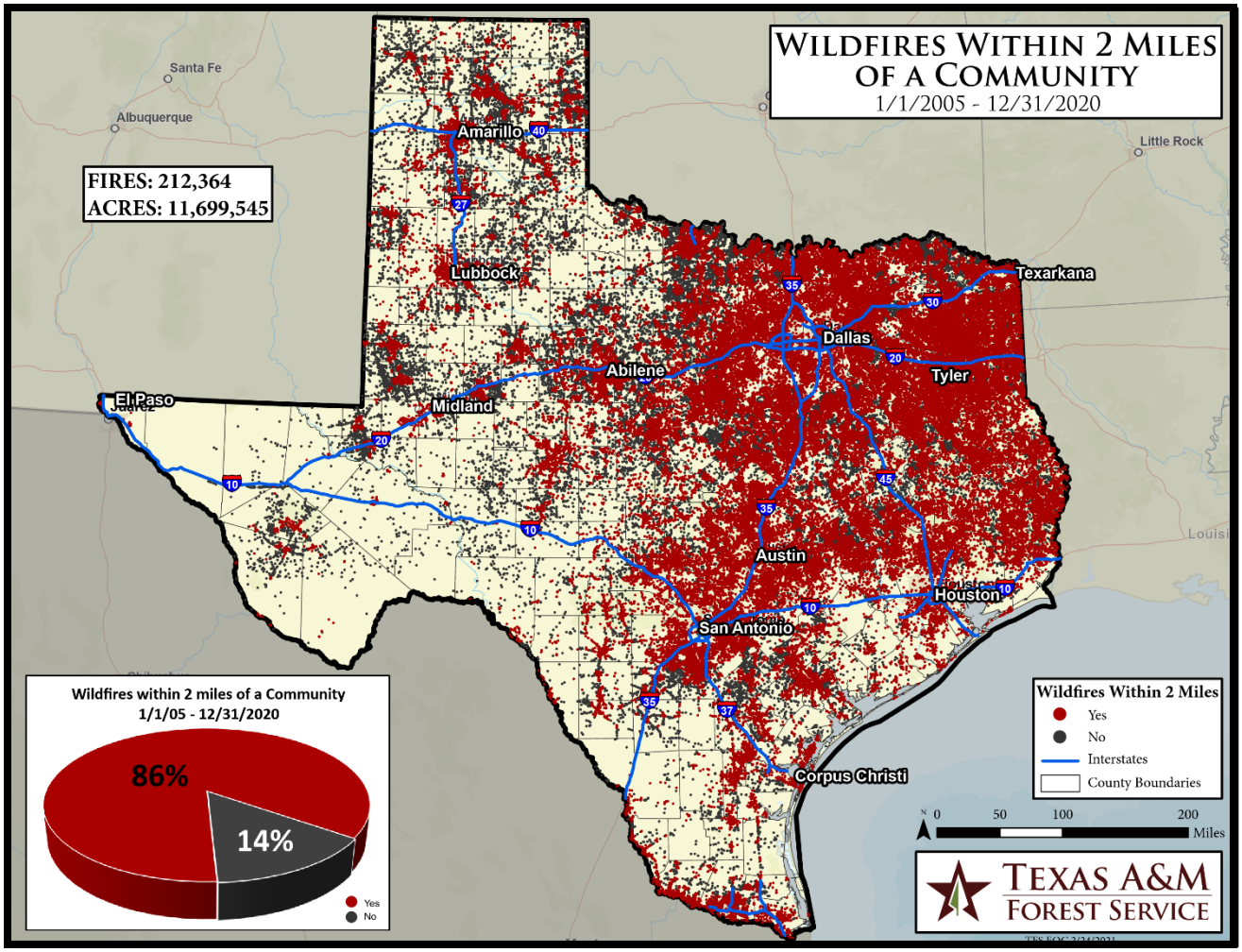
TEXAS A&M FOREST SERVICE

COMMUNITY WILDFIRE PROTECTION PLAN GUIDE



Eighty-six percent of wildfires in Texas occur within two miles of a community. That means 86 percent of Texas wildfires pose a threat to life and property. A Community Wildfire Protection Plan can help protect against the threats of wildfire.

Wildland Urban Interface Program

Mitigation and Prevention Department

May 2022

Texas A&M Forest Service
Wildland Urban Interface Program
Community Wildfire Protection Plan Guide

This guide was developed to aid stakeholders in the process of developing a Community Wildfire Protection Plan (CWPP). Once a working group is formed to develop a plan, its members can use the examples, tools and tips in this guide to help them customize their CWPP. The working group should consist of a broad range of stakeholders, including a Texas A&M Forest Service Representative who can answer specific questions.

CWPPs are a collaborative approach to wildland fire protection and mitigation. A plan can be as simple or complex as the needs of the community dictate. CWPPs are authorized by the Healthy Forests Restoration Act, signed into law in 2003.

Your CWPP can be used to identify high-risk WUI areas — where homes and businesses meet surrounding forests and fields. The plan also can provide an opportunity to target potential fuels reduction projects, training needs and mitigation strategies.

Our mission is to empower the citizens of Texas to prevent and prepare for wildfire.



TEXAS A&M FOREST SERVICE

Table of Contents

➢ *The outline of your CWPP can closely model this Table of Contents. This guide will walk you through how to craft each page to meet the needs of your community.*

Overview

The threat of wildfire is a constant in Texas. From the East Texas Piney Woods to the Davis Mountains of West Texas, wildfires burn thousands — if not millions — of acres each year. Wildfires become especially dangerous when wildland vegetation begins to intermix with homes. This area is referred to as the Wildland Urban Interface (WUI). More than 14,500 communities in Texas have been identified as "at risk" for potentially devastating WUI wildfires.

According to the U.S. Census Bureau, Texas continues to lead the nation in population growth. With more and more people moving to and living in the WUI, it is increasingly important for local officials to plan and prepare for wildfires. Community Wildfire Protection Plans (CWPP) are a proven strategy for reducing the risk of catastrophic wildfires and protecting lives and property.

Texas A&M Forest Service encourages Texas counties and communities to develop and adopt CWPPs to better prepare their region and citizens for wildfires. Planning for wildfires should take place long before a community is threatened. Once a wildfire ignites, the only option available to firefighters is to attempt to suppress the fire before it reaches a community. A CWPP is a unique, flexible and living document that empowers communities to share the responsibility of determining the best strategies for protection against wildfire. The success of CWPPs is attributed to a process that allows communities to develop a plan that fits their needs, at a scale where they can make something happen.

While there is no template for these plans, a CWPP is required to contain three essential elements:

- **Collaboration**. A CWPP must be collaboratively developed. Wildfire risk is a community problem and a shared responsibility between stakeholders.
- **Prioritized Fuel Reduction**. A CWPP must identify and prioritize areas for hazardous fuel reduction treatments that would reduce risk to the community.
- **Treatment of Structural Ignitability**. A CWPP must provide recommendations for community members on how to reduce the ignitability of structures throughout the community.

Texas A&M Forest Service has developed this user-friendly guide to aid communities in reducing the risks wildfires pose to homes, businesses and natural resources. If at any time while working through this document, you come across a term you're not familiar with, flip to the Glossary on Page 47.

In addition to this guide, a checklist for the working group leader is included on Page 45 and can also be accessed at **https://tfsweb.tamu.edu/ProtectYourCommunity/** by clicking on **Community Wildfire Protection Plan** and then the **Leader's Guide**.

The **City of Bryan CWPP**, referenced throughout this guide, is a good example that may help you visualize what the final version of your document should look like. You can access it at **https://bit.ly/3zgDWGu.**

Additional references to utilize while creating your plan can be found at **https://tfsweb.tamu.edu/ProtectYourCommunity/** under the **Community Wildfire Protection Plan** tab.

Keep in mind while crafting your CWPP that much of the information you're gathering also could be useful in a Pre-Attack Plan — a resource for emergency responders who may not be familiar with your community.

Some of the information that may be provided in a Pre-Attack Plan includes:

- Water sources
- Incident Command Post, shelter and staging locations
- Process for ordering resources
- High-risk WUI areas
- Communications plan

Pre-attack planning requires collaboration among emergency management, fire departments, law enforcement, community leaders, elected officials, GIS specialists and Texas A&M Forest Service in order to be successful.

These plans can encompass an area as large as a county but will be more effective at the fire department response area level. Planning for WUI fires and distributing that information in the form of a Pre-Attack Plan can increase a community's success rate for initial and extended attack operations.

This icon appears throughout the guide in areas where the information might be useful in a Pre-Attack Plan.

➢ ***You don't need to include an Overview chapter in your CWPP. It's simply a tool to help you get started and generate the information you'll need for your plan.***

Introduction

CWPPs are developed to mitigate losses from wildfires. Wildfires occur throughout the year and can pose a serious threat to residents. By developing a CWPP, a community is outlining a strategic plan to mitigate, prepare, respond and recover.

Statement of Intent:

The Statement of Intent should include the purpose and primary motivation for writing a CWPP. Example: The intent of a CWPP is to reduce the risk of wildfire and promote ecosystem health. The plan also is intended to reduce home losses and provide for the safety of residents and firefighters during wildfires.

Goals:

Goals are general guidelines that explain what you want to achieve in your community. They are typically long-term and broader. The goals of a CWPP should encompass what the community wants to achieve by creating a CWPP.

Examples include:

- Provide for the safety of residents and emergency personnel
- Limit the number of homes destroyed by wildfires.

Objectives:

An objective is the specific, measurable actions to achieve the goals; these define strategies or implementation steps. The objectives of a CWPP should be what the community needs to complete to meet their CWPP goals.

Examples include:

- Identify local capacity building and training needs.
- Promote wildfire awareness programs.

➢ ***Utilize the intent, goals and objectives outlined on this page to guide you in creating similar statements for your plan.***

Working Group

One of the minimum qualifications for a CWPP is collaboration among local and state partners (and federal partners if located near federal land). Due to the various mitigation and response strategies for wildfire events, it also may be beneficial to involve other key agencies and partners during the CWPP process.

THREE KEY STAKEHOLDERS:

1. Local Government
2. Fire Department(s)
3. Texas A&M Forest Service Representative

Form a core group with representation from the local fire department, local government and the Texas A&M Forest Service. It also may be useful to identify someone in your community with mapping and GIS skills. These key stakeholders are responsible for the development of the CWPP and for identifying other partners for collaboration. Remember: wildfire risk is a community problem and a shared responsibility between stakeholders, and additional partners should be encouraged to participate. Gaining input from a variety of interests will ensure that the CWPP reflects the interests and values of the entire community.

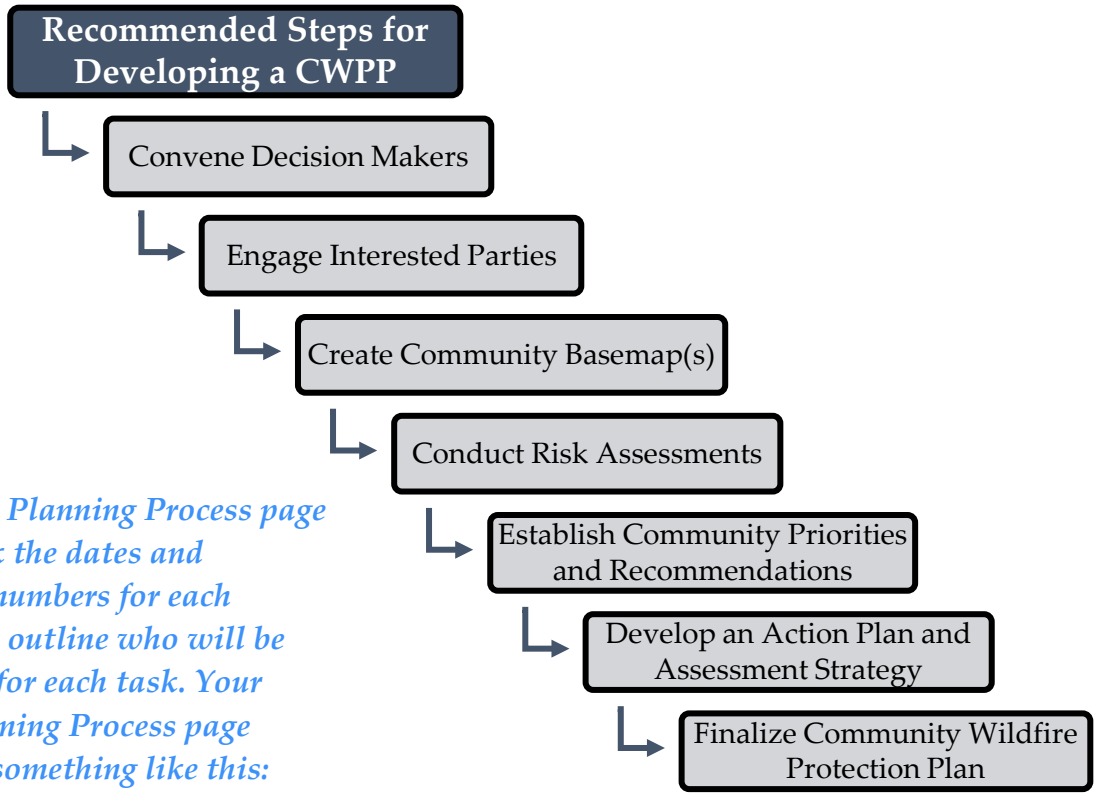
- ***Use your CWPP Working Group page to list the names of individuals who will be collaborating on the process and the agencies they represent. Be sure to include the required key stakeholders: local government, fire department(s) and a Texas A&M Forest Service Representative.***

Possible Working Group Partners

Council of Governments	**National Park Service**	**School Districts**
Environmental Groups	**Natural Resources Conservation Service**	**Texas A&M Agrilife Extension Service**
Federal Emergency Management Agency	**Parks and Recreation**	**Texas Division of Emergency Management District Coordinator**
GIS Specialists	**Planning and Zoning**	**Texas Parks and Wildlife Department**
Homeowners	**Public Works**	**U.S. Fish and Wildlife**
Hospital Districts	**Resource Conservation and Development**	**U.S. Forest Service**

Planning Process

Establish a CWPP working group and hold regular meetings, tracking your progress along the way. At the first meeting, core members should discuss the need and process for developing a CWPP. Identify individuals who will conduct community wildfire hazard assessments, develop community maps, collect data and record CWPP meeting notes.



