City of Dallas
Community Wildfire Protection Plan

City of Dallas

A collaborative approach to help protect life, property,
and natural resources in the City of Dallas.

Texas A&M Forest Service

Contents

In accordance with Title I of the Healthy Forest Restoration Act of 2003

This document was prepared by the Dallas Fire-Rescue Department and Texas A&M Forest Service and was completed September 2016.

A.C. Gonzalez

City Manager
City of Dallas

Tom Boggus

Director
Texas A&M Forest Service

Mark Stanford

Fire Chief
Texas A&M Forest Service

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David Coatney

Fire Chief
City of Dallas

Bruce Woods

Department Head
Mitigation and Prevention
Texas A&M Forest Service

1 | Executive Summary

Texas is one of the fastest growing states in the nation, with much of that growth occurring adjacent to metropolitan areas. This increase in population will affect counties and communities located within the Wildland Urban Interface (WUI). The WUI is described as the area where structures meet and intermingle with undeveloped wildland or vegetative fuels. Substantial population growth within the WUI increases risk from wildfire. Seventy-nine percent of wildfires in Texas occur within two miles of a community posing a threat to life and property.

Authorized under provisions outlines in Title I of the Healthy Forest Restoration Act (HFRA) of 2003, a Community Wildfire Protection Plan (CWPP) is a proven method for reducing the risk of wildfire. The CWPP is a collaborative product with support from interested parties and a multitude of agencies with responsibilities to the city. By developing a CWPP, the City of Dallas is outlining a strategic plan to mitigate, prepare, respond, and recover. This is a living document and is continually updated.

As specified by the Texas A&M Forest Service, the City of Dallas CWPP was developed in collaboration with local, county, state, and federal agencies as well as various community organizations within the county. The CWPP identifies wildfire risks and clarifies priorities for funding and programs to reduce impacts of wildfire on the communities at risk within the City of Dallas.

This CWPP is designed to be a “living” document in order to adapt to changes in the environment and changes in the needs of the various stakeholders that are party to it. Even though Dallas is a large, diverse area, this CWPP is designed to be thorough yet direct and brief enough to be user friendly; not overwhelming the reader. This version is the first citywide CWPP for the City of Dallas and ideas for improvement and additions from all interested parties are welcome.

An electronic version of this CWPP can be obtained at the City of Dallas website.

2 | Introduction

2.1 Statement of Intent

The purpose of the City of Dallas CWPP is to protect human life and reduce property loss due to wildland fire in the North Texas area. Reducing the threat of wildland fire is the primary motivation for the CWPP while also promoting ecosystem health by managing area wildlands for hazardous fuel reduction and fire resilience. These wildland areas are a critical part of the community's value and economy. The CWPP is intended to establish goals and strategies for long-term success by identifying priorities for action and proposing immediate measures that can be taken to protect the community from wildland fire while also protecting other important social and ecological values.

2.2 Goals and Objectives

Goals

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

Objectives

- Identify strategic fuels reduction methods
- Identify local capacity building and training needs
- Deliver wildfire prevention material and education programs through public outreach events
- Update the CWPP document twice per year
- Implement identified fuels reduction projects on public land near communities at highest risk to wildfire at a rate of 1 per year

2.3 Collaborative Committee Members

Dallas Fire Rescue Department (DFD)
Ryan Thornton, Captain
Kevin Luper, Driver Engineer
Steve Bisbee, Lieutenant
Steve Calderon, Lieutenant
Armando Garza, Lieutenant
Jeff Brinker, Chief
Dominique Artis, Chief

Community Emergency Response Team (CERT)
Ray Feagins

City of Dallas
Karen Woodard, City Forester
Brett Johnson, City Urban Biologist
Stacey Gaskill, Environmental Specialist

Texas A&M Forest Service (TFS)
Erin O'Connor, Wildland Urban Interface Specialist
Michael Tiller, Wildland Urban Interface Specialist
Luke Kanclerz, Fire Analyst

2.4 Planning Process and Methodology

Meeting Date	Attendees	Topics Covered/Action Items
December 2014	Luke Kanclerz, TFS Armando Garza, DFD Steve Bisbee, DFD Ryan Thornton, DFD Kevin Luper, DFD	Overview of CWPP; plan moving forward
April 2015	Bruce Woods, TFS Luke Kanclerz, TFS	Overview of CWPP; how to get buy-in from city council
January 6, 2016	Ryan Thornton, DFD Kevin Luper, DFD Steve Bisbee, DFD Erin O'Connor, TFS Michael Tiller, TFS	NCTCOG Meeting: able to meet after to discuss CWPP progress; utilized simtable to view areas of high risk and concern for DFD
March 2, 2016 10:00 am	Kevin Luper, DFD Ryan Thornton, DFD Erin O'Connor, TFS Michael Tiller, TFS Ray Feagins, CERT	Discussed how each agency can assist in creation of CWPP. Made list of mitigation priorities stressing maintenance and management. Split city by fire battalions for risk assessments.
March 3-June 6, 2016	Ryan Thornton, DFD	Continued work on CWPP draft; coordinated with City of Dallas cooperators;
May 5-6, 2016	Erin O'Connor, TFS	Conducted risk assessments.
May 9, 2016	Ryan Thornton, DFD Steve Bisbee, DFD Jeff Brinker, DFD Dominique Artis, DFD	Special Ops meeting over CWPP status; suggestions made for what to include (firefighting responsibilities and capabilities, etc.)
May 16-19, 2016	Michael Tiller, TFS	Conducted risk assessments.
May 25, 2016	Erin O'Connor, TFS Michael Tiller, TFS	Conducted risk assessments.
June 6, 2016	Ryan Thornton, DFD Karen Woodard, City of Dallas Stacey Gaskill, City of Dallas	Discussed and wrote vegetation and invasive species sections.
July 6, 2016 2:00 pm	Ryan Thornton, DFD Steve Bisbee, DFD Karen Woodard, City of Dallas Erin O'Connor, TFS Michael Tiller, TFS	Review CWPP draft and discuss edits. Edits and next draft to be complete by Aug. 1 for DFD. Identified fuels reduction projects (Camp Wisdom, Whispering Cedars, Cedar Ridge

		Preserve); TFS will begin drawing up plan.
July 7-25, 2016	Ryan Thornton, DFD Erin O'Connor, TFS Michael Tiller, TFS	Worked on CWPP draft edits.
July 25-September 1, 2016	Ryan Thornton, DFD Kevin Luper, DFD Dominique Artis, DFD Jeff Brinker, DFD Steve Bisbee, DFD Erin O'Connor, TFS	Worked on obtaining signed resolution; made edits to CWPP document; prepared presentation for city council.
September 12, 2016	Ryan Thornton, DFD Kevin Luper, DFD Steve Bisbee, DFD	Presentation to city council with intention of getting resolution signed.
September 14, 2016		Resolution signed by Dallas City Council.
September 14-29, 2016	Ryan Thornton, DFD Kevin Luper, DFD Erin O'Connor, TFS	Final edits and fixes to CWPP.

2.5 Requirements of a CWPP

The specific topics to be addressed by a CWPP are listed in the HFRA. This City of Dallas CWPP was developed according to HFRA guidelines, which define the term "community wildfire protection plan" to mean a plan for an at-risk community that—

- is developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and state agency responsible for forest management , in consultation with interested parties and the federal land management agencies managing land in the vicinity of the at-risk community
- identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure; and
- recommends measures to reduce structural ignitability throughout the at-risk community

2.6 Definition of a Wildland Urban Interface

In describing interface areas, there are two basic types of areas. The term "interface" refers to housing areas with less than 50% density of vegetation that are near a wildland area – an example would be housing units in a subdivision that is near a wildland area. The term "intermix" refers to housing areas within the wildland vegetation density greater than or equal to 50% - an example would be a wildland area with housing units intermingled within it.

This definition of “Wildland Urban Interface” used in this document includes the designated communities at risk; areas up to 1.5 miles from the boundaries of the communities at risk, and any interface or intermix area within the city with a housing density.

2.7 What is a “community at risk”?

According to the Texas A&M Forest Service, a community at risk can be designated an “at-risk community” if it is a community—

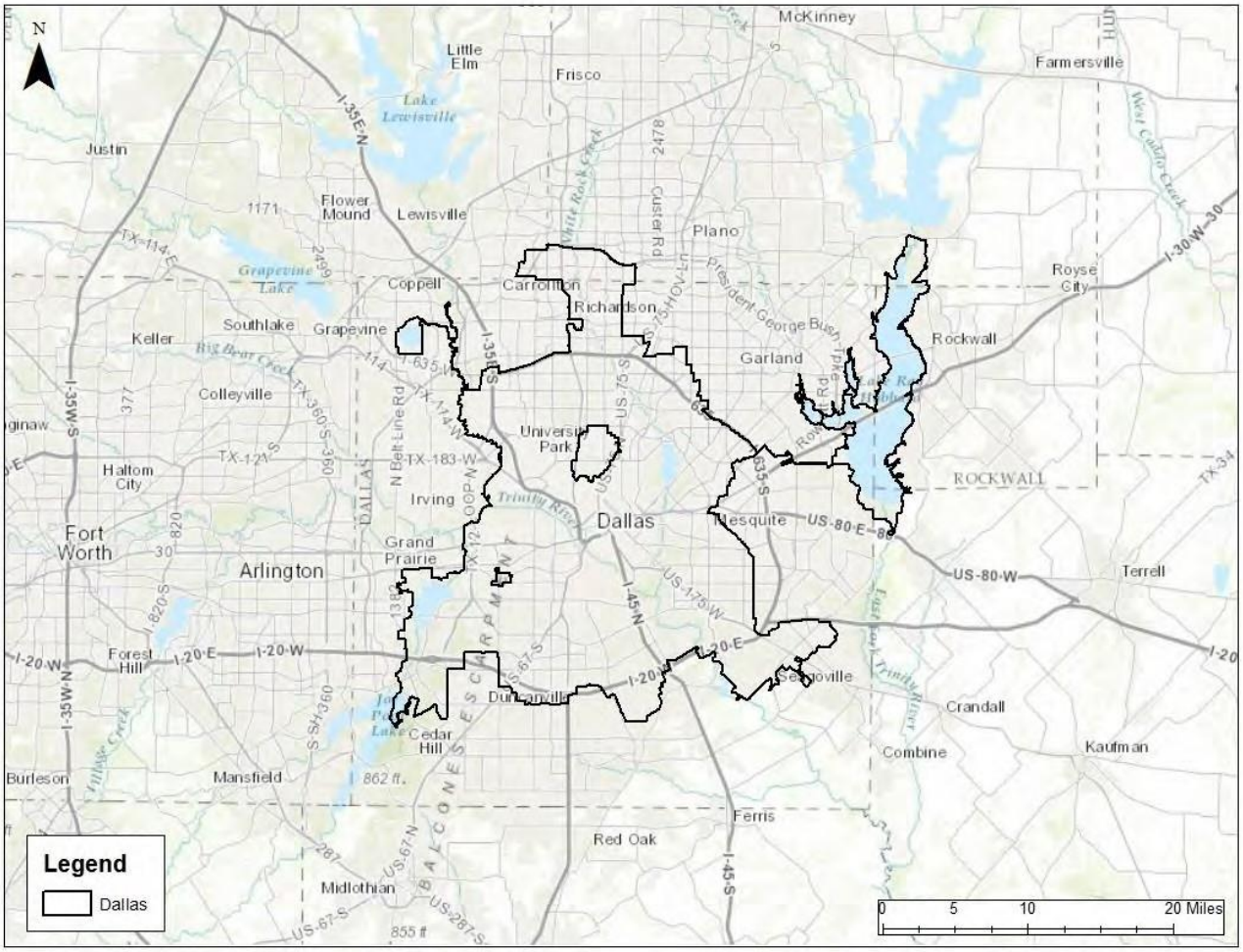
- that is identified as a result of a comprehensive risk assessment conducted by the Texas A&M Forest Service
- in which conditions are conducive to a large-scale wildland fire disturbance event; and
- for which a significant threat to human life or property exists as a result of a wildland fire disturbance
- communities at risk will be identified later in this document

The communities at risk identified in this document have been identified using the 2014 Texas Wildfire Risk Assessment Portal summary and risk assessments conducted May 2016 by the Texas A&M Forest Service.

3 | City of Dallas

3.1 General Information

The City of Dallas is the county seat of Dallas County, located at 32°46'33"N 96°47'48"W. Portions of the city extend into neighboring Collin, Denton, Kaufman, and Rockwall counties. According to the United States Census Bureau, the city has a total area of 385.8 square miles (999.3 km^2) where 340.5 square miles (881.9 km^2) of this area is land and 45.3 square miles (117.4 km^2) of it is water. Dallas comprises 20% of the much larger urbanized area known as the Dallas-Fort Worth metroplex where 25% of all Texans reside. According to the United States Census Bureau, the estimated total population in 2015 for the City of Dallas is 1,300,092. The 2010 census reported 516,639 total houses, 142,658 total companies, and the population per square mile was 3,517.6. This makes Dallas the 9th largest city in the U.S. and the 3rd largest city in Texas, one which is continuing to grow and develop.



3.2 Environment

Dallas and the surrounding areas are mostly flat; the city itself lies at elevations ranging from 450 to 550 feet (137 to 168 m). The western edge of the Austin Chalk Formation, a limestone escarpment (also known as the "White Rock Escarpment"), rises 230 feet (70 m) and runs roughly north-south through Dallas County. South of the Trinity River, the uplift is particularly noticeable in the neighborhoods of Oak Cliff and the adjacent cities of Cockrell Hill, Cedar Hill, Mesquite, Grand Prairie, and Irving.

Dallas, like many other cities, was founded along a river. The city was founded at the location of a "white rock crossing" of the Trinity River, where it was easier for wagons to cross the river in the days before ferries or bridges. The Trinity River, though not usefully navigable, is the major waterway through the city. Its path through Dallas is paralleled by Interstate 35E along the Stemmons Corridor, then south alongside the western portion of Downtown and past south Dallas and Pleasant Grove, where the river is paralleled by Interstate 45 until it exits the city and heads southeast towards Houston. The river is flanked on both sides by 50 feet (15 m) tall earthen levees to protect the city from frequent floods.

The river was rerouted in the 1930s to better protect the City of Dallas from flooding. However, as the city began shifting towards postindustrial society, public outcry about the lack of aesthetic and recreational use of the river ultimately gave way to the Trinity River Project beginning in the early 2000s. If the project materializes fully, it promises improvements to the riverfront in the form of man-made lakes, new park facilities and trails, and transportation upgrades.

The project area will reach for over 20 miles (32 km) in length within the city, while the overall geographical land area addressed by the Land Use Plan is approximately 44,000 acres (180 km^2) in size—about 20% of the land area in Dallas. Green space along the river will encompass approximately 10,000 acres (40 km^2), making it one of the largest and diverse urban parks in the world.

White Rock Lake, a reservoir constructed at the beginning of the 20th century, is Dallas' other significant water feature. The lake and surrounding park is a popular destination for boaters, rowers, joggers, and bikers, as well as visitors seeking peaceful respite from the city at the 66-acre (267,000 m^2) Dallas Arboretum and Botanical Garden, located on the lake's eastern shore. White Rock Creek feeds into White Rock Lake, and then exits on to the Trinity River southeast of downtown Dallas. Trails along White Rock Creek are part of the extensive Dallas County Trails System. Bachman Lake, just northwest of Love Field Airport, is a smaller lake also popular for recreation use. Northeast of the city is Lake Ray Hubbard, a vast 22,745-acre (92 km^2) reservoir located in an extension of Dallas surrounded by the suburbs of Garland, Rowlett, Rockwall, and Sunnyvale. To the west of the city is Mountain Creek Lake, once home to the Naval Air Station Dallas (Hensley Field) and a number of defense aircraft manufacturers. North Lake, a small body of water in an extension of the city limits surrounded by Irving and Coppell, initially served as a water source for a nearby power plant but is now being targeted for redevelopment as a recreational lake due to its proximity to Dallas-Fort Worth (DFW) International Airport.

3.3 Climate

Summer

Dallas has a humid subtropical climate, though it is located in a region that also tends to receive warm, dry winds from the north and west in the summer, bringing temperatures to the 100 °F (38 °C) mark about 20 days annually, the majority in August, and heat indices easily breaking 110 °F (43 °C). When considering temperature only, the north central Texas region where Dallas is located is one of the hottest in the United States during the summer months, usually trailing only the Mojave Desert basin of Arizona, southern Nevada, and southeastern California. Dew points in the summer range from 66.5 to 67.6 °F (19 to 20 °C).

Winter

Winters in Dallas are generally mild and warm with daily average temperatures in January of 47.0° F (8.3° C). Strong cold fronts, known as "Blue Northers", pass through the Dallas region producing sharp swings in temperature causing daytime highs to fall below 50° F (10° C) for several days, often between days with temperatures above 80° F (27° C). Snowfall is typical for the majority of winter seasons in the city with an average snow accumulation of 1.5 in (3.8 cm). A few times each winter, warm and humid air from the south will override cold, dry air, resulting in freezing rain or ice, which can cause disruptions on city roads or highways. Dallas averages 26 annual nights at or below freezing.

Spring and Autumn

Spring and autumn bring pleasant weather to the area. Vibrant wildflowers (such as the bluebonnet, Indian paintbrush and other flora) bloom in spring and are planted around the highways throughout Texas. Springtime weather can be quite volatile, but temperatures themselves are mild. The weather in Dallas is also generally pleasant from late September to early December and on many winter days. Autumn often brings more storms and tornado threat, but usually fewer and less severe than in spring. Each spring, cold fronts moving south from the north will collide with warm, humid air streaming in from the Gulf Coast, leading to severe thunderstorms with lightning, torrents of rain, hail, and occasionally, tornadoes. Over time, tornadoes have probably been the biggest natural threat to the city, as it is located near the heart of Tornado Alley. The average daily low in Dallas is 57.4 °F (14.1 °C) and the average daily high is 76.9 °F (24.9 °C).

Rain

Throughout the year, rainfall occurs more frequently during the night. Usually, periods of rainy weather last for only a day or two, and are followed by several days with fair skies. A large part of the annual precipitation results from thunderstorm activity, with occasional heavy rainfall over brief periods of time. Thunderstorms occur throughout the year, but are most frequent in the spring. Hail falls on about two or three days a year, ordinarily with only slight and scattered damage. Windstorms occurring during thunderstorm activity are sometimes destructive. Dallas receives approximately 37.6 inches (955 mm) of rain per year. Precipitation also varies considerably, ranging from less than 20 to more than 50 inches.

Source: National Weather Service; http://www.srh.noaa.gov/fwd/?n=dfwann

3.3.1 Predictive Service Areas

Predictive Service Areas (PSA) represent regions where the weather reporting stations tend to react similarly to daily weather regimes and exhibit similar fluctuations in the fire danger and climate. Seven PSA are delineated in Texas. Fire weather, fuel moisture, 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 (North Texas) in which the City of Dallas is located is:

Relative humidity: **25 percent or less**
20-foot windspeed: **20 mph or more**
Temperature: **90° or more (10% above average)**

The Texas A&M Forest Service predictive services tables show at the low end of the scale, in green and blue, normal to below-normal conditions. Initial attack should be successful with minimal issues. At the upper end of the scale, in orange and red, we have unusual and rare conditions where we would expect to see complex fires where initial attack may often fail. The difficult category to describe and, thus, maybe the most important category for initial attack is the middle, or transition, zone in yellow. In the yellow, fires transition from normal to problematic.

Dead Fuel Moisture Thresholds

	Percentiles				
	1	4-10	11-25	26-50	51-100
1000-hr	9	10-11	12-13	14-15	16
100-hr	7	8-9	10-11	12-13	14
10-hr	4	5	6	7-8	9

NFDRS Thresholds (Fuel Model G)

	Percentiles				
	97	90-96	75-89	50-74	0-49
ERC	67	56-66	45-55	35-44	0-34
BI	69	58-68	47-57	37-46	0-36
KBDI	746	683-745	564-682	430-563	0-429

Live Fuel Moisture

	Percentiles				
	1	4-10	11-25	26-50	51-100
Juniper	75	76-85	86-100	101-120	121-300
Oak	80	81-90	91-100	101-125	126-300

Source: Texas Interagency Coordination Center (TICC); http://ticc.tamu.edu/

Peak Fire Seasons:

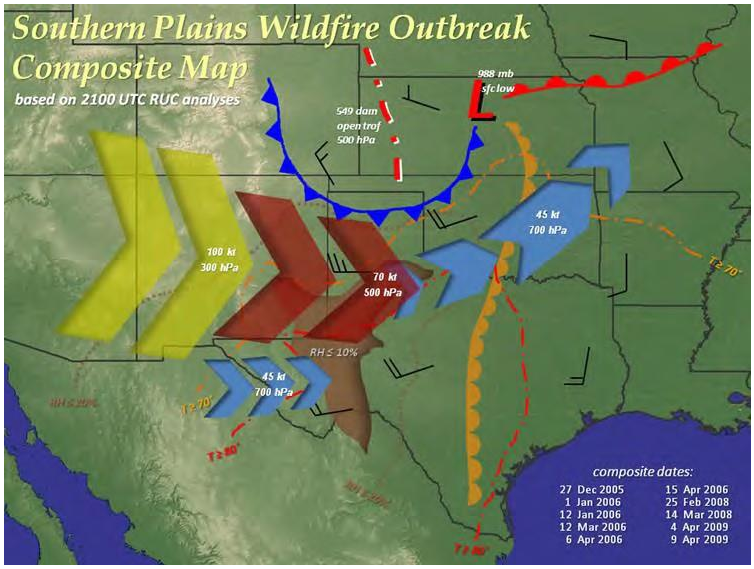
Primary – January through April with dormant grass and frontal wind events

Frost cured grasses and dry frontal passages lead to potential of rapid fire spread with relative humidity below 20% in the afternoon and winds gusting 25 mph or greater.

Secondary – July through September with late summer drying or drought

Dry vegetation due to little or no rain combined with temperatures of 95° to 100°+ F on a daily basis. Hurricanes or tropical storms close to Southeast Texas bring in dry, strong or gusty winds from the north and northeast.

3.3.2 Southern Plains Wildfire Outbreak



Dallas is in a region that has been impacted by Southern Plains Wildfire Outbreaks—also dubbed Firestorms. The phenomenon was identified in 2009 by National Weather Service meteorologists Greg Murdoch and Todd Lindley.

Generally, the Southern Plains outbreak pattern is associated with a strong upper level low pressure center. The upper level will approach Texas from the west, dragging a cold frontal boundary with it. The high-impact weather can be found in a wedge of warm, dry, unstable air that is pushed ahead of the cold front. The leading edge of this wedge is generally referred to as a dryline. The high-impact weather brings strong southwest winds, above-normal temperatures, and very dry air or low relative humidity. Several studies have been published by Murdoch and Lindley, as well as other meteorologists, which explain the composite pattern and provide the guidance needed to forecast these events days before they occur.

Southern Plains Wildfire Outbreaks are a serious threat to public safety. When this pattern occurs, firefighters need to use defensive tactics—including moving people out of harm's way—acknowledging that the weather is in control. Nineteen outbreaks have occurred since 2005, including nine in 2011. These events are responsible for 24 fatalities, 1770 destroyed structures, and more than 3.7 million acres burned. To learn more about the Southern Plains Wildfire Outbreak, visit texasfirestorm.org.

Historically, these outbreaks have occurred only during the first half of the year:

Texas Southern Plains Wildfire Outbreaks 2005-2009

Event Date	Wildfires	Acres	Fatalities	Structures Destroyed
27 Dec 2005	52	60,823	3	341
1 Jan 2006	43	303,570	0	115
12 Jan 2006	16	39,173	0	48
12 March 2006	27	1,102,044	13	102
6 April 2006	26	119,846	0	42
15 Apr 2006	10	23,135	0	7
25 Feb 2008	32	377,568	1	5
14 March 2008	29	263,375	0	31
4 April 2009	23	33,830	1	35
9 April 2009	29	235,792	4	339
10 Days	**287**	**2.5 Million**	**22**	**1,065**

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**

Source: 2011 Texas Wildfires: Common Denominators of Home Destruction; http://texasforestservice.tamu.edu/uploadedFiles/TFSMain/Preparing_for_Wildfires/Prepare_Your_Home_for_Wildfires/Contact_Us/2011%20Texas%20Wildfires.pdf

3.4 Vegetation

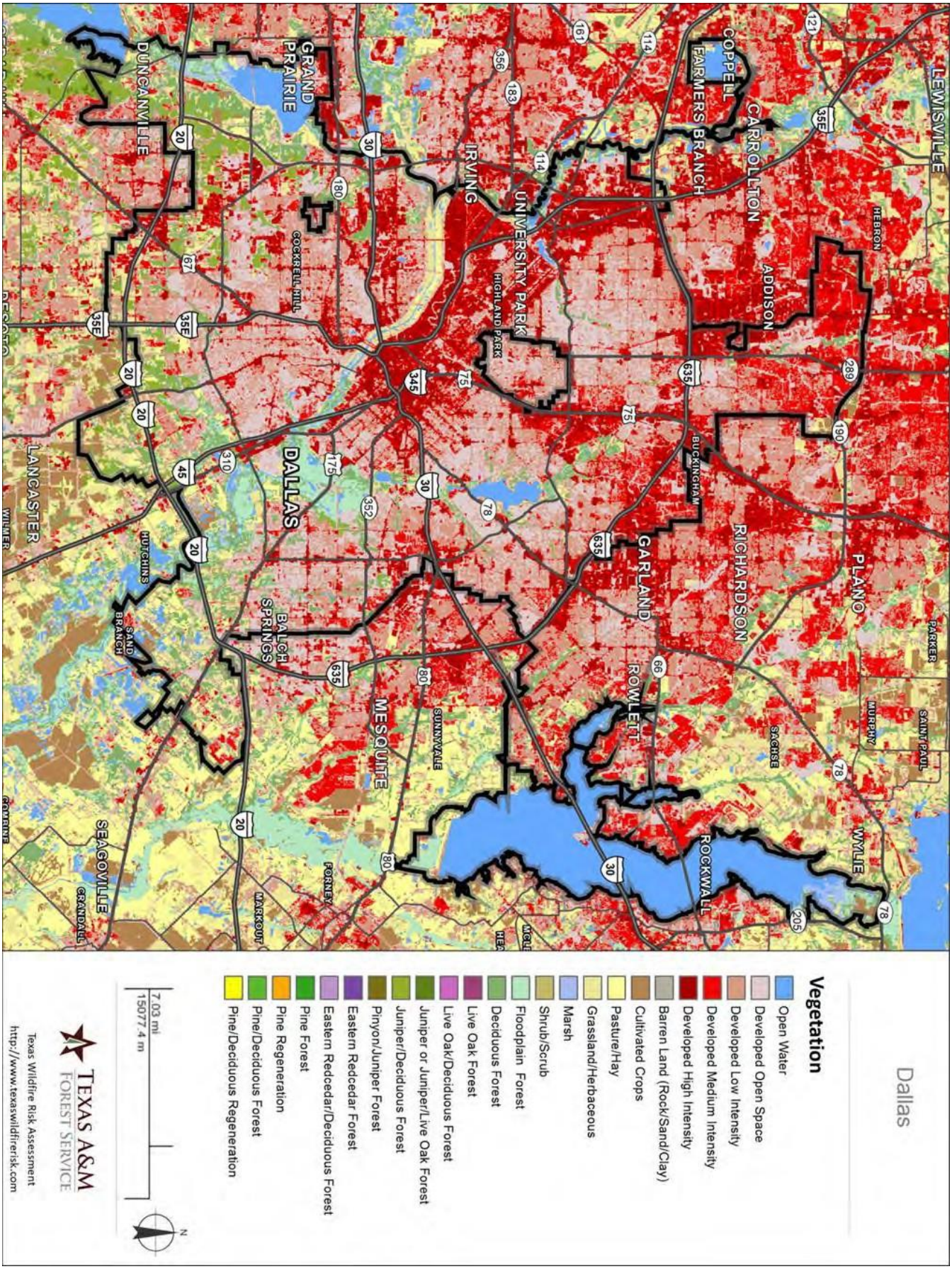
Dallas is located in the Blackland Prairie Ecoregion which is dominated by soils rich in clay and organic matter. Dallas consists of bottomland hardwood forest, wetlands, open water ponds and open grasslands. Dallas' Great Trinity Forest contains 7,000 acres, which is located "within a highly developed metropolitan area" and has been extensively altered by activities such as gravel mining, development, row-crop agriculture and livestock grazing. Though much of the original prairie ecosystem has been converted for agricultural use, tallgrasses like Bluestems, Switchgrass, and Indian grass were once prominent.

The Great Trinity Forest has been an area of much disturbance and uses over the past centuries. This is evident in the current shape of the landscape and the vegetation. Historically the Dallas County area of the Trinity River Basin was an area dominated by an Elm, Ash, and Hackberry forest. This forest type is largely considered as the climax forest of the region. Studies have been conducted to document the historic vegetative composition of these types of forests in the area (Barry and Kroll, 1999). These studies further indicate that these sites were dominated by Sugar Hackberry, or Texas Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Eastern Cottonwood (*Populus deltoides*), Bur Oak (*Quercus macrocarpa*), American Elm (*Ulmus americana*), Cedar Elm (*Ulmus crassifolia*), and Slippery Elm (*Ulmus rubra*). Understory trees included species of Hawthorn (*Crataegus* spp.), Box Elder (*Acer negundo*), Eve's Necklace (*Sophora afnis*), and Osage Orange (Bois d'arc; *Maclura pomifera*). Other notable species occurring within the forest include Eastern Red Cedar (*Juniperus virginiana*), Black Walnut (*Juglans nigra*), Pecan (*Carya illinoinensis*), Post Oak (*Quercus stellata*), and Texas Buckeye (*Aesculus glabra var. argute*). This extensive forest is divided into 4 sections which have been further divided into Habitat Management Units.

Common tallgrasses such as Little Bluestem (*Schizachyrium scoparium*) and tree species such as Elm (*Ulmus* sp.) and Pecan (*Carya illinoensis*) grow in the bottomland hardwoods and are found along streams and rivers. Presently, the major tree species consist of Green Ash (*Fraxinus pennsylvanica*), Cottonwood (*Populus deltoids*), American Elm (*U. americana*), Cedar Elm (*U. crassifolia*), and Sugarberry (*Celtis laevigata*).

The Vegetation map describes the general vegetation and land cover types across the state of Texas. The vegetation classes with description are shown in the following table.

Class	Description	Acres	Percent
Open Water	All areas of open water, generally with < 25% cover of vegetation or soil	26,864	10.9 %
Developed Open Space	Impervious surfaces account for < 20% of total cover (i.e. golf courses, parks, etc...)	45,779	18.6 %
Developed Low Intensity	Impervious surfaces account for 20-49% of total cover	58,520	23.7 %
Developed Medium Intensity	Impervious surfaces account for 50-79% of total cover	32,016	13.0 %
Developed High Intensity	Impervious surfaces account for 80-100%of total cover	29,896	12.1 %
Barren Land (Rock/Sand/Clay)	Vegetation generally accounts for <15% of total cover	312	0.1 %
Cultivated Crops	Areas used for the production of annual crops, includes land being actively tilled	1,720	0.7 %
Pasture/Hay	Areas of grasses and/or legumes planted for livestock grazing or hay production	4,306	1.7 %
Grassland/Herbaceous	Areas dominated (> 80%) by grammanoid or herbaceous vegetation, can be grazed	14,488	5.9 %
Marsh	Low wet areas dominated (>80%) by herbaceous vegetation	2,876	1.2 %
Shrub/Scrub	Areas dominated by shrubs/trees < 5 meters tall, shrub canopy > than 20% of total vegetation	32	0.0 %
Floodplain Forest	> 20% tree cover, the soil is periodically covered or saturated with water	6,467	2.6 %
Deciduous Forest	> 20% tree cover, >75% of tree species shed leaves in response to seasonal change	17,854	7.2 %
Live Oak Forest	> 20% tree cover, live oak species represent >75% of the total tree cover	70	0.0 %
Live Oak/Deciduous Forest	> 20% tree cover, neither live oak or deciduous species represent >75% of the total tree cover	0	0.0 %
Juniper or Juniper/Live Oak Forest	> 20% tree cover, juniper or juniper/live oak species represent > 75% of the total tree cover	175	0.1 %
Juniper/Deciduous Forest	> 20% tree cover, neither juniper or deciduous species represent > 75% of the total tree cover	5,208	2.1 %
Pinyon/Juniper Forest	> 20% tree cover, pinyon or juniper species represent > 75% of the total tree cover	0	0.0 %
Eastern Redcedar Forest	> 20% tree cover, eastern redcedar represents > 75% of the total tree cover	2	0.0 %
Eastern Redcedar/Deciduous Forest	> 20% tree cover, neither eastern redcedar or deciduous species represent > 75% of the total tree cover	3	0.0 %
Pine Forest	> 20% tree cover, pine species represent > 75% of the total tree cover	0	0.0 %
Pine Regeneration	Areas of pine forest in an early successional or transitional stage	0	0.0 %
Pine/Deciduous Forest	> 20% tree cover, neither pine or deciduous species represent > 75% of the total tree cover	0	0.0 %
Pine/Deciduous Regeneration	Areas of pine or pine/deciduous forest in an early successional or transitional stage	0	0.0 %
Total		**246,588**	**100.0 %**


Dallas
Vegetation
Open Water
Developed Open Space
Developed Low Intensity
Developed Medium Intensity
Developed High Intensity
Barren Land (Rock/Sand/Clay)
Cultivated Crops
Pasture/Hay
Grassland/Herbaceous
Marsh
Shrub/Scrub
Floodplain Forest
Deciduous Forest
Live Oak Forest
Live Oak/Deciduous Forest
Juniper or Juniper/Live Oak Forest
Juniper/Deciduous Forest
Pinyon/Juniper Forest
Eastern Redcedar Forest
Eastern Redcedar/Deciduous Forest
Pine Forest
Pine Regeneration
Pine/Deciduous Forest
Pine/Deciduous Regeneration
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TEXAS A&M FOREST SERVICE
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
COPPELL
FARMERS BRANCH
CARROLLTON
ADDISON
HEBRON
UNIVERSITY PARK
HIGHLAND PARK
IRVING
GRAND PRAIRIE
GOCKRELL HILL
DUNCANVILLE
LANCASTER
WILMER
DALLAS
BALCH SPRINGS
SAND BRANCH
HUTCHINS
SEAGOVILLE
CRANDALL
MESQUITE
SUNNYVALE
GARLAND
BUCKINGHAM
RICHARDSON
PLANO
HEDRON
PARKER
SAINT PAUL
MURPHY
SACHSE
ROWLETT
ROCKWALL
WYLIE
POINEY
MARKOUT

3.5 Recreation Use

Dallas maintains and operates 406 parks on 21,000 acres (85 km^2) of parkland. The city's parks contain 17 separate lakes, including White Rock and Bachman lakes, spanning a total of 4,400 acres (17.81 km^2). In addition, Dallas is traversed by 61.6 miles (99.1 km) of biking and jogging trails, including the Katy Trail, and is home to 47 community and neighborhood recreation centers, 276 sports fields, 60 swimming pools, 232 playgrounds, 173 basketball courts, 112 volleyball courts, 126 play slabs, 258 neighborhood tennis courts, 258 picnic areas, six 18-hole golf courses, two driving ranges, and 477 athletic fields. Several of the more significant parks are as follows:

- **Fair Park:** Dallas' flagship park is Fair Park. Built in 1936 for the World's Fair and the Texas Centennial Exposition, Fair Park is the world's largest collection of Art Deco exhibit buildings, art, and sculptures; Fair Park is also home to the State Fair of Texas, the largest state fair in the United States.
- **Klyde Warren Park:** Klyde Warren Park was built above Woodall Rodgers Freeway and connects Uptown and Downtown, specifically the Arts District. Klyde Warren Park is home to countless amenities including: an amphitheater, jogging trails, children's park, My Best Friend's Park (dog park), a putting green, croquet, ping pong, chess, an outdoor library, and two restaurants: Savor and Relish. Food trucks give hungry people another option of dining and are lined along the park's downtown side. Since 2013 Klyde Warren park is home to a free trolley stop on Olive St., which riders can connect to Downtown, McKinney Avenue, and West Village.
- **Turtle Creek Park:** Built in 1913, Turtle Creek Park is a 23.7 acre linear park in-between Turtle Creek and Turtle Creek Boulevard in the aptly named Turtle Creek neighborhood. Archaeological surveys discovered dart points and flint chips dating 3,000 years to 1,000 B.C. This site was later discovered to be home to Native Americans who cherished the trees and natural spring water. The park is across Turtle Creek from Kalita Humphreys Theater, designed by Frank Lloyd Wright.
- **Lake Cliff Park:** Opened on July 4, 1906, Lake Cliff Park was called "the Southwest's Greatest Playground". The park was home to an amusement park, a large pool, waterslides, the world's largest skating rink, and three theaters, the largest being the 2,500-seat Casino Theater. After the streetcar bridge which brought most of the park visitors collapsed, Lake Cliff Park was sold. The Casino Theater moved and the pool was demolished after a polio scare in 1959. The pool was Dallas' first municipal pool.
- **Reverchon Park:** The 36 acre Reverchon Park was planned to be the crown jewel of the Dallas park system and was even referred to as the "Central Park" of Dallas. Improvements were made throughout the years including the Iris Bowl, picnic settings, a baseball diamond, and tennis courts.
- **Trinity River Project:** As part of the ongoing Trinity River Project, the Great Trinity Forest, at over 7,000 acres (24 km^2), is the largest urban hardwood forest in the United States and is part of the largest urban park in the United States. The Trinity River Audubon Center is a new addition to the park. Opened in 2008, it serves as a gateway to many trails and other nature

viewing activities in the area. The Trinity River Audubon Center is the first LEED-certified building constructed by the City of Dallas Parks and Recreation Department.

