TEXAS A&M
FOREST SERVICE

COMMUNITY WILDFIRE PROTECTION PLAN GUIDE

Wildfires within two miles of a Community
01/01/2005 - 10/31/2011

Fires: 113,203
Acres: 14,835,077

Wildfires within two miles of a Community
01/01/2005 - 10/31/2011

20%

80%

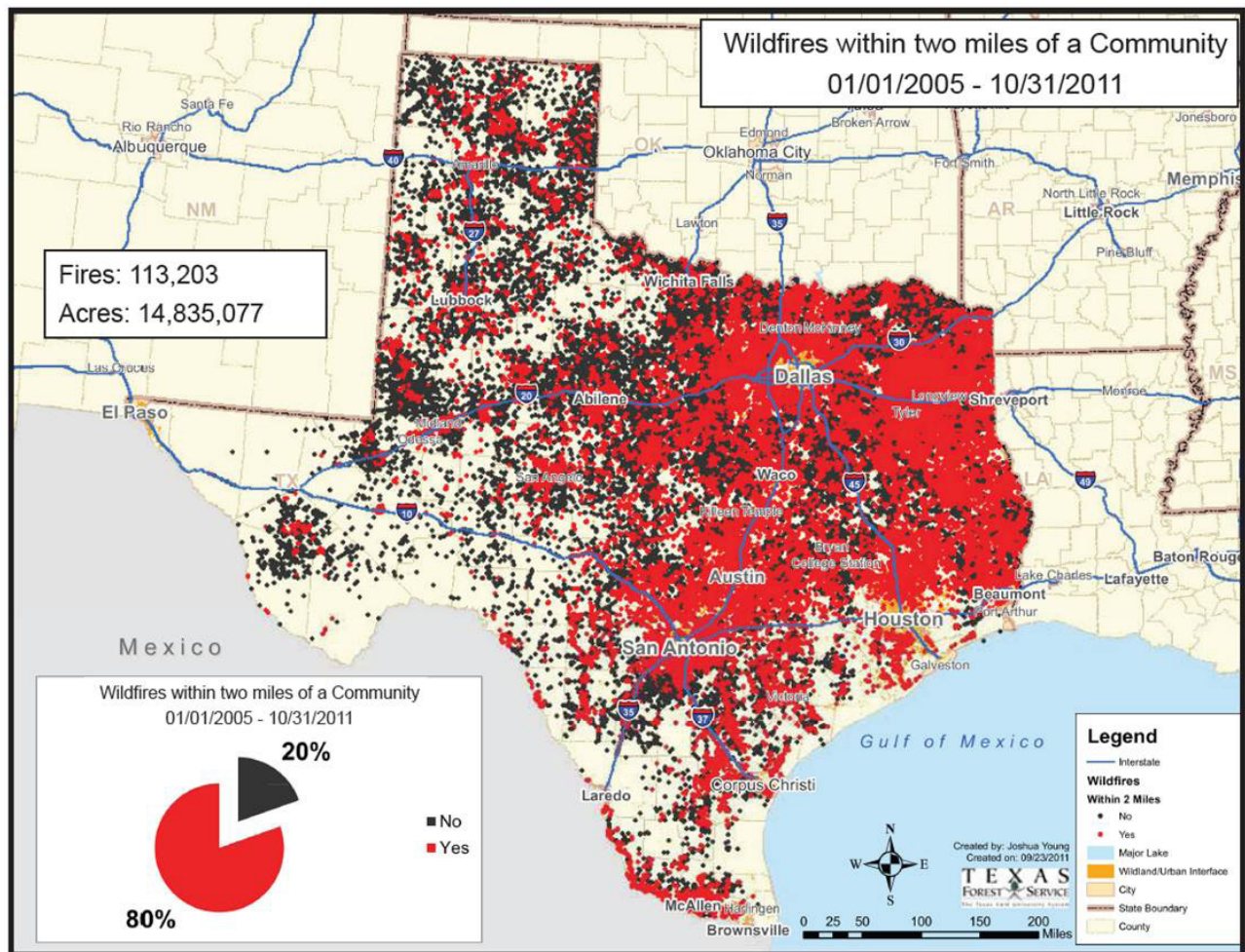■ No
■ Yes

Eighty percent of wildfires in Texas occur within two miles of a community. That means 80 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
November 2012

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 Wildland Urban Interface (WUI) Specialist 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 serve as an opportunity to target potential fuels reduction projects, training needs and prevention 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

Photo by Brent Isom, brentisomphotography.com

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). There are approximately 14,000 communities in Texas that have been identified as "at risk" for potentially devastating WUI wildfires.

With more and more people living in the WUI, it is increasingly important for local officials to plan and prepare for wildfires. Community Wildfire Protection Plans (CWPPs) are a proven strategy for reducing the risk of catastrophic wildfires and protecting lives and property.

CWPP MINIMUM REQUIREMENTS:

* Collaboration
* Prioritized Fuels Reduction
* Treatment of Structural Ignitability

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 unique in that it empowers communities to share the responsibility of determining the best strategies for protection against wildfire.

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 45.

In addition to this guide, a checklist for the working group leader is included on Page 44 and can also be accessed at **texasfirewise.com** by clicking on **Tools** and **Community Wildfire Protection Plans**.

The **Walker County CWPP**, referenced throughout this guide, is a good example that may help you visualize what the final version of your document should loook like. You can access it at **http://www.huntsvilletx.gov/egov/docs/12943284196208.pdf**
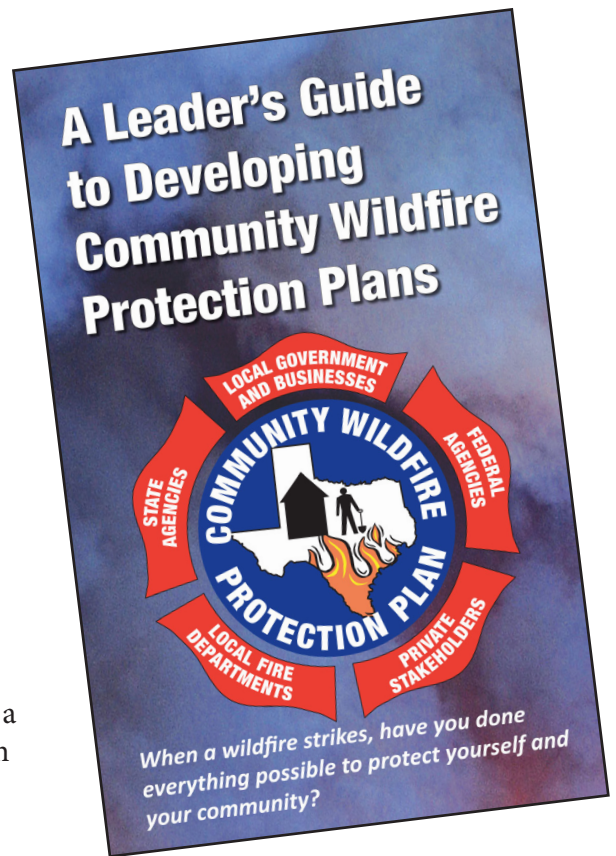
Keep in mind while crafting your CWPP that much of the information you're gathering also could be useful in a Pre-Attack Plan — a resource for emergency responders who may not be familiar with your community.

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 Plan

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

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.
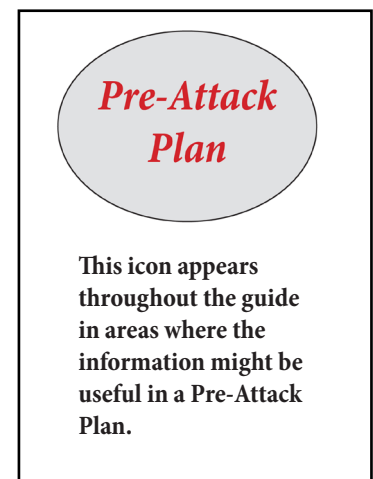
Introduction

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 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:

- Provide for the safety of residents and emergency personnel.
- Limit the number of homes destroyed by wildfire.
- Promote and maintain healthy ecosystems.
- Educate citizens about wildfire prevention.

Objectives:

- Complete wildfire risk assessments.
- Identify strategic fuels reduction projects.
- Address treatment of structural ignitability.
- Identify local capacity building and training needs.
- Promote wildfire awareness programs.

The intent, goals and objectives for your CWPP likely will be similar to those outlined on this page. You can copy and paste this page for your CWPP Introduction or tweak the goals and objectives to suit any additional needs in your area.
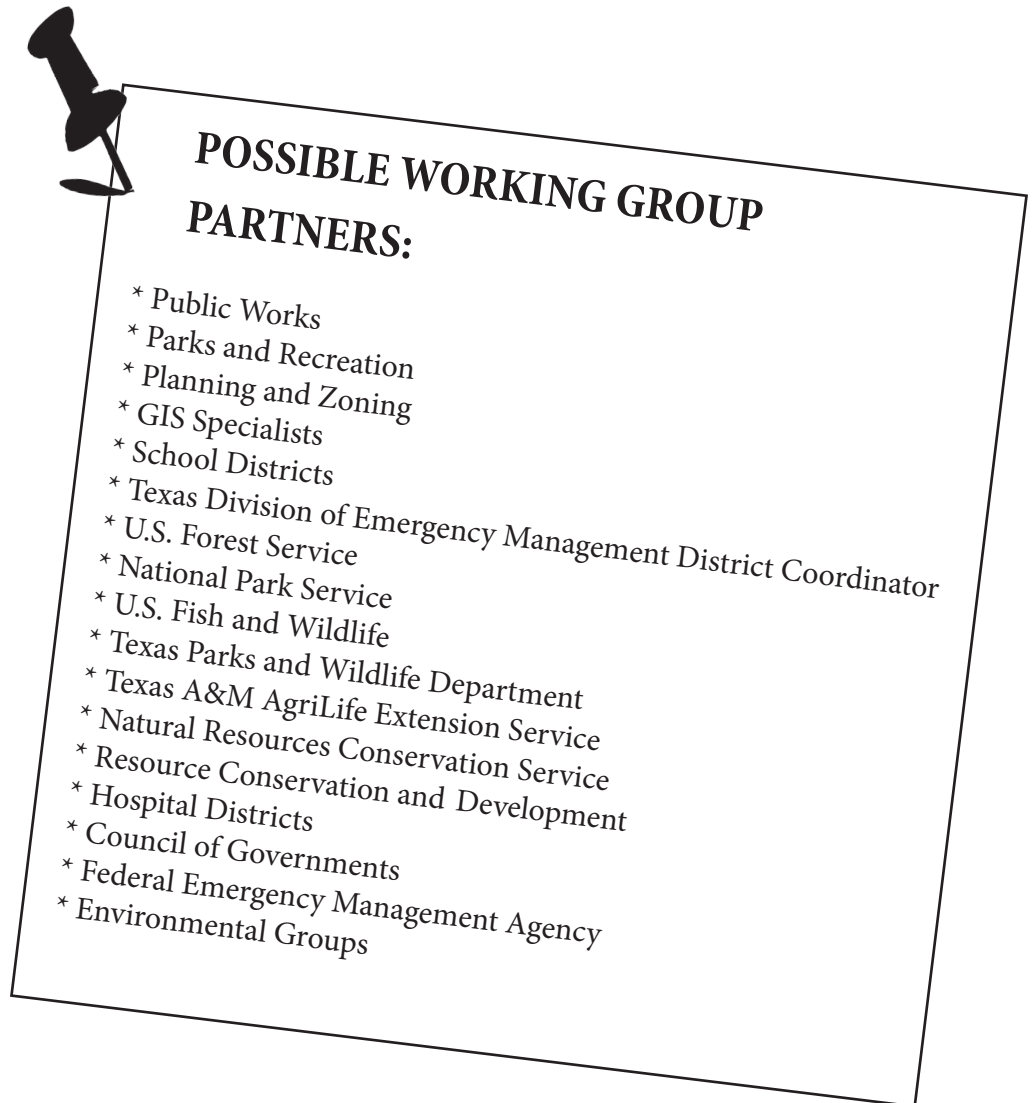
Working Group

One of the minimum qualifications for a CWPP is collaboration among local and state partners (and federal 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.

