

Discovery Report

Elm Fork Trinity River, HUC 12030103

Collin, Cooke, Dallas, Denton, Grayson, Montague, and Wise Counties, Texas

Community Listing Available on Page i

05.09.2014



FEMA

Project Area Community List

Community Name	CID
Collin County	480130
Carrollton, City of	480167
Celina, City of	480133
Dallas, City of	480171
Frisco, City of	480134
McKinney, City of	480135
Plano, City of	480140
Prosper, Town of	480141
Cooke County	480765
Callisburg, City of	480260
Gainesville, City of	480154
Lindsay, City of	480766
Muenster, City of	480767
Oak Ridge, Town of	480216
Valley View, Town of	480217
Dallas County	480165
Addison, Town of	481089
Carrollton, City of	480167
Coppell, City of	480170
Dallas, City of	480171
Farmers Branch, City of	480174
Irving, City of	480180
University Park, City of	480189
Denton County	480774
Argyle, Town of	480775
Aubrey, City of	480776
Bartonville, Town of	481501
Carrollton, City of	480167
Celina, City of	480133
Copper Canyon, Town of	481508
Corinth, City of	481143
Cross Roads, Town of	481513

Community Name	CID
Dallas, City of	480171
Denton, City of	480194
Double Oak, Town of	481516
Frisco, City of	480134
Hackberry, Town of	481607
Hebron, Town of	481495
Hickory Creek, Town of	481150
Highland Village, City of	481105
Krugerville, City of	481661
Krum, City of	480779
Lake Dallas, City of	480780
Lakewood Village, City of	481663
Lewisville, City of	480195
Lincoln Park, Town of	480781
Little Elm, Town of	481152
Northlake, Town of	480782
Oak Point, City of	481639
Pilot Point, City of	480783
Plano, City of	480140
Ponder, Town of	480784
Sanger, City of	480786
Shady Shores, Town of	481135
The Colony, City of	481581
Grayson County	480829
Collinsville, Town of	480831
Dorchester, Town of	481309
Gunter, City of	480832
Tioga, Town of	481624
Whitesboro, City of	481623
Montague County	480939
Saint Jo, City of	480940
Wise County	481051

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Acronyms and Abbreviations

AAL	Average Annualized Loss
CDC	Corridor Development Certificate
CID	Community Identification Number
CNMS	Coordinated Needs Management Strategy
CRS	Community Rating System
EMC	Emergency Management Coordinator
ESRI	Environmental Systems Research Institute
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FY	Fiscal Year
G&S	Guidelines and Specifications for Flood Hazard Mapping Partners
GIS	Geographic Information System
HAZUS	Hazards United States
HUC	Hydrologic Unit Code
HWM	High Water Mark
LiDAR	Light Detection and Ranging

Acronyms and Abbreviations (continued)

MNA	Map Needs Assessment
NFIP	National Flood Insurance Program
NHD	National Hydrologic Dataset
NRCS	Natural Resources Conservation Service
NVUE	New Validated or Updated Engineering
RAMPP	Risk Mapping, Assessment, and Planning Partners
RSC	Regional Service Center
Risk MAP	Risk Mapping, Assessment, and Planning Program
RL/SRL	Repetitive Loss / Severe Repetitive Loss
TNRIS	Texas Natural Resources Information System
TWDB	Texas Water Development Board
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey

I. Executive Summary

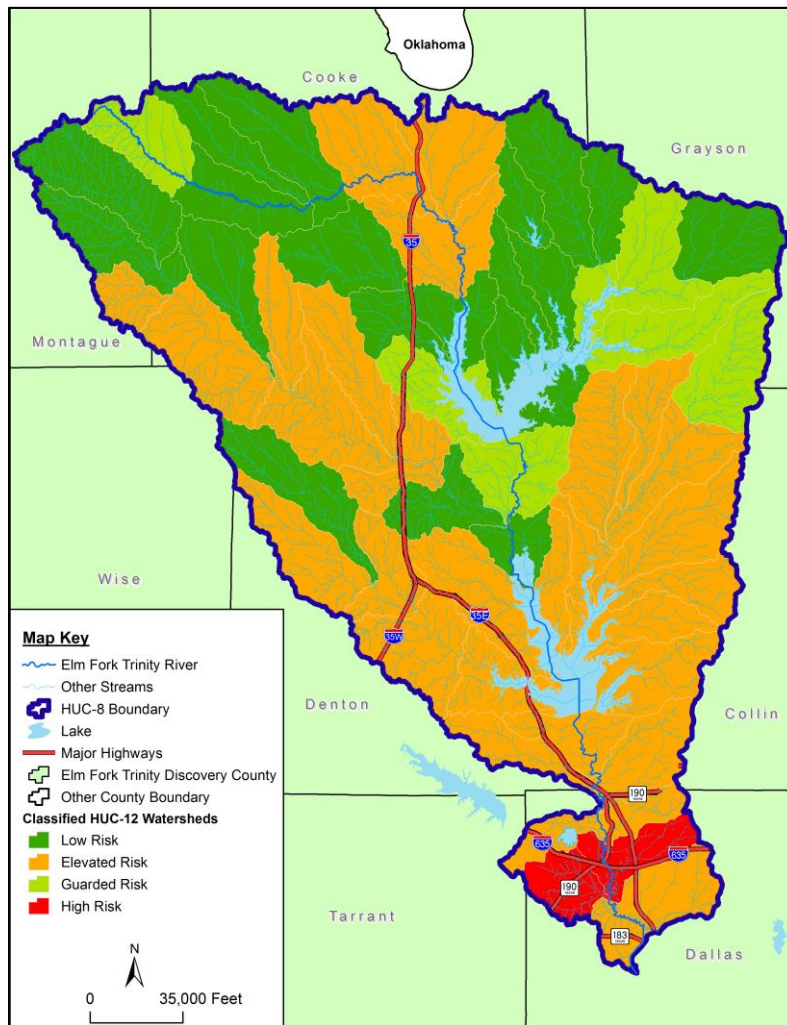
The Federal Emergency Management Agency (FEMA) is currently implementing the Risk Mapping, Assessment, and Planning (Risk MAP) Program across the nation. As part of the Risk MAP process, FEMA in partnership with the North Central Texas Council of Governments (NCTCOG) undertook the Discovery process in the Elm Fork Trinity watershed to gather local information, readily available data to determine project viability, and the need for Risk MAP products to assist in the movement of communities towards resilience.

Through the Discovery process, FEMA can determine which areas of the Hydrologic Unit Code-8 (HUC-8) Discovery watershed may/will be funded for further flood risk identification and assessment in a collaborative manner. The Discovery effort targets numerous local, regional, State, and Federal stakeholders from throughout the watershed to gather information about flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help communities identify areas of risk.

The Discovery Engagement Effort in this watershed was achieved by individual phone calls with local stakeholders as well as Pre-Discovery webinars. These Pre-Discovery webinars were used to provide information about the Discovery process. A key feature of the NCTCOG Discovery Engagement Effort was the 2009 Upper Trinity River Basin Map Needs Assessment (MNA) project results. The MNA included an unbiased prioritization of mapping needs throughout the basin. In an effort to gain public awareness of the Elm Fork Trinity Discovery process, NCTCOG generated a Discovery newsletter, delivered it to all stakeholders within the watershed, posted information on the NCTCOG website, and held informational webinars for the watershed stakeholders.

Each stakeholder was encouraged to attend the Discovery meetings and become engaged in the Elm Fork Trinity Discovery process. The Discovery meetings were held on May 28, 2013 in Gainesville, Texas and on June 25, 2013 in Frisco, Texas. The main goals of the Discovery meetings were to review and validate the gathered flood risk data, discuss the community's flooding history, development plans, flood mapping needs, and flood risk concerns; and to discuss the vision for the watershed's future, as well as the importance of mitigation planning and community outreach.

Following the Discovery meetings, the identified mapping needs were prioritized similar to the 2009 Upper Trinity River Basin Map Needs Assessment prioritization. The ranking is a combination of Coordinated Needs Management Strategy (CNMS) criteria and guidance from the Texas Water Development Board (TWDB). This procedure is further explained in the following report. The results of the prioritization are illustrated in the figure below.



HUC-12 Watershed Prioritization

In addition to mapping needs, a summary of all the stakeholder comments including mapping, mitigation actions and concerns, and requests for community assistance were summarized. Potential mitigation actions and FEMA-based metrics were added to this summary to help identify projects that may/will be funded. Please see Table 15 for a full list of watershed prioritizations. This data will be used to update the CNMS Database and identify potential projects within the watershed.

Elm Fork Potential Watershed Projects

HUC-8	Project FY	HUC-12 Watershed Group	Community	Milestones	Owner
Elm Fork	FY14	Cottonwood Branch-Hackberry Creek 1 Flood Risk Identification Project	<ul style="list-style-type: none"> Irving (10.89 stream miles) 	<ul style="list-style-type: none"> Perform CTP tasks 	<ul style="list-style-type: none"> NCTCOG CTP
Elm Fork	Future FY	Cottonwood Branch-Hackberry Creek 2 Flood Risk Identification Project	<ul style="list-style-type: none"> Irving (8.91 stream miles) 	<ul style="list-style-type: none"> Perform CTP tasks 	<ul style="list-style-type: none"> NCTCOG CTP
Elm Fork	Future FY	Cottonwood Branch-Hackberry Creek 3 Flood Risk Identification Project	<ul style="list-style-type: none"> Irving (17.37 stream miles) 	<ul style="list-style-type: none"> Perform CTP tasks 	<ul style="list-style-type: none"> NCTCOG CTP
Elm Fork	Future FY	Farmers Branch-Elm Fork Trinity Flood Risk Identification Project	<ul style="list-style-type: none"> Farmers Branch (16.36 stream miles) Carrollton (1.17 stream miles) Addison (0.69 stream miles) 	<ul style="list-style-type: none"> Perform CTP tasks 	<ul style="list-style-type: none"> NCTCOG CTP

Several potential Targeted Actions were identified during the Discovery Process. These actions are opportunities for continued involvement with those stakeholders in the Elm Fork Trinity watershed. The Targeted Actions were entered into FEMA’s Mitigation Action Tracker on May 9, 2014. Additional effort should be made to encourage the handful of communities within the watershed not currently participating to join the National Flood Insurance Program (NFIP) and to encourage interested communities to join the Community Rating System (CRS) Program.