- **Katy Trail:** Named after its former railroad name, the Missouri-Kansas-Texas Railroad (or "MKT" Railroad), the 3.5 mile stretch of railroad was purchased by the City of Dallas and transformed into the city's premier trail. Stretching from Victory Park, the 30-acre Katy Trail passes through the Turtle Creek and Knox Park neighborhoods and runs along the east side of Highland Park. The trail currently terminates at Central Expressway. Extensions, however, are under way to extend the trail to the White Rock Lake Trail in Lakewood.
- **Preserves:** Dallas also hosts three of the twenty-one preserves of the extensive (3,200 acres (13 km^2) Dallas County Preserve System. The Joppa Preserve, McCommas Bluff Preserve, and the Cedar Ridge Preserve are all within the Dallas city limits. The Cedar Ridge Preserve was formerly known as the Dallas Nature Center, but management was turned over to Audubon Dallas group, which now manages the 633-acre (2.56 km^2) natural habitat park on behalf of the City of Dallas and Dallas County. The preserve sits at an elevation of 755 feet (230 m) above sea level, and contains a variety of outdoor activities, including 10 miles (16 km) of hiking trails and picnic areas.
- **Dallas Zoo:** The city is also home to Texas' first and largest zoo, the 95 acres (0.38 km^2) Dallas Zoo, which opened at its current location in 1888.

- **Trinity Audubon Center:** A part of the City of Dallas-Trinity River Corridor Project, the center's 120 acres sit on a former illegal dump site, now a reclaimed haven for a vast array of birds and other wildlife in an increasingly urbanized metropolitan area. The Trinity River Audubon Center is located just ten miles south of downtown Dallas, as the gateway to explore resources of the 7,000 acre Great Trinity Forest. The largest urban hardwood forest in the Unites States

- **Texas Horse Park:** The Texas Horse Park builds upon the years of history and rich equestrian tradition of Texas. Deep in the heart of the Great Trinity Forest, the Texas Horse Park is a new equestrian facility located on 302 acres featuring stylish architectural elements in a pastoral setting.

- **Trinity Forest Golf Course:** Located just west of the Trinity Audubon Center, the Trinity Forest Golf Club will resemble many of the great old courses of the northeast and Great Britain, featuring a links style course on a rolling meadow with tall native grasses and dramatic bunkering and green complexes. Once complete, Trinity Forest will become the new home of the PGA Tour's AT&T Byron Nelson Championship as well as an NCAA invitational tournament and additional high-profile professional and amateur events. The Club will also become the new home course for SMU golf teams.

3.6 Firefighting Responsibilities

The Dallas Fire Rescue Department (DFD) has 58 fire stations throughout the city and is divided in 9 Fire Battalion areas. Each Fire Battalion is responsible for its own area, but is mutually supported by other Battalions. DFD also provides and receives mutual aid support to all the surrounding cities and suburbs along with Dallas County Fire Rescue Department. DFD is responsible for fire protection in all structure (residential, commercial, and high rise), airport, roadway, and boat dock facilities. DFD is also responsible for water rescue, HazMat, and wildland firefighting operations as well as urban search and rescue. For more rural firefighting operations, Dallas County Fire Department has the capability to provide two 3,000 gallon water tenders through mutual aid. The Special Operations section of the DFD has the capability of not only working in the City of Dallas, but can respond to incidents in the surrounding 16 county area governed by the North Central Texas Counsel of Governments (NCTCOG). DFD Special Operation consists of:

Swift Water Rescue Team (1)
HazMat Team (1)
AARF Teams (2)
USAR Teams (2)
Wildland Strike Team (1) with 3 Hand crew Teams internal
Boat Teams (6)

The DFD Wildland Strike Team can respond to any wildfire within the City of Dallas and is ready to travel on assignment to any wildfire in the state under state jurisdiction. The Wildland Strike Team has four type 6 fire engines, four type 3 brush trucks, two trail units, and a full cache of wildland firefighting tools and equipment.

Type 6 Fire Engine

Type 3 Fire Engine

Trail Unit

4 | Wildfire Hazard and Risk within the City of Dallas

Wildfire across the world is a natural occurrence and a part of the process that helps maintain a healthy ecosystem for both plant and animal life. The “hazards” and “risks” discussed within this document are created by human presence around, near, and sometimes within these wildlands. Ironically, in an effort to protect human lives and property within and around the Wildland-Urban Interface (WUI), fire suppression policies of recent decades have left thousands of acres overgrown and crowded with dense and highly flammable fuels in rough and difficult-to-access wildland areas of Dallas.

The recurrence of wildfires within the City of Dallas has raised public and political awareness of the issue and increased support for fuel break construction, defensible space creation, and wildfire safety education.

It is important to note that while this document may reference ‘hazardous fuels’, it is not the specific fuel types that are the hazard. Rather the hazard is created by the combination of homes built within the WUI in close proximity to wildland fuel. Many of these homes do not have maintained defensible space, particularly homes that were not built with wildfire safety in mind with regard to the use of fire resistant construction materials and landscaping. The at-risk communities identified within this CWPP are all in close proximity to wildland fuels that, if ignited, would present a high hazard to nearby homes, infrastructure and/or assets as shown on Fire Hazard Zone map. This fact, combined with hilly terrain, increasingly hot, dry weather, seasonal high winds, make wildfire safety projects an extremely high priority within the City of Dallas.

4.1 Wildfire Threat

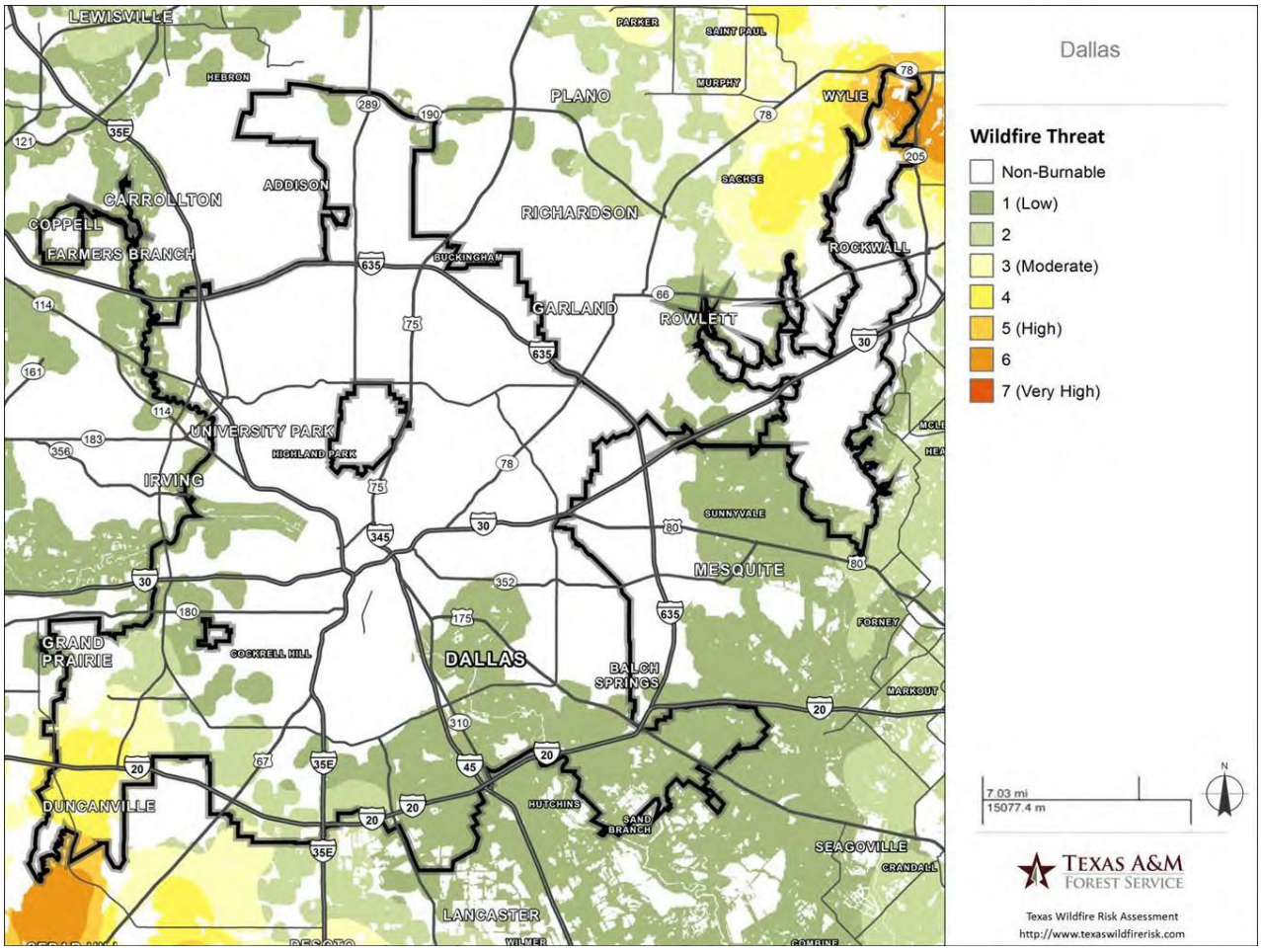
Wildfire Threat is the likelihood of a wildfire occurring or burning into an area. Threat is derived by combining a number of landscape characteristics including surface fuels and canopy fuels, resultant fire behavior, historical fire occurrence, percentile weather derived from historical weather observations, and terrain conditions. These inputs are combined using analysis techniques based on established fire science.

The measure of wildfire threat used in the Texas Wildfire Risk Assessment is called Wildland Fire Susceptibility Index, or WFSI. WFSI combines the probability of an acre igniting (Wildfire Ignition Density) and the expected final fire size based on rate of spread in four weather percentile categories. WFSI is defined as the likelihood of an acre burning. Since all areas in Texas have WFSI calculated consistently, it allows for comparison and ordination of areas across the entire state. For example, a high threat area in East Texas is equivalent to a high threat area in West Texas.

Class	Acres	Percent
Non-Burnable	172,790	70.1 %
1 (Low)	50,186	20.4 %
2	11,386	4.6 %
3 (Moderate)	4,812	2.0 %
4	5,408	2.2 %
5 (High)	1,224	0.5 %
6	781	0.3 %
7 (Very High)	0	0.0 %
Total	**246,588**	**100.0 %**

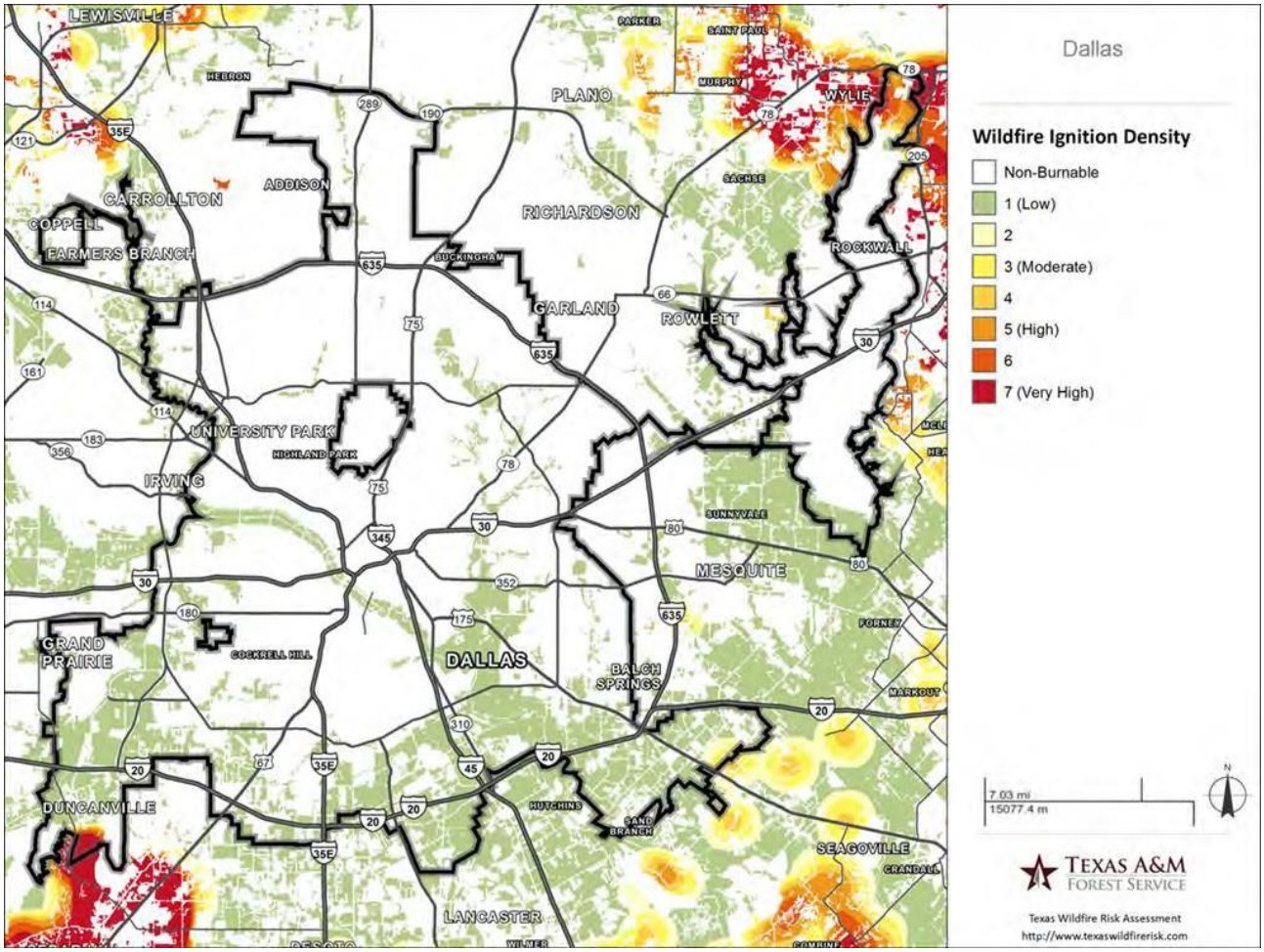
To aid in the use of Wildfire Threat for planning activities, the

output values are categorized into seven (7) classes. These are given general descriptions from Low to Very High threat.



4.2 Wildfire Ignition Density

Wildfire Ignition Density is the likelihood of a wildfire starting based on historical ignition patterns. Occurrence is derived by modeling historic wildfire ignition locations to create an average ignition rate map. The ignition rate is measured in the number of fires per year per 1000 acres. To aid in the use of Wildfire Ignition Density for planning activities, the output values are categorized into seven (7) classes reflecting average ignition rates. These are given general descriptions from Low to Very High. For wildfire occurrence statistics and historical ignitions within the Dallas area, see Appendix G.



4.3 Hazardous Vegetation Types and Wildfire Potential

All vegetation, naturally occurring and otherwise, is potential fuel for fire. Its type, amount and arrangement can have dramatic effects on fire behavior. There are no “fireproof” plant species. Plant choice, arrangement, and maintenance are critical; where and how you plant can be more important than what species you use. However, given options, choose plant species for your landscape that are more fire resistant. Creating defensible space around your home is one of the most important and effective steps you can take to protect you, your family, and your home from catastrophic wildfire. Defensible space is the area between a structure and an oncoming wildfire (or between a burning structure and wildland vegetation) where nearby vegetation has been modified to reduce a wildfire’s intensity and ability to spread. This will be discussed further in Section 6: Community Prescription.

Great Trinity Forest: Introduced and Invasive Plant Species

All living organisms compete for resources. In the forest, trees compete for light, water, and nutrients. When managing a forest some types of vegetation are less desirable than others, hindering the growth and development of desired species. These unwanted plants could be described as weeds, and weeds are simply plants growing in the wrong place. Introduced species present special management challenges, as they are foreign to our Texas landscape. Some introduced species become invasive, and can negatively impact the ecosystem by changing soil chemistry, smothering desirable vegetation, and poisoning wildlife. Within the City of Dallas there are several vegetation types that, if ignited by wildfire, present a significant problem to at-risk communities. These invasive species are a threat due to their high level of ignitability and extreme high temperatures during burning and extended burn time. Below are some invasive species of plants that can negatively impact the Great Trinity Forest:

Tree-of Heaven (*Ailanthus altissima (mill.) swingle*)

Chinaberry (*Melia azedarach l.)*

Chinese Tallow Tree (*Triadica sebifera*)

Chinese Privet (*Ligustrum sinense l.)*

Giant Reed (*Arundo donax*)

Sacred Bamboo (*Nandina domestica*)

Japanese Honeysuckle (*Lonicera japonica*)

Alligatorweed (*Alternanthera philoxeroides (mart.) griseb*.)

Balloonville (*Cardiospermum halicacabum*)

Bermudagrass (*Cynodon dactylon*)

Johnsongrass (*Sorghum halapense*)

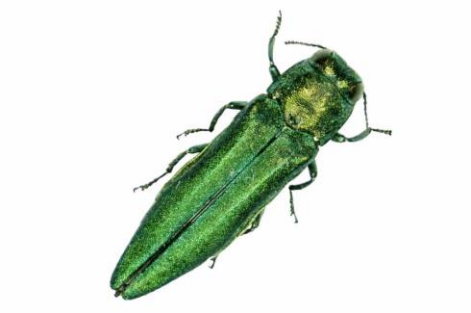
Although not invasive, the Ash tree can be considered a species at risk. Ash trees are large trees that grow very fast and are weak wooded. They also have a short life span and decay rapidly. Ash trees can produce a thick upper canopy if many grow together, preventing healthy undergrowth of the forest below. Due to the short life span and fast decay, ash trees can produce large amounts of heavy fire fuel loads that can ignite easily.

Further information on non-native and invasive species can be found at www.fws.org, Handbook of Fire Management and Invasive Plants – U.S. Fish & Wildlife Service, www.texasinvasives.org, and the TPWD website.

Invasive Insect Species

There are 3 different invasive insects in Texas. None are currently in the city of Dallas, but proactive steps are currently being taken to evaluate and monitor if/when these insects could affect our forests and parks. If these invasive insects were to migrate into the city of Dallas, it would have devastating effects the lives of our trees, killing our forests, and creating vast amounts of dry heavy fuel loads.

Emerald Ash Borer: (Agrilus planipennis) is a destructive non-native wood-boring pest of ash trees (Fraxinus spp.). Native to Asia, the emerald ash borer beetle (EAB) was unknown in North America until its discovery in southeast Michigan in 2002. All native ash species are susceptible to attack. Ash trees with low population densities of EAB often have few or no external symptoms of infestation. EAB is a significant threat to urban, suburban, and rural forests as it kills both stressed and healthy ash trees. EAB is very aggressive and ash trees may die within two or three years after they become infested. Recent research shows that the beetle can have a one- or two-year life cycle. Adults begin emerging in mid to late May with peak emergence in late June. Females usually begin laying eggs about 2 weeks after emergence. Eggs hatch in 1-2 weeks, and the tiny larvae bore through the bark and into the cambium - the area between the bark and wood where nutrient levels are high. The larvae feed under the bark for several weeks, usually from late July or early August through October. The larvae typically pass through four stages, eventually reaching a size of roughly 1 to 1.25 inches long. Most EAB larvae overwinter in a small chamber in the outer bark or in the outer inch of wood. Pupation occurs in spring and the new generation of adults will emerge in May or early June, to begin the cycle again.



Southern Pine Bark Beetle: (Denfroctonus frontalis) attack mainly densely stocked, slow growing pine stands with a high percentage of over-mature pine saw timber. Some pine tree species are more susceptible than others. Trees damaged by lightning and other natural events or by nearby construction are more likely to be infested. Beetles disperse in the fall and develop in scattered host trees. From March through May, beetles emerge and colonize new host trees. Injured trees decline rapidly during summer months and infestations may spread from tree to tree as additional beetles are attracted to the site of infestation. All stages can be dissected from underneath bark of dead or dying infested pine trees. Adults emerge from a host tree and fly to a new host tree where they begin burrowing into the bark to construct galleries. They release an attractant chemical (pheromone) that attracts more beetles and mate. In galleries, adult females deposit eggs that hatch in 3 to 34 days, depending upon temperature, into cream-colored, legless grub-like larvae with brown heads. Larvae develop through four stages (instars) until they reach about 1/4 inch in length over a period of 15 to 40 days before pupating. Adults hatch within 17 days. A generation from egg to adult can be completed in 26 to 54 days. Seven to nine generations (many overlapping) can occur annually in Texas.

Formosan Subterranean Termite: (Coptotermes formosanus) are wood-destroying insects native to Central America and the Far East that have been introduced into the United States. They are considered one of the most aggressive and economically devastating termite species in the country. Like other subterranean termites, Formosan termites feed on materials that contain cellulose, but because of their large colony size, they attack a greater variety of wood at a faster rate than do native subterranean termites. They have enormous reproductive capability and a typical colony may exceed 1 million insects. Although considered "subterranean" (underground, hidden) in habit, the members of the genus Coptotermes regularly construct aerial (above ground) nests within the structures that infest. The possibility of both a subterranean nest close to the infested structure and an aerial nest within the structure can greatly increase the damage potential of these termites. Although there is little chance of encountering Formosan termites outside the upper Gulf Coast region, homeowners and pest management professionals should watch for isolated infestations anywhere in Texas. Shoring timber and recycles railroad ties are often taken from docks and railways and used for construction of terraces or backyard planting beds. This wood is thought to be the primary mechanism for spreading the Formosan termite in Texas. Creosote treatment frequently does not reach the core of these timbers and by itself is no guarantee against Formosan termites, these timbers must be properly fumigated to prevent termites from traveling within them and infesting the soil at a landscaping site. Cargo pallets that have rested on infested soil as well as mulch and sod from infested areas have also spread the Formosan termite into Texas. It is important to limit the spread of the Formosan termite because the initial infestations in a city can become seed colonies and lead to structural infestations. Formosan termites are yellowish brown and 12 to 15 mm long. They swarm at night in late May and early June and are attracted to lights.

4.4 Threatened and Endangered Wildlife

In addition to hazardous fuel types, Dallas also has threatened or endangered wildlife that during fuel reduction efforts will need to be protected. It is the intent of this document to minimize potential impacts to threatened and endangered wildlife species and their critical habitats. Before removing or pruning a tree consider suitability of creating and/or maintaining a critical habitat for various threatened or endangered species. Some threatened and endangered species known to migrate through Dallas County are:

Whooping Crane (*Grus americana*)

Piping Plover (*Charadrius melodus*)

Interior Least Tern (*Sterna antillarum*)

Black-Capped Vireo (*Vireo atricapillus*)

Two of these species, the Interior Least Tern and Black-Capped Vireo, have even been documented nesting in Dallas County.

Three other species that may occur in the area, but have recently been taken off the threatened and endangered list, are:

American Peregrine Falcon (*Falco peregrines anatum*)

Arctic Peregrine Falcon
(*Falco peregrines tundrius*)

Bald Eagle (*Haliaeetus leucocephalus*)

Some habitats will be lost due to construction of roads and trails, prescribed fire and herbicides. However, prescribed fire and herbicides are necessary to create new habitat and improve the existing habitat. In fact, the openings in the forest which are created by these activities benefit many wildlife species by providing food and cover that do not occur in forested areas. Some individuals may be killed or injured from wildfires or prescribed fires but this will be minimized by leaving abundant escape routes and avoiding using fire during the nesting season.

5 | Community Risk Assessment

Risk assessments are a systematic process for identifying and assessing wildland fire hazards for the lands and neighborhoods in a particular area. For the wildland urban interface, risk 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 the Wildland Urban Interface (WUI) within the planning area.
- Identifies and prioritizes areas in which to conduct fuels reduction treatments.

Risk assessment criteria include:

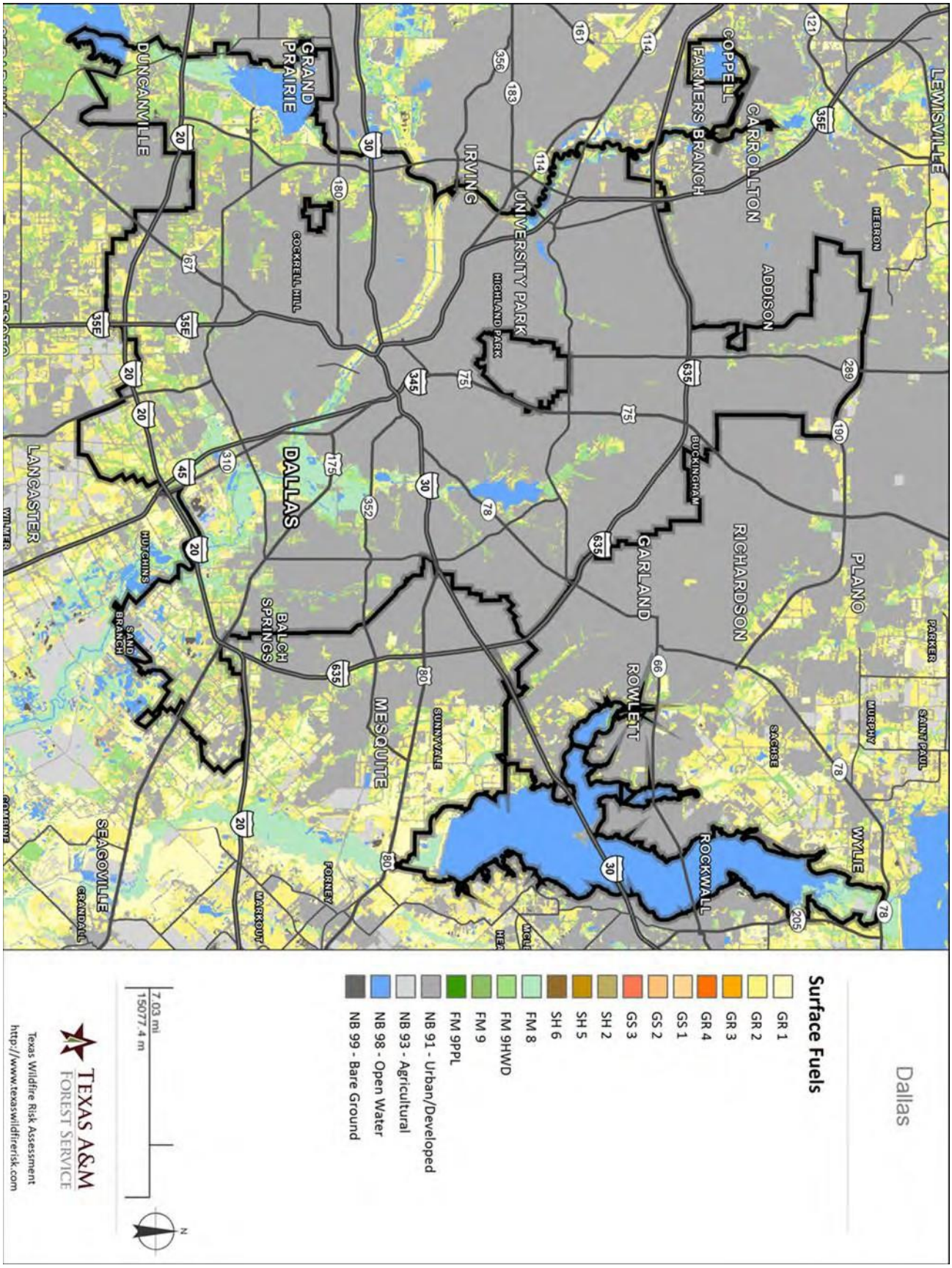
- Means of access (ingress and egress, road width, all-season road condition, and fire service access)
- Vegetation (characteristics of predominate vegetation within 300 feet of a home, defensible space)
- Roofing assembly (roof class)
- Building construction (materials)
- Available fire protection (water source availability, organized response resources)
- Placement of gas and electric utilitie

5.1 Surface Fuels

Surface fuels, or fire behavior fuel models as they are technically referred to, contain the parameters needed by the Rothermel (1972) surface fire spread model to compute surface fire behavior characteristics, such as rate of spread, flame length, fireline intensity, and other fire behavior metrics. As the name might suggest, surface fuels only account for the surface fire potential. Canopy fire potential is computed through a separate but linked process. The Texas Wildfire Risk Assessment accounts for both surface and canopy fire potential in the fire behavior outputs. This represents a significant enhancement over the Southern Wildfire Risk Assessment (SWRA) where only the surface fire potential was considered.

Surface fuels are typically categorized into one of four primary fuel types based on the primary carrier of the surface fire: 1) grass, 2) shrub/brush, 3) timber litter and 4) slash.

Surface Fuels	Description	FBPS Fuel Model Set	Acres	Percent
GR 1	Short, Sparse Dry Climate Grass (Dynamic)	2005	10,183	4.1 %
GR 2	Low Load, Dry Climate Grass (Dynamic)	2005	0	0.0 %
GR 3	Low Load, Very Coarse, Humid Climate Grass (Dynamic)	2005	16,168	6.6 %
GR 4	Moderate Load, Dry Climate Grass (Dynamic)	2005	0	0.0 %
GS 1	Low Load, Dry Climate Grass-Shrub (Dynamic)	2005	166,144	67.4 %
GS 2	Moderate Load, Dry Climate Grass-Shrub (Dynamic)	2005	1,716	0.7 %
GS 3	Moderate Load, Humid Climate Grass-Shrub (Dynamic)	2005	27,500	11.2 %
SH 2	Moderate Load Dry Climate Shrub	2005	313	0.1 %
SH 5	High Load, Dry Climate Shrub	2005	4,999	2.0 %
SH 6	Low Load, Humid Climate Shrub	2005	16,910	6.9 %
FM 8	Closed timber litter (compact)	1982	7	0.0 %
FM 9 HWD	Hardwood litter (fluffy) - Low Load for Texas	Custom	0	0.0 %
FM 9	Long-needle (pine litter) or hardwood litter	1982	1,401	0.6 %
FM 9 PPL	Long-needle (pine litter, plantations) - High Load for Texas	Custom	1,049	0.4 %
NB 91	Urban/Developed	2005	0	0.0 %
NB 93	Agricultural	2005	197	0.1 %
NB 98	Open Water	2005	0	0.0 %
NB 99	Bare Ground	2005	0	0.0 %
		Total	**246,588**	**100.0 %**


Dallas
Surface Fuels
GR 1
GR 2
GR 3
GR 4
GS 1
GS 2
GS 3
SH 2
SH 5
SH 6
FM 8
FM 9HWD
FM 9
FM 9PPL
NB 91 - Urban/Developed
NB 93 - Agricultural
NB 98 - Open Water
NB 99 - Bare Ground
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Texas A&M Forest Service
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
CARROLLTON
FARMERS BRANCH
COPPELL
ADDISON
HEBRON
PLANO
PARKER
MURPHY
SAINT PAUL
SACHSE
WYLIE
RICHARDSON
ROCKWALL
GARLAND
ROWLETT
BUCKINGHAM
UNIVERSITY PARK
HIGHLAND PARK
IRVING
GRAND PRAIRIE
COCKRELL HILL
DUNCANVILLE
DALLAS
BALCH SPRINGS
SUNNYVALE
MESQUITE
FORNEY
MACKOUT
HUTCHINS
SAND BRANCH
LANCASTER
WINTER
SEAGOVILLE
GRANDALL

5.2 Fire Behavior

Fire behavior is the manner in which a fire reacts to the following environmental influences: fuels, weather, and topography. Fire behavior characteristics are attributes of wildland fire that pertain to its spread, intensity, and growth.

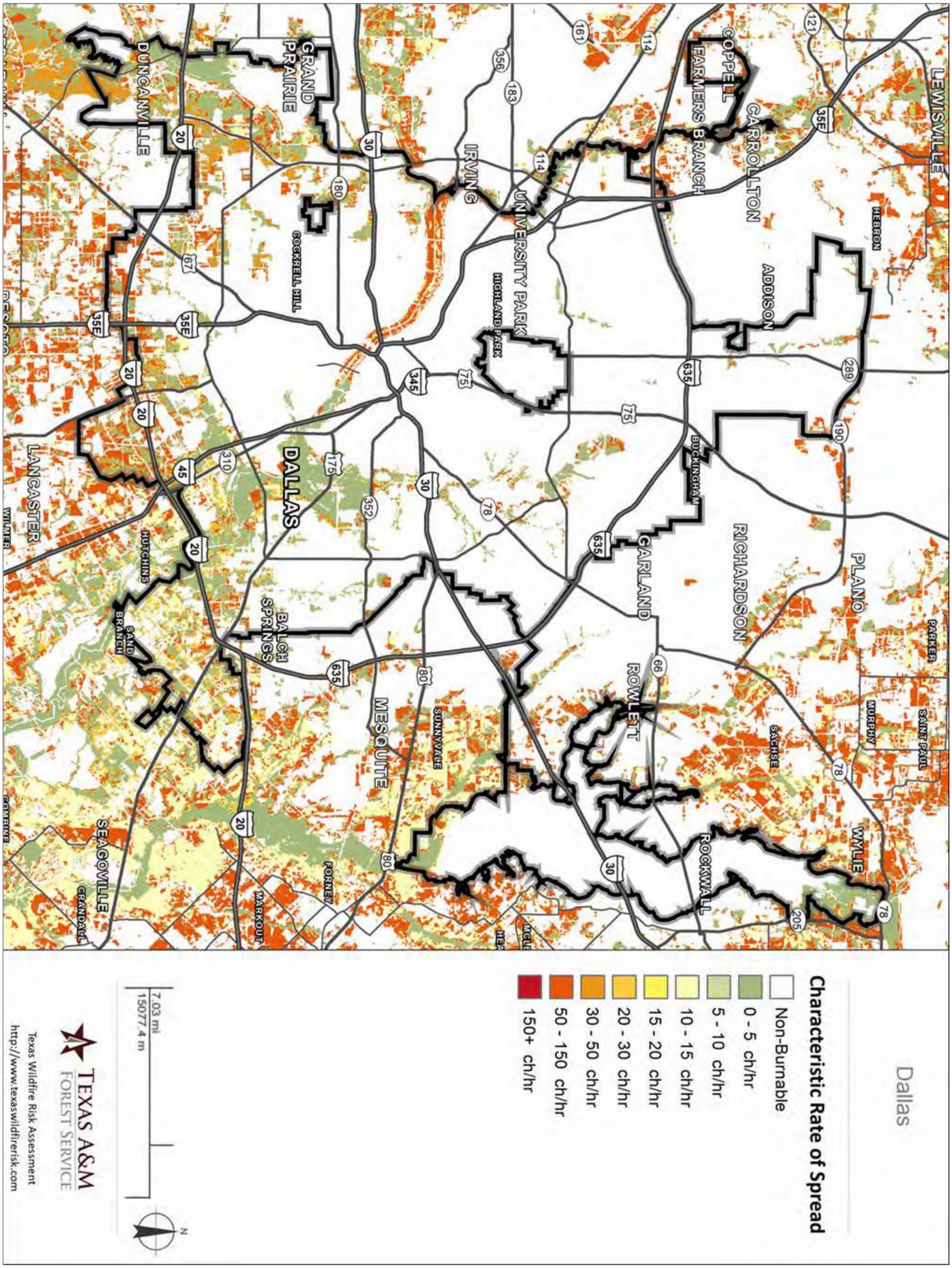
Weather is the most dynamic influence of fire behavior as it changes frequently. To compute fire behavior, information and data is collected at weather influence zones established across the state. A weather influence zone is an area where for analysis purposes the weather on any given day is considered uniform. There are 22 weather influence zones in Texas. Within each weather influence zone, historical daily weather is gathered to compile a weather dataset from which four percentile weather categories are created. The percentile weather categories are intended to represent low, moderate, high, and extreme fire weather days. Fire behavior outputs are computed for each percentile weather category to determine fire potential under different weather scenarios. The percentile categories are meant to account for the dynamic influence and variability of weather.