Required members include a representative from a local fire department, a representative from local government and a Texas A&M Forest Service WUI Specialist. It also may be useful to identify someone in your community with mapping and GIS skills.

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 WUI Specialist.

POSSIBLE WORKING GROUP PARTNERS:

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

THREE KEY STAKEHOLDERS:

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

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.

RECOMMENDED STEPS FOR DEVELOPING A CWPP:

1. Convene decision-makers
2. Involve federal agencies
3. Engage interested parties
4. Establish community base map(s)
5. Develop a community risk assessment
6. Establish community priorities and recommendations
7. Develop an action plan and assessment strategy
8. Finalize Community Wildfire Protection Plan

Your CWPP Planning Process page might look something like this:

CWPP Meetings			
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[Action Items]
[Date]	[Attendance]	[Assignments]	[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.

Wildfire Risk Assessment Portal Professional Viewer

(TxWRAP icon)

Sign up for a TxWRAP account by visiting **texaswildfirerisk.com** and selecting the **"Sign In"** tab. Select **"Register"** to open a new account.

Once you're logged in, select the "**Professional Viewer**" option. Click on "**Zoom To** ..." on the left side tool bar. Select your county or city from the drop-down menu. Click on **Generate Summary Report**. The report that will be emailed to you provides information that can be used to fill out your CWPP. Other tools also are available within TxWRAP for generating maps and useful information.

Scan this Quick Response code to download TxWRAP to your smart phone.
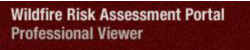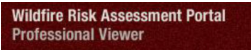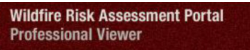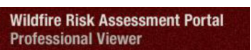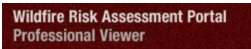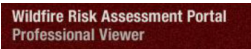
(Quick Response code)

A Texas A&M Forest Service WUI Specialist will assist the working group in developing a CWPP. You can find out how to **contact your local WUI Specialist** at **texasfirewise.com.**

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 **Wildfire Risk Assessment Portal Professional Viewer**	* Fire Response Capabilities **Wildfire Risk Assessment Portal Professional Viewer**
* General Landscape **Wildfire Risk Assessment Portal Professional Viewer**	* Emergency Facilities **Wildfire Risk Assessment Portal Professional Viewer** *Pre-Attack Plan*
* Climate **Wildfire Risk Assessment Portal Professional Viewer**	* Utilities and Railroads *Pre-Attack Plan*
* Vegetation **Wildfire Risk Assessment Portal Professional Viewer**	* Schools *Pre-Attack Plan*
* Historical Land Use	* Community Legal Authority
* Population **Wildfire Risk Assessment Portal Professional Viewer**	

Using TxWRAP in this section:

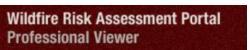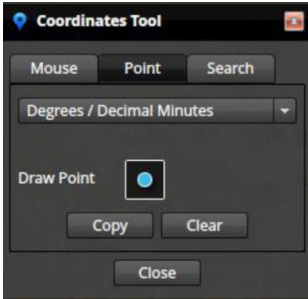The summary report generated through the steps listed on Page 9 can be used to fill out your CWPP's sections on *General Landscape*, *Vegetation* and *Population.*

You can also visit **texaswildfirerisk.com** and select **Explore Map Themes** and **Landscape Characteristics** to gather information for your CWPP's sections on *General Landscape* and *Vegetation.*

Select **Explore Map Themes** and **Wildfire Behavior Outputs** to gather information for your section on *General Landscape.*

Select **Explore Map Themes** and **Reference Base Layers**. Check the **Fire Stations** box. You can use this information for your CWPP's sections on *Fire Response Capabilities* and *Emergency Facilities*.

Click on **Explore Map Themes** and **Historical Wildfire Occurrence.** The data provided may help to correlate historical fire patterns with specific times of year for your section on *Climate.*

The **Coordinates Tool** in the top tool bar 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 **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Then click on the **Coordinates Tool** in the top tool bar to display the latitude/longitude for your community.
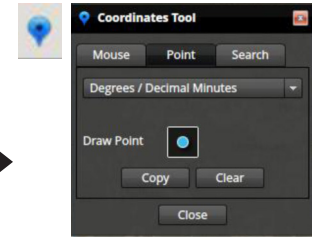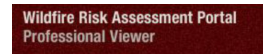
Your CWPP Location page might look something like this:

Community Location	
County	Walker
Latitude/longitude	33.8199° N, 87.2854° W
Plan area and unit boundaries	The City of Huntsville is the county seat and principal commercial center of Walker County, located on Interstate 45, approximately 70 miles north of Houston, 180 miles southeast of Dallas, and approximately 130 miles west of the Louisiana state line.
Frontage and/or perimeter road(s)	
Additional landmarks	Texas Department of Criminal Justice, Sam Houston State University

Source: Walker County, 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 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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To** ..." on the left side tool bar. Select your county or city from the drop-down menu. Then click on **Explore Map Themes**. The **Wildfire Behavior Outputs** 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 **twc.tamu.edu/drought/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.
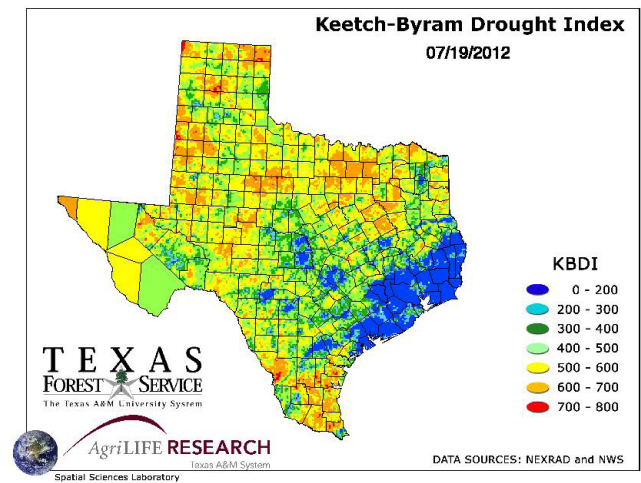
Your CWPP General Landscape page might include information like this:

The topography in Walker County is variable, ranging from flat to steep slopes. Ridge lines can exhibit slopes as steep as 30 percent; however, most of the county consists of rolling hills intermixed with pasture lands. There also are numerous arroyos that bisect the county, making it difficult for fire resources to reach certain areas of the county.

In addition to long response times, limited or no water supply in many areas makes it difficult for fire engines to provide adequate amounts of water for fire suppression and structure protection. This causes long turnaround times for water shuttling — in excess of 45 minutes in some instances.

Source: Walker County, 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 **texaswildfirerisk.com.** Click on "**Zoom To** ..." on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore Map Themes** and **Historical Wildfire 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. The Interstate 20 corridor leading from just west of Abilene to the Dallas-Fort Worth area seems to be a particular hot spot.

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 **texasfirestorm.org**.

Texas Southern Plains Wildfire Outbreaks 2011				
Event Date	**Wildfires**	**Acres**	**Fatalities**	**Structures Destroyed**
27 Feb	197	262,434	0	132
22 March	105	12,556	0	4
03 April	112	19,883	0	11
09 April	144	582,615	1	361
14 April	76	85,287	0	3
15 April	270	50,321	1	58
26 April	82	50,235	0	56
24 May	100	127,732	0	16
20 June	169	86,966	0	64
9 Days	**1,255**	**1,278,029**	**2**	**705**

Additional climate data can be found at:

National Climatic Data Center
ncdc.noaa.gov

National Weather Service
weather.gov

Office of the 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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To** ..." on the left side tool bar. Select your county or city from the drop-down menu. Then click on **Explore 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:
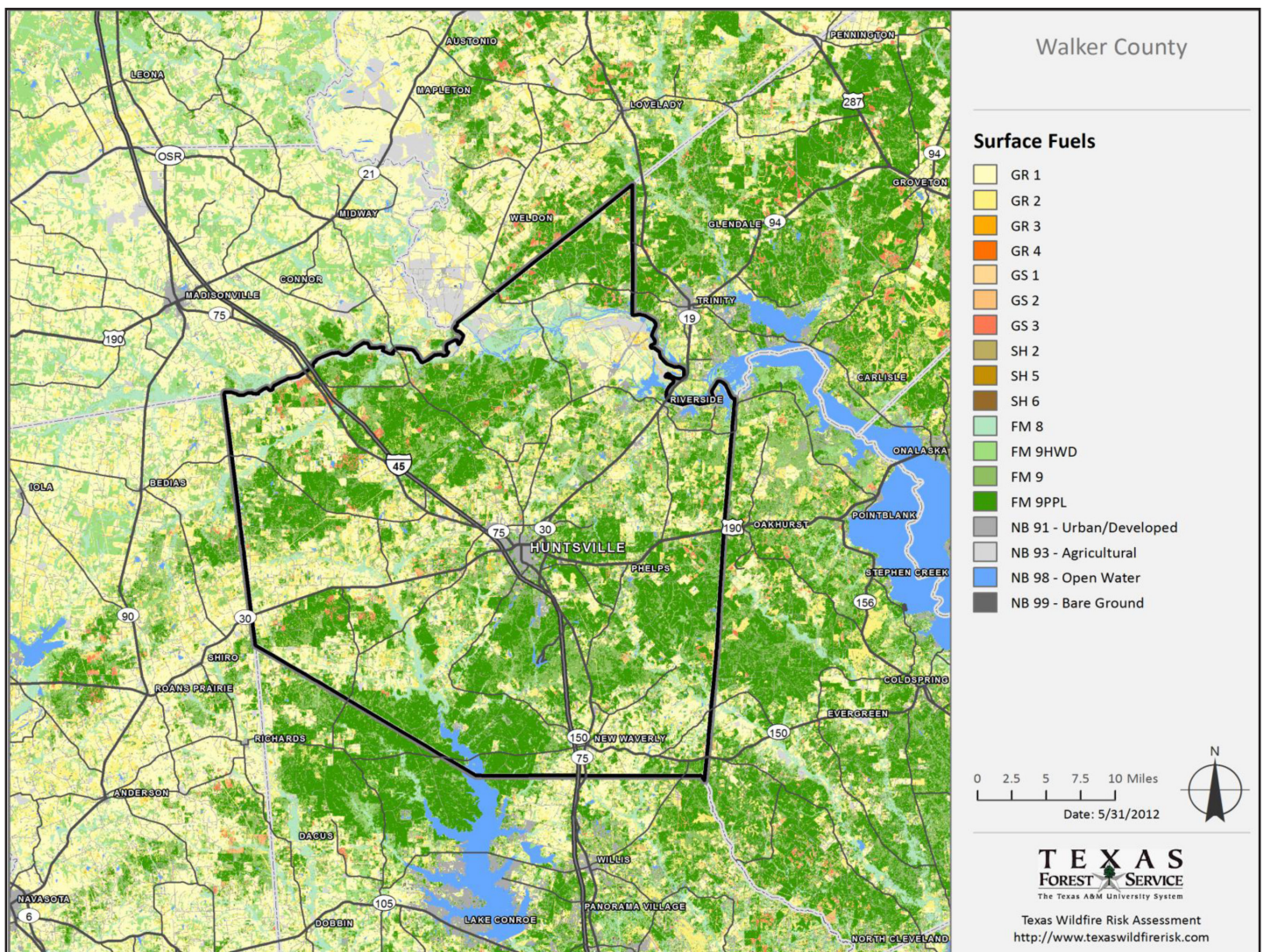
Source: Texas Wildfire Risk Assessment Report for Walker County, Texas

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Historical Land Use

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

Your CWPP Historical Land Use page might include something like this:

Traditional land use was primarily for lumber, crops, and pastures, but urban/industrial use has expanded greatly across the entire County in recent decades. Oil and gas production is common across the county. Since 2000, 75% of the county's population growth was in unincorporated areas.

