BASTROP COUNTY

Community Wildfire Protection Plan

In Accordance with Title I of The Healthy Forest Restoration Act of 2003

A collaborative community-based planning process to help protect life, property and natural resources coordinated by:

Bastrop County Office of Emergency Management

FireCAP, Inc.

TEXAS FOREST SERVICE
The Texas A&M University System

Approved June 23, 2008
Bastrop County Commissioners' Court

[1] *Excerpt from Healthy Forests Restoration Act – HR 1904.* The term 'community wildfire protection plan means a plan for an at-risk community that

1. Is developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State Agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity of the at-risk community.

2. Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure.

3. Recommends measures to reduce structural ignitability throughout the at-risk community.

Table of Contents

EXECUTIVE SUMMARY

The Bastrop County Wildfire Protection Plan is the culmination of many months of work by many organizations and individuals. It represents the expertise of fire officials from both the county and the State. The Plan presents a set of objectives and tactics which are believed to be a practical means of working towards improved safety from wildland fire for the residents of Bastrop County.

Major issues identified in the plan include:

1. **The increased growth of hazardous fuels with continued expansion of invasive red cedar and increases in flammable ladder fuels.**
2. **The increasing number of people and homes in the urban-wildland interface of the county which are at risk of wildfire;**
3. **The need for additional and improved wildfire protection in these areas of the county;**
4. **The adequacy of knowledge UWI residents have regarding wildfire threat and their role in preparing for a potential wildland fire;**
5. **The cooperative involvement of the agencies or organizations which will be tasked with implementing this plan; and**
6. **The funding necessary to successfully address the issues identified.**

Recommendations to address these issues fall into three basic categories:

1. **Public education actions which will involve property owners in efforts to improve their own wildfire protection situation;**
2. **Property development mechanisms which are recommended for inclusion in Bastrop county's subdivision ordinances; and**
3. **Activities which should be undertaken to strengthen the county's wildfire suppression capabilities.**

Some of the key actions suggested are:

1. **Classification of all county lands into Fire Regimes and Condition Classes.**
2. **Continued and increased homeowner education through FireCAP, Texas Forest Service and the Bastrop County Office of Emergency Management.**
3. **Inclusion of firewise landscaping and construction recommendations in county subdivision ordinances.**
4. **Inclusion of appropriate emergency responder equipment accessibility and maneuverability requirements in county subdivision ordinances.**
5. **Improvement of firefighter tactical information through comprehensive mapping of vegetation and fuel conditions throughout the county.**
6. **Fuel mitigation activities in priority neighborhoods based on wildfire risk assessments.**
7. **Improvement of fire department capabilities with need-based and appropriate recruitment, training, equipment, and pre-attack planning tools.**

1.0 INTRODUCTION

1.1 Collaboration

The Bastrop County Wildfire Protection Plan is a collaborative effort among many entities. The lead planning group is the Board of the Fire Citizens' Advisory Panel, Inc (FireCAP). This non-profit organization partners with the Texas Forest Service to educate homeowners and the general public regarding defensible space and wildfire protection in the Urban-Wildland Interface of Texas.

FireCAP was tasked by the Bastrop County Judge and the County's Commissioners' Court to ensure the successful completion of a written document that delineates recommendations and priorities regarding wildland fire preparedness and mitigation in Bastrop County.

The Core Planning Team represents leaders in key organizations, both public and private, who may wield influence and provide guidance over the final effectiveness of the Wildfire Protection Plan.

Task Forces are working groups with responsibility for gathering data, providing advisory input, and finalizing draft recommendations regarding the specific areas or issues assigned to that Task Force. Community and regional organizations represented in the planning process include:

- **Bastrop County Judge And Commissioners' Court**
- **Bastrop County Development Services**
- **Bastrop County Office of Emergency Management**
- **Bastrop County Firefighters Association**
- **City of Bastrop Planning Department**
- **Texas Forest Service**
- **Texas Parks and Wildlife Department**
- **Camp Swift Military Reservation**
- **Lower Colorado River Authority**
- **Bluebonnet Electric Cooperative**
- **Aqua Water Supply Corporation**
- **Water Control and Improvement District #2**
- **Bastrop Independent School District**
- **Elgin Independent School District**
- **Smithville Independent School District**
- **Bastrop County Agricultural Extension Agent**

1.2 Lead Planning Team
Fire Citizens' Advisory Panel, Inc.

Steve Haglund
Gary Hicks
Carol Reidy
Allise Burris
Peter Hicks (thru January, 2007)
Charles Kilgore (thru January, 2007)
Susan B. Long
Lori Tuggle
Lynn Weiss (thru September, 2006)
Dianna Burley (since July, 2007)
Michal Hubbard, Coordinator

2.0 SITUATION OVERVIEW AND PROCESS

2.1 Planning Process

PHASE 1 COMMUNITY PREPARATION

Step #1: Convene decision-makers – core team of representatives from local government, local fire departments, representative property owners, and the Texas Forest Service.

Step #2: Involve federal agencies – such as U.S. Forest Service, Department of the Interior, and other land management agencies as appropriate.

Step #3 – Engage other interested parties – a broad range of interested organizations and stakeholders.

COLLABORATIVE CONSENSUS ON:

1. **Statement of Intent and Goals**
2. **Process for achieving a plan document**
3. **Specific issue/risk/topic work groups**

PHASE 2 RISK ASSESSMENT

Step #4 – Establish community base map – collaborative establishment of baseline map defining the UWI, inhabited areas of risk, forested areas containing critical human infrastructure, and forest areas at risk for large-scale fire disturbance.

Step #5 – Develop a community risk assessment – collaborative assessment of: fuel hazards; risk of wildfire occurrence; homes, businesses, and essential infrastructure at risk; other community values at risk (environmental, historical, cultural, endangered species, etc.); and the local preparedness capabilities to protect address these risks.

PHASE 3 PRIORITY SETTING

Step #6 – Establish community priorities and recommendations – analyze hazardous fuels base map and risk assessment to determine priority fuel reduction, structural protection, identified values protection, and improvements to fire response capabilities.

PHASE 4 ACTIONS AND EVALUATION

Step #7 – Develop action priority-related implementation.

Step #8 – Finalize the Community Wildfire Protection Plan.

Step #9 – Monitor, evaluate, and revise the plan as necessary.

2.2 Statement of Intent and Goals

The Community Wildfire Protection Plan for Bastrop County is a collaborative effort, with participation by governmental jurisdictions, key community authorities and pertinent community organizations and interests.

The goals of this document are to:

- ***Identify wildland fuel hazards throughout the county;***
- ***Identify major structures and other community assets needing protection from wildland fire;***
- ***Prioritize countywide fuel hazard and structure ignitability reduction needs;***
- ***Develop collaborative measures for implementing hazardous fuel; and structure ignitability reductions on both public and private lands within Bastrop County.***

2.3 Historical Fire Occurrence

In modern times, Bastrop County has not experienced wildfires that burn thousands of acres. Before Europeans settled in the area, natural fires and Native Americans using fire as a hunting tool were the major forces maintaining the prairie/oak landscape. These fires burned large areas and kept woody species under control, leaving great expanses of grazing land with intermittent groves of trees. Large herds of bison also periodically grazed the prairies and savannahs, "aerating" the soil with the movement of their hooves, consuming grasses, and redistributing seeds into the disturbed soil. When the herds migrated elsewhere, the grasslands recovered naturally from the sporadic grazing.

Today, wildfires in Bastrop County primarily occur during drought conditions and are caused by human error or carelessness, such as:

- ***Trash and/or slash burning,***
- ***Escaped "controlled" burns, or***
- ***Escaped structure fires.***
-

Other human activities which contribute to fire danger include injudicious use of fireworks and unsafe disposal of burning tobacco materials.

The collection of wildfire data from previous years has been sporadic, but anecdotal information from the past 20 years indicates that several wildland fires have occurred which destroyed homes and buildings.

For example, in 1984, the "Mr. Barbeque" fire burned over 900 acres and destroyed six homes. The "Piney Creek" fire in 1998 burned 267 acres and ten structures. This fire also caused the evacuation of part of the Lake Bastrop Acres subdivision.

Analysis of existing wildland fire data reveals the following:

- ***No wildfires of more than 500 acres have been reported.***
- ***Reported burns have averaged about 40 acres.***
- ***Two fire seasons generally occur: during the drier summer months (Piney Creek Fire) and the dry winters (Mr. Barbeque Fire).***

One result of this planning document should be an emphasis on more complete wildfire data collection and its analysis. A better understanding of fire types will support area fire departments to more effectively plan for training, equipment acquisition and financing.

Existing fire data can be found in Appendix 8.2.

2.4 Existing Situation and Risks

1. **<u>Situation</u>: Historical fire behavior in Bastrop County may not represent future expectations for fire behavior in the County.**

    a. *<u>Risk</u>*: Increases in uncharacteristic fuel hazards resulting from the ever-intensifying departure from Fire Regime Condition Class I status in all biophysical settings in the county.
    b. *<u>Risk</u>: W*ithout additional analysis, appropriate actions may not be determined to adequately prepare UWI communities for wildfire.

2. **<u>Situation</u>: Expanding home and business construction into areas that are historically farm, ranch or woodland.**

    a. *<u>Risk</u>:* Inadequate ingress and egress for emergency vehicles and evacuation.
    b. *<u>Risk</u>:* Inadequate wildfire defensible space around structures.
    c. *<u>Risk</u>:* Inadequate operational space for firefighting and emergency equipment.
    d. *<u>Risk</u>:* Problematic water supplies for fighting fires.

3. **<u>Situation</u>: Inadequate roadways to, through, or out of at least 70 existing neighborhoods.**

    a. *<u>Risk</u>:* Adequate firefighting protection may not be able to access fires in these locations.
    b. *<u>Risk</u>:* The safety of first responders is at risk in neighbors with inadequate accessibility.

4. **<u>Situation</u>: Deficient homeowner understanding regarding defensible space, firewise landscaping materials and firewise building construction and construction materials.**

    a. *<u>Risk</u>*: Potential loss of life due to use of flammable construction materials.
    b. *<u>Risk</u>:* Loss of structures due to inappropriate landscaping materials.
    c. *<u>Risk:</u>* Dangers to life and property from wildfires due to inadequate or non-existent wildfire defensible space around homes.

5. **Situation: Insufficient use of less flammable construction materials by area builders.**

    a. *Risk:* Structures in the UWI are at greater risk in the event of wildfire.
    b. *Risk:* Residents of the UWI are at greater risk when living in homes built with flammable materials.

6. **Situation: Community Hazard Ratings for most communities and neighborhoods in Bastrop County are inadequate or non-existent.**

    a. *Risk:* Fuel mitigation project priorities will be determined on a more subjective basis, rather than using an analytical hazard rating.

7. **Situation: Insufficient firefighting water resources exist in most of the nonurban portions of the county.**

    a. *Risk:* Potential loss of life and property due to a lack of water hydrants.
    b. *Risk:* Potential loss of life and property due to a lack of hydrant location maps.
    c. *Risk:* Potential loss of life and property due to ineffectively located hydrants.
    d. *Risk:* Potential loss of life and property due to water hydrants with inadequate pressure and sizing.
    e. *Risk:* Pumpers and tankers must re-fill at more distance locations, endangering life and property.

2.5 Objectives and Tactics

GOAL:

- ***REDUCE THE WILDLAND FIRE RISK TO PROPERTY AND LIVES IN BASTROP COUNTY.***

    - ***Objective 1: Expand the implementation of community wildfire preparedness education information by 2008.***

        - ***Tactic 1*** *– Utilize existing Texas Forest Service and FireCAP Urban Wildland Interface education programs and materials in quarterly neighborhood education events, beginning in September, 2008.*

        - ***Tactic 2*** *– Distribute wildfire preparedness information through locally available media outlets on a semi-annual basis, beginning in December, 2008.*

    - ***Objective 2: Complete wildfire mitigation on priority assets throughout Bastrop County by 2012.***

        - ***Tactic 1*** *– Assess Fire Regime Condition Class, vegetation and hazardous fuel levels in the County by December, 2008.*

        - ***Tactic 2*** *– Complete Bastrop County fire plain mapping databases by March, 2009.*

        - ***Tactic 3*** *- Develop mitigation plans for Bastrop County priority assets by June, 2009.*

        - ***Tactic 4*** *– Obtain resources to implement hazardous fuel mitigation projects in the County, as needed.*

GOAL:

- ***ENHANCE FIRE SUPPRESSION CAPABILITIES OF EACH FIRE DEPARTMENT IN THE COUNTY BY ENSURING THE AVAILABILITY OF APPROPRIATE PERSONNEL, TRAINING, EQUIPMENT AND PLANNING TOOLS.***

    - ***Objective 1: Determine the resource needs of Bastrop County fire departments by January, 2009.***

        - ***Tactic 1*** *– Complete surveys to determine personnel needs by August, 2008.*
        - ***Tactic 2*** *- Complete surveys to determine training needs by September, 2008.*
        - ***Tactic 3*** *- Complete surveys to determine equipment needs by October, 2008.*

    - ***Objective 2: Develop pre-attack strategies for at-risk properties in each fire district, to include:***

        - ***Tactic 1*** *- a Home Risk Assessment;*
        - ***Tactic 2*** *- any Responder accessibility issues (terrain, etc.);*
        - ***Tactic 3*** *- the location of on-site hazards;*
        - ***Tactic 4*** *- the placement of utilities;*
        - ***Tactic 5*** *- the availability on-site water or equipment resources;*
        - ***Tactic 6*** *- the location of most proximate off-site water resources;*
        - ***Tactic 7*** *- any mitigation recommendations for the landowner;*
        - ***Tactic 8*** *– - the development of property-specific hazard maps.*

    - ***Objective 3: Strengthen wildfire data collection and reporting by individual fire districts.***

        - ***Tactic 1*** *- Cooperatively clarify definitions of "wildfire" for data collection purposes.*
        - ***Tactic 2*** *- Secure resources to collect and input data to TFS and other appropriate databases.*

GOAL:

- ***DEVELOP FUTURE RESIDENTIAL COMMUNITIES TO BE FIRE RESISTANT WITHIN THEIR WILDLAND ENVIRONMENT.***

    - ***Objective 1: Implement firewise Bastrop County land use guidelines for future residential development by 2009.***

        - ***Tactic 1*** *– Involve Bastrop County property owners in the guidelines development process.*