Targeted Actions

Action Item	Focus Area	Community	Milestones	Deadline	Owner
Encourage non-participating communities to join NFIP	Regional	<ul style="list-style-type: none"> City of Lincoln Park City of Whitesboro Town of Dorchester Town of Valley View 	<ul style="list-style-type: none"> Increase outreach to non-participating communities Hold informational workshops for non-participating communities Identify number of properties within the floodplain in non-participating communities Assist communities with preparing application documents Assist communities with developing/adopting floodplain management regulations 	<ul style="list-style-type: none"> Workshops by March 2015 Continuous effort to assist with regulations 	NCTCOG & FEMA

Targeted Actions

Action Item	Focus Area	Community	Milestones	Deadline	Owner
Promote adoption of higher floodplain ordinance standards	Regional	<ul style="list-style-type: none"> Communities that have not participated in TFMA Higher Standards survey 	<ul style="list-style-type: none"> Target outreach to communities to participate in TFMA Survey Assist communities with selecting/adopting higher standards 	<ul style="list-style-type: none"> Annual In conjunction with CRS efforts 	NCTCOG & FEMA
Encourage non-participating communities to join CRS program	Regional	See Table 13 for list of non-participating communities	<ul style="list-style-type: none"> Hold informational workshop for all non-participating communities Hold in-depth workshop on application preparation for interested communities Assist communities with preparing application Form FAST-CRS Users group for DFW metroplex to promote sharing of knowledge and resources between CRS participants and those who are interested in joining 	<ul style="list-style-type: none"> Workshops by March 2015 Continuous support for application renewal 	NCTCOG & FEMA
Assist communities with development of Hazard Mitigation Plan	Regional	See area below Table 6 for list of communities without an approved hazard mitigation plan	<ul style="list-style-type: none"> Verify community hazard mitigation plan status Hold workshops with interested communities to develop HMP, with efforts focused on flood hazards Hold workshops with communities to update HMP Hold workshops to train community staff on how to implement and uphold HMP 	<ul style="list-style-type: none"> Workshops by March 2015 Continuous support for plan updates and renewal 	NCTCOG & FEMA
Promote adoption of <i>integrated</i> Stormwater Management (iSWM) program	Regional	All communities within NCTCOG area	<ul style="list-style-type: none"> Promote iSWM roundtable and establish regional outreach/education program Assist communities with adopting iSWM standards 	<ul style="list-style-type: none"> Continuous support for interested communities 	NCTCOG

Targeted Actions

Action Item	Focus Area	Community	Milestones	Deadline	Owner
Update NCTCOG RiskMAP business plan annually	Watershed	All communities within NCTCOG area	<ul style="list-style-type: none"> • Hold Public Works Roundup and Floodplain Administrators Roundtable meetings to gain stakeholder feedback • Continue Floodplain Management Task Force for Trinity River Common Vision Program • Collect feedback, concerns, and needs from communities • Incorporate community feedback into annual plan submitted to FEMA 	<ul style="list-style-type: none"> • Annually • Prepare Draft Plan by end of each year (Dec 2014) • Finalize updating plan in Spring annually 	NCTCOG

Overall, the Elm Fork Trinity Discovery process was successful in gathering and documenting information about flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help FEMA and the communities identify areas that may/will be funded for further flood risk identification and assessment.

II. Discovery Overview

FEMA is currently implementing the Risk MAP Program across the nation. The purpose of Risk MAP is continued improvement of flood hazard information for the National Flood Insurance Program (NFIP), the promotion of increased national awareness and understanding of flood risk and the support of Federal, State, and local mitigation actions to reduce risk.

The vision and intent of the Risk MAP program is to, through collaboration with State and Local entities, deliver quality data that increases public awareness and leads to mitigation actions that reduce risk to life and property. To achieve this vision, FEMA has transformed its traditional flood identification and mapping efforts into a more integrated process of more accurately identifying, assessing, communicating, planning, and mitigating flood risks. Risk MAP attempts to address gaps in flood hazard data and form a solid foundation for risk assessment, floodplain management, and provide State and Local entities with information needed to mitigate flood related risks.

The FEMA Region VI office, in partnership with the NCTCOG began the Discovery process in the Elm Fork Trinity watershed in April 2013 to gather local information and readily available data to determine project viability and the need for Risk MAP products to assist in the movement of communities towards resilience. Halff Associates, Inc. (Halff) was selected as NCTCOG's contractor to perform Risk MAP services in the Elm Fork Trinity watershed, a United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) watershed.

Through the Discovery process, FEMA can determine which areas of the HUC-8 Discovery watersheds may/will be funded for further flood risk identification and assessment in a collaborative manner while taking into consideration the information collected from local communities during this process. Discovery initiates open lines of communication and relies on local involvement for productive discussions about flood risk. The process provides a forum for a watershed-wide effort to understand the interrelationships between upstream and downstream community flood risk throughout the watershed. In Risk MAP, projects are analyzed on a watershed basis; Discovery Meetings target numerous stakeholders throughout the watershed on local, regional, State, and Federal levels.

In May 2013 and June 2013, FEMA, the State, NCTCOG, and Halff held a series of Pre-Discovery informational webinars, as well as two Discovery Meetings in the watershed area. During Discovery, the NCTCOG and Halff reached out to local communities to:

- Gather information about local flood risk and flood hazards
- Review current and historic mitigation plans to understand local mitigation capabilities, hazard risk assessments, and current or future mitigation activities
- Include multi-disciplinary staff from within their community to participate and assist in the development of a watershed vision

i. Watershed Selection

North Central Texas Council of Governments History

The NCTCOG is a proactive agency that has a long history of supporting floodplain management activities in the area comprising a 16-county region of North Central Texas, and covering over 24% of the population of the State of Texas. NCTCOG led and implemented new strategies over the past decades such as the Corridor Development Certificate (CDC) for local floodplain permit decision making along the Trinity River Corridor since 1993. NCTCOG has been a Cooperating Technical Partner (CTP) with FEMA since 2004. From providing critical Light Detection and Ranging (LiDAR) data for Map Modernization (Map Mod) activities to offering up-to-date floodplain management training for floodplain managers and community leaders in the region, NCTCOG has served as a key stakeholder for risk reduction in North Texas.

In 2009, NCTCOG worked with the TWDB to complete the Upper Trinity River Watershed Flood MNA study. This effort quantified unmet flood hazard mapping needs and helped plan for future flood mapping projects in our Region. The MNA project helped collect, process, and prioritize regional flood mapping needs and developed procedures and guidelines for a Statewide MNA process. The MNA project covered 12 NCTCOG counties either partially or fully and 8 other counties partially. The MNA effort identified 1,291 mapping requests representing 2,370 stream miles with an estimated cost of approximately \$44 million. NCTCOG and TWDB worked hard to integrate our efforts with FEMA's Coordinated Needs Management Strategy (CNMS) to ensure that the work aligned with FEMA's Risk MAP goals and procedures. This effort is an essential component of Risk MAP Discovery and was used as a key basis for the selection of the Elm Fork Trinity River Watershed. More information regarding the 2009 MNA project is included in the Engagement Efforts section of this report.

Watershed Characteristics (Location, Topography, Soils, and Climate)

The Elm Fork Trinity Watershed is located in North Texas and covers portions of Collin, Cooke, Dallas, Denton, Grayson, Montague, and Wise Counties. See Figure 1 for a location map of the Elm Fork Trinity watershed including the Congressional and Senate Districts. The watershed encompasses 52 communities covering approximately 1,858 square miles. The watershed is bound by the Lake Texoma and Farmers-Mud basins to the north, the Bois D'Arc-Island and East Fork Trinity basins to the east, the Denton basin to the west, and the Lower West Fork Trinity and Upper Trinity basins to the south. The watershed is primarily drained by the Elm Fork Trinity River, which empties into the Trinity River. Some of the main tributaries include Bachman Branch, Bear Creek, Duck Creek, Farmers Branch, Hackberry Creek, Indian Creek, Panther Creek, Pecan Creek, Rawhide Creek, Spring Creek, Timber Creek, Whites Creek, and Wolf Creek.

The Elm Fork Trinity Watershed is an inland watershed that is characterized by undulating plains and hilly areas with scattered woods that are dissected by numerous streams. The watershed covers portions of the Blackland Prairies and Cross Timbers Prairies. The Blackland Prairies is characterized by oak, pecan, elm, bois d'arc, and mesquite trees along with unproductive grasses. The Cross Timbers Prairies is characterized by uniform grasslands including Canada wildrye, hairy grama, Texas wintergrass and buffalograss. The area has been invaded by woody brush plants such as mesquite, juniper, and oak. Annual rainfall in the basin ranges from 30 to 40 inches per year. The soils include "cracking clays", loams, and claypans. The majority of the soils in the watershed are well drained with erosion creating serious problems in grazing areas. These soils are well suited for agricultural uses.

Population / Land Use

According to the 2010 U.S. Census estimates, the population within the watershed is approximately 1,218,000 people. Figure 5 displays the Elm Fork Trinity watershed population density. The watershed has a wide variety of land use as displayed in Figure 6. It contains both open spaces and major metropolitan areas. There is a large amount of urban cover in this watershed as depicted in Figure 7. The percent population change from 2000 to 2010 is displayed in Figure 8.

Current Effective Floodplains

The effective dates for the Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FIS) for Collin, Cooke, Dallas, Denton, Grayson, Montague, and Wise Counties are listed below in Table 1. Floodplain information for these counties are displayed in Figure 9. All counties were updated to Digital FIRMs (DFIRMs) as part of FEMA's Map Mod program that began in 2004.

Table 1: Current Effective Floodplain Data

County	Status	Preliminary Date	Effective Date
Collin	Preliminary PMR*	8/13/2013	6/2/2009
Cooke	Effective	9/29/2006	1/16/2008
Dallas	Initial Preliminary (Map Mod), Revised Preliminary (Map Mod), Dallas CTP FY10	6/22/2007, 9/28/2010, 8/15/2012	7/7/2014**
Denton	Effective	6/29/2007	4/18/2011
Grayson	Effective	9/30/2008	9/29/2010
Montague	Effective	5/29/2009	8/16/2011
Wise	Effective	8/31/2009	12/16/2011

*Does not affect entire county

**LFD issued

It should be noted that there are no Special Flood Hazard Areas (SFHA) identified in Montague County along the border with Cooke County. This absence of data is also shown in Figure 9.

Available Topographic Data

The entire watershed is covered by TNRIS Light Detection and Ranging (LiDAR) elevation data. There are three LiDAR datasets within the basin: Montague/Cooke/Grayson/Wise County LiDAR obtained in 2010, North Texas (Denton/Collin County) LiDAR obtained in 2011, and Dallas/Fort Worth LiDAR obtained in 2009. These areas are displayed in Figure 10.