Table 2.2.1 Population Growth in Harris County, Cities vs. Unincorporated						
	2000	**2010**	**Increase**	**% Inc.**	**% Total**	
City of Houston	1,919,789	2,057,280	137,491	7.2%	19.9%	
Other Cities	439,615	473,716	34,101	7.8%	4.9%	
Unincorporated	1,041,174	1,561,463	520,289	50.0%	75.2%	
Total	**3,400,578**	**4,092,459**	**691,881**	**20.3%**	**100%**	
Source: Harris County Office of Management Services						

Source: Harris County, Texas, Community Wildfire Protection Plan
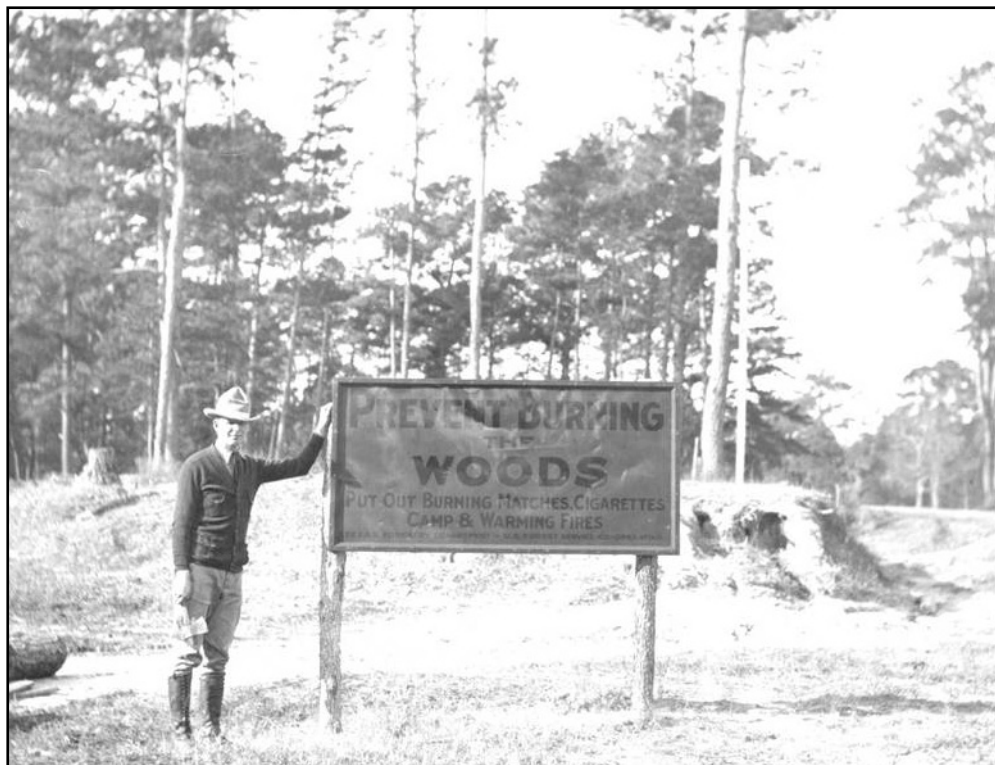
Population

This section of your CWPP should include the jurisdiction's population numbers. Also 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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore 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.
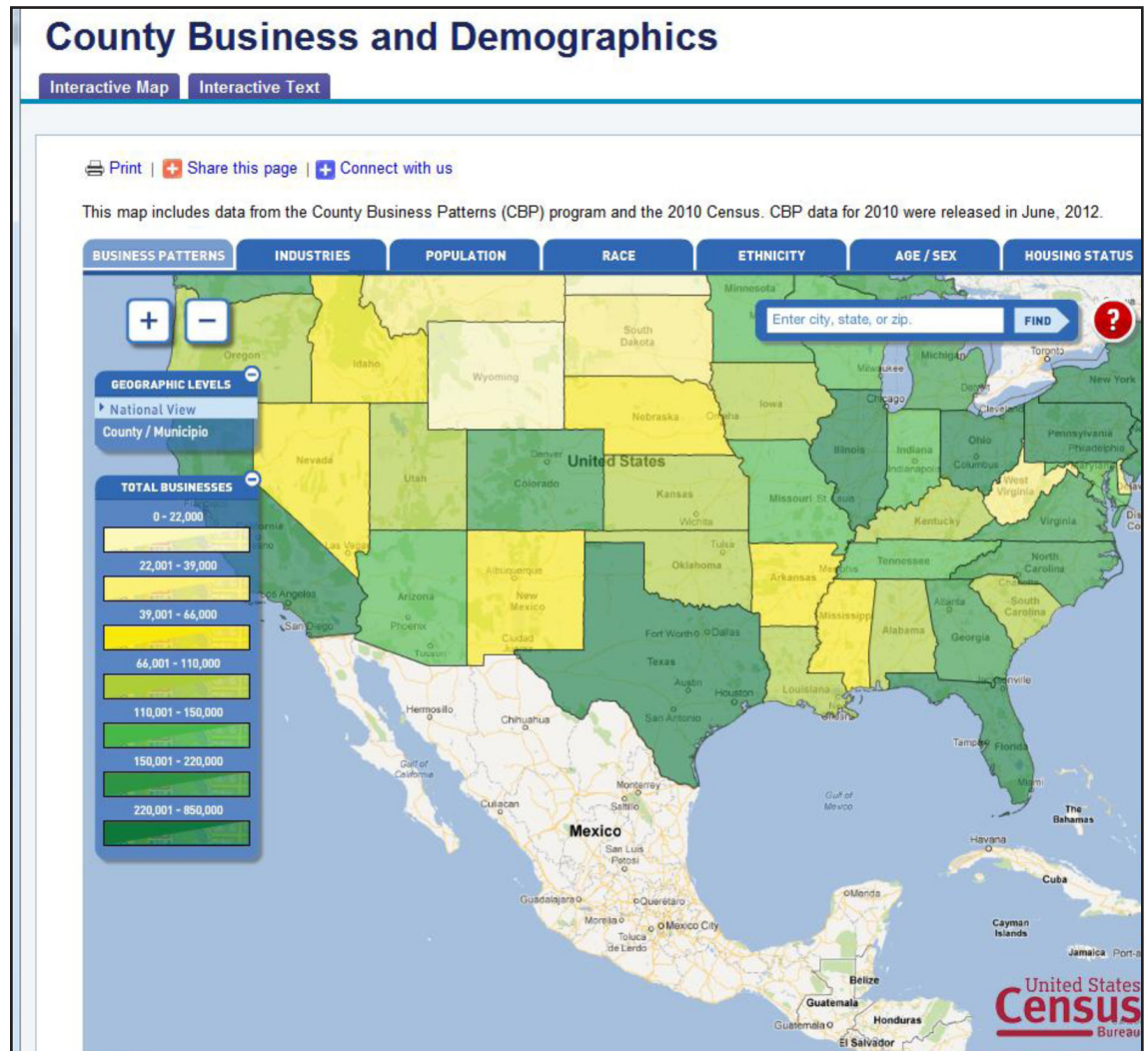
This map, accessible at census.gov/cbdmap/, provides regional information on businesses and demographics that you can use for your CWPP Population page.

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

Your CWPP Population page might include information like this:

For the Walker County project area, it is estimated that 48,296 people — or 75 percent of the total project area population (64,129) — live within the WUI.

Source: Texas Wildfire Risk Assessment Report for Walker County, Texas

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.

Visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To …**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore Map Themes** and **Reference Base Layers**. Check the **Fire Stations** box for a map of station locations in your jurisdiction.

Your Fire Response Capabilities page might include something like this:

Table 2.3.1 Summary of Emergency Response Resources in Harris County						
Agency	**Firefighters**	**Stations**	**Type I Engines**	**Aerial / Ladder**	**Water Tenders**	**Type VI Brush trucks**
Houston	3,900 Full time	92	87	37	0	10
Special zones	80 Full time	6	3	0	1	0
All others	690 Full time 907 Part time 2,712 volunteer	154	202	51	26	60
Total	**8,289**	**252**	**292**	**88**	**27**	**70**

Additional capabilities include 3 hazmat teams, 3 confined space rescue teams, 37 rescue trucks, 38 boats, 5 command vans, 7 hazmat response trailers, 150 EMS units, 20 rehab units, and 1 bulldozer. Additional CIMA resources include mobile command units, rescue trucks, high-volume foam pumpers and ambulances.

Source: Harris County Fire Marshal's Office

Source: Harris County, Texas, Community Wildfire Protection Plan

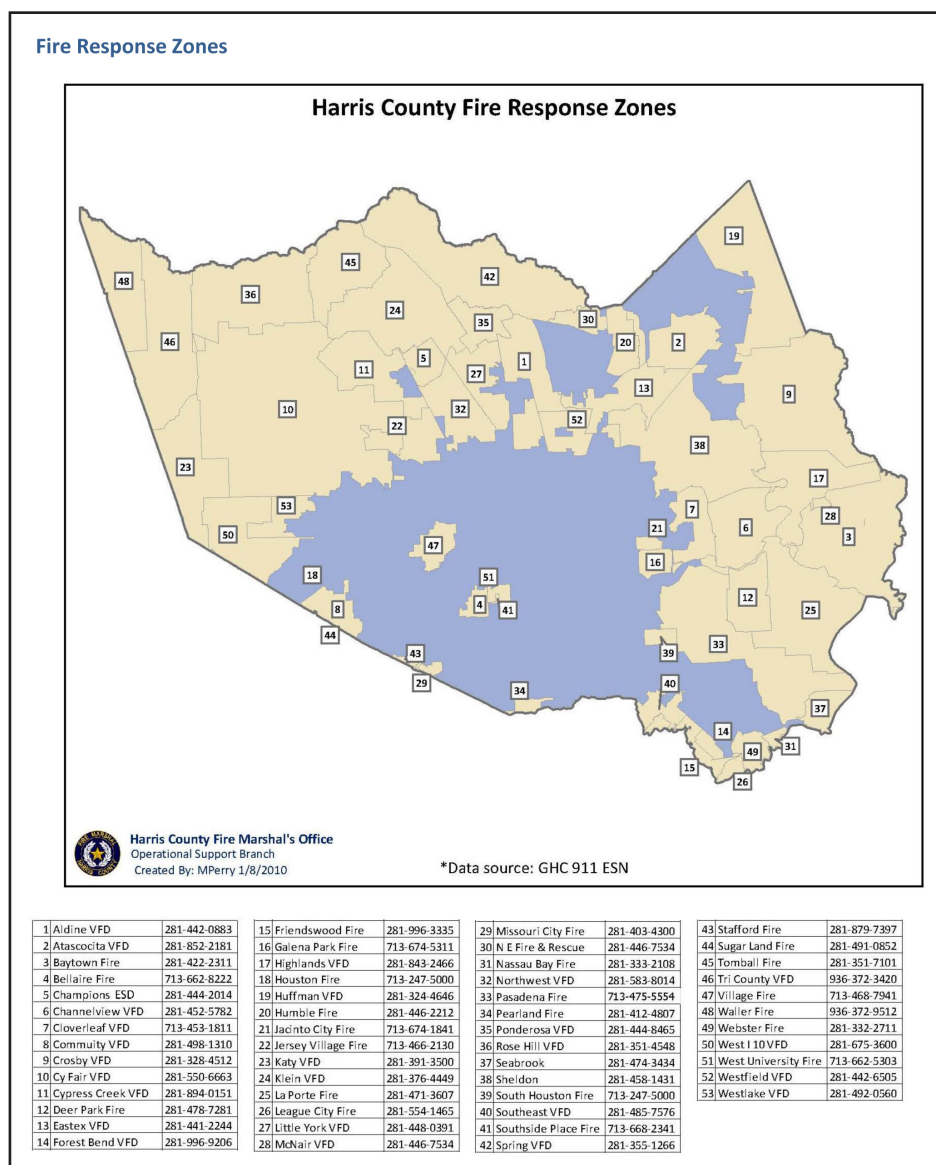| Table 7.3.1 Fire Department Capabilities							
Fire Zone	Department	Type	Type I Engines	Aerial / Ladder	Water Tenders	Type VI Brush Trucks	Dozers
--	Total	--	292	88	27	70	1
1	Aldine	combination	3	0	0	1	0
2	Atascocita	combination	3	1	0	1	0
3	Baytown	career	5	1	0	1	0
4	Bellaire	combination	2	0	0	0	0
5	Champions	combination	2	1	0	1	0
6	Channelview	combination	3	1	0	1	0
7	Cloverleaf	combination	4	1	0	0	0
8	Community	combination	5	2	0	2	0
9	Crosby	volunteer	5	1	4	3	0
10	Cy-Fair	combination	12	3	3	7	1
11	Cypress Creek	combination	6	1	1	3	0
12	Deer Park	volunteer	3	2	0	0	0
13	Eastex	combination	3	1	0	0	0

