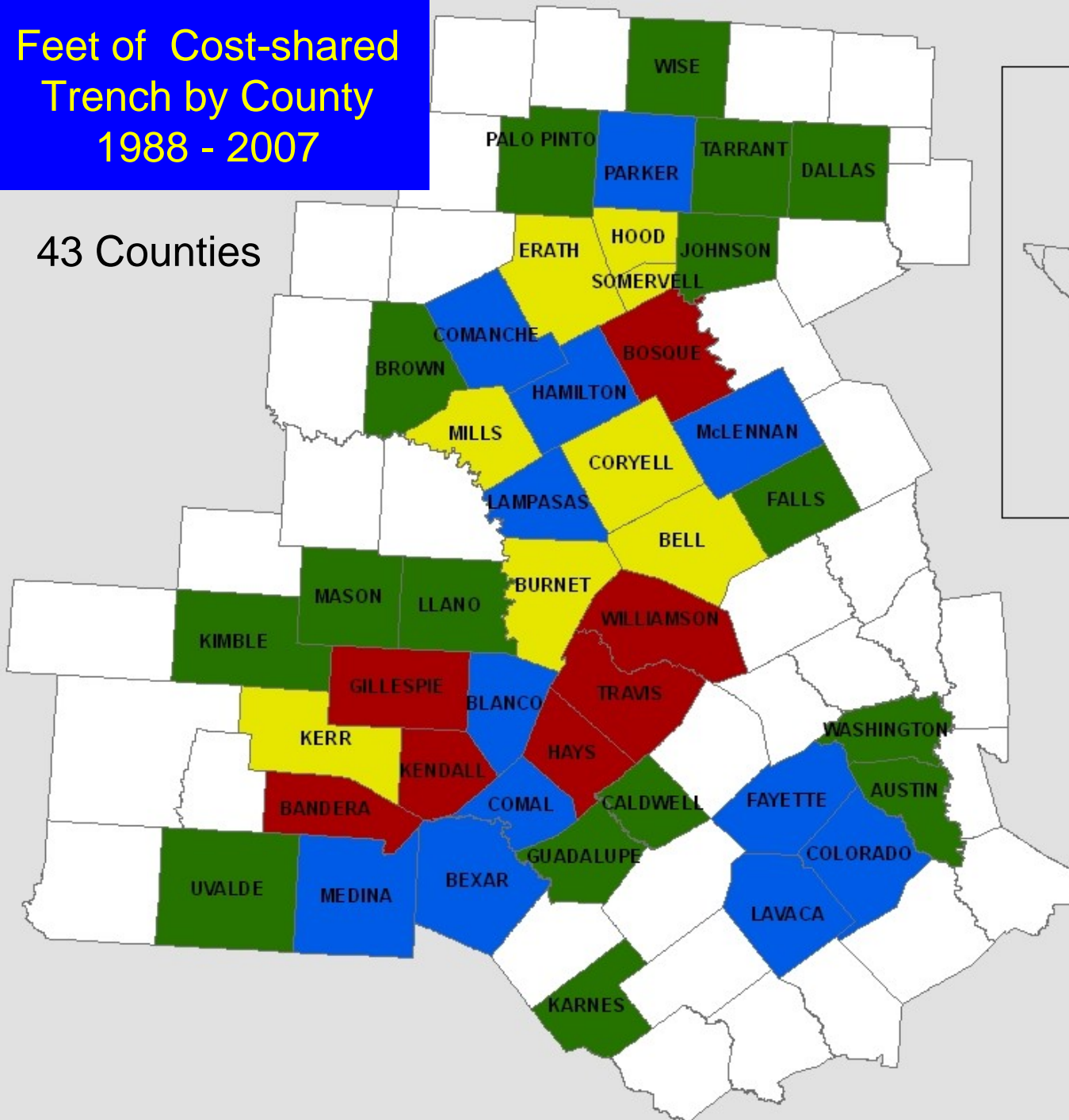
Total cost shares = \$ 2,528,437

Total costs = \$ 6,272,957

Average cost/foot = \$1.79

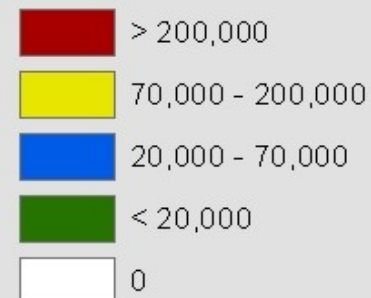
Feet of Cost-shared Trench by County 1988 - 2007