Coordinated Needs Management Strategy (CNMS) / FEMA Library Information

The CNMS Inventory provides an overview of the status and attributes of existing studies within FEMA's floodplain inventory. It also provides some insight on certain physiological, climatological, or engineering methodological factors that may have changed since the date of the effective study. These attributes and change factors are considered when assigning each study a "validation status." Studies categorized as "Valid" are studies that contribute to FEMA's New Validated or Updated Engineering (NVUE) metric. Studies categorized as "Unverified" are studies that have yet to be assessed by FEMA. The CNMS classifications for the 2013 Elm Fork Trinity Watershed Discovery are displayed on Figures 5. The CNMS inventory documents 314 miles of "assessed" studies, 111 miles of "valid, NVUE compliant" studies and 3,236 miles of "unverified" studies within the Elm Fork Trinity watershed 2013 Discovery Study.

Disaster Declarations / Flood Insurance Claims / Repetitive Losses

The Elm Fork Trinity watershed has experienced a high number of disaster declarations in the last 60 years. Table 2 provides details of these disaster declarations. These disasters often produce flooding events that leave high water marks. High water marks provide a reference point for planning and mitigation efforts in the area. TNRIS maintains a database of historical high water marks. There are 174 documented high water marks within the Elm Fork Trinity watershed. These are shown on Figure 11.

Table 2: Summary of Disaster Declarations

Date of Declaration	Hazard	Affected Counties
5/15/1953	Tornado and Heavy Rain	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
6/19/1953	Flood	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
7/1/1954	Flood	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
4/29/1957	Hurricane, Rain, Wind, Hail and Floods	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
6/6/1958	Tornadoes, Rain, Hail and Floods	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
7/8/1959	Floods	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
7/15/1960	Heavy Rains, Hail, Floods and Tornadoes	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
9/19/1961	Hurricane Carla	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
9/24/1963	Hurricane Cindy	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
5/12/1966	Severe Storms and Flooding	Collin, Cooke, Denton
11/30/1974	Severe Storms and Flooding	Cooke, Denton
7/28/1979	Storms and Flash Floods	Dallas
10/23/1981	Severe Storms and Flooding	Cooke, Grayson, Montague, Wise
5/19/1989	Severe Storms, Tornadoes and Flooding	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
5/2/1990	Severe Storms, Tornadoes and Flooding	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
12/26/1991	Severe Thunderstorms	Dallas, Wise
9/10/1993	Extreme Fire Hazard	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
4/29/1994	Severe Storms and Tornadoes	Cooke, Dallas
2/23/1996	Extreme Fire Hazard	Dallas, Denton, Wise
6/23/1998	Fire	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
8/26/1998	Tropical Storm Charley	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
9/1/1999	Extreme Fire Hazard	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
1/3/2000	Saddleback Fire	Wise
1/8/2001	Severe Winter Ice Storm	Cooke, Grayson, Montague
2/1/2003	Loss of the Space Shuttle Columbia	Collin, Dallas, Denton, Grayson

Table 2: Summary of Disaster Declarations

Date of Declaration	Hazard	Affected Counties
9/2/2005	Hurricane Katrina Evacuation	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
9/21/2005 – 9/24/2005	Hurricane Rita	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
1/1/2006	Ringgold Fire	Montague
1/11/2006	Extreme Wildfire Threat	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
6/27/2006	North Trinity Fire	Denton
5/1/2007	Severe Storms and Tornadoes	Denton
6/29/2007	Severe Storms, Tornadoes and Flooding	Collin, Cooke, Denton, Grayson, Montague, Wise
8/18/2007	Hurricane Dean	Dallas
3/14/2008	Wildfires	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
8/29/2008	Hurricane Gustav	Collin, Dallas, Denton
9/10/2008	Hurricane Ike	Collin, Dallas, Denton, Grayson, Wise
7/1/2011	Wildfires	Montague
9/9/2011	Wildfires	Grayson, Montague, Wise

Source: FEMA, 2013. “Disaster Declarations for Texas”, <http://www.fema.gov/disasters/grid/state-tribal-government/24>

There are a number of NFIP insurance claims located within the Elm Fork Trinity watershed. Table 3 lists this information. In addition to NFIP claims, there are several Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties within the watershed. The majority of these RL/SRL properties are located in Cooke County. Table 4 summarizes the RL/SRL locations by county and community within the watershed. The locations of these RL/SRL properties are displayed in Figure 12.

Table 3: NFIP Loss Information

Community	CID	Population	Total Losses	Open Losses	CWOP* Losses	Total Payments
Argyle	480775	3,282	6	4	2	\$3,383
Carrollton	480167	119,097	118	51	67	\$343,971
Collin County	480130	782,341	34	24	10	\$698,376
Cooke County	480765	38,437	27	19	8	\$374,638.40
Coppell	480170	38,659	12	3	9	\$2,521
Copper Canyon	481508	1,334	1	0	1	N/A
Corinth	481143	19,935	15	9	6	\$14,918
Dallas	480171	1,197,816	909	639	269	\$11,405,733
Dallas County	480165	2,368,139	79	60	19	\$1,162,928
Denton	480194	113,383	116	81	34	\$125,527
Denton County	480774	662,614	59	39	20	\$531,459
Double Oak	481516	2,867	11	10	1	\$82,208
Farmers Branch	480174	28,616	75	57	18	\$792,186
Flower Mound	480777	64,669	31	23	8	\$550,866
Frisco	480134	116,989	8	4	4	\$6,134
Gainesville	480154	16,002	300	268	32	\$8,288,583.21
Grapevine	480598	46,334	43	33	10	\$897,801

Table 3: NFIP Loss Information

Community	CID	Population	Total Losses	Open Losses	CWOP* Losses	Total Payments
Grayson County	480829	120,877	107	90	17	\$3,713,054.79
Gunter	480832	1,498	4	4	0	\$55,738.02
Highland Village	481105	15,056	15	10	5	\$48,191
Irving	480180	216,290	154	117	37	\$883,495
Lake Dallas	480780	7,105	4	1	3	N/A
Lewisville	480195	95,290	49	45	4	\$532,475
Lindsay	480766	1,018	28	27	1	\$710,457.72
Little Elm	481152	25,898	2	2	0	\$2,353
McKinney	480135	131,117	8	5	3	\$113,406
Montague County	480939	19,719	42	35	7	\$544,268.68
Muenster	480767	1,544	1	1	0	\$3,863.42
Oak Point	481639	2,786	1	1	0	\$3,496
Pilot Point	480783	3,856	2	2	0	\$26,129
Plano	480140	259,841	79	50	29	\$159,696
Sanger	480786	69,196	4	3	1	\$57,524
The Colony	481581	36,328	2	2	0	\$890
University Park	480189	23,068	5	4	1	\$7,672
Wise County	481051	59,127	33	28	5	\$309,664

Source: National Flood Insurance BureauNet, Loss Information as of 3/1/2014. <http://bsa.nfipstat.fema.gov>.

Population data is from 2010 Census

*CWOP – Closed Without Payment

Table 4: Summary of Repetitive Loss and Severe Repetitive Loss Claims

Community Name*	Number of RL/SRL Properties	Total Claims
Cooke County		
City of Gainesville	42	268
City of Lindsay	6	27
Dallas County		
City of Carrollton	5	51
City of Dallas	10	639
City of Farmers Branch	8	57
City of Irving	3	-
Denton County		
City of Argyle	1	4
City of Aubrey	1	39
Town of Copper Canyon	1	-
City of Corinth	2	9
City of Denton	5	81
Town of Double Oak	2	10
Town of Flower Mound	2	23

Table 4: Summary of Repetitive Loss and Severe Repetitive Loss Claims

Community Name*	Number of RL/SRL Properties	Total Claims
City of Lewisville	7	5
Town of Pilot Point	1	2
City of Sanger	1	3
Grayson County		
City of Gunter	1	4
City of Whitesboro	1	-
*No claims found for communities not listed. Numbers reflect claims within Elm Fork Trinity watershed only.		

Source: FEMA Repetitive Loss/Severe Repetitive Loss Dataset as of 12/31/2012

Average Annualized Loss (AAL)

HAZUS is FEMA’s methodology for estimating potential losses from disasters such as earthquakes, floods, and hurricanes. FEMA’s 2010 HAZUS Flood Average Annualized Loss (AAL) study is a nationwide Level 1 analysis because it utilized national datasets (30-meter Digital Elevation Models, 2000 US Census, etc.). The results of the 2010 AAL study are best used at the county level rather than neighborhood or parcel level. Figure 13 displays the potential annualized loss risk resulting from the 2010 HAZUS study. The majority of the watershed is considered very low risk with a few isolated areas at higher risk. It should be noted that the highest AAL for any Elm Fork Trinity census tract was \$7,306,000.

FEMA also uses a risk decile to calculate risk. This risk decile is calculated per HUC-8 based on nine parameters including: total population density, historical population growth, predicted population growth, housing units, flood policies, single claims, repetitive losses, and declared disasters. The risk decile scale is a ranking of 1 to 10, with 1 being the highest and 10 being the lowest level of risk. Table 5 below displays the National Risk Decile ranking for the Elm Fork Trinity watershed. The Texas Geographic Society has generated a Texas Hazard Mitigation Package information that includes a risk based on population vulnerability to the 1-percent-annual-chance flood event. This risk layer is displayed in Figure 14.

Table 5: National Risk Decile Ranking

Elm Fork Trinity Risk Decile Rankings
Population: 1,218,000
National Risk Factor Rank: 72
National Risk Percentage: 0-25%
National Risk Decile: 1
National Risk Factor: 0.00267

Source: Texas Hazard Mitigation Plan, 2013

Hazard Mitigation Plans

There are a number of Hazard Mitigation Plans throughout the Elm Fork Trinity Watershed. Table 6 lists FEMA-approved plans and communities that have adopted one of the approved plans.