Characteristic rate of spread, flame length, fire intensity scale, and fire type are behavior outputs influenced by those three environmental factors. These sections are worst case scenarios of how fire will behave during sever weather conditions.

5.2.1 Characteristic Rate of Spread

Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains (66 feet) per hour (ch/hr) or feet per minute (ft/min). For purposes of the Texas Wildfire Risk Assessment, this measurement represents the maximum rate of spread of the fire front.

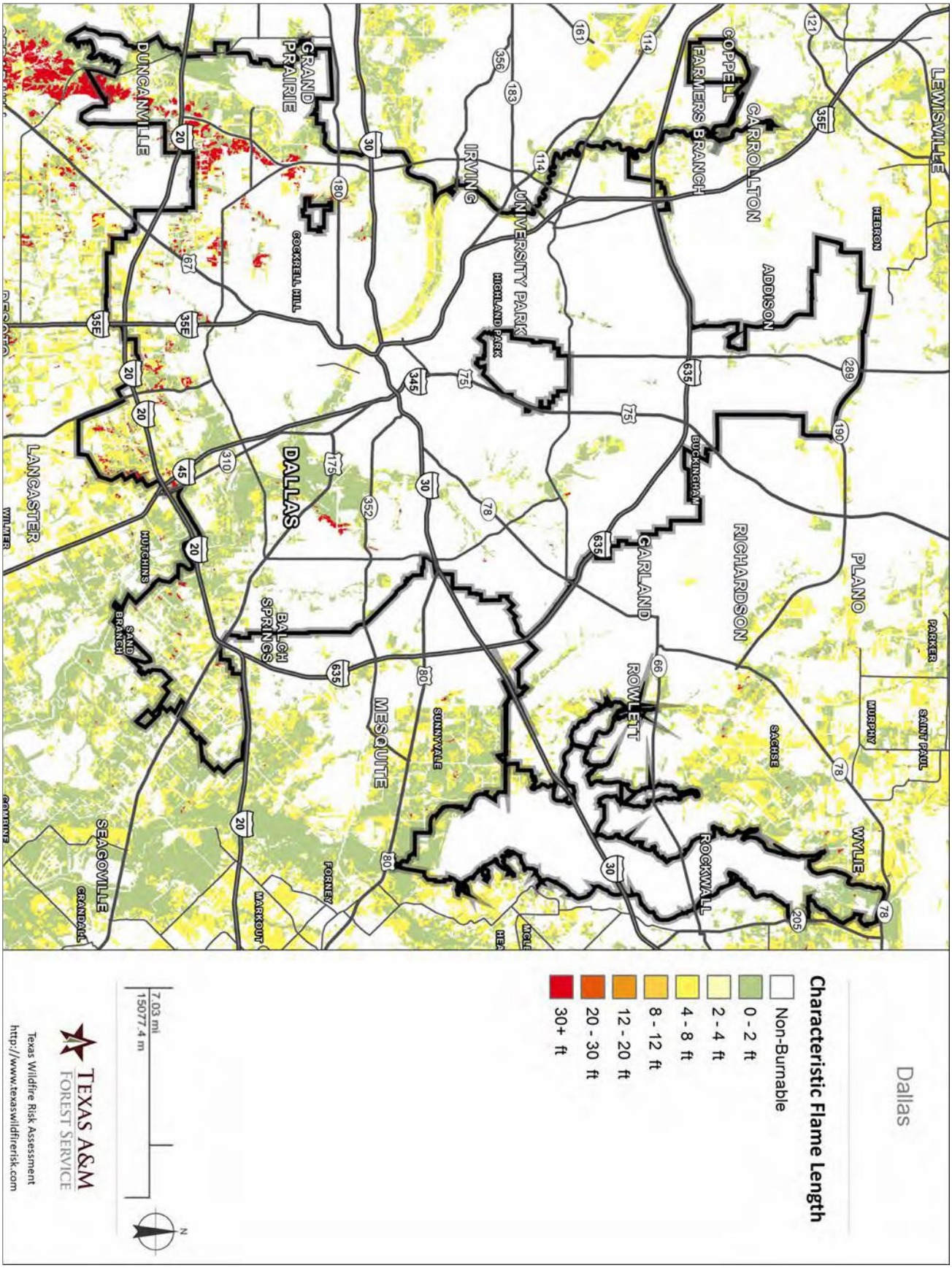
Rate of Spread	Acres	Percent
Non-Burnable	195,673	79.4 %
0 - 5 (ch/hr)	24,574	10.0 %
5 - 10 (ch/hr)	46	0.0 %
10 – 15 (ch/hr)	4,969	2.0 %
15 - 20 (ch/hr)	2,434	1.0 %
20 - 30 (ch/hr)	2,143	0.9 %
30 - 50 (ch/hr)	3,847	1.6 %
50 - 150 (ch/hr)	12,902	5.2 %
150 + (ch/hr)	0	0.0 %
Total	**246,588**	**100.0 %**


Dallas
Characteristic Rate of Spread
Non-Burnable
0 - 5 ch/hr
5 - 10 ch/hr
10 - 15 ch/hr
15 - 20 ch/hr
20 - 30 ch/hr
30 - 50 ch/hr
50 - 150 ch/hr
150+ ch/hr
7.03 mi
15077.4 m
N
TEXAS A&M FOREST SERVICE
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
CARROLLTON
COPPELL
FARMERS BRANCH
ADDISON
HEBRON
PLANO
RICHARDSON
GARLAND
ROWLETT
SACHSE
MURPHY
PARKER
SAINT PAUL
WYLIE
ROCKWALL
IRVING
GRAND PRAIRIE
UNIVERSITY PARK
HIGHLAND PARK
COCKRELL HILL
DALLAS
DUNCANVILLE
LANCASTER
WILMER
HUTCHINS
SAND BRANCH
BALCH SPRINGS
MESQUITE
SUNNYVALE
FORNEY
SEAGOVILLE
CRANDALL
BUCKINGHAM

5.2.2 Characteristic Flame Length

Characteristic Flame Length is the typical or representative flame length of a potential fire based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet (ft).

Flame Length	Acres	Percent
Non-Burnable	195,673	79.4 %
0 - 2 ft	29,584	12.0 %
2 - 4 ft	3,752	1.5 %
4 - 8 ft	14,556	5.9 %
8 - 12 ft	8	0.0 %
12 - 20 ft	0	0.0 %
20 - 30 ft	111	0.0 %
30 + ft	2,903	1.2 %
Total	**246,588**	**100.0 %**

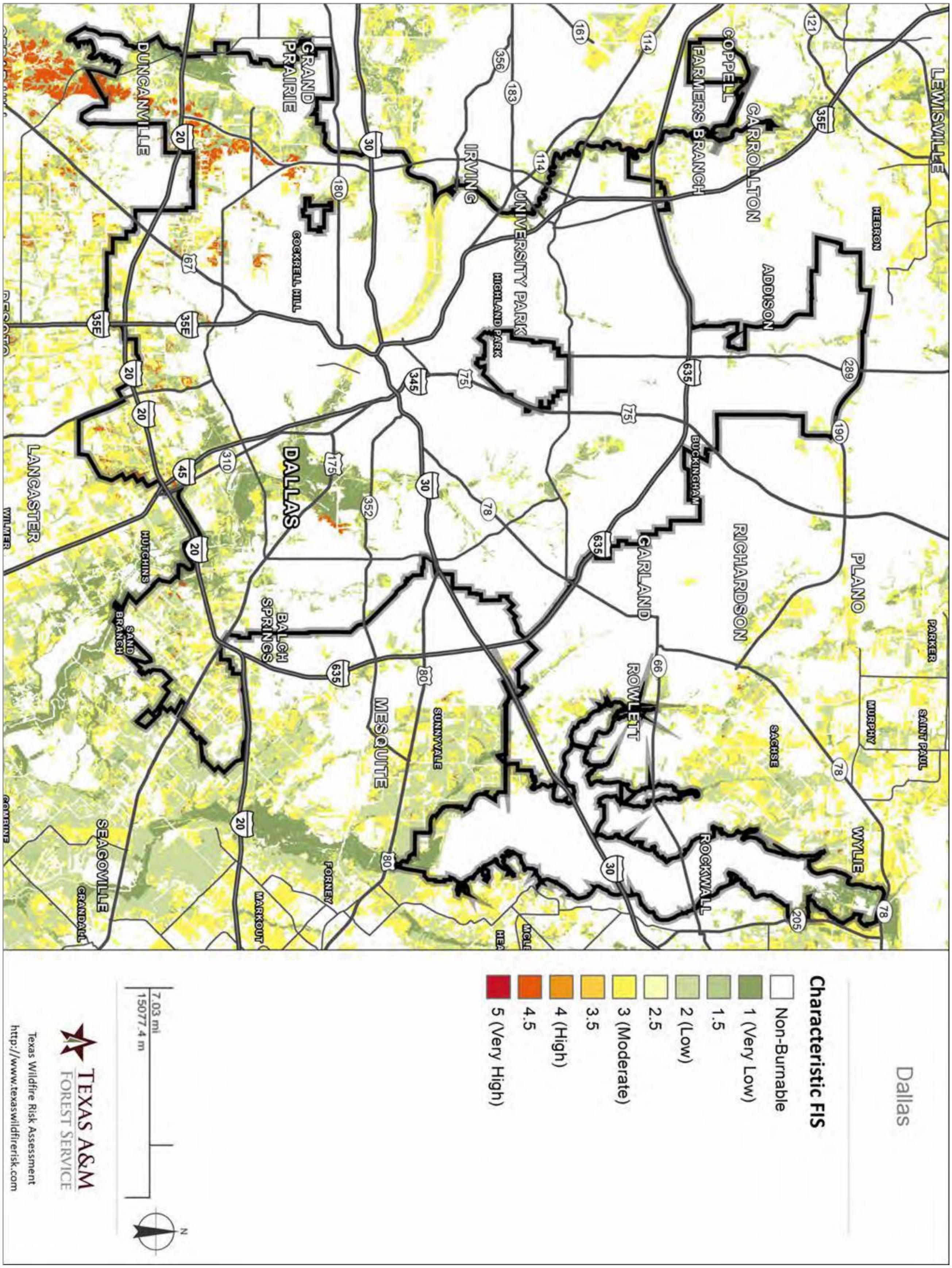

Dallas
Characteristic Flame Length
Non-Burnable
0 - 2 ft
2 - 4 ft
4 - 8 ft
8 - 12 ft
12 - 20 ft
20 - 30 ft
30+ ft
7.03 mi
15077.4 m
N
Texas A&M Forest Service
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
HEBRON
CARROLLTON
FARMERS BRANCH
COPPELL
ADDISON
PLANO
PARKER
MURPHY
SAINT PAUL
SACHSE
WYLIE
RICHARDSON
ROCKWALL
GARLAND
ROWLETT
SUNNYVALE
MESQUITE
BUCKINGHAM
IRVING
UNIVERSITY PARK
HIGHLAND PARK
COCKRELL HILL
GRAND PRAIRIE
DUNCANVILLE
DALLAS
BALCH SPRINGS
HUTCHINS
SAND BRANCH
LANCASTER
WILMER
SEAGOVILLE
FORNEY
MARKOUT

5.2.3 Characteristic Fire Intensity Scale

Characteristic Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist based on a weighted average of four percentile weather categories. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. FIS consist of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. Refer to descriptions below.

1. Class 1, Very Low:
   Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
2. Class2, Low:
   Small flames, usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
3. Class 3, Moderate:
   Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
4. Class 4, High:
   Large Flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.
5. Class 5, Very High:
   Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

Class	Acres	Percent
Non-Burnable	195,673	79.4 %
1 (Very Low)	9,249	3.8 %
1.5	12,944	5.2 %
2 (Low)	7,390	3.0 %
2.5	2,216	0.9 %
3 (Moderate)	16,092	6.5 %
3.5	10	0.0 %
4 (High)	868	0.4 %
4.5	2,145	0.9 %
5 (Very High)	0	0.0 %
Total	**246,588**	**100.0 %**


Dallas
Characteristic FIS
Non-Burnable
1 (Very Low)
1.5
2 (Low)
2.5
3 (Moderate)
3.5
4 (High)
4.5
5 (Very High)
7.03 mi
15077.4 m
N
TEXAS A&M FOREST SERVICE
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
CARROLLTON
COPPELL
FARMERS BRANCH
HEBRON
ADDISON
PLANO
RICHARDSON
PARKER
MURPHY
SAINT PAUL
SACHSE
WYLIE
GARLAND
ROWLETT
ROCKWALL
BUCKINGHAM
IRVING
UNIVERSITY PARK
HIGHLAND PARK
GRAND PRAIRIE
DUNCANVILLE
COCKRELL HILL
DALLAS
LANCASTER
WILMER
HUTCHINS
BALCH SPRINGS
SAND BRANCH
MESQUITE
SUNNYVALE
FORNEY
SEAGOVILLE
CRANDALL
MARKOUT

5.2.4 Fire Type – Extreme

Fire Type – Extreme represents the potential fire type under the extreme percentile weather category. The extreme percentile weather category represents the average weather based on the top three percent fire weather days in the analysis period. It is not intended to represent a worst case scenario weather event. Accordingly, the potential fire type is based on fuel conditions, extreme percentile weather, and topography.

There are two primary fire types – surface fire and canopy fire. Canopy fire can be further subdivided into passive canopy fire and active canopy fire. A short description of each of these is provided below.

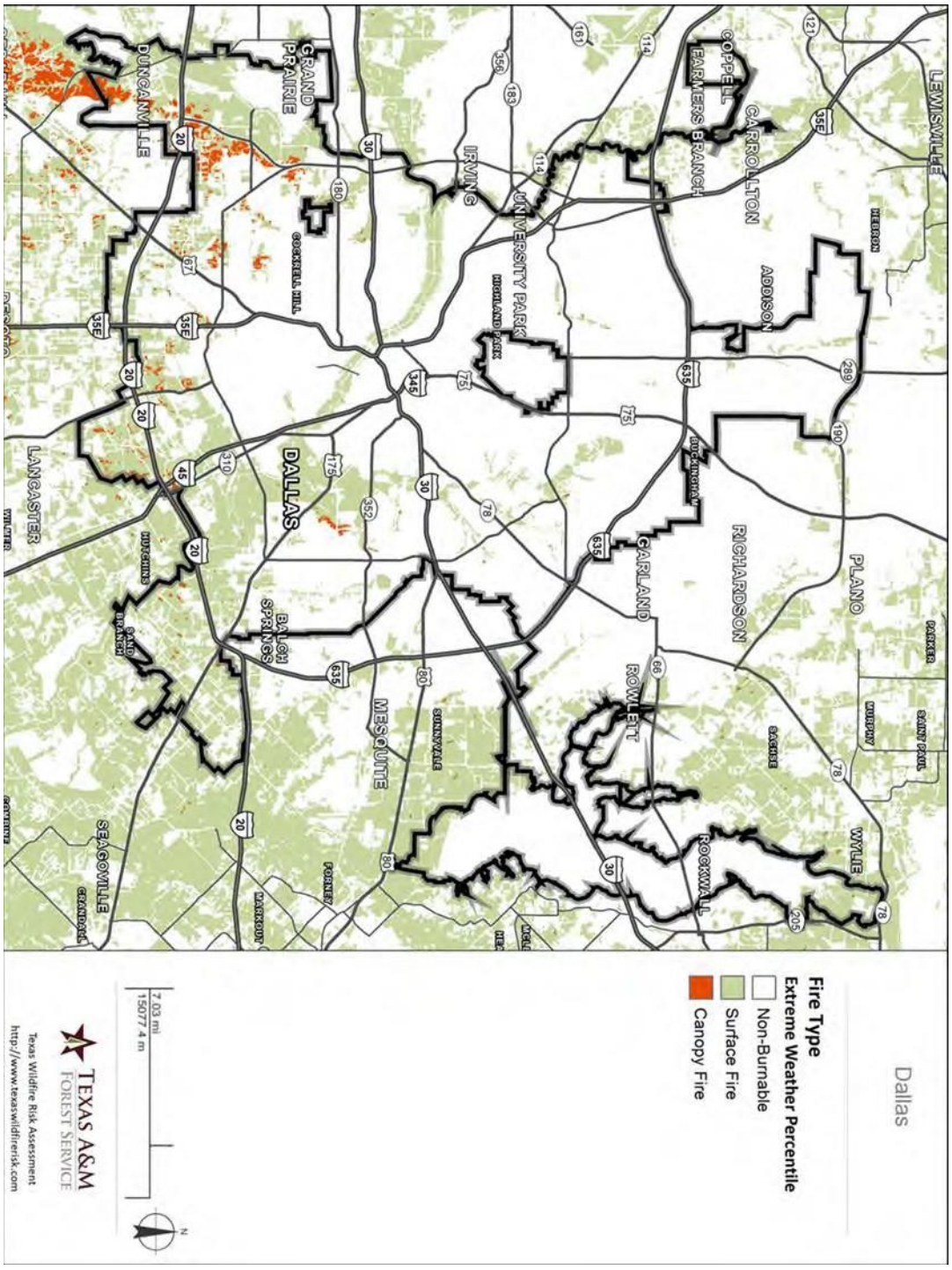
Surface Fire
A fire that spreads through surface fuel without consuming any overlying canopy fuel. Surface fuels include grass, timber litter, shrub/brush, slash and other dead or live vegetation within about 6 feet of the ground.


Passive Canopy Fire
A type of crown fire in which the crowns of individual trees or small groups of trees burn, but solid flaming in the canopy cannot be maintained except for short periods (Scott & Reinhardt, 2001).


Active Canopy Fire
A crown fire in which the entire fuel complex (canopy) is involved in flame, but the crowning phase remains dependent on heat released from surface fuel for continued spread (Scott & Reinhardt, 2001).


Canopy fires are very dangerous, destructive and difficult to control due to their increased fire intensity. From a planning perspective, it is important to identify where these conditions are likely to occur on the landscape so that special preparedness measure can be taken if necessary. The Fire Type – Extreme layer shows the footprint of where these areas are most likely to occur. However, it is important to note that canopy fires are not restricted to these areas. Under the right conditions, it can occur in other canopied areas.

	Fire Type	Acres	Percent
	Non-Burnable	195,673	79.4 %
	Surface Fire	47,899	19.4 %
	Canopy Fire	3,015	1.2 %
	Total	**246,588**	**100.0 %**



5.3 Where People Live: Population and Housing in the Wildland Urban Interface

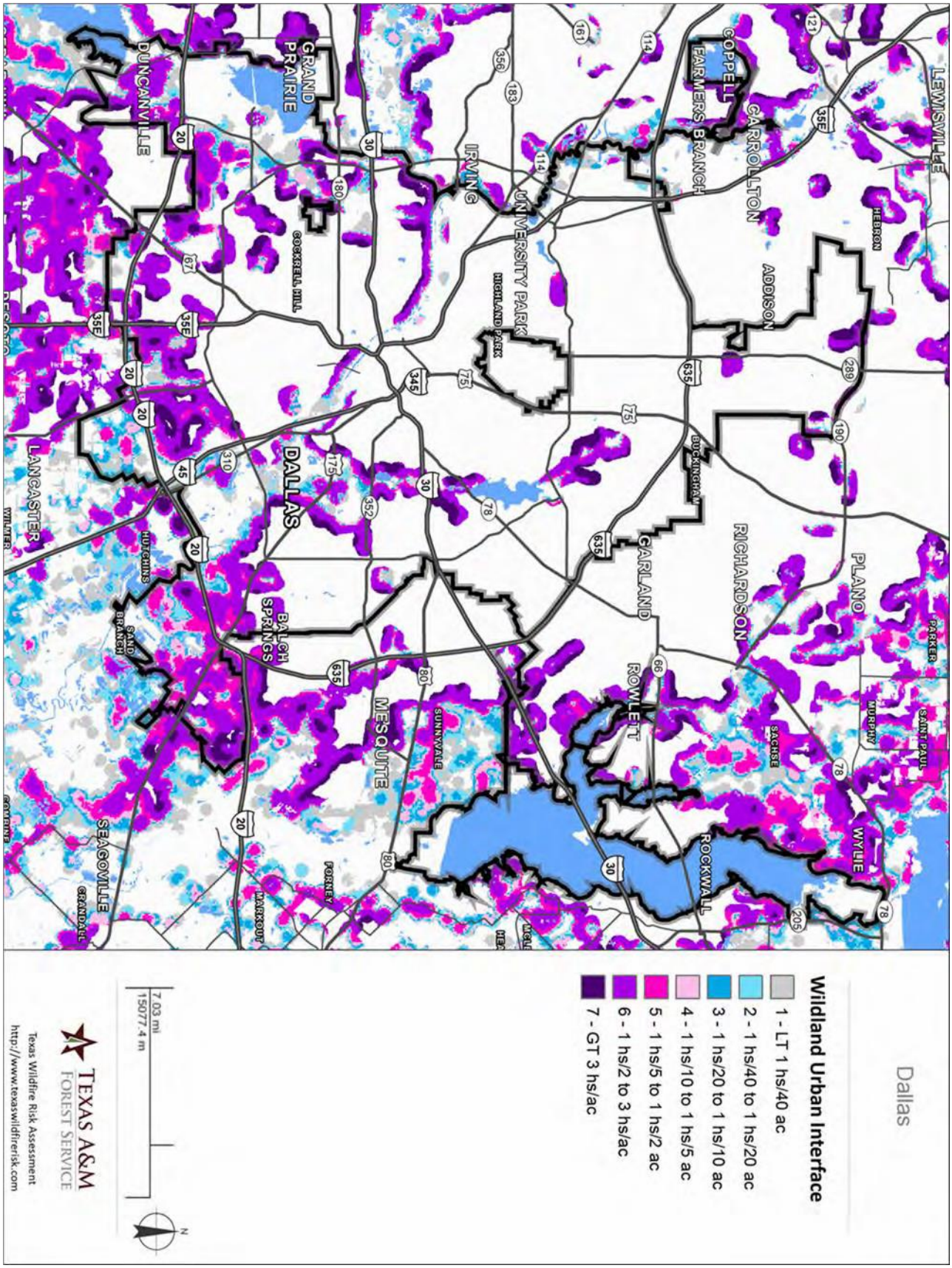
The Wildland Urban Interface (WUI) is described as the area where humans and their structures meet and intermingle with undeveloped wildland or vegetative fields. Population growth within the WUI substantially increases the risk from wildfire. According to the United States Census Bureau, the estimated total population in 2015 for the City of Dallas is 1,300,092. The 2010 census reported 516,639 total houses, 142,658 total companies, and the population per square mile was 3,517.6. This makes Dallas the 9th largest city in the U.S. and the 3rd largest city in Texas, one which is continuing to grow and develop.

The City of Dallas project area has an estimated 198,045 people, or 15 percent of the population, that live within the WUI.

WUI population is determined by the housing density of a certain area. This is measured in the number of houses per acre. The higher density areas are calculated at three houses per acre and less dense areas are calculated at one house per 40 acres. This information is useful in determining how many homes are at risk to wildfire and how many homes would need protecting during a wildfire event. This information is useful when planning evacuations.

The scale to the below shows the lowest density (grey) to highest density (purple) and the WUI populations and acreage reflected for each density level in the City of Dallas as reflected on the map.

	Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
	LT 1hs/40ac	167	0.1 %	8,002	12.9 %
	1hs/40ac to 1hs/20ac	187	0.1 %	3,410	5.5 %
	1hs/20ac to 1hs/10ac	405	0.2 %	3,919	6.3 %
	1hs/10ac to 1hs/5ac	964	0.5 %	4,810	7.8 %
	1hs/5ac to 1hs/2ac	3,350	1.7 %	8,205	13.2 %
	1hs/2ac to 3hs/1ac	80,281	40.5 %	26,160	42.2 %
	GT 3hs/1ac	112,691	56.9 %	7,535	12.1 %
	Total	**198,045**	**100.0 %**	**62,041**	**100.0 %**

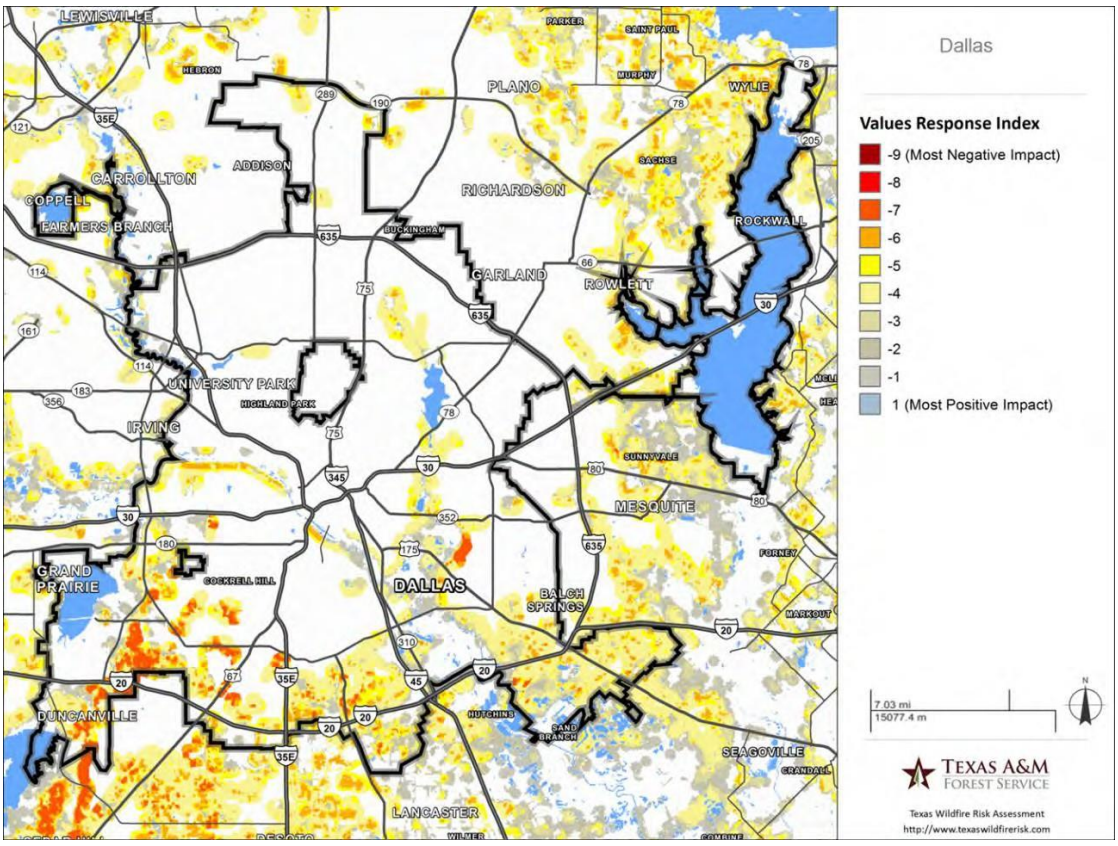

Dallas
Wildland Urban Interface
1 - LT 1 hs/40 ac
2 - 1 hs/40 to 1 hs/20 ac
3 - 1 hs/20 to 1 hs/10 ac
4 - 1 hs/10 to 1 hs/5 ac
5 - 1 hs/5 to 1 hs/2 ac
6 - 1 hs/2 to 3 hs/ac
7 - GT 3 hs/ac
7.03 mi
15077.4 m
N
Texas A&M Forest Service
Texas Wildfire Risk Assessment
http://www.texaswildfirerisk.com
LEWISVILLE
HEBRON
CARROLLTON
ADDISON
COPPELL
FARMERS BRANCH
PLANO
RICHARDSON
GARLAND
ROWLETT
PARKER
MURPHY
SAINT PAUL
SACHSE
WYLIE
ROCKWALL
IRVING
UNIVERSITY PARK
HIGHLAND PARK
GRAND PRAIRIE
COCKRELL HILL
DUNCANVILLE
DALLAS
BALCH SPRINGS
MESQUITE
SUNNYVALE
FORNEY
LANCASTER
WILMER
HUTCHINS
SAND BRANCH
SEAGOVILLE
CRANDALL
MARKOUT

5.3.1 Values Response Index

The Values Response Index (VRI) layer reflects a rating of the potential impact of a wildfire on values or assets. The VRI is an overall rating that combines the impact ratings for WUI (housing density) and Pine Plantations (pine age) into a single measure. The individual ratings for each value layer, WUI and Pine Plantations, were derived using a Response Function modeling approach.

Class	Acres	Percent
-9 (Most Negative Impact)	0	0.0 %
-8	0	0.0 %
-7	3,583	5.8 %
-6	6,126	9.9 %
-5	5,840	9.4 %
-4	31,873	51.4 %
-3	5,239	8.4 %
-2	3,772	6.1 %
-1	5,602	9.0 %
1 (Most Positive Impact)	0	0.0 %
Total	62,034	100.0 %

Response functions are a method of assigning a net change in the value to a *resource* or *asset* based on susceptibility to fire at different intensity levels, such as flame length. These net changes can be negative (adverse) or positive (beneficial). The theoretical range of values is from -9 to 9, with -9 representing the most adverse impact and 9 representing the most positive impact. Zero reflects no impact. The practical range is typically much smaller, however. For the Texas Wildfire Risk Assessment, the range of values is from -9 to1. Zero values are not included because they reflect no impact to the value or asset.

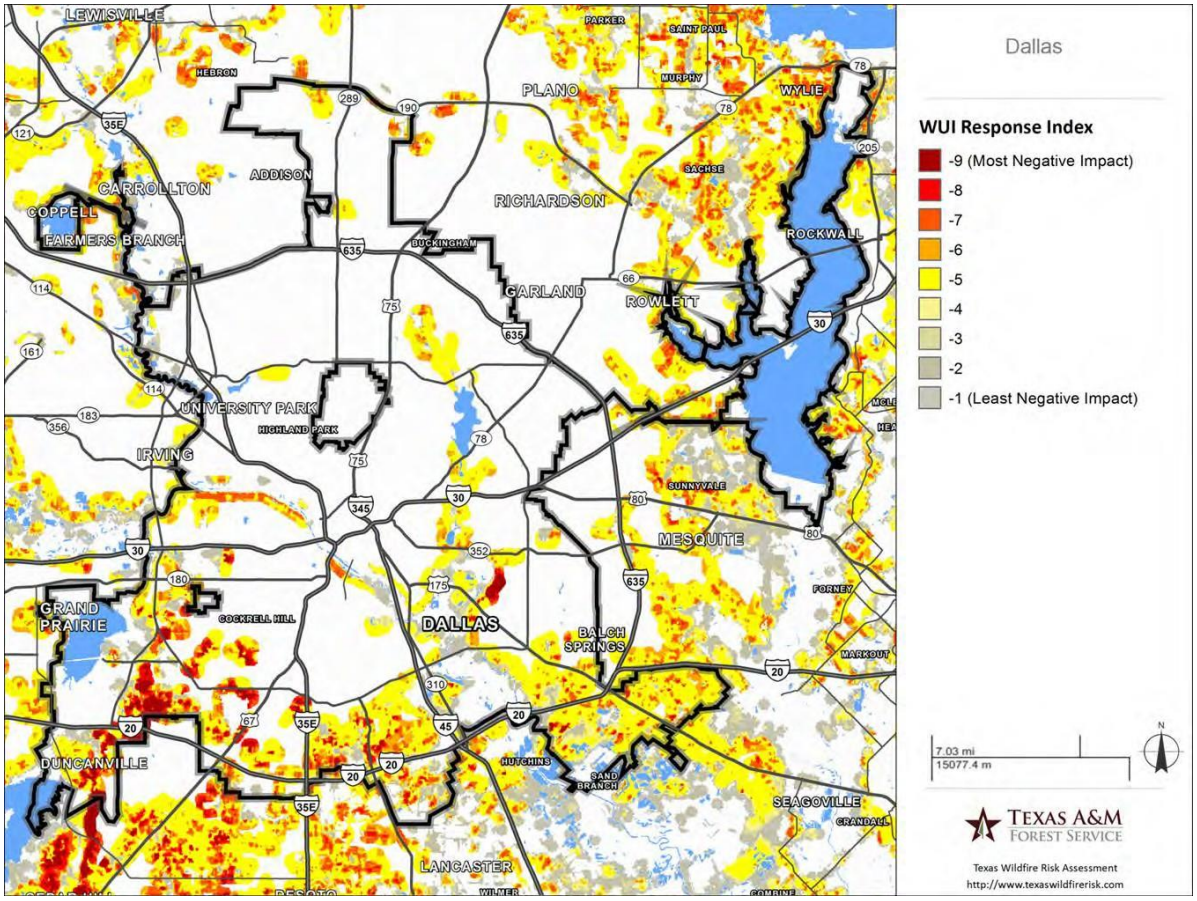


5.3.2 WUI Response Index

The WUI Response Index layer is a rating of the potential impact of a wildfire on people and their homes. The key input, WUI, reflects housing density (houses per acre) consistent with Federal Register National standards. The location of people living in the WUI and rural areas is key information for defining potential wildfire impacts to people and homes.