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 **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on **Explore Map Themes** and **Reference Base Layers**. 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:

Fire Response Zones

Harris County Fire Response Zones

Harris County Fire Marshal's Office
Operational Support Branch
Created By: MPerry 1/8/2010

*Data source: GHC 911 ESN

#	Name	Phone	#	Name	Phone	#	Name	Phone	#	Name	Phone
1	Aldine VFD	281-442-0883	15	Friendswood Fire	281-996-3335	29	Missouri City Fire	281-403-4300	43	Stafford Fire	281-879-7397
2	Atascocita VFD	281-852-2181	16	Galena Park Fire	713-674-5311	30	N E Fire & Rescue	281-446-7534	44	Sugar Land Fire	281-491-0852
3	Baytown Fire	281-422-2311	17	Highlands VFD	281-843-2466	31	Nassau Bay Fire	281-333-2108	45	Tomball Fire	281-351-7101
4	Bellaire Fire	713-662-8222	18	Houston Fire	713-247-5000	32	Northwest VFD	281-583-8014	46	Tri County VFD	936-372-3420
5	Champions ESD	281-444-2014	19	Huffman VFD	281-324-4646	33	Pasadena Fire	713-475-5554	47	Village Fire	713-468-7941
6	Channelview VFD	281-452-5782	20	Humble Fire	281-446-2212	34	Pearland Fire	281-412-4807	48	Waller Fire	936-372-9512
7	Cloverleaf VFD	713-453-1811	21	Jacinto City Fire	713-674-1841	35	Ponderosa VFD	281-444-8465	49	Webster Fire	281-332-2711
8	Commuity VFD	281-498-1310	22	Jersey Village Fire	713-466-2130	36	Rose Hill VFD	281-351-4548	50	West I 10 VFD	281-675-3600
9	Crosby VFD	281-328-4512	23	Katy VFD	281-391-3500	37	Seabrook	281-474-3434	51	West University Fire	713-662-5303
10	Cy Fair VFD	281-550-6663	24	Klein VFD	281-376-4449	38	Sheldon	281-458-1431	52	Westfield VFD	281-442-6505
11	Cypress Creek VFD	281-894-0151	25	La Porte Fire	281-471-3607	39	South Houston Fire	713-247-5000	53	Westlake VFD	281-492-0560
12	Deer Park Fire	281-478-7281	26	League City Fire	281-554-1465	40	Southeast VFD	281-485-7576			
13	Eastex VFD	281-441-2244	27	Little York VFD	281-448-0391	41	Southside Place Fire	713-668-2341			
14	Forest Bend VFD	281-996-9206	28	McNair VFD	281-446-7534	42	Spring VFD	281-355-1266			

*Source: Harris County, 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:
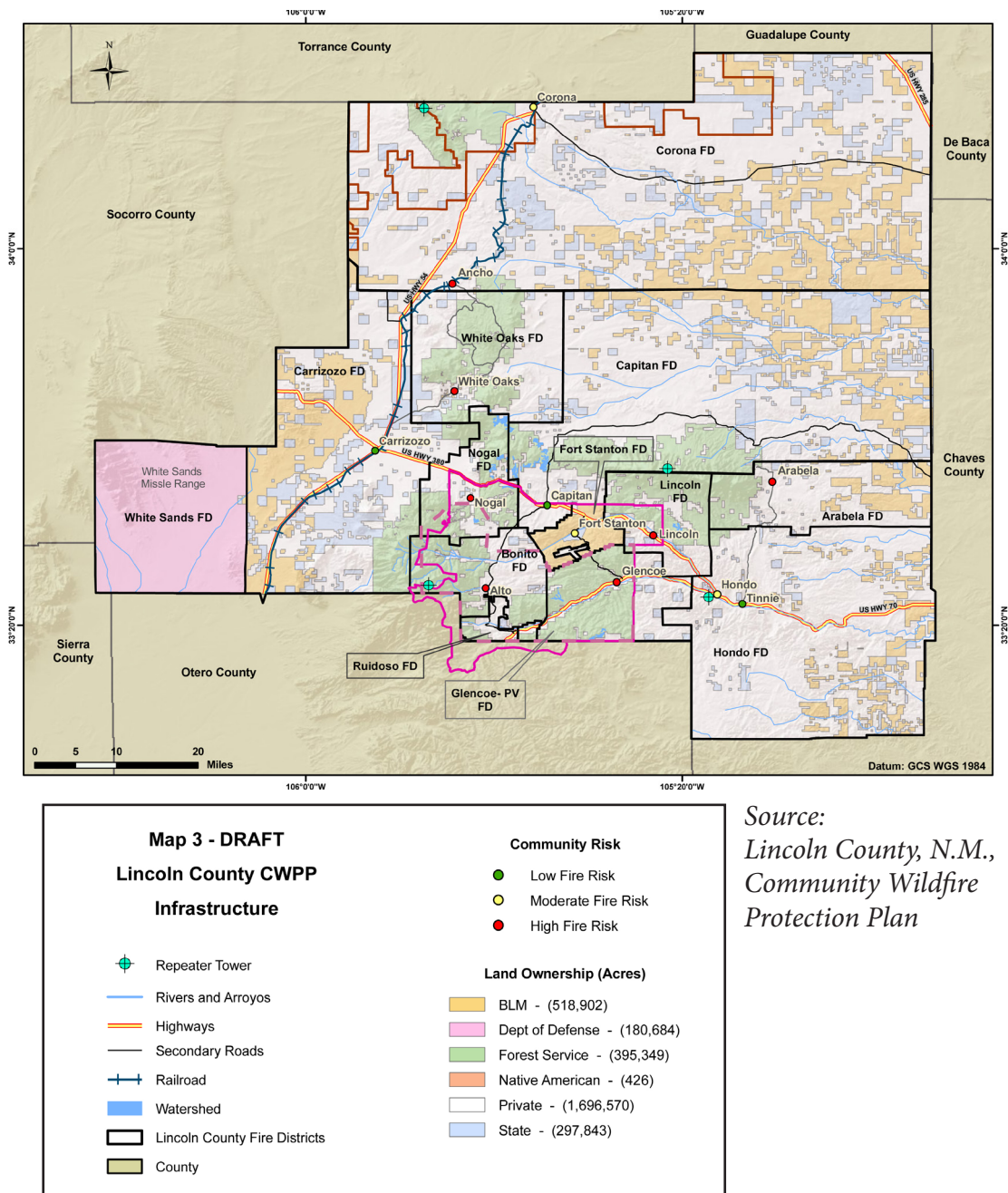
Source:
Lincoln County, N.M.,
Community Wildfire
Protection Plan

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: Texas Education Agency

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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:

County:
Walker County is organized as a County Government under the Texas Local Government Code with numerous municipalities within the county.
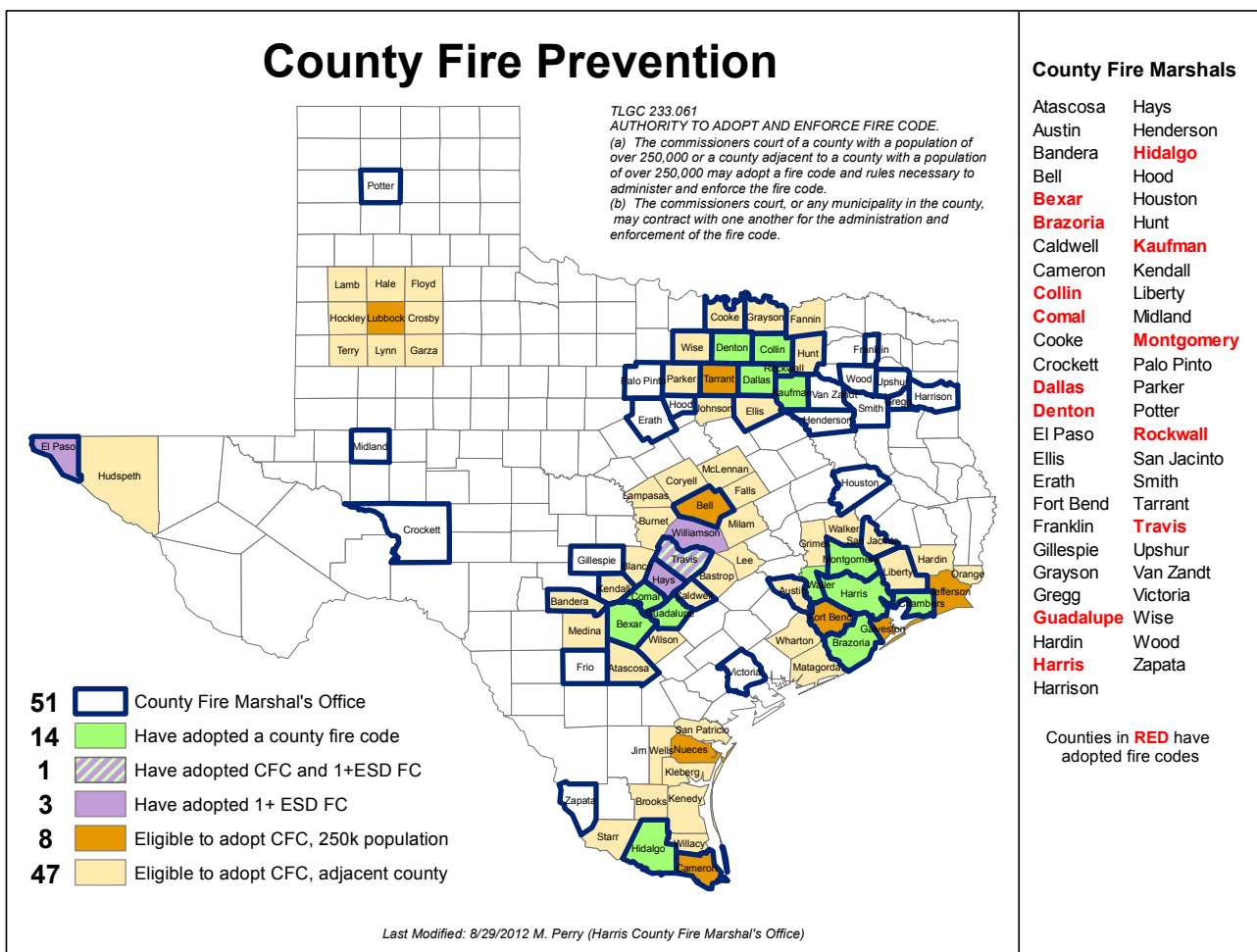
Municipalities:
City of Huntsville - Home Rule (Council-City Manager)
City of New Waverly - General Law
City of Riverside - General Law

Source: Walker County, Texas, Community Wildfire Protection Plan

Source: Harris County, Texas, Fire Marshal's Office

Fire Environment

This chapter covers your community's Wildland Urban Interface and the frequency and characteristics of wildfire in your area. It also covers wildland restoration.