Table 6: Mitigation Plan Status

Organization and Plan	Date Approved by FEMA	Expires	Adopted by
State of Texas Hazard Mitigation Plan	October 21, 2010	October 15, 2016	
Collin County	February 18, 2011	May 31, 2016	Frisco, Unincorporated Collin County
Cooke County	February 15, 2011	February 15, 2016	Gainesville, Lindsay, Muenster, Oak Ridge, Valley View, Unincorporated Cooke County
Dallas County	Draft 2014	2019	Addison, Carrollton, Coppell, Dallas, Farmers Branch, Irving, Unincorporated Dallas County, University Park, Wilmer
Denton County	February 18, 2011	May 26, 2016	Denton, Corinth, Lewisville, The Colony, Unincorporated Denton County
Grayson County	February 23, 2012	April 29, 2017	Collinsville, Dorchester, Gunter, Tioga, Whitesboro, Unincorporated Grayson County
City of McKinney	Draft 2013	TBD	McKinney
City of Plano	TBD	January 3, 2018	Plano
Town of Little Elm	July 2013	TBD	Little Elm

Communities without a Hazard Mitigation Plan include:

- Argyle
- Aubrey
- Bartonville
- Callisburg
- Celina
- Copper Canyon
- Cross Roads
- Double Oak
- Hackberry
- Hebron
- Hickory Creek
- Krugerville
- Krum
- Lake Dallas
- Lakewood Village
- Lincoln Park
- Northlake
- Pilot Point
- Ponder
- Prosper
- Saint Jo
- Sanger
- Shady Shores

III. Discovery Efforts

i. Engagement Effort

The Elm Fork Trinity Engagement Effort was completed throughout the Pre-Discovery efforts of the Regional Project Team. Table 7 lists the regional project staff.

Table 7: Regional Project Team

Organization	Name	Project Role
FEMA R6 – Risk Analysis	Matt DuBois	Project Monitor (PM) / Risk Analysis
FEMA R6 – Risk Analysis (Mitigation Planning)	David Reiff	Mitigation Planning
FEMA R6 – Risk Analysis	Ron Wanhanen	Risk Analysis
FEMA R6 – Risk Analysis	Shona Gibson	Risk Analysis
FEMA R6 – Floodplain Management & Insurance	Dale Hoff	NFIP Administration / Compliance
FEMA R6 – Hazard Mitigation Assistance	Brianne Schmidtke	Grants
USACE	Jerry Cotter	USACE – Fort Worth District
Cooperating Technical Partner – North Central Texas Council of Governments (NCTCOG)	Jack Tidwell	CTP
Cooperating Technical Partner – North Central Texas Council of Governments (NCTCOG)	Leo Valencia	CTP
Cooperating Technical Partner – North Central Texas Council of Governments (NCTCOG)	Jessica Baker	CTP Contractor
Cooperating Technical Partner – North Central Texas Council of Governments (NCTCOG)	Catherine Rowley	CTP Contractor
State of Texas – NFIP Coordinator/TWDB	Michael Segner	NFIP Coordinator
State of Texas – State Hazard Mitigation Officer	Johnna Cantrell	SHMO
State of Texas – Texas Water Development Board (TWDB)/TNRIS	Ben Buchanan	Floodplain Mapping and Data Support
Production and Technical Services Contractor – RAMPP	Elizabeth Levitz	RAMPP Study Manager (SM)
Production and Technical Services Contractor – RAMPP	Charla Marchuk	RAMPP Discovery Team Member

The Engagement Effort allowed all Regional Project Team members to understand the history of the watershed and highlighted recent engagements with the FEMA Mitigation Division. It included information about mitigation planning, active and closed grants, insurance policy information, socio-economic overviews of the communities, and a review of the recent mapping initiatives within the watershed.

The Engagement Effort in this watershed was slightly different from the standard FEMA Engagement efforts. Contact efforts targeted local, regional, State, and Federal stakeholders

throughout the watershed. State and Federal Congressional stakeholders are listed in Table 8 and shown on Figures 2, 3, and 4. All possible efforts were made to ensure that stakeholders understood Discovery and the Risk MAP processes. See the Pre-Discovery section for more information on engagement efforts.

Table 8: Elm Fork Trinity Watershed Congressional Stakeholders

State and Federal Congressional Stakeholders		
US Senators		
	Senator John Cornyn	
	Senator Ted Cruz	
US Representatives		
	District 3	Representative Sam Johnson
	District 4	Representative Ralph Hall
	District 12	Representative Kay Granger
	District 13	Representative Mac Thornberry
	District 24	Representative Kenny Marchant
	District 26	Representative Michael C. Burgess
	District 30	Representative Eddie Bernice Johnson
	District 32	Representative Pete Sessions
	District 33	Representative Marc Veasey
State Representatives		
	District 33	Representative Scott Turner
	District 61	Representative Phil King
	District 62	Representative Larry Phillips
	District 63	Representative Tan Parker
	District 64	Representative Myra Crowover
	District 65	Representative Ron Simmons
	District 66	Representative Van Taylor
	District 68	Representative Drew Springer
	District 70	Representative Scott Sanford
	District 98	Representative Giovanni Capriglione
	District 102	Representative Stefani Carter
	District 103	Representative Rafael Anchia
	District 105	Representative Linda Harper-Brown
	District 106	Representative Pat Fallon
	District 108	Representative Dan Branch
	District 114	Representative Jason Villalba
	District 115	Representative Bennett Ratliff
State Senators		
	District 8	Senator Ken Paxton
	District 9	Senator Kelly Hancock
	District 12	Senator Jane Nelson
	District 16	Senator John Carona
	District 23	Senator Royce West
	District 30	Senator Craig Estes

Source: Texas Legislative Council, 2013

A key feature of the NCTCOG engagement process in the Elm Fork Trinity Watershed Discovery effort was the Map Needs Assessment project completed in 2009. Below is a summary of the Upper Trinity River Basin Map Needs Assessment.

Upper Trinity River Basin Map Needs Assessment Project (2009)

The NCTCOG, along with the TWDB and the Texas Natural Resources Information Service (TNRIS), conducted the Map Needs Assessment Project for the Upper Trinity Watershed in 2009, with a summary document prepared in August 2009. During this process, TWDB and NCTCOG built a database of prior, current, and planned engineering flood studies. Over 2,300 stream miles of floodplain mapping needs were gathered from the NCTCOG member communities. The map needs collection process occurred in three phases: notification, map needs collection, and map needs prioritization.

Three methods were utilized to notify stakeholders at the time and location of the regional meetings where map needs collection was to take place. These methods included the creation of a website to provide a central location for information about outreach and activity updates, informational brochures, and letters that were distributed to project stakeholders prior to the project meetings.

Stakeholder Notification and Input

Project meetings were held to collect map needs from watershed communities. The Project Team conducted five (5) stakeholder outreach and open house meetings throughout the NCTCOG region as part of the MNA process. Stakeholders invited to these meetings included community officials and managers, city/county engineers, and floodplain managers. The meetings are listed below in Table 9. A presentation was given by Halff, which included the approach to be used in updating floodplain mapping and details of the map needs collection process. The presentation also included a discussion of the FEMA Coordinated Needs Management Strategy (CNMS) criteria as well as prioritization criteria to be used to rank the map needs. Several laptops were set up at the meeting locations with a GIS-based map needs collection tool developed by Halff. A Halff representative sat with each community representative, collected, and documented map needs into the database.

The Upper Trinity MNA prioritization was based on a combination of CNMS criteria and guidance from the TWDB. The next task was to prioritize the collected map needs.

Table 9: 2009 Upper Trinity Watershed Map Needs Assessment Meetings

Meeting Date	Location
July 13, 2009	Upper Trinity Regional Water District Board Room, Lewisville, TX
July 15, 2009	Decatur Civic Center, Decatur, TX
July 21, 2009	William J. Pitstick Executive Board Room, NCTCOG Offices, Arlington, TX
July 23, 2009	DalTrans Building at the TxDOT Dallas District Campus, Mesquite, TX
August 4, 2009	NCTCOG Offices, Arlington, TX

Source: 2009 North Central Texas Council of Governments Upper Trinity River Basin Map Needs Assessment

Needs Collection

At the outreach meetings, the stakeholders were introduced to the MNA project and asked to provide input about their mapping requests and needs. Communities unable to attend one of the five (5) scheduled meetings were given the opportunity to meeting with a project representative to input their needs at a location convenient to them. These meetings were conducted by community request only.

The Project Team facilitated breakout sessions so that each stakeholder had the opportunity to meeting one-on-one with a team member to walk through the map needs request process. Each community had the opportunity to verify their scoping requests gathered during the initial FEMA Map Mod scoping process. Additionally, the communities were able to record their new mapping requests, data availability, and interest in being a financial partner. Scoping requests not validated by stakeholders were retained as mapping requests, but their source has been identified as information obtained from the Map Mod scoping meetings.

All mapping requests from the stakeholders were input directly into the MNA database during the one-on-one breakout sessions. To facilitate the input of all requested information associated with a map need, an interface was created for ESRI's ArcMap environment. This interface provided an efficient way to capture and store the mapping requests.

Map Needs Prioritization

The NCTCOG MNA prioritization was based on a combination of CNMS criteria and guidance from the TWDB. A score was calculated for each map need based on the thirteen (13) objective prioritization criteria presented in Table 10. Establishing the prioritization criteria listed below was an iterative process between Halff and the TWDB.

Table 10: 2009 Upper Trinity Watershed Map Needs Prioritization Criteria

No.	Description	Weight
1	Population density	10
2	Population change	10
3	Predicted population growth	10
4	History of flood claims	10
5	Number of Letters of Map Change (LOMR/LOMA)	5
6	Available current topography	10
7	Age of technical data - hydrology	5
8	Age of technical data - hydraulics	5
9	Ability to leverage current studies	5
10	Potential for local funding	5
11	Potential for local "work in kind"	3
12	Previous contribution to a FEMA study	2
13	Stakeholder mapping request	10

Source: 2009 North Central Texas Council of Governments Upper Trinity River Basin Map Needs Assessment

The MNA Project identified 1,291 new mapping requests across 2,370 miles of stream. These requests reflect approximately \$44 million in flood mapping needs across the MNA Project area.

ii. Pre-Discovery Efforts

NCTCOG contacted all watershed stakeholders via emails and phone calls prior to the Discovery meeting.

Pre-Discovery Webinars

Half and NCTCOG held three (3) informational webinars on May 16, 2013 for local stakeholders. A copy of the webinar presentation is included in Appendix A.

The Pre-Discovery informational webinars were held to increase awareness of the Discovery process prior to the Discovery meeting so that the stakeholders would be prepared to fully participate in the Discovery process. Fifteen (15) stakeholders participated in the webinars. The goals of the Pre-Discovery webinars were to:

- Explain the Discovery processes
- Explain why the NCTCOG was conducting Discovery in the Elm Fork Trinity watershed
- Explain FEMA’s Risk MAP program and benefits
- To obtain information for Discovery in the watershed

Outreach and Media

In an effort to gain public awareness of the Elm Fork Trinity Discovery process, a Discovery newsletter was developed, and information posted on the NCTCOG website as well as FEMA Region VI’s RiskMAP6.com. The newsletter contained information about FEMA’s Risk MAP program, the Discovery process, details of the Discovery meeting, the data collection process, and the Risk MAP process beyond Discovery. This newsletter also provided links to the NCTCOG website and maps.