The WUI Response Index is derived using a Response Function modeling approach much like the Values Response Index. To calculate the WUI Response Index, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. The response functions were defined by a team of experts led by the Texas A&M Forest Service mitigation planning staff. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

Class	Acres	Percent
-9 (Most Negative Impact)	2,400	3.9 %
-8	2,788	4.5 %
-7	6,015	9.7 %
-6	4,346	7.0 %
-5	31,570	50.9 %
-4	3,270	5.3 %
-3	2,487	4.0 %
-2	5,972	9.6 %
-1 (Least Negative Impact)	3,185	5.1 %
Total	62,034	100.0 %



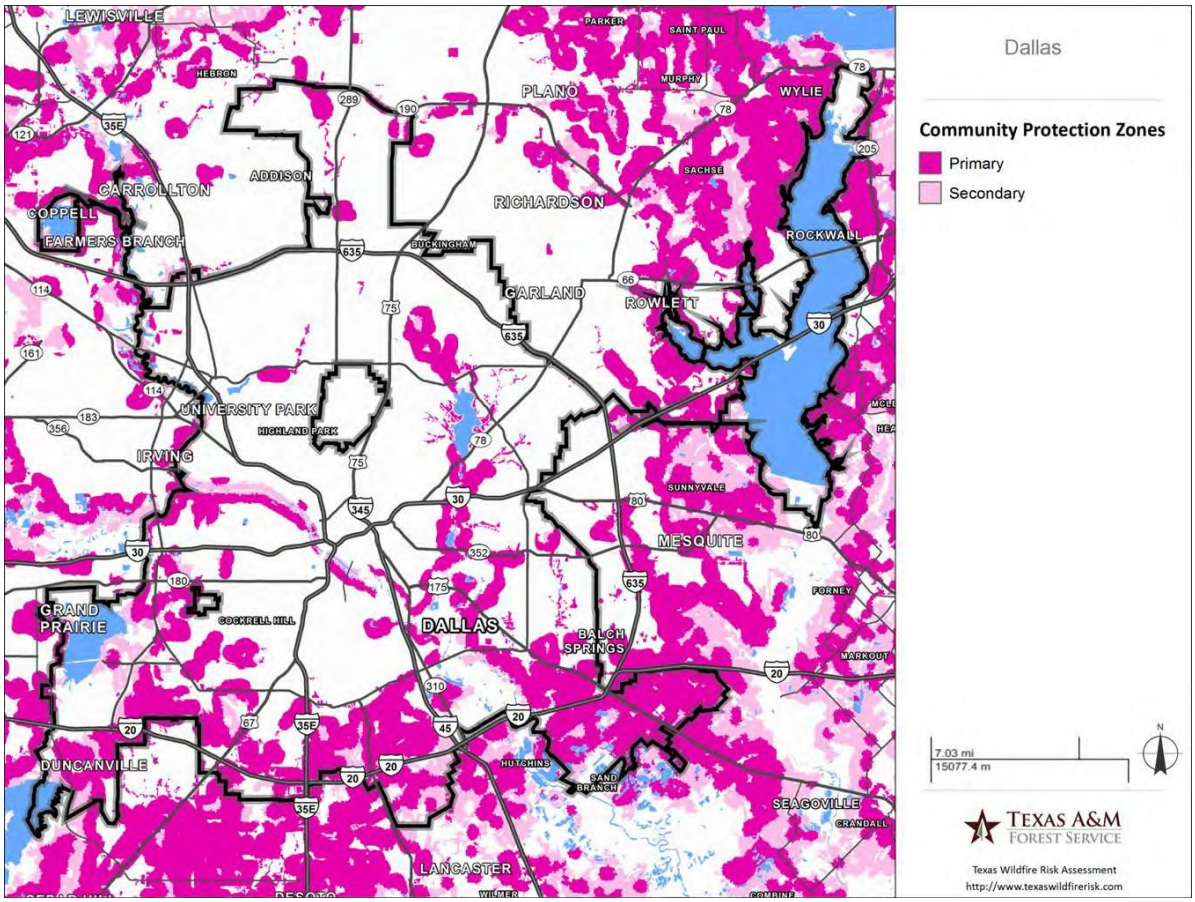
5.4 Community Protection Zones

Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the Where People Live housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance.

General consensus among fire planners is that for fuel mitigation treatments to be effective in reducing wildfire hazard, they must be conducted within a close distance of a community. In Texas, the WUI housing density has been used to reflect populated areas in place of community boundaries. This ensures that CPZs reflect where people are living in the wildland, not jurisdictional boundaries.

CPZs represent a variable width buffer around populated areas that are within a 2-hour fire spread distance. Accordingly, CPZs will extend farther in areas where rates of spread are greater and less in areas where minimal rate of spread potential exists. CPZ boundaries inherently incorporate fire behavior conditions.

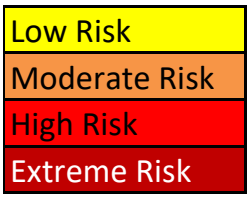
Class	Acres	Percent
Primary	53,850	81.2 %
Secondary	12,495	18.8 %
Total	**66,346**	**100.0 %**



5.5 Risk Assessment Findings

The City of Dallas was divided into the nine existing battalion districts to be assessed by Texas A&M Forest Service using a combination of geographic information system (GIS) data and local knowledge. Within these nine districts, 84 communities were selected for assessment. The risk assessments considered both the surrounding environment (defensible space) and home construction. Defensible space is defined as the area surrounding a structure where flammable vegetation and materials are managed to reduce a structure's risk from wildfire with or without active protection. This area should be wide enough to prevent direct flame impingement and reduce the amount of radiant heat that reaches the structure. Defensible space for each structure will vary depending on fuel type and topography. Each community assessed was identified as low, moderate, high, or extreme risk based on the total hazard rating. Texas A&M Forest Service completed risk assessments in May 2016 using the National Fire Protection (NFPA) 1144 Risk Assessment form (Appendix E).

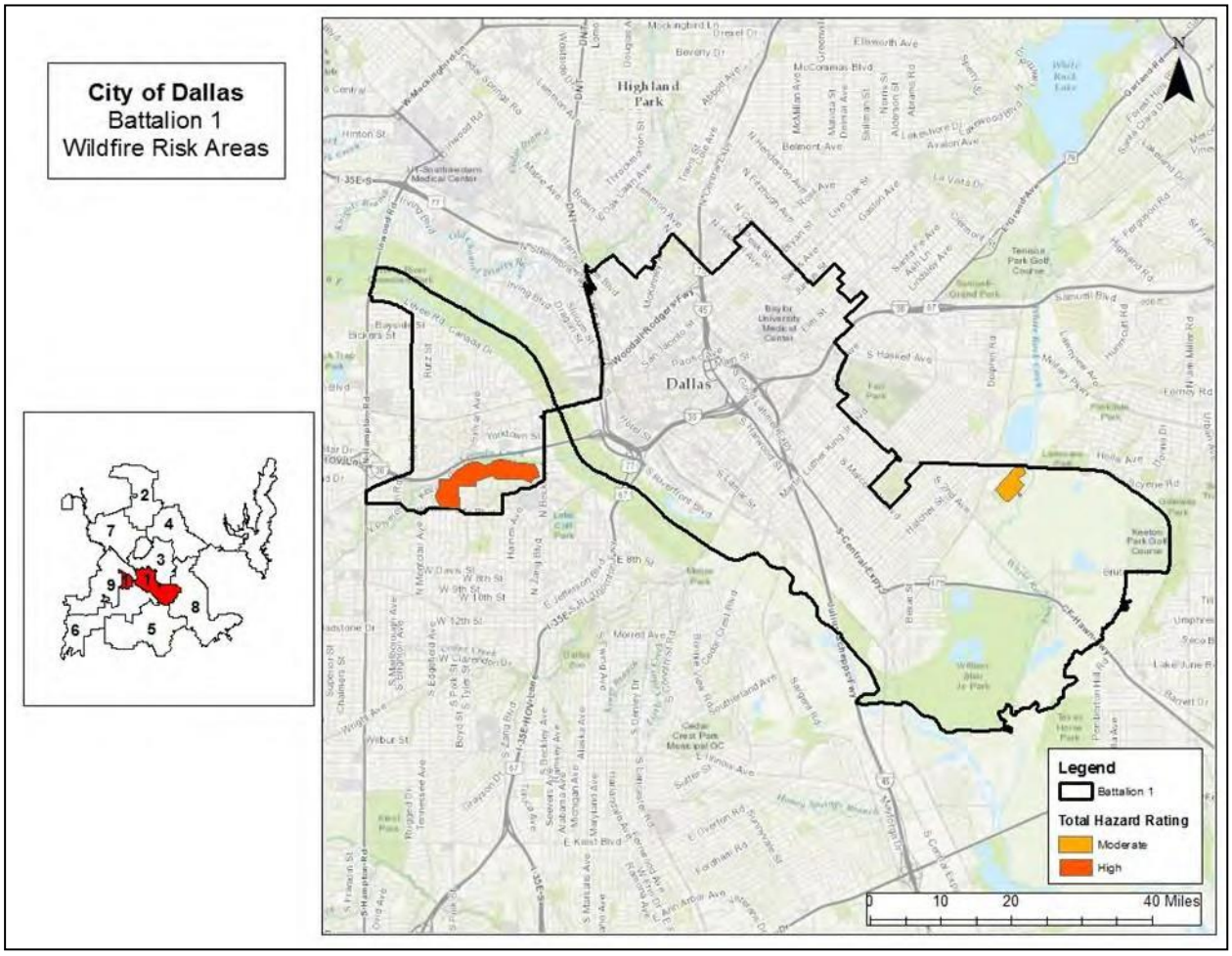
Of the 84 communities assessed, 25 were identified as being at high risk for a wildfire. 54 communities were rated moderate risk, while 5 were rated low risk. A common factor of the high risk communities was inadequate defensible space. The majority of homes surveyed were constructed using noncombustible siding and other fire resistant materials. There were also suitable water sources for structure protection in the form of hydrants, nearby reservoirs, and lakes.



Often, addressing structure ignitability is difficult and can prove to be costly. However, since the majority of homes in Dallas are constructed using noncombustible materials, mitigation efforts can focus on creating defensible space.

5.5.1 Fire Battalion Risk Assessments

Battalion 1 Overview Map

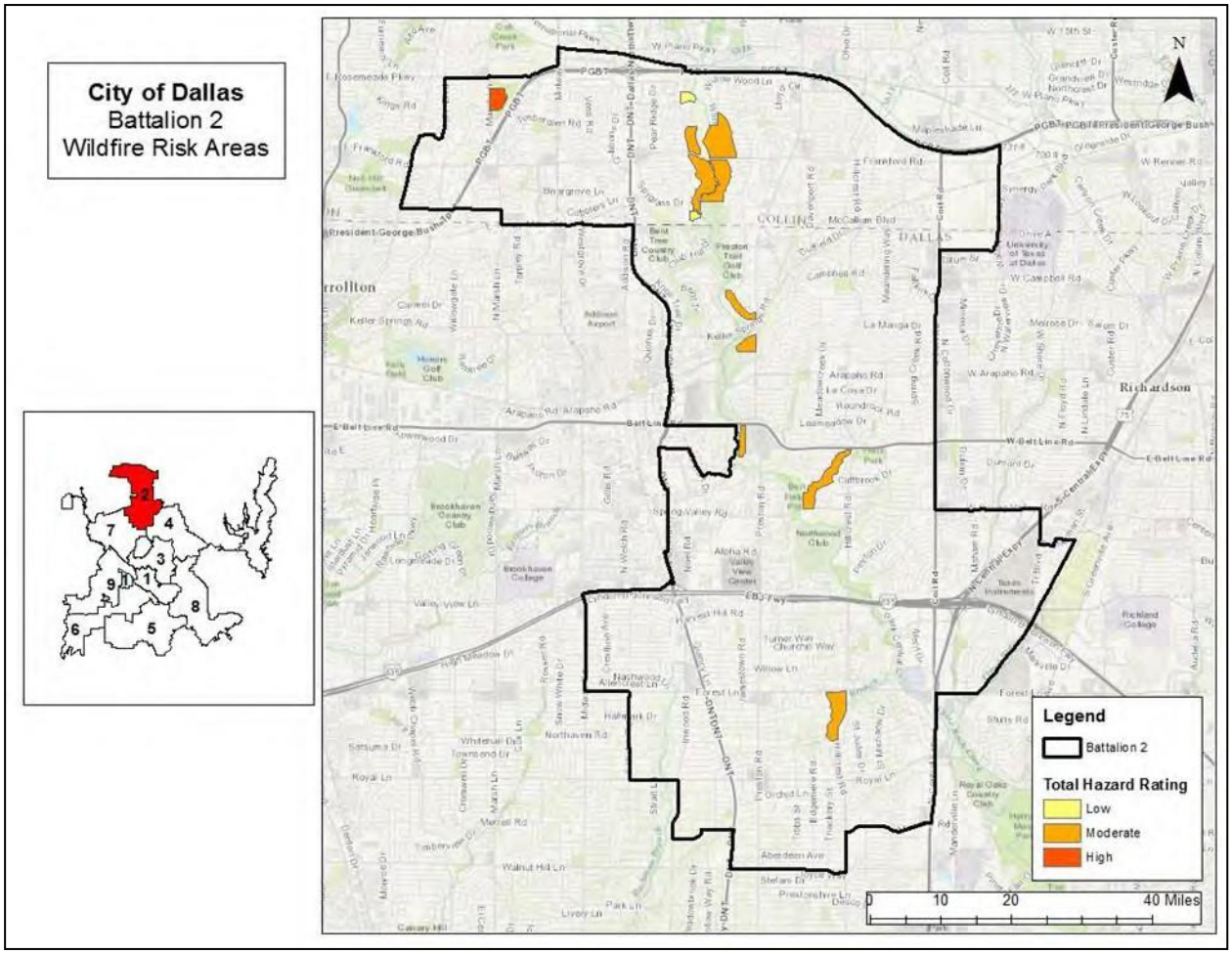


FID	Community Name	Fire Protection District	Total Hazard Rating #
0	Dixon Lane @ Audrey Street & Barber Avenue	1	71
1	Kessler Park	1	44

*FID is Feature ID, a unique representing each shapefile in ArcGIS.

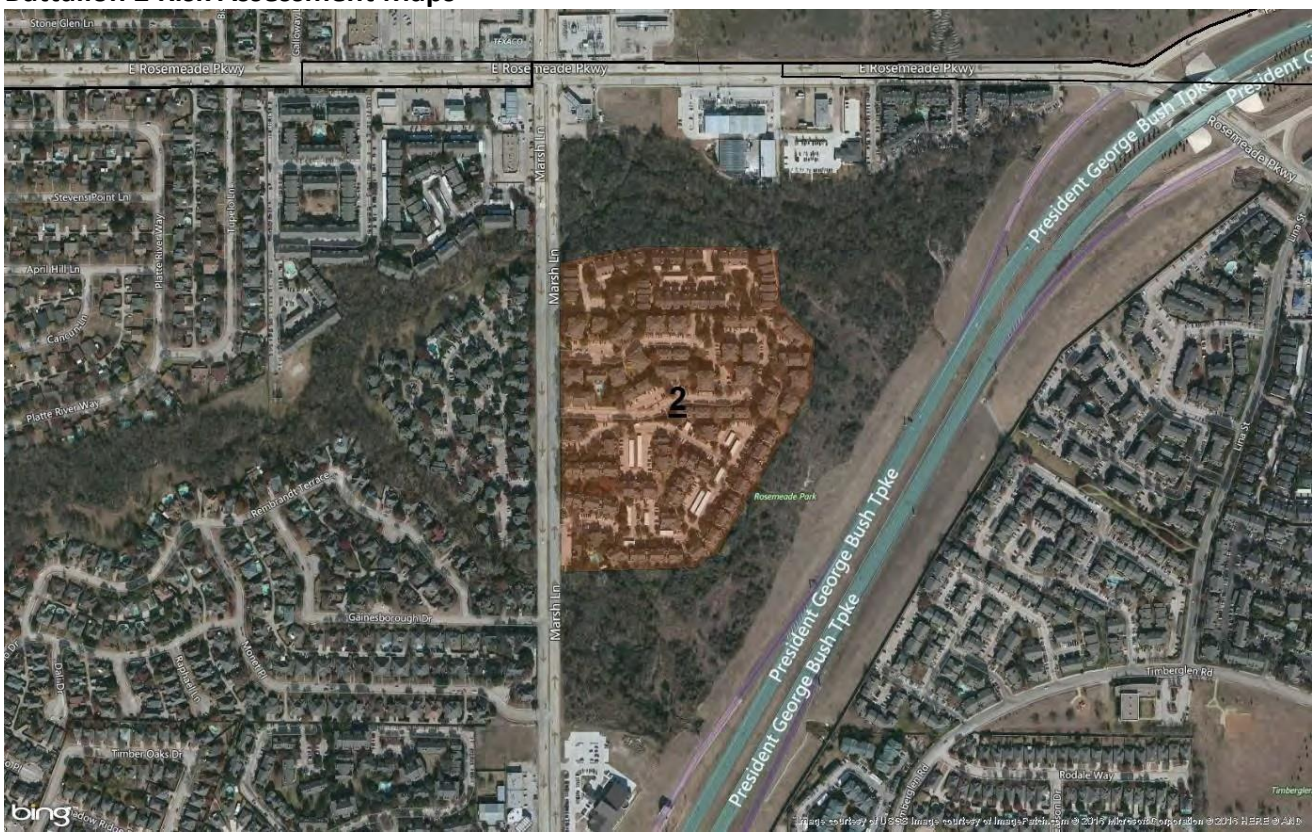
Battalion 1 Risk Assessment Maps

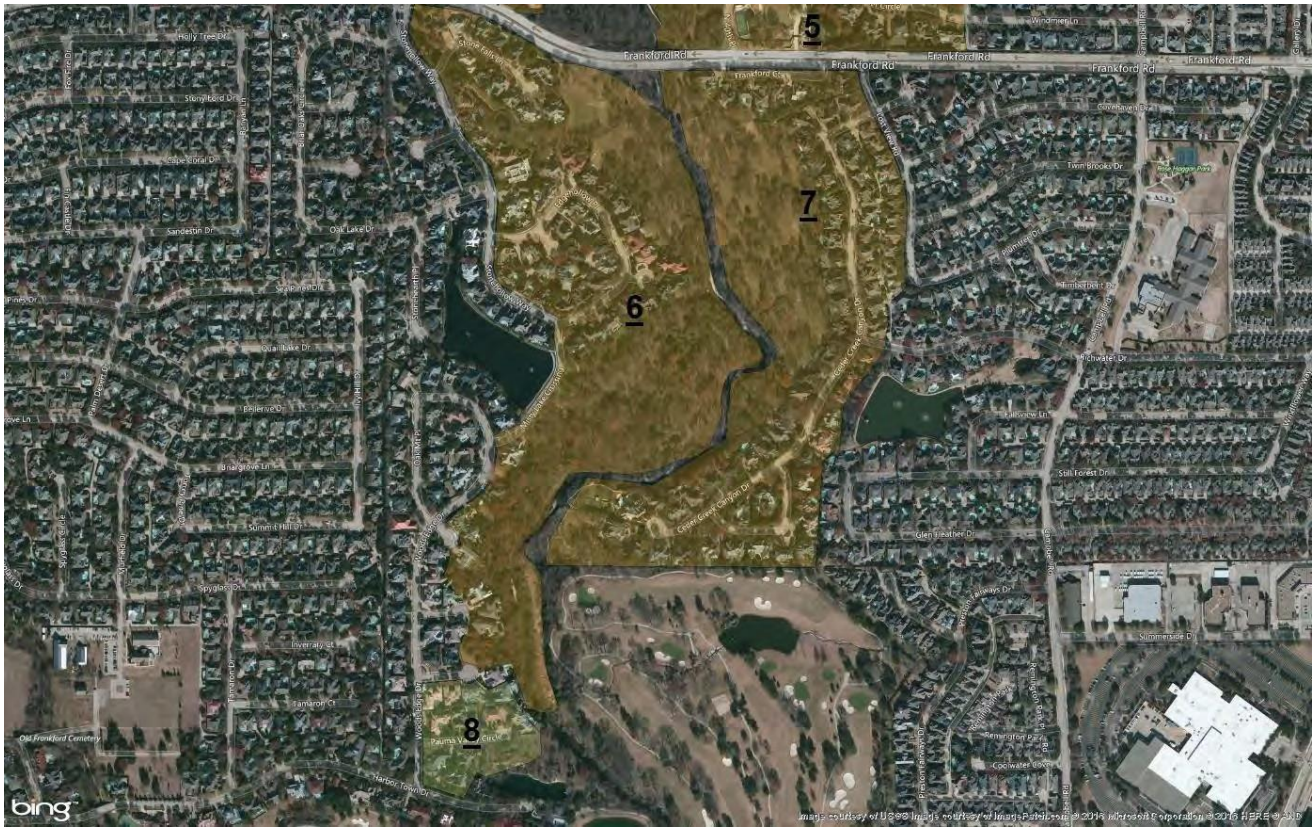
Battalion 2 Overview Map

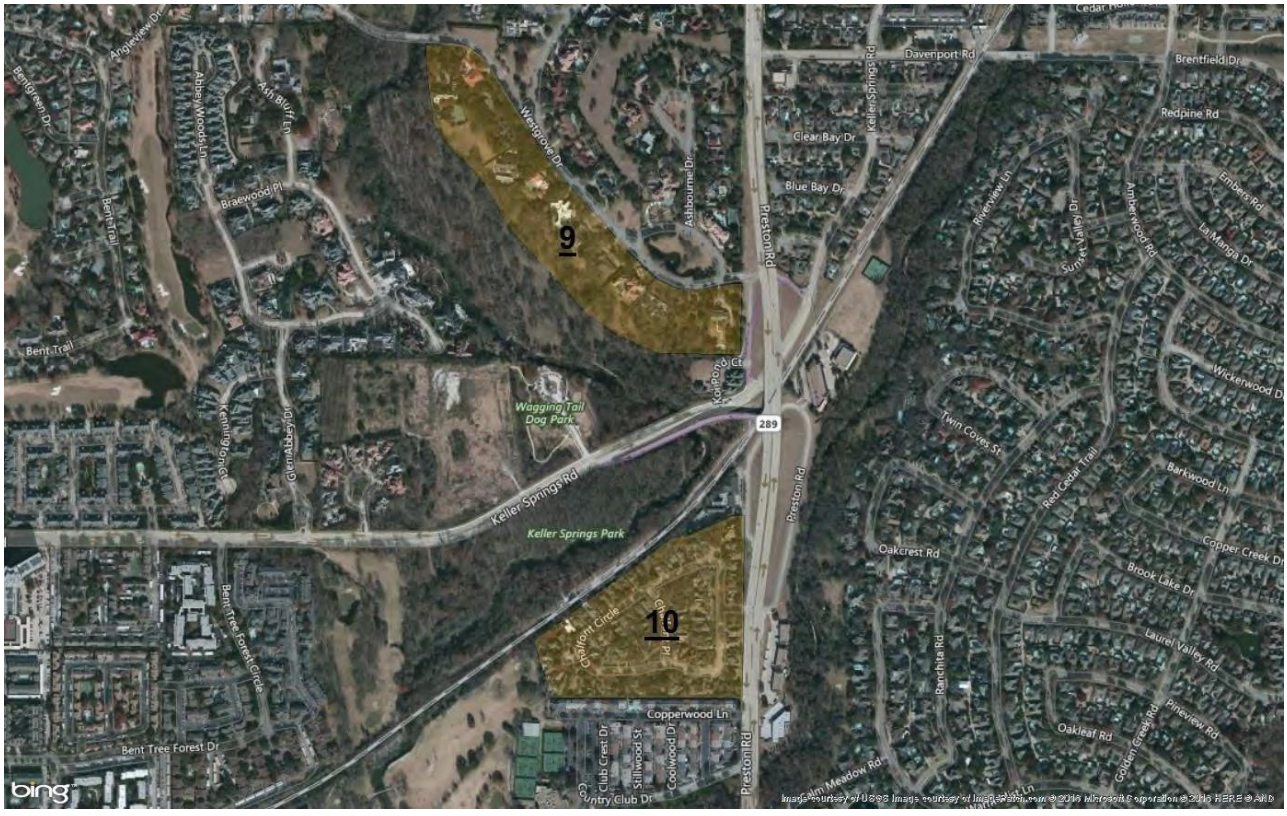


FID	Community Name	Fire Protection District	Total Hazard Rating #
2	Rock Creek Apt.	2	61
3	Landmark at Gleneagles	2	19
4	Northhaven Rd.	2	39
5	Meadowcreek-Northwood Rd.	2	45
6	Chalfont Place	2	44
7	Westgrove-Preston Tr.	2	39
8	Thames Ct.	2	25
9	Harbord Oaks	2	49
10	Pauma Valley Circle	2	51
11	Oak Dale	2	44
12	Tennington Park/Creekside	2	49
13	Heatherstone/Georgian/Crossings	2	33
85	Haddington Ln.	2	44

Battalion 2 Risk Assessment Maps




5
7
6
8
Frankford Rd
Old Frankford Cemetery
bing

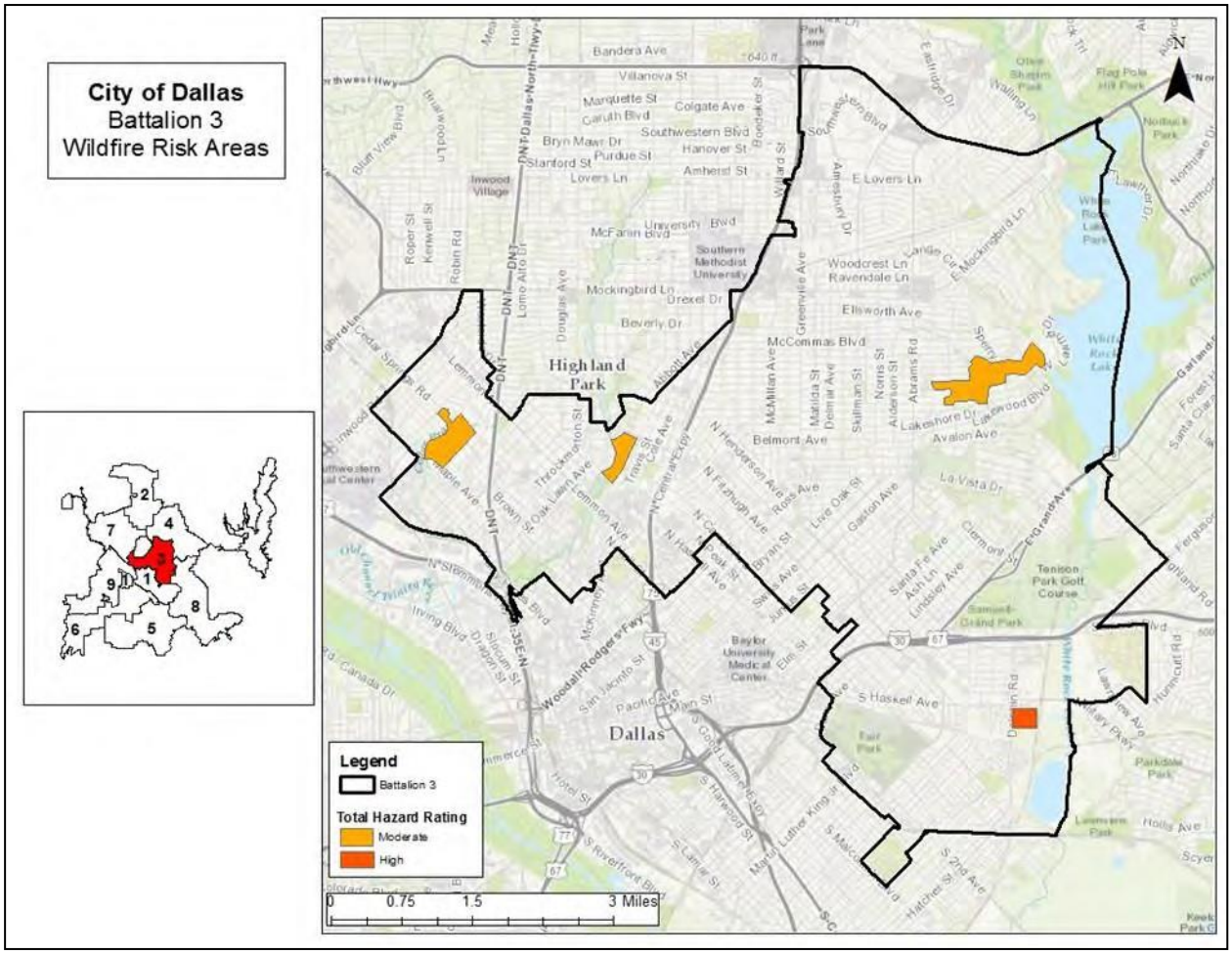

9
10
Wagging Tail Dog Park
Keller Springs Park
Keller Springs Rd
Preston Rd
289
Davenport Rd
Bent Tree Forest Dr
Bent Tree Forest Circle
Copperwood Ln
bing


Belt Line Rd
Belt Line Rd
Belt Line Rd
Belt Line Rd
11
Preston Rd
Alexis Dr
Alexis Dr
Copperhill Dr
Fox Trail
Liberty Hill St
Bellbrook Way
Havenshire Pl
Driscoll Pl
bing


Belt Line Rd
Belt Line Rd
Belt Line Rd
Belt Line Rd
12
Hillcrest Rd
Spring Valley Rd
Spring Valley Rd
Meadowcreek Dr
Cliffbrook Dr
Mossvine Circle
Midcrest Dr
Gateridge Dr
Briarmeade Dr
Heatherknoll Dr
Stonehill Dr
Glenhurst Dr
Crestpoint Dr
Briarcove Dr
Oakbluff Dr
Ivy Glen Dr
bing


Greenwich Ln
Crest Way Dr
Forest Lakes Ln
Wooded Gate Dr
Hampstead Ln
Greenwich Ln
Stone Forest Dr
Brook Hill Ln
Hill Forest Dr
Forest Ln
Forest Ln
Forest Ln
Preston Haven Dr
Pine Forest Dr
Parwen Dr
High Forest Dr
El Hara Circle
Lloyd Valley Ln
Hillhaven Dr
N Janmar Dr
Kenny Ln
Kenshire Ln
Wander Ln
Forest Creek Dr
Robledo Dr
13
Hillcrest Rd
S Janmar Dr
Jasmine Ln
W Ricks Circle
Boca Raton Dr
Royalshire Dr
Baxtershire Dr
Parkchester Dr
Crest Brook Dr
E Ricks Circle
Eudora Dr
Chicot Dr
Belmead Dr
St Judes Dr
Mason Dells Dr
Tunica Dr
Yamini Dr
Yamini Dr
Pebbledowne Dr
Midbury Dr
Northaven Rd
Northaven Rd
W Ricks Circle
Midbury Dr
Royalcrest Dr
Lawnhaven Rd
Edgemere Rd
Royalcrest Dr
Northaven Rd
St Michaels Dr
Pebbledowne Dr
Currin Dr
Hillcrest Rd
bing
Rex Dr
Tibbs St

Battalion 3 Overview Map

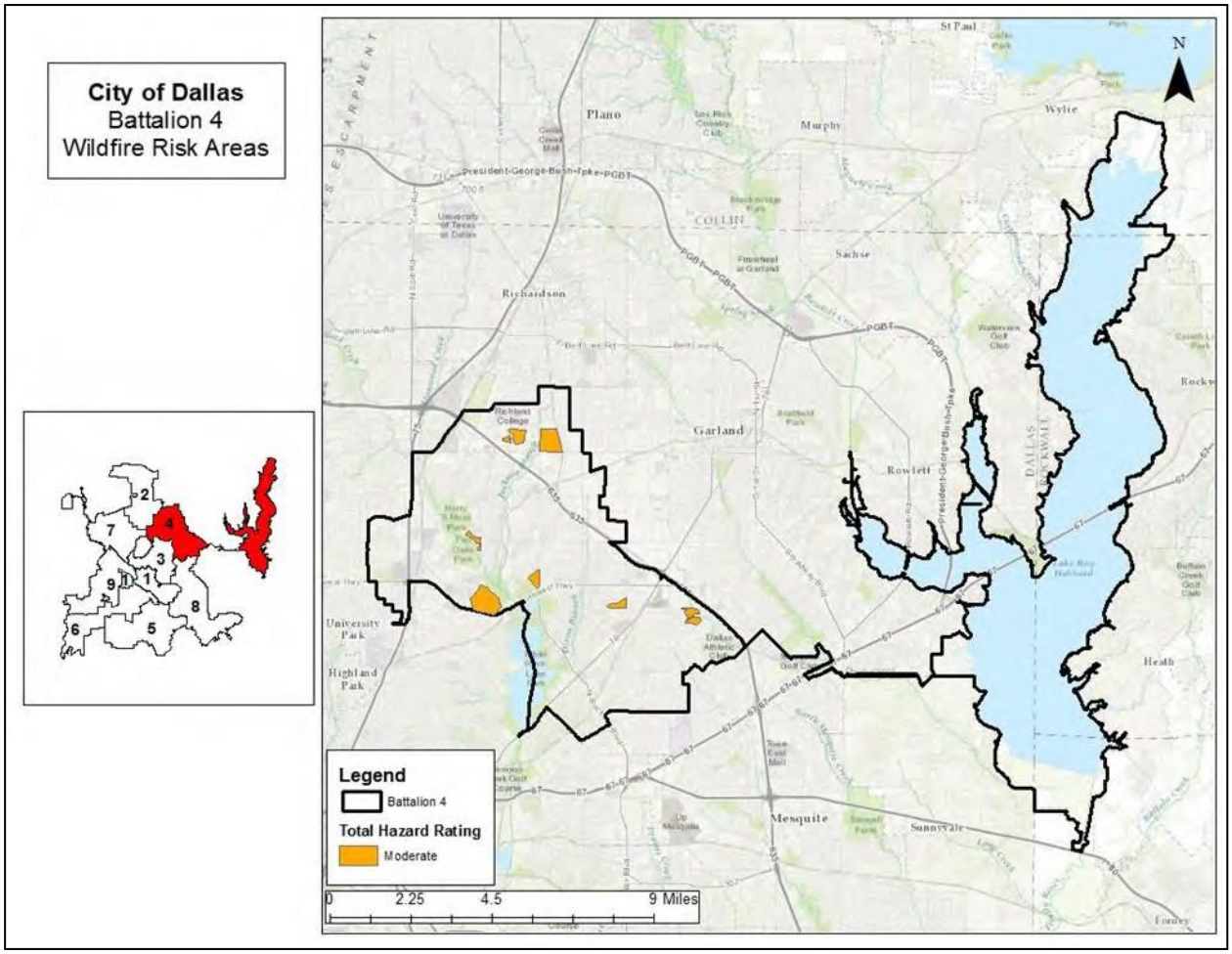


FID	Community Name	Fire Protection District	Total Hazard Rating #
14	Terrell St.	3	66
15	Maple Springs	3	39
16	Turtle Creek	3	36
17	Lakewood	3	43