        - ***Tactic 2*** *– Invite area land developers to participate in the guidelines development process.*

        - ***Tactic 3*** *– Involve water utility companies in the development of adequate water distribution infrastructure for residential areas.*

    - ***Objective 2: Develop fire-safe building and landscaping guidelines for residential and commercial construction by 2010.***

        - ***Tactic 1*** *– Include the following safety factors in these guidelines: ingress, egress, and evacuation considerations; water supply adequacy; standards for road width which allow emergency vehicle access and effective operation.*

        - ***Tactic 2*** *– Include guidelines for the development of defensible space based on Fire Regime and Condition Class surveys and Risk Assessment priorities.*

        - ***Tactic 3*** *– Include recommendations for the on-going maintenance of landscape mitigation in development guidelines. .*

GOAL:

- ***PROVIDE TOOLS TO ENCOURAGE EXISTING RESIDENTIAL COMMUNITIES TO BE FIRE RESISTANT WITHIN THEIR WILDLAND ENVIRONMENT.***

    - ***Objective 1: Provide education regarding measures to reduce structure ignitability.***

        - ***Tactic 1*** *- Distribute information on flame-resistant building materials to local and regional builders, beginning in September, 2008.*

        - ***Tactic 2*** *- Utilize county building guidelines and regulations to encourage Increased use of non-flammable construction materials.*

    - ***Objective 2: Encourage and support neighborhood certification in the Firewise Communities USA program.***

        - ***Tactic 1*** *- Distribute Firewise USA materials to county homeowners' association meetings beginning in January, 2009.*

        - ***Tactic 2*** *- Provide organizational support to neighborhoods desiring to become Firewise communities.*

    - ***Objective 3: Make available Wildfire Risk Assessments on new home construction and re-models requiring construction permits.***

        - ***Tactic 1*** *- Distribute Wildfire Risk Assessments packets to new home owners through realtors, the County Development Office, Texas Forest Service, and FireCAP beginning in August, 2008.*

        - ***Tactic 2*** *- Publicize the availability of cost-free assessment consulting from FireCAP, fire departments, and TFS.*

GOAL:

- ***DEVELOP THE ORGANIZATIONAL MECHANISMS NECESSARY TO MAINTAIN A FIREWISE ENVIRONMENT IN BASTROP COUNTY.***
-
    - ***Objective 1: Obtain landowner, homeowner and fire department participation in mitigation plan development.***
        - ***Tactic 1*** *- Utilize FireCAP's Fall Fire Fest, and other community education activities to encourage county-wide participation in fuel mitigation.*
        - ***Tactic 2*** *- More broadly publicize the availability of free vegetation management training offered by the Texas Forest Service, National Resources Conservation Service, County Agricultural Extension Agents and other land management organizations.*
    - ***Objective 2: Maintain and distribute wildfire risk/Fire Regime Condition Class maps.***
        - ***Tactic 1*** *- Complete data collection of existing vegetation conditions and fuels conditions.*
        - ***Tactic 2*** *- Interpret collected data and refine wildfire risk mapping.*
    - ***Objective 3: Enlist County support for clarification and enforcement of outdoor burning regulations.***
        - ***Tactic 1*** *- When required, provide county officials with sufficient data on fire danger conditions to enable effective decision making regarding any need for an outdoor burning ban.*
        - ***Tactic 2*** *- Emphasize the importance of enforcing outdoor burning regulations to the Sheriff's Office and to the county courts.*
    - ***Objective 4: Maintain an on-going public information campaign addressing wildfire preparedness actions.***
        - ***Tactic 1*** *- Participate in annual Wildfire Awareness Week activities.*
        - ***Tactic 2*** *- Take advantage of Neighborhood Night Out activities to provide wildfire education.*
        - ***Tactic 3*** *- Participate in annual Fire Prevention Week activities.*
        - ***Tactic 4*** *- Utilize all county media outlets to provide information to the general public.*

- ***Objective 8: Utilize land use and subdivision regulations to encourage firewise land use and construction practices.***

  - ***Tactic 1*** *- Recommend adoption of the Conservation Subdivision regulations currently under development by the county.*

  - ***Tactic 2*** *- Involve fire services in the subdivision plat review process to provide recommendations relating to emergency response issues.*

GOAL:

- ***DEVELOP THE FINANCIAL MECHANISMS NECESSARY TO MAINTAIN A FIREWISE ENVIRONMENT IN BASTROP COUNTY.***
-

  - ***Objective 1: Develop appropriate grant applications to support mitigation and prevention projects and organizations where other financial support is not available.***
  -

    - ***Tactic 1*** *- Coordinate with area disaster and emergency service organizations, such as the Community Emergency Response Team, FireCAP, and the Emergency Services Districts, as potential sponsors of available mitigation grant monies.*

    - ***Tactic 2*** *- Research opportunities for mitigation and education funds at the regional, state, and national level.*

  - ***Objective 2: Develop and implement a cost-effective, efficient means of managing mitigated wood waste and excess biomass by 2010.***
  -

    - ***Tactic 1*** *- Review previous county experience with wood waste management for "lessons learned" and effective tactics.*

    - ***Tactic 2*** *- Coordinate with developers in removing and recycling wood waste in conservation subdivisions.*

  - ***Objective 3: When feasible, develop revenue-generating programs to support wildfire education and mitigation projects in the County.***

3.0 COMMUNITY PROFILE

Geographic Characteristics

Location

Bastrop County is part of the Austin-San Marcos Metropolitan Area and is situated about 35 miles east of Austin in south central Texas on the Upper Gulf Coastal Plain. The County's major ecological regions are Post Oak-Savannah and Blackland Prairie, plus the "Lost Pines" forest near the center of the County.

Topography and Soils

Elevations range from 400 to 500 feet on terrain generally characterized by broken hills and rolling uplands. Soils are primarily sandy loams, alluvial sands and blackland prairie. An almost impermeable clay pan underlies most of the county's soils at two feet or less, excluding the pine forests which occur in deeper sandy soil.

Vegetation

Common trees in most of the county include several species of oaks, as well as black hickory, eastern red cedar, yaupon holly, possumhaw holly, cedar elms, walnut and mesquite. In the Lost Pines area, loblolly pines compose the majority of tree species, with post oak and blackjack oak interspersed.

Climate

Bastrop County lies at the northern edge of the semi-tropical humid region of Texas. The County's annual rainfall averages 35 – 37 inches, with a 270-day growing season. Summers are hot, with high relative humidity, while winters are generally dry.

The highest average temperature (96°) occurs in July, with the average low (40°) occurring in January. The earliest frost occurs mid-November, and the latest in mid-March. Temperatures may vary from more than 100° to less than 20° through the seasons.

Drought is a major climatic issue in Texas and in Bastrop County. Several months of extensive drought occur on a 5 to 7 year cycle, broken by rains that may cause severe flooding. Seasonal rains generally occur in April-May and October-November encouraging the growth of heavy foliage that during the drought periods becomes wildfire fuel.

Wildlife and Endangered Species

Typical wildlife in the county includes white tailed deer, bobcats, raccoons, opossums, skunks, armadillos, coyotes, foxes, bats, rabbits, squirrels, small rodents, and perhaps cougars.

The largest remaining population of the endangered Houston toad (Bufo houstonensis) resides in Bastrop County, specifically in the Loblolly Pine forests and Bastrop State Park. The toad's preferred habitat is sandy soil with intermittent ponds.

Community Resources

Water Resources

The Colorado River bisects the county from northwest to southeast. Major tributaries include: Piney Creek, Copperas Creek, Gills Branch, Cedar Creek, Big Sandy Creek, Wilbarger Creek, and Pin Oak Creek.

Lakes are Lake Bastrop, Buescher State Park Lake, Indian Lake, Stagners Lake, and Thunderbird Lake.

Bastrop County sits above the Carrizo-Wilcox Aquifer, which is the source for hundreds of water wells in the County.

Transportation

State Highway 290 crosses the northern part of the county connecting Austin and Houston. State Highway 71 runs east-west through Bastrop and Smithville, connecting Austin to the coastal regions of the state. State Highway 95 bisects the county roughly north to south, between Elgin and Bastrop, then combines with State Highway 71E to Smithville. From Smithville, State Highway 95 turns south toward Interstate Highway 10. State Highway 21 angles southwest to northeast across the county to College Station.

The Colorado River flows through the county from northwest to southeast. Travel across the Colorado River in Bastrop County is limited to bridges located at two major populated areas, the cities of Bastrop and Smithville; and on FM 969 six miles northwest of Bastrop. Highway 130, recently constructed, crosses the Colorado just outside Bastrop County's western boundary in Travis County.

State highway, farm-to-market, county, and residential roads total 900 miles of thoroughfares in the county.

Population

People have lived in what is now Bastrop County for more than 10,000 years, from the Paleo-Indian Stage (12,000-8500 BP) through the Archaic Stage (8500-1250 BP), and into the Prehistoric Stage (1250-350 BP).

Tonkawa Indians lived in the area by the beginning of the 19th Century, and Comanches hunted along the Colorado River each fall. In 1804, a Spanish fort was established at the river crossing along the road between the Spanish outposts of San Antonio and Nacogdoches. This fort eventually became the town of Bastrop.

Today, the three incorporated cities of Bastrop, Elgin and Smithville are located, respectively, in central, northern and eastern Bastrop County. Other unincorporated communities are distributed throughout the county. Many exist as farming and ranching communities, while others have expanded to meet the growing demand for housing by families moving into Bastrop County.

Bastrop County has historically been a primarily rural county, with agribusiness and some energy production comprising its major economic enterprises. Since the 1990's, however, as Austin and Travis County populations have grown, so has Bastrop County.

In 1990, the County population was 38,263. By the 2000 Census, residents totaled 57,733, a 51 per cent increase. Estimates for 2006 indicate another 24 per cent increase to 71,684 people.

County Population Growth 1990 - 2006

	1990	2000	2006	% Inc.
Bastrop	4,044	5,340	7,591	88%
Elgin	4,846	5,700	9,287	92%
Smithville	3,196	3,901	4,447	39%
City Total	*12,086*	*14,941*	*21,325*	76%
County	38,263	57,733	71,684	87%
Non-City Growth	26,177	42,792	50,359	92%

In the past sixteen years, Bastrop County's total population has grown by 87 per cent. In the three major communities, growth in the same period has approximated 76 per cent. For non-incorporated areas, the population has nearly doubled, an estimated increase of more than 92 percent since 1990.

Population Growth in the UWI
1990 – 2006

	1990	2000	2006
Non-City Growth	26,177	42,792	50,359
% of Total	68%	74%	70%

In 2006, an estimated 70 percent of the county's new residents lived in the urban-wildland interface of the county.

3.1 Geographic Location

County	***Bastrop County***
Communities at Risk	***Texas Forest Service has designated all or portions of the following communities within Bastrop County to be at risk of wildland fires. These communities are: Bastrop, Butler, Camp Swift, Cedar Creek, Elgin, McDade, Paige, Red Rock, Smithville, and Wyldwood.*** ***Fire District chiefs have been consulted and additional communities and neighborhoods have been included based upon these emergency responders' expertise. These are residential neighborhoods developed within the Urban-Wildland Interface that exhibit wildfire risk characteristics or represent a hazard to first responder safety.***
Plan Area and Unit Boundaries	***The Plan boundaries coincide with the boundaries of Bastrop County. See Map 3.1.***
Frontage and/or Perimeter Road(s)	***Not Applicable***
Additional Landmarks	***"Lost Pines" forest; Colorado River***

Bastrop County, Texas
Indicator
Map 3.10

3.2 Community Size

Acreage	***573,440 sq. acres***
Square Miles	***Bastrop County = 895 sq. miles***

3.3 Population

Total Population: 71,684 (2006 est.)
Full Time Residents: 95 %
Part Time Residents: 05 %

3.4 Structure Inventory

Depending on the size planning area, an estimated number will suffice.

Type	***Number or Percentage***
Site-built Homes	***17,895***
Manufactured Homes	***11,833***
Multi-Family Units	***367***
Farm and Ranch Improvements	***9,580***
Commercial Buildings	***2,183***
Industrial Structures	***32***
Nursing and Senior Living Facilities	***5***
Hospitals	***2***

3.5 County Legal Structures

Legal structures in Bastrop County include the Commissioners' Court and the municipal governments of three incorporated communities: Bastrop, Elgin and Smithville. Two state agencies also have jurisdiction over selected areas of the county: Texas Forest Service and Texas Parks and Wildlife Department. The U.S. Army National Guard controls nearly 11,000 acres at the Camp Swift Training Base.

Various unincorporated residential areas have homeowners associations or other types of organizations which will to be contacted for inclusion as cooperative partners in proposed future mitigation activities.

Organization	Contact, Title
Bastrop County	Ronnie McDonald, County Judge Mike Fisher, EMC
City of Bastrop	Terry Orr, Mayor Mike Talbot, City Manager
City of Elgin	Marc Holm, Mayor Jeff Coffee, City Manager
City of Smithville	Mark A. Bunte, Mayor Tex Middlebrook, City Manager
Texas Forest Service	Rich Gray, State UWI Director Karen Kilgore, GIS Specialist
Bastrop State Park	Todd McClanahan Asst. Complex Manager
Buescher State Park	Todd McClanahan Asst. Complex Manager
Camp Swift National Guard Reservation	Kate Crosthwaite Janet Bauchman

3.6 Regulative Issues

The major regulatory issues facing Bastrop County with regard to wildfire preparedness are related to the way in which county government has been structured. Counties are legally allowed only those functions specifically stated in laws passed by the Texas Legislature.

According to these laws, county government in Texas has several major responsibilities: building and maintaining roads, constructing recreational facilities, constructing and operating jails, operating the judicial system, maintaining public records, collecting property taxes, issuing vehicle registration and transfers, and registering voters. Other duties include: law enforcement, conducting elections, and providing health and social services to poor residents.

Unlike many cities, Texas counties do not have zoning authority. In addition, Texas counties have no clear authority regarding such regulative issues as standards for infrastructure; construction materials or design; landscaping standards; or planning for future land uses.

Texas Local Government Code and certain State Agencies provide some authority to address health and sanitation issues as well as roadway and bridge concerns, which may provide an avenue for addressing wildfire protection issues. County Commissioners have authority to initiate outdoor burning bans and to levy fines for violating a declared Burn Ban.