The NCTCOG’s website at www.nctcog.org for the Elm Fork Discovery Project also included pages that allowed stakeholders to register for Discovery meetings. Stakeholders were also able to view information on other concurrent Discovery efforts in the region. The newsletter, Discovery map, Draft Discovery Report, and meeting presentations were all posted to this site as well as RiskMAP6.com.

iii. Data Gathering Overview

Data collection is a significant part of the Discovery process. Data and information were requested from all stakeholders to provide a holistic view of flooding issues, flood risk, and flood mitigation capabilities within the watershed.

Watershed-wide Geospatial Data

Most data collected was from State and Federal organizations. Table 11 below summarizes the geospatial data collected. All geospatial data is available in Supplemental Data.

Table 11: Elm Fork Trinity Geospatial Data Collection

Data Type	Data Source	Data Description
HUC Watershed Boundaries	USGS	HUC boundaries clipped to the Elm Fork Trinity HUC-8. Also includes HUC ₁₀ and HUC ₁₂
Roadways and Railroads	TNRIS Stratmap	Transportation Lines
Jurisdictional Boundaries	TNRIS	Data includes City and County Boundaries
Current Effective Floodplain Information	FEMA DFIRMs	Data includes Floodplains, BFEs, and Cross Sections
Stream Lines	FEMA DFIRMs	Stream Centerlines from DFIRM

Table 11: Elm Fork Trinity Geospatial Data Collection

Data Type	Data Source	Data Description
Locations of Letters of Map Revision (LOMRs)	FEMA	LOMRs incorporated into Effective DFIRM databases for watershed counties
Coordinated Needs Management Strategy	FEMA	CNMS Database dated 5/07/2013
Topography	TNRIS	List of the most current ground surface topography, available on Figure 10
HAZUS-based Average Annualized Loss Estimates	FEMA	2010 HAZUS AAL per Census Tract
Coverage of Known Risk Assessment Data	Texas Hazard Mitigation Package	Based on 2000 Census : Population Vulnerability to 1% Flood and Property Value Vulnerability to 1% Flood
Location of Dams	National Inventory of Dams	Dam locations with Emergency Action Plan (EAP) status
Stream Gauges	USGS	Stream Gauge locations
Flood Claims	NFIP	Claims from 1993 to 2012
Repetitive Loss or Severe Repetitive Loss Locations	FEMA	RL/SRL locations from 1979 to 2012
Land Use	Nation Land Cover Database 2006 from TNRIS	Land Use data as of 2006, developed by USGS
Urban Cover	Nation Land Cover Database 2006 from TNRIS	Urban Cover is a field located in the Land Use
Census Tract Population Data	US Census Bureau	2010 population census
Population Density	US Census Bureau	Population density based on 2010 census
Congressional Areas	US Census Bureau	Congressional District Boundaries
High Water Marks	TNRIS	Historical high water marks obtained by TNRIS from USACE, FEMA Mitigation Team, USGS, and TxDOT
Low Water Crossings	TNRIS	Identified low water crossings in Texas with flooding source and road name
Map Needs Assessment	TWDB, NCTCOG	Updated list of mapping needs throughout the Elm Fork Trinity Watershed

Grants / Hazard Mitigation Plans / Current Mitigation Activities

As described in the *Watershed Selection* section of this report, some communities within the Elm Fork Trinity watershed are covered under a Hazard Mitigation Plan. It is possible that all or many of these Hazard Mitigation Plans were generated using Flood Mitigation Assistance Grants. In addition to mitigation plans, many of the communities are performing mitigation activities. These mitigation activities include warning systems, channel clearing, upgrading storm drain systems, etc. A few of these mitigation activities have been funded using State and Federal grants; however, the majority of the activities are locally funded.

NFIP and Community Rating System Cooperation

Most communities within the Elm Fork Trinity watershed are active in the National Flood Insurance Program (NFIP), however only nine (9) communities are active in FEMA’s Community Rating System (CRS) Program. Table 12 shows communities that currently hold a CRS rating. Figure 16 illustrates participating CRS communities in the watershed and lists those communities eligible to participate in CRS along with their total NFIP policies. Communities that receive a CRS

Ranking of 8 receive approximately 10% savings per year in flood insurance premiums. Table 13 shows potential insurance premium savings for those communities listed in Figure 16 as not currently participating in the CRS Program.

Table 12: CRS Communities

Community	CRS Rating
City of Carrollton	6
City of Coppell	7
City of Dallas	5
City of Denton	6
City of Duncanville	7
City of Lewisville	7
City of Plano	5
City of Richardson	7
Denton County	10

Source: FEMA Community Rating Systems Communities, May 2013

Table 13: Potential CRS Savings

Community Name	No. Insurance Policies	Premium Cost	Potential 10% Savings
City of Aubrey	8	\$6,546	\$655
City of Callisburg	1	\$365	\$37
City of Celina	7	\$3,183	\$318
City of Collinsville	6	\$1,944	\$194
City of Corinth	66	\$30,461	\$3,046
City of Farmers Branch	168	\$174,646	\$17,465
City of Frisco	283	\$127,195	\$12,720
City of Gainesville	181	\$149,802	\$14,980
City of Grapevine	145	\$66,680	\$6,668
City of Hackberry	1	\$294	\$29
City of Highland Village	98	\$53,062	\$5,306
City of Irving	708	\$618,245	\$61,825
City of Krum	13	\$7,503	\$750
City of Lake Dallas	23	\$14,257	\$1,426
City of Lindsay	12	\$8,149	\$815
City of McKinney	187	\$105,910	\$10,591
City of Muenster	8	\$8,175	\$818
City of Oak Point	13	\$4,442	\$444
City of Pilot Point	4	\$1,400	\$140
City of Sanger	23	\$20,449	\$2,045
City of The Colony	48	\$22,901	\$2,290
City of University Park	86	\$39,709	\$3,971
Collin County	216	\$113,868	\$11,387
Cooke County	120	\$89,656	\$8,966
Dallas County	70	\$84,656	\$8,466

Table 13: Potential CRS Savings

Community Name	No. Insurance Policies	Premium Cost	Potential 10% Savings
Grayson County	183	\$150,099	\$15,010
Montague County	53	\$38,799	\$3,880
Town of Argyle	43	\$29,930	\$2,993
Town of Bartonville	14	\$11,848	\$1,185
Town of Copper Canyon	10	\$3,699	\$370
Town of Double Oak	16	\$12,499	\$1,250
Town of Flower Mound	332	\$180,962	\$18,096
Town of Gunter	17	\$9,992	\$999
Town of Hickory Creek	8	\$4,883	\$488
Town of Lakewood Village	6	\$2,408	\$241
Town of Little Elm	58	\$28,664	\$2,866
Town of Prosper	6	\$2,573	\$257
Town of Shady Shores	42	\$16,998	\$1,700
Town of Tioga	11	\$4,365	\$437
Wise County	146	\$115,319	\$11,532

Source: National Flood Insurance Bureau Net, Insurance Policy Statistics as of 2/28/2014.

<http://bsa.nfipstat.fema.gov/reports/101.htm#TXT>

iv. Discovery Meetings

Each Elm Fork Trinity stakeholder was encouraged via phone calls and emails to attend at least one Discovery meeting. The first Discovery meeting occurred on May 28, 2013 at 9 am at the Gainesville Civic Center in Gainesville, Texas. The second Discovery meeting occurred on June 25, 2013 at the Frisco Senior Center in Frisco, Texas. Hosts of these meetings included FEMA, TWDB, NCTCOG, and Halff. The RAMPP team provided support staff for each meeting.

Goals

The main goals of the Discovery meetings were to gather flood risk data; discuss the community’s flooding history, development plans, flood mapping needs, and flood risk concerns; discuss the vision for the watershed’s future, and the importance of mitigation planning and community outreach.

Agenda

Upon arrival, stakeholders were greeted at the door and asked to sign in. Each stakeholder was provided a Community Backgrounder and Discovery Data Questionnaire. A “Community Ambassador” from the Discovery Team was assigned to each stakeholder attendee. Ambassadors assisted each stakeholder throughout the meeting in completing their Data Questionnaire and answering any questions they may have about the Discovery process. The Ambassador role helped communities feel welcome at the meeting and ensured that the Discovery Team would fully engage with the communities to learn as much about their flood risk and mitigation actions as possible. The Community Backgrounder sheet was developed for each stakeholder within the watershed to serve as a quick reference for community facts, flood risk information, policies, claims, dam/levees within the community, as well as providing a map for reference during Discovery meeting discussions.

The meetings were conducted over a three (3) hour period. A short presentation was led by Halff on the hour, each hour, during the meetings. The presentation included an introduction to FEMA's Risk MAP program and the Elm Fork Trinity Watershed Discovery process. Following the presentation, stakeholders were encouraged to visit six (6) meeting stations in an open house format. The stations included:

- *Grants and Hazard Mitigation Planning* – information about available Federal and State Grant programs, Hazard Mitigation Planning, Emergency Action Plans, as well as implementation of projects.
- *NFIP Coordination* – information about the NFIP, NFIP's Community Rating System, Repetitive Loss Properties, as well as answering NFIP questions from attendees.
- *Risk Identification* – discussions identifying areas of growth or population change, and ways to mitigate that growth in relation to flood risks.
- *USACE Information* – discussion of current USACE projects in the region.
- *NCTCOG Programs* – information on NCTCOG programs available to stakeholders as well as answering NCTCOG questions from attendees.
- *Discovery and DFIRM Maps* – data collection process to capture information on identifying flood risk location and problems, areas of growth or planned development, answering floodplain questions, and identifying map need locations. Seven (7) large maps displaying flood hazards along with current effective countywide DFIRM panels were located at this station.

Prior to exiting the meeting, attendees were asked to stop by the checkout station. The checkout station enabled the Discovery Team to gather the Data Questionnaires as well as ensure the attendees had all of their questions answered.

Meeting data is included in Appendix B including: Presentation, sign in sheets, Community Backgrounders, Data Questionnaires, meeting photos, and Discovery maps.