Battalion 3 Risk Assessment Maps

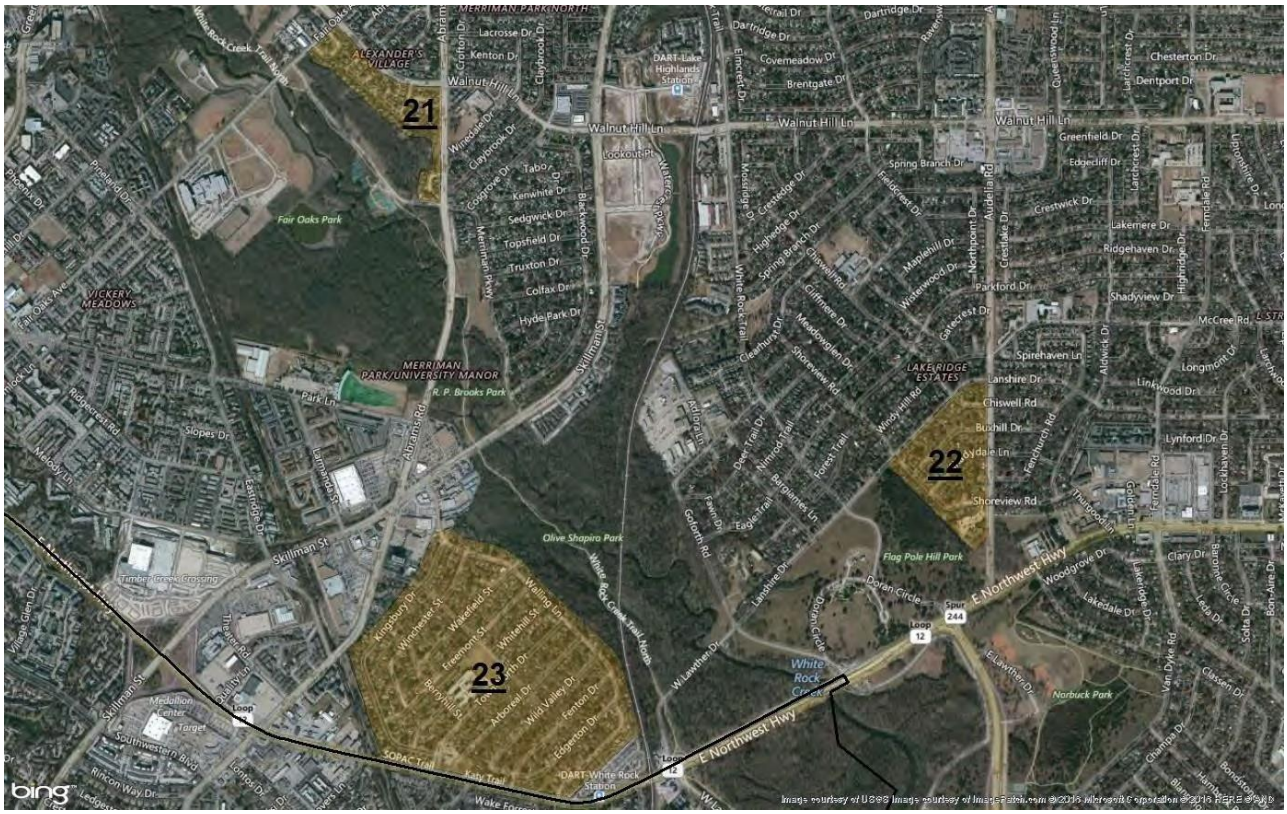

17

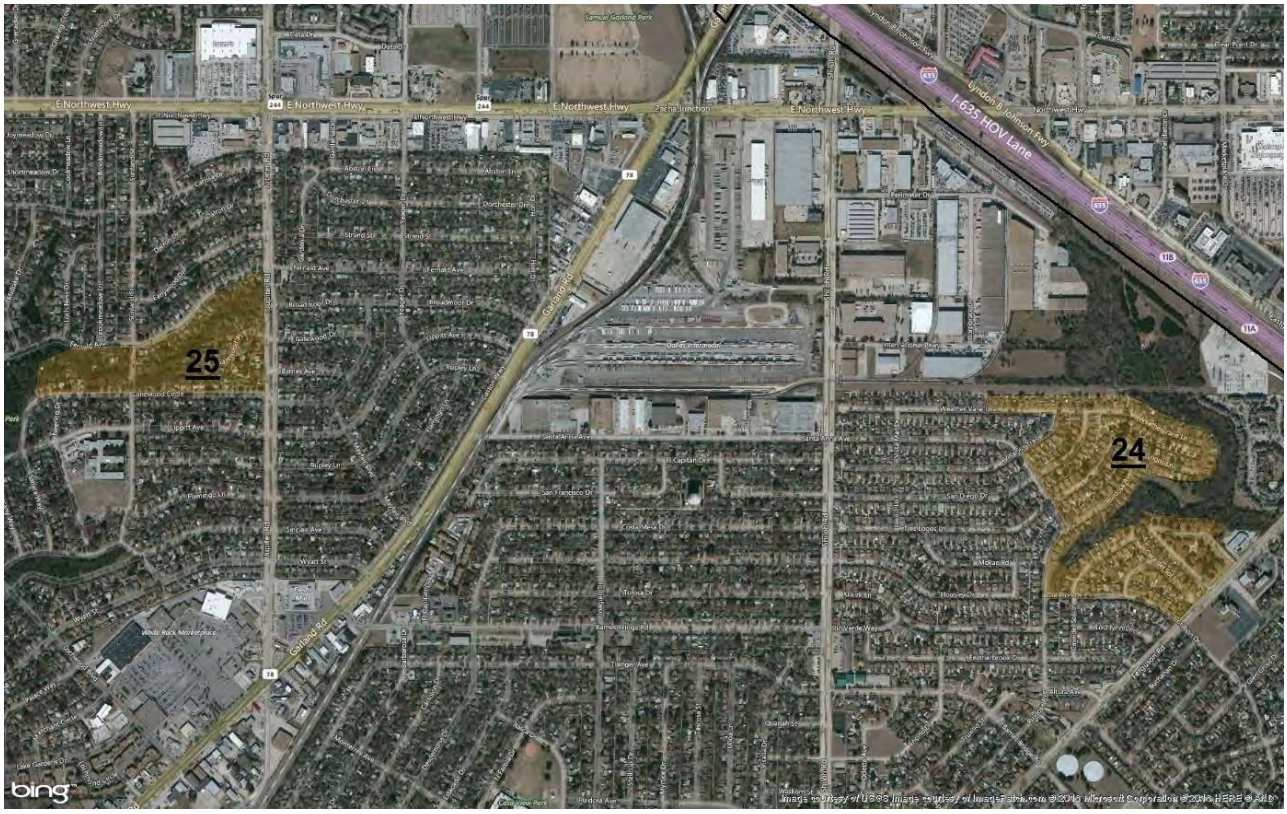
Battalion 4 Overview Map



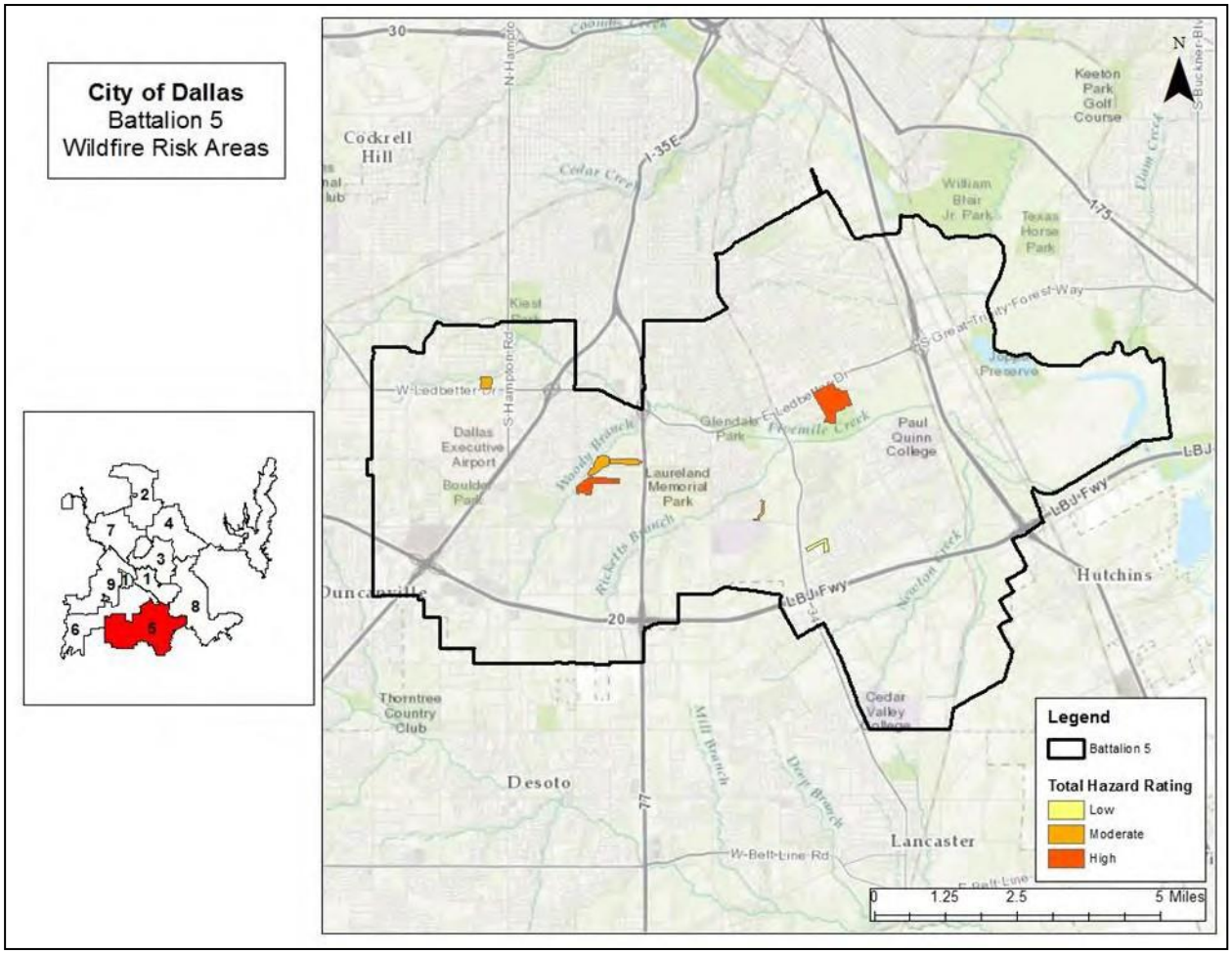
FID	Community Name	Fire Protection District	Total Hazard Rating #
18	Woodbridge/Creekspan	4	34
19	Country Forest/Jackson Meadow	4	36
20	Baseline Dr. & Center Court Dr.	4	35
21	Sanshire	4	45
22	Shoreview	4	56
23	Walling Ln.	4	51
24	Weather Vane Ln.	4	41
25	Lochwood	4	42

Battalion 4 Risk Assessment Maps



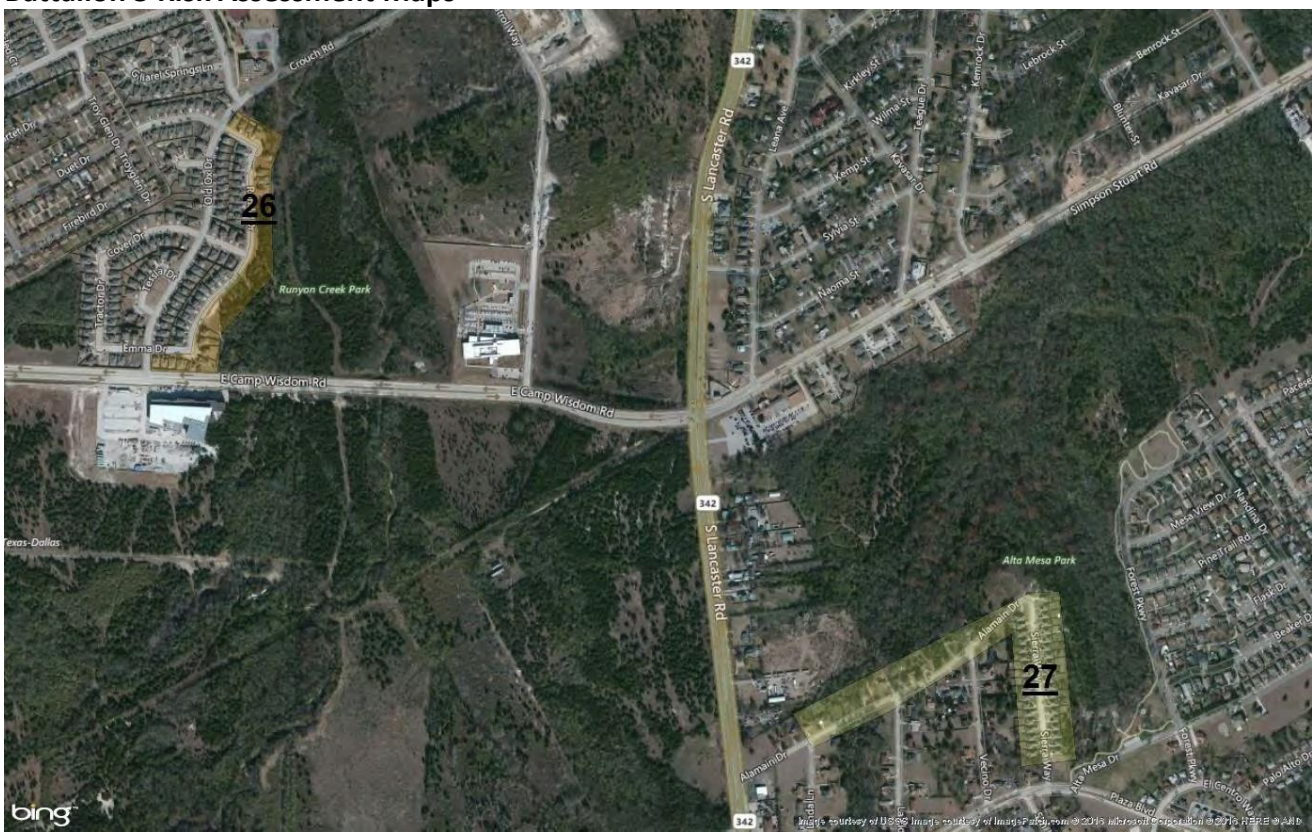

E Northwest Hwy
E Northwest Hwy
E Northwest Hwy
E Northwest Hwy
Lyndon B Johnson Hwy
I-635 HOV Lane
Garland Rd
Garland Rd
25
24
bing

Battalion 5 Overview Map



FID	Community Name	Fire Protection District	Total Hazard Rating #
26	Rondo Dr.	5	36
27	Sierra Way	5	27
28	Deep Hill Circle	5	48
29	Forest Haven	5	43
30	Burrell Dr.	5	34
31	Twin Fallas	5	73
32	Talco Dr./56th Street	5	73

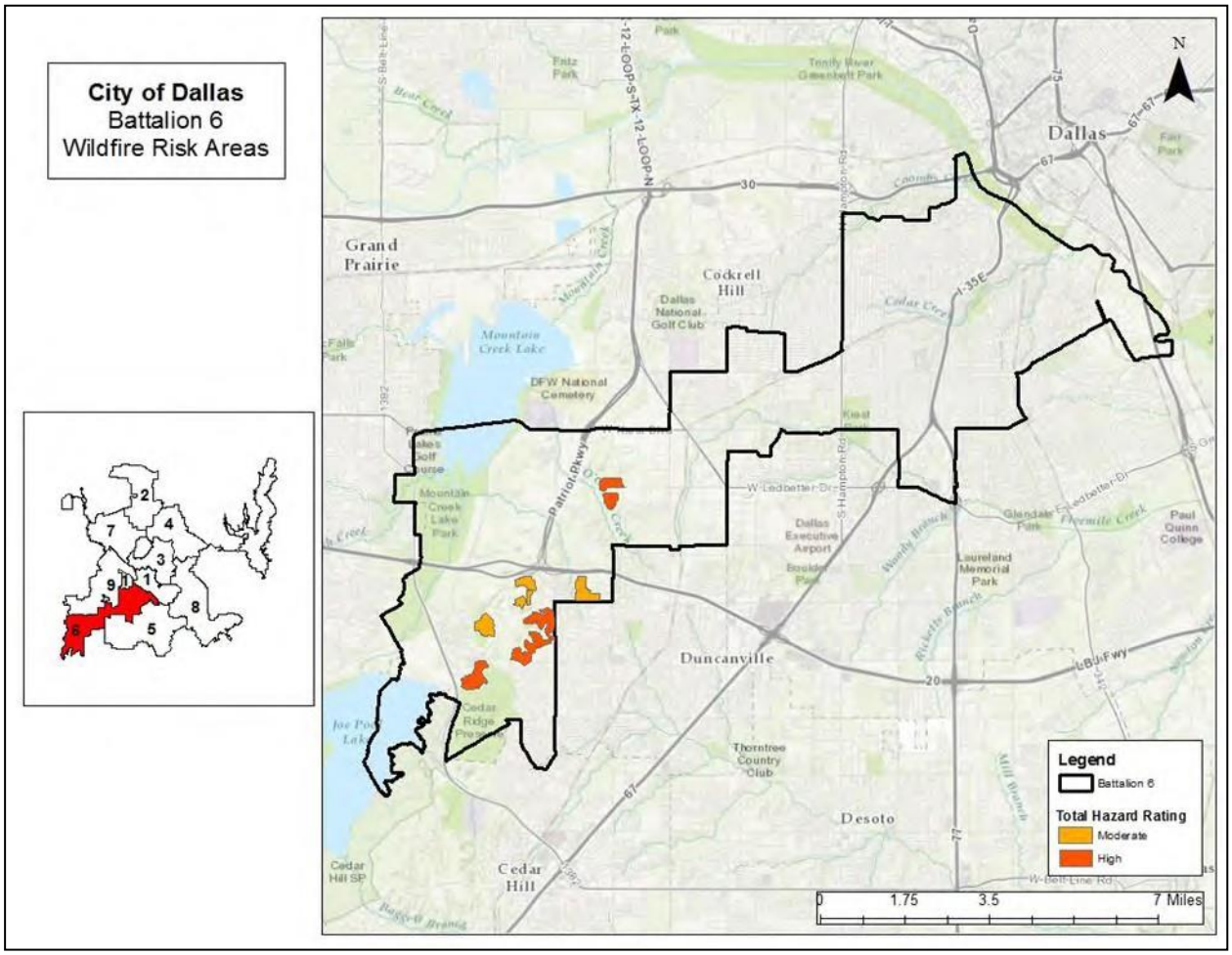
Battalion 5 Risk Assessment Maps




Clear Fork Dr
Timber Dell Ln
Glen Oaks Blvd
Wood River Rd
Hammerking Rd
Los Cabos Dr
Mazatlan Ave
Robin Glen Dr
Willow Glen Dr
Spring Glen Dr
Glen Stone Ln
Stillmeadow Rd
S Polk St
Fox Hill Ln
29
30
W Laureland Rd
Hunters View Ln
Embrey Dr
Greenspan Ave
W Red Bird Ln
Annarose Dr
Twin Falls Park
Mannington Dr
31
Rock Canyon Trail
Forest Knoll Trail
Elston Dr
Racine Dr
Bar Harbor Dr
Wolf Creek Trail
Autumn Woods Trail
W Millett Dr
S RL Thornton Fwy
421A
420
35E
77
bing


Veterans Park
Maynard Jackson Park
E Ledbetter Dr
Veterans Dr
Corrigan Ave
Loop 12
Corrigan Dr
Stag Rd
Bonnie View Rd
Corrigan Ct
56th St
32
Southwick Dr
Cardiff St
Lauderdale St
55th St
Randolph St
Talco Dr
E Pentagon Pkwy
Arden Rd
Wolcott Dr
Arden Terrace Park
Highland Woods Dr
bing

Battalion 6 Overview Map

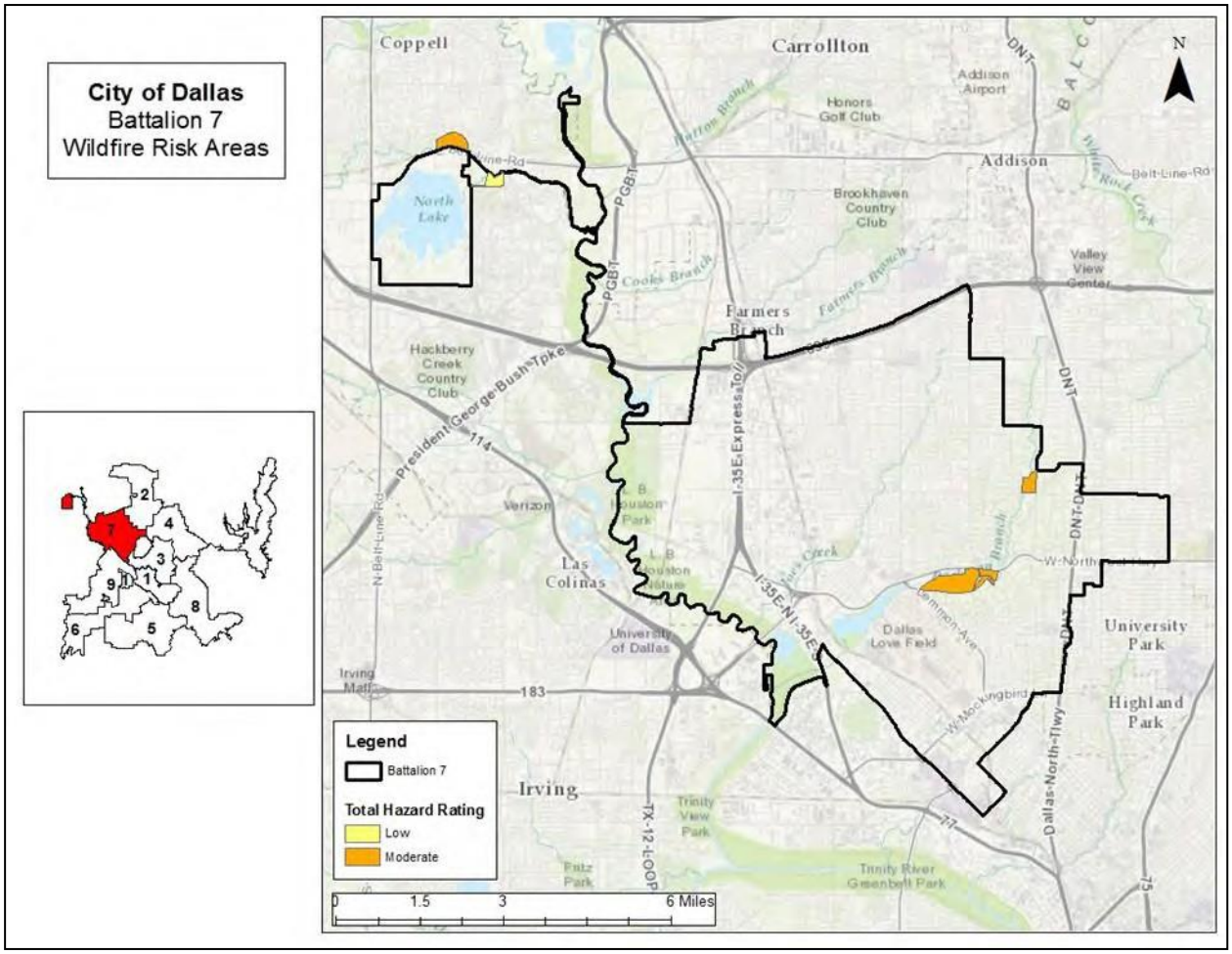


FID	Community Name	Fire Protection District	Total Hazard Rating #
33	Mountain Vista/Mountain Hollow	6	65
34	Whispering Cedars Camp (Girl Scouts)	6	90
35	Ledbetter/Fomsworth	6	78
36	Cedar Ridge	6	51
37	N. Camp Wisdom Dr.	6	53
38	Nyman Dr.	6	53
39	Timberbrook	6	44
40	Camp Wisdom Estates	6	48
41	Mountain Creek Meadows	6	61
84	Camp Wisdom (Boy Scouts)	6	90

Battalion 6 Risk Assessment Maps


38
36
39
37
40
33
41
W Camp Wisdom Rd
Eagle Ford Dr
Mountain Creek Pkwy
Clark Rd
W Wheatland Rd
S Wheatland Rd
S Belt Line Rd
Mansfield Rd
Emerald Lake Park
Fox Hollow Park
Sugarberry Park
Park in the Woods
Royal Cedar Dr
Panavision Trail
Summit Park Dr
Grandville Dr
Wild Briar Dr
Deep Green Dr
Canyon Lake Dr
Creekbluff Dr
Saddleridge Dr
Florina Pkwy
Bluestem Rd
Elderberry Ln
Bayberry Ln
Christie Ln
Sierra Blanca Dr
Elsmere Dr
Plateau Dr
Fairlawn Dr
W Ridge Dr
Dove Creek Dr
Quail Run
Lansdale Dr
Coventry Ln
Redman Ln
Wellington Dr
Huntington Dr
Westminister Ln
Big Stone Gap Rd
Springwood Ln
Clarkridge Dr
Clarkwood Dr
Ridge Center Dr
N Casa Grande Circle
N Cedar Ridge Dr
S Cedar Ridge Dr
bing

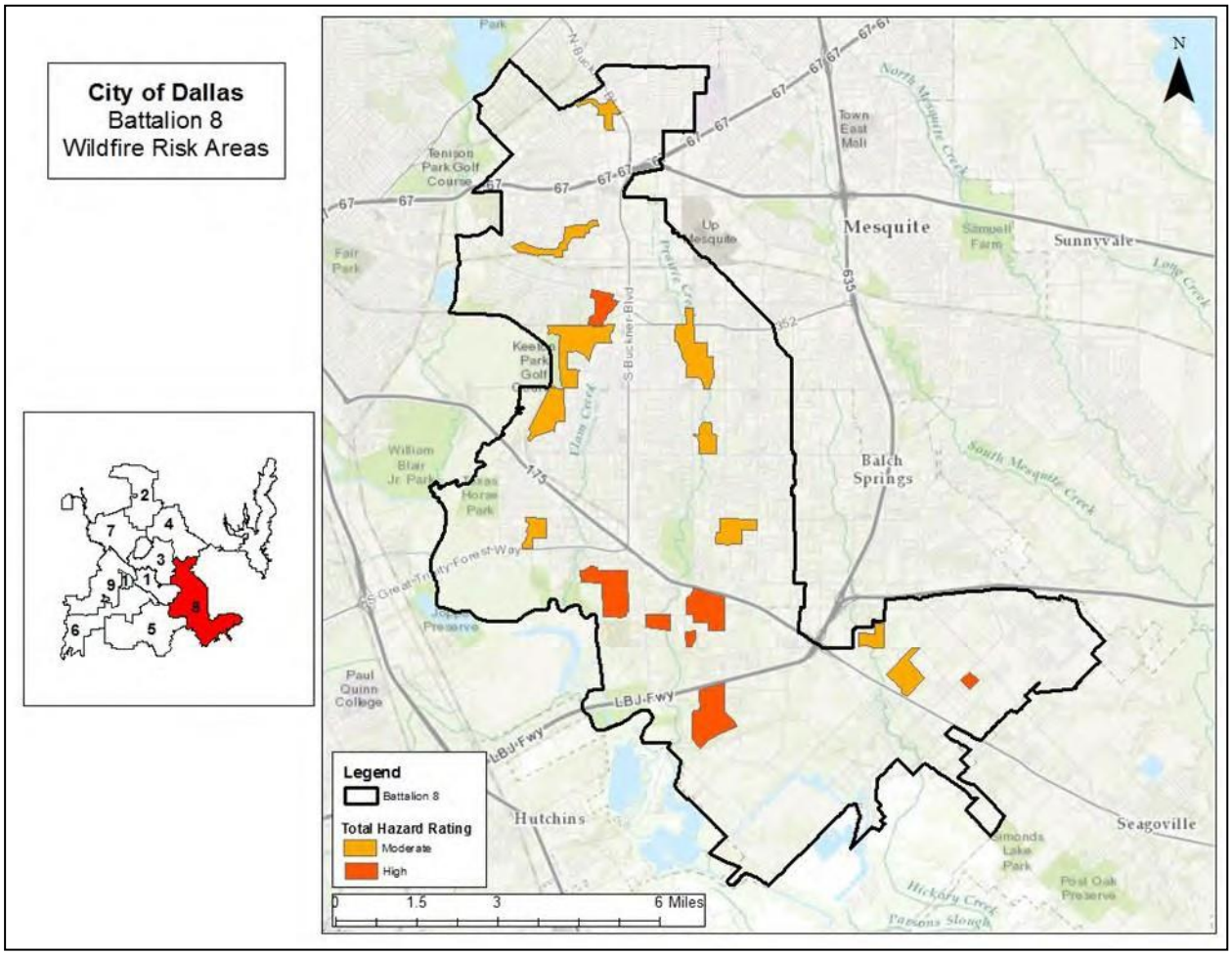
Battalion 7 Overview Map



FID	Community Name	Fire Protection District	Total Hazard Rating #
42	Surrey Oaks	7	58
43	Bretton	7	51
44	Watauga	7	52
45	Cochran Chapel Rd.	7	42
46	Hemmingway Court	7	28
47	Northlake Woodlands	7	44

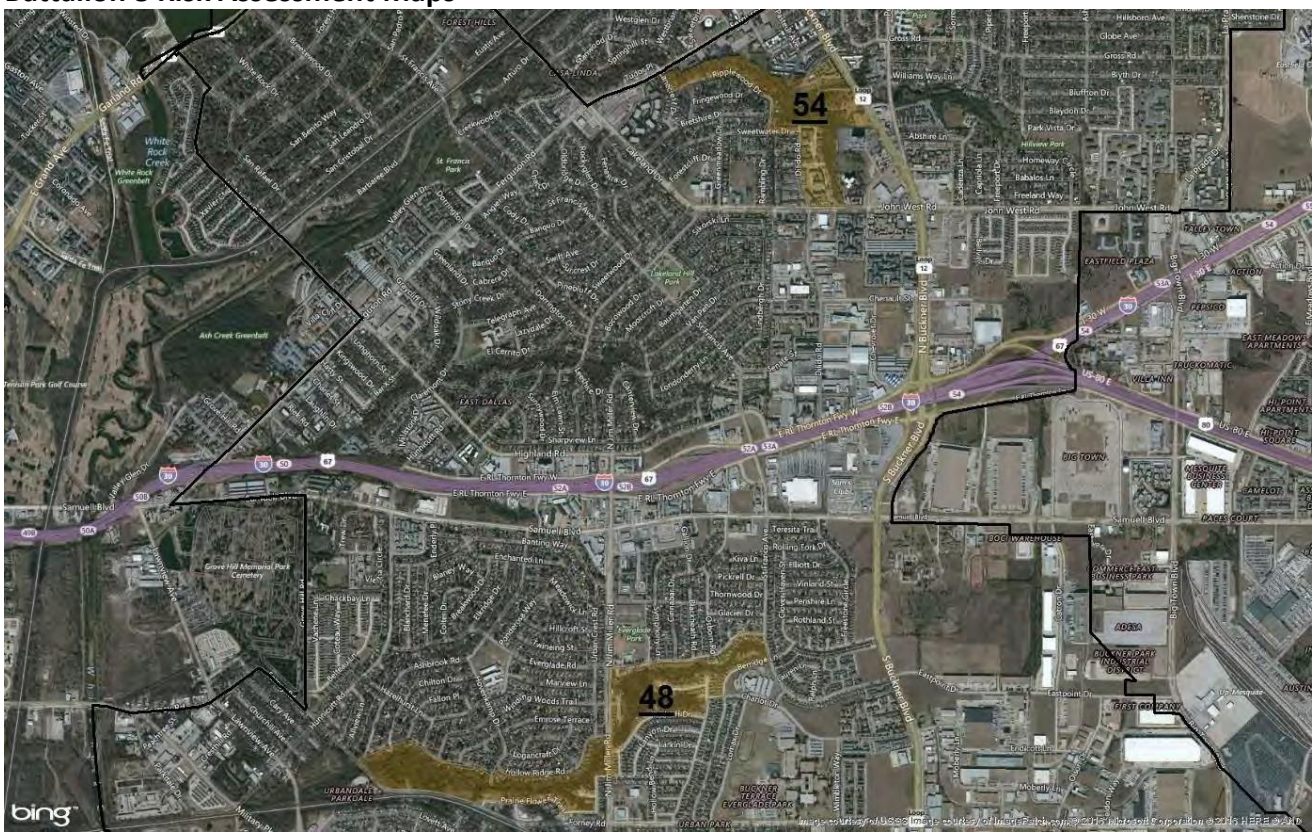
Battalion 7 Risk Assessment Maps

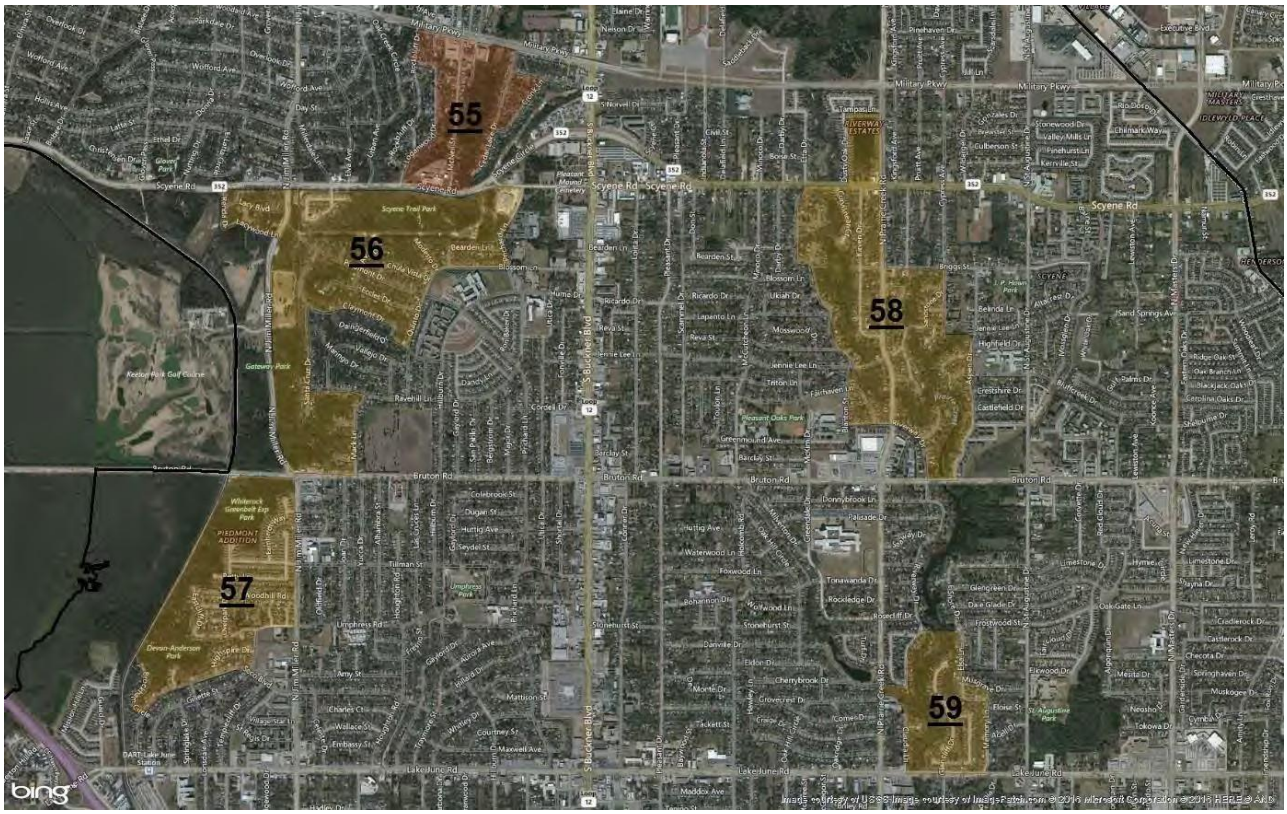
Battalion 8 Overview Map

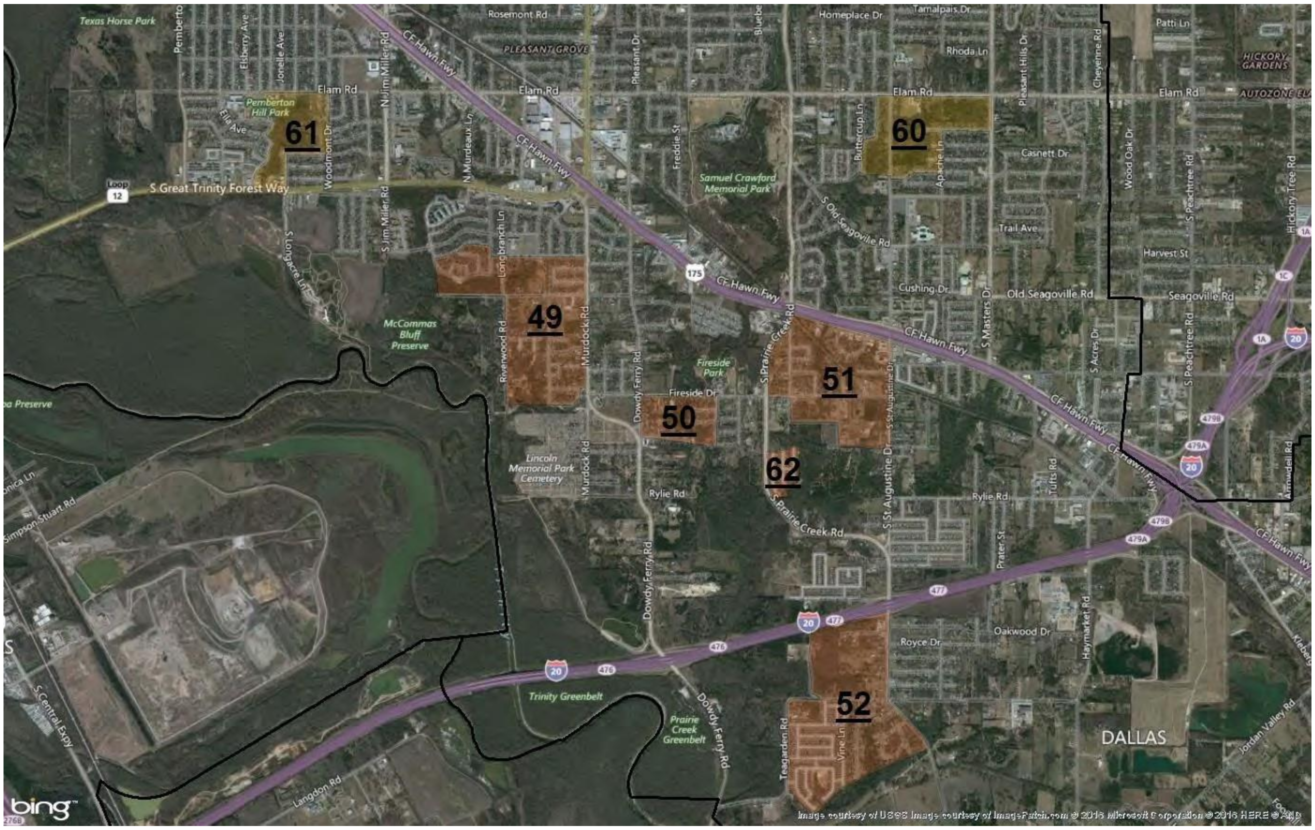


FID	Community Name	Fire Protection District	Total Hazard Rating #
48	North Jim Miller/Everglade Rd.	8	60
49	Woodland Springs	8	66
50	Midland/Prairie Hill	8	69
51	Dorinda Cir./Oslo Ln.	8	75
52	Teagarden	8	67
53	Rolling Hills	8	63
54	Eastwood Hills	8	47
55	McNeil St./Cedar Lake Dr.	8	64
56	Scyene/Gateway	8	52
57	Piedmont	8	42
58	Prairie Creek	8	55
59	Glencriff Dr.	8	36
60	Buttercup Ln./Longdowne Dr.	8	43
61	Pemberton	8	42
62	Catalonia	8	69
63	Smoketree Ln.	8	52
64	Shepherd Ln.	8	52