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* Wildland Urban Interface **Wildfire Risk Assessment Portal Professional Viewer**

* Fire Occurrence **Wildfire Risk Assessment Portal Professional Viewer**

* Fire Behavior **Wildfire Risk Assessment Portal Professional Viewer**   *Pre-Attack Plan*

* Future Wildland Restoration **Wildfire Risk Assessment Portal Professional Viewer**

Using TxWRAP in this section:

The summary report generated through the steps listed on Page 9 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 "**Professional Viewer**" option.

Click on "**Zoom To …**" on the left side tool bar. Select your county or city from the drop-down menu.

Click on **Explore Map Themes** and **Wildfire Risk Themes**. This option will provide information under the **WUI Response Index** and **Wildland Urban Interface (WUI)** tabs that can be used to fill out your CWPP's section on *Wildland Urban Interface*.

Click on **Explore Map Themes** and **Historical Wildfire Occurrence**. This option will provide information that can be used to fill out your CWPP's section on *Fire Occurrence*.

Click on **Explore Map Themes** and **Wildfire Behavior Outputs**. This option will provide information that can be used to fill out your CWPP's section on *Fire Behavior*.
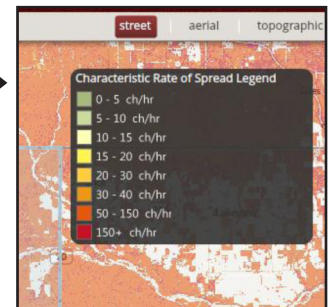
Click on **Explore Map Themes** and **Landscape Characteristics**. This option will provide information that can be used to fill out your CWPP's section on *Future Wildland Restoration*.

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 — 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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore 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:

WUI – Population and Acres

	Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
	LT 1hs/40ac	1,291	2.7%	61,155	44.1%
	1hs/40ac to 1hs/20ac	1,643	3.4%	22,445	16.2%
	1hs/20ac to 1hs/10ac	3,536	7.3%	21,203	15.3%
	1hs/10ac to 1hs/5ac	6,490	13.4%	17,337	12.5%
	1hs/5ac to 1hs/2ac	11,045	22.9%	11,741	8.5%
	1hs/2ac to 3hs/1ac	11,038	22.9%	4,158	3.0%
	GT 3hs/1ac	13,253	27.4%	631	0.5%
	Total	**48,296**	**100.0%**	**138,669**	**100.0%**

Source: Texas Wildfire Risk Assessment Report for Walker County, Texas

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** 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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk. com**. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore Map Themes** and **Historical Wildfire Occurrence** for information on wildfire occurrence in your community.
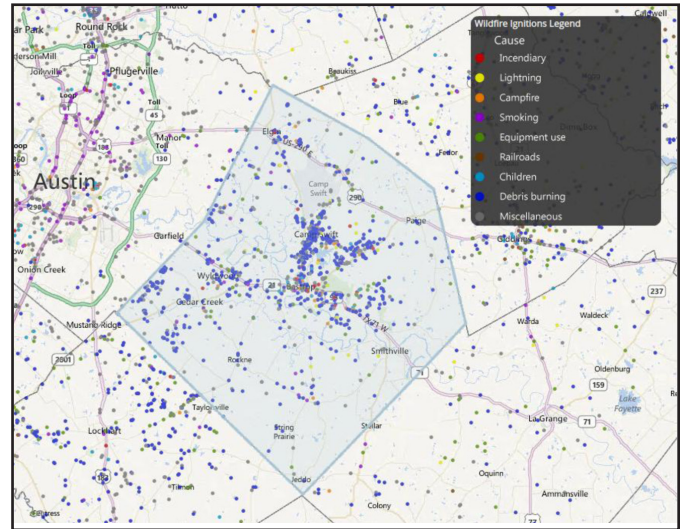
Your CWPP Fire Occurrence page might include something like this, which can be generated by TxWRAP:

Walker County

**Number of Wildfires Reported by Agency
2005 - 2009**

	2005	2006	2007	2008	2009
Local	9	45	5	17	12
State	37	32	8	28	47
Federal	7	4	2	6	5
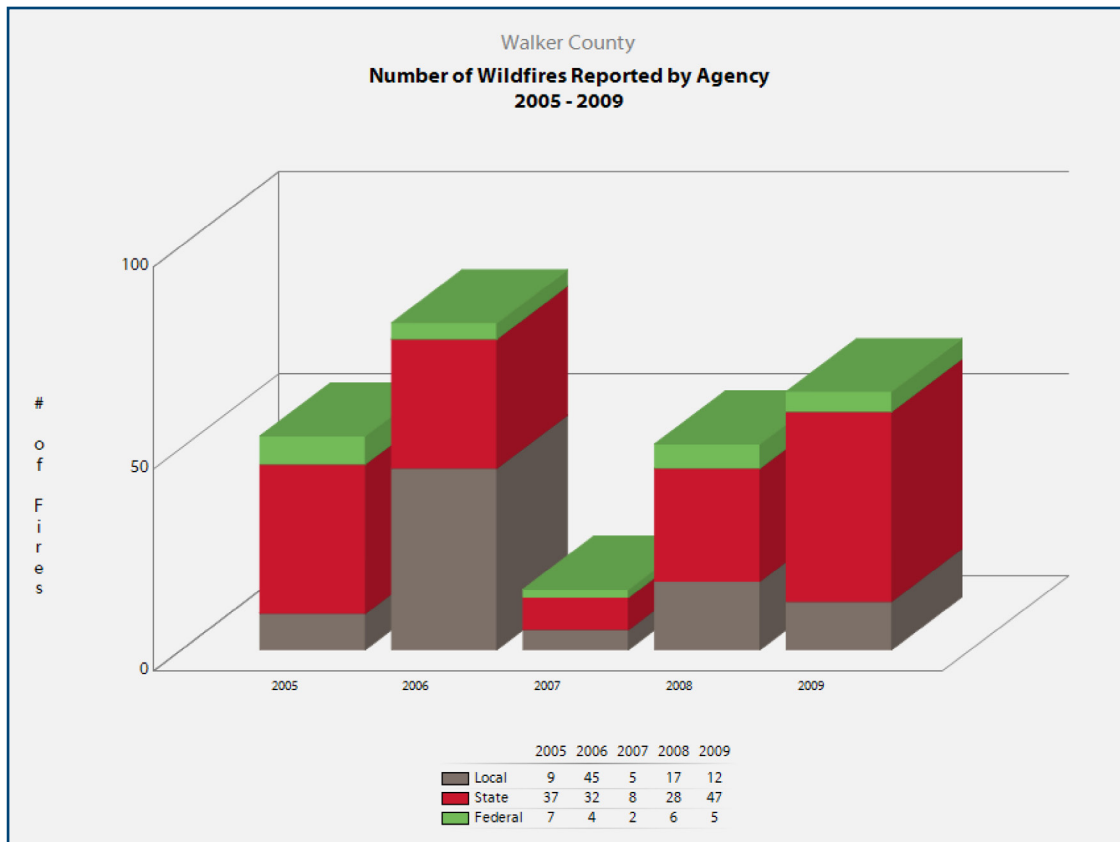
Source: Texas Wildfire Risk Assessment Report for Walker County, Texas

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.

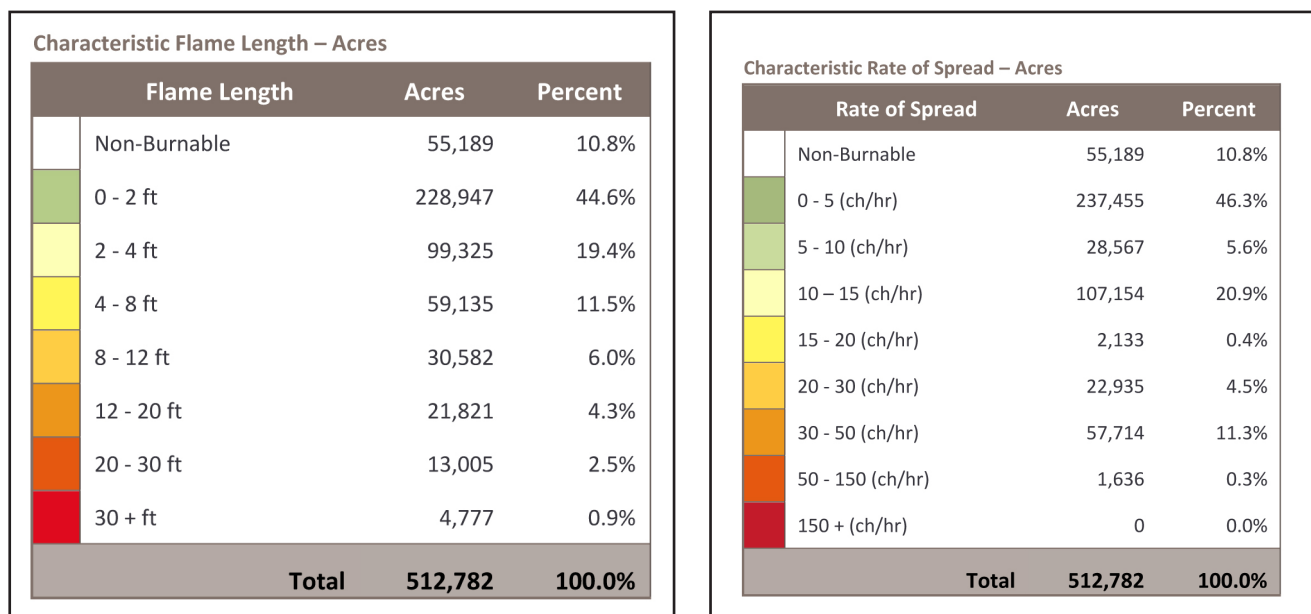Energy Release Component (ERC) is an index for predicting fire intensities. This represents the total heat release per unit area (British thermal units per square foot) within the flaming front at the head of a moving fire.

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 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore Map Themes** and **Wildfire Behavior Outputs** 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:

Characteristic Flame Length – Acres

Flame Length	Acres	Percent
Non-Burnable	55,189	10.8%
0 - 2 ft	228,947	44.6%
2 - 4 ft	99,325	19.4%
4 - 8 ft	59,135	11.5%
8 - 12 ft	30,582	6.0%
12 - 20 ft	21,821	4.3%
20 - 30 ft	13,005	2.5%
30 + ft	4,777	0.9%
Total	**512,782**	**100.0%**

Characteristic Rate of Spread – Acres

Rate of Spread	Acres	Percent
Non-Burnable	55,189	10.8%
0 - 5 (ch/hr)	237,455	46.3%
5 - 10 (ch/hr)	28,567	5.6%
10 – 15 (ch/hr)	107,154	20.9%
15 - 20 (ch/hr)	2,133	0.4%
20 - 30 (ch/hr)	22,935	4.5%
30 - 50 (ch/hr)	57,714	11.3%
50 - 150 (ch/hr)	1,636	0.3%
150 + (ch/hr)	0	0.0%
Total	**512,782**	**100.0%**

Source: Texas Wildfire Risk Assessment Report for Walker County, Texas

Future Wildland Restoration

This section of your CWPP should discuss returning the fuels and ecosystem to their historical and natural level, which can help mitigate extreme wildfire behavior. Fuel types and fuel loading — the amount of vegetation in a given area — play an important role in fire behavior. Some fuel types burn more readily than others and can produce greater spotting distances. Thick fuels will allow for greater rates of spread and more extreme fire behavior than fuels that have spacing between them. The *Mitigation Strategies* chapter of your CWPP should discuss in greater detail specific needs for fuels reduction projects.

The TxWRAP summary report generated through the steps listed on Page 9 will provide information you can use in this section. You can also visit **texaswildfirerisk.com** and select the "**Professional Viewer**" option. Click on "**Zoom To ...**" on the left side tool bar. Select your county or city from the drop-down menu. Click on **Explore Map Themes** and **Landscape Characteristics** for information specific to your community.

Your CWPP Future Wildland Restoration page might include information like this:

Throughout the park, there is a high number of invasive species and a low number of regenerating conifers. The need for invasive removal and conifer planting is expressed below in the project list. Conifer establishment is especially important in the ravine west of Williams Street because it is a mature deciduous forest.