➢ *Your CWPP Planning Process page should track the dates and attendance numbers for each meeting and outline who will be responsible for each task. Your CWPP Planning Process page might look something like this:*

CWPP Meetings			
[Date]	[Topics Covered]	[Attendees]	[Action Items]
[Date]	[Topics Covered]	[Attendees]	[Action Items]
[Date]	[Topics Covered]	[Attendees]	[Action Items]
[Date]	[Topics Covered]	[Attendees]	[Action Items]
[Date]	[Topics Covered]	[Attendees]	[Action Items]
[Date]	[Topics Covered]	[Attendees]	[Action Items]

Texas Wildfire Risk Assessment Portal (TxWRAP)

Overview

Don't reinvent the wheel! Much of the information needed for your CWPP can be easily identified by using the Texas Wildfire Risk Assessment Portal (TxWRAP). Throughout this guide, when you see the TxWRAP icon, we'll provide detailed instructions on how to download specific information about your region for your CWPP.

Sign up for a TxWRAP account by visiting **texaswildfirerisk.com.** Navigate to the "**Tools**" section and select the "**Try It!**" button under Texas Wildfire Risk Explorer. Select **"Create an Account"** to open a new account.

Once you're logged in, select the **"Advanced Viewer"** option and click on the **"Project Areas"** tab. Select the **"Create New"** button and name your project. To select your county or city, define the project boundary by **"Reference Layer."** Select either the **"County Boundaries"** or **"Incorporated City Boundaries"** layer, then select your county or city. Once selected, click **"Create"**. You can then **Generate a Report Summary** as a word document, or **Export Data** as a zip file, and send it to your email. The report that will be emailed to you provides information that can be used to write your CWPP. Other tools for generating maps and useful information are also available within TxWRAP.

Scan this Quick Response code to open TxWRAP on your smart phone.

A Texas A&M Forest Service Representative will assist the working group in developing a CWPP. You can find out how to **contact your local Texas A&M Forest Service Representative at https://tfsweb.tamu.edu/contactus/program-map/.**

- ***You don't need to include a TxWRAP Overview page in your CWPP. It's simply a tool to help you generate the information you'll need for your plan.***

Community Background

This chapter covers the characteristics of your community that make it unique. By documenting these attributes, the working group can help to ensure safety for emergency responders.

* *Location*
  Geographical location, boundaries and physical features

* *General Landscape*
  Topography, soil type, and water sources

* *Climate*
  Seasonal weather patterns

* *Vegetation*
  Predominant fuel types, fuel loading and large wildland areas

* *Land Use*
  Past and present fuel types and land use

* *Population*
  Jurisdiction population numbers

* *Fire Response Capabilities*
  Nearby fire departments, resources, locations, and numbers of members

* *Emergency Facilities*
  Nearby hospitals, fire stations, emergency management offices and shelter locations

* *Utilities and railroads*
  Nearby major utilities and railroads

* *Schools*
  Nearby schools and accompanying information

* *Community Legal Authority*
  Authority of jurisdiction and boundaries

Using TxWRAP in this section:

The summary report generated through the steps listed on Page 10 can be used to fill out your CWPP's sections on ***General Landscape***, ***Vegetation*** and ***Population.***

You can also visit **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Click on the search bar in the top left corner. Select your county or city from the drop-down menu.

Click on the **Map Themes button**. Layers under the **Landscape Characteristics tab** can be used to gather information for your CWPP's sections on ***General Landscape*** and ***Vegetation.*** Layers under the **Wildfire Behavior tab** can also be used to gather information for your section on ***General Landscape.*** Layers under the **Historical Wildfire Occurrence** tab can be used for your section on ***Climate***. Under the **Reference Layers** tab, check the **Fire Stations** layer. You can use this information for your CWPP's sections on ***Fire Response Capabilities*** and ***Emergency Facilities.***

The **Search Bar** in the top right corner can help pinpoint your community's **Location.**

➢ ***You don't need to include a page like this in your CWPP. It's simply a tool to help you generate the information you'll need for your plan.***

Location

This section of your CWPP should address your geographic location and can include major road systems or landmarks. TxWRAP can be used to identify your community's geographic boundaries. Visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, place, or coordinates into the **Search Bar** at the top right corner. Coordinates for a location will be shown on the left side tool bar under the **"What's Your Risk"** heading.

➢ *Your CWPP Location page might look something like this:*

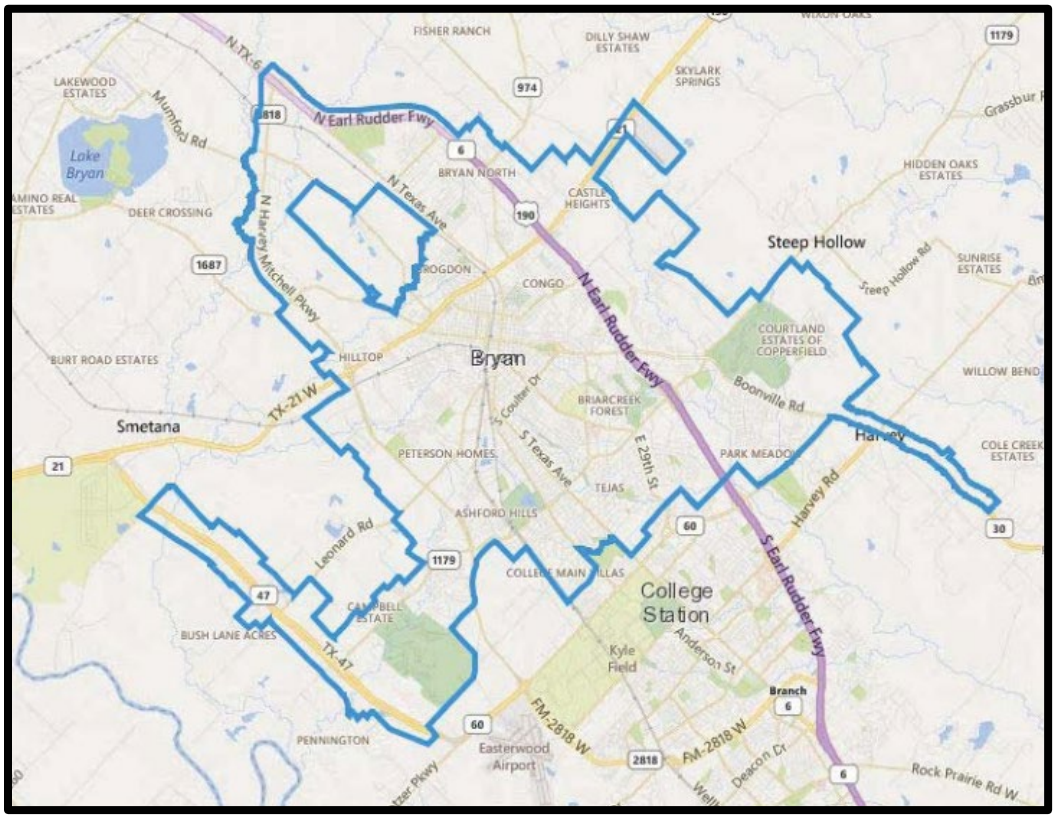
Bryan, Texas

Brazos County

N 30° 39' 05"

W 96° 23' 22"

Bryan is the county seat of Brazos County. It encompasses more than 44.5 square miles and has a population of about 83,260 residents. The city shares a border with College Station to its south. Together, the communities are referred to as Bryan-College Station, the 15th largest metropolitan area in Texas. Bryan is 92 miles north-northwest of Houston, 166 miles northeast of San Antonio and 169 miles south of Dallas. It is 104 miles east of Austin, the state capital of Texas.



Source: City of Bryan, Texas, Community Wildfire Protection Plan

General Landscape

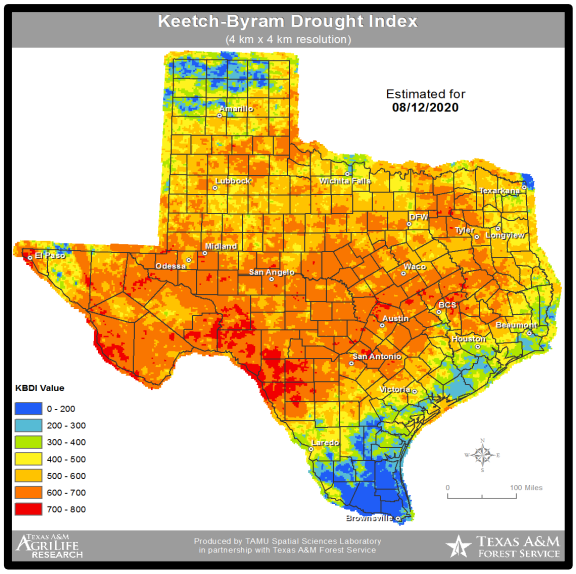
This section of your CWPP should address topography, soils and major water sources. All these resources can affect how wildfires behave and influence suppression tactics used by fire departments. By providing an overview of these landscape characteristics, the CWPP working group can identify areas that may present access challenges. The group also can identify steep slopes where fire can move quickly uphill.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Then click on **Map Themes**. The **Wildfire Behavior** tab provides characteristic flame lengths and rates of spread for wildfires that have occurred in your community. The **Landscape Characteristics** tab provides information on surface fuels, vegetation, percent slope and landforms.

Another good resource for wildfire planning is the Keetch-Byram Drought Index. The KBDI can be found at **https://twc.tamu.edu/kbdi**

The drought index ranges from 0 to 800, where an index of 0 represents no moisture depletion, and an index of 800 represents absolutely dry conditions.

The index is derived from ground-based estimates of temperature and precipitation provided by weather stations.



➢ *Your CWPP General Landscape page might include information like this:*

The topography within the city limits is primarily flat plains and smooth plains. About 1,915 acres of land in the city is zoned for agricultural use.

Predictive Service Areas (PSA) represent regions where the weather reporting stations tend to react similarly to daily weather regimes and exhibit similar fluctuations in fire danger and climate. Seven PSA are delineated in Texas. Fire weather thresholds, fuel moisture thresholds and National Fire Danger Rating System thresholds have been developed for each PSA and are unique to the designated PSA.

Critical fire weather thresholds for the PSA in which Bryan is located are:

Relative humidity: 30 percent or less

20-foot windspeed (meaning windspeeds that are calculated at 20 feet above the forest canopy): 15 mph or more.

Temperature: 10 percent above average

Source: City of Bryan, Texas, Community Wildfire Protection Plan

Climate

This section of your CWPP should discuss weather patterns for each season and potential fire weather issues such as dry lines, Southern Plains Wildfire Outbreaks, low relative humidity or dry lightning. You also may use climate and historical fire season patterns to identify target dates for mitigation projects, completing them before fire activity is expected to increase. Prevention messages also can be communicated to the public during these high fire danger times, with the goal of reducing wildfire ignitions.

Visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com.** Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and **Historical Fire Occurrence.** The data provided may help to correlate historical fire patterns with specific times of year.

➢ *If relevant to your community, you may want to include the following information about Southern Plains Wildfire Outbreaks on your CWPP Climate page:*

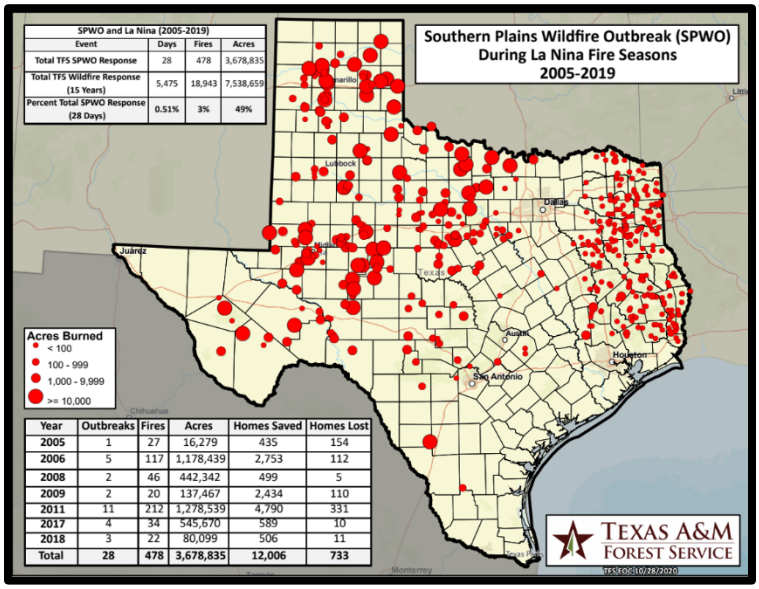
Southern Plains Wildfire Outbreaks:

These firestorms can occur across the Southern Plains, an area that spans from eastern New Mexico east to the Dallas-Fort Worth area, and from Oklahoma south to the Texas Hill Country.

Southern Plains Wildfire Outbreaks are a serious threat to public safety. When this pattern occurs, firefighters use defensive tactics — including moving people out of harm's way — acknowledging that the weather is in control.