Battalion 8 Risk Assessment Maps

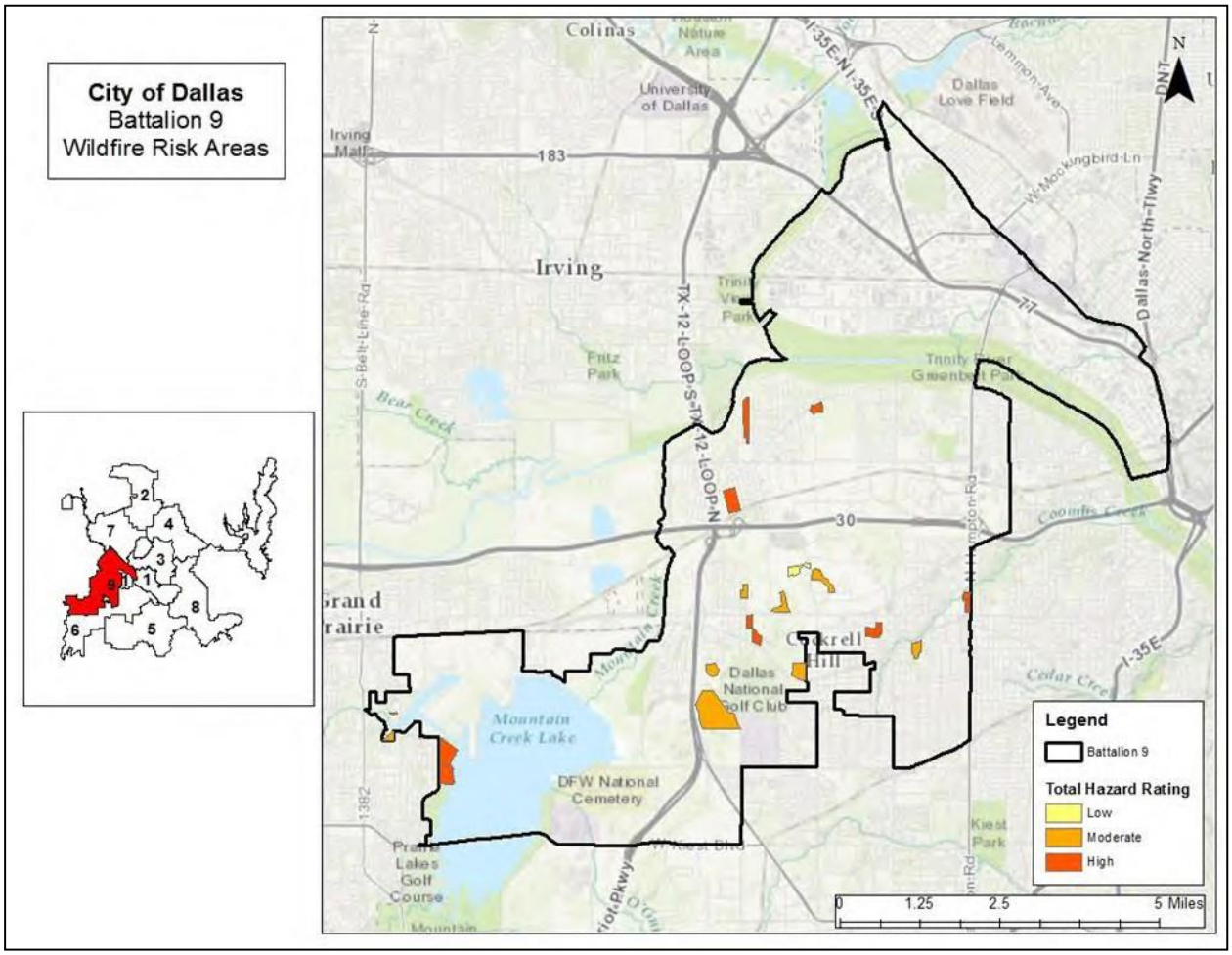





61
60
49
50
51
62
52
Elam Rd
S Great Trinity Forest Way
C F Hawn Fwy
McCommas Bluff Preserve
Lincoln Memorial Park Cemetery
Samuel Crawford Memorial Park
Fireside Park
Trinity Greenbelt
Prairie Creek Greenbelt
Rylie Rd
Prairie Creek Rd
Old Seagoville Rd
DALLAS
bing

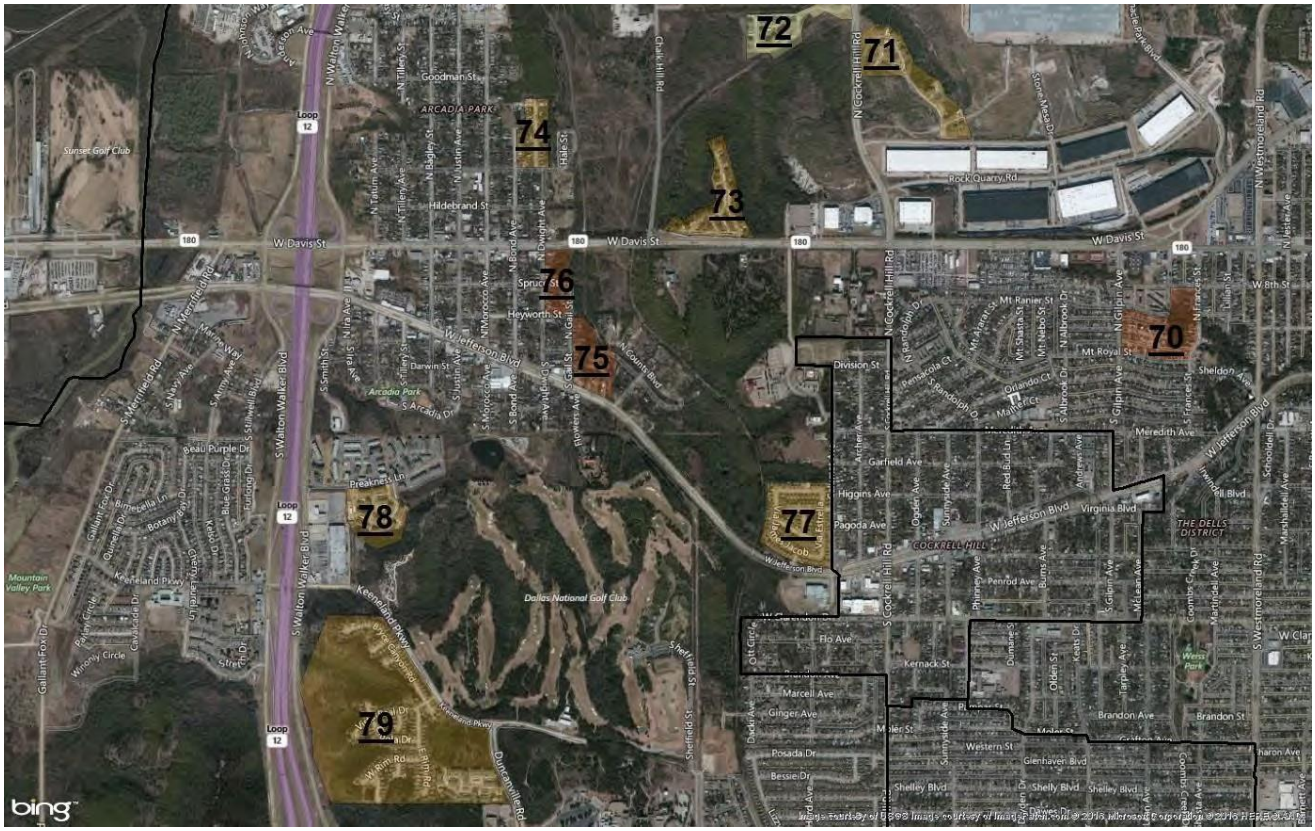

64
63
53
Rylie Crest Dr
Ravenview Rd
Seagoville Rd
S Belt Line Rd
Kleberg Park
CF Hawn Fwy
bing

Battalion 9 Overview Map



FID	Community Name	Fire Protection District	Total Hazard Rating #
65	Tallyho	9	77
66	Mican	9	72
67	Iroquois	9	89
68	N. Boulevard Terrace	9	67
69	Ravinia Heights	9	59
70	Mt. Rainier	9	75
71	Pinnacle Ridge Apts.	9	43
72	Churchhill at Pinnacle Park Apts.	9	23
73	Vistas at Pinnacle Park Apts.	9	46
74	Susan (Dwight)	9	48
75	Gail/Spruce	9	62
76	Gail/Spruce	9	62
77	Via James Jacob	9	53
78	Artisan Ridge	9	32
79	Mariposa Villa Apts.	9	34
80	Bayfront (Castaway)	9	61
81	Nina Drive	9	67
82	Ridgeview	9	44
83	Cielo Vista	9	57

Battalion 9 Risk Assessment Maps


72
71
74
73
76
75
70
78
77
79
Dallas National Golf Club
COCKRELL HILL
THE DELLS DISTRICT
W Davis St
Loop 12
bing


83
82
81
80
Mountain Creek
S Belt Line Rd
bing

6 | Community Prescription

Mitigation efforts in the WUI can reduce the risk of wildfire to the human environment. By undertaking mitigation efforts, a community is reducing their risk from wildfire, is able to recover from wildfire quickly and with less financial impacts, and is contributing to firefighter and public safety.

6.1 Strategies for Reducing Risk within the Communities at Risk

Wildfire plays an important role in the natural ecosystem within the City of Dallas. We want to prevent human-caused wildfire and minimize risk to lives, property, and infrastructure during 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 invasive vegetation located close to structures, and inadequate or non-existent 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 education and knowledge regarding fire-safe behaviors and practices
- Communities at risk that have expanded (homes, infrastructure, and assets) to the edges of large areas of old-growth hazard vegetation types

This plan recommends the following strategies to mitigate these risks:

- With support of the City Forester and Dallas Water Utilities, identify and establish access routes into the Trinity Forest and other wildland areas in the city. These routes will be large enough for a type 6 fire engine to move into the wildland areas.
- Once routes are established, begin mechanical fuel reduction projects starting with the most hazardous areas which will be identified by; (1) proximity to at-risk communities (2) heavy fuel load areas. These projects will result in reduction of wildfire impact on the city and improve visibility in wildland areas.
- Develop and implement focused community meetings, programs, and wildfire safety education efforts directed at structure and property owners in the WUI areas. Focus of topics will include:
    - Prevention of accidental starts
    - Creation and maintenance of defensible space
    - Fire-safe landscaping
    - Reduction of structural ignitability, and
    - Strategies for safety in a wildfire incident

6.2 Causes of Structure Ignition

Structures in or near a wildfire event can ignite for a number of reasons, including direct exposure to flame, radiant heat, impact from falling trees that are burning, and ember intrusion. The most significant cause of structural ignition, by both direct and indirect effect, is burning embers. In the high winds accompanying and, often triggered by wildfires, embers can be carried miles in front of the main fire. These embers can ignite grass, brush, leaf piles, landscaping and firewood piles, and can accumulate on wooden decks or under eaves. Without proper screening, they can also penetrate into the attic and ignite homes long after the firefight seems over.

6.2.1 Creating Ignition-Resistant Structures

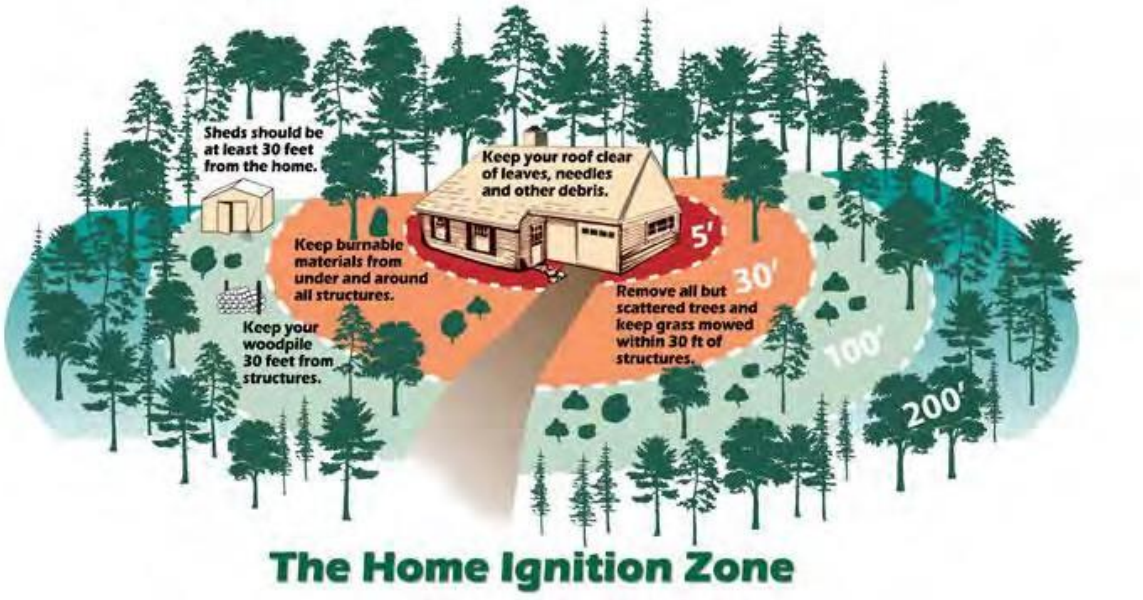
A multi-faceted approach is recommended to effectively protect structures from ignition during a wildfire event. A combination of defensible space (minimum 30 feet from a wooded area), fire-resistant material, and fire-resistant structure design can greatly increase the odds of survival in a wildfire event.

Recommendations to improve structure survivability in a wildfire are:

- **Roofing Materials**
  The roofing materials must be resistant to the heat from burning embers – a Class A-rated roof, self-extinguishing if possible (this means that a burning ember will not burn through the roofing material and catch the wooden roof deck below it on fire). This is a key element of structure defense, without which the structure's risk increases dramatically.
- **Structural Extension and Openings**
  Awnings, decks and deck covers, patio covers, porches, eaves and open exterior stairways can provide a place where embers accumulate and ignite the extended structure, which can then ignite the main structure. Also, improperly screened attic or crawlspace vents or soffits can allow embers to enter and ignite the structure. Chimneys, open windows or single-pane windows that break easily when stressed by the heat of a wildfire can also allow embers to enter.
- **Firefighting Equipment Access to the Structure**
  Roads, bridges, and driveways leading to a structure must be adequate in width, overhead clearance, and structural strength to accommodate firefighting equipment.
- **Defensible Space Around the Structure**
  Defensible space, when properly done, eliminates many of the causes of structural ignition. Essentially, it is the trimming and/or removal of potential sources of fuel for fire near the structure, including flammable landscaping, firewood, propane tanks, trees or overhanging limbs, wooden fences, trellises or other easily ignitable wood structures or objects. It should be understood , that "bare ground" landscaping is <u>not</u> the objective here – rather, the landscape is carefully addressed to trim or remove "ladder fuels" that can carry fire from one shrub or tree to the next, and trees or shrubs that present direct risks due to their proximity to structures are trimmed or removed (with appropriate permits, if required).

The **Home Ignition Zone (HIZ)** includes the house and its immediate surroundings (within 200 ft.) nor to the property boundary. The vegetation surrounding the home determines the home's susceptibility to ignition during wildfire. To minimize the chance of a home ignition, homeowners should eliminate a wildfire's potential relationship with their house. This can be accomplished by interrupting the natural path a fire takes. HIZ is broken down into 3 zones:

- **Zone 1: The Foundation—30 feet:** This area should have plants that are low to the ground, green and healthy. Homeowners should avoid large clumps of plants that can generate high heat. Noncombustible material such as rock or stone should be used instead of mulch around the home's foundation to create a buffer between the grass and foundation. The best choices of trees are deciduous species with wide, broad leaves. Shrubbery and bushes should be placed away from trees and planted in islands or groupings; this prevents fire from climbing through the lower vegetation into the canopy.
- **Zone 2: 30—100 feet:** More plants can be present in this area. Firewood, small brush piles, or stacks of building materials should be moved to this zone or further away. 30 feet spacing between clusters of 2-3 trees should be maintained along with fuel breaks such as, driveways, gravel walkways, and lawns. Trees in this zone need to be pruned to height of 6-10 feet from ground.
- **Zone 3: 100—200 feet:** Trees in this zone should be thinned to eliminate overlapping canopies, although less space is required than in zone 2. Smaller confers growing between taller trees should be removed along with heavy accumulations of woody debris.



Education is an important aspect of creating ignition-resistant homes and structures within the communities at risk. An outreach program to homeowners, as well as providing educational and reference material for contractors, builders, and architects is recommended.

6.2.2 Firewise Communities

Many homes in the at-risk communities are located within the HIZ of their neighbor's home. As such, a community approach to mitigation and reducing risk to wildfire should be taken. The Firewise/Communities USA program encourages communities to develop an action plan that guides residential risk reduction activities, while engaging and encouraging neighbors to become more active participants in building a safer place to live. By encouraging communities to work with Dallas Fire Rescue Department and Texas A&M Forest Service through the Firewise Communities/USA program, efforts to reduce wildfire risk can be maximized thus resulting in a lessened negative impact to lives and property.

Fire-prone and at-risk communities can earn Firewise Communities/USA recognition status by meeting the following criteria:

1. Enlisting a Wildland Urban Interface Specialist to complete an assessment and create a plan that identifies locally agreed-upon solutions that the community can implement.
2. Form a board or committee, which maintains the Firewise Community program and tracks its progress. Meet a minimum of once per year.
3. Hold a local Firewise Day each year that is dedicated to a local Firewise project.
4. Invest a minimum of $2.00 per capita in local Firewise efforts. (Work by municipal employees or volunteers using municipal and other equipment can be included, as can state/federal grants dedicated to that purpose.)
5. Submit an annual report to Firewise Communities/USA, documenting continued compliance with the program.

6.3 Hazardous Fuels Reduction

When necessary, removal and/or modification of vegetation that presents risks to homes, infrastructure, and assets within communities can be accomplished in several ways. Methods of treatment can vary and include hand crews, mechanized equipment, grazing, herbicides, and prescribed burns. Vegetation management projects are sometimes accomplished using a combination of these techniques. Regardless of the method used, vegetation management projects should include planning, oversight, and continued maintenance.

Proper planning of vegetation management projects includes careful consideration of all environmental, cultural, and historical preservation aspects. Each of these areas needs to be addressed, and proper permits, approvals and permissions acquired before any work is done on the ground. This process is engaged on a project by project basis, taking into consideration the project's activities, geographic location, and seasonal timeline.

The Trinity Forest presents a unique situation when planning fuel reduction projects due to the size and density of the forest. Fuel reduction projects such as creating shaded fuel breaks or fire breaks can dramatically reduce to spread and intensity of wildfire. Reducing the density of the fuel by thinning and trimming trees as well as removing ladder fuels can help keep fire on the ground, thereby increasing the chances for firefighters to control the fire. Determining where to administer such a specific treatment is critical. Practices implemented incorrectly and/or ignored will likely

increase the fire risk. Locations of necessary treatments should be used only after all preventative measures have been completed

Best Management Practices

Closed Canopy Woodland (Shaded Fuel Break)
A closed canopy woodland is woodland where the canopy closure is sufficient to limit growth of tall grass to less than 50% of the ground cover. The intent of creating closed canopy woodland is to reduce the chance of a surface fire transitioning into a crown fire by the reduction of vertically connected ladder fuels. The heavy shade provided by a closed forest canopy suppresses the growth of grasses and other fine volatile fuels.

- Do not prune or remove deciduous hardwood trees, thin conifers and live oaks less than 4 inches diameter, but maintain dominate tree canopy cover. Thinning should involve removing the entire specimen with focus on smaller, overtopped trees.
- Remove ladder fuels that increase the chance a surface fire will transition into a crown fire. Fallen trees, branches, or other flammable debris occurring within 4-6 feet of the ground are considered ladder fuels.
- Raise the canopy base height to taller trees by removing lower limbs to a height of 6-8 feet.

Open Canopy Woodland
The goal of creating an open canopy woodland is to reduce the chance of a crown fire traveling through a closely connected canopy. Open woodland is defined as woodland where the lack of canopy closure allows grass to cover more than 50% of the ground. If the vegetation on the property is characteristic of the open woodland or if there are open woodlands leading into closed woodlands, the following treatments apply:

- Thin the woodlands to preserve deciduous hardwood trees and remove less fire resistant species such as conifers, junipers, and live oaks that compete for the same canopy space.
- In areas consisting of mostly conifers, remove smaller-immature confers. Removing confers in the understory will reduce canopy bulk density and increase canopy base height that would otherwise contribute to a sustained crown fire.
- In areas consisting of mostly conifers, only remove conifers in the overstory where trees branches overlap, again, percent canopy cover should remain the same. Promoting fewer, but larger trees will reduce canopy bulk density near the ground reducing the likelihood of a sustained crown fire.

Debris Removal
The debris or slash created from fuel reduction activities will create an increase fire risk and must be eliminated throughout the duration of the treatment. Debris reduction methods include:

- Physical removal of all debris or slash from the treatment site
- Chip all slash on site and leave the remaining chips in piles not to exceed 6-feet in diameter and 3-feet in height

- Chip all slash on site and leave the remaining chips in contour rows not to exceed 1 foot wide and 1 foot in height

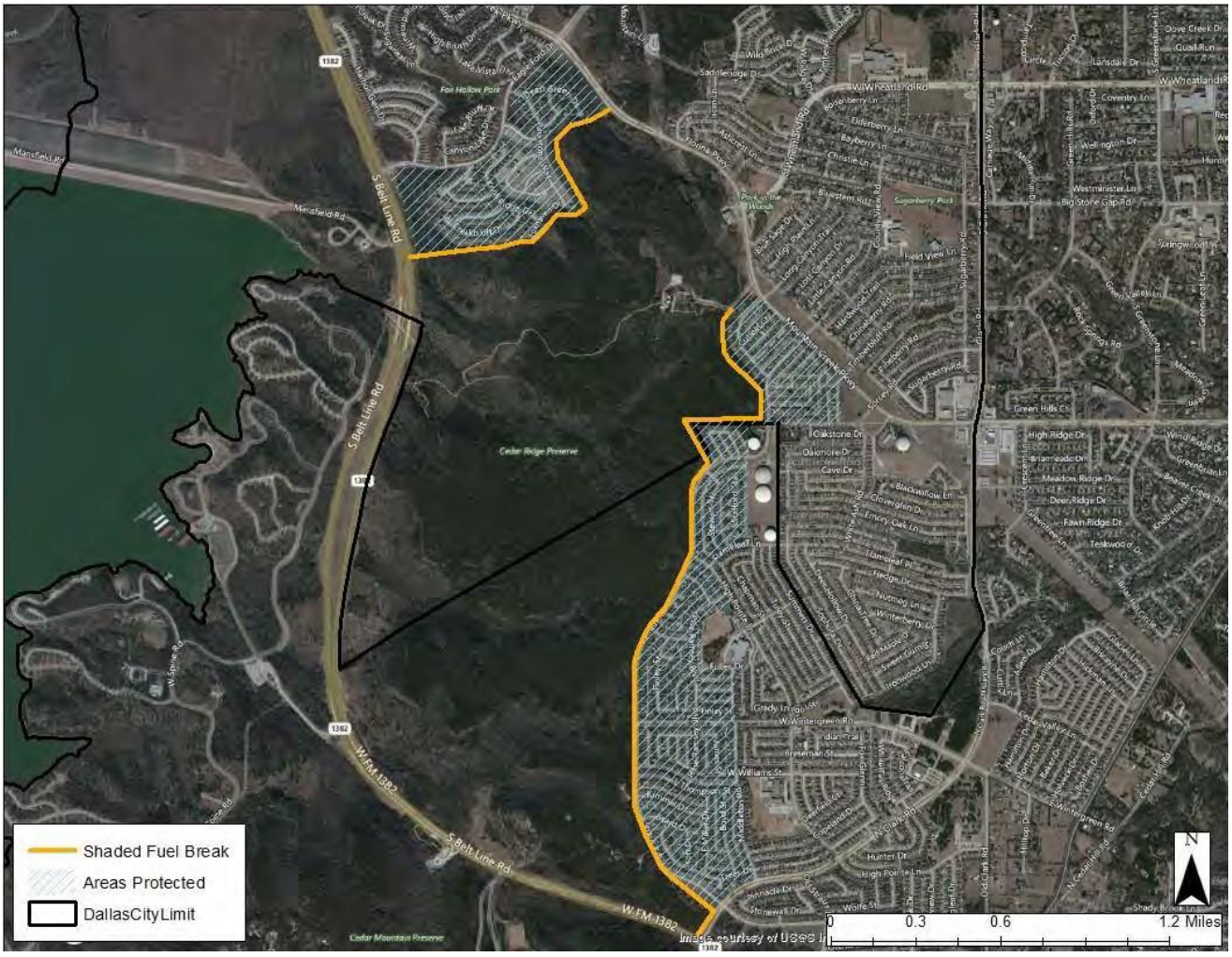
Weed Abatement Program

Ultimately, the City of Dallas would like to implement a Weed Abatement program that will be incorporated into this CWPP document. This program will address fuel reduction and include standards applied to all weeds, grass, or other vegetation that is normally dry during the year, as well as combustible rubbish.

6.4 Hazardous Fuels Reduction Projects

Cedar Ridge Preserve

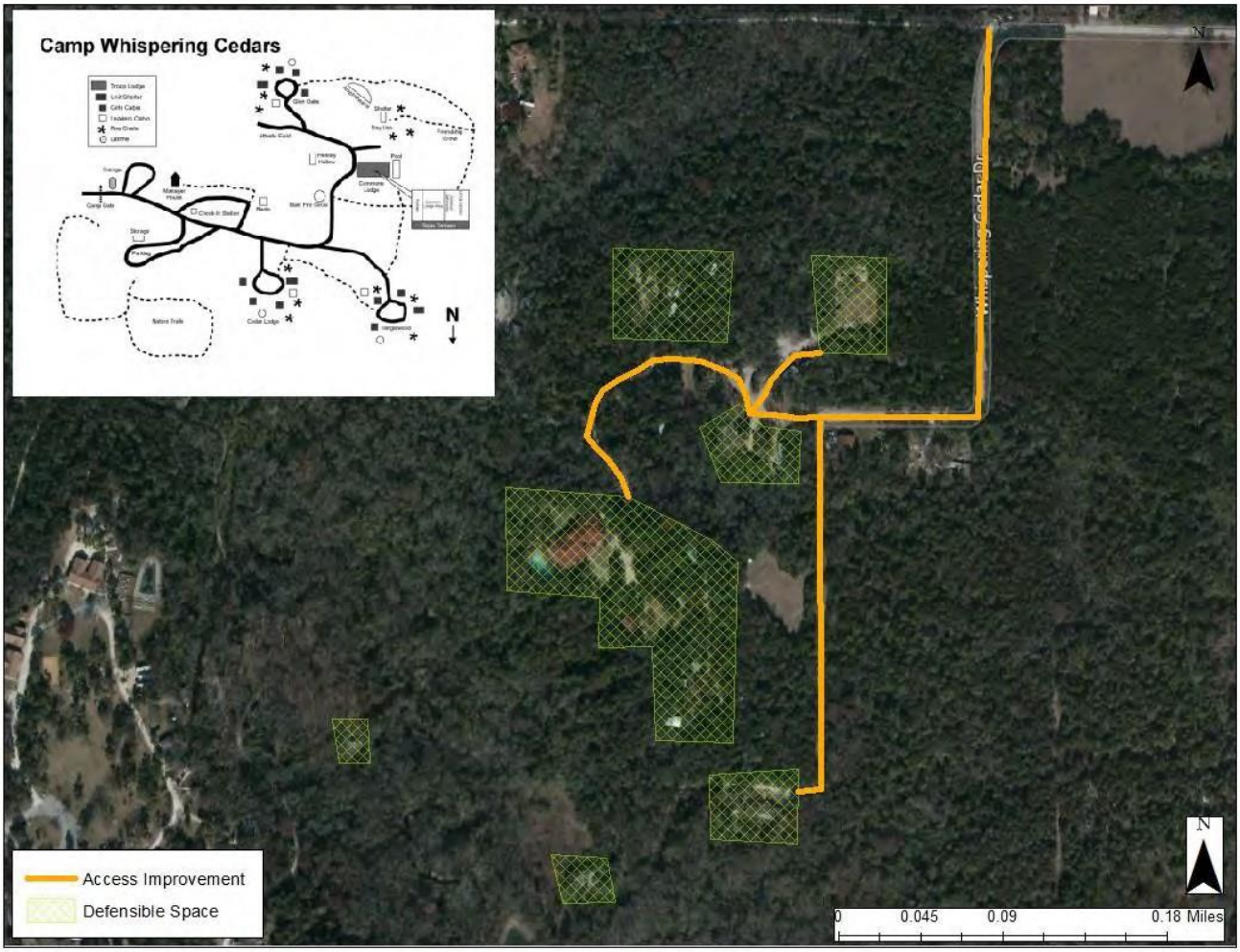
Cedar Ridge Preserve is a natural habitat of 600 acres featuring 9 miles of trails with various flora and fauna. This area is managed by Audubon Dallas by charter from the Dallas County Park & Open Space Program and the City of Dallas. This proposed project follows the boundary of the Cedar Ridge Preserve, specifically where it butts against subdivisions and housing. Cedar Ridge Preserve was prioritized because of heavy flammable fuel loading, poor access, and moderate to high risk subdivisions. In addition to the shaded fuel break, improving access, particularly along the Escarpment Trail, would be beneficial to firefighting efforts in the area. Fuels reduction in this area will potentially protect about 522 acres in addition to the preserve itself.



Ownership	Treatment Type	Method	Area Treated	Area Protected	Values Protected
Audubon Dallas	Mechanical	Hand crew, Chainsaws	3.94 miles	522.22 acres	$153,006,380

Camp Whispering Cedars Girl Scout Camp

Girls Scouts of Northeast Texas Camp Whispering Cedars is just 20 minutes from downtown Dallas and was prioritized because of heavy flammable fuel loading, poor access, and high, almost extreme, risk. The proposed project will include clearing vegetation away from camp buildings to create defensible space, improve access to and through the camp, and possibly building shaded fuel breaks to impede fire progress. For Camp Whispering Cedars, we will be pursuing Firewise Communities/USA recognition. This will encourage the camp to develop an action plan that guides wildfire risk reduction activities, while engaging and encouraging campers and staff to become more active participants in building a safer camp.



Ownership	Treatment Type	Method	Area Treated	Area Protected	Values Protected
Girl Scouts of Northeast Texas	Mechanical	Hand crew, Chainsaws	84.65 acres	189.63 acres	$2,141,110

Camp Wisdom Boy Scout Camp

Camp Wisdom is a part of the Circle Ten Council and home to the Billy Sowell Scout Camp and Cub World. The camp consists of 371 acres and is just 11 miles from downtown Dallas. This site was prioritized because of heavy flammable fuel loading, poor access, and high, almost extreme, risk. The proposed project will include clearing vegetation away from camp buildings to create defensible space, improve access to and through the camp, and possibly building shaded fuel breaks to impede fire progress. For Camp Wisdom, we will also be pursuing Firewise Communities/USA recognition. This will encourage the camp to develop an action plan that guides wildfire risk reduction activities, while engaging and encouraging campers and staff to become more active participants in building a safer camp.

Ownership	Treatment Type	Method	Area Treated	Area Protected	Values Protected
Boy Scouts of America	Mechanical	Hand crew, Chainsaws	562.11 acres	711.03 acres	$29,846,470

6.4.1 Hazardous Fuels Reduction Projects Priority Listing

While any wildfire protection project is important, the realities of funding constraints require priorities to be established among types of projects. Given the information within this document that is specific to the City of Dallas, the types of projects that are determined to be of highest priority, in order, are:

1. Vegetation management projects where a potential wildfire threatens life, property, agricultural assets, critical infrastructure, and/or emergency ingress/egress routes in and around communities at risk and unincorporated areas of the city.
2. Vegetation management projects where a potential wildfire threatens watersheds, riparian areas, or other sensitive ecosystems; or high-traffic recreation areas.
3. Monitor for spread of Eastern Red Cedars (*Juniperus virginiana*) into areas where they may present a wildfire threat, as these trees carry fire readily from grassland into developed areas, and often grow prolifically in areas where regular fires do not occur such as adjacent to developments.

Wildfire safety education programs that provide homeowners, business owners, and community members with information on defensible space, fire-resistant landscaping, emergency procedures, home defense and related topics; and planning and preparedness projects that improve citizen and/or firefighter safety in the event of a wildfire.

In addition to the projects outlined in the previous section, the following is a priority listing of all communities assessed for this CWPP. Each community is intended to have mitigation efforts implemented over time to reduce risk and are prioritized by their overall hazard rating.