Post-Meeting Discovery Webinar

Halff and NCTCOG held a Post-Discovery meeting webinar on August 12, 2013 as an additional opportunity for local stakeholders to submit data and ask questions about the Discovery effort. This webinar was also an opportunity to reach out to those stakeholders who were unable to attend the Discovery Meetings but still wanted to participate. A copy of this webinar presentation is available in Appendix A.

v. Discovery Implementation

The first Elm Fork Trinity Discovery meeting was attended by fifteen (15) attendees representing four (4) communities, the office of U.S. Representative Michael Burgess, M.D., and the Texoma Council of Governments.

The second Elm Fork Trinity Discovery meeting was attended by twenty-six (26) attendees representing sixteen (16) communities and interested landowners in the watershed.

All attendees were engaged in the station discussions where they provided input and information about local flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities. Not only were attendees able to voice their own needs and concerns, they were able to listen to other communities concerns and needs which enabled them to spark watershed-wide discussions. As areas of risk were identified, station leaders were able to provide information about risk assessment and potential mitigation planning assistance.

Summary of Stakeholder Comments

The table below is a summary of stakeholder comments gathered from the Discovery meetings. The comments are categorized by the following types:

1. Flooding risk
2. Flooding risk / mitigation action
3. Mapping concerns
4. Mapping needs
5. Mitigation actions – Identified
6. Mitigation actions – Completed
7. Regulations

Table 14, correlated with Figure 19, includes a complete summary of stakeholder comments throughout the Discovery process.

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
1.01	Dry Elm Creek Tributary 14	Cooke County	Flooding Risk	2-8ft culverts washed out multiple times
1.02	Pecan Creek North Tributary No. 3	Cooke County	Flooding Risk	CR 137 - large dam and lake put in at upstream end of Pecan Creek North Tributary No. 3
1.03	Montague Creek	Cooke County	Flooding Risk	Low water crossing at County Road south of HWY 82. May be high water mark available.
1.04	Pond Creek Tributary No. 1	Cooke County	Flooding Risk	Known low water crossing causes issues
1.05	Rock Creek (South)	Cooke County	Flooding Risk	High hazard dam
1.06	Spring Creek	Cooke County/Valley View	Flooding Risk	Low water crossing that floods repeatedly. FM 1307 under Hwy 35
1.07	Lynchburg Creek	Corinth	Flooding Risk	Undersized culvert at I-35E
1.08	Unnamed 34	Cross Roads	Flooding Risk	Low water crossing, periodic overtop of culvert
1.09	Unnamed 34	Cross Roads	Flooding Risk	Culverts at intersection overtop during extreme events
1.10	Cantrell Slough Tributary 4	Cross Roads	Flooding Risk	Low water crossing, periodic overtop of culvert
1.11	Cantrell Slough Tributary 7	Cross Roads	Flooding Risk	Road overtops during extreme events
1.12	Cantrell Slough Tributary 10	Cross Roads	Flooding Risk	Culvert/bridge overtops
1.13	Cantrell Slough Tributary 7	Cross Roads	Flooding Risk	Culvert/bridge overtops
1.14	Unnamed Tributary to Cottonwood Creek	Irving	Flooding Risk	Local grading/drainage issues with RL property
1.15	Montague Creek	Lindsay	Flooding Risk	NRCS Dam concerns and flooding if dam breached
1.16	N/A	Shady Shores	Flooding Risk	Fritz Lane undersized culvert in difficult location due to adjacent property elevations
1.17	Stream LC-1	Shady Shores	Flooding Risk	Corinth detention pond that floods people along Mustang on west side

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
1.18	Stream PEC-1	Shady Shores	Flooding Risk	Detention in Corinth that might need improvements to reduce flooding along road
1.19	Lake Lewisville	Shady Shores	Flooding Risk	Lakeshore Road - low spot on roadway. Property owner had old garage under water 5 years ago.
1.20	Lake Lewisville	Shady Shores	Flooding Risk	High water mark 1981 - water was more than current map extents. Looking for documentation. May have photos.
1.21	Lake Lewisville	Shady Shores	Flooding Risk	Jay Street - needs to be elevated so homes can get out. Currently land-locked when high water
1.22	Stream LC-1	Shady Shores	Flooding Risk	Water overtops road - no warning signs, flooded in 2007, 1991, and 1981
1.23	Stream GS-1	Shady Shores	Flooding Risk	Water overtops road - no signs
1.24	Lake Lewisville	Shady Shores	Flooding Risk	6th St flooded - Vinson Blvd - comes from Thurman property, pictures of flooding provided, floods west side of Tom's property
1.25	Lake Lewisville	Shady Shores	Flooding Risk	Lakeshore Drive flooded in 1981, low area
1.26	Unnamed Tributary to Stream PEC-1	Shady Shores	Flooding Risk	Potential flooding from pond, issues in 2007
1.27	Dudley Branch	Carrollton	Flooding Risk	Unsure of low water crossing on Dudley Branch
2.01	Hutton Branch	Carrollton	Flooding Risk/Mitigation Action	High hazard dam- Unsure of EAP, unsure about RL properties location to NW
2.02	Elm Fork Trinity River	Carrollton	Flooding Risk/Mitigation Action	Unsure of RL property along 35E
2.03	North Lake	Irving	Flooding Risk/Mitigation Action	North Lake Dam - drop elevation 20ft and redo EAP and breach analysis
2.04	Timber Creek	Lewisville	Flooding Risk/Mitigation Action	RL Property - requested to buyout through Council but did not get approved
3.01	Montague Creek	Lindsay	Mapping Concern	Existing study for area - would like it added to DFIRMs
3.02	Furneaux Creek	Carrollton	Mapping Concern	Woodlake Dam is high hazard - EAP exists for dam
3.03	Swisher Creek	Corinth	Mapping Concern	Unsure if dam just upstream of railroad in DFIRM structures really exists
3.04	Bryant Branch	Corinth	Mapping Concern	Bridge in DFIRM should be a dam
3.05	Citywide	Frisco	Mapping Concern	DFIRM contains road names that are out of date and incorrect in area
3.06	Citywide	Frisco	Mapping Concern	Effective DFIRMs for city not useful for mitigation, maps are missing over 70 LOMRs since 2009. Frisco currently has H&H and GIS data for regulation.
3.07	Citywide	Shady Shores	Mapping Concern	Unincorporated area looks wrong

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
3.08	Joes Creek	Dallas	Mapping Concern	Dallas CTP Stream Study completed, will need to be added to Levee DFIRM Panel in Dallas County
3.09	West Fork of Joes Creek	Dallas	Mapping Concern	Dallas CTP Stream Study completed, will need to be added to Levee DFIRM Panel in Dallas County
3.10	East Fork of Joes Creek	Dallas	Mapping Concern	Dallas CTP Stream Study completed, will need to be added to Levee DFIRM Panel in Dallas County
3.11	Cooper Creek	City of Denton	Mapping Concern	Stream restudied, but there are errors in the HEC-HMS and HEC-RAS models
3.12	Pecan Creek	City of Denton	Mapping Concern	Several areas of floodplain delineation along Pecan Creek (above and below SCS Reservoir #16) are questionable. Would like them re-done
3.13	Citywide	City of Denton	Mapping Concern	6 to 7 LOMRs were missed during Denton County restudy in 2011 and were re-issued by FEMA
4.01	Doe Branch Tributary A	Blue Star Land	Mapping Need	Detention analysis study along Doe Branch Tributary A from upstream end to western boundary of Town of Prosper, possible floodplain reclamation
4.02	Tributary Kiowa 2	Cooke County	Mapping Need	Gated community with 1700-1800 lots. Multiple low water crossings with limited access. Good study already conducted.
4.03	Elm Fork Tributary 6	Cooke County	Mapping Need	Large area of development. Detailed study is desired for stream that is Zone A south of Gainesville
4.04	Persimmon Creek	Cooke County	Mapping Need	Mobile home park land (Chaney Road). Many flood problems, especially with known water crossing. Detailed study done - good area of mitigation interest
4.05	Lick Creek Tributary 2	Cooke County	Mapping Need	General comment on Lake Ray Roberts - Lots of development, detailed elevations needed.
4.06	Pond Creek Tributary No. 2	Cross Roads	Mapping Need	Split flow - need better engineering study
4.07	Cantrell Slough Tributary 15	Cross Roads	Mapping Need	Village of Cross Roads commercial center (Walmart) opened in 2013
4.08	Cantrell Slough Tributary 15	Cross Roads	Mapping Need	Widen FM 424/US 380 to Denton County Blvd entrance (by Walmart)
4.09	Cantrell Slough Tributary 15	Cross Roads	Mapping Need	CVS Pharmacy opened 2013
4.10	Office Creek	Lewisville	Mapping Need	Lewisville ETJ - major development could impact Indian Creek tributaries
4.11	Cottonwood Branch	Little Elm	Mapping Need	Limited access to Cottonwood Park during high flow events
4.12	Cottonwood Branch	Little Elm	Mapping Need	Storm event - limited access for residents, floodplain accuracy needs update
4.13	Lake Lewisville	Shady Shores	Mapping Need	Potential flooding not indicated on map

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
4.14	Stream LC-1	Shady Shores	Mapping Need	Elementary school - might want revised AE study for area. Check date of study - subdivisions established around 1990's
4.15	Stream PEC-1	Shady Shores	Mapping Need	Numerous houses flooded 3 times in last 15-17 years on south side of Shady Shores Road directly across from Hidden Valley
4.16	Lake Lewisville	Shady Shores	Mapping Need	Localized drainage issues - on hold right now, old subdivision, Shaahan Addition, may have digital pictures
4.17	Cantrell Slough	Cross Roads	Mapping Need	Revised by LOMR
4.18	Pecan Creek North	Gainesville	Mapping Need	Pecan Creek North Flood Reduction Study
4.19	Unnamed 36	Highland Village	Mapping Need	LOMR location, convert Zone A to AE, currently under FEMA review
4.20	Denton Creek	Denton County Levee Improvement District	Mapping Need	New USACE model for Denton Creek - 500yr discharge has nearly doubled from current FEMA 500yr discharge. School and Coppell city hall will be under 2-3 feet of water during 500yr event if new Corps model is adopted.
4.21	Timber Branch	City of Denton	Mapping Need	Need new study due to development
4.22	Citywide	City of Denton	Mapping Need	There are several (23) streams currently shown as shaded Zone X (500-yr) with no studies. These should be remapped as Zone A or have studies performed.
4.23	Citywide	Farmers Branch	Mapping Need	Need new studies for all streams within city limits due to development
4.24	Citywide	Irving	Mapping Need	Need updated studies for all streams within city limits due to development
5.01	Pecan Creek North	Gainesville	Mitigation Actions - Completed	Bridge removed; Garnett, Main, Scott replaced; Broadway, California replaced
5.02	Hickory Creek	Highland Village	Mitigation Actions - Completed	TxDOT bridge (FM 2499) over Poindexter Creek and Hickory Creek
5.03	Poindexter Branch Trib 1.3	Highland Village	Mitigation Actions - Completed	Chinn Chapel Road elevation at Poindexter Branch Trib 1.3
5.04	Unnamed Stream/Tributary to Elm Fork of Trinity River	Irving	Mitigation Actions - Completed	Upgraded 50-yr protection for RL property
5.05	Lake Lewisville	Lake Dallas	Mitigation Actions - Completed	Recent LOMR near bridge across Lake Lewisville
5.06	Unnamed Tributary 2 to Lewisville Creek	Lewisville	Mitigation Actions - Completed	LOMR 06-06-BB98P re-issued for Oaks at North Lakeview subdivision but not incorporated in 2011 countywide DFIRM