Occurring mostly in the winter and spring, it takes the perfect mix of weather conditions:

- Strong upper level low north of the impact area
- Low level thermal ridge intersected with the strong mid-level jet
- Dry west-southwest winds across an area with low relative humidity
- Strong downsloping effect aided by mid-level jet and surface low
- Above-average surface temperatures
- Unstable atmosphere



More information is available at **https://tfsweb.tamu.edu/SPWO/** and **https://ticc.tamu.edu/PredictiveServices/.**

Additional climate data can be found at:

National Centers for Environmental Information
ncdc.noaa.gov

National Weather Service
weather.gov

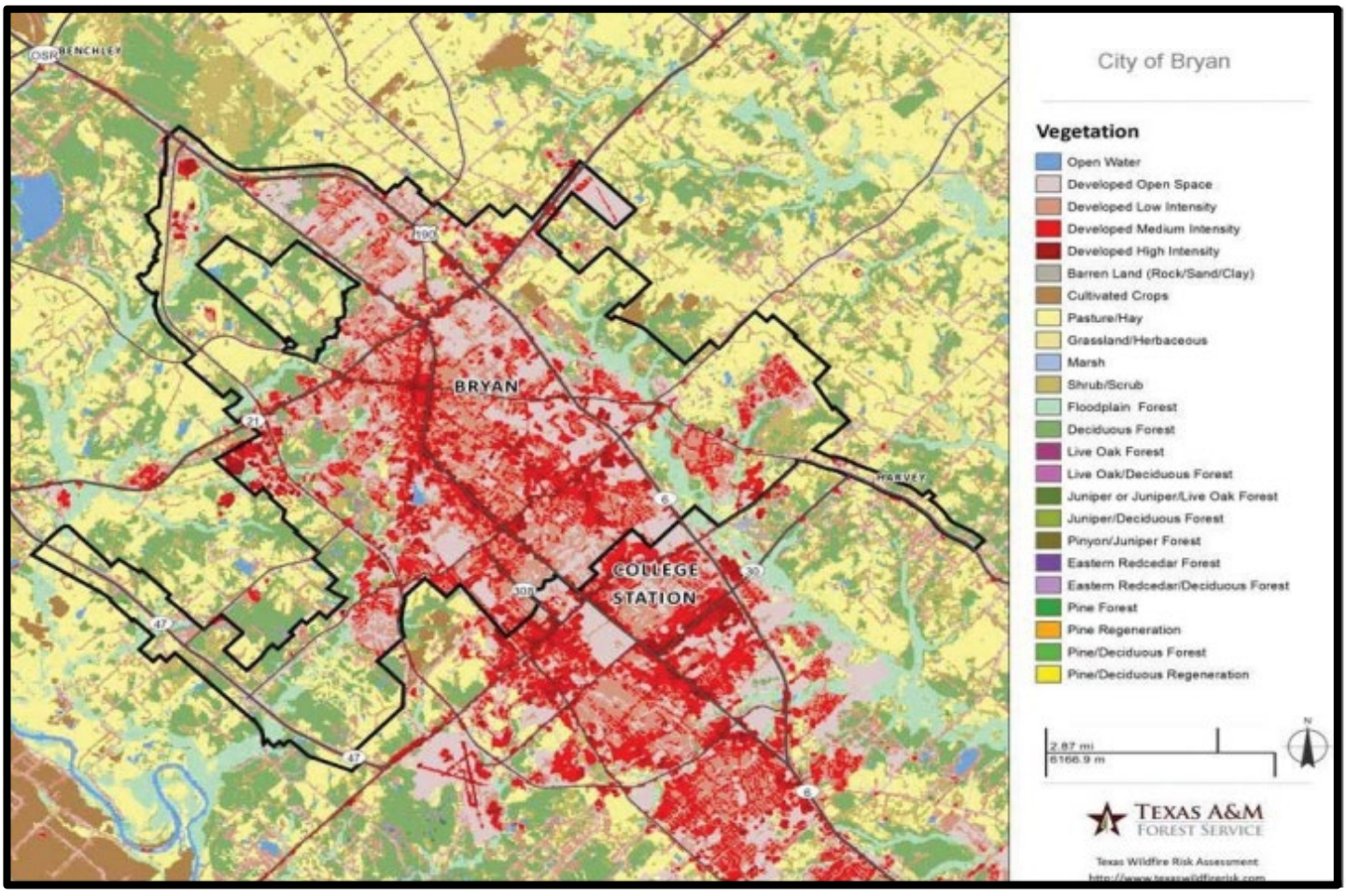
Office of the Texas State Climatologist
climatexas.tamu.edu

Vegetation

This section of your CWPP should provide a brief overview of the jurisdiction's predominant fuel types, fuel loading, large wildland areas and even expected fire behavior. By identifying the predominant fuel types within the CWPP area, the working group can predict potential types of fire behavior and develop fuel mitigation strategies.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Then click on **Map Themes** and select **Landscape Characteristics** to generate specific information about the vegetation in your community.

➢ *Your CWPP Vegetation page might include a map like this, which can be generated through TxWRAP:*

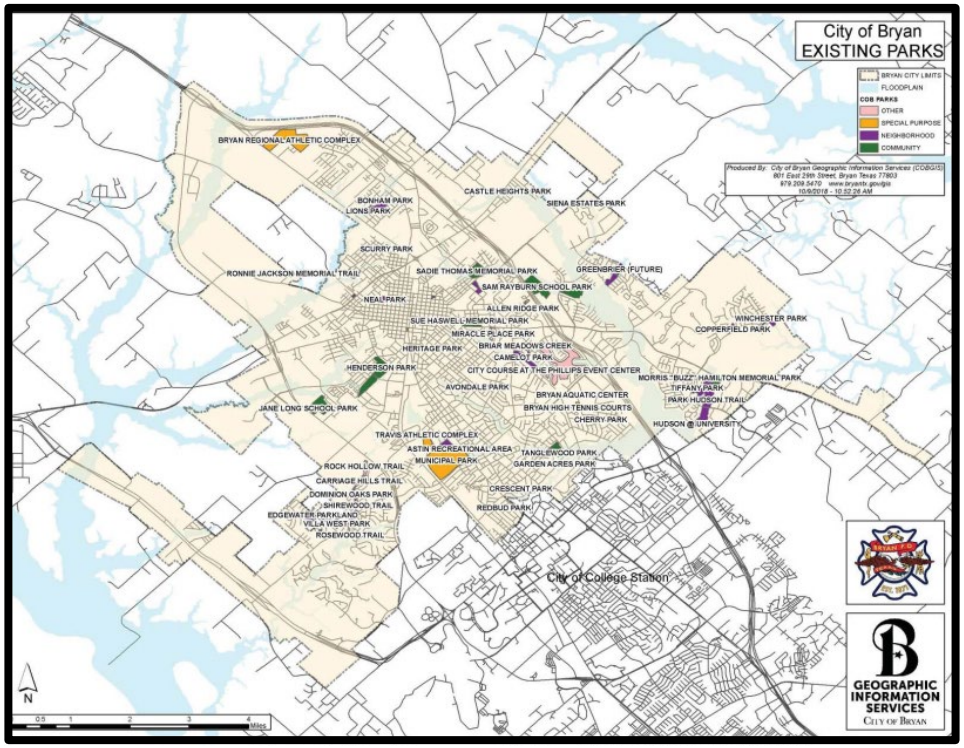


Source: City of Bryan, Texas, Community Wildfire Protection Plan

Land Use

This section of your CWPP should cover past and present fuel types and fuel loading. Consider including whether fire was historically used to maintain the ecosystem, and if it is used now. Including photographs can be useful in this section. Your county extension agent may also be able to provide some historical information.

➢ *Your CWPP Land Use page might include something like this:*



Existing Land Use

Existing land use reflects how property is currently being used, not how it is zoned. Existing land uses may not be consistent with established zoning districts, as they may have been established prior to the initiation of zoning. What follows is a list of land uses and what they consist of:

- **Single-family residential** – Conventional detached dwellings
- **Two-family residential** – Duplexes
- **Multi-family residential** – Triplexes, fourplexes and apartments
- **Manufactured residential** – Manufactured and mobile homes
- **Public and semi-public** – Public buildings, schools and hospitals
- **Commercial** – General retail, wholesale and office
- **Industrial** – Manufacturing and production
- **Parks and recreation** – Parks and golf courses
- **Agricultural** – Cultivated cropland, orchards, vineyards and ranches
- **Vacant** – Undeveloped with no current use

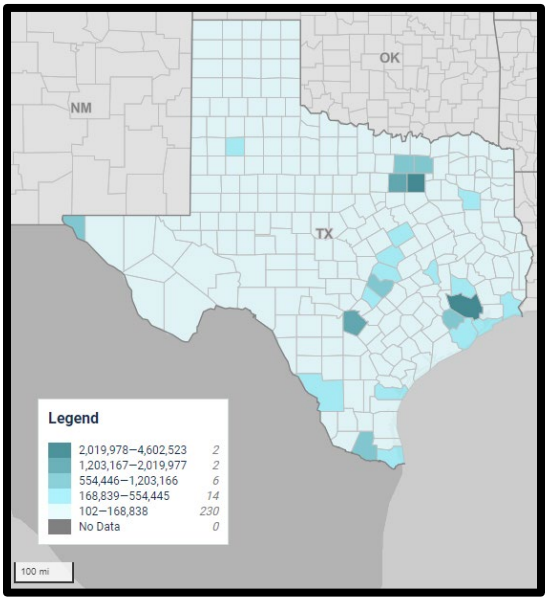
Source: City of Bryan, Texas, Community Wildfire Protection Plan

Population

This section of your CWPP should include the jurisdiction's population numbers. Incorporating the number of WUI residents at risk can be beneficial, especially in grant processes.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and select **Wildfire Risk Themes** to access the **Where People Live** and **Wildland Urban Interface (WUI)** layers, which also may be useful when filling out this section.

The U.S. Census Bureau also provides information at **census.gov.**

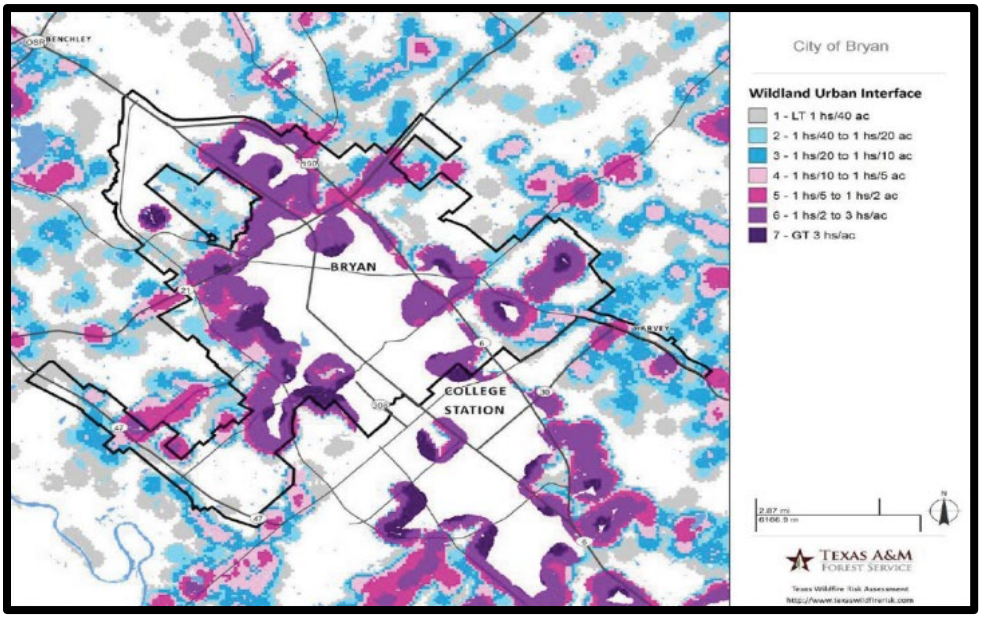


Source: US Census Bureau, data from American Community Survey

➢ ***Your CWPP Population page might include information like this:***

Bryan's population is estimated to be 83,260, according to the 2010 U.S. Census.

It is estimated that 33,367 people, or 45 percent of the population, live within the WUI. Population is determined by the housing density of a certain area.



Source: City of Bryan, Texas, Community Wildfire Protection Plan

Fire Response Capabilities

This section of your CWPP should identify fire departments, apparatus, number of members and locations. This can help identify cooperators and give an effective overview of the jurisdiction. It also helps the working group identify capacity building needs.

Texas A&M Forest Service maintains an **online fire reporting system Texas FireConnect (https://fireconnect.tfs.tamu.edu/).** In addition to serving as a comprehensive directory of Texas Fire Departments, the application can be used to determine fire department response areas.

Visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and scroll to the **Reference Layers** tab on the left-hand side. Check the **Fire Stations** box for a map of station locations in your jurisdiction.

➢ *Your Fire Response Capabilities page might include something like this:*

2018 Bryan Fire Department Incident Responses:

Fire: 239
Explosion: 8
EMS/rescue: 9,591
Hazardous situations: 231
Service calls: 864
ISO rating: 1

Station	Apparatus
Fire Station No. 1 300 William Joel Bryan Parkway (979) 209-5960	– Battalion 1 – Command Vehicle – Engine 1 – 1500 GPM Pumper – Truck 1 – 100' Aerial Platform – Rescue 1 – Heavy Rescue Vehicle – Boat 1 – Zodiac FC 420 Swift Water Rescue Boat with 40 hp – Boat 2 – 19-foot Boat Right Center Console Lake Rescue Boat with 115 hp – EMS 1 – Paramedic Supervisor / Safety Officer Vehicle – Medic 1 – ALS Ambulance
Fire Station No. 2 414 Lawrence St. (979) 209-5580	– Engine 2 – 1500 GPM Pumper – Medic 2 – ALS Ambulance – Booster 2 – TIFMAS Grass Truck – Ford F550 – Mobile Command Post (MCP1) – Mobile Command Vehicle – Arson Investigation Trailer
Fire Station No. 3 3211 Briarcrest Drive (979) 209-5960	– Engine 3 – 1500 GPM Pumper – Medic 3 – ALS Ambulance
Fire Station No. 4 5429 North Texas Avenue (979) 209-5588	– Engine 4 – 1500 GPM Pumper – Booster 4 – Brush / Wildland Truck
Fire Station No. 5 2052 W. Villa Maria Road (979) 209-5590	– Engine 5 – 1500 GPM Pumper – Medic 5 – ALS Ambulance – Hazardous Materials Response Unit – Boat 5 – Zodiac FC 420 Swift Water Rescue Boat with 40 hp

Source: City of Bryan, Texas, Community Wildfire Protection Plan

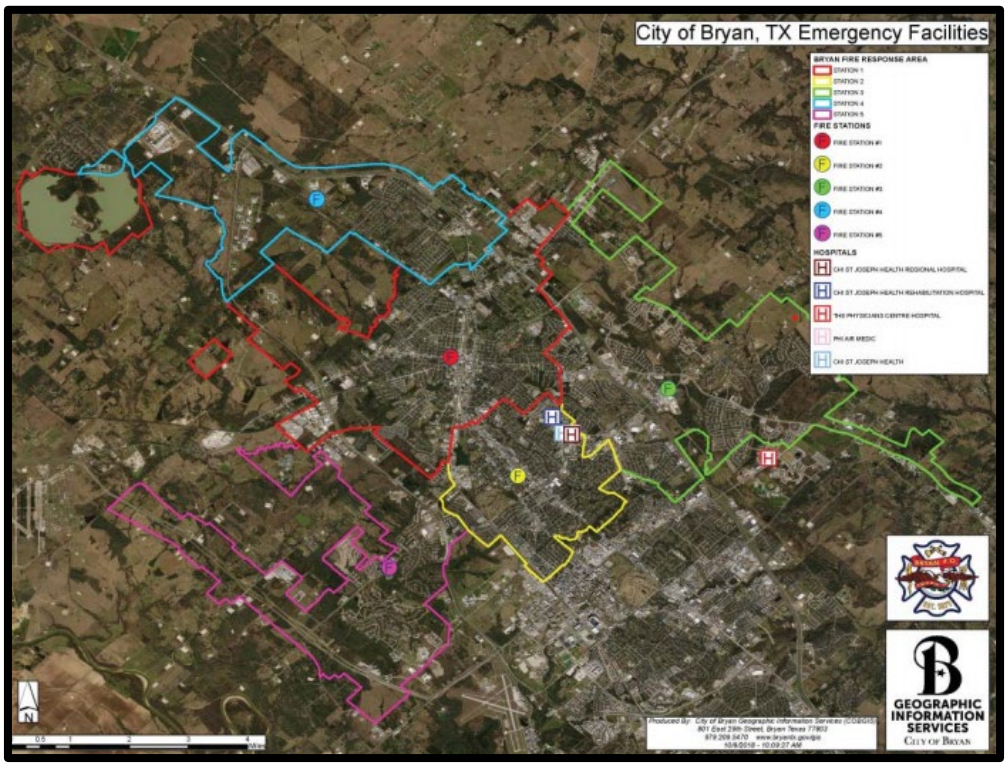
Emergency Facilities

This section of your CWPP should identify hospitals, fire stations, emergency management offices and possible shelter locations. These locations may be able to fill sheltering, resource staging or command post functions during an incident. They also may be able to provide average response times to high-risk WUI areas.

Visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and scroll to the **Reference Layers** tab on the left-hand side. Check the **Fire Stations** box for a map of station locations in your jurisdiction.

The information on emergency facilities also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Emergency Facilities page might include something like this:*



Treatment centers in the area include:

CHI St. Joseph Regional Health Hospital, 2801 Franciscan

- 266 licensed beds; 36-bed medical/surgical ICU; 16 operating rooms
- MRI scanner; two CT scanners; dialysis unit
- 30 isolation beds
- Emergency power for indefinite number of hours
- Emergency room: 28 treatment room beds

Baylor Scott and White Medical Center, 700 Scott and White Dr., College Station

- 119 licensed beds; 16-bed medical/surgical ICU; 18-bed IMCU; 7 operating rooms
- MRI scanner; 2-CT scanners; dialysis unit
- 7 isolation beds
- Emergency power for 72 hours
- Emergency room: 21 treatment room beds

Source: City of Bryan, Texas, Community Wildfire Protection Plan

Utilities and Railroads

This section of your CWPP should identify the major utilities and railroads, if any, throughout your jurisdiction. Utility companies can be a great partner in fuels reduction along rights-of-way. Railroad companies can provide information about schedules and possible hazards.

Railroad, pipeline and drilling information can be found at **rrc.state.tx.us** and **txdot.gov**.

The information on utilities and railroads also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Utilities and Railroads page might include something like this:*

Regional Utilities
Bryan Texas Utilities
(979) 821-5700
College Station Utilities
(979) 764-3535

Hazardous materials transportation routes
Hazardous materials transportation routes are a concern in the event of a wildfire that prompts road closures or evacuations.

Highways:

Texas State Highway 6
Primary chemical hazards: Liquefied petroleum gas (LPG); gasoline
Protective action distance: 800 meters-1,600 meters

Texas State Highway 21
Primary chemical hazards: LPG; gasoline
Protective action distance: 800 meters-1,600 meters

Source: City of Bryan, Texas, Community Wildfire Protection Plan

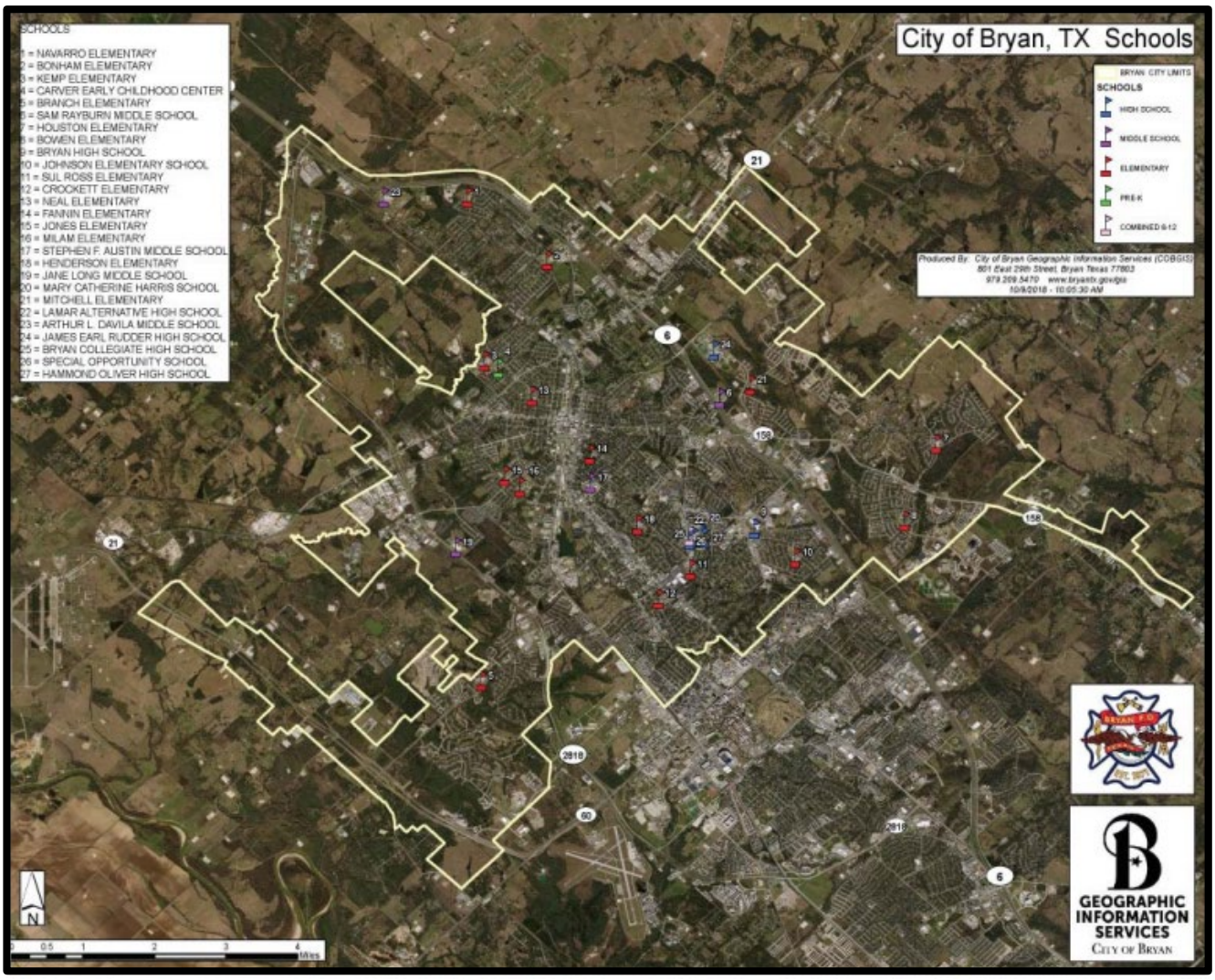
Schools

This section of your CWPP should identify schools and associated facilities and the number of staff and students in them. This is important should you need to evacuate a school campus or house an Incident Command Post there. Contacts and release times for each school campus should be recorded, and possible evacuation or shelter-in-place procedures should be considered. Schools can be great cooperators as well, especially with fire prevention messages. It also is beneficial to be familiar with the district's emergency notification system and contingency plan.

A Texas school locator can be downloaded at **tea.state.tx.us.**

The information on schools also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Schools page might include something like this:*



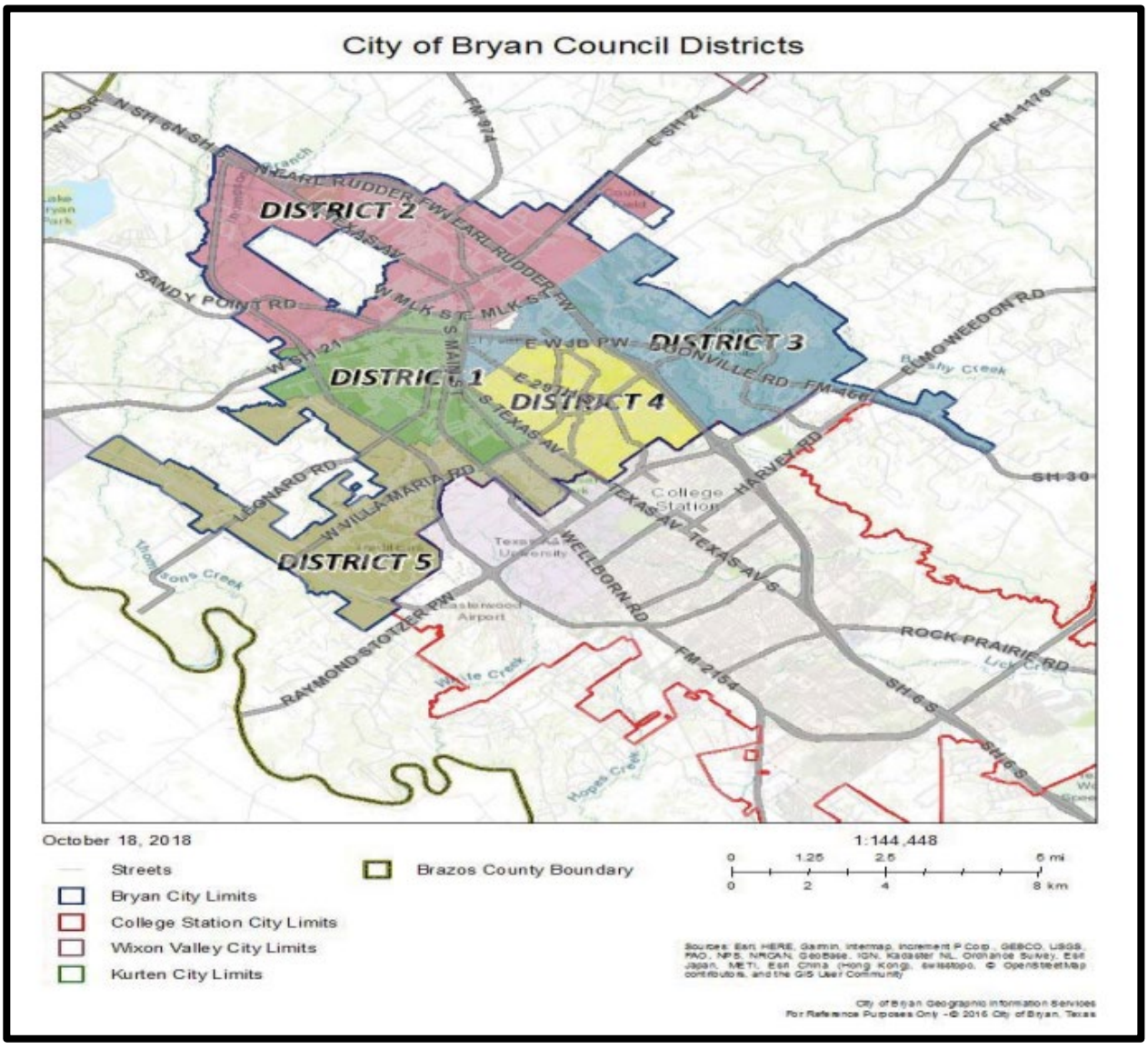
Source: City of Bryan, Texas, Community Wildfire Protection Plan

Community Legal Authority

This section of your CWPP should be an overview of what authority the jurisdiction has to enforce certain planning and zoning codes. Understanding what rules are in place can help the team identify recommendations for additional codes.

➢ *Your CWPP Community Legal Authority page might include something like this:*

The City of Bryan charter stipulates that the council/manager form of government be utilized. The seven-member city council consists of a mayor and six council members, with one council member elected at-large and the other five elected from single-member districts. The mayor and council members are elected for alternating three-year terms with six-year term limits. The role of the City Council is to enact ordinances and resolutions, adopt regulations and set policy direction for the conduct of the affairs of the city.



Source: City of Bryan, Texas, Community Wildfire Protection Plan

Fire Environment

This chapter covers your community's Wildland Urban Interface as well as the frequency and characteristics of wildfire in your area.

* *Wildland Urban Interface*

  Area where human habitation and development meet wildland vegetation

* *Fire Behavior*

  Fire behavior of the area, such as flame length or rate of spread

* *Fire Occurrence*

  Major causes of fire in the area and when they happen

* *Future Wildland Restoration*

  Restoration of fuels and ecosystem to historical and natural levels

Using TxWRAP in this section:

The summary report generated through the steps listed on Page 10 can be used to fill out your CWPP's sections on ***Wildland Urban Interface, Fire Occurrence, Fire Behavior*** and ***Future Wildland Restoration***.

You can also visit **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Click on the search bar in the top left corner. Select your county or city from the drop-down menu.

Click on **Map Themes** button. The layers **WUI Response Index** and **Wildland Urban Interface (WUI)** under the **Wildfire Risk tab** will provide information that can be used to fill out your CWPP's section on ***Wildland Urban Interface***. Layers under the **Historical Fire Occurrence tab** will provide information that can be used to fill out your CWPP's section on ***Fire Occurrence***. Layers under the **Wildfire Behavior tab** will provide information that can be used to fill out your CWPP's section on ***Fire Behavior***.

➢ ***You don't need to include a page like this in your CWPP. It's simply a tool to help you generate the information you'll need for your plan.***

Wildland Urban Interface

This section of your CWPP should discuss the Wildland Urban Interface (WUI) — areas where human habitation and development meet or are intermixed with wildland fuels (vegetation).

Wildfires in these areas present significant challenges to residents, emergency responders and community planners. Texas continues to see homes destroyed by wildfire in the WUI. Through fuels management and wildfire mitigation practices, communities can significantly reduce the threat of catastrophic wildfire.

A CWPP allows community planners, emergency responders and local government officials to identify the WUI areas within their jurisdiction. It also enables them to rank the WUI areas from highest to lowest significant threat, allowing for prioritization of mitigation projects.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and **Wildfire Risk Themes**. Click on **WUI Response Index** and **Wildland Urban Interface (WUI)** for information specific to your community.