Priority Ranking	FID	Community Name	Fire Protection District	Total Hazard Rating #	City Council District
4	67	Iroquois	9	89	6
5	35	Ledbetter/Fomsworth	6	78	3
6	65	Tallyho	9	77	6
7	51	Dorinda Cir./Oslo Ln.	8	75	8
8	70	Mt. Rainier	9	75	1
9	31	Twin Fallas	5	73	3
10	32	Talco Dr./56th Street	5	73	8
11	66	Mican	9	72	6
12	0	Dixon Lane @ Audrey Street & Barber Avenue	1	71	7
13	50	Midland/Prairie Hill	8	69	8
14	62	Catalonia	8	69	8
15	52	Teagarden	8	67	8
16	68	N. Boulevard Terrace	9	67	1
17	81	Nina Drive	9	67	3
18	14	Terrell St.	3	66	7
19	49	Woodland Springs	8	66	8

Priority Ranking	FID	Community Name	Fire Protection District	Total Hazard Rating #	City Council District
20	33	Mountain Vista/Mountain Hollow	6	65	3
21	55	McNeil St./Cedar Lake Dr.	8	64	5
22	53	Rolling Hills	8	63	8
23	75	Gail/Spruce	9	62	3
24	76	Gail/Spruce	9	62	6
25	2	Rock Creek Apt.	2	61	12
26	41	Mountain Creek Meadows	6	61	3
27	80	Bayfront (Castaway)	9	61	3
28	48	North Jim Miller/Everglade Rd.	8	60	7
29	69	Ravinia Heights	9	59	1
30	42	Surrey Oaks	7	58	13
31	83	Cielo Vista	9	57	3
32	22	Shoreview	4	56	10
33	58	Prairie Creek	8	55	7
34	37	N. Camp Wisdom Dr.	6	53	3
35	38	Nyman Dr.	6	53	3
36	77	Via James Jacob	9	53	3
37	44	Watauga	7	52	13
38	56	Scyene/Gateway	8	52	5
39	63	Smoketree Ln.	8	52	8
40	64	Shepherd Ln.	8	52	8
41	10	Pauma Valley Circle	2	51	11
42	23	Walling Ln.	4	51	9
43	36	Cedar Ridge	6	51	3
44	43	Bretton	7	51	13
45	9	Harbord Oaks	2	49	11
46	12	Tennington Park/Creekside	2	49	11
47	28	Deep Hill Circle	5	48	3
48	40	Camp Wisdom Estates	6	48	3
49	74	Susan (Dwight)	9	48	6
50	54	Eastwood Hills	8	47	7
51	73	Vistas at Pinnacle Park Apts.	9	46	6
52	5	Meadowcreek-Northwood Rd.	2	45	12
53	21	Sanshire	4	45	10
54	1	Kessler Park	1	44	1
55	6	Chalfont Place	2	44	12
56	11	Oak Dale	2	44	11
57	39	Timberbrook	6	44	3
58	47	Northlake Woodlands	7	44	13
59	82	Ridgeview	9	44	3

Priority Ranking	FID	Community Name	Fire Protection District	Total Hazard Rating #	City Council District
60	85	Haddington Ln.	2	44	12
61	17	Lakewood	3	43	9
62	29	Forest Haven	5	43	4
63	60	Buttercup Ln./Longdowne Dr.	8	43	5
64	71	Pinnacel Ridge Apts.	9	43	3
65	25	Lochwood	4	42	9
66	45	Cochran Chapel Rd.	7	42	13
67	57	Piedmont	8	42	5
68	61	Pemberton	8	42	8
69	24	Weather Vane Ln.	4	41	9
70	4	Northhaven Rd.	2	39	12
71	7	Westgrove-Preston Tr.	2	39	12
72	15	Maple Springs	3	39	2
73	16	Turtle Creek	3	36	14
74	19	Country Forest/Jackson Meadow	4	36	10
75	26	Rondo Dr.	5	36	8
76	59	Glencriff Dr.	8	36	5
77	20	Baseline Dr. & Center Court Dr.	4	35	10
78	18	Woodbridge/Creekspan	4	34	10
79	30	Burrell Dr.	5	34	4
80	79	Mariposa Villa Apts.	9	34	3
81	13	Heatherstone/Georgian/Crossings	2	33	11
82	78	Artisan Ridge	9	32	3
83	46	Hemmingway Court	7	28	13
84	27	Sierra Way	5	27	8
85	8	Thames Ct.	2	25	12
86	72	Churchhill at Pinnacle Park Apts.	9	23	6
87	3	Landmark at Gleneagles	2	19	12

6.4.2 Target Firewise Communities

There are 24 neighborhood associations that include at least one community assessed as having low, moderate, or high risk to wildfire. Since the Firewise Communities/USA program depends on community organization and involvement, these communities have been targeted as potential Firewise Communities. The chart below lists these neighborhood associations and their website, assessed communities, assessed communities, area, estimated value, and wildfire risk of those assessed communities.

Neighborhood Association	Neighborhood Association Website	Community Name	# of Homes	Area (Acres)	Estimated Value ($)	Wildfire Risk
Hideaway Valley	N/A	Deep Hill Circle	41	21.05	5,444,510	48
East Kessler Park	www.eastkessler.org	Dixon Lane @ Audrey Street and Barber Avenue	400	300.80	565,888,270	71
Highland Hills	N/A	Talco Dr./56th Street	6,500	4886.44	367,245,022	73
Briarwood	briarwoodna.com	Weather Vane Ln.	843	201.81	91,004,410	41
Sunny Acres Community Action Association	N/A	Kessler Park	584	286.79	22,075,743	44
Singing Hills (ACORN)	www.acorn.org	Rondo Dr.	2,007	1141.14	145,721,520	36
Code Keeper Group	www.ooccl.com	Dixon Lane @ Audrey Street and Barber Avenue	17,496	6047.57	3,095,654,406	71
		N. Boulevard Terrace				67
		Ravinia Heights				59
Hillcrest Forest	N/A	Heatherstone/Georgian/Crossings	1,742	1038.05	1,319,488,310	33
Kessler Neighbors United	www.kesslerpark.org	Dixon Lane @ Audrey Street and Barber Avenue	767	311.76	291,520,350	71
Ferguson Road Initiative	www.fergusonroad.org	Weather Vane Ln.	18,785	8303.71	3,234,023,529	41
		McNeil St./Cedar Lake Dr.				64
Royalwood Estate	N/A	Surrey Oaks	835	675.68	1,003,386,440	58
Coalition for the Betterment of Far Southeast Dallas	N/A	Teagarden	3,204	6438.32	203,143,500	67
Woodland Canyon	N/A	Twin Fallas	229	87.36	26,247,390	73
Lakewood	www.lakewoodneighborhood.org	Lakewood	3,054	1153.68	1,823,501,768	43
South East Dallas Civic Association, Inc.	N/A	Sierra Way	2,523	1291.83	168,961,300	27
Rylie	N/A	Midland/Prairie Hill	2,940	4376.67	195,706,044	69
		Dorinda Cir./Oslo Ln.				75
		Catalonia				69
Dolphin Heights	http://dhnainc.org	Terrell St.	259	81.98	13,249,570	66
Northern Hills	N/A	Tennington Park/Creekside	2,311	1075.42	701,411,947	49
Oak Lawn Committee	www.oaklawncommittee.org/index.htm	Maple Springs	17,396	3569.56	14,186,739,662	39
		Turtle Creek				36
Vickery Meadows Improvement District	www.vickerymeadow.org/	Sanshire	2,765	1480.97	839,725,198	45
White Rock Valley	wrvna.org	Walling Ln.	2,362	1235.10	877,541,577	51
		Shoreview				56
Mountain Creek Branch Library Friends	N/A	Mountain Vista/Mountain Hollow	5,068	3739.49	656,156,502	65
		Mountain Creek Meadows				61
		Camp Wisdom Estates				48
		N. Camp Wisdom Dr.				53
		Timberbrook				44
		Nyman Dr.				53
Bluffview Committee	N/A	Watauga	999	503.24	1,007,629,430	52
Kleberg	N/A	Rolling Hills	6,085	6432.95	309,953,120	63
		Smoketree Ln.				52

6.5 Public Outreach and Education

Public education campaigns are designed to increase community awareness of wildfire risk. It is also meant to encourage citizens to take an active role in mitigation and fire prevention activities. Texas A&M Forest Service has a large selection of public education materials on Ready, Set, Go!, Firewise Communities, home hardening, fuels management, Firewise landscaping and basic fire behavior. Visit www.tfs.tamu.edu for this information or contact your local Texas A&M Forest Service Wildland Urban Interface Specialist.

6.6 Wildland Urban Interface Code

The International Wildland Urban Interface Code (IWUIC) is a model code that is intended to be adopted and used supplemental to the adopted building and fire codes of a jurisdiction. The unrestricted use of property in WUI areas is a potential threat to life and property from fire and resulting erosion. The IWUIC objective is the establishment of minimum special regulations for the safeguarding of life and property from the intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department intervention.

NFPA 1141 (Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas)

NFPA 1141 was prepared by the technical committee on Forest and Rural Fire Protection. The technical committee responded to the rapid development of structures into areas that present unusual characteristics to responding fire agencies and worked extensively on making NFPA 1141 current with other documents and more usable by adopting jurisdictions. The committee was particularly interested in keeping the flexibility in the application of the standard by jurisdiction so that it works with existing codes and standards that may or may not adequately cover planned building groups.

The scope of the document was revised to focus on providing guidance on the development of the community infrastructure necessary to eliminate fire protection problems that result from rapid growth and change. Additional guidance was taken from the United States Department of Agriculture (USDA) Forest Service and the National Wildland/Urban Interface Fire Program (Firewise Communities), as well as input from several committee members and outside experts.

NFPA 1144 (Standard for Reducing Structure Ignition Hazards from Wildland Fire)

NFPA 1144 was prepared by the Technical Committee on Forest and Rural Fire Protection. It was officially adopted by state and local governments and adapted for use by numerous jurisdictions involved in planning Firewise communities. The committee tested various assessment system versions in several Firewise community workshops, sponsored by the National Wildland/Urban Interface Fire Program, before arriving at the relative values and hazard levels given in the document. The committee increased the severity values for non-rated roofing, inadequate separation of vegetation from structures and separation of structures from one another.

6.7 Mitigation Funding Sources

FEMA Hazard Mitigation Grant Program

The Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMPG is authorized under section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. http://www.fema.gov/hazard-mitigation-grant-program

Texas A&M Forest Service Capacity Building

Texas A&M Forest Service provides eligible fire departments with programs designed to enhance their ability to protect the public and fire service personnel from fire related hazards. TFS is eligible for the USDA Forest Service National Fire Plan grant funding in terms of “pass-through” funding, provided by using TFS resources at no cost to the city. For example, TFS would provide the first large landscape-level (10-50 acres) fuels project to jumpstart the program followed by multiple small scale (1-2 acres) demonstration fuels projects. http://texasfd.com/

7 | Plan Monitoring and Maintenance

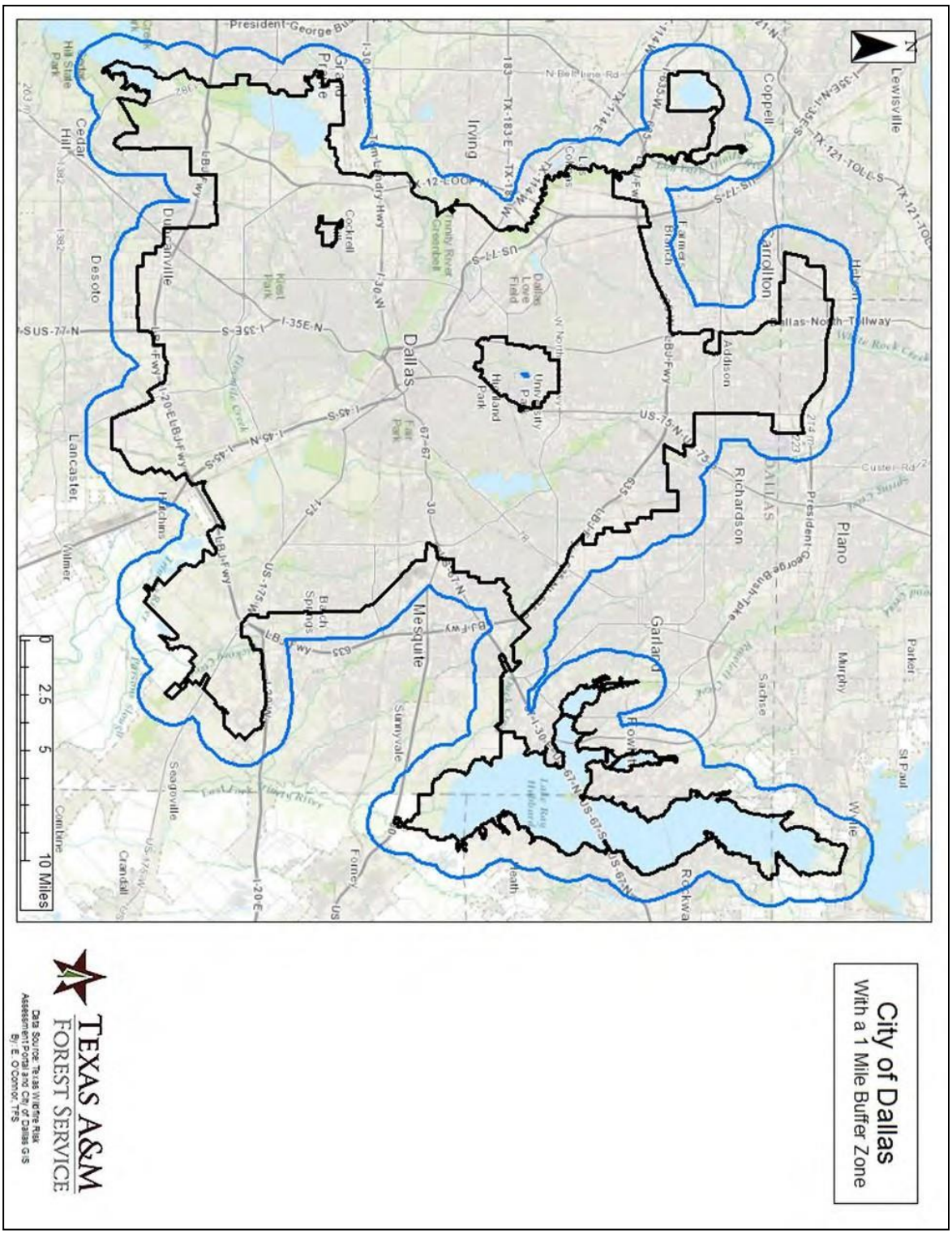
As mentioned in this document, vegetation maintenance and modification is a dynamic, ongoing process. An integrated approach for the management of hazardous fuels is recommended particularly for control of invasive species post fuel project. By using a combination of mechanical, chemical, biological, or prescribed fire fuel treatments, homeowners and land managers can better maintain and manage areas after fuels projects have been completed. Appendix F includes information and tips for maintenance and removal of nuisance species of the Dallas area.

This CWPP is designed to be a living document and will be monitored, maintained and updated on a regular basis (bi-annually, if not more frequently). Utilizing the hazardous fuels reduction project priority list as well as continuing to assess communities and areas throughout the city, the CWPP document will continuously be updated and changed to document any mitigation and fuels reduction occurring throughout the city.

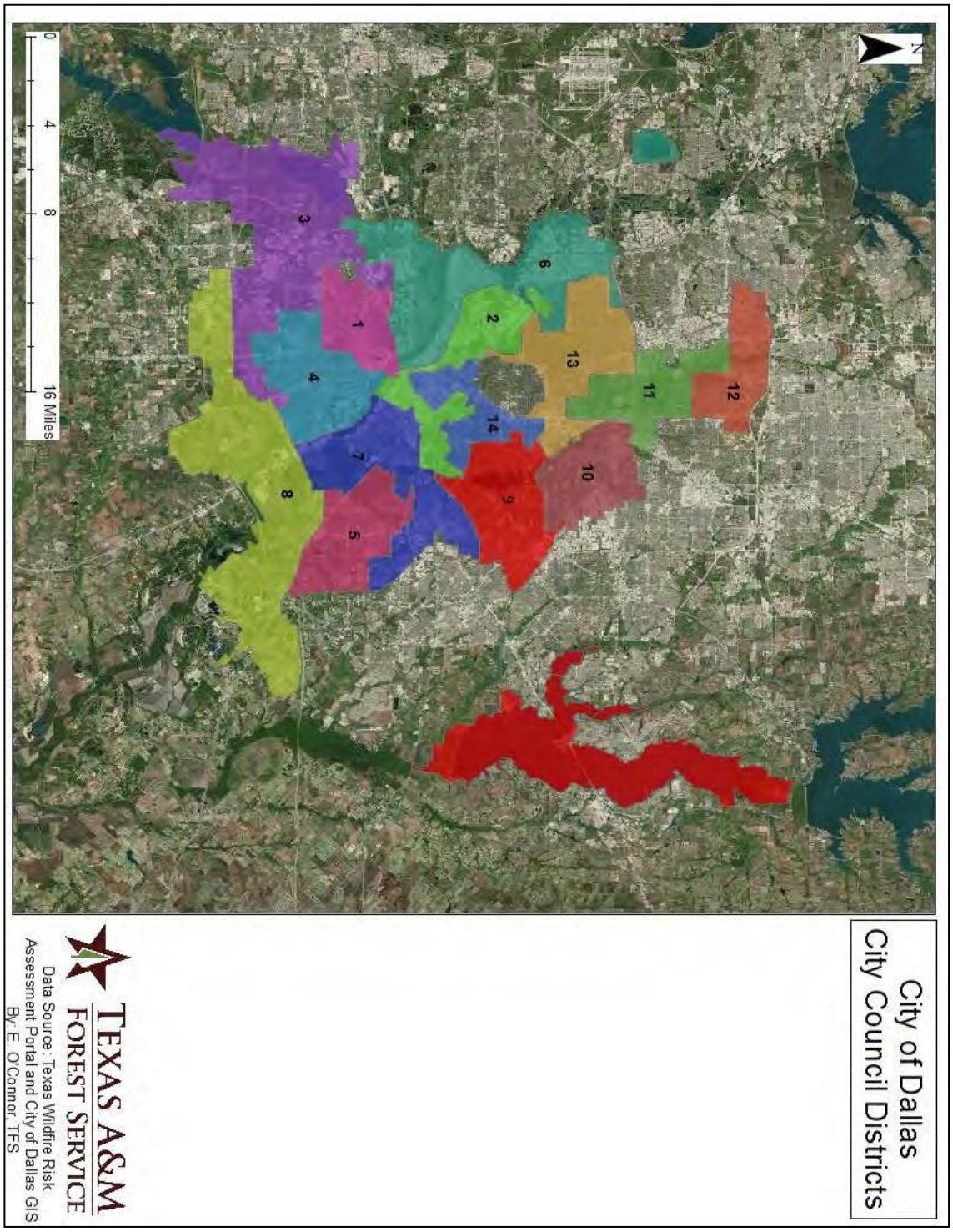
In 2022, review of outstanding needs found target areas for projects and outreach in SW, and SE Dallas. Objectives, Projects and Goals table was created. See Appendix H, page 132

8 | Appendices

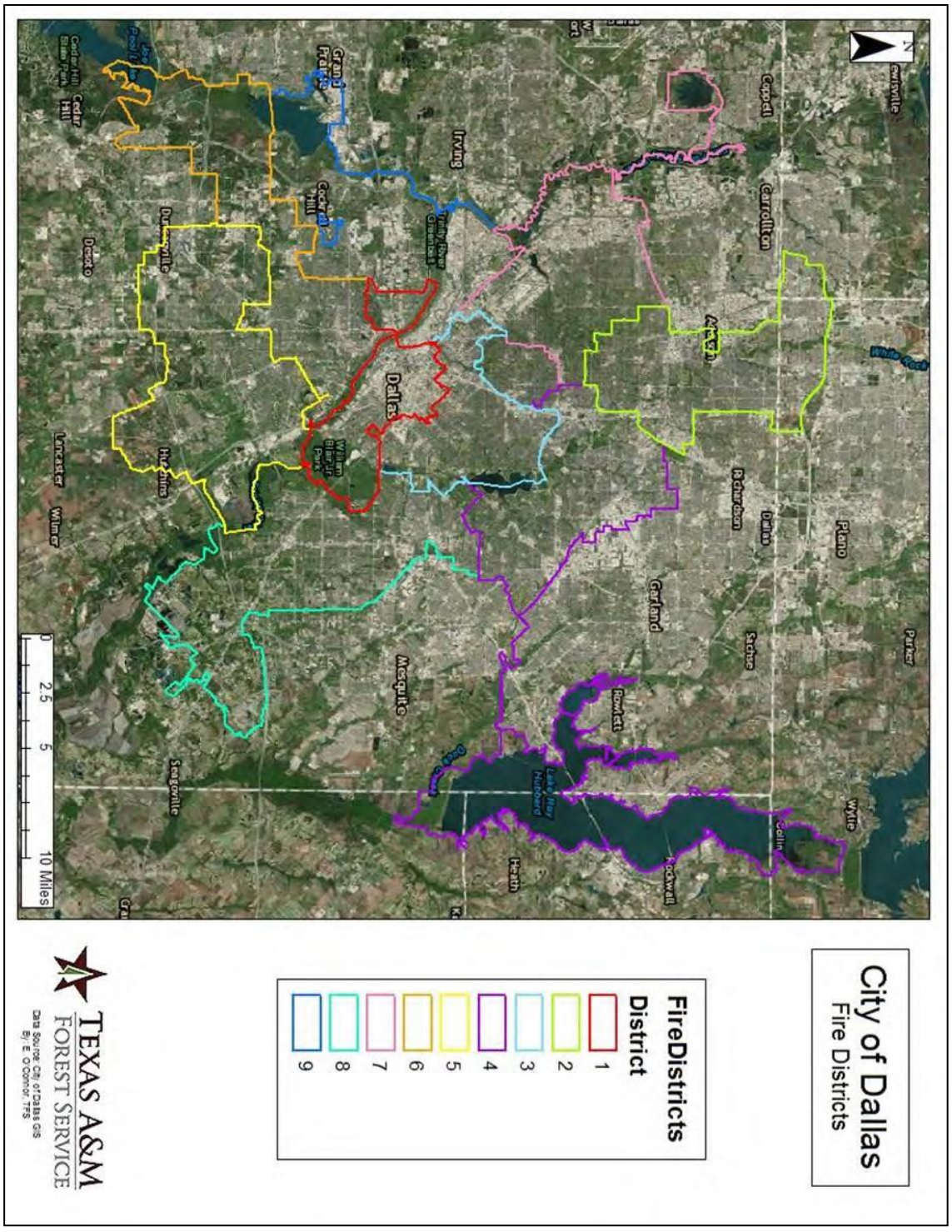
Appendix A
City of Dallas
With 1 Mile Buffer



Appendix B
City of Dallas
City Council Districts



Appendix C
City of Dallas
Fire Battalion Areas



Appendix D
Resolution

WHEREAS, Texas A&M Forest Service (TFS), a member of The Texas A&M University System and an agency of the State of Texas, on behalf of U.S. Forest Service made available grant funds from the Community Wildfire Protection Plan Grant Program for the purpose of developing a community wide protection plan and mitigation of wildfires; and

WHEREAS, Dallas Fire-Rescue Department (DFR) submitted an application and was conditionally awarded grant funds, awaiting completion of a Community Wildfire Protection Plan; and

WHEREAS, DFR has collaborated with various community stakeholders to complete and submit the plan to TFS for review and for revisions so that the plan will be accepted, after it has officially been signed by the authorized officials.

NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

Section 1. That the City Manager is hereby authorized to accept the Community Wildfire Protection Plan Grant awarded to the Dallas Fire-Rescue Department from the Texas A&M Forest Service (Grant No. 14-DG-11083148-005, CFDA No. 10.664), and execute the grant agreement, upon approval as to form by the City Attorney.

Section 2. That the City Manager is hereby authorized to establish appropriations in an amount not to exceed $10,000 in Fund: F502, Dept: DFD, Unit: 2056, OBJ: 3090.

Section 3. That the Chief Financial Officer is hereby authorized to deposit the grant funds in Fund: F502, Dept: DFD, Unit: 2056, Revenue Code: 6506 in an amount not to exceed $10,000.

Section 4. That the Chief Financial Officer is hereby authorized to disburse funds from Fund: F502, Dept: DFD, Unit: 2056, OBJ: 3090, in an amount not to exceed $10,000 to reimburse fund: 0001, Dept: DFD, Unit: HS04, OBJ: 5011.

Section 5. That this resolution shall take effect immediately from and after its passage in accordance with the provisions of the Charter of the City of Dallas, and it is accordingly so resolved.

APFJROVED BY
CITY COUi\JCIL

SEP 1 4 2016

City Secretary

Appendix E
NFPA 1144 Risk Assessment Form

Wildfire Risk Assessment Score Sheet

Community Name:_____

LAT: **N** **LONG:**_____ **County:**_____ **City:**_____

Fire Protection District: **Homes:**_____ **Acres:**_____

Primary Residential Type: Fixed /Mobile/ RV **One Way** In/Out: Yes/ No **Road Width:** > 24ft / 24ft < 20ft / < 20ft

Overview of Surrounding Environment

A. Characteristics of Predominant Vegetation

1	Landscaped Lawn
10	Light (eg., short grasses, forbs)
15	Medium (e.g., taller grasses, light brush and small trees)
20	Heavy (e.g., dense brush, timber, and hardwoods)
20	Slash (e.g., timber harvesting residue)

B. Defensible Space

1	> 100 ft. of vegetation treatment from the structure(s)
3	71 to 100 ft. of vegetation treatment from the structure(s)
10	30 to 70 ft. of vegetation treatment from the structure(s)
20	< 30 ft. of vegetation treatment from the structure(s)

C. Possible Structure to Structure Ignition

0	No
+5	Yes

D. Slope

1	Slope< 8%
4	Slope 8-19%
7	Slope 20-30%
10	Slope >30%

E. Saddles, Box Canyons, Chimneys Present

0	No
+5	Yes

F. Area with History of High Fire Occurrence

0	No
+5	Yes

G. Area Exposed to Southern Plains Wildfire Outbreak

0	No
+5	Yes

Surrounding Environment Total:

Home Construction

A. Roofing Materials

1	Rated/Noncombustible
[redacted]	Nonrated

B. Debris on Roof

0	No
+5	Yes

C. Ventilation and Soffits

1	With mesh or screening
5	Without metal mesh or screening

D. Gutters

1	Noncombustible
5	Combustible, leaf litter present

E. Building Construction

1	Noncombustible siding
15	Combustible siding

F. Wooden Attachments

0	No
+5	Yes

G. Windows

1	[illegible]aned
5	Single-paned

H. Utilities

1	Both underground
3	One underground, one aboveground
5	Both aboveground

Home Construction **Total:**

Hazard Totals and Rating

A. Hazard Totals

Surrounding Environment Total:	
Home Construction Total:	

(0-15)Slight Structure Ignition Hazard	*(16-30} Moderate Structure Ignition Hazard*
(31-45) Significant Structure Ignition Hazard	*(46+) Severe Structure Ignition Hazard*

B. Hazard Rating

Total Hazard Rating:			
(0-30) Low	(31 -60) Moderate	(61-90) High	(91+) Extreme

Assessed By:_____ Date:____ _

Comments:_____

Appendix F
Hazardous Fuels Management Guides

Brush Busters Soil Spot Spray Method

Works Best: On blueberry or redberry cedars less than 3 feet tall.

When to Apply: Late winter to mid-spring (ideally, before expected rainfall).

1 Prepare the Equipment

Soil spot sprays should be applied with an exact-delivery handgun. This equipment is available from most herbicide retail outlets. The handgun delivers a thin stream of predetermined volume when triggered. Adjust the handgun to deliver 2 ml (cc) for each pull of the trigger. If only a few plants are to be treated, a disposable syringe can be used. Thoroughly clean all spray equipment immediately after use.

2 Prepare the Herbicide

Velpar L™ is the recommended herbicide for soil spot sprays to control cedar. The herbicide is used undiluted, by attaching an exact-delivery handgun or syringe to the herbicide container.

3 Apply the Herbicide

Apply undiluted Velpar L™ to the soil surface midway between the cedar stem and the canopy edge. Apply 2 ml for every 3 feet of plant height or every 3 feet of plant canopy diameter (whichever is greater). If the plant's size requires more than a single 2 ml application, space applications equally around the plant. Apply each 2 ml dose to a single spot on the soil surface. On slopes, apply most of the herbicide on the uphill side of the stem.

Keep these points in mind:

- Follow herbicide label directions.
- Do not use on marshy or poorly drained sites.
- Do not use on clay soils.
- Do not apply to snow-covered or frozen ground.
- Do not apply within three times the height or canopy diameter (whichever is greater) of desirable trees such as oaks or pecans.
- Rainfall is required to "activate" Velpar L™ in the soil. Plants will begin to show symptoms within 3 to 6 weeks of initial rainfall. One to three growing seasons may be required before plants die, and during this time cedars usually sprout new leaves several times.
- Grasses and weeds will be killed where each spot of Velpar L™ is applied. Recovery may take 2 to 3 years.
- The cost of treatment escalates rapidly as the density and size of the cedar increase.

Brush Busters Top Removal Method

Blueberry cedar: Remove the plant top at or near the ground line with a chain saw, pruner, axe, etc. Seedlings (plants less than 2 feet tall) can be killed easily by hand grubbing.

Redberry cedar: Since redberry cedar resprouts, top removal will not effectively control plants that are over 8 to 10 years old. Redberry cedar seedlings (plants less than 2 feet tall) can be easily killed if they are grubbed below the basal "knob," located at or slightly beneath the soil surface.

Texas A&M AgriLife Extension Service
AgriLifeExtension.tamu.edu
More Extension publications can be found at *AgriLifeBookstore.org*

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.
Produced by Texas A&M AgriLife Communications

TEXAS A&M AGRILIFE EXTENSION

L-5160
07/12

How to Master Cedar

Three safe and effective ways to control small cedar (juniper)

Individual Plant Treatment Series

Allan McGinty, Professor and Extension Range Specialist
Darrell Ueckert, Regents Fellow and Professor, Rangeland Ecology and Management, Texas AgriLife Research
The Texas A&M University System

TEXAS A&M AGRILIFE RESEARCH

Cedars are very aggressive and damaging woody plants on Texas rangelands. There are two major cedar species west of Interstate Highway 35, redberry cedar and blueberry cedar.

It is important to know which species you have because the treatments vary. As the names imply, blueberry cedar has blue berries and redberry cedar has red berries. In addition, redberry cedar has small specks of white wax on its leaves and twigs. Blueberry cedar is more common in central and south-central Texas, while redberry cedar is more common in west, west-central and north-central Texas. It is not uncommon for the two species to occur together.

Controlling cedar is not a one-time job. Livestock and wildlife spread the seeds easily, so you'll need to check your land occasionally and treat unwanted seedlings.

It is very important to control cedar as seedlings and saplings. Controlling mature cedars requires heavy equipment or large amounts of herbicides and is usually very expensive. Using these Brush Buster methods, you'll be able to keep the plants you want and get rid of those you don't.

Brush Busters recommends three ways to control cedar. Two herbicide treatments—leaf spray and soil spot spray—work best on cedar less than 3 feet tall. The top removal method, which involves cutting the tree at ground level, will control blueberry cedar, but redberry cedar must be grubbed (cut) below the soil surface.

These three methods are easy, inexpensive, environmentally responsible, and effective. Your results may vary with the weather and other conditions, but you should be able to knock out more than seven of ten cedars treated.

Brush Busters Leaf Spray Method

Works Best: On blueberry or redberry cedars that are less than 3 feet tall.

When to Apply: Spring through summer, when cedar is actively growing.

1 Prepare the Equipment

Small pump-up garden sprayers, backpack sprays, cattle sprayers, or sprayers mounted on four-wheel-drive all-terrain vehicles (ATVs) work well.

Garden sprayers are best for treating a few plants, and backpack sprayers are usually more efficient for larger acreages or higher cedar densities. ATV sprayers become more efficient on very large acreages or as the distance between plants increases.

Make sure your spraygun has an adjustable cone nozzle (X6 to X8 orifice size) that can deliver a coarse spray (large droplets).

2 Mix the Herbicide Spray

You can achieve 76 to 100 percent rootkill of small cedar by spraying with the herbicide Tordon 22K™. Prepare the spray mix as a 1percent concentration of Tordon 22K™ in water (see table). To ensure a thorough coating of the cedar leaves, add commercial surfactant or liquid dishwashing detergent to the spray mix. It may be helpful to add a dye, such as Hi-Light Blue Dye™, to mark plants that have been sprayed.

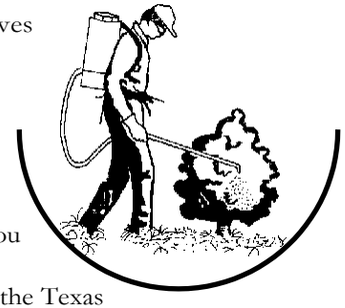
Recommended leaf spray for cedar.*

Ingredient	Concentration in spray solution	Tank size		
		3 gal	14 gal	25 gal
Tordon 22K™	1%	4 oz	18 oz	32 oz
Surfactant or dishwashing detergent	1/4%	1 oz	5 oz	8 oz
Hi-Lite Blue Dye™	1/4–1/2%	1–2 oz	5–9 oz	8–16 oz

*All spray solutions are mixed in water.

3 Spray the Cedar

Thoroughly wet all the leaves of each cedar plant to the point of runoff.



Keep these points in mind:

- To buy Tordon 22K™, you must have a Pesticide Applicator License from the Texas Department of Agriculture. See your county Extension agent for license information.
- Follow the herbicide label directions.
- Do not spray within 100 feet of known sinkholes or fractures that would allow the herbicide to enter underground water aquifers.
- Do not spray if the cedar foliage is wet.
- Do not spray immediately upwind of desirable trees, shrubs, or susceptible crops.
- The cost of treatment increases rapidly as the density and size of cedars increase.
- Large, mature blueberry cedar may be a nesting habitat for the endangered golden-cheeked warbler. If in doubt, contact the U.S. Fish and Wildlife Service before treating.
- Do not treat large numbers of cedars beneath the canopies or within three times the height or diameter of desirable trees such as oaks or pecans.

ALABAMA COOPERATIVE Extension SYSTEM

A lAbAmA A&m And Auburn universities

ANR-1468

Control Options for Chinese Privet

Chinese privet (*Ligustrum sinense*) and other invasive privets in the genus *Ligustrum* are a serious problem for many homeowners, farmers, foresters, and land managers in Alabama.

Privet control often seems insurmountable because of its aggressive growth, prolific root and stump sprouting, copious seed production, and widespread seed dispersal by birds and other animals. However, with the correct approach and diligent follow-up treatments, privet can be effectively controlled. this publication provides recommendations for widely available privet control options that can be used across a range of land management scenarios. it is not, however, exhaustive as certain herbicides used in forestry and rights-of-way are not covered.

Hand Pulling

Hand pulling is an option that can be used only to remove privet seedlings and small saplings. it can be done any time of year but is easiest when soils are moist. Grasp privet stems by the base and pull upward, removing as much of the root system as possible. if the plant does not come up easily, it is likely a sprout from a lateral root and hand pulling will not be effective.

Weed Wrenching

Weed wrenches are effective for removing privet saplings up to 2 inches in diameter. Weed wrenches are steel, handheld tools that grasp woody stems at the base and use leverage to lift the plant out of the ground (figure 2). they work best for single-stemmed plants but can also be used for some multistemmed clumps. because privet has a shallow fibrous root system, pulling may severely disturb the soil and is not recommended along stream banks or steeply sloped areas where erosion may be of concern.

Hand Cutting

Cutting, when used alone, does not provide satisfactory control because of rapid stump sprouting. However, it can be integrated with cut stump or foliar herbicide treatments described below.

Figure 1. Chinese privet is a woody shrub with opposite leaves that remain green throughout the winter and dark blue fruit that ripens in the fall. (Photo by Karan A. Rawlins, University of Georgia, Bugwood.org)

Brush Mulching

brush mulchers (figure 3) are typically mounted on skid steers and grind or mulch entire shrubs and small trees. they quickly remove dense stands of privet, providing immediate access to an area. most brush mulchers can mulch all sizes of privet and often leave a thick mulch layer. they do not remove the root system and sprouting will inevitably occur (figure 4). brush mulching cannot be effectively integrated with cut stump treatment because stumps will be buried under the mulch layer. However, brush mulching often results in very uniform privet regrowth that can easily be sprayed. brush mulching can be used anytime but may spread privet seed if used in the fall.

Herbicide Treatment

Privet can be effectively controlled with foliar, cut stump, and basal bark herbicide treatments. Always read and follow the herbicide label, paying attention to site and rate restrictions and safety recommendations for applicators.