Bastrop County has assumed the authority to set standards for roadway construction through the development of a Master Roadway Plan which will designate major roads, set right-of-way requirements in subdivisions, and regulate ingress and egress in new developments.

County officials are currently developing "conservation" subdivision regulations for presentation to the County Commissioners Court. It is possible these standards will include wildland fire preparation and protection guidance for subdivision developers and for landowners.

A significant issue in implementing firewise subdivision regulations will be the lack of specific authority by county commissioners to create and enforce such regulations.

3.7 Critical Utility Infrastructure

Several utility companies serve the population of Bastrop County. The major providers are:

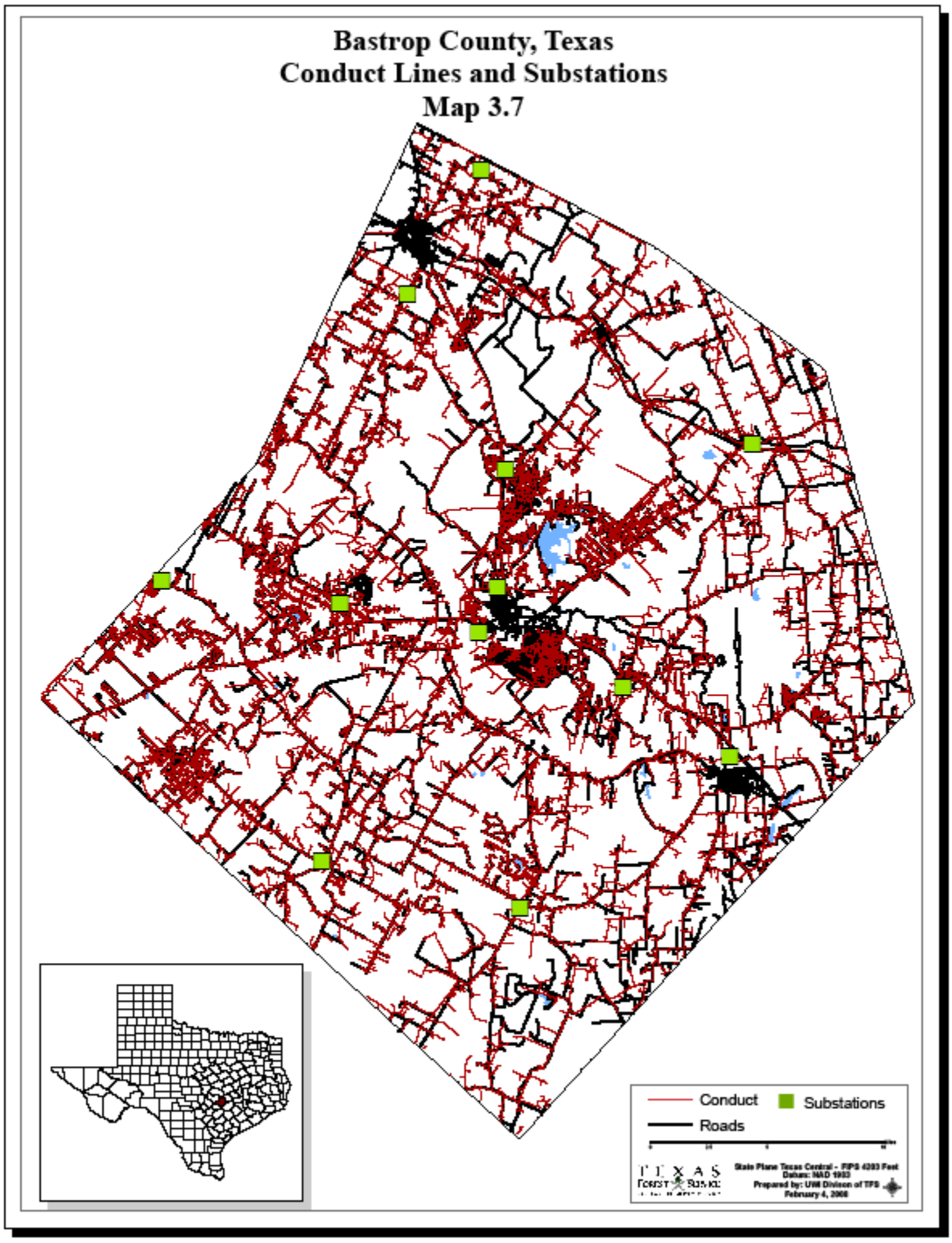
Electric – Bluebonnet Electric Cooperative
Lower Colorado River Authority
Water – Aqua Water Supply Company
Lower Colorado River Authority
Water Improvement District #2

The Bastrop Central Appraisal District identifies 223 utility "units", with an appraised value of $125,254,585. The breakdown for these utilities is as follows:

Type of Asset	Units	Value
Water Systems	20	$ 10,267,282
Gas Company	10	$ 1,404,143
Electric Company	28	$ 35,496,070
Telephone Company	13	$ 25,940,920
Pipelines	92	$ 25,473,660
TV & Cable	17	$ 7,389,360
All Utility Values	223	$105,071,435

No information is currently available regarding the specific locations of many utility assets. The CWPP recommends that individual utility companies follow recommended guidelines to prepare wildland fire mitigation plans for at risk assets.

Several fire departments are independently digitally mapping and typing water hydrant locations to support their Pre-Attack planning.


Bastrop County, Texas
Conduct Lines and Substations
Map 3.7
Conduct
Substations
Roads

3.8 School Districts Inventory

School districts include:

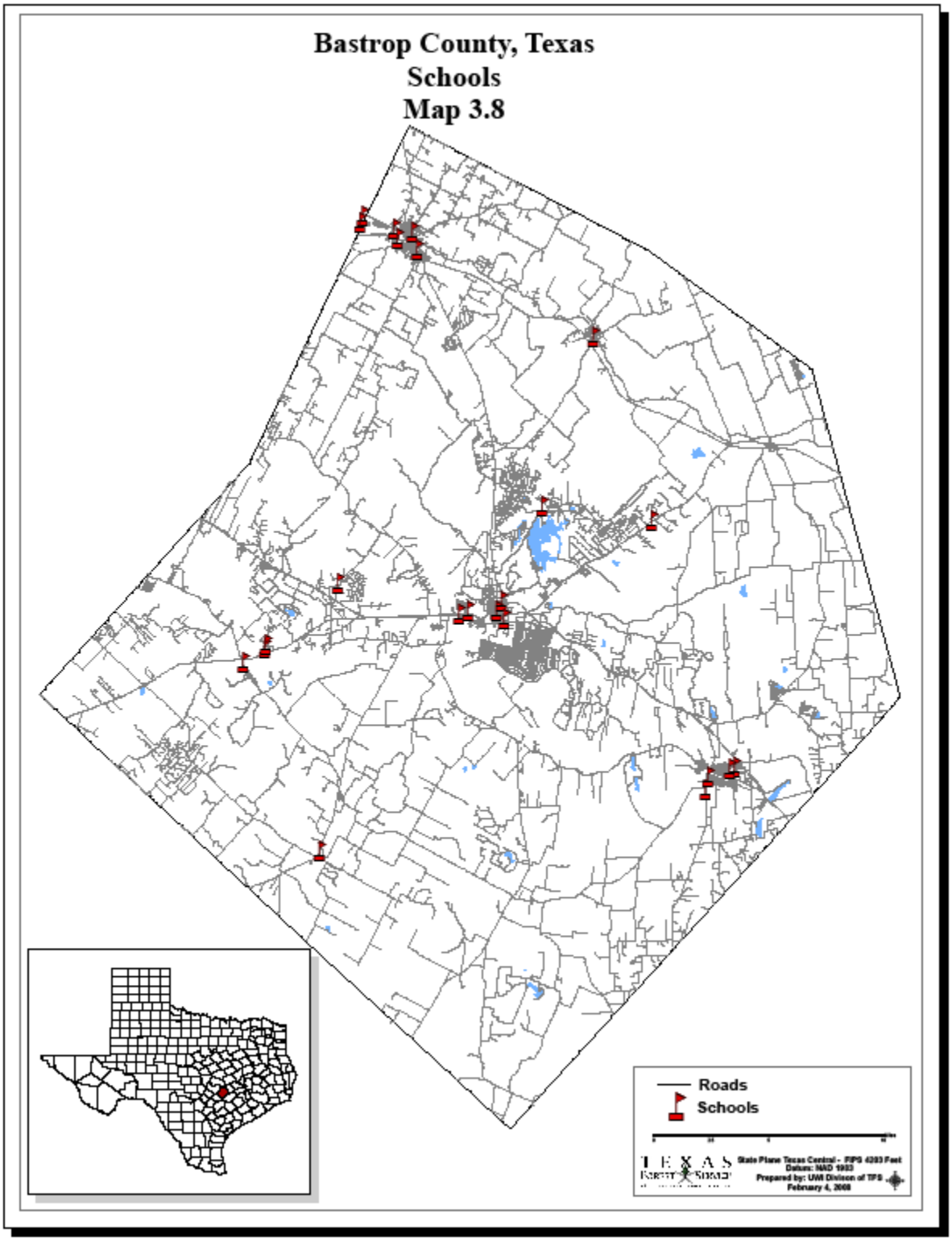
1. **Bastrop Independent School District**
2. **Elgin Independent School District**
3. **Smithville Independent School District**
4. **McDade Independent School District**

More than thirty structures are managed by these school districts throughout the County. McDade ISD is the only district that does not operate a high school. Map 3.8 illustrates the locations of the school districts' facilities in relation to estimated vegetation regimes.

An inventory of these facilities is listed in Appendix 8.3. Most structures are located in urban or suburban-type environments and are not likely to be threatened by wildland fire.

Bastrop Independent School District will be constructing a second high school complex near the intersection of Pope Bend Road and S.H. 71. The complex will be placed in an area that is currently heavily wooded. Appropriate wildfire defensible space, and firewise construction and landscaping will need to be addressed as the facility is planned.

Asset values for the Bastrop and the Smithville districts total nearly $170 million, with an estimated additional $91 million projected for the value of BISD's expansion.


Bastrop County, Texas
Schools
Map 3.8
Roads
Schools

3.9 Emergency Medical Facilities

Medical facilities in Bastrop County include two hospitals: Smithville Regional Hospital (SRH) in Smithville and Lakeside Hospital at Bastrop. Each is a one-story facility operating both inpatient and outpatient services. Both are located on S.H. 71 with adequate access and egress for emergency vehicles.

SRH operates 24 medical/surgical, four intensive care and six emergency department beds. It also has two operating suites and six surgical recovery beds.

Lakeside staffs all of its 15 licensed beds. This facility also has two operating suites and six emergency department beds.

Neither hospital provides obstetric services. Major trauma cases are transported to medical centers in Austin, primarily Brackenridge Hospital.

Potential for sheltering at either of these facilities is limited to those individuals with medical issues which require hospitalization.

Smithville Regional is located on grassy acreage, with limited proximity to wildland fuels. Lakeside Hospital is situated in the pine forest east of downtown Bastrop. Construction materials, driveways, parking areas, irrigated landscaping and other manmade barriers reduce wildfire risk for the structure.

A medical office building has been completed adjacent to Lakeside Hospital, also situated in the pine forest area. Landscaped defensible space characteristics appear to be adequate to protect against a potential wildland fire.

Ambulance services are provided in the county by a contract service. Emergency medical vehicles are stationed throughout the county, staffed by both EMTs and paramedics. Volunteer medical First Responders are also available at various locations in the county and are dispatched in cooperation with the contract emergency medical personnel.

A regional burn center is available at Breckenridge Hospital in Austin.

The Texas Poison Control Center is reached by dialing 1-800-POISON-1, or 1-800-764-7661.

3.10 Emergency Response Capabilities

Fire response capabilities in Bastrop County are good. As population in the UWI grows, however, pressure increases on the existing resources, including human, financial and material.

The county is divided into nine fire districts. The majority of the County is also under the taxing authority of three emergency services taxing districts which provide revenue to support equipment maintenance and fire fighter development. See Map 3.10.

Mutual aid agreements exist among all the county's fire departments. The Texas Forest Service is also available to provide additional equipment and manpower resources to support incidents which expand beyond local firefighting capabilities.

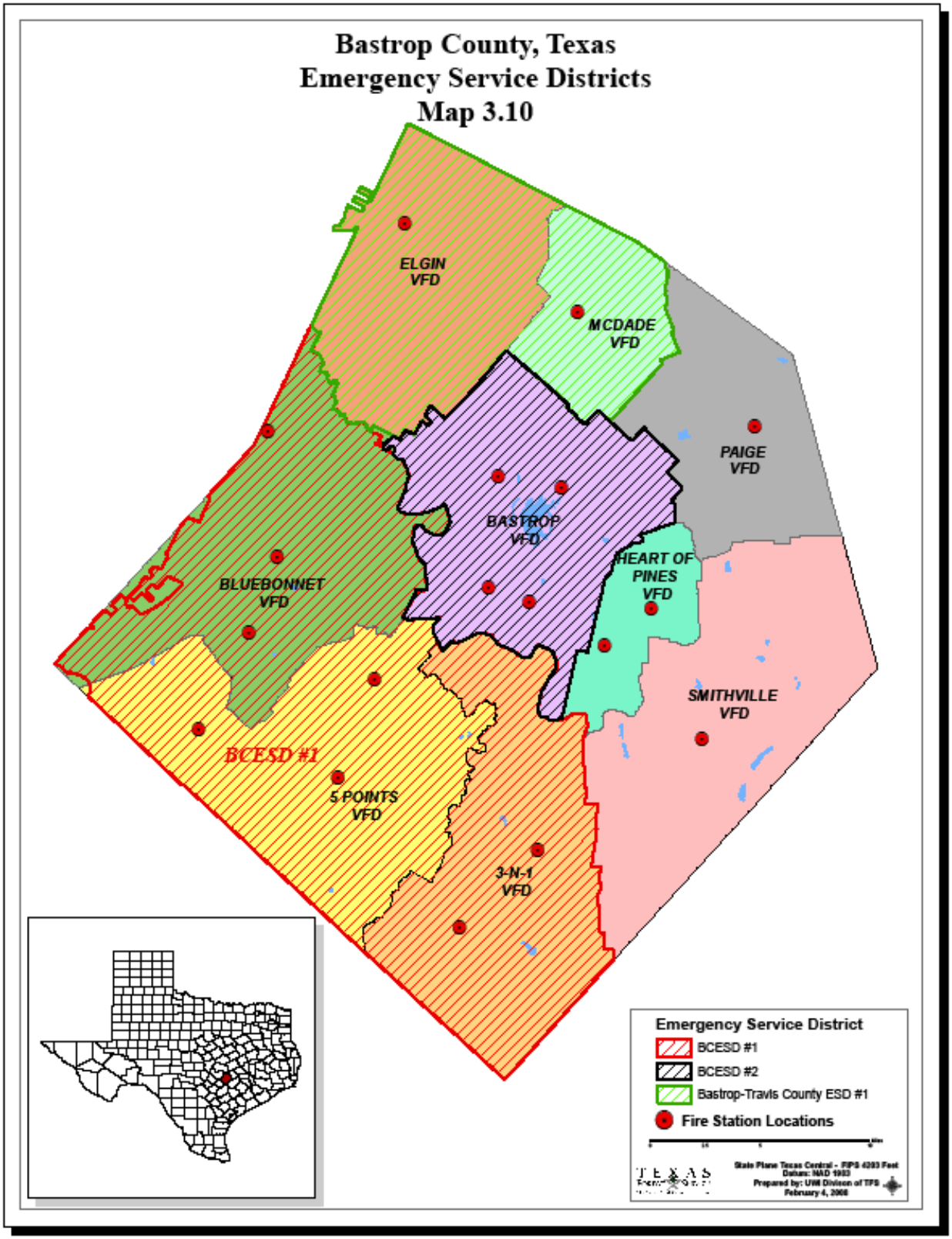
Approximately 225 persons are active fire fighters in the County, though sufficient and consistent volunteer involvement is an issue for some departments. It is possible that new residents may not see the need for fire fighting volunteers, nor feel as involved in the community as do longer term residents.