➢ *Your CWPP Wildland Urban Interface page might include something like this, which can be generated by TxWRAP:*

Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
LT 1hs/40ac	37	0.1 %	2,408	16.2 %
1hs/40ac to 1hs/20ac	70	0.2 %	1,133	7.6 %
1hs/20ac to 1hs/10ac	121	0.4 %	1,075	7.2 %
1hs/10ac to 1hs/5ac	322	1.0 %	1,463	9.9 %
1hs/5ac to 1hs/2ac	839	2.5 %	1,861	12.6 %
1hs/2ac to 3hs/1ac	19,357	58.4 %	5,858	39.5 %
GT 3hs/1ac	12,408	37.4 %	1,030	6.9 %
Total	**33,154**	**100.0 %**	14,828	100.0 %

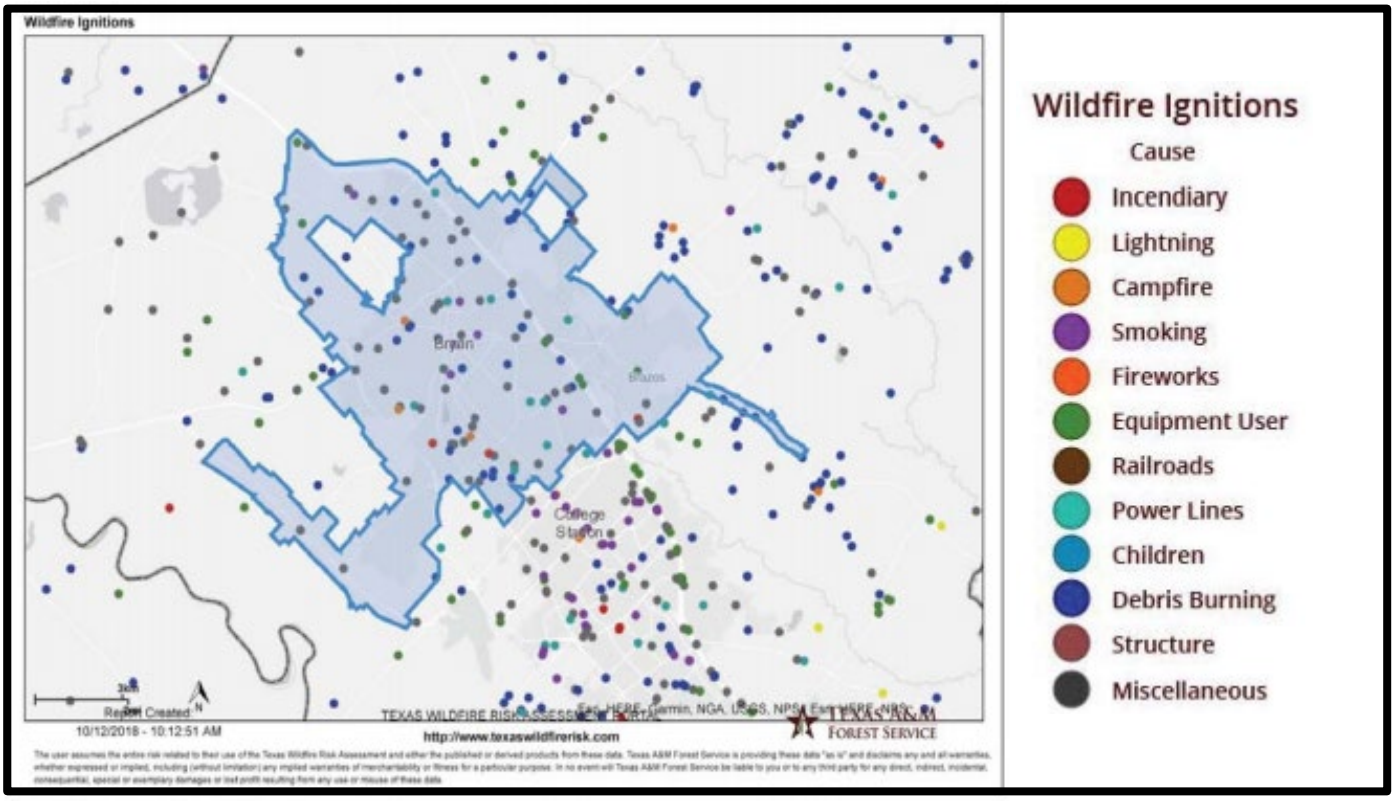
Source: City of Bryan, Texas, Community Wildfire Protection Plan

Fire Occurrence

This section of your CWPP should cover fire occurrence. Understanding historical fire occurrences will help community leaders develop strategic prevention strategies. Texas A&M Forest Service maintains an **online fire reporting system (https://fireconnect.tfs.tamu.edu/)** that can be used by local fire departments to report fire causes. By using the online fire reporting system, a CWPP working group and fire department can better track fire occurrences. Once you identify the primary causes of wildfire in your area, you can develop a strategic prevention campaign.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com**. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and **Historical Fire Occurrence** for information on wildfire occurrence in your community.

➢ *Your CWPP Fire Occurrence page might include something like this, which can be generated by TxWRAP:*



Source: Source: City of Bryan, Texas, Community Wildfire Protection Plan

Fire Behavior

This section of your CWPP should cover fire behavior, which can be dependent on weather, fuels and topography. Topography and fuels may change over time and throughout the landscape but are not as rapidly changing as weather. Weather is critical to predicting fire behavior and is also the most extreme variable.

Texas A&M Forest Service uses a suite of fire indices for forecasting probability of occurrence and fire behavior.

Energy Release Component (ERC) is an index for predicting fire intensities. This represents the total heat release per unit area (British thermal units per square foot) within the flaming front at the head of a moving fire.

ERC is categorized by numerical percentiles. When ERC is at or above the 90th percentile, fuels readily burn, fires can exhibit a high difficulty of control and the suppression capabilities of fire departments can be exceeded. The 97th percentile is another breakpoint used to identify and communicate the most extreme and dangerous conditions. Wildfires in Texas can range from fast-moving grass fires to fires burning actively in the crowns of trees. These extreme fires can move quickly and produce spot fires miles away. Spot fires are created when burning embers are lofted into the air and transported in front of the head fire by strong winds.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information you can use in this section. You can also visit the **TxWRAP Risk Explorer** at **texaswildfirerisk.com** and select the **"Advanced Viewer"** option. Enter an address, location, or coordinates into the **Search Bar** at the top right. Click on **Map Themes** and **Wildfire Behavior** for information specific to your community.

The information on fire behavior also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Fire Behavior page might include something like this, which can be generated by TxWRAP:*

Flame Length	Acres	Percent
Non-Burnable	15,669	55.3 %
0 - 2 ft	9,717	34.3 %
2 - 4 ft	263	0.9 %
4 - 8 ft	2,697	9.5 %
8 - 12 ft	8	0.0 %
12 - 20 ft	0	0.0 %
20 - 30 ft	2	0.0 %
30 + ft	2	0.0 %
Total	**28,358**	**100.0 %**

Source: City of Bryan, Texas, Community Wildfire Protection Plan

Risk Assessments

This chapter will walk the working group through determining risks and hazards in the community. A Texas A&M Forest Service Representative should advise the group throughout this process.

* *Risk Assessments*

  Identify risks around the community and discuss possible mitigation solutions

* *Risk Assessment Findings*

  Identifies priority communities based on hazards

* *Assets at Risk*

  Identify critical infrastructure or public buildings that are susceptible to wildfire

Using TxWRAP in this section:

The TxWRAP summary report generated through the steps listed on Page 10 will provide background information you can use while working on your CWPP's ***Risk Assessment Process.***

The summary report will provide an overall assessment of your community. This should serve as a complement to a community assessment conducted by a group of individuals trained by a Texas A&M Forest Service Representative.

The **Texas A&M Forest Service Representative in your area** can provide expertise in guiding you through this important part of the CWPP.

➢ ***You don't need to include a page like this in your CWPP. It's simply a tool to help you generate the information you'll need for your plan.***

Risk Assessments

Risk assessments are a systematic process for identifying and assessing the range of elements that could lead to undesirable outcomes from wildfire. Assessments are crucial to developing an understanding of the risk of potential losses to life, property and natural resources during a wildland fire.

Specifically, the risk assessment:

- Assesses risks, hazards, fire protection capability, structural vulnerability and values to be protected.
- Identifies at-risk WUI areas.
- Identifies and prioritizes areas in which to conduct fuels reduction treatments.

The primary factors that should be assessed are:

1. Fuels
   a. Fuels are assessed based on continuity, loading and types. The fuels that surround and intermingle with the community are evaluated through windshield assessments and TxWRAP.
   b. Defensible space is assessed as a community average.

2. Structural Ignitability
   a. Structural Ignitability is assessed as an average. Major components of this category include roofing materials, walls, windows and wooden attachments.

3. Access
   a. Access includes the number of ways in and out of a neighborhood, type of road system, dead-end roads and cul-de-sacs.

4. Local Fire Capacity
   a. Local fire capacity includes distance to the nearest fire station, 24-hour staffing, pressurized water systems, water sources and training needs. This helps the local fire department identify capacity building needs.

5. Utilities
   a. Utilities include power lines, pipelines and septic systems. These can limit access into an area or potentially ignite a wildfire.

The risk assessment process is critical to developing a CWPP. This allows the working group to identify communities at risk and prioritize mitigation projects. The risk assessment is also an important tool intended to help residents understand their risk and engage them in participation of mitigation actions. Identify individuals who will be trained by a Texas A&M Forest Service Representative on how to conduct community hazard assessments and complete them in a consistent manner.

The TxWRAP summary report generated through the steps listed on Page 10 will provide information on your community's fuels and local fire capacity that can be used in this section. Once the group has been trained in conducting community hazard assessments, they will be able to use the **Community Assessor** function in TxWRAP to upload the information.

➢ ***Your CWPP should include a defined risk assessment process that outlines the procedure for ground-truthing data and the process of evaluating neighborhoods and communities.***

Risk Assessment Findings

This section of your CWPP can be completed once all community risk assessments have been conducted for the area. Include a summary of findings from the risk assessment process and create a Community Hazard Rating List that identifies priority communities based on their hazards.

During the risk assessment process, the working group should begin to develop mitigation strategies for specific communities. These potential mitigation strategies should be recorded in the CWPP, along with the hazard rating list and other findings. The **Community Assessor** tool in TxWRAP will create a report for each home or neighborhood assessed that includes mitigation strategies and should be used to inform your community action plan.

The Risk Assessment Findings also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Community Hazard Rating List page might look something like this:*

Risk assessments were conducted over a two-week period in the response zones for each of Bryan's five fire stations. Members of the working group assessed 44 areas within the city limits. The findings showed 1 extreme-risk area, 15 high-risk areas, 25 moderate-risk areas and 3 low-risk area.

Once high-risk areas were identified, specific mitigation strategies were outlined to reduce wildfire risks.

Response Zone 1:
One extreme-risk neighborhoods
Four high-risk neighborhoods
Three moderate-risk neighborhoods

Response Zone 2:
Six moderate-risk neighborhoods

Response Zone 3:
One high-risk neighborhoods
Eleven moderate-risk neighborhoods
One low-risk neighborhood

Response Zone 4:
Seven high-risk neighborhoods
Three moderate-risk neighborhoods
One low-risk neighborhood

Response Zone 5:
Three high-risk neighborhoods
Two moderate-risk neighborhoods
One low-risk neighborhood

City of Bryan
general wildfire risk

The City of Bryan has a generally urban environment but there are pockets of wildland fuels within the city and bordering the outskirts that pose threats.

The most likely areas for wildfire ignition will have sufficient grasses in order to allow wildfire to spread.

These threats will most likely come from outside the city (from the west, north and east) but some pockets within the city limits also have the potential to ignite and spread.

Source: City of Bryan, Texas, Community Wildfire Protection Plan

Assets at Risk

This section of your CWPP allows the working group to identify critical infrastructure or public buildings that may be susceptible to wildfire. This section also can discuss industrial sites that may be at risk. The same assessment process is used for these structures.

This information also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Assets at Risk page might include something like this:*

Asset Type	Total Number of Assets	Asset Value	Reason for Risk	Mitigation Planned
[Type of Asset]	[Total number of assets of that type]	[Total value of assets]	[Reason asset is at risk]	[Solution planned for risk]
[Type of Asset]	[Total number of assets of that type]	[Total value of assets]	[Reason asset is at risk]	[Solution planned for risk]
[Type of Asset]	[Total number of assets of that type]	[Total value of assets]	[Reason asset is at risk]	[Solution planned for risk]
[Type of Asset]	[Total number of assets of that type]	[Total value of assets]	[Reason asset is at risk]	[Solution planned for risk]
[Type of Asset]	[Total number of assets of that type]	[Total value of assets]	[Reason asset is at risk]	[Solution planned for risk]

Mitigation Strategies

Mitigation strategies can range from wildfire prevention to fuels reduction to capacity building. All of these strategies combined will help limit future losses. In addition to the mitigation strategies included in this section, the **Community Assessor** tool in TxWRAP will create a report for each home or neighborhood assessed that includes mitigation strategies and should be used to inform your community action plan.

* *Public Education*

  Public education on wildfire risk for the community

* *Hazardous Fuels Reduction*

  How reducing fuels can reduce risk of extreme wildfire

* *Incorporating Prescribed Fires*

  Benefits of prescribed fire

* *Defensible Space*

  Area immediately surrounding a home

* *Treatment of Structural Ignitability*

  Home construction and surroundings

* *Local Capacity Building*

  Properly training and equipping fire departments

* *Evacuation Planning*

  What do to when there's a wildfire

* *Planning and Zoning*

  Planning and zoning requirements of the community

* *Mitigation Funding Resources*

  Resources for mitigation funding

* *Develop an Action Plan*

  List of projects and how they'll be completed

Using TxWRAP in this section:

The TxWRAP summary report generated through the steps listed on Page 10 provides information that can be used to identify the primary and secondary causes of wildfire in your area, which can be used in your CWPP's section on ***Public Education.***

➢ ***You don't need to include a page like this in your CWPP. It's simply a tool to help you generate the information you'll need for your plan.***

Public Education

This section of your CWPP should cover public education, one of the most important tools for a working group. Reaching out to the public and educating them on wildfire causes and behavior may decrease preventable fires. Public education also can address evacuation concerns, burn ban violations, Home Ignition Zones and recovering from a wildfire.