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
5.07	Elm Fork Trinity River	Lewisville	Mitigation Actions - Completed	Park constructed in 2010 - approved LOMR for location
5.08	Montague Creek	Lindsay	Mitigation Actions - Completed	Some buyouts have occurred at RL/SRL. Already good study for area
5.09	Cottonwood Branch	Little Elm	Mitigation Actions - Completed	LOMA/R to be reflected at 423 Smotherman Road
5.10	Lake Lewisville	Shady Shores	Mitigation Actions - Completed	Low water crossing - rebuilt bridge, no longer floods
5.11	Unicorn Lake	City of Denton	Mitigation Actions - Completed	Existing EAP for private dam
5.12	North Pecan Creek	City of Denton	Mitigation Actions - Completed	Existing EAP for SCS Reservoir #17A dam
5.13	Pecan Creek (below SCS Dam #16)	City of Denton	Mitigation Actions - Completed	Existing EAP for SCS Reservoir #16 dam
5.14	Citywide	City of Denton	Mitigation Actions - Completed	Multiple (about 11) culvert crossings widened at various Denton County Transportation Authority crossings
5.15	Elm Fork Trinity River	Irving Flood Control District 1	Mitigation Actions - Completed	Rehabilitation on parallel levee recently completed
6.01	Furneaux Creek	Carrollton	Mitigation Actions - Identified	RL property is vacant
6.02	Poindexter Branch Tributary 1.3	Highland Village	Mitigation Actions - Identified	Regional detention study, multiple detention ponds
6.03	Trinity Elm Fork South Tributary 2	Lewisville	Mitigation Actions - Identified	New bridge planned
6.04	Indian Creek	Plano	Mitigation Actions - Identified	Indian Creek - Parks & Rec placed fill and need LOMR
6.05	Indian Creek	Plano	Mitigation Actions - Identified	Indian Creek - drainage project to redirect water to prevent railroad from overtopping
6.06	Stream LC-1	Shady Shores	Mitigation Actions - Identified	New school added to existing detention pond and added one more recently. Redirecting culverts across N Garza Road
6.07	Denton Creek	Denton County Levee Improvement District	Mitigation Actions - Identified	LID would like to conduct de-silting project on Denton Creek between Denton Tap Road and La Vista Drive in next few years. Approximately 3-5 feet of silt has been deposited in channel.
7.01	Citywide	Shady Shores	Regulations	Property has been annexed into Shady Shores

Table 14: Summary of Stakeholder Comments

Item	Flooding Source	Information Provided By	Comment Type	Comment
7.02	Lake Lewisville	Shady Shores	Regulations	Question - any historical flooding from lake in this area?

Source: 2013 Elm Fork Discovery Meetings

IV. Watershed Findings/Prioritizations

As part of the Discovery process, all efforts were made to gather information about local flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help communities identify areas of risk. This section documents the Post-Discovery efforts that help identify potential actions that may be funded in order to assess the Discovery findings. The Post-Discovery process included an overall analysis of potential watershed projects that will be used to guide the project selection process.

Post-Discovery data for the Elm Fork Trinity Watershed was compiled into several figures. Effective stream study type and repetitive loss information per county is shown on Figure 21. Figure 22 displays CNMS stream status. Finally, Figure 23 shows Potential Study Streams discussed later in this report.

Table 15 below shows the distribution of stakeholder comments across the 12-digit HUC (HUC-12) watersheds within the Elm Fork HUC-8 watershed.

Watershed Risk Classification

The MNA prioritization criteria shown in Table 10 were applied to the HUC-12 watersheds within the Elm Fork watershed. Stakeholder comments within these HUC-12 watersheds were then given the overall prioritization ranking for that watershed. These rankings are listed in Table 16 below and correlated with Figure 15.

Table 15: Elm Fork Comment Distribution by HUC-12 Watershed

HUC-12 Watershed	Comment Type							FEMA Metrics		Risk
	Flooding Risk	Flooding Risk/Mitigation Action	Mapping Concerns	Mapping Needs	Mitigation Actions - Identified	Mitigation Actions - Complete	Regulations	Population	Current Elevation Information	
Cottonwood Branch - Hackberry Creek	1	0	0	1	0	0	0	190,069	Y	High
Farmers Branch - Elm Fork Trinity River	0	0	0	1	0	0	0	348,910	Y	High
Bachman Branch - Elm Fork Trinity River	0	0	0	3	0	2	0	687,052	Y	Elevated

Table 15: Elm Fork Comment Distribution by HUC-12 Watershed

HUC-12 Watershed	Comment Type							FEMA Metrics		Risk
	Flooding Risk	Flooding Risk/Mitigation Action	Mapping Concerns	Mapping Needs	Mitigation Actions - Identified	Mitigation Actions - Complete	Regulations	Population	Current Elevation Information	
Bingham Creek	No comments received							532	Y	Elevated
Buck Creek - Clear Creek	No comments received							3,348	Y	Elevated
Cottonwood Branch - Little Elm Reservoir	0	0	1	2	0	1	0	164,102	Y	Elevated
Doe Branch - Little Elm Reservoir	0	0	0	1	0	0	0	57,995	Y	Elevated
Flat Creek	No comments received							614	Y	Elevated
Grapevine Creek - Elm Fork Trinity River	0	3	0	0	0	0	0	380,176	Y	Elevated
Indian Creek - Elm Fork Trinity River	0	1	1	0	1	2	0	550,748	Y	Elevated
Little Duck Creek - Duck Creek	No comments received							5,915	Y	Guarded
Lower Hickory Creek	0	0	1	0	1	3	0	284,437	Y	Elevated
Middle Hickory Creek	No comments received							188,734	Y	Elevated
Montague Creek - Elm Fork Trinity River	2	0	0	0	0	1	0	25,944	Y	Elevated
Moores Branch - Clear Creek	No comments received							8,278	Y	Elevated
Mustang Creek	No comments received							827	Y	Elevated
Panther Creek - Little Elm Reservoir	No comments received							25,202	Y	Elevated
Pecan Creek	No comments received							6,980	Y	Elevated
Pecan Creek - Little Elm Reservoir	17	0	5	7	1	8	1	561,211	Y	Elevated
Prairie Creek - Elm Fork Trinity River	0	0	0	0	1	2	0	201,944	Y	Elevated
Running Branch - Little Elm Reservoir	No comments received							12,319	Y	Elevated
Scott Creek - Elm Fork Trinity River	0	0	0	1	0	0	0	7,292	Y	Elevated

Table 15: Elm Fork Comment Distribution by HUC-12 Watershed

HUC-12 Watershed	Comment Type							FEMA Metrics		Risk
	Flooding Risk	Flooding Risk/Mitigation Action	Mapping Concerns	Mapping Needs	Mitigation Actions - Identified	Mitigation Actions - Complete	Regulations	Population	Current Elevation Information	
South Hickory Creek	No comments received							3,690	Y	Elevated
Stewart Creek - Little Elm Reservoir	0	0	1	1	0	0	0	323,595	Y	Elevated
Timber Creek	0	1	0	0	0	0	0	495,036	Y	Elevated
Town of Celina - Little Elm Reservoir	No comments received							4,282	Y	Elevated
Upper Hickory Creek	No comments received							15,801	Y	Elevated
Wheeler - Pecan Creek	2	0	0	0	0	2	0	80,411	Y	Elevated
Whites Creek - Clear Creek	No comments received							694	Y	Elevated
Bear Creek - Buck Creek	No comments received							1,584	Y	Guarded
Culp Branch - Elm Fork Trinity River	No comments received							4,329	Y	Guarded
Gibbons Branch - Elm Fork Trinity River	No comments received							1,239	Y	Guarded
Headwaters Little Elm Creek	No comments received							2,991	Y	Guarded
Jordan Creek - Isle du Bois Creek	No comments received							438	Y	Guarded
Lower Range Creek	No comments received							1,962	Y	Guarded
Pond Creek - Elm Fork Trinity River	1	0	0	1	0	0	0	10,997	Y	Guarded
Blocker Creek	No comments received							332	Y	Low
Brushy Elm Creek	No comments received							2,600	Y	Low
Buck Creek - Timber Creek	No comments received							3,873	Y	Low
Dry Elm Creek - Elm Fork Trinity River	1	0	0	0	0	0	0	4,289	Y	Low
Dye Creek - Clear Creek	No comments received							487	Y	Low
Harmony Ranch - Little Elm Reservoir	2	0	0	0	0	0	0	18,561	Y	Guarded

Table 15: Elm Fork Comment Distribution by HUC-12 Watershed

HUC-12 Watershed	Comment Type							FEMA Metrics		Risk
	Flooding Risk	Flooding Risk/Mitigation Action	Mapping Concerns	Mapping Needs	Mitigation Actions - Identified	Mitigation Actions - Complete	Regulations	Population	Current Elevation Information	
Headwaters Hickory Creek	No comments received							4,779	Y	Low
Headwaters Jordan Creek	No comments received							3,969	Y	Low
Long Branch - Elm Fork Trinity River	No comments received							562	Y	Low
Lower Indian Creek	No comments received							1,260	Y	Low
Lower Spring Creek	0	0	0	1	1	2	0	7,064	Y	Low
Milam Creek - Clear Creek	No comments received							5,536	Y	Guarded
Pecan Creek - Elm Fork Trinity River	0	0	0	1	0	0	0	14,940	Y	Low
Upper Indian Creek	0	0	0	1	0	0	0	28,271	Y	Low
Upper Range Creek	No comments received							764	Y	Low
Upper Spring Creek	No comments received							775	Y	Low
Walnut Branch - Isle du Bois Creek	No comments received							22,670	Y	Low
Willawalla Creek - Clear Creek	No comments received							710	Y	Low
Wolf Creek	No comments received							1,380	Y	Low

Prioritization Rankings

Map needs within the Elm Fork watershed were documented from stakeholder comments and are listed in Table 14 under the category “Mapping Need”. These needs may come from outdated stream studies, large-scale development along the stream, or alterations to the stream itself to reduce flooding risk. Approximately 132 miles of mapping needs (along with Lewisville Lake) were captured during the 2013 Elm Fork Trinity Discovery process. Pursuing studies along the entirety of requested miles would be cost prohibitive, so it was necessary for NCTCOG to reduce the list of potential project streams. Table 16 lists all stream study requests from participating stakeholders.