Maintaining an adequate level of fire fighting skill for active FD members continues as a concern for FD leadership. Some training needs identified by fire chiefs include emergency vehicle operations, "jaws of life" operations, and National Incident Management Systems (NIMS) training.

Obtaining and maintaining sufficient gear, protective clothing and rolling stock is an on-going issue with most districts. A summary of current major rolling equipment available in Bastrop County includes the following: 17 engines, 10 pumpers, 19 tenders, and 34 brush trucks. The total water-carrying capability of these vehicles is nearly 68,000 gallons.

Other equipment includes 5 bulldozers, 4 boats, 2 hazardous materials trailers, 2 rehab units, 1 rescue unit, and 1 remote aerial video unit.

A complete inventory of equipment by fire department is attached as Appendix 8.4.


Bastrop County, Texas
Emergency Service Districts
Map 3.10
ELGIN VFD
MCDADE VFD
PAIGE VFD
BASTROP VFD
HEART OF PINES VFD
BLUEBONNET VFD
SMITHVILLE VFD
BCESD #1
5 POINTS VFD
3-N-1 VFD
Emergency Service District
BCESD #1
BCESD #2
Bastrop-Travis County ESD #1
Fire Station Locations

4.0 COMMUNITY RISK ASSESSMENT

4.1 Access/Egress/Evacuation

Fire chiefs and fire fighters from Bastrop County's fire departments have identified more than 70 neighborhoods with inadequate entrances and exits, narrow roadways, insufficient turning space, or dangerously inadequate firefighting operational space. See Map 4.1.

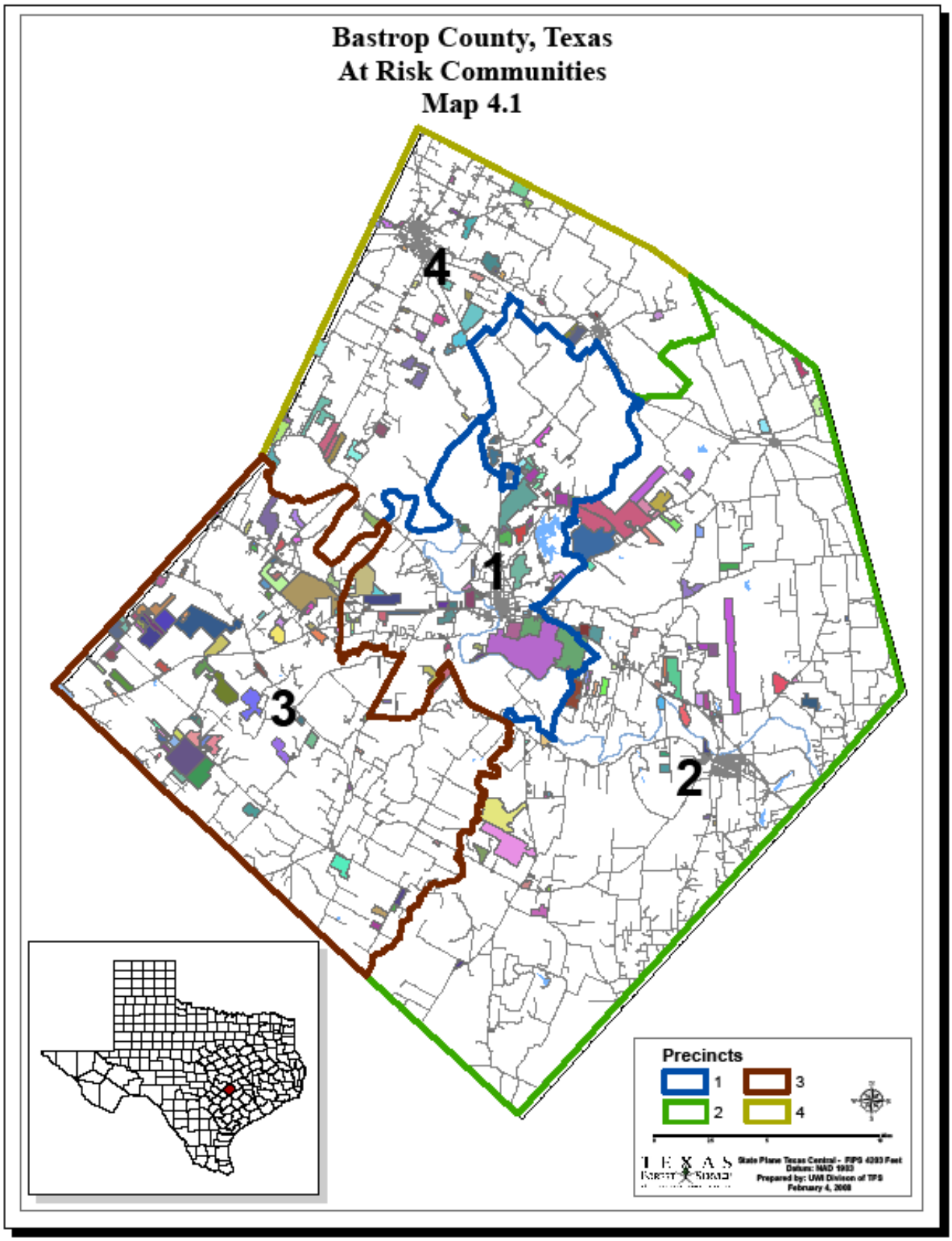
Evacuation from these communities, particularly if the evacuation has to occur in conjunction with fire and emergency vehicle entry, would be difficult and dangerous for both residents and responders.

County and state roadways expected to provide escape routes away from hazardous neighborhoods may also become impassible, depending on the size the wildfire and the direction of blowing smoke. Wildfire risk assessment should also be completed for all intersections integral to safe evacuation of at-risk residential areas.

Individual wildfire risk assessments will need to be completed for each of the identified at-risk communities. Homeowner education and mitigation support will be provided based upon the results of the risk assessment.

The county is currently developing a roadway plan that will be inclusive of all city streets, subdivision streets, county roads, and state highways. Information included in the roadway plan should also include bridge locations and load capacities.

The roadway plan will develop tactical strategies to address short-term county roadway needs, which may include increasing the width of intersections, residential area entrances, and creating turnouts and turnarounds for emergency vehicles.


Bastrop County, Texas
At Risk Communities
Map 4.1
4
1
3
2
Precincts
1
2
3
4

4.2 Topography

Topography in Bastrop County is characterized by rolling hills of alluvial sand and sandy loams. Elevation varies from 400 to 600 feet. Responder access to wildfires in some rural areas would be limited by deep, steep-sided ravines. In residential subdivisions in the pine forests, steep ridges will be a deterrent to fire protection. In general, however, topography is not an impediment to fighting wildfires in Bastrop County.

A grant obtained by the Capital Council of Governments will allow the entirety of Bastrop County to be mapped by LIDAR technology within the next 18 months. These map layers will provide detailed topography for use in fuel model mapping and risk analyses.

4.3 Fuel Characteristics

Experts classify vegetation fuels into four basic groups – grasses, brush, timber, and slash. Additional characteristics such as fuel load (amount of vegetation) and the variations in the vegetation fuel sizes effect fire behavior. Grasses provide a smaller total fuel load than does slash, for instance.

Grass fuel models are areas vegetated primarily by grasses. Shrubs or trees will be few, or non-existent.

Brush fuel models are predominantly characterized by shrubs and small trees, generally with heights of less than 15 feet.

Timber fuel models are represented by large tree species (6" and larger in diameter), generally with single trunks, deciduous or evergreen.

Slash fuel models exhibit high accumulations of scattered or piled wood residue (limbs, branches, and other dead woody material).

These four basic fuel models are subdivided into 13 groups that help to reflect the diversity any single geographic area may exhibit. These groups are listed below.

Fuel Model	Typical Fuel Complex
	Grass and Grass-dominated
1	*Short grass (1 ft.)*
2	Timber (grass and understory)
3	Tall grass (2.5 ft.)
	Juniper/Yaupon and Shrub Fields
4	*Shrub/Yaupon (6 ft.)*
5	*Brush (2 ft.)*
6	Dormant brush, hardwood slash
7	Southern rough
	Timber Litter
8	Closed timber litter
9	*Hardwood litter*
10	*Timber (litter and understory)*
	Slash
11	Light logging slash
12	Medium logging slash
13	Heavy logging slash

Bastrop County exhibits a variety of fuel models across its geography. These models primarily include *Short Grass (1)*, mixtures of *Shrub/Yaupon* and *Brush (4 and 5), Hardwood Litter (9)*, and through the Lost Pines ecosystem, *Timber (litter and understory) (10).*

Approximate acreages for each fuel model are not currently estimated. Land that is being predominantly used for ranching can be expected to exhibit the Grass fuel model. Any areas that have been left fallow, with no grazing or farming, can be expected to move through the succession stages of the Brush fuel model into the Timber stage. The Timber fuel model will also be found in the post oak-cedar and pine forest regions of the county, which covers approximately 60,000 acres.

A key methodology for assessing wildland fire risk to people, property and ecosystems is to implement a Fire Regime Condition Class (FRCC) survey. An analysis of FRCC results will help to identify the extent of fuels mitigation needed to return a landscape to a more natural regime.

Condition Classes (CCs) I, II, and III represent increasing levels of risk from wildfire. Also, CCs represent the degree of departure the existing vegetation is from an historically stable condition (CC-I). An FRCC survey and analysis will provide a basis for determining mitigation priorities.

From a fire protection standpoint, it would be desirable to restore and maintain the ecological stability of the county's post oak and mesquite

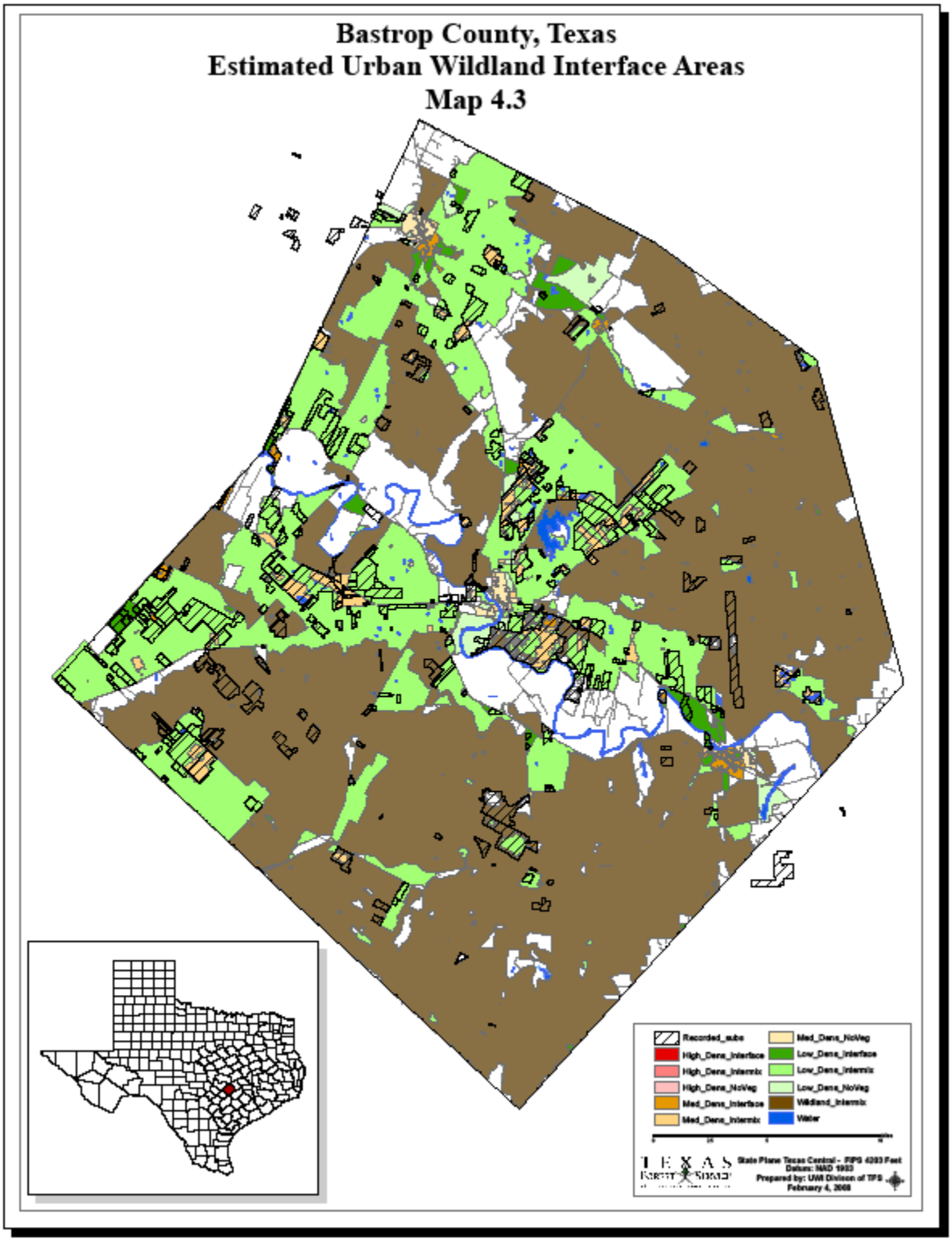
savannah. Restoring these natural vegetations will also enhance area watersheds and riparian areas, as well as aid in managing insects and disease.