The trees in this area are nearing the end of their life cycle which means the time for coniferous regeneration is now. This is probably the most limiting factor in the future development of the park.

For this reason, it is important that an aggressive approach to invasive removal is taken. In addition, it is important that those older trees be observed for danger to park users and adjacent property.

- Tree hazard abatement – Snag creation, crown balancing.
- Blackberry removal in the large clearing near cedar trees.
- Blackberry removal needed immediately at the south (inwards 10-50 feet) and west edges of this zone. This growth is threatening native species on the interior of this zone.
- A holly thicket is developing behind the Quarterdeck Apartments about 50 feet in from the edge of the park. Right now, it is very manageable and could be easily removed but may not be in several years.
- Boardwalk construction across stream to reduce pedestrian pressure on wetlands and provide interpretive opportunities.
- Understory planting of conifers in big-leaf maple stands to provide regeneration of canopy. Invasive control, especially ivy and holly should occur simultaneously.

Source: Lawton Park Forest Restoration Plan, Seattle, Wash.

Risk Assessment

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

* Risk Assessment Process   **Wildfire Risk Assessment Portal**
                              Professional Viewer

* Community Hazard Rating List   *Pre-Attack Plan*

* Assets at Risk   *Pre-Attack Plan*

Using TxWRAP in this section:

The TxWRAP summary report generated through the steps listed on Page 9 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 WUI Specialist.

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

TEXAS WILDFIRE RISK ASSESSMENT SUMMARY REPORT

TEXAS A&M FOREST SERVICE

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 Assessment Process

The risk assessment process is critical in developing a CWPP. This allows the working group to identify communities at risk and prioritize mitigation projects. Identify a few individuals who will be trained by a WUI Specialist 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 9 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 Editor** function in TxWRAP to upload the information.

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.

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. Assess these components and assign them a numerical value. Include that information in an appendix of your CWPP.

Community Hazard Rating List

This section of your CWPP can be completed once all community risk assessments have been conducted for the area. The working group should 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.

The Community Hazard Rating List also may be useful for a **Pre-Attack Plan**.

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

The factors that were considered in the risk assessment were access, fuels, water sources, building materials and the Home Ignition Zone. All fire resources located in Walker County were consulted in an effort to develop a comprehensive countywide risk assessment. Feedback from each entity was compiled and a risk assessment task force was identified.

WALKER COUNTY WILDFIRE RISK ASSESSMENT RESULTS

LEGEND: New Risk
         Increase in Previous Rate
         Decrease in Previous Rate

RESIDENTIAL AREAS

ROAD OR COMPLEX	RATING	LAT & LON	SERVICING FD
Acorn Hills (High 68)	Moderate 68	N30.45.31 W 95.28.28	Riverside VFD
(Note: flush valves located at: N30.45.31 W95.28.28 and N30.45.52 W95.28.50 @ 17.5 rated bridge)			
Ashworth Road Complex (Moderate 44)	High 83	N30.51.39 W95.30.16	Riverside VFD
(Note: Petroleum Explorer Pumping Station N30.50.39 W95.29.41)			
Bethy Creek Community	Moderate 52	N30.49.26 W95.23.31	Riverside VFD
Brookview	Low 35	N30.44.27 W95.36.07	Huntsville FD
Buckhorn Acres (High 61)	High 92	N30.39.48 W95.16.39	New Waverly VFD
(Note: dry hydrant @ Forest Glen)			

Source: Walker County, 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:*

There are approximately 535,000 people, 185,000 housing units and 13,700 businesses within the communities at risk in Ventura County. Maps showing the assets at risk within each community at risk were prepared. For mapping purposes, the assets were grouped into three categories: 1) non-farm businesses, 2) farms and ranches and 3) homes, schools and libraries.

We know that wildfire plays an important role in the natural ecosystem within Ventura County. We want to prevent human-caused wildfire and minimize risk to lives, property and infrastructure during the wildfire events that will inevitably occur.

Risk factors include:
• Areas with limited or inadequate infrastructure to accommodate access for fire protection equipment or safe evacuation of residents during a wildfire event.
• Residential landscapes with dry and/or highly flammable vegetation located close to structures and inadequate defensible space.
• Many older homes constructed with flammable building materials and inadequate vent coverings that will allow penetration of embers and flame.
• Population with limited knowledge of fire-safe behaviors and practices.

Figure 9: Communities at Risk – Assets (Ojai)
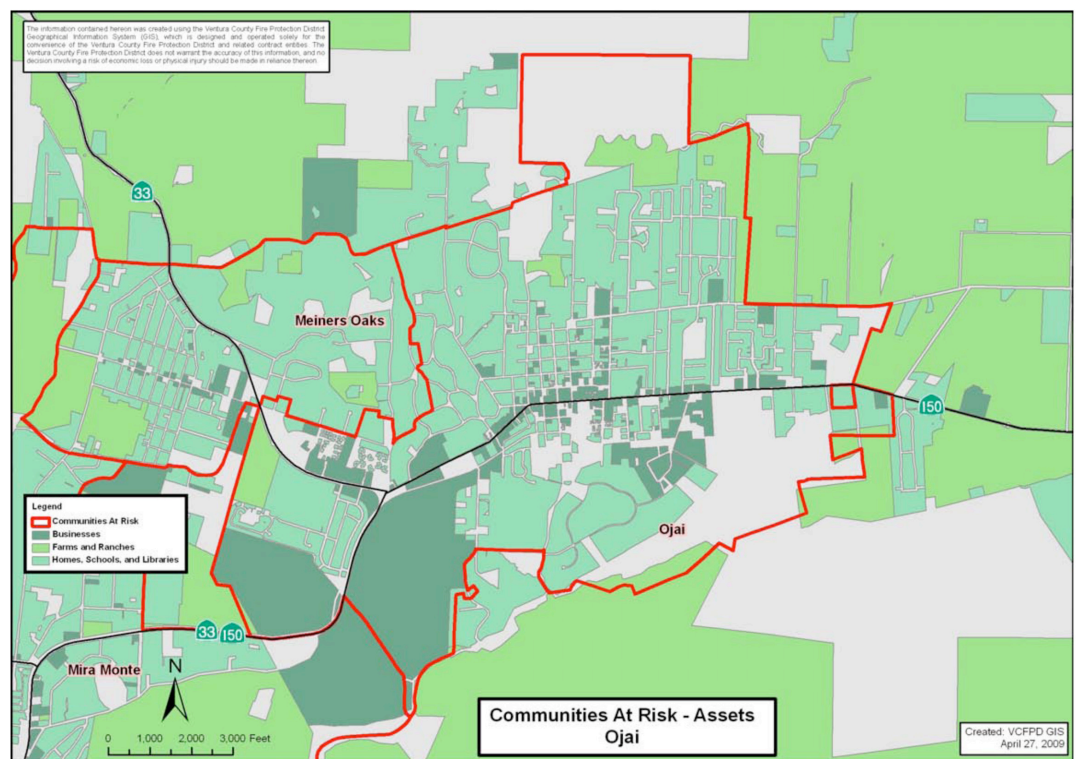
Source: Ventura County, Calif., Community Wildfire Protection Plan

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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.

* Public Education	* Local Capacity Building
* Hazardous Fuels Reduction	* Planning and Zoning
* Defensible Space	* Incorporating Prescribed Fire
* Treatment of Structural Ignitability	* Mitigation Funding Sources

Wildfire Risk Assessment Portal Professional Viewer

Pre-Attack Plan

Using TxWRAP in this section:

The TxWRAP summary report generated through the steps listed on Page 9 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*.
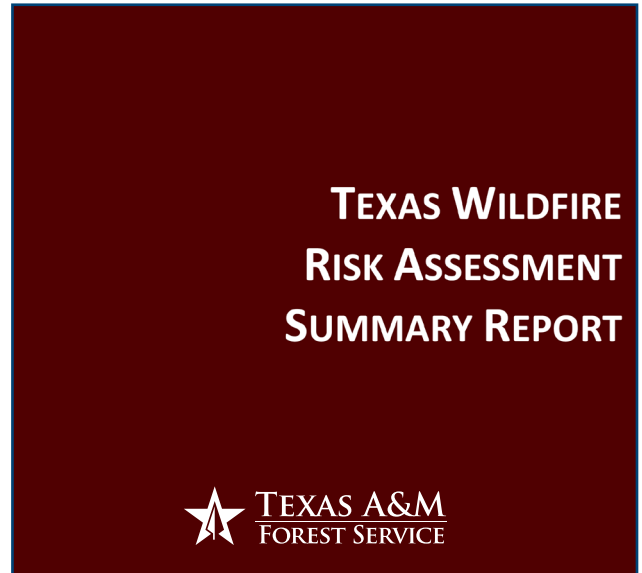
TEXAS WILDFIRE RISK ASSESSMENT SUMMARY REPORT

TEXAS A&M FOREST SERVICE

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

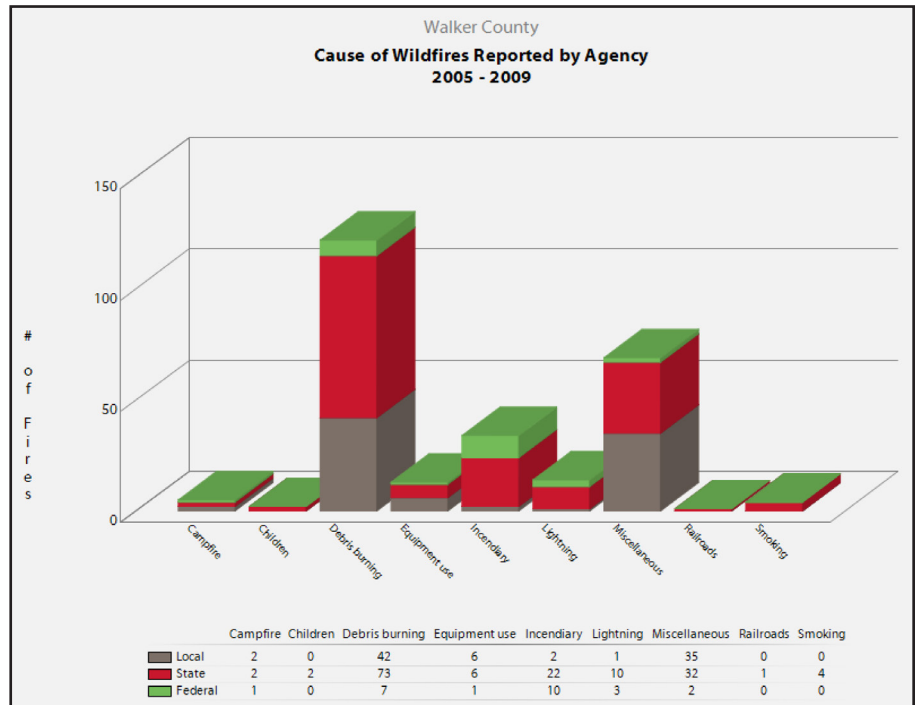This section of your CWPP should cover public education, one of the most important tools for a working group. Reaching out to the public and educating them on wildfire causes and behavior may decrease preventable fires. Public education also can address evacuation concerns, burn ban violations, Home 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 9 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.

Walker County
**Cause of Wildfires Reported by Agency
2005 - 2009**

	Campfire	Children	Debris burning	Equipment use	Incendiary	Lightning	Miscellaneous	Railroads	Smoking
Local	2	0	42	6	2	1	35	0	0
State	2	2	73	6	22	10	32	1	4
Federal	1	0	7	1	10	3	2	0	0

Source: Walker County, Texas, Community Wildfire Protection Plan

Your CWPP Public Education page might include information like this:

The Firewise Communities program is a National Fire Protection Association (NFPA) program that "encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters and others in the effort to protect people and property from wildfire risks."

The program is co-sponsored by the USDA Forest Service, the U.S. Department of the Interior and the National Association of State Foresters. Its goal is to teach people — civic leaders, developers, firefighters and the public — how to adapt to living with wildfire. It encourages neighbors to work together and take action now to prevent losses.