Foliar Herbicide Treatment

For many situations, herbicides with the active ingredient glyphosate are the most effective option. However, not all glyphosate products are created

Figure 2. The weed wrench uses leverage to easily lift privet saplings out of the ground.

Figure 3. Skid steer mulchers can quickly grind dense stands of privet to the ground.

equal. they can vary in concentration and may or may not include a surfactant, which improves absorption into the leaves. use a concentrate type product with at least 41 percent glyphosate. do not use glyphosate formulations that are called "ready to use" because they generally do not contain enough glyphosate to be effective. mix the herbicide with water, preparing a 3 to 5 percent solution (4 to 6 fluid ounces of herbicide product per gallon). if the label recommends additional surfactant, add a nonionic surfactant at 0.5 percent (0.6 fluid ounces per gallon).

Privet foliar herbicide treatments can be applied with several types of sprayers, but single nozzle backpack sprayers are used in many situations (figure 5). spray the foliage to wet, but not to the point of runoff. Good spray coverage over the entire plant is very important as privet shrubs sprayed only on the sides will not be completely killed. if the privet is taller than 6 to 8 feet, consider using other methods such as brush mulching, basal bark, or cut stump treatment. the optimal timing for glyphosate treatment is late fall to early winter (november through early January) when day temperatures are mild. However, do not treat during extended cold weather when temperatures are at or below freezing. this late fall timing is very advantageous as most other vegetation is dormant and will not be harmed by glyphosate. Glyphosate treatments applied in the spring and summer may not provide effective control and the risk of damage to surrounding vegetation is much greater.

When applying glyphosate, volatility and soil activity are not a concern. drift, however, can be a serious problem, especially on windy days. be very careful where spray drift can damage or kill nearby desirable vegetation. Additionally, when spraying along streams, ponds, and lakes, use a glyphosate product and nonionic surfactant labeled for use in aquatic environments. Glyphosate products not labeled for use in or near water often contain a surfactant that is very harmful to many aquatic organisms.

Cut Stump Herbicide Treatment

this method entails cutting followed by application of an herbicide to the surface of the stump. For best results, cut privet stems close to the ground and remove any sawdust from the stump. then, within a few minutes at most, spray or paint the entire cut surface with the herbicide solution (figure 6). spray to wet, but do not puddle the herbicide around the stump. use an herbicide concentrate product with either 41 percent or higher active ingredient glyphosate or 44 percent active ingredient triclopyr amine. mix the herbicide with water, preparing a 25 percent solution (32 fluid ounces of herbicide product per gallon). there are herbicide concentrate products available with lower concentrations of glyphosate (20 percent) or triclopyr amine (8 percent). these are applied to stumps at full strength. However, avoid formulations with lower concentrations as they do not contain enough glyphosate or triclopyr amine to be effective.

Figure 4. Following mulching or other mechanical treatments, privet rapidly sprouts from stumps and lateral roots. This creates a good setup for a late fall foliar treatment with the herbicide glyphosate.

Figure 5. A blue spray indicator or dye improves spray visibility for the applicator.

if the herbicide treatment must be delayed following cutting, a different approach must be used. Within a few weeks of cutting, use a triclopyr ester herbicide product mixed with oil instead of water. mix the herbicide with an oil carrier such as diesel or bark oil, preparing a 20 percent solution (26 fluid ounces of herbicide product per gallon). there is also a triclopyr ester ready-to-use product with no mixing required. spray the entire surface and sides of the stump.

both water- and oil-based cut stump treatments work on any size privet, but it is critical to treat every cut stem. untreated cut stems will sprout. Cut stump treatments can be done almost any time of year but late fall is the easiest from an operational standpoint. the only time cut stump treatments should not be done is in the early spring when privet shrubs are experiencing strong upward sap flow. this is evident when stumps appear to "bleed" water following cutting.

Basal Bark Herbicide Treatment

this method entails spraying the entire circumference of the bottom 12 to 15 inches of each stem with an oil soluble herbicide (figure 7). use a triclopyr ester herbicide product. mix the herbicide with an oil carrier such as diesel or bark oil, preparing a 20 percent solution (26 fluid ounces of herbicide product per gallon). there is also a triclopyr ester ready-to-use product

Figure 6. Spray to wet the entire surface of the stump. A spray indicator helps keep track of what has been treated.

with no mixing required. spray to wet, getting complete coverage of each woody stem, but do not puddle the herbicide on the soil. Fall is generally the best time for this treatment but it may be used any time of the year. this treatment may take a few months to kill privet but it is very effective. triclopyr ester does have some soil activity, and damage to nontarget species can occur when numerous privet stems are treated in a small area.

Figure 7. Chinese privet is very thin barked and even large diameter shrubs can be controlled with the basal bark treatment method.

Realities of Privet Control

no single treatment will eradicate privet. there will almost always be a flush of new seedlings in the year following intensive control, especially along woodland edges. some sprouting from lateral roots and stumps missed during initial treatment will also be inevitable. these seedlings and sprouts can be easily controlled with foliar glyphosate treatment, which is best done in the late fall. While privet seeds in the soil seed bank only survive for about one year, birds and flooding can reintroduce seed into the area. Follow-up monitoring and spot treatment of newly established plants should be done to prevent reinfestation.

Following privet control, many factors influence which species naturally recolonize the site. in addition to sunlight and moisture availability, these factors include surrounding vegetation and prior land use. to direct this process of recolonization and site restoration, land managers may choose to actively plant desired species. if replanting, continued monitoring and spot treatment of new privet is critical as there are no known plant communities in the southeastern united states that will completely resist privet invasion.

ALABAMA COOPERATIVE Extension SYSTEM

ANR-1468

Stephen Enloe, *Extension Specialist*, Associate Professor, Agronomy and soils, and **Nancy Loewenstein**, *Extension Specialist*, research Fellow iv, Forestry, Wildlife, and natural resource management, both with Auburn university

For more information, call your county extension office. look in your telephone directory under your county's name to find the number.

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TEXAS A&M AGRILIFE EXTENSION

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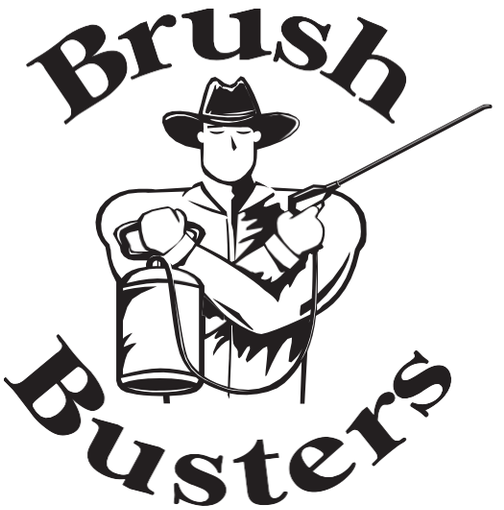


How to Take the Green Out of **Greenbriar**

A safe and effective three-step way to control greenbriar

Individual Plant Treatment Series

J. F. Cadenhead III, Assistant Professor
and Extension Range Specialist
The Texas A&M University System

Greenbriar is a native, perennial, woody vine of the Smilax family. Individual plants may vary in leaf shape and color, and in the number of spines they contain. Greenbriar may have underground stems and/or tubers. The canes or aboveground stems are soft and fleshy in the early stages of growth, but quickly mature into stout, woody vines with tendrils for climbing trees, fences, and other structures.

The small, mostly yellowish-green flowers are borne in umbrella-shaped clusters from April through June and produce many small clusters of reddish to purplish to black berries.

Greenbriar, whether spined or spineless, often becomes a problem by forming large, almost impenetrable thickets that can prevent access by people and livestock.

There are no ground or aerial broadcast recommendations for effectively controlling greenbriar. Broadcast applications of various herbicides have not provided consistent control of this tough, woody vine. However, the following three-step method is easy to use, environmentally responsible, and effective. This method treats individual plants with a mixture of herbicide and diesel or vegetable oil applied to the basal stems.

Keep in mind that controlling greenbriar is not a one-time job. The plant produces many seeds that, along with the hard-to-kill tubers, will eventually produce new plants. New plants also must be treated. The three-step method was developed and tested by professionals with Texas AgriLife Research and the Texas AgriLife Extension Service. Your results may vary, but if correctly used, this method should kill at least seven of ten plants treated.

Brush Busters Basal Stem Spray

Works Best: On greenbriar that is growing on fencelines or where the basal stems are easy to access for spraying.

When to Apply: During the winter when most of the leaves are gone and the basal stems can be covered more readily with the spray mix.

1 Prepare the Equipment

The herbicide can be applied with a pump-up garden sprayer, backpack sprayer, or sprayer mounted on an ATV (all-terrain vehicle).

Make sure that the sprayer has an adjustable cone nozzle with a small orifice such as the Conejet 5500 X-1, available from Spraying Systems Company. The smaller orifice can reduce the volume of spray used by as much as 80 percent over standard nozzles.

2 Prepare the Herbicide Mix

Use Remedy® herbicide in a mixture with diesel fuel oil at a concentration of 25 percent Remedy® and 75 percent diesel. For example, to make 1 gallon of mix: Use 1 quart of Remedy® in 3 quarts of diesel fuel oil.

Agitate the mixture vigorously before application. A commercial vegetable oil carrier can be substituted for diesel if desired.

Recommended stem spray for greenbriar.

Ingredient	Concentration of total mix	Amount/gallon mixed
Remedy®	25%	1 qt
Diesel	75%	3 qt

3 Spray the Greenbriar

Adjust the sprayer nozzle to deliver a narrow, cone-shaped mist. Spray the mixture lightly but evenly on every basal stem from the ground level up to about 12 inches high. Spray to coat each stem all the way around, but not to the point that the mixture runs off or puddles.

Keep these points in mind:

- Follow directions on the herbicide label.
- The cost of treatment escalates rapidly as the density of greenbriar or the number of basal stems increases.
- Use an adjustable cone nozzle with a small orifice, such as an X-1, to reduce volume and waste.

- Do not spray when the greenbriar stems are wet.
- Best results occur during the winter when more basal stems are exposed.
- After mixing the herbicide with diesel fuel or vegetable oil, shake or agitate the mixture vigorously before application.
- Controlling greenbriar is not a one-time job, and retreatment may be necessary.

Brush Busters Stem Spray Method

Works Best: For relatively young trees or older ones with few basal stems in sparse stands. This method is also known as the low-volume, basal-stem treatment technique. Research and demonstrations have shown excellent results using minimum amounts of herbicide.

When to Apply: Any time during the year, although best results occur during the spring-summer-fall growing season.

1 Prepare Equipment

Almost any type of pump-up hand sprayer can be used, but the most efficient way to treat large numbers of trees is with a backpack sprayer. Make sure the sprayer's nozzle has a small orifice (such as a Conejet™ 5500-X1 adjustable cone nozzle). Compared to standard nozzles, this nozzle can reduce the amount of spray applied by 80 percent, making the use of chemicals much more cost effective.

2 Mix Herbicide with Diesel

A mixture of the herbicide Remedy™ and diesel fuel oil is very effective for this method. Diesel is a coating and penetrating agent; it ensures that the herbicide covers the plant and is readily absorbed. Remedy™ is not a restricted-use pesticide, thus no license is required to purchase it.

Pour the required amount of Remedy™ into the mixing container, then add diesel fuel to bring the mixture to the total volume desired. Agitate the mixture vigorously.

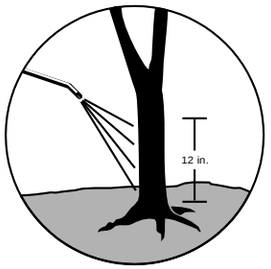
Multi-stemmed tallowtree plants are much more difficult to control by this method than younger trees or undisturbed plants.

Recommended Stem Spray Mixture Using Diesel Fuel Oil as the Carrier.

Stem	% Remedy™	Amount/gallon mixed
Smooth bark	15%	19 oz.
Rough bark	25%	32 oz.

3 Spray the Tallowtree

Stem applications are effective throughout the year, but the best time is during the growing season when temperatures are high.



Be sure to adjust the sprayer nozzle to deliver a narrow, cone-shaped mist. Spray the mixture lightly but evenly on the plant's stem or trunk from the ground line to 12 inches above the ground. Apply the mixture to all sides of every stem, but not to the extent that the spray runs off the stem and puddles.

Keep these points in mind:

- Follow herbicide label directions.
- The cost of treatment escalates rapidly as the brush becomes more dense or the number of basal stems per plant increases.
- Multiple-stemmed plants and rough-barked plants are more difficult to control with this method.
- Do not spray when the basal stems are wet.
- After mixing the herbicide with diesel, shake or agitate the solution vigorously.
- This method is less efficient if there is dense grass around basal stems.
- The 15 percent mixture of Remedy™ and diesel fuel also can be used as a "cut stump" treatment. Cut off the tallowtree stems and spray the stumps immediately. Wet the cut surface and the bark thoroughly with the herbicide mixture.

For additional range management information see http://texnat/tamu.edu

Texas A&M AgriLife Extension Service

AgriLifeExtension.tamu.edu

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TEXAS A&M AGRILIFE EXTENSION

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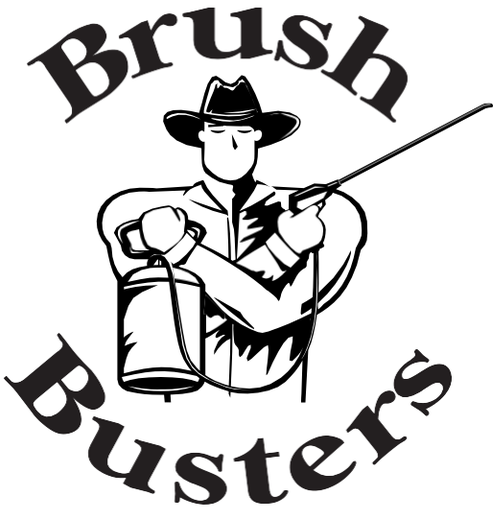

How to Take Out **Tallowtrees**

Two safe and effective ways to manage Chinese Tallowtrees

Individual Plant Treatment Series

C. Wayne Hanselka, Professor and Extension Range Specialist
The Texas A&M University System

Chinese tallowtrees have invaded and become dense on many upland and wetland sites in prairie and woodland communities of the Texas Coastal Prairie. Introduced from the Orient, this plant now infests more than 234,000 acres in southeast Texas. Tallowtree infestations are problems in rice canals, irrigation systems, drainage ditches, rights-of-way, vacant lots, fence lines, pastures and rangelands. Tallowtrees establish easily, grow quickly, and produce large quantities of seed. Tallowtrees resprout quickly from crown and root buds when topgrowth is mechanically removed.

Here are two 3-step ways to control Chinese tallowtrees that are easy, environmentally responsible and effective. Each involves spraying a small but potent concentration of herbicide directly on each plant. With these Brush Busters methods you will be able to kill tallowtrees with little damage to desirable vegetation.

Keep in mind that tallowtree management is not a one-time job. The plant produces thousands of seeds that are relatively long-lived and spread by water, birds and animals. A tremendous number of seeds builds up under parent plants. You will need to check your land regularly to find and remove seedlings.

Professionals with Texas Cooperative Extension and the Texas Agricultural Experiment Station have developed, tested and approved these methods for Chinese tallowtree control. Your results may vary, but you should be able to kill more than seven of ten tallowtree plants treated.

Choose the Brush Busters method recommended for the number and size of plants you wish to control. If you have only a few plants, you will find the Stem Spray Method works best. If you have many plants, but most are less than 6 to 8 feet tall, the Leaf Spray Method may be more suitable. Whichever method you choose, with these simple directions you will be able to control tallowtrees the 1-2-3 Brush Busters way.

Brush Busters Leaf Spray Method

Works Best: On tallowtrees that have many stems at ground level and are less than 8 feet tall. This method is also known as high-volume foliar spraying.

When to Apply: Begin in April or May after tallowtree leaves mature, and continue through September or until leaves begin to turn yellow to red.

1 Prepare Equipment

Small pump-up garden sprayers, backpack sprayers, cattle sprayers, or sprayers mounted on 4-wheel all-terrain vehicles (ATV) work well. Garden sprayers are best for small acre-ages; backpack sprayers are usually most efficient in denser stands; ATV sprayers are best for large acreages or when there is more distance between plants. Make sure your sprayer has an adjustable nozzle that can deliver a coarse spray (large droplets) to the top of an 8-foot-tall tree. Conejet® 5500 X-6 or X-8 adjustable cone nozzles work well.

2 Mix Herbicide Spray

You can kill 76 to 100 percent of roots by spraying with Grazon P+D™, a restricted use pesticide. To buy and use the product you will need a Texas certified applicator's license.

To prepare the spray mix, add Grazon P+D™ at a concentration of 1 percent to water (see mixing table below). To make sure the spray solution will stick to the tallowtree foliage, add either liquid dishwashing detergent or a surfactant to the spray mix (see table below). It may be helpful to add a dye, such as blue Hi-Light™ spray-marking dye, to mark the plants that have been sprayed.

Recommended Leaf Spray Mixture Using a Surfactant or Liquid Dishwashing Detergent.*

Ingredient	Concentration in spray solution	Tank size		
		3 gal.	14 gal.	25 gal.
Grazon P+D™	1%	4 oz.	18 oz.	1 qt.
Surfactant	1/4%	1 oz.	4-6 oz.	8 oz.
Hi-Light™ Blue Dye	1/4 - 1/2%	1-2 oz.	4-9 oz.	8-16 oz.

*All spray solutions are mixed in water.

3 Spray the Tallowtree

The best time to spray is July through September, as long as the leaves have not begun to turn yellow. For effective control, each plant must be thoroughly sprayed, almost to the point of dripping. Be sure to wet the terminal ends of all branches.

Keep these points in mind:

- Follow herbicide label directions.
- For best results, don't spray when:
- rains have stimulated new growth in tree tops.
- leaves are wet.
- foliage shows damage from hail, insects or disease.
- you are working upwind of desirable trees, shrubs or crops.
- The cost of treatment rises rapidly as the brush becomes taller and more dense. Also, controlling tallowtree is not a one-time job. You'll need to go over your land regularly to locate and treat unwanted tallowtree seedlings and plants that are missed or only partially damaged by the initial spray treatment.

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TEXAS A&M AGRILIFE EXTENSION

Mixing Guide

**Allan McGinty, Charles Hart and Robert Lyons,
Professors and Extension Range Specialists,
Texas AgriLife Extension Service, The Texas A&M System**

Stem, Whorl and Cut Stump Sprays

Smooth-barked mesquite and smooth-barked tallowtree stem spray, hardwood cut stump spray and yucca whorl spray

Ingredient	Concentration in spray solution	Amount desired*		
		1 gal	5 gal	10 gal
Triclopyr	15%	19 oz	3 qt	1.5 gal

*To container or spray tank half filled with diesel or vegetable oil, add Triclopyr herbicide, then bring to desired volume with diesel or vegetable oil. Mix thoroughly before using.

Rough-barked mesquite, rough-barked tallowtree, greenbriar, huisache and saltcedar stem spray

Ingredient	Concentration in spray solution	Amount desired*		
		1 gal	5 gal	10 gal
Triclopyr	25%	1 qt	1.25 gal	2.5 gal

*To container or spray tank half filled with diesel or vegetable oil, add Triclopyr herbicide, then bring to desired volume with diesel or vegetable oil. Mix thoroughly before using.

Redberry cedar cut stump spray

Ingredient	Concentration in spray solution	Amount desired*		
		1 gal	5 gal	10 gal
Picloram	4%	5 oz	26 oz	51 oz
Surfactant	1/4 %	1/3 oz	2 oz	4 oz
Hi-Light® Blue Dye	1/4 %	1/3 oz	2 oz	4 oz

*To container or spray tank half filled with water, add all ingredients, then bring to desired volume with water. Mix thoroughly before using.

Common chemical and product names of herbicides*

Common chemical name	Product names
Clopyralid	Reclaim, Pyramid R&P, Clopyralid 3
Glyphosate	Several including Rodeo, Roundup, Roundup Ultradry, Glyposate 417
Imazapyr	Arsenal, Habitat
Picloram	Tordon 22K, Triumph 22K, Picloram 22K
Picloram:Fluroxypyr(1:1)	Surmount
Picloram:2,4-D(1:4)	Grazon P+D, Gunslinger, Picloram + D
Triclopyr	Clear Pasture, Pathfinder II, Triclopyr R+P, Remedy Ultra, Triclopyr 4 EC

*Common examples. Others may be available.

Leaf and Pad Sprays

Cedar leaf spray

Ingredient	Concentration in spray solution	Amount desired*		
		3 gal	14 gal	25 gal
Picloram	1%	4 oz	18 oz	32 oz
Surfactant	1/4 %	1 oz	5 oz	8 oz
Hi-Light® Blue Dye	1/4 %	1 oz	5 oz	8 oz

Huisache and tallowtree leaf spray

Ingredient	Concentration in spray solution	Amount desired*		
		3 gal	14 gal	25 gal
Picloram:2,4-D(1:4)	1%	4 oz	18 oz	32 oz
Surfactant	1/4 %	1 oz	5 oz	8 oz
Hi-Light® Blue Dye	1/4 %	1 oz	5 oz	8 oz

Mesquite leaf spray

Ingredient	Concentration in spray solution	Amount desired*		
		3 gal	14 gal	25 gal
Clopyralid	1/2 %	2 oz	9 oz	16 oz
Triclopyr	1/2 %	2 oz	9 oz	16 oz
Surfactant	1/4 %	1 oz	5 oz	8 oz
Hi-Light® Blue Dye	1/4 %	1 oz	5 oz	8 oz

Pricklypear leaf spray

Ingredient	Concentration in spray solution	Amount desired*		
		3 gal	14 gal	25 gal
Picloram:Fluroxypyr(1:1)	1 %	4 oz	18 oz	32 oz
Surfactant	1/4 %	1 oz	5 oz	8 oz
Hi-Light® Blue Dye	1/4 %	1 oz	5 oz	8 oz

Saltcedar leaf spray

Ingredient	Concentration in spray solution	Amount desired*		
		3 gal	14 gal	25 gal
Imazapyr	1/2 %	2 oz	9 oz	16 oz
Glyphosate	1/2 %	2 oz	9 oz	16 oz
Surfactant	1/4 %	1 oz	5 oz	8 oz
Hi-Light® Blue Dye	1/4 %	1 oz	5 oz	8 oz

*To spray tank half filled with water add all ingredients, then bring to desired volume with water. Mix thoroughly before using.

Texas A&M AgriLife Extension Service

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More Extension publications can be found at *AgriLifeBookstore.org*

Appendix G
History of Wildfires in Dallas Since 2007
(ongoing research)

Run Number	Run Date	Location	Acreage	Cause	Casualties	Damages	Units
2015068354	4/5/2015	5300 HIDDEN CT	8	UNK	N	N	8
2015148261	7/14/2015	9200 Bruton Rd	1	UNK	N	N	4
2015157805	7/26/2015	Z St / Y St	UNK	Lg Compost Co.	N	N	5
2015169501	8/10/2015	Southerland Ave / Sargent Rd	2	Set Car Fire	N	1 Vehicle	5
2015174044	8/15/2015	L B J Fwy Eb / Spur 408 Ramp Nb	1	UNK	N	N	4
2015174811	8/16/2015	E Ledbetter Dr / Wadsworth Dr	5	UNK	N	N	10
2015176113	8/18/2015	8431 Creekbluff Dr	1	UNK	N	N	4
2015192645	9/8/2015	JULIUS SCHEPPS FWY SB / SIMPSON STUART RD	2	Car Fire	N	N	5
2015207815	9/27/2015	N L B J Ramp Wb / Emerald St	2	UNK	N	N	11
2015211534	10/2/2015	10011 Log Cabin Rd	2	UNK	N	N	5
2015222550	10/15/2015	3109 Chapel Creek Dr	1	Arson	N	N	4
2015225462	10/19/2015	S St Augustine Dr / L B J Acrd Wb	1	UNK	N	N	4
2014014003	1/19/2014	Cleveland Rd / Bonnie View Rd	10	UNK	N	N	4
2014016520	1/23/2014	12217 QUINCY LN	1	Power Lines	N	N	7
2014021123	1/29/2014	7333 E Northwest Hwy	1	UNK	N	N	4
2014034409	2/17/2014	13805 - 13899 L B J Fwy Wb	2	UNK	N	N	4
2014056388	3/19/2014	4601 W Kiest Blvd	2	UNK	N	N	4
2014124385	6/17/2014	11340 - 11398 C F Hawn Serv Eb	10	UNK	N	N	9
2014152160	7/23/2014	900 Pemberton Hill Rd	5	UNK	N	N	7
2014155355	7/27/2014	1301 N WALTON WALKER BLVD SB	4	UNK	N	N	8
2014179827	8/28/2014	Woody Rd / Greenhaw Ln	1	UNK	N	N	4
2014179994	8/28/2014	BRIERWOOD LN / S ST AUGUSTINE DR	15	UNK	N	N	18
2014204079	9/29/2014	2171 - 2191 DOWDY FERRY RD	3	UNK	N	N	6
2014229580	10/29/2014	5500 SCYENE RD	2	UNK	N	N	7
2014244549	11/19/2014	14101 - 14349 INTERSTATE 20	1	UNK	N	N	5
2013012792	1/18/2013	2900 PRICHARD LN	1	UNK	N	N	4
2013023677	2/3/2013	18880 Marsh Ln	1	Arson	N	N	5
2013042387	3/3/2013	40601 - 40659 L B J Fwy Wb	1	UNK	N	N	4
2013043864	3/5/2013	8001 L B J SERV WB	1	Power Lines	N	N	4
2013095171	5/15/2013	5900 W DAVIS ST	1	Burn Pile	N	N	4
2013115429	6/10/2013	Fm 1382 Hwy / Mansfield Rd	2	UNK	N	N	6
2013137526	7/9/2013	7529 Marietta Ln	1	UNK	N	N	5
2013152255	7/29/2013	8921 C F Hawn Fwy Eb	10	UNK	N	N	6
2013169995	8/21/2013	Scott St / Sunday St	2	UNK	N	N	5
2013175086	8/28/2013	I 20 WB / S BELT LINE RD	3	UNK	N	N	5

2013184196	9/9/2013	3116 S St Augustine Rd	1	UNK	N	N	5
2012000453	1/1/2012	400 S PRAIRIE CREEK RD	5	UNK	N	N	4
2012038098	2/29/2012	3100 - 3199 Mcneil St	5	UNK	N	N	5
2012126430	7/2/2012	7600 W CAMP WISDOM RD	3	Poss. Fireworks	N	N	4
2012127526	7/4/2012	L B J Fwy Eb / Mountain Creek Pkwy	1	Embers/Winds	N	N	5
2012135788	7/15/2012	3501 Samuell Blvd	1	UNK	N	N	5
2012142047	7/23/2012	Eagle Ford Dr / Mountain Creek Pkwy	12	UNK	N	N	7
2012142727	7/24/2012	S Walton Walker Blvd Nb / W Illinois Ave	3	UNK	N	N	4
2012157139	8/12/2012	12037 Kleberg Rd	3	UNK	N	N	5
2012220564	11/10/2012	5477 Barnes Bridge Rd	1	UNK	N	N	4
2012220934	11/10/2012	5620 Parkdale Dr	1	UNK	N	N	4
2011034925	2/17/2011	Highland Hills Dr / Bonnie View Rd	5	UNK	N	N	5
2011036261	2/19/2011	Wandt Dr / W Camp Wisdom Rd	5	UNK	N	N	4
2011039595	2/24/2011	3103 Wheelock St	1	UNK	N	N	4
2011061908	3/31/2011	401 E Wheatland Rd	10	Lg Mulch Co.	N	N	5
2011088695	5/8/2011	5599 Barnes Bridge Rd	2	Warming Fire	N	N	4
2011107688	6/4/2011	5599 Barnes Bridge Rd	1	Cigarette	N	N	4
2011117557	6/18/2011	L B J Ramp E / Spur 408	1	UNK	N	N	4
2011142403	7/22/2011	14550 Kleberg Rd	1	UNK	N	N	4
2011156953	8/11/2011	S MERRIFIELD RD / CAPELLA PARK AVE	3	UNK	N	UNK	4
2011157739	8/12/2011	3834 KIEST KNOLL DR	2	UNK	N	N	4
2011163839	8/20/2011	Mountain Creek Pkwy / W Kiest Blvd	1	Equipment Heat	N	N	6
2011164145	8/20/2011	9215 WHITE ROCK TRL	5	UNK	N	N	5
2011166223	8/23/2011	9755 CLIFFORD DR	1	UNK	N	N	4
2011170928	8/29/2011	Kleberg Rd / C F Hawn Fwy Eb	5	UNK	N	N	5
2011170946	8/29/2011	Elam Rd / N Prairie Creek Rd	5	UNK	N	N	4
2011174854	9/4/2011	321 Calumet Ave	20	UNK	N	N	10
2011176649	9/6/2011	L B J Fwy Wb / Spur 408	15	UNK	N	N	5
2011180976	9/12/2011	3535 MARVIN D LOVE SERV SB	1	UNK	N	N	4
2011183426	9/16/2011	CHALK HILL RD / W DAVIS ST	5	UNK	N	N	4
2011189579	9/24/2011	CHAPEL OAKS / CYPRESS WATERS BLVD	5	UNK	N	N	5
2011189752	9/24/2011	14901 North Lake Blvd	20	Assist Coppell	N	N	6
2011191077	9/26/2011	14901 North Lake Blvd	20	Assist Coppell	N	N	4
2011198666	10/7/2011	L B J Ramp Wb / S R L Thornton Fwy Nb	5	UNK	N	N	6
2010043034	3/3/2010	3406 Los Angeles Blvd	3	Poss. Arson	N	N	10
2010060597	3/29/2010	1257 S BELT LINE RD	5	UNK	N	N	6
2010149757	8/6/2010	3730 Mountain Creek Pkwy	30	UNK	N	N	17
2010152564	8/10/2010	C F Hawn Fwy Eb / Silverado Dr	1	UNK	N	N	4
2010158355	8/18/2010	E Laureland Rd / S R L Thornton Fwy Sb	2	UNK	N	N	5
2010160599	8/21/2010	6500 S LOOP 12	15	UNK	N	N	6

2010165991	8/29/2010	Seagoville Rd / Ranch Rd	5	UNK	N	N	4
2010170024	9/4/2010	L B J Fwy Wb / Plano Rd	1	UNK	N	N	4
2010179210	9/17/2010	28501 - 28699 L B J Fwy Wb	1	UNK	N	N	5
2010236635	12/14/2010	0 Kidd Springs Dr	2	UNK	N	N	4
2009011673	1/19/2009	Barnes Bridge Rd / Bobtown Rd	1	Assist Garland	N	N	4
2009012704	1/20/2009	Forney Rd / Sam Houston Rd	1	UNK	N	N	8
2009032212	2/19/2009	S Walton Walker Blvd Sb / W Illinois Ave	1	UNK	N	N	4
2009105919	6/10/2009	2222 N St Augustine Dr	5	Arson	N	N	7
2009149321	8/10/2009	L B J Fwy Eb / Plano Rd	1	UNK	N	N	4
2008006711	1/11/2008	L B J Acrd Eb / N Stemmons Nb L B J Eb Ramp Eb	1	UNK	N	N	4
2008012315	1/20/2008	800 Wideman Dr	1	UNK	N	N	4
2008019286	1/30/2008	733 Cliffview Dr	5	UNK	N	N	6
2008023005	2/4/2008	4500 W JEFFERSON BLVD	5	UNK	N	N	5
2008038098	2/27/2008	3320 Los Angeles Blvd	3	UNK	N	N	5
2008118831	6/24/2008	4398-4508 Spur 408 Nb	2	UNK	N	N	5
2008121765	6/28/2008	5248-5265 Handicap Cir	1	UNK	N	N	4
2008142905	7/27/2008	S R L Thornton Acrd Sb / W Ledbetter Dr	1	UNK	N	N	4
2008144067	7/29/2008	S LEDBETTER DR / W KIEST BLVD	1	UNK	N	N	4
2008148317	8/3/2008	4200 SINGLETON BLVD	1	UNK	N	N	6
2008155905	8/14/2008	Southerland Ave / Sargent Rd	20	UNK	N	N	10
2008210934	11/4/2008	2600 COOMBS CREEK DR	5	UNK	N	N	6
2008214056	11/9/2008	N Stemmons Fwy Sb / L B J Fwy Wb	2	UNK	N	N	4
2008221962	11/20/2008	524-535 BARNES BRIDGE RD	5	UNK	N	N	4
2008244708	12/25/2008	10500 Leroy Ct	1	UNK	N	N	4
2008246614	12/28/2008	C F Hawn Fwy Eb / S St Augustine Dr	2	UNK	N	N	4
2007099981	9/15/2007	Marvin D Love Acrd Nb / L B J Fwy Wb	1	UNK	N	N	6
2007139228	11/11/2007	401 E WHEATLAND RD	20	Lg Mulch Co.	N	N	21
2007150521	11/28/2007	1634 Nina Dr	1	UNK	N	N	5
2007155169	12/5/2007	E Camp Wisdom Rd / S R L Thornton Fwy Nb	1	UNK	N	N	4

Appendix G
Proposed Objectives, Projects, and Goals

2023 - 2028 Planning and Projects		
	TIMELINE	**PARTNERS**
Outreach and Education		
Firewise USA	Within 2 years & ongoing	Texas A&M Forest Service, COD Forestry Task force, DFR, Neighborhoods
Home Ignition Zone Education	Within 2 years & ongoing	Texas A&M Forest Service, COD Forestry Task force, DFR, Neighborhoods
Ready, Set, Go!	Within 2 years & ongoing	Texas A&M Forest Service, COD Forestry Task force, DFR, Neighborhoods
Home Hardening Techniques	Within 2 years & ongoing	Texas A&M Forest Service, COD Forestry Task force, DFR, Neighborhoods
Firewise Landcaping Techniques	Within 2 years & ongoing	Texas A&M Forest Service, COD Forestry Task force, DFR, Neighborhoods
Property Inspections and/or Assessments	Within 2 years & ongoing	SWO
Community Fire Hazard Mitigation Methodology	Within 2 years & ongoing	SWO, DFR
Neighborhood Protection		
Create Firebreaks	Within 5 years	Texas A&M Forest Service, SWO, Parks & Rec, DFR, Dallas County
Create Neighborhood Buffers	Within 5 years	Texas A&M Forest Service, SWO, Parks & Rec, DFR, Dallas County
Address public health and safety from effects of smoke from wildfire and and prescribed fire	Within 2 years & ongoing	SWO, DFR, OEQ
Fuel Load Reduction: Focus is Joppa, Riverwood, The Woods/Baeglen Neighborhoods and the Trinity Forest		
Defensable space around homes, businesses, and other structures	Within 4 years	SWO, Parks & Rec, DFR, Dallas County, USACE
Fuel reduction beyond defensable space adjacent to at risk communities	Within 5 years & ongoing	SWO, Parks & Rec, DFR, Dallas County, USACE
Debris removal by cutting, chipping, and burning	Within 5 years & ongoing	SWO, Parks & Rec, DFR, Dallas County, USACE
Debris removal by mechanical mulcher, masticator, and/or burn box	Within 5 years & ongoing	SWO, Parks & Rec, DFR, Dallas County, USACE
Reduction of hazardous fuels through prescribed fire	Within 5 years & ongoing	Texas A&M Forest Service, SWO, Parks & Rec, DFR, USACE
Vegetation management	Within 5 year & ongoing	SWO, Parks & Rec
Development of a Weed Abatment Program	Within 3 years & ongoing	SWO, Parks & Rec
Prescribed Burns		
Prescribed fire and smoke managment training	Within 3 years & ongoing	Texas A&M Forest Service, SWO, Parks & Rec, DFR
Staffing		
Creation of fulltime Dallas Fire Rescue Wildland Team Coordinator position	Within 3 years	DFR