Any fire regimes in Condition Class III, and so a lesser degree, in Condition Class II, are likely to support severe wildfire, resulting massive stand burn-off. FRCC III conditions in the UWI present a real and significant threat to life and property.

Currently, Southern Fire Risk Assessment maps have been used to assign large-scale fuel models. It is recognized that these fuel model assignments are inadequate for the county's vegetation mitigation requirements. Therefore, an FRCC assessment is being planned and will be implemented prior to developing detailed mitigation strategies.

Appendix 8.5 contains a more detailed description of FRCC definitions and application methodologies.

Bastrop County, Texas
Estimated Urban Wildland Interface Areas
Map 4.3



4.4 Predominant Construction Materials

Residential construction materials vary throughout the county. Recent site-built subdivision houses are more likely to be of non-flammable or flame-resistant materials, while homes built in rural settings in earlier eras may be some type of wood construction. Manufactured homes built within the last 5 – 10 years may use a cement-wood fiber exterior siding which is flame resistant. Roofs are generally non-flammable composites.

Industrial and commercial construction is primarily of non-flammable materials, either brick or metal.

4.5 Critical Water Sources

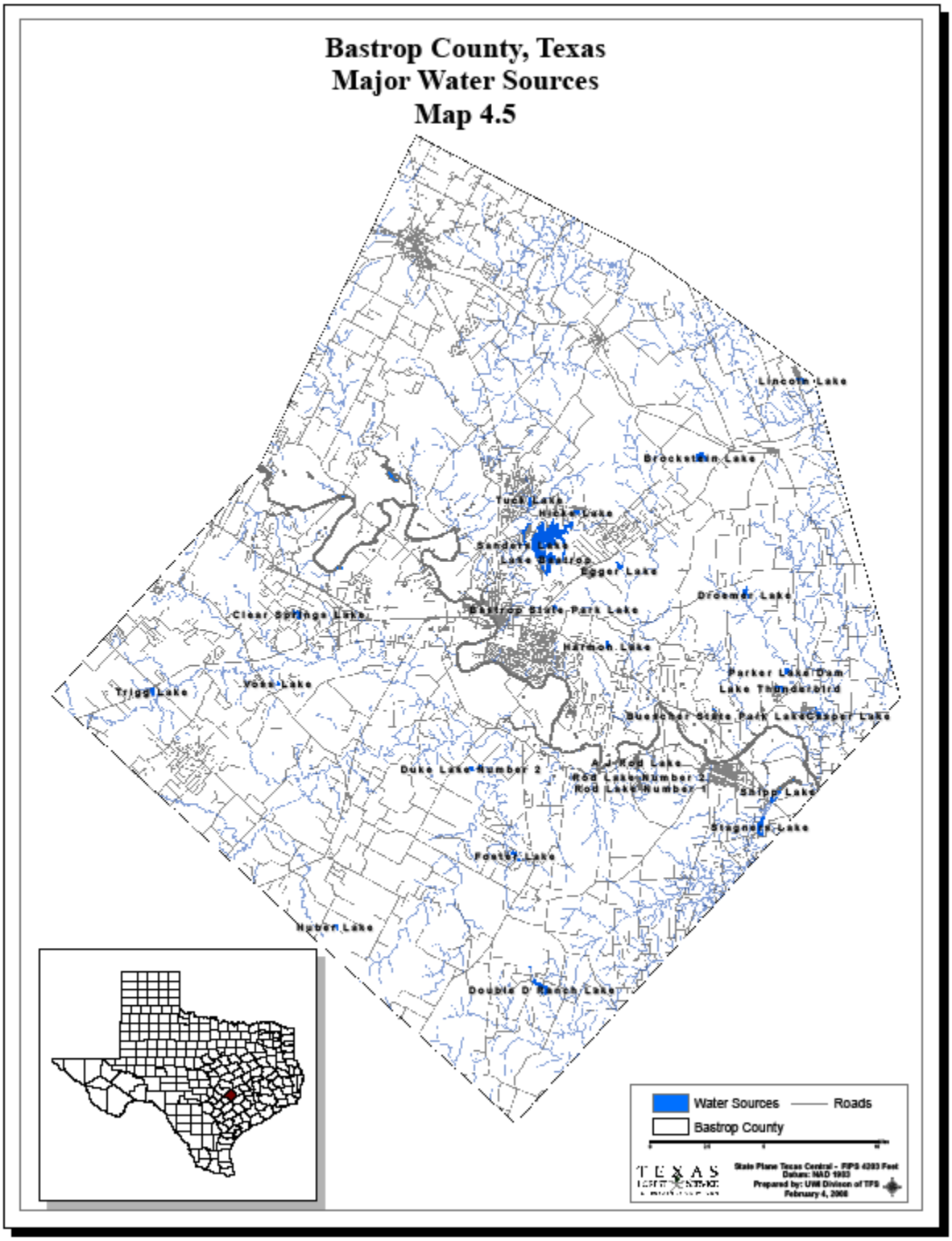
All portions of the county are served by piped-in water service, though private wells are in use on many farms and ranches.

A major water resource issue is that most water lines into non-incorporated housing areas in the county are of insufficient capacity to effectively pressure water hydrants for fire suppression. Costs for upgrading water lines are prohibitive, as is installing additional water hydrants in most neighborhoods. It is expected that area fire departments will have to continue to utilize water vehicle shuttle tactics or water body drafting to fight fires.

Many fire districts have begun identifying water hydrant GPS coordinates to create hydrant maps for their departments.

Major water sources in the county which could provide potential water drafting or dry hydrant locations include the Colorado River and three lakes: Lake Bastrop, Lake Thunderbird, and Indian Lake. Many creeks transect the County, but most are wet weather streams and are unreliable water sources for fire fighting.

Currently, no maps exist that indicate minor water sources such as stock tanks, swimming pools or ponds. Pre-attack plans developed by each fire department can identify the water sources available in that district.


Bastrop County, Texas
Major Water Sources
Map 4.5
Lincoln Lake
Brockstein Lake
Tuck Lake
Hicks Lake
Sanders Lake
Lake Bastrop
Egger Lake
Dreamer Lake
Clear Springs Lake
Bastrop State Park Lake
Harmon Lake
Parker Lake Dam
Lake Thunderbird
Trigg Lake
Voss Lake
Buescher State Park Lake
Chaser Lake
Duke Lake Number 2
A J Kop Lake
Rod Lake Number 2
Rod Lake Number 1
Shipp Lake
Stagner Lake
Foster Lake
Huber Lake
Double D Ranch Lake
Water Sources
Roads
Bastrop County
TEXAS
State Plane Texas Central - FIPS 4203 Feet
Datum: NAD 1983
Prepared by: UWI Division of TFS
February 4, 2008

4.6 Expected Fire Behavior

Most recent weather outlooks are predicting drier than normal weather across central Texas through the 2008 spring season, continuing through the summer. Temperatures are expected to be above normal through the summer, also. Combined with the excess fuel created by the 2007 spring and summer rains, wildfire potential is continuing to be high.

According to Texas Forest Service analysis, fire behavior in Bastrop County will generally be wind and fuel driven. Strong wind events will cause the most severe fire behavior, causing high spread rates between 1 and 4 mph through grass and fine fuels. With winds above 20 mph, flame lengths in grass may reach 15–20 feet. In heavy juniper, spotting of blown burning embers up to six tenths (.06) of a mile is possible.

Critical fire behavior situations include: live fuel moisture less than 80 percent, humidity below 25 percent; and eye level winds greater than 8 mph can cause high flame lengths, resulting in fires crowning in juniper and hardwoods.

Local fire departments, sometimes with back-up help from the Texas Forest Service, have historically been able to prevent fires from becoming conflagrations similar to those experienced in Western states. One reason for this is the difference in fuel models. Central Texas fuels rarely exhibit the heavy forest models of the Western states. More roads also allow more effective access to fires, improving opportunities for fire fighters to extinguish wildfires.

Continuing drought conditions, however, will increase the risk for extreme fire seasons in Bastrop County, increasing the attendant threat to the homes and possessions of some 50,000 people living in the county's UWI.

With appropriate defensible space around these homes and the mitigation of fuels near residential developments, wildfire risk, even in extreme conditions will be reduced.

4.7 Community Hazard Rating

Fire risk differs throughout the county based on season and vegetation. Fire hazard in the pine woods will vary from high to extreme. In other fuel model areas, fire hazard will range from medium to high.

The more than 70 at-risk neighborhoods and subdivisions comprise the priority areas for completing community hazard assessments to guide subsequent fuel mitigation activities.

The completion of the Fire Regime Condition Class (FRCC) surveys will allow more accuracy and specificity in determining Community Hazard Ratings for each populated area in the county.

4.8 Assets at Risk

Many plants, animals, fish, and birds whose natural range includes Bastrop County are considered at risk by ecologists. Few of these at risk species have been placed on the National Endangered Species List, but global and sub-national conservation status ranks are identified where possible. Definitions of these rankings are included in Appendix 8.7.

4.8.1 Natural Resources

PLANT Name (Common/Scientific)	**Sub-national Rank**	**Global Rank**
Common Plants in Bastrop County		
Loblolly pine (*Pinus taeda*)	**None**	**None**
Post oak (*Quercus stellata*)	**None**	**None**
Blackjack oak (*Quercus marilandica*)	**None**	**None**
Eastern Red cedar (*Juniperus virginiana*)	**None**	**None**
Yaupon (*Ilex vomitoria*)	**None**	**None**
Black hickory (*Carya texana*)	**None**	**None**
Possumhaw holly (*Ilex decidua*)	**None**	**None**
Rare Plants Existing in Bastrop County	**Sub-national Rank**	**Global Rank**
Prairie sandmat (*Chamaesyce missurica*)	**S1**	**G5**
Toothed flax *(Limum imbricatum)*	**S2**	**G4**
Slim stinging nettle *(Urtica chamaedryoides)*	**S2**	**G4G5**
Green beebalm *(Monarda viridissima)*	**S3**	**G3**
Halfshrub sundrop *(Catylophus serrulatus)*	**S3**	**G3**
Slimspike prairie clover *(Dalea phleoides var. microphylia)*	**S3**	**G4**
Silver evax *(Evax candida)*	**S3**	**G3G5**
White four-o'clock *(Mirabilis albida)*	**S3**	**G5**
Texas pricklypear *(Opuntia engelmanni var. lindheimeri)*	**S3**	**G5**

Discussion:

Currently, pine tree overstocking in the county is significant. Pine forests are susceptible to bark beetles in such stressed conditions. The potential for increased downed woody fuels is another result of pine mortality. Restoration of the pine forest to historically stable conditions (open growth) would alleviate these problems and help to ensure the life of Bastrop's "Pineywoods" asset.

ANIMAL Name (Common/Scientific)	Sub-national Rank	Global Rank
Houston toad (*Bufo houstonensis*)	S1	G1
Comanche harvester ant (*Pogonomyrmex Comanche)*	S1	G1
Louisiana pine snake (*Pituophis melanoleucus ruthveni)*	S2	G2Q
Mountain lion (*Puma concolor*)	S2	G5
Ribbon shiner (*Lythrurus fumeus*)	S3	G5
Texas horned lizard (*Phyrnosoma cornutum*)	S4, threatened	G4, G5
Flying squirrel (*Glaucomys volans*)	S4	G5
Pileated woodpecker (*Dryicopus pileatus*)	S4B	G5
Pine warbler (*Sendroica pinus*)	S4B	G5
Mole (*Scalopus aquaticus*)	S5	G5
Gray fox (*Urocyon cinereoargenteus*)	S5	G5

Discussion:

The Houston toad is the most endangered amphibian species found in Bastrop County and is also recognized on the National Endangered Species list. Bastrop County is residence to the largest population of *Bufo houstonensis* still found in Texas. The habitat requirements of this animal are deep, loose sands supporting woodland savannah, plus still or slow flowing waters during its 30-day breeding season. These conditions exist primarily through the pine woods vegetation areas of the county. Houston toads also need an herbaceous layer of bunchgrasses for cover and foraging habitat. The Texas Department of Parks and Wildlife suggests that the toad may be adapted to natural fire, while frequent and/or severe burns, including incautious prescribed burns, can be detrimental to the species. Drafting water for fire fighting during the toad's breeding season could also be detrimental to this endangered species.

The Louisiana pine snake is also considered endangered, though it does not appear on the national list. It is also a creature of the deep sands and its habitat may actually be enhanced by a return to some semblance of the Pre-European fire regime. Appropriate prescribed burns may improve the microhabitat conditions required by this species.