Identify the primary and secondary causes of wildfires in your jurisdiction and the percentage of wildfires ignited by those causes. The TxWRAP summary report generated through the steps listed on Page 10 provides detailed information you can use to create a public awareness campaign for your area. Use volunteers, fire departments, emergency management, print media, television and radio to inform the public about wildfire prevention.

The CWPP working group should continually evaluate the causes of wildfires and assess the public education program.

➢ ***Your CWPP Public Education page might include information like this:***

Public education campaigns are designed to heighten community awareness for wildfire risks. They may be general and cover the entire city or they may be specific and targeted for a certain area or issue (i.e. an awareness campaign on combustible attachments for a high risk-area). Texas A&M Forest Service has a large selection of public education materials on Ready, Set, Go!, fire resistant landscaping, home hardening, fuels management and basic fire behavior that can be used by the City of Bryan or the city may choose to develop its own materials.

Additional opportunities for public education include:

- Wildfire Awareness Week (second week of April)
- National Night Out (October)
- Citizen Fire Academy
- Fire Safety House
- Kid Safe Program
- Ready, Set, Go! (or other) town hall meetings with Texas A&M Forest Service
- School programs
- Bryan Fire Department and City of Bryan social media sites
- Bryan Fire Department web page and City of Bryan website
- Targeted outreach with Code Enforcement and Neighborhood Enforcement Team to high-risk areas
- Partnerships with local media outlets

Source: City of Bryan, Texas, Community Wildfire Protection Plan

Hazardous Fuels Reduction

This section of your CWPP should discuss how reducing the amount of fuels available to burn in a wildfire can reduce the risk of extreme fire behavior. Also, by creating breaks in the continuity of fuels it can limit and potentially stop the spread of wildfire. This is important, especially near high-risk communities.

Fuels reduction can be accomplished through several different mechanisms: mechanical treatments, chemical treatments, prescribed fire and grazing. To limit the destruction from future wildfires, identify fuels reduction projects based on community hazard ratings. Track the location of each project, the method of fuels reduction, cooperators, potential funding sources and priority.

This information also may be useful for a **Pre-Attack Plan**.

➢ *Your CWPP Hazardous Fuels Reduction page might look something like this:*

Fuels reduction projects are intended to clear overgrown vegetation, which can reduce the rate of spread and intensity of a wildfire and keep it out of the crowns of trees. In addition, these projects usually provide a safer environment for firefighters to work and extinguish a fire. Fuels reduction projects along evacuation routes may also give evacuees and incoming resources a safer ingress/egress.

Methods of treatment can vary. Treatment options include:

- Mechanical (mulcher, chipper)
- Hand clearing (chainsaws, handsaws)
- Herbicide application
- Prescribed fire

Some methods may be more effective than others, depending on the fuel types. Some methods may also be preferred when working around neighborhoods. The scope of each project will vary, but generally fuels reduction projects are completed along the border of neighborhoods and/or breaks in fuels (i.e. roads). Generally, fuels reduction projects are 100 to 200 feet wide depending on the fuel type.

Source: City of Bryan, Texas, Community Wildfire Protection Plan

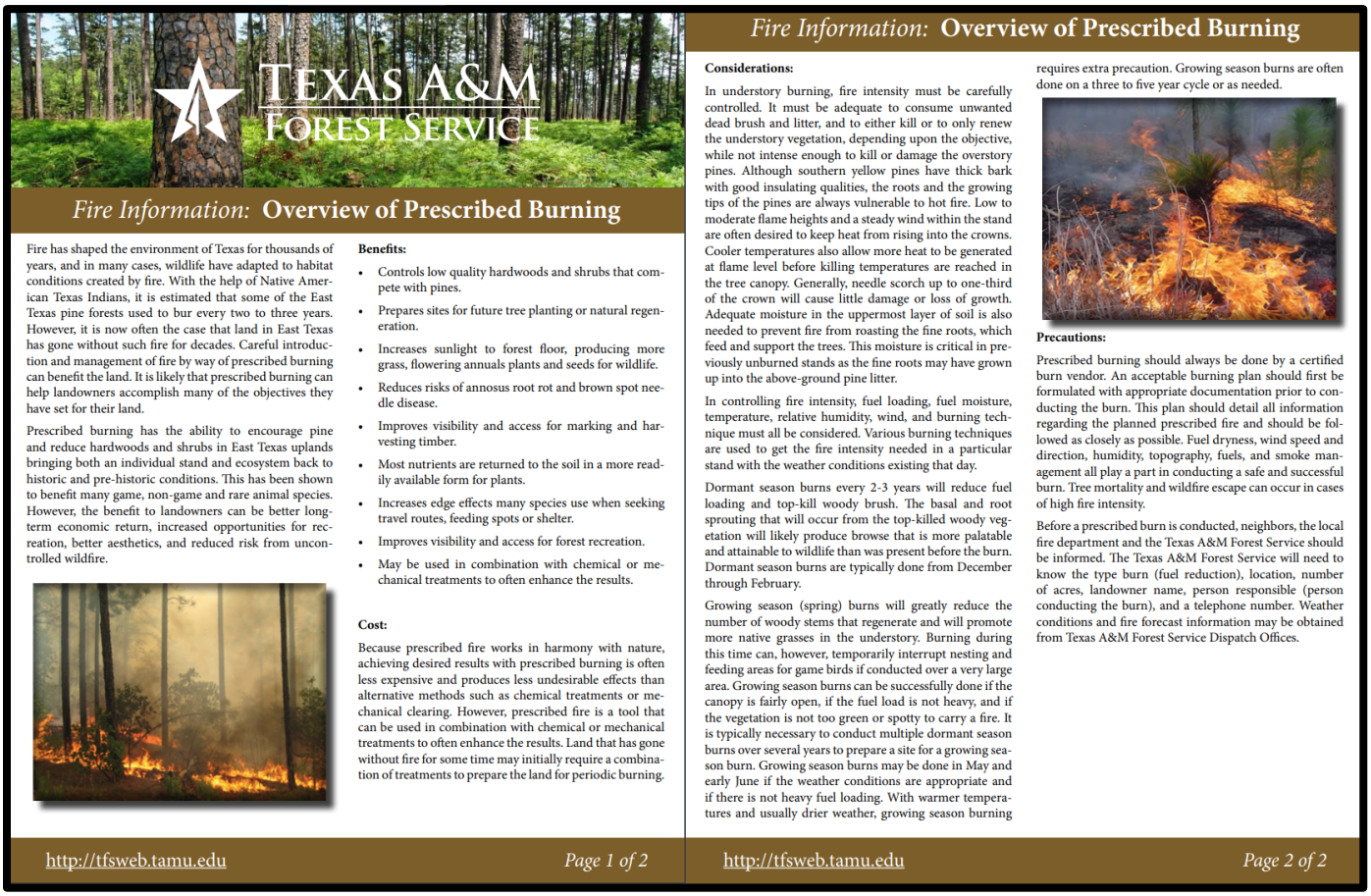
Incorporating Prescribed Fire

This section of your CWPP should focus on prescribed fire, which can be an effective and cost-efficient tool to mitigate the negative impacts of uncontrolled wildfires. When completed correctly by properly-trained people, prescribed fire can reduce fuel loading and return an ecosystem to its natural state.

Re-introducing fire into an ecosystem can be a tough task and may require cooperation with many different partners. The CWPP working group should identify possible cooperators and develop an initial plan to incorporate prescribed fire into the wildfire mitigation strategy.

➢ ***You can use the following resources to determine how best to incorporate prescribed fire into your CWPP.***

- Prescribed Burn Alliance of Texas: **pbatexas.org**
- Texas Department of Agriculture: **texasagriculture.gov**
- Texas Parks & Wildlife Department: **tpwd.state.tx.us**
- Good Fires: **goodfires.org**



TEXAS A&M FOREST SERVICE

Fire Information: **Overview of Prescribed Burning**

Fire has shaped the environment of Texas for thousands of years, and in many cases, wildlife have adapted to habitat conditions created by fire. With the help of Native American Texas Indians, it is estimated that some of the East Texas pine forests used to bur every two to three years. However, it is now often the case that land in East Texas has gone without such fire for decades. Careful introduction and management of fire by way of prescribed burning can benefit the land. It is likely that prescribed burning can help landowners accomplish many of the objectives they have set for their land.

Prescribed burning has the ability to encourage pine and reduce hardwoods and shrubs in East Texas uplands bringing both an individual stand and ecosystem back to historic and pre-historic conditions. This has been shown to benefit many game, non-game and rare animal species. However, the benefit to landowners can be better long-term economic return, increased opportunities for recreation, better aesthetics, and reduced risk from uncontrolled wildfire.

Benefits:

- Controls low quality hardwoods and shrubs that compete with pines.
- Prepares sites for future tree planting or natural regeneration.
- Increases sunlight to forest floor, producing more grass, flowering annuals plants and seeds for wildlife.
- Reduces risks of annosus root rot and brown spot needle disease.
- Improves visibility and access for marking and harvesting timber.
- Most nutrients are returned to the soil in a more readily available form for plants.
- Increases edge effects many species use when seeking travel routes, feeding spots or shelter.
- Improves visibility and access for forest recreation.
- May be used in combination with chemical or mechanical treatments to often enhance the results.

Cost:

Because prescribed fire works in harmony with nature, achieving desired results with prescribed burning is often less expensive and produces less undesirable effects than alternative methods such as chemical treatments or mechanical clearing. However, prescribed fire is a tool that can be used in combination with chemical or mechanical treatments to often enhance the results. Land that has gone without fire for some time may initially require a combination of treatments to prepare the land for periodic burning.

http://tfsweb.tamu.edu *Page 1 of 2*

Fire Information: **Overview of Prescribed Burning**

Considerations:

In understory burning, fire intensity must be carefully controlled. It must be adequate to consume unwanted dead brush and litter, and to either kill or to only renew the understory vegetation, depending upon the objective, while not intense enough to kill or damage the overstory pines. Although southern yellow pines have thick bark with good insulating qualities, the roots and the growing tips of the pines are always vulnerable to hot fire. Low to moderate flame heights and a steady wind within the stand are often desired to keep heat from rising into the crowns. Cooler temperatures also allow more heat to be generated at flame level before killing temperatures are reached in the tree canopy. Generally, needle scorch up to one-third of the crown will cause little damage or loss of growth. Adequate moisture in the uppermost layer of soil is also needed to prevent fire from roasting the fine roots, which feed and support the trees. This moisture is critical in previously unburned stands as the fine roots may have grown up into the above-ground pine litter.

In controlling fire intensity, fuel loading, fuel moisture, temperature, relative humidity, wind, and burning technique must all be considered. Various burning techniques are used to get the fire intensity needed in a particular stand with the weather conditions existing that day.

Dormant season burns every 2-3 years will reduce fuel loading and top-kill woody brush. The basal and root sprouting that will occur from the top-killed woody vegetation will likely produce browse that is more palatable and attainable to wildlife than was present before the burn. Dormant season burns are typically done from December through February.

Growing season (spring) burns will greatly reduce the number of woody stems that regenerate and will promote more native grasses in the understory. Burning during this time can, however, temporarily interrupt nesting and feeding areas for game birds if conducted over a very large area. Growing season burns can be successfully done if the canopy is fairly open, if the fuel load is not heavy, and if the vegetation is not too green or spotty to carry a fire. It is typically necessary to conduct multiple dormant season burns over several years to prepare a site for a growing season burn. Growing season burns may be done in May and early June if the weather conditions are appropriate and if there is not heavy fuel loading. With warmer temperatures and usually drier weather, growing season burning requires extra precaution. Growing season burns are often done on a three to five year cycle or as needed.

Precautions:

Prescribed burning should always be done by a certified burn vendor. An acceptable burning plan should first be formulated with appropriate documentation prior to conducting the burn. This plan should detail all information regarding the planned prescribed fire and should be followed as closely as possible. Fuel dryness, wind speed and direction, humidity, topography, fuels, and smoke management all play a part in conducting a safe and successful burn. Tree mortality and wildfire escape can occur in cases of high fire intensity.

Before a prescribed burn is conducted, neighbors, the local fire department and the Texas A&M Forest Service should be informed. The Texas A&M Forest Service will need to know the type burn (fuel reduction), location, number of acres, landowner name, person responsible (person conducting the burn), and a telephone number. Weather conditions and fire forecast information may be obtained from Texas A&M Forest Service Dispatch Offices.

http://tfsweb.tamu.edu *Page 2 of 2*

Source: Texas A&M Forest Service Fire Information
https://tfsweb.tamu.edu/forestmanagementinformationsheets/

Defensible Space

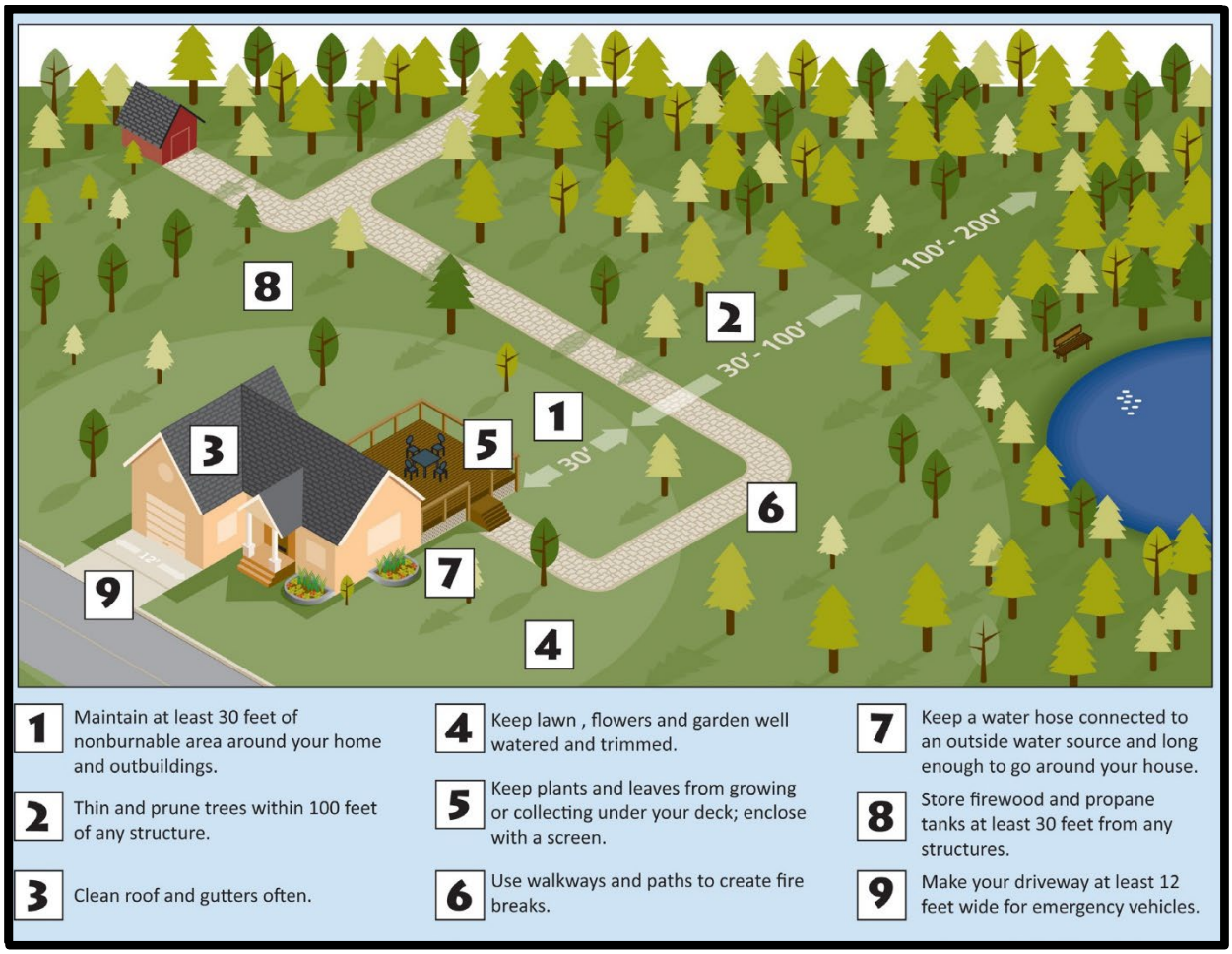
This section of your CWPP should discuss defensible space, the area immediately surrounding a home and its attachments. This area is important to a home's survival in a wildfire. Thirty feet is the absolute minimum recommended defensible space zone.