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.

Source: Harris County, 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:

Project Location	Primary Threat/Risk	Recommended Action/ Mitigation
Elkins Lake	Proximity of more than 1,200 homes adjacent to large amounts of wildland vegetation. Numerous undeveloped lots are intermingled with developed lots. Minimum access due to subdivision design.	Hazardous fuels reduction on USFS lands adjacent to community.
Lost Meadows	The community is on an isolated block of land within the Sam Houston National Forest. Response times are in excess of 45 minutes with no water sources located within the community. Most homes lack any defensible space.	Fuels reduction on private lands within the community and on federal lands surrounding the subdivision. The subdivision would benefit from fuels reduction along escape routes.
Smith Hill	The community is located next to Huntsville park lands composed of pine forests that transition to blackland prairie with numerous eastern red cedars.	Fuels reduction around perimeter of the community in the form of a shaded fuel break, exploration of the reintroduction of prescribed burning on the remaining park lands.

Source: Walker County, Texas, Community Wildfire Protection Plan

Acres Treated

It is important to capture information related to completed fuels projects. Recording the acreage, method of treatment, and future needs will help the CWPP working group to plan for future projects.

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

You can track acres treated in a format like this:

Project Location	Acres Treated	Values Protected	Cooperators	Method of Treatment
Council Creek, Burnet County	1.5 acres	$2.5 million	Texas A&M Forest Service, Council Creek Firewise board	Thinning vegetation
Walnut Canyon, Comal County	4.3 acres	$10 million	Texas A&M Forest Service, New Braunfels Fire Department	Used "Gyro-Trac" forestry mower to implement a fuel break
Jim Hogg State Park, Cherokee County	6.3 acres	$2.4 million	Texas A&M Forest Service, City of Rusk	Thinning vegetation

COUNCIL CREEK FUEL MITIGATION

Texas Forest Service's Heart of Texas and Lost Pines task forces completed in April 2012 a fuel mitigation project for the Council Creek community in Burnet County.

The four-day project included thinning vegetation within a 1.5-acre perimeter. It was identified as a need in Council Creek's Community Wildfire Protection Plan and also was an approved project for Council Creek's Firewise designation. The area protected is valued at more than $2.5 million.

One community member said that in addition to reducing Council Creek's wildfire hazards, the "badly-needed firebreak will provide critical emergency response access when needed."

Texas Forest Service Program Coordinator Rich Gray led the effort.

"This was a great collaborative effort with the community," Gray said.

"I personally believe the project established a positive mind-set for the community and will lead to increased Firewise activity."

- Council Creek homeowner

JIM HOGG STATE PARK FUEL MITIGATION

Texas Forest Service's Lost Pines task force completed in May 2012 a fuel mitigation project at the Jim Hogg State Park in Cherokee County.

The project was designed by personnel in Texas Forest Service's Jacksonville District Office in cooperation with the city of Rusk. The task force used a "Gyro-Trac" forestry mower to implement a fuel break adjacent to the community.

The high-tech machine is designed to clear land in tough terrain and can turn trees into mulch quickly.

The group improved and maintained existing forest roads and trails to provide fire access to the property and thinned vegetation within a 6.3-acre perimeter. The area protected is valued at more than $2.4 million.
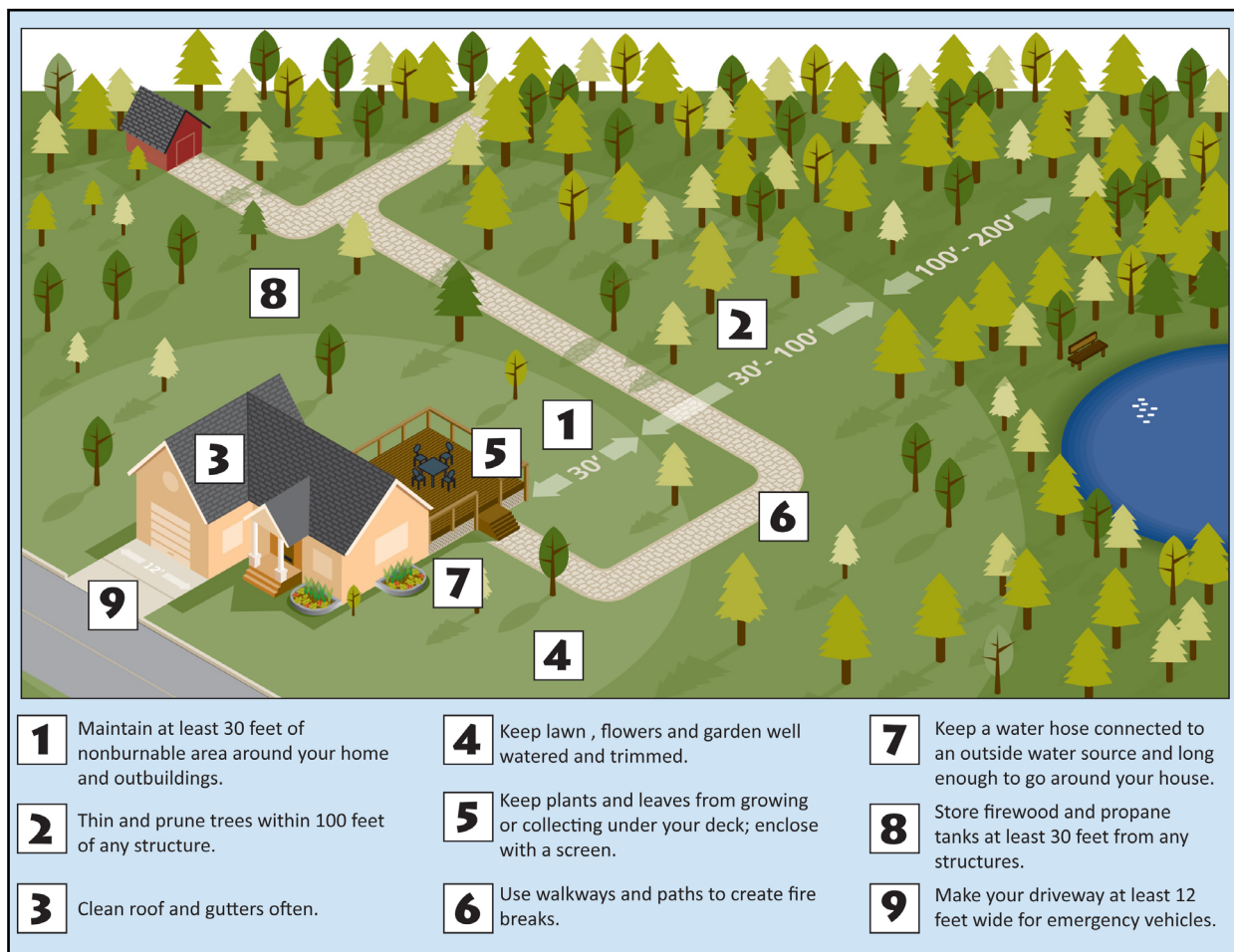
Source: Texas A&M Forest Service

Defensible Space

This section of your CWPP should discuss defensible space, the area immediately encircling 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 Reduction page might include something like this:

1 Maintain at least 30 feet of nonburnable area around your home and outbuildings.

2 Thin and prune trees within 100 feet of any structure.

3 Clean roof and gutters often.

4 Keep lawn , flowers and garden well watered and trimmed.

5 Keep plants and leaves from growing or collecting under your deck; enclose with a screen.

6 Use walkways and paths to create fire breaks.

7 Keep a water hose connected to an outside water source and long enough to go around your house.

8 Store firewood and propane tanks at least 30 feet from any structures.

9 Make your driveway at least 12 feet wide for emergency vehicles.

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:

Firewise 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

Home Ignition Zone (HIZ) assessments:

Once a CWPP working group has been trained and approved by a WUI specialist, its members will be able to use TxWRAP's Community Editor function to complete assessment forms like the ones below.

E	FieldName	Question	Question Type	Answer
Report Info	**UID**	ID	Auto-Populated	Global Unique Identifier
	AssessedBy	Assessed by	Auto-Populated	in future could be user input if deployed for public use
	AssessedDate	Assessed date	Date/Time Picker	
	PostedDate	Posted date		Populated from subtable
	PostMethod	Post Method	Auto-Populated	Mobile
				Web
	LastEditedBy	Edited by		Populated from subtable
	LastEdited	Last edited		Populated from subtable
	AssignedTo	Assigned to		Initially populated by Assessor value but can be changed later
General Info	**CommunityName**	Community name (subdivision name, do we need lot #?)	Free Text	
	FireProtectionDistrict	Fire Protection District (Local Fire Department?)	Free Text	
	Acres	Acres	Auto-Populated	
	ZipCode	Zip Code	Auto-Populated	
	City	City (associated with zip code)	Auto-Populated	
	County	County	Auto-Populated	
	PrimaryResidentialType	Primary Residential Type	Domain List	Fixed
				RV/Travel Trailer
				Mobile Home
	NumHomes	# of homes	Numeric	
Community Infrastructure and Available Fire Protection	**IngressEgress**	Ingress and egress	Domain List	Two or more roads in/out
				One road in/out
	RoadWidth	Road width	Domain List	≥ 24 ft.
				≥ 20 ft. and < 24 ft.
				< 20 ft.
	RoadCondition	All-season road condition	Domain List	Surfaced road, grade < 5%
				Surfaced road, grade > 5%
				Non-surfaced road, grade < 5%
				Non-surfaced road, grade > 5%
				Other than all-season
	FireServiceAccess	Fire service access	Domain List	≤ 300 ft. with turnaround
				> 300 ft. with turnaround
				< 300 ft. with no turnaround
				≥ 300 ft. with no turnaround
	StreetSigns	Street signs	Domain List	Present [4 in. in size and reflectorized]
				Not present

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.

Useful links:
Texas A&M Forest Service Capacity Building (texasfd.com)
Texas A&M Forest Service training opportunities (texasfd.com)
Texas Interagency Coordination Center (ticc.tamu.edu)

Your CWPP Local Capacity Building page might include opportunities for securing grants or training through one of these Texas A&M Forest Service programs:

Fire Department Assistance Programs

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.

GSA Wildland Fire Program

The Rural VFD Assistance Program The U.S. General Services Administration permits non-federal organizations to purchase wildfire suppression equipment. The purpose is to help fire departments acquire standardized equipment, supplies and vehicles in support of wildland fire suppression efforts. Texas A&M Forest Service provides enrollment sponsorship.

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.

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.

Rural VFD Insurance Program

The Rural VFD Insurance Program provides grants to qualified fire departments to assist in the purchase of workers' compensation insurance, life insurance and disability insurance for their members.

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.

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.

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.

Fire Quench Program

Fire Quench is a Class A Foam distributed to Texas A&M Forest Service offices throughout the state and made available for sale to local fire departments. Fire Quench is sold in 55-gallon drums and 5-gallon pails.

http://texasfd.com

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Source: Texas A&M Forest Service

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 WUI 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. Other resources that may be beneficial include the National Fire Protection Agency's **Safer from the Start program** and **Review and Assessment of Regulatory and Planning Tools report.**

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

1. Most WUI codes address the construction of individual buildings or layout of new developments.
2. There are additional opportunities to reduce WUI risks through closer collaboration between land use planners and fire officials that are not tied to the adoption of model codes.

Zoning
- Base zone districts
- Overlay zone districts
- High fire risk areas can be mapped, and risk mitigation standards applied in those areas.

Fire Hazard Overlay Standards
- Defensible space
- Roof materials, vents, building requirements
- Source of fire suppression water
- Wider access road standards/lower grades
- Zoning gives potential buyers better notice than post-purchase reviews

Source: Addressing Community Wildfire Risk: A Review and Assessment of Local Regulatory and Planning Tools, Denver, Colo.