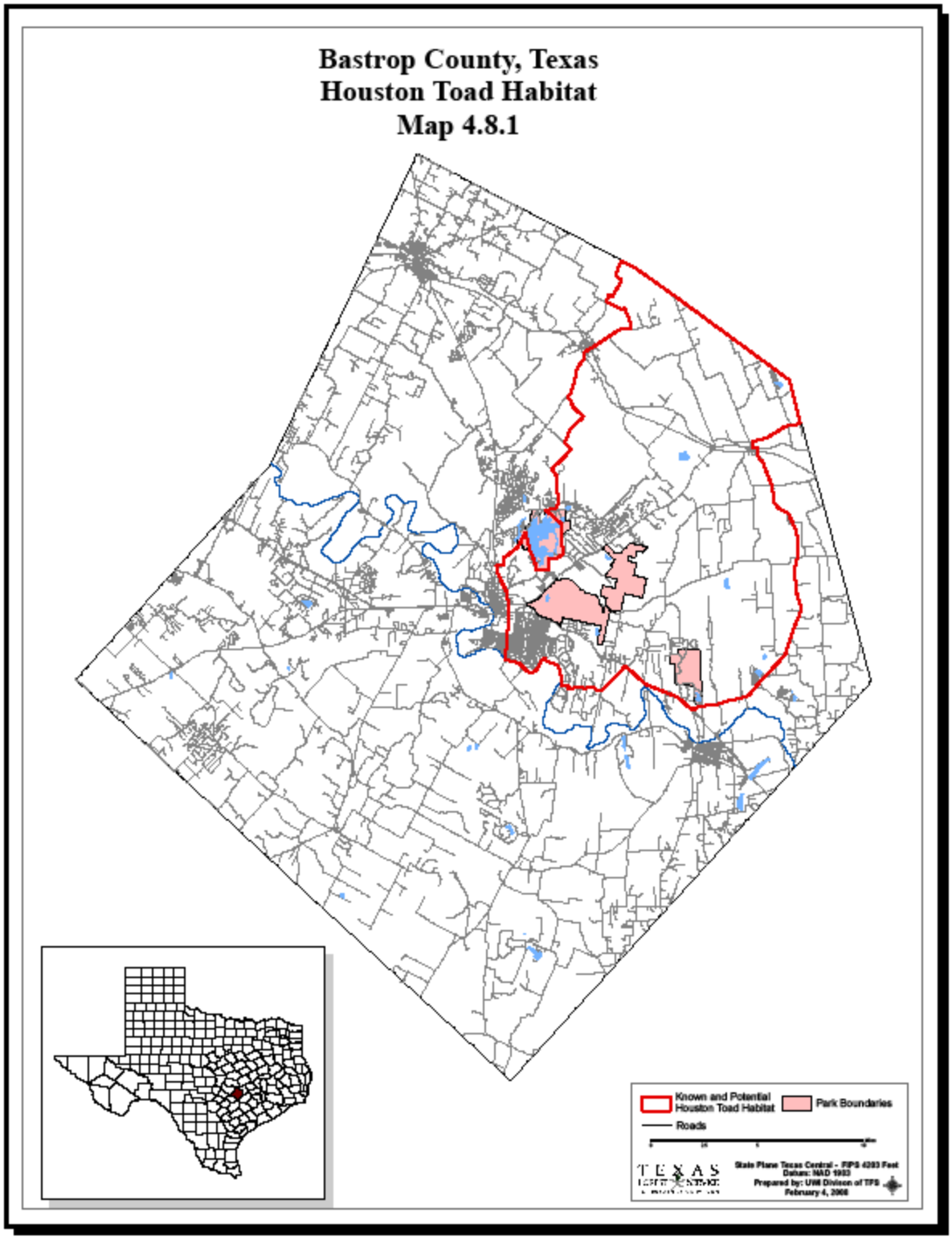
Watershed/Wetland Considerations	Priority
Colorado River watershed	
Cedar Creek	
Carrizo-Wilcox aquifer	

Discussion:

Soil erosion causing stream silting, sedimentation, etc. is possible with loss of ground cover due to wildfires. Aquifer recharging could also be adversely affected if reduced vegetation due to wildfire burns increases run-off and reduces soil absorption. Appropriate fuel management, including judicious prescribed burning could enhance habitat and improve watershed characteristics.

Due to the aggressive nature of juniper, both in the plant's growth and water usage, vegetation mitigation efforts will require that juniper be reduced significantly in areas where other vegetation, including pine trees, are eliminated.

Reduction of water-mining junipers will increase moisture available to other plants and to the watershed system itself.


Bastrop County, Texas
Houston Toad Habitat
Map 4.8.1
Known and Potential Houston Toad Habitat
Park Boundaries
Roads
TEXAS
State Plane Texas Central - FIPS 4203 Feet
Datum: NAD 1983
Prepared by: UWI Division of TFS
February 4, 2008

4.8.2 Commercial and Industrial Resources

Resource	Priority
M. D. Anderson Cancer Research Center-Science Park	
M. D. Anderson Cancer Research Center-Veterinary Facility	
Bastrop Federal Correctional Institute	
Bastrop Industrial Park	
Camp Swift	
Hyatt Lost Pines	
Smithville Airport	
Smithville Regional Hospital	
Lakeside Hospital	
Power plants, transmission lines, substations	
Bastrop Energy Partners LP	
Gentex Power Corp.	
Southwestern Bell	
LCRA Transmission Services Corp.	
Bluebonnet Electric Coop Inc.	
Waste water treatment plants	
Communications towers	
Pumping/transfer fuel stations	
Railroad properties	
Dams	

Discussion:

Many assets are at risk of wildfire in the County. Representatives of Bastrop County, FireCAP and the Texas Forest Service will continue to work with private and commercial asset managers to develop wildfire protection plans and necessary mitigation activities.

4.8.3 Community Values and Cultural Assets

Resource	Priority
Bastrop State Park	
Buescher State Park	
McKinney Roughs Nature Park	
UT Stengl Biological Field Station	
Camp Swift Military Reservation	
Lake Bastrop LCRA parks	
Cemeteries	
Historical buildings	
Yegua Knobs Preserve	
Colorado River Refuge Trail	
Churches	
Lost Pines Scout Reservation	
Bastrop Independent School District	
Elgin Independent School District	
Smithville Independent School District	
McDade Independent School District	
Discussion:	
Both State Parks and the Camp Swift Military Reservation maintain wildfire protection and mitigation plans. Officials are coordinating with LCRA managers to aid in the development of any necessary mitigation plans for McKinney Roughs or the LCRA Lake Bastrop parks.	

4.8.4 Estimated Values of at Risk Assets

Provide an approximate value for residential and commercial properties in the planning area.

Resource	Estimated value
Residential	$4 billion
Commercial	$1 billion
Agricultural	$2 billion
Natural	$ Invaluable
Discussion:	
The values for residential, commercial and agricultural assets are based on the analysis of information provided by the Bastrop County Appraisal District.	

5.0 COMMUNITY PRESCRIPTIONS and MITIGATION PLANS

Priorities for community prescriptions and mitigation plans include:
1. Completing an FRCC assessment of the entire county.
2. Prioritizing identified at risk communities for mitigation based on the FRCC assessment.
3. Achieving Condition Class I Fire Regimes as soon as possible.
4. Maintaining CC I Fire Regimes throughout the county.
5. Utilizing a variety of mitigation measures based upon appropriateness for the target vegetation and surrounding environment.
6. Increasing the number of educational opportunities available to developers and landowners regarding firewise construction, materials, and landscaping.
7. Utilizing additional public media opportunities for on-going public information about wildfire preparedness.

5.1 Hazardous Fuels Reduction Projects

More than 70 communities have been identified by Bastrop County fire officials as being at high risk of wildfire, as well as being neighborhoods in which fighting a wildfire would be a significant hazard to responders. These communities range from neighborhoods with a few homes to large subdivisions. Some of the largest areas are well-established communities, including Tahitian Village, Pine Forest, Lake Bastrop Acres, and Circle D Country Acres. A complete listing of these areas is included as Appendix 8.6.

Completion of a Fire Regime Condition Class (FRCC) assessment of the county will provide data to direct mitigation projects which will have the purpose of:
1. ***Restoring Fire Regimes to condition class I; and***
2. ***Emphasizing maintenance of the Condition Class I status.***

Priorities for implementing mitigation projects will be determined based on:
1. ***Population density***
2. ***Existing fuels as identified by FRCC surveys***
3. ***Wildfire risk level***
4. ***Availability of mitigation resources***

Development of an FRCC assessment of the county is vital to becoming eligible

for a variety of mitigation grant monies, including federal grants from agencies such as the U.S. Department of Agriculture, U.S. Fish & Game or the Department of the Interior.

Types of mitigation techniques used will include mechanical vegetation thinning and prescribed burns in appropriate locations. Large landowners and public land managers will be encouraged to develop ecologically sound fire management plans.

5.2 Treatment of Structural Ignitability

Bastrop County officials are developing subdivision regulations to support the development of adequate wildfire defensible space in new neighborhoods. These regulations will also identify recommendations for firewise construction materials and techniques.

Firewise education programs are available to local residents. These programs will continue to be promoted throughout the county by the Texas Forest Service and by Fire Citizens' Advisory Panel, Inc. (FireCAP).

These homeowner education programs include the "Wildfire Preparedness for Homeowners" workshop, which covers firewise construction, rehabbing for fire prevention, and non-flammable construction materials, among other wildfire preparedness information; and a "Firewise Family Guide", which outlines how a family can effectively create defensible space around their home.

Volunteers have been trained to facilitate the workshop, and the Guide has been distributed throughout the county's independent school districts.

5.3 Public Outreach and Education

Fire Citizens' Advisory Panel, Inc. (FireCAP), with the advice and consultation of the Texas Forest Service, has developed wildfire preparedness workshops and guides for homeowners. The workshops will be offered to at risk communities on a regular basis.

Information on wildfire has been provided to the Bastrop County permitting office. When homeowners obtain septic system, construction, and other permits, they also obtain information on defensible space and non-flammable construction materials.

Information will be available at www.firecap.org . The guides and other wildfire preparedness information will be placed in the public libraries in the County.

Future activities include reviving the annual Fall Fire Fest (outdoor educational program) historically sponsored by FireCAP; Bastrop County- specific participation in Wildfire Awareness Week; and continued involvement in National Fire Prevention Week.

5.4 Emergency Facilities and Equipment Enhancement

A second Emergency Services District (ESD) was recently approved by Bastrop County residents. Bastrop County Emergency Services District #2 became operational in March with the appointment and initial meeting of a board of commissioners. Emergency Services District #1 became active in 2006.

Approximately two thirds of the county's geography is now served by an ESD, excluding the cities of Bastrop and Smithville. Property tax assessments allocated to these districts will provide financial support specifically for fire protection.

Other support programs available to local fire departments include several available through the Texas Forest Service:

1. ***Rural Volunteer Fire Department Assistance Program (HB 2604)*- a cost sharing program funded by the Texas State Legislature which provides funding to rural volunteer fire departments for the purchase of fire fighting vehicles, fire and rescue equipment, protective clothing, county fire radio system components, dry hydrants, computer systems and fire fighting training.**
2. ***Rural Volunteer Fire Department Insurance Program* - a grant program designed to reimburse VFDs for the purchase of workers' compensation, death, and disability insurance coverage from private insurance companies.**
3. ***Protective Clothing Cost Share Program* - a grant program for the purchase of personal protective equipment and structural protective equipment. It is funded by a limited amount of federal funds in combination with state funds and is available through TFS.**
4. ***Federal Excess Personal Property* - Excess military equipment suitable for fire suppression activities is acquired by the Texas Forest Service and is made available to rural fire departments. The federal government maintains title to all equipment and TFS will license the vehicles for participating departments.**
5. ***VFD Helping Hands Program* - Created in response to Texas House Bill 680, this program provides liability relief to industry, business, cities and other groups or individuals that donate surplus fire and emergency equipment to the Texas Forest Service for distribution to volunteer fire departments in the state.**
6. ***VFD Motor Vehicle Liability Self Insurance Program* - Known as the VFD Risk Pool, this program provides low-cost vehicle liability insurance to qualified VFDs.**

7. ***Fire Safe Program*** **- Protective clothing is purchased in bulk by the Texas Forest Service and the savings are passed along to VFDs. Items available for sale include bunker coats, pants, boots, gloves and helmets. Equipment designed specifically for wildland fire fighting is also available, including PPE, hoses, nozzles and other water handling equipment.**
8. ***Motor Vehicle Liability Program*** **- provides low cost vehicle liability insurance to qualified volunteer fire departments.**
9. ***Fire Quench Program*** **- a Class A foam concentrate manufactured by Texas correctional Industries and made available Texas fire departments through the Texas Forest Service.**

5.5 Enhancement of Utilities and Infrastructure

Discussions with local utility providers indicate that these agencies believe most of their critical utility structures in the County are protected from potential wildfire. Bluebonnet Electric Cooperative has concerns regarding their new administration facility off Hwy 21.

As fuel loads are analyzed, major utility infrastructure sites will also be rated as to risk and recommendations developed for any needed mitigation.

5.6 Emergency Response/Evacuation/Wildfire Response Plans

The entire county is covered by Emergency Management plans. The City of Bastrop has a state-approved plan for its jurisdiction and the County has developed a plan for the remainder of the County, including the incorporated cities of Elgin and Smithville. Copies of these documents are available from the respective Emergency Management Coordinators.

Both State parks, Bastrop and Buescher, work closely with the Texas Forest Service in developing wildfire and mitigation plans. Prescribed burning as well as mechanical mitigation are elements of these plans.

Other major landowners in the County which coordinate with TFS on wildfire preparedness and prevention include the Texas National Guard on their Camp Swift training facility and the Lower Colorado River Association (LCRA). Camp Swift is in the process of preparing an official wildfire response plan for its facility which is expected to be completed early in 2008.

Some fire departments are developing pre-attack fire plans. It is recommended that all departments prepare such plans. As neighborhoods are assessed for their fire risk, these risk ratings will be provided to the appropriate fire district, and can include suggestions for pre-attack strategies.

As the 70-plus at risk communities are assessed, recommendations will be developed to address the major risks identified, such as limited access, inadequate emergency vehicle operations space, lack of defensible space, etc.

Completion of FRCC assessments in the county will provide a basis for developing pre-attack plans, incident action planning and fuels management, including prescribed burning.

A county-wide evacuation plan has not been developed. Public information from the county's Emergency Management Plans and other disaster preparedness sources have been disseminated through various media.

5.7 Evaluation of Restrictive Covenants and Ordinances

Most organized subdivisions in the county have property owners' regulations, deed restrictions, or covenants that provide direction for homeowners. These regulations generally address structure size and placement, building materials, property usage, livestock, and rights of way, and other topics which are associated with construction aesthetics, safety, health, and sanitation.

A review of such documents from several of these communities has not found any restrictions that would affect the creation of defensible space or the utilization of firewise construction or landscaping materials.

Bastrop officials are currently developing a set of subdivision regulations which would encourage future developers to design residential communities in the UWI to be more wildfire prepared. These conservation subdivision regulations may include requirements addressing road widths, turnaround spaces, defensible space and nonflammable construction materials.

5.8 Evaluation of Planning Commitment and Maintenance

Responsibility for implementation of this Plan will reside in the Bastrop County Emergency Management Office. Assignment of specific task and the completion of those tasks will be monitored by that office.

5.9 Memoranda of Understanding Review and Development

Memoranda of Understanding or Mutual Aid Agreements exist among all the fire fighting organizations in the county and between adjacent fire departments outside the county.