The Home Ignition Zone (HIZ) extends to 200 feet from the home. The fuel loading and continuity in the HIZ is a critical part of the risk assessment process and the results should direct defensible space mitigation projects. Vegetation placement, lawn care and use of fire-resistant materials (such as rock) will play an important role during a wildfire.

While home hardening — or the practice of making your home fire-resistant — is important for everyone, it is especially important for those homeowners who cannot mitigate the entire HIZ.

The primary type of mitigation project regarding defensible space is public education. Defensible space also should be incorporated into a community's strategic prevention plan.

➢ *Your CWPP Hazardous Fuels Mitigation page might include something like this:*



Source: Texas A&M Forest Service

Treatment of Structural Ignitability

This section of your CWPP should address treatment of structural ignitability. A home's design, construction materials and immediate surroundings are factors that contribute to how easily a home will ignite when wildfire threatens. By educating homeowners about wildfire and the parts of a home that are vulnerable to it, the CWPP working group can help to reduce the number of homes destroyed by wildfires.

Treatment of structural ignitability also should be included in the strategic prevention plan.

Treatment of structural ignitability can be accomplished through adoption of the International WUI Code and is discussed in the Planning and Zoning section of this chapter.

➢ *Your CWPP Treatment of Structural Ignitability page might include information like this:*

Fire Resistant Construction

A home located within the WUI may be at risk in the event of a wildfire. Lands and communities adjacent to and surrounded by wildlands are part of the WUI. However, there are precautions that a homeowner can take to reduce a home's risk. It begins by learning what parts of your home might burn if exposed to direct flame contact, radiant heat or embers.

Several sections of a home are vulnerable to a wildfire because of their size or placement. For example, embers may get lodged between shingles or ignite leaf or pine litter on a roof.

"Hardening a home" is a term used to describe the retrofitting process that reduces a home's risk to wildfire. This involves using non-combustible building materials and keeping the area around your home free of debris. The roof can be ignited along the surface and the edge where gutters are connected. In both cases the most likely cause will be embers landing and debris igniting. A homeowner can prevent this by keeping combustible fuels cleared from the roof and using ignition-resistant roofing materials.

Recommended materials:

- Metal
- Tile (with bird stops)
- Class A shingles

Fire ratings for roofs are classified as either Class A, Class B, Class C or unrated if a roof covering cannot meet the requirements for any of these classifications. Class A is the highest rating, offering the highest resistance to fire, and unrated is the worst. Examples of a Class A roof covering include concrete or clay roof tiles, fiberglass asphalt composition shingles and metal roofs.

Source: Texas A&M Forest Service

Local Capacity Building

This section of your CWPP should address properly training and equipping local fire departments to fight wildfires. Once necessities have been identified, the CWPP working group should create a plan to fill the needs for training, equipment, and apparatus. Include priority items in the CWPP action plan.

Useful links:

- **Texas A&M Forest Service Capacity Building (https://tfsweb.tamu.edu/FireDepartmentPrograms/)**
- **Texas A&M Forest Service training opportunities (https://bit.ly/3iAaXqt)**
- **Texas Interagency Coordination Center (ticc.tamu.edu)**

➢ *Your CWPP Local Capacity Building page might include opportunities for securing grants or training through Texas A&M Forest Service programs. This section may also include training priorities, needs, and recommendations.*

Fire Department Assistance Programs	
Firesafe Program The Firesafe program provides low-cost wildland and structural protective clothing, hose, nozzles and other water-handling accessories to rural and small community fire departments.	***TIFMAS Grant Assistance Program*** The TIFMAS grant assistance program provides grants to qualified fire departments to assist in the purchase of training, equipment and apparatus.
Rural Volunteer Fire Department Assistance Programs (HB 2604) The Rural VFD Assistance Program (2604) provides grants for qualified fire departments to assist in the purchase of PPE, equipment and training. The program is designed to fund a full spectrum of cost-share projects and continues to make a significant impact on firefighters and communities.	***Helping Hands Program*** The Helping Hands Program provides liability relief to industry, businesses, cities and others to donate surplus fire and emergency equipment. Texas A&M Forest Service then distributes it to departments around the state.
VFD Vehicle Liability Insurance The Texas Volunteer Fire Department Motor Vehicle Self Insurance Program (risk pool) provides low-cost vehicle liability insurance to qualified volunteer fire departments.	***Department of Defense Firefighter Property Program (FPP)*** In partnership with the Department of Defense, Texas A&M Forest Service administers the Firefighter Property Program (FFP), which provides excess military property to emergency service providers.

Evacuation Planning

Evacuation plans can be created for high-risk neighborhoods, especially those with minimal egress routes, large populations or vulnerable populations. Plans should incorporate routes of ingress and egress for emergency responders. Emergency management, law enforcement, fire department, public works and appropriate local government official may be involved in the evacuation process.

Things to consider while creating an evacuation plan:

- Planning:
  - Determine areas at risk and identify vulnerable populations.
  - Determine evacuation routes.
  - Plan traffic control requirements including public transportation and determine pickup points.
  - Plan for temporary shelter needs and determine locations.
- Advance Warning:
  - Provide advance warning for vulnerable populations and advise them to activate evacuation arrangements.
  - Provide advance warning of possible need for evacuation to public at risk.
  - Ready temporary shelters selected for use.
  - Coordinate with transportation providers to ensure availability.
  - Coordinate with school districts regarding closures and evacuations of schools.
- Evacuation communication and coordination.
  - Disseminate evacuation recommendation or order to impacted areas. Provide assistance in evacuating, if needed.
  - Advise neighboring jurisdictions of evacuation order.
  - Provide information to the public through the media.
- Evacuees with pets and livestock.
  - Direct pet owners to shelter locations allowing pets.
  - Provide pet owners information on nearby kennels, animal shelters and veterinary clinics that have agreed to temporarily shelter pets.
  - Set up temporary shelters at fairgrounds or other facilities for pets or livestock.
- Return of evacuees.

➢ *Your Evacuation Planning page may include information like this:*

Special Considerations for Livestock:

- Livestock are sensitive and responsive to wildfire anywhere within their sensory range.
- Normal reactions vary from nervousness to panic to aggressive and resistive escape attempts.
- Livestock often are injured or killed by fleeing from a wildfire into fences, barriers and other fire risks.
- Once the flight syndrome kicks in, it is retained long after the smoke, heat and noise stimuli are removed.

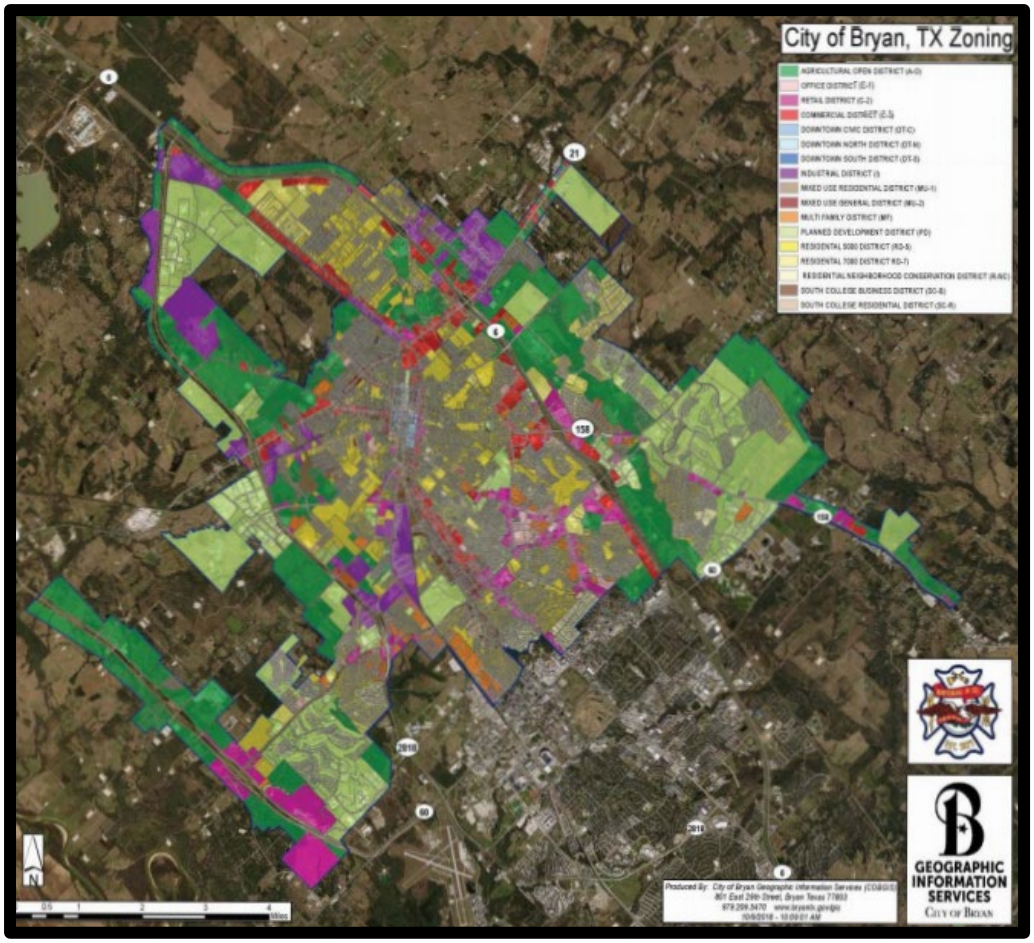
Source: City of Bryan, Texas, Community Wildfire Protection Plan

Planning and Zoning

This section of your CWPP should address planning and zoning requirements, which can greatly reduce the risk of home loss during wildfires. The International Wildland-Urban Interface Code® can provide guidance to planning staff for future development. This code addresses structural ignitability and defensible space areas.

Other planning issues also may be addressed. These could include water systems, green belts, access and signage. Communities also may host Emerging Communities or WUI workshops to educate local planners, fire departments, elected officials and emergency responders. These workshops address a wide variety of issues relating to problems in the WUI.

➢ *Your CWPP Planning and Zoning page might include information like this:*



Source: City of Bryan, Texas, Community Wildfire Protection Plan

Mitigation Funding Sources

This section of your CWPP should identify potential mitigation funding sources.

- **FEMA Assistance to Firefighter Grant:** **https://www.fema.gov/grants/preparedness/firefighters**
  - Fire safety grants to fund critically needed resources to equip and train emergency personnel, enhance efficiencies and support community resilience.

- **FEMA Hazard Mitigation Grant Program:** **http://www.fema.gov/hazard-mitigation-grant-program**
  - Only available after a presidentially declared disaster. Funding is available to state, local, tribal and territorial governments for rebuilding within the community that reduces future disaster losses.

- **FEMA Building Resilient Infrastructure and Communities:** **http://www.fema.gov/pre-disaster-mitigation-grant-program**
  - Supports states, local communities, tribes and territories that are undertaking hazard mitigation projects and reducing the risks they face from disasters. Replaced the Pre-Disaster Mitigation program due to the amendments created by the Disaster Relief and Recovery Act of 2018.

- **Natural Resource Conservation Service Environmental Quality Incentives Program (EQIP):** **http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip**
  - Provides financial and technical assistance to agricultural producers and non-industrial forest managers to address natural resource concerns and deliver environmental benefits.

- **Texas A&M Forest Service Mitigation Grant Programs:** **https://texaswildfirerisk.com/grants** and **https://tfsweb.tamu.edu/cppgrant/**
  - Provides funding to assist landowners and communities to lower their risk of loss before a wildfire occurs.

➢ *The resources mentioned are available and should be considered when determining mitigation funding sources that can be incorporated into your CWPP.*

Develop an Action Plan

Before finalizing a CWPP, core working group members and key stakeholders should develop an action plan that identifies projects, roles and responsibilities, funding needs, and a timetable for carrying out these priority projects. These may include: fuels projects (with an associated map), education and outreach efforts, policy initiatives, capacity building, resource needs, and a maintenance plan.

Projects **should not** be general in nature, rather they should be clear and meaningful.

- *Fuels Mitigation Example*: Construct a shade fuel break by thinning vegetation between neighborhood XX and Cedar Ridge Preserve that is 300 feet wide and follows the lower contour of the surrounding geography. Responsible Parties: For those portions of private land the *county* and remainder is *US Forest Service XXX National Forest*. Priority: Medium. Completion Date: June 2023.