Table 16: Stream Study Requests

Community	Stream
Blue Star Land	Doe Branch Tributary A
Carrollton	Cooks Branch
Cooke County	Elm Fork Tributary 6
Cooke County	Lick Creek Tributary 2

Table 16: Stream Study Requests

Community	Stream
Cooke County	Persimmon Creek
Cooke County	Tributary Kiowa 2
Cross Roads	Cantrell Slough
Cross Roads	Cantrell Slough Tributary 15
Cross Roads	Cantrell Slough Tributary 15
Cross Roads	Cantrell Slough Tributary 15
Cross Roads	Pond Creek Tributary No. 2
City of Denton	Cooper Creek
City of Denton	Cooper Creek Tributary 15
City of Denton	North Pecan Creek
City of Denton	North Pecan Creek Tributary 1
City of Denton	PEC Tributary 7
City of Denton	PEC Tributary 9
City of Denton	PEC Tributary 11
City of Denton	PEC Tributary 13
City of Denton	PEC Tributary 14
City of Denton	Pecan Creek (Above SCS Dam #16)
City of Denton	Stream CC-1
City of Denton	Stream CC-2
City of Denton	Stream PEC-3
City of Denton	Stream PEC-4
Farmers Branch	Cooks Branch
Farmers Branch	Farmers Branch Creek
Farmers Branch	Farmers Branch Creek Tributary 1
Farmers Branch	Rawhide Creek
Farmers Branch	Stream 6H1
Farmers Branch	Tributary CB187L
Gainesville	Pecan Creek North
Highland Village	Unnamed 36
Irving	Cottonwood Branch
Irving	Hackberry Creek
Irving	Mud Springs Creek
Irving	South Fork of Hackberry Creek
Irving	South Fork of Hackberry Creek Tributary 1
Irving	South Fork of Hackberry Creek Tributary 2
Irving	South Fork of Hackberry Creek Tributary 3
Irving	South Fork of Hackberry Creek Tributary 4
Irving	South Fork of Hackberry Creek Tributary 5
Irving	South Fork of Hackberry Creek Tributary 6
Irving	Unnamed Stream
Lewisville	Office Creek
Little Elm	Cottonwood Branch
Little Elm	Cottonwood Branch

Table 16: Stream Study Requests

Community	Stream
Shady Shores	Lake Lewisville
Shady Shores	Lake Lewisville
Shady Shores	Stream LC-1
Shady Shores	Stream PEC-1

The list of HUC-12 watershed streams within the High Risk category was further refined using the ability of stakeholders to provide local match funds for potential stream studies within the watershed. Streams within High Risk watersheds with effective studies were then removed from the list of potential study areas. Streams within the watersheds that met the criteria of potential local match with no effective study were split into smaller groups of ten (10) to (15) stream miles. These stream groups are listed below in Table 17 and correlated with Figure 18.

The prioritization rankings list will be used by FEMA to determine targeted action items, potential projects, and multi-year flood risk project plans within the Elm Fork Trinity watershed.

Table 17: Elm Fork Watershed Prioritization Rankings (HUC-12 Watersheds)

HUC-8	HUC-12 Watershed Group	FY	Community	Named Streams	Stream Miles	Total Stream Miles	
Elm Fork	Cottonwood Branch – Hackberry Creek	FY14	Irving (Group 1 - Cottonwood)	Cottonwood Branch	5.06	10.89	
				Unnamed Tributary to Cottonwood Creek	0.78		
				Unnamed Stream	5.05		
		Future FY	Irving (Group 2 – SF Hackberry)	South Fork of Hackberry Creek	3.65	8.91	
				South Fork of Hackberry Creek Tributaries (1-6)	2.85		
				Unnamed Stream	2.41		
		Future FY	Irving (Group 3 - Hackberry)	Hackberry Creek	6.73	17.37	
				Mud Springs Creek	0.34		
				Unnamed Stream	10.3		
	Total						37.17
	Farmers Branch – Elm Fork Trinity	Future FY	Addison	Farmers Branch Creek	0.69	0.69	
			Carrollton	Cooks Branch	1.17	1.17	
			Farmers Branch	Cooks Branch	2.90	16.36	
				Farmers Branch Creek	6.67		
Farmers Branch Creek Tributary 1				0.55			
Rawhide Creek				3.92			
Stream 6H1				1.38			
Tributary CB187L			0.94				
Total						18.22	

Appendix A – Outreach/Management

Figures

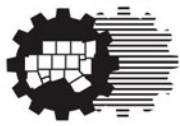
Figure 1: HUC Locator Map

ELM FORK TRINITY WATERSHED

April 30, 2014

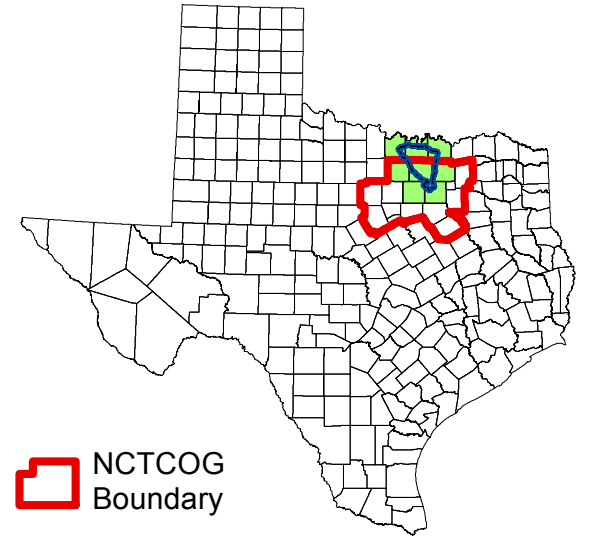


FEMA



North Central Texas
Council of Governments

WATERSHED LOCATOR STATE OF TEXAS



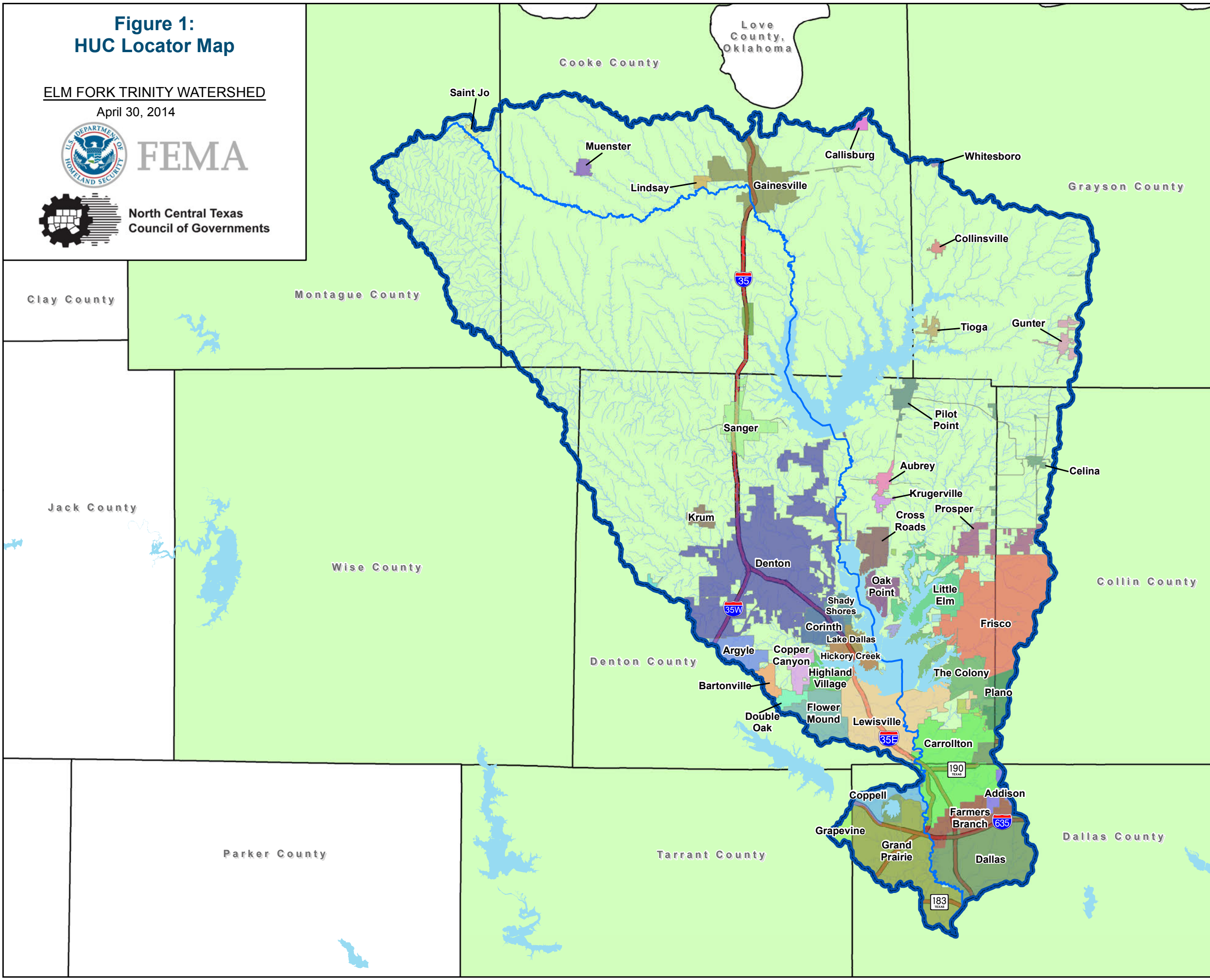
NCTCOG
Boundary

Map Symbology

- Elm Fork Trinity River
- Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- County Boundaries



0 3.5 7 14 Miles



**Figure 2:
Federal House
Congressional Districts**

ELM FORK TRINITY WATERSHED

April 30, 2014