5.10 Biowaste Management

Biowaste, or woody biomass, is a by-product of management, restoration, or hazardous fuels reduction treatments. Woody biomass can also be the result of natural disasters, such as floods, hurricanes, high winds or tornados. It includes trees, woody plants, limbs, tops, needles, leaves and other woody plant parts. Much of this material is left to decay, is burned in place or is hauled away to land fills.

Management of biowaste is a significant issue when on-going mechanical fuel hazard reduction projects are implemented. Some areas of the country have successfully initiated woody biomass utilization projects which help to provide beneficial re-use of this biowaste.

Woody waste utilization may include the production and sale of products created from the wood waste, or the sale of the waste to manufacturers for the development of specific products, including timber, engineered lumber, paper and pulp, and furniture. Other value-added commodities may include a bio-energy source or such bio-based products as plastic, ethanol or diesel.

A wide range of biomass re-cycling opportunities exist. Smithville has instituted one mechanism. Additional research will determine those methods most appropriate for addressing biowaste management in Bastrop County.

6.0 IMPLEMENTATION

6.1 Implementation Progress Checklist

Section	Category	Completed (√)	Date
4.0	COMMUNITY RISK ASSESSMENT		
4.1	Topography		
4.2	Fuel Characteristics		
4.3	Critical Water Sources		
4.4	Predominant Construction Materials		
4.5	Access/Egress/Evacuation		
4.6	Expected Fire Behavior		
4.7	Community Hazard Rating		
4.8	Assets at Risk		
4.8.1	Natural Resources		
4.8.2	Commercial & Industrial Resources		
4.8.3	Community Values & Cultural Assets		
4.8.4	Estimated Value of At-Risk Assets		
5.0	COMMUNITY PRESCRIPTION AND MITIGATION PLANS		
5.1	Hazardous Fuels Reduction Projects		
5.2	Treatment of Structural Ignitability		
5.3	Public Outreach and Education		
5.4	Emergency Facilities/Equipment Enhancement		
5.5	Enhancement of Utilities and Infrastructure		
5.6	Emergency Response Plan		
5.7	Evacuation Plan		
5.8	Wildfire Response Plan		
5.9	Evaluation of Restrictive Covenants and Ordinances		
5.10	Evaluation of Planning Commitment and Maintenance		
5.11	Memoranda of Understanding review and Development		
5.12	Wood Waste Management		

7.0 Declaration of Agreement and Concurrence

The following partners in the development of this Bastrop County Community Wildfire Protection Plan have reviewed and mutually agree on its contents:

Signature **Date**

Ronnie McDonald, Judge, Bastrop County

Signature **Date**

Peter Hicks, Precinct 1 Commissioner, Bastrop County

Signature **Date**

Clara Beckett, Precinct 2 Commissioner, Bastrop County

Signature **Date**

John Klaus, Precinct 3 Commissioner, Bastrop County

Signature **Date**

Lee Dildy, Precinct 4 Commissioner, Bastrop County

Signature **Date**

Richard Gray, State UWI Coordinator, Texas Forest Service

8.0 Appendices

8.1 Community Participants

Core Planning Team

Name	James Allen
Organization	State Farm Insurance

Name	John Banning
Organization	Smithville Fire Department

Name	Janet Bauchman
Organization Address	Texas National Guard – Camp Swift

Name	Clara Beckett
Organization Address	Bastrop County Commissioner, Precinct #2

Name	David L. Board
Organization	City of Bastrop Emergency Management Coordinator

Name	Jim Cazares
Organization	City of Elgin Emergency Management Coordinator

Name	Bill Chess
Organization Address	Bill Chess Real Estate

Name	Kate Crosthwaite
Organization Address	Texas National Guard – Camp Swift

Name	Thomas Ellis
Organization	Bluebonnet Electric

Name	Maron Finley
Organization	Bastrop County Extension Agent

Name	Mike Fisher
Organization	Bastrop County Emergency Management Coordinator

Name	Larry Foehner
Organization	Elgin Fire Department

Name	Rich Gray
Organization	Texas Forest Service State UWI Coordinator

Name	Gary Hicks
Organization	Bastrop County Fire Chief's Association

Name	Chuck Kellogg
Organization	Aqua Water Supply Corp.

Name	John Klaus
Organization Address	Bastrop County Commissioner, Precinct #3

Name	Mary Leathers
Organization	Texas Forest Service Mitigation Specialist

Name	Lexi Maxwell
Organization	Texas Forest Service

Name	Todd McClanahan
Organization	Texas Parks & Wildlife Department

Name	Ronnie McDonald
Organization	Bastrop County Judge

Name	Shevis Moore
Organization	Bastrop ISD

Name	Joe Newman
Organization	Bastrop Economic Development Corporation

Name	Jack Page
Organization	Smithville Emergency Management Coordinator

Name	Henry Perry
Organization	Bastrop Fire Department

Name	Karen Pinard
Organization	WCID #2

Name	John Ricke
Organization	Landowner

Name	Alma Rodriguez
Organization	WCID #2

Name	Gary Sage
Organization	Smithville ISD

Name	Susana Duarte
Organization	LCRA, EMC

Name	Stacy Snell
Organization	City of Bastrop Planning Director

Name	Joe Ternus
Organization	Bastrop County Engineer

Commercial & Industrial Task Force

Name	John Banning
Organization	Smithville Fire Department

Name	Gary Hicks
Organization	Bastrop County Fire Chief's Association

Name	Shevis Moore
Organization	Bastrop ISD

Name	Joe Newman
Organization	Bastrop Economic Development Corporation

Name	Karen Pinard
Organization	WICD #2

Name	Alma Rodriguez
Organization	WICD #2

Name	Lori Tuggle
Organization	FireCAP, Inc. / State Farm Insurance

Name	Mario Alejandro
Organization	Hyatt Regency Lost Pines Resort

Development & Construction Task Force

Name	Dee Czora
Organization	Subdivisions – Bastrop County

Name	Larry Foehner
Organization	Elgin Fire Department

Name	Gary Hicks
Organization	FireCAP, Inc. / Bastrop County Fire Chief's Association

Name	Jack Page
Organization	City of Smithville Emergency Management Coordinator

Name	Henry Perry
Organization	Bastrop Fire Department

Name	Stacy Snell
Organization	City of Bastrop Planning Department

Name	Joe Ternus
Organization	Bastrop County Engineer

Homeowners & Landowners Task Force

Name	Bill Chess
Organization	Bill Chess Real Estate

Name	John Creamer
Organization	Tahitian Village HOA

Name	Steve Davis
Organization	Bastrop County Health Department

Name	Maron Finley
Organization	Bastrop County Extension Agent

Name	John Ricke
Organization	Landowner

Name	Julie Sommerfeld
Organization	Bastrop County 9-1-1 Addressing Departemnt

Name	Lori Tuggle
Organization	FireCAP, Inc. / State Farm Insurance

Utilities Task Force

Name	Thomas Ellis
Organization	Bluebonnet Electric Co.

Name	Gary Hicks
Organization	FireCAP, Inc. / Bastrop County Fire Chief's Association

Name	Chuck Kellogg
Organization	Aqua Water Corporation

Name	Shevis Moore
Organization	Bastrop ISD

Name	Karen Pinard
Organization	WCID #2

Name	Alma Rodriguez
Organization	WCID #2

Name	Susana Duarte
Organization	LCRA, EMC

Natural/cultural/Historical Assets Task Force

Name	Jim Cazares
Organization	City of Elgin Emergency Management Coordinator

Name	Maron Finley
Organization	Bastrop County Extension Agent

Name	Jamie Hackett
Organization	Texas Parks and Wildlife Department

Name	Steve Haglund
Organization	FireCAP, Inc / Forest Stewardship Services, Inc.

School Districts Task Force

Name	James Allen
Organization	State Farm Insurance

Name	Lori Tuggle
Organization	FireCAP, Inc. / State Farm Insurance

Name	Shevis Moore
Organization	Bastrop ISD

Name	Gary Sage
Organization	Smithville ISD

Name	Michael R. Sullivan
Organization	Elgin ISD

Public Lands Task Force

Name	Janet Bauchman
Organization	Texas National Guard – Camp Swift

Name	Kate Crossthwaite
Organization	Texas National Guard – Camp Swift

Name	Maron Finley
Organization	Bastrop County Extension Agent

Name	Jamie Hackett
Organization	Texas Parks & Wildlife Department

Name	Gary Hicks
Organization	FireCAP, Inc. / Bastrop County Fire Chief's Association

Name	Todd McClanahan
Organization	Texas Parks & Wildlife Department

Name	Steve Haglund
Organization	FireCAP, Inc / Forest Stewardship Services, Inc.

GIS Work Group

Name	Mike Fisher
Organization	Bastrop County Emergency Management Coordinator

Name	Rich Gray
Organization	Texas Forest Service

Name	Karen Kilgore
Organization	Texas Forest Service

Name	Julie Sommerfeld
Organization	Bastrop County 9-1-1 & GIS

Name	Joe Ternus
Organization	Bastrop County Engineer

8.2 Historical Fire Data

	2002	2003	2004	2005	2006	TOTAL
DEPARTMENT	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	
3-N-1 FD	19	36	6	0	0	61
5 Points FD	28	54	35	0	0	117
812 FD	5	11	4	0	0	20
969 FD	8	4	5	0	0	17
Bastrop FD	43	36	14	54	80	227
Bluebonnet FD	30	36	18	0	45	129
Circle-D FD	85	13	6	1	0	105
Elgin FD	41	36	43	25	39	184
Heart of Pines FD	8	8	6	14	14	50
Lake Bastrop Acres FD	22	37	9	6	0	74
McDade FD	12	4	4	9	8	37
Paige FD	18	13	6	4	16	57
Smithville FD	21	21	24	33	19	118
	340	309	180	146	221	1196

ACREAGE	2002	2003	2004	2005	2006	TOTAL
DEPARTMENT	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	
3-N-1 FD	268.25	193.5	17.5	17.5	0	496.75
5 Points FD	232.1	534	165	165	0	1096.1
812 FD	2	159.8	17.25	17.25	0	196.3
969 FD	4.5	91	6.75	6.75	0	109
Bastrop FD	100	92	16	16	145	369
Bluebonnet FD	111.8	84.5	23	23	553.95	796.25
Circle-D FD	148	90	31	31	0	300
Elgin FD	0	0	0	0	0	0
Heart of Pines FD	8.75	38	6.75	6.75	88	148.25
Lake Bastrop Acres FD	0	0	15	15	0	30
McDade FD	141.5	304	65.25	65.25	0	576
Paige FD	90	42.5	6.5	6.5	50	195.5
Smithville FD	87	65	61	61	20	294
	1193.90	1694.30	431.00	431.00	856.95	4607.15

NOTE: The data included in this table should be used with great discretion. Not all fire departments reported data for every quarter, resulting in an incomplete historical picture.

8.3 School District Facilities Inventory

Bastrop Independent School District

Bastrop High School	1614 Chambers	Bastrop
Gateway Alternative School	1155 Lovers Lane	Bastrop
Genesis High School	1200 Cedar Street	Bastrop
Bastrop Middle School	709 Old Austin Highway	Bastrop
Bastrop Intermediate School	509 Old Austin Highway	Bastrop
Bluebonnet Elementary	416 FM 1209	Bastrop
Emile Elementary	601 MLK	Bastrop
Lost Pines Elementary	151 Tiger Woods	Bastrop
Mina Elementary	1203 Hill Street	Bastrop
Cedar Creek Elementary	5582 FM 535	Cedar Creek
Cedar Creek Intermediate	151 Voss Parkway	Cedar Creek
Cedar Creek Middle School	125 Voss Parkway	Cedar Creek
Red Rock Elementary	2401 FMS 20	Red Rock

Transportation	1081 Lovers Lane	Bastrop
Maintenance	1602 Hill Street	Bastrop
Warehouse	1111 Lovers Lane	Bastrop
Print Shop	906 Farm Street	Bastrop
Sports Center	1201 Elm Street	Bastrop
Field House	1602 Hill Street	Bastrop

Elgin Independent School District

Elgin High School	14000 County Line Road	Elgin
Phoenix High School	1002 N. Avenue C	Elgin
Elgin Middle School	902 W. 2nd Street	Elgin
Booker T. Washington Elem.	510 MLK	Elgin
Elgin Elementary	1005 W. 2nd Street	Elgin
Neidig Elementary	13700 County Line Road	Elgin

Smithville Independent School District

Smithville High School	285 Hwy 95 South	Smithville
Smithville Jr. High School	901 Wilkes Street	Smithville
Smithville Elementary	800 Bishop	Smithville
Brown Primary School	403 S.W. 4th Street	Smithville

McDade Independent School District

McDade School	156 Marlin St.	McDade

8.4 Fire Department Equipment Inventory

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
Bastrop FD	**P.O. Box 1365** **Bastrop, TX 78602**	**Henry Perry, Chief** **hperry@cityofbastrop.org**	**512-848-7319 - m**
Resources		**Response Time**	
Engines **Type / ID / Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID / Capacity**
E 11 1500 GPM Pumper 750 gal	**Dozer 1**	**Truck 22 Pumper 750 gal**	
E 21 1500 GPM Pumper 750 gal		**Brush 16 300 gal**	
E 12 1000 GPM Pumper 750 gal		**Brush 26 400 gal**	
E 31 1000 GPM Pumper 750 gal		**Brush 36 300 gal**	
E 32 1000 GPM Pumper 1000 gal		**Brush 46 300 gal**	
E 41 1000 GPM Pumper 1000 gal		**Brush 33 750 gal**	
		Tender 13 2000 gal	
		Tender 23 2000 gal	
		Tender 33 2000 gal	
		Tender 43 2000 gal	
		Rescue 11	
		Rehab 18	
		Cascade 1 Breathing Air Supply	
		Boat 1	
		Boat 2	
		Haz-Mat Trailer	
		Haz-Mat Trailer	
No of Volunteer Firefighters - 50		**Training Needs:**	

Local	*Department Name Address*	*Contact Name Title Email*	*Phone Numbers*
Elgin FD	**P.O. Box 689 Elgin, TX 78621**	**Larry Foehner, Chief elginfirerescue@yahoo.com**	**512-563-5942 – m 512-281-4025 - o**