- *Education Example*: Placement of prevention billboard adds along Highway XX within the county. Responsible Parties: County, State, BLM XX District. Priority: High. Completion Date: April 2022.

Maintenance Strategy and Tracking Progress

Additional consideration should be given to developing a maintenance strategy for the CWPP. A maintenance strategy will ensure that the document remains relevant and effective. It is critical that a CWPP be updated, at a minimum, once every five years. Five years is also a reasonable timeline for implementation of projects and tracking outcomes. Ensure CWPP goals and objectives fall within this timeline to be better achieved. The working group should also ensure the community tracks their progress.

Documentation, tracking, and mapping projects are critical in demonstrating progress towards risk reduction as well as highlight remaining opportunities throughout a community. Capture on-the-ground actions resulting in risk reduction. Include acres treated, funding received and spent, training, and outreach and education completed in the community.

Gather this data annually and use the information to assess the value of your plan. Strive to consolidate the information from all active participants and utilize it to describe the impact to the community. Share the details with all stakeholders and partners. Consider preparing an annual accomplishment report to share the information.

Appendix

This section can be used for supplemental materials and resources that will be useful to emergency responders and members of the working group.

* *Recovery Strategies*
* *Recovery Funding Sources*
* *CWPP Leader's Guide*
* *Glossary*

➢ ***You also may want to include the following items in your CWPP Appendix:***

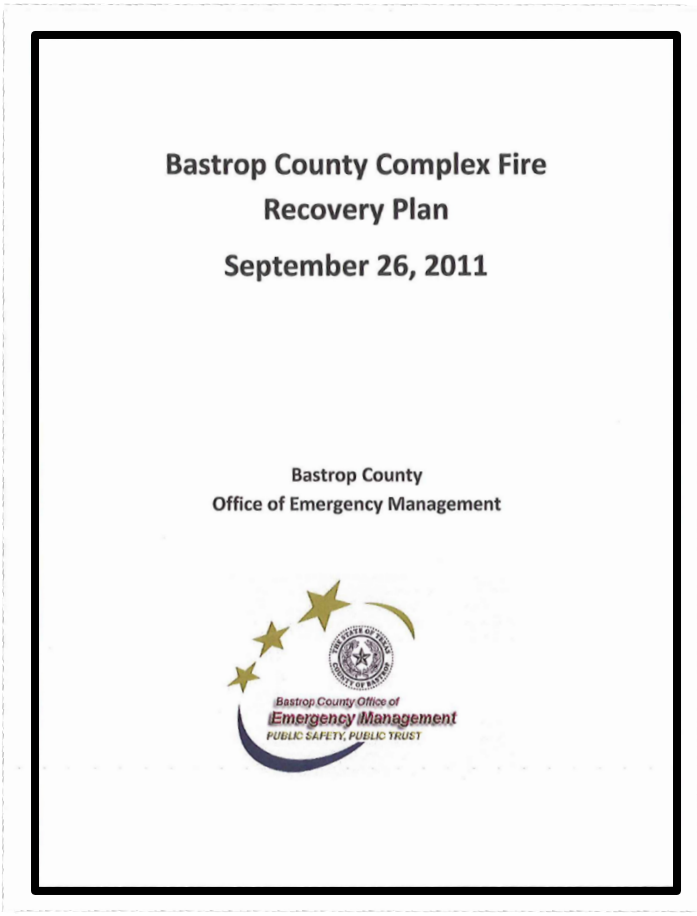
* *Pre-Attack Plan*
* *Contact List*
* *Maps*
* *Risk Assessment Findings*
* *TxWRAP Summary Report*

Recovery Strategies

Recovering from a wildfire can be difficult and complex. It also can take a long time to fully recover. That's why it's important to plan for recovery and begin the process alongside incident response. By creating a recovery plan that can be adapted to other disasters outside of wildfire, a community can become more disaster resilient. A recovery plan can mirror an Incident Action Plan by creating functional groups with a list of short-term and long-term objectives and resources. Pictured below is an example from the Bastrop Recovery Plan following the Bastrop Complex Wildfire.

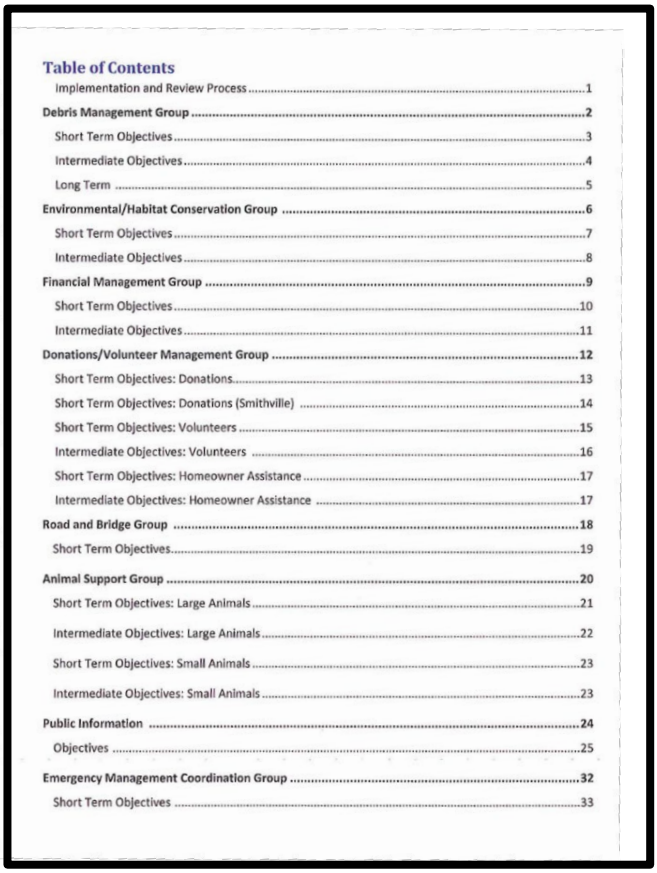
A website is another tool that can be beneficial during the recovery process. Several wildfire-stricken communities have found it helpful to create a website for organizing donations and volunteers, tracking resources and providing information to the public. The same website also can be used to disseminate preparedness information throughout the year. An example of a recovery website is **coloradospringstogether.org**.

➢ *The working group can use the tools on the following page to determine the best information to include in the Recovery Strategies section of your CWPP.*


Bastrop County Complex Fire
Recovery Plan
September 26, 2011

Bastrop County
Office of Emergency Management

Bastrop County Office of
Emergency Management
PUBLIC SAFETY, PUBLIC TRUST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Recovery Funding Sources

The following table provides a few examples of disaster assistance programs that may be available after a wildfire. Some funding sources may not become available until a Presidential Disaster Declaration has been issued.

➢ *The working group can research the following programs to see what opportunities are available that suit your community needs:*

Agency	Recovery Program	Website
Natural Resources Conservation Service	Environmental Quality Incentives Program	**www.tx.nrcs.usda.gov**
United States Department of Agriculture	Conservation Reserve Program	**www.fsa.usda.gov**
Federal Emergency Management Agency	Individual Assistance Program	**https://www.fema.gov/assistance**
Federal Emergency Management Agency	Public Assistance Program	**https://www.fema.gov/assistance**
American Red Cross	Hard Assistance and Soft Assistance	**www.redcross.org**

Community Wildfire Protection Plan Leader's Guide

Community Wildfire Protection Plans are a collaborative approach to wildland fire protection and mitigation. A plan can be as simple or complex as the needs of the community dictate.

☐ Convene Decision Makers.

* Engage local Texas A&M Forest Service representative—they can provide guidance and subject matter expertise.
* Involve local jurisdictions and fire service leadership from local, state, and federal cooperators.
* Notify local government officials—local support will bolster political capital in the community.

☐ Engage Interested Parties.

Wildfire risk is a community problem and a shared responsibility between stakeholders.

* Form a core working group with representation from the local fire department, local government, and Texas A&M Forest Service.
* Additional partners should be encouraged to participate. Who needs to be part of the conversation? Who has a vested interest in the community?
* Gain input from a variety of partners to ensure that the CWPP reflects the interests and values of the entire community.

☐ Start Proclamation.

* Present a proclamation/resolution to local government for approval and signatures.

☐ Create a Community Base Map.

* Develop a base map of the community that identifies potential communities at risk, areas with critical infrastructure, and delineation of the Wildland Urban Interface.
* Identify high-risk, priority areas for risk assessments.

☐ Conduct Risk Assessments.

* Consider factors that influence risk in the community: fuels, structural characteristics, access, local fire capacity, utilities, etc.
* Assume no operational response and address stand-alone survivability.
* Utilize as a tool to help residents understand their wildfire risk and engage in mitigation actions.
* Compile results and share with core working group and partners.

☐ Establish Community Hazard Reduction Priorities and Recommendations to Reduce Structural Ignitability.

* Communicate the results from the risk assessments with all stakeholders.
* Begin to develop priorities for the community.
* Recommend actions that address structural ignitability and hazardous fuel reduction.
* Create strategies that address local fire service capacity.

☐ Develop an Action Plan.

* Generate prioritized recommendations for fuels reduction projects, outreach and education programs, and other mitigation actions that assist in achieving the goals and objectives of the CWPP.
* Identify roles and responsibilities, funding needs, and timelines for each priority project.
* Recommended actions must directly relate to the protection of the community and its values.

☐ Finalize the Community Wildfire Protection Plan.

* Complete plan and ensure that the three required criteria are met.
* Present a final draft to local signatories and Texas A&M Forest Service for approval.
* Plan a signing/recognition ceremony.

Download a Leader's Guide to Developing Community Wildfire Protection Plans at

tfsweb.tamu.edu/ProtectYourCommunity/

CWPP Review Standards & Criteria

The following is a list of elements that shall be included as part of the CWPP.

1. A Proclamation/Resolution signed by the applicable local government.
2. A list of CWPP participants and their affiliations as well as a timeline of meetings and what was accomplished. Participation will be sought from: *fire service, law enforcement, planning and zoning, state organizations, federal agencies, local governments, private citizens, business owners, special interest groups, service districts, cooperatives, etc.*
3. A clear description of the community that may include information such as the population, local governments, transportation infrastructure, other valuable resources, geography, climate, general vegetation types, etc.
4. A clear map of the WUI, associated definition, and description of how it was defined.
5. A defined risk assessment process that outlines the procedure for ground-truthing data, the process of evaluating neighborhoods and communities, and a summary of findings that should also include:
    a. A hazard rating map for the area,
    b. Listing of communities assessed and ratings,
    c. Mitigation strategies for each community assessed,
    d. And general mitigation strategies for the community including outreach and education, fuels reduction projects, etc.
6. The action plan should include priority projects for the community that identify a responsible entity and timeline. These may include: fuels projects (with an associated map), education and outreach efforts, policy initiatives, capacity building, resource needs, and a maintenance plan.
    a. Projects **should not** be general in nature, rather they should be clear and meaningful.
        i. *Fuels Mitigation Example*: Construct a shade fuel break by thinning vegetation between neighborhood XX and Cedar Ridge Preserve that is 300 feet wide and follows the lower contour of the surrounding geography. Responsible Parties: For those portions of private land the *county* and remainder is *US Forest Service XXX National Forest*. Priority: Medium. Completion Date: June 2019.
        ii. *Education Example*: Placement of prevention billboard adds along Highway XX within the county. Responsible Parties: County, State, BLM XX District. Priority: High. Completion Date: April 2017.
7. Either an appendix or sub-section that gives a brief accounting of accomplishments that have been completed related to wildfire preparation and mitigation, if applicable. Again, as much detail as possible should be included, such as maps, responsible parties, maintenance plans, etc.
8. CWPP review process. TAMFS and the local government should review the working draft CWPP document thoroughly prior to submitting for final aproval. Once TAMFS and the local entities determine that the draft document is ready for final approval, it will be reviewed and approved by the TAMFS Mitigation and Prevention Department. During this process, the document will transition from a working draft CWPP to a final approved CWPP document awaiting finalized signatures.
9. Finalize the CWPP. Once the final approved CWPP document is completed, it is ready for signatures from the local entities and TAMFS. Three local entities must approve and sign the document, as required by Healthy Forest Restoration Act of 2003. TAMFS is the state entity responsible for forest management and must also sign the document.

[OPTIONAL] A pre-attack plan that includes standards of communication, evacuation procedures, shelter locations, available resources, available water resources (natural and manmade) that can be utilized for suppression activities, chain of command protocol, etc.

Glossary

Community base map — A geographic information systems product that can include streets, topography and vegetation. For the purposes of a CWPP, a community base map should include areas at risk, critical infrastructure and the community's WUI zone.

Defensible space — The area immediately encircling a home and its attachments.

Extended attack — Suppression activity for a wildfire that has not been contained or controlled by initial attack or contingency forces and for which more firefighting resources are arriving, en route or being ordered by the initial attack incident commander. *(National Wildfire Coordinating Group definition)*

Fuel loading — The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area. This may be available fuel (consumable fuel) or total fuel and is usually dry weight. *(National Wildfire Coordinating Group definition)*

Healthy Forests Restoration Act — Signed into law in 2003, this act authorizes Community Wildfire Protection Plans as a tool to reduce hazardous fuels and maintain healthy forests.

Home hardening — Retrofitting process that reduces a home's risk to wildfire. This involves using non-combustible building materials and keeping the area around your home free of debris.

Home Ignition Zone (HIZ) — An area of up to 200 feet immediately surrounding a home.

Incident Action Plan (IAP) — Contains objectives reflecting the overall incident strategy, specific tactical actions and supporting information for the next operational period. When written, the plan may have a number of attachments, including incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan and incident map. *(National Wildfire Coordinating Group definition)*

Initial attack — Fire that is generally contained by the attack units first dispatched, without a significant augmentation of reinforcements, and full control is expected within the first burning period. *(National Wildfire Coordinating Group definition)*

Mitigation Action Plan — A document that outlines a procedure for mitigating adverse environmental impacts.

Pre-Attack Plan — A resource for first responders that includes information specific to the community where an incident is taking place. Pre-Attack Plans may include possible Incident Command Post locations, shelter locations, radio frequencies, maps, high-risk areas and contingency plans.

Structural ignitability — A home's design, construction materials and immediate surroundings are factors that contribute to how easily a home will ignite when wildfire threatens.

Wildland Urban Interface (WUI) — Areas where human habitation and development meet or are intermixed with wildland fuels (vegetation).

Download a copy of this document at

https:// web.tamu.edu/ProtectYourCommunity/

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