43 Counties



Legend

Feet of Trench



Feet of Trench by Land Use

1988 - 2008

Urban
Suburban
Rural Res.
Rural

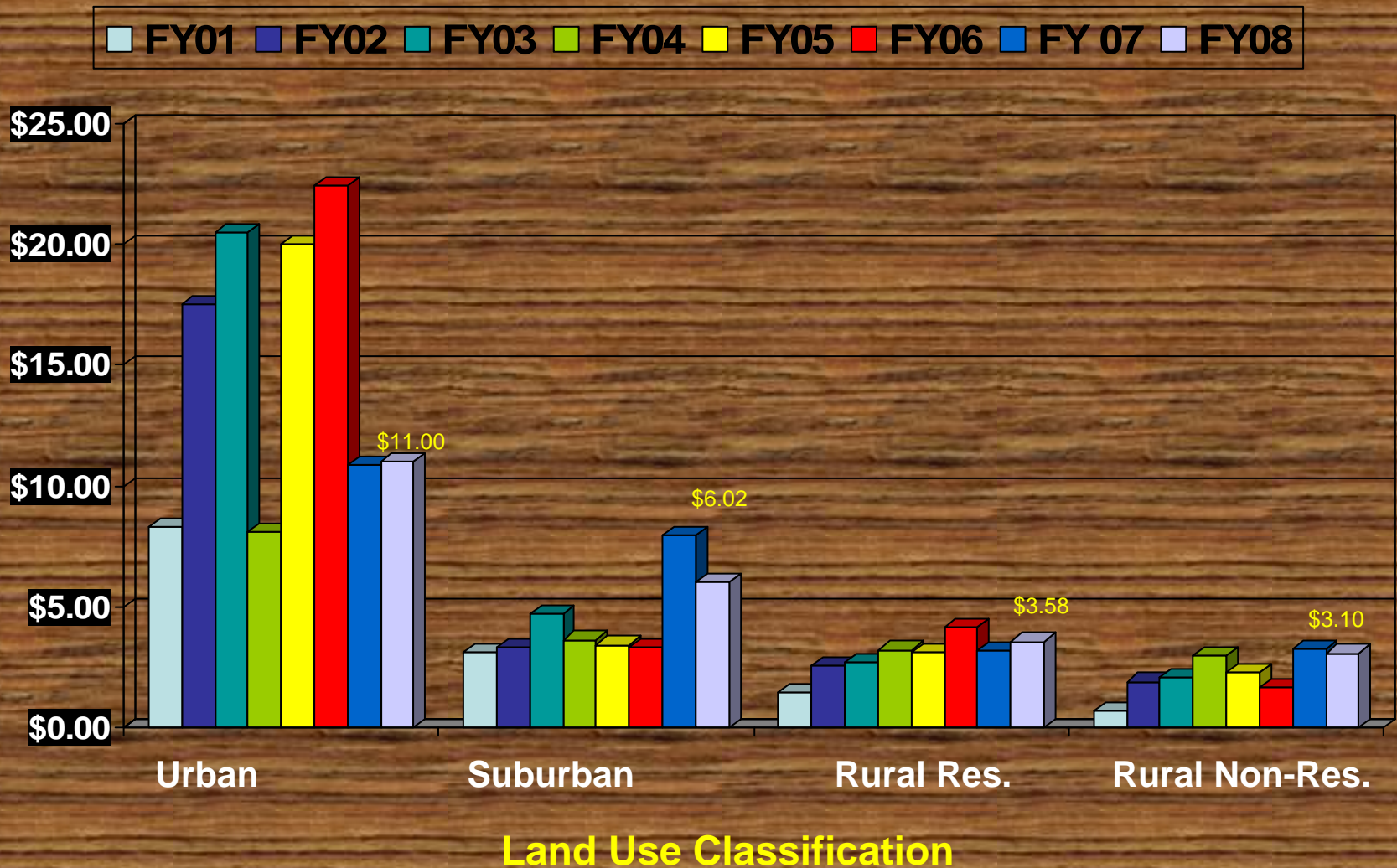


Feet x 1,000

Total = 3.5 million feet (648 miles)

Cost/Foot of Trenches by Land Use

Texas Oak Wilt Suppression Project



Project Benefits of Trenching

Given the documented 6:1 benefit:cost ratio over 20 years:

The **\$9.2 million** of federal funds allocated to the Texas Oak Wilt Suppression Project since 1988 has saved citizens of Central Texas some **\$55 million** in tree removal and replanting costs alone.