Mitigation Funding Sources

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

The following resources are available and should be considered when determining mitigation funding sources that can be incorporated into your CWPP:

- **FEMA Assistance to Firefighter Grant: http://www.fema.gov/welcome-assistance-firefighters-grant-program**
- **FEMA Hazard Mitigation Grant Program: http://www.fema.gov/hazard-mitigation-grant-program**
- **FEMA Pre-Disaster Mitigation Grant: http://www.fema.gov/pre-disaster-mitigation-grant-program**
- **Natural Resource Conservation Service Environmental Quality Incentives Program (EQIP): http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip**

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**

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The Texas A&M University System

- WHAT IS PRESCRIBED BURNING? ... 1
- TEXAS FOREST SERVICE'S ROLE ... 1
- LIMITATIONS IN TEXAS ... 1
- NOTIFYING THE PUBLIC... ... 2
- HOW BURNING IS REGULATED... ... 2

Prescribed *burning*

Prescribed burning is the intentional use of fire to reduce wildfire hazards, clear downed trees, control plant diseases, control invasive species, improve rangeland and wildlife habitats and restore natural ecosystems.

Fire is a natural ecological process and the use of prescibed fire can be both an effective management tool and a contribution to public safety by reducing hazardous accumulations of wildland fuels (vegetation.)

The use of prescribed burning is not without risks.

Texas Forest Service's role in prescribed burning

▶ Texas Forest Service is an advocate of the benefits of prescribed burning through public education and involvement with the Texas Department of Agriculture (TDA) Prescribed Burning Board.

▶ TFS conducts prescribed burning on state/public lands to reduce hazardous fuels (5,298 acres in 2009) and for other land management reasons (3,775 acres in 2010).

▶ TFS does not conduct prescribed burning on private property based on state competition to private vendors and increased liability to landowners.

▶ TFS is responsible for the coordination and delivery of burn management training courses within Region 4 of the TDA Prescribed Burn Board.

▶ TFS burn managers are trained and meet national standards (National Wildfire Coordinating Group) to allow cooperative burn efforts with state and federal agencies.

▶ TFS manages approximately $60,000 in federal-source grants each year to help fund prescribed burning for eligible private landowners, within 2 miles of a National Forest, who utilize certified prescribed burn managers (Community Protection Grants).

Limitations on prescribed burning in Texas

The need for prescribed burning in Texas exceeds the amount being conducted. For prescribed burning the primary limitations are: smoke management and liability for damages.

▶ **Smoke management**
Prescribed burning produces smoke. If not carefully managed, smoke can be a nuisance to residents and businesses, can adversely affect community health and contribute pollution levels that exceed air quality standards.

▶ **Liability**
The burn manager is required to carry at least $1 million of liability insurance coverage (single occurrence) with a policy period minimum aggregate of at least $2 million. In some cases, the cost of this insurance may limit the practice of prescribed burning.

1

Notifying the public when a prescribed burn is conducted on the Jones State Forest

One week prior to burn, Texas Forest Service:

Sends an email notification to:
- Texas Environmental Commission on Environmental Quality
- Local fire departments
- Local government
- Local development and property managers

Notifies local media of the scheduled burn

Throughout the year, Texas Forest Service:

Mails a postcard of the state forest management schedule to surrounding home and landowners

Hosts educational workshops on the state forest ecology process

Invites neighbors to various forest activities

Invites local media to participate in forest management demonstrations

The goal is to familiarize neighbors with the State Forest programs and focus on prescribed burning as a tool for management as well as a way to protect neighbors from wildfire.

" *Dear Neighbor,*
Texas Forest Service soon will be conducting standard forest management activities at the W. Goodrich Jones State Forest. As a result, foresters will restrict access to parts of the forest over the next several months as weather permits to complete the work. We apologize in advance for any inconvenience this may cause. We assure you the work is being done with two goals in mind: maintaining forest health and ensuring community safety. "
— The W. Goodrich Jones State Forest Team

How prescribed burning is regulated

Outdoor Burning Rule, Title 30, Texas Administrative Code, Sections 111.201–221
Its purpose is to protect the environment, promote public health and safety, and avoid nuisance conditions through the sensible regulation of outdoor burning. A copy of the rule can be obtained from the **Texas Commission on Environmental Quality** at 512-239-0028 or www.tceq.state.tx.us/rules.

Air quality complaints may be submitted to cmplaint@tceq.state.tx.us.

The Prescribed Burning Board of the Texas Department of Agriculture sets standards for prescribed burning; develops a comprehensive training curriculum for prescribed-burn managers and sets standards for their certification, recertification and training; establishes minimum education and professional requirements for instructors for the approved curriculum; and sets minimum insurance requirements for prescribed-burn managers.
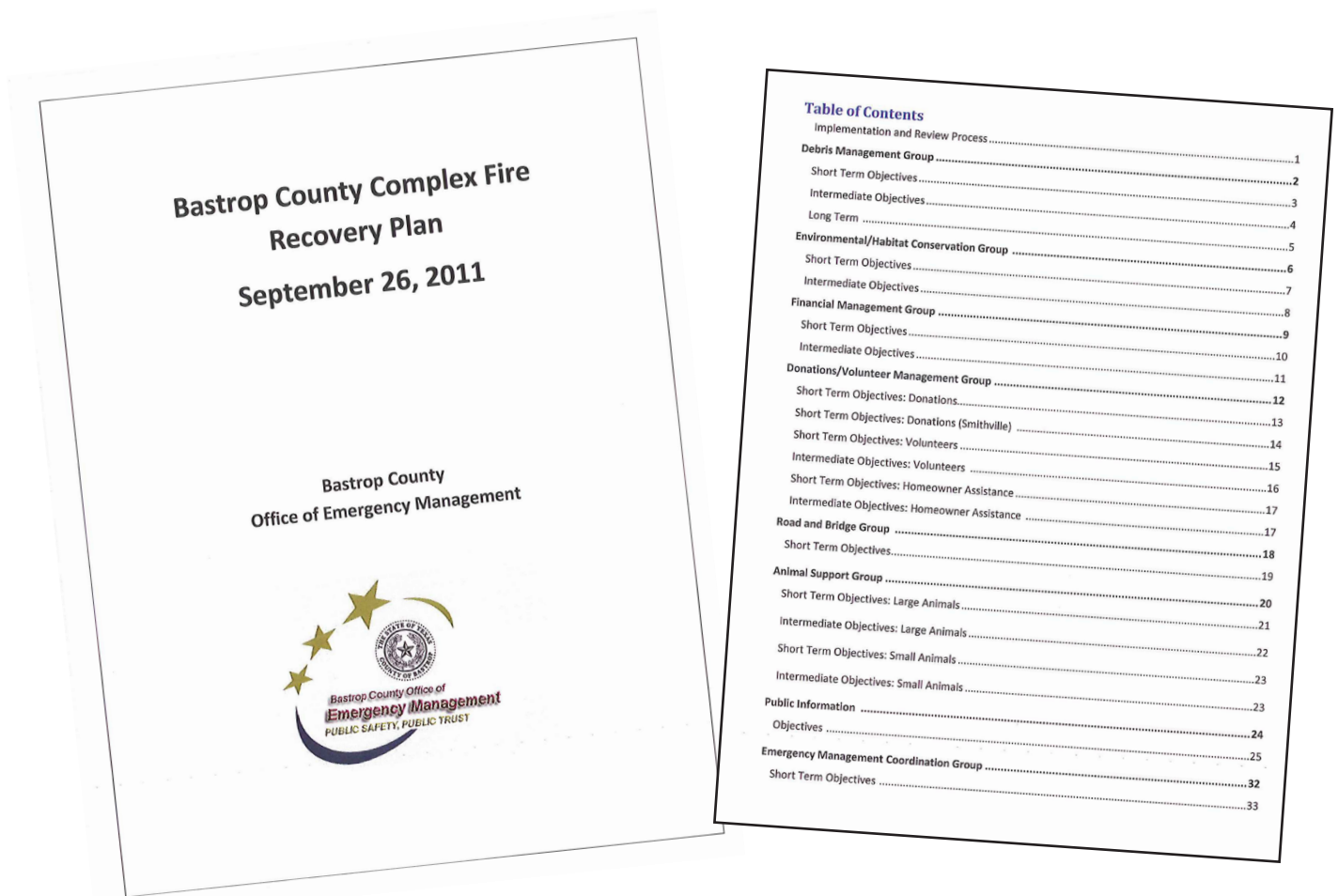
2

Source: Jones State Forest prescribed burning brochure, Texas A&M Forest Service

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. Some examples of recovery websites include **coloradospringstogether.org** and **lincolncountyready.com**

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

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	**www.fema.gov/disaster-survivor-assistance**
Federal Emergency Management Agency	Public Assistance Program	**www.fema.gov/disaster-survivor-assistance**
American Red Cross	Hard Assistance and Soft Assistance	**www.redcross.org**

Appendix

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

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* 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

Community Wildfire Protection Plan Leader's Guide

A Leader's Guide to Developing A Community Wildfire Protection Plan

Phase 1: Plan

☐ **Engage local Texas Forest Service.** Contact local Wildland Urban Interface Specialist at www.texasfirewise.org

☐ **Contact fire association/local law enforcement and fire services.**

☐ **Contact state and federal partners.**

If the above are supportive, then continue with:

☐ **Adopt Community Wildfire Protection Plan.** Discuss adopting CWPP into Annex of county's emergency management plan and mitigation action plan.

☐ **Declare proclamation.** Present proclamation to county judge and county commissioners during commissioners court for approval and signatures.

NOTES

☐ **Form core working group.** Possible partners:

▶ ***County Officials***
  • County Judge
  • County Commissioners
  • County Sheriff
  • Emergency Management Coordinator (EMC)
  • County Planner

▶ ***Local Texas Forest Service***

▶ ***Fire services***
  • Volunteer Fire Departments
  • Municipal Fire Departments
  • Fire Association
  • Fire Marshal

▶ ***Law Enforcement***
  • Local and Municipal
  • State Police

▶ ***Federal partners***
  • US Forest Service (USFS)
  • National Park Service (NPS)
  • US Army Corps of Engineers (USACE)
  • Conservation Service (NRCS)
  • Resource Conservation & Development (RC&D)

▶ ***Identify other stakeholders to invite in the CWPP process.***
  • Private stakeholders
  • Industry stakeholders
  • Municipal stakeholders

Phase 2 : Assess

☐ **Identify priority areas with fire service and federal agencies.**
  • This can be accomplished one-on-one meeting or with a group meeting.
  • Develop a base map of Communities At Risk (CARs).

☐ **Assemble** fire department response area maps.

☐ **Assemble** checklist of topics to cover during assessments.

☐ **Interview** fire department to identify needs, concerns and update contact information.

☐ **Conduct** assessments in cooperation with fire department.

☐ **Identify** safety issues.

☐ **Identify** recommendations/projects.

☐ **Compile** assessment results.

☐ **Finalize** CAR map.

☐ **Prioritize** recommendations/projects.

☐ **Develop** local CWPP draft.

☐ **Deliver** draft CWPP to fire department for edits.

Phase 3 : Finalize

☐ **Assemble draft county CWPP** using information gathered from risk assessments and fire department CWPPs.

☐ **Research and identify** potential funding sources.

  ▶ Reconvene core group for second meeting.

  ▶ Present findings from assessments.

☐ **Prioritize projects** within county plan.
  • Fuel reduction
  • Education
  • Structural ignitability

☐ **Finalize** county CWPP with edits from core group.

☐ **Present** for public opinion.

☐ **Deliver** draft to core group participants.

☐ **Present** final copy to commissioner's court.

☐ **Plan** signing/recognition ceremony.

Source: Texas A&M Forest Service

A Leader's Guide to Developing Community Wildfire Protection Plans

COMMUNITY WILDFIRE PROTECTION PLAN

LOCAL GOVERNMENT AND BUSINESSES • FEDERAL AGENCIES • PRIVATE STAKEHOLDERS • LOCAL FIRE DEPARTMENTS • STATE AGENCIES

When a wildfire strikes, have you done everything possible to protect yourself and your community?

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

texasfirewise.com

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).

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