Resources	**Response Time**	**6 – 10 min.**

Engines Type / ID / Capacity	**Dozers & Tractor Plows Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation Type / ID / Capacity**
1250 GPM Class A	**1 Dozer/Plow**	**2-Tanker/Tenders**	**X**
Engine 1	**Dozer 1**	**2500 gal. each**	**X**
500 gal.		**2-large Brush Trucks**	**X**
750 GPM Class A		**1000 gal. each**	**X**
Engine 2		**2-small Brush Truck**	**X**
300 gal.		**500 gal.**	**X**
		1-small Brush Truck	**X**
		250 gal.	**X**
No of Volunteer Firefighters - 40		**Training Needs:**	
		Tanker Shuttle	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
Smithville FD	**P.O. Box 328** **Smithville, TX 78597**	**James Elam, Chief** **jelam@ smithvillefd.net**	**512-785-1083**

Resources		**Response Time**	
Engines **Type / ID / Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID / Capacity**
E 1 1250 gpm 500 gal		**T 1 250 gpm 1500**	
E 2 1250 gpm 500 gal		**T 2 250 gpm 1500**	
E 4 1250 gpm 1000 gal		**BT 1 250 gpm 300 gal**	
		BT 2 250 gpm 300 gal	
		Squad 1 Rehab/Utility	
		Boat 1 16 ft.	
		Boat 2 16 ft.	
No of Volunteer Firefighters - 36		**Training Needs:**	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
Bluebonnet FD	**P.O. Box 335** **Cedar Creek, TX 78612**	**Buddy Burrows, Chief** **chief@bbvfd.com**	**512-718-2229**

Resources		**Response Time**	**4 minutes**
Engines **Type / ID / Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID / Capacity**
E-7 = **CAFS**	**None**	**B-21 –** 40 gal.	**SR71 - Remote**
1000 gal		**B-22 –** 250 gal.	**Video Plane**
E-8		**B-23 - CAFS**	
1000 gal.		**T12 –** 2000 gal.	
E-9		**Generator trailer**	
850 gal.		20,000 watts	
No of Volunteer Firefighters -XXX		**Training Needs:**	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
Five-Points VFD (ESD #1)	**P.O. Box 95 Red Rock, TX 78662**	**Kevin Giesalhart, Chief** **shewa2@juno.com**	**512-497-8005**
Resources		**Response Time**	**7 – 7.5 min.**

Engines Type / ID / Capacity	**Dozers & Tractor Plows Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation Type / ID / Capacity**
Engine 3000 gal	**Dozer & Hauler**	**(1) BT 800 gal.**	**X**
Engine 1000 gal.		**(1) BT 500 gal.**	**X**
Engine 1000 gal.		**(3) BT 300 gal.**	**X**
Engine 500 gal.		**(3) BT 250 gal.**	**X**
		(1) Tanker 1800 gal.	**X**
		(2) Tankers 1000 gal.	**X**
		County Tanker 5200 gal.	**X**
No of Volunteer Firefighters - 41		**Training Needs:**	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
3-N-1 FD	**P.O. Box 51** **Rosanky, TX 78953**	**Gary Hicks, Chief** **chief@3n1vfd.org**	**512-718-3168**

Resources		**Response Time**	
Engines **Type / ID /** **Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID /** **Capacity**
E-300 1250 gpm		**B-321 225 gpm**	
1000 gal		**300 gal**	
E-306 1250 gpm		**B-223 225 gpm**	
500		**300 gal**	
		B-323 gpm	
		240 gal	
		B-325 100 gpm	
		400 gal	
		T-310 150 gpm	
		2200 gal	
		T-313 300 gpm	
		2000 gal	
No of Volunteer Firefighters - XXX		**Training Needs:**	

Local	*Department Name Address*	*Contact Name Title Email*	*Phone Numbers*
Heart of the Pines FD	**P.O. Box 98 Smithville, TX 78957**	**Nathan Decker, Chief HOPVFDChief @austin.rr.com**	**512-360-5185**
Resources		**Response Time**	**Depends on location**
Engines Type / ID / Capacity	**Dozers & Tractor Plows Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation Type / ID / Capacity**
E1-Pumper	**None**	**Brush Truck**	**None**
1000 gal.		**Type 6**	
E2-Pumper		400 gal.	
800 gal.		**Brush Truck**	
		Type 6	
		350 gal.	
		Tender	
		2000 gal.	
		Tender	
		1200 gal.	
No of Volunteer Firefighters - 24		**Training Needs:**	
		IS-300	
		IS-400	
		Emergency Vehicle Operations	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
McDade FD	**P. O. Box 465** **McDade, TX 78650**	**Sam Dungan, Chief**	**512-466-1439** **512-273-1021**

Resources		**Response Time**	**10-15 min.**
Engines **Type / ID /** **Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc.** **(Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID /** **Capacity**
Attack 3	**X**	**651 BT 800 gal.**	**X**
300 gal.	**X**	**652 BT 1000 gal.**	**X**
	X	**653 BT 240 gal.**	**X**
	X	**Tanker 2000 gal.**	**X**
No of Volunteer Firefighters - 14		**Training Needs:**	

Local	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
Paige FD	**P.O. Box 55** **Paige, TX 78659**	**Kenny Ray, Chief** **paigevfd@yahoo.com** **chief681@earthlink.net**	**512-253-6514** **512-626-0846 (C)**

Resources	**Response Time**	**4 - 7 min.**

Engines **Type / ID /** **Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc.** **(Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID /** **Capacity**
'72 Ford Pumper 750 gal.		**'99 Dodge Quad 4WD BT 210 gal.**	
		'02 F-450 BT 300 gal.	
		'95 Intl. Tender 1200 gal/1500 gal. dump tank	
No of Volunteer Firefighters - 14		**Training Needs:**	
		Jaws of Life	

State	*Department Name* *Address*	*Contact Name* *Title* *Email*	*Phone Numbers*
	Texas Forest Service **1106 College St.** **Bastrop, TX 78602**	**Rich Gray** **Regional Fire Coordinator** **rgray@**	**512-321-2467** **979-218-4819 (m)**

Resources	**Response Time**	

Engines **Type / ID / Capacity**	**Dozers & Tractor Plows** **Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation** **Type / ID / Capacity**
4460 Wildland Engine **300 gal**	**4490 Dozer**		
4461 Wildland Engine **300 gal**	**4491 Dozer**		
4462 Wildland Engine **300 gal**			

Federal	*Department Name Address*	*Contact Name Title Email*	*Phone Numbers*
Federal Correctional Institution		**Bill Laird** **wlaird@bop.gov**	**512-321-3903**
Resources		**Response Time**	
Engines Type / ID / Capacity	**Dozers & Tractor Plows Type / ID /**	**Misc. (Tankers/Tenders, Etc.) / Capacity**	**Aviation Type / ID / Capacity**
No of Volunteer Firefighters -		**Training Needs:**	

8.5 SUMMARY OF FIRE REGIME CONDITION CLASS SURVEY METHODOLOGY

Definitions:

Fire Regime - a natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the possible influence of aboriginal fire (Agee 1993; Brown 1995). The five natural fire regimes are classified based on the average number of years between fires (fire frequency or mean fire interval [MFI]) combined with characteristic fire severity reflecting percent replacement of dominant over story vegetation.

These five natural fire regimes are defined as follows:

Group	Frequency	Severity	Severity Description
I	0-35 years	Low / Mixed	Generally low-severity fires replacing less than 25% of the dominant overstory vegetation; can include mixed-severity fires that replace up to 75% of the overstory.
II	0-35 years	Replacement	High-severity fires replacing greater then 75% of the dominant overstory vegetation.
III	35-200 years	Mixed / Low	Generally mixed-severity; can also include low-severity fires.
IV	35-200 years	Replacement	High-severity fires.
V	200+ years	Replacement / Any severity	Generally replacement-severity; can include any severity type in this frequency range.

Fire Regime Condition Class - fire regime condition classes measure the degree of departure from reference conditions, resulting in changes to key ecosystem components, such as vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and are affected by other associated disturbances, such as insect and disease-caused mortality, grazing and drought.

The three fire regime condition classes (FRCC) are categorized using the following criteria:

FRCC 1 - ecosystems with low (<33 %) departure from reference conditions and that are still within the estimated historical range of variability during a specifically defined reference period.
FRCC 2 - ecosystems with moderate (33 to 66 %) departure from reference conditions.
FRCC 3 - ecosystems with high (>66 %) departure from reference conditions.

"Reference condition" characteristics have been identified and written descriptions developed for U.S. biophysical settings (BpS). Summary tables and description documents can be found at www.frcc.gov.

Application of the FRCC methodology is described in detail in the FRCC Guidebook v 1.3.0, Jan. 2008 on that same website. The FRCC Guidebook includes two procedures for determining FRCC: the FRCC Standard Landscape Worksheet Method and the FRCC Standard Landscape Mapping Method. These methods provide consistency and quantifiability from the landscape level to the stand level.

The FRCC Guidebook provides step-by-step instructions for conducting assessments with the FRCC Standard Landscape Worksheet Method and an overview of the FRCC Mapping tool GIS software used for the Standard Landscape Mapping Method.

FRCC is a measure of ecological trends. Inferences about current fire hazard can be made by examining FRCC outcomes. Bastrop County will be able to determine more specific mitigation priorities upon the completion of the FRCC survey project.

8.6 Priority Community Mitigation Areas

Communities at Risk of Wildfire or a Risk to Responder Safety

Named Developments	***County Precinct***
Arbors at Dogwood Creek	FOUR
Arbor Hills	THREE
Artesian Oaks	THREE
Camp Swift Ranch	ONE
Cedar Hills	FOUR
Circle D Country Acres	ONE
Circle D Country Estates	ONE
Clearview Estates	ONE
ColoVista Country Club	TWO
Elgin Oaks	FOUR
Forest Ridge Estates	FOUR
Heritage Oaks	THREE
Hidden Oaks	FOUR
High View Ranches	THREE
Holiday Hills	ONE
Horseshoe Lake	TWO
Hyatt Lost Pines Resort	THREE
Idle Acres	TWO
Indian Lake	TWO
Kee-El	TWO
Lake Bastrop Acres	ONE
Lake Bastrop Estates	ONE
Lake Bastrop Ranchettes	ONE
Lake Thunderbird	TWO
La Reata Ranch	TWO
Legend Oaks	THREE
Lincoln Lake Estates	TWO
Lytton Oaks	THREE
Martin's Meadow	THREE
Mcelreath Properties	THREE
Mesquite Acres	THREE
The Oaks	FOUR
Pecan Acres	ONE
Pine Forest	ONE
Pine Ridge Farms	TWO
Pine Valley Estates	TWO
Piney Ridge	ONE
Pioneer Pines Farms	TWO
Ponderosa Homestead	TWO
Red Rock Acres	THREE
Red Rock Pines	TWO
Rianna Woods	THREE
River Crossing	THREE
Rianna Woods	THREE
Sandy Knoll Acres	THREE
Sendero Estates	THREE
Scenic Farms	TWO
Smithville West	TWO
Tahitian Village	ONE

Named Developments	***County Precinct***
The Woodlands	ONE
Thousand Oaks	THREE
Turkey Run	TWO
Wayside Oaks	FOUR
Wilbarger Creek Estates	FOUR
The Woodlands	ONE
University Park	TWO
Yegua Valley	FOUR

Unnamed Neighborhoods

Alum Creek Road area	TWO
Bar-L-Mesa area	ONE
Brody Lane-Bailey Blvd. area	TWO
Cedar Creek Circle area	THREE
Cherylton Drive area	THREE
Colorado Drive area	THREE
Crafts Prairie Road area	TWO
Flower Hill Rd. area	TWO
Gotier Trace Rd. area	TWO
Hurta Rd. area	TWO
Laura Lane area	ONE
Lee County Rd. area	TWO
Linam Lane area	THREE
Martin Ranch Rd. Area	FOUR
Moccasin Canyon Drive area	THREE
Oak Arbor-Legend Oaks area	THREE
Peyton Place area	TWO
Rolling Oak Drive. Area	FOUR
Rose's Oaks Drive area	TWO
Shadow Oaks Drive area	FOUR
Simpson Avenue area	THREE
Stockade Ranch Rd. area	FOUR
Wayside Court & Drive area	FOUR
Wilbarger Creek Dr. area	FOUR

8.7 Species Ranking Definitions

Global Conservation Status Definitions

Listed below are definitions for interpreting ***NatureServe*** global conservation status ranks (G-ranks). These ranks reflect an assessment of the condition of the species or ecological community across its entire range. Where indicated, definitions differ for species and ecological communities.

Basic Ranks

Rank Definition

GX - **Presumed Extinct** (species)— Not located despite intensive searches and virtually no likelihood of rediscovery.
- **Eliminated** (ecological communities)—Eliminated throughout its range, with no restoration potential due to extinction of dominant or characteristic species.

GH - **Possibly Extinct** (species)— Missing; known from only historical occurrences but still some hope of rediscovery.
- **Presumed Eliminated**— (Historic, ecological communities)-Presumed eliminated throughout its range, with no or virtually no likelihood that it will be rediscovered, but with the potential for restoration, for example, American Chestnut Forest.

G1 - **Critically Imperiled**—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 - **Imperiled**—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 - **Vulnerable**—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 - **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 - **Secure**—Common; widespread and abundant.

National and Subnational Conservation Status Definitions

Listed below are definitions for interpreting NatureServe conservation status ranks at the national (Nrank) and subnational (S-rank) levels. The term "subnational" refers to state or province-level jurisdictions (e.g., California, Ontario). Assigning national and subnational conservation status ranks for species and ecological communities follows the same general principles as used in assigning global status ranks. A subnational rank, however, cannot imply that the species or community is more secure at the state/province level than it is nationally or globally (i.e., a rank of G1S3 cannot occur), and similarly, a national rank cannot exceed the global rank. Subnational

ranks are assigned and maintained by state or provincial natural heritage programs and conservation data centers.

National (N) and Subnational (S) Conservation Status Ranks

Status Definition

NX / SX - Presumed Extirpated—Species or community is believed to be extirpated from the Nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

NH / SH - Possibly Extirpated (Historical)—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

N1 / S1 - Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

N2 / S2 - Imperiled—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

N3 / S3 - Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

N4 / S4 - Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

N5 / S5- Secure—Common, widespread, and abundant in the nation or state/province.

NNR / SNR - Unranked—Nation or state/province conservation status not yet assessed.

NU / SU - Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

ADDITONAL DEFINITIONS AND DISCUSSION CAN BE FOUND AT WWW.NATURESERVE.ORG