Long-range Strategic Plan

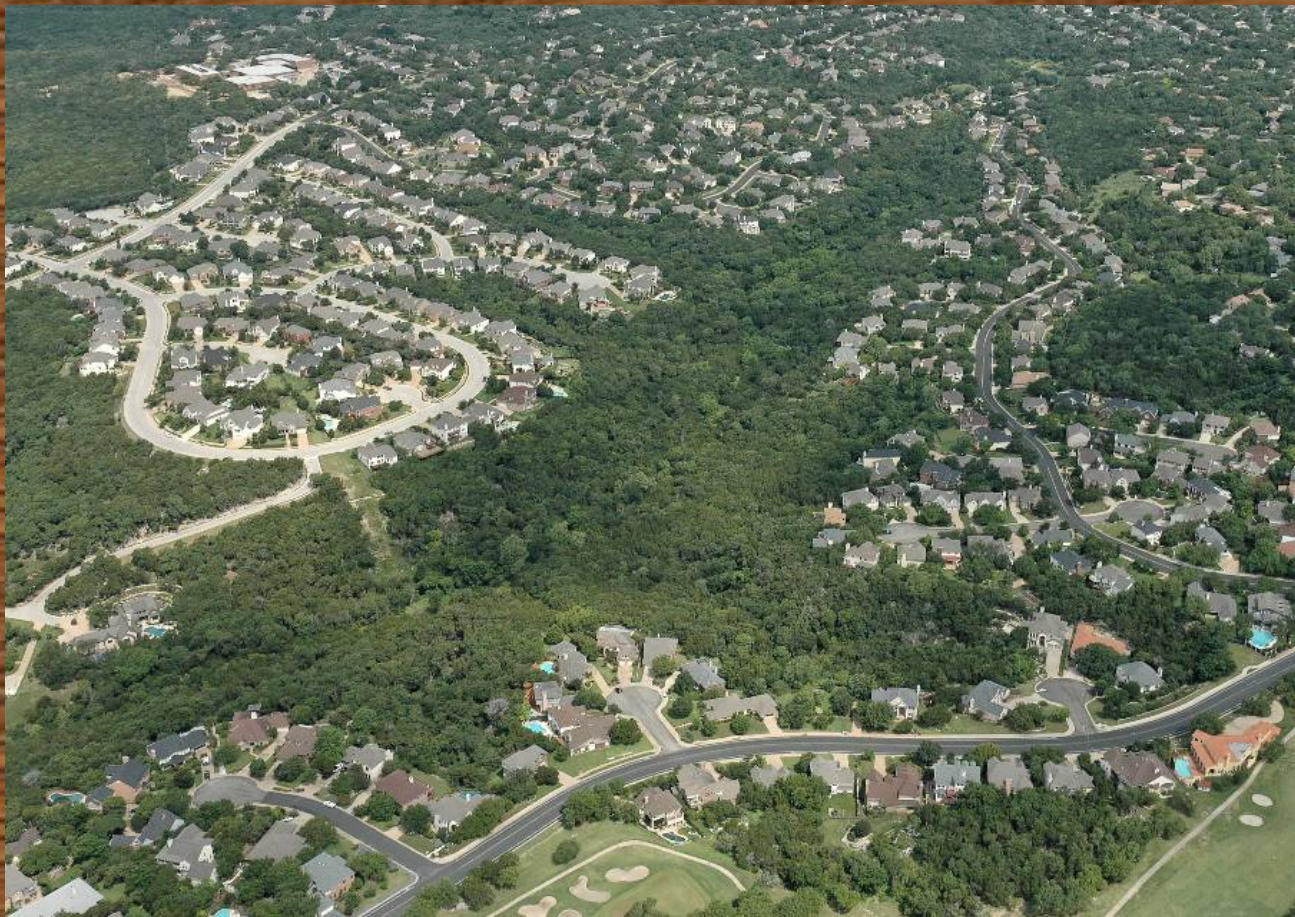
- Pursue integrated approach to pest management
- Identification of priority areas, partnerships
- Empower more cities & communities to address oak wilt
- Involve and train volunteer groups to assist with Project goals
- Plant resistant trees; diversify landscapes
- Increase state funding



Lessons Learned

About Oak Wilt

- Oak wilt impact has increased with a rapidly-increasing population, property fragmentation, and urban sprawl.



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- Trenches to 4 feet depth are effective in halting oak wilt spread, but failure (breakout) is always an option.
- Most breakouts occur within 2 years, but some may appear 10-12 years later.

About Oak Wilt Management

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- Neighborhoods have developed unique methods for combating oak wilt.



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- Neighborhoods have developed unique methods for combating oak wilt
- Partnerships are the key.
- A holistic, stewardship approach is best.



Conclusion

With the proper staff, dedication, resources, partnerships, knowledge, and long-term commitment, anything can be accomplished.



**The Texas Cooperative
Oak Wilt Suppression
Project is proof of that!**



Woodlands Conservation Initiative

- Beginning in FY 2008, another TFS program, the Woodlands Conservation Initiative, was established with funding from the US Forest Service.
- The primary goal is to integrate oak wilt management with other land resource programs, including forest stewardship, watershed protection, and wildfire prevention into one campaign to assist landowners with improved management and protection of Central Texas woodlands.
- Texas Forest Service is partnering with other State agencies and organizations to deliver this integrated program.

**Oak Wilt
Management**

Stewardship

Woodlands
Conservation
Initiative

**Watershed
Protection**

**Fire
Prevention**

Questions?

For more information on oak wilt or the
Woodlands Conservation Initiative, contact

Texas Forest Service
8317 Cross Park Drive, Suite 425
Austin, TX

Phone: (512) 339-4118
E-mail: jrooni@tfs.tamu.edu

**Thanks
for your
attention.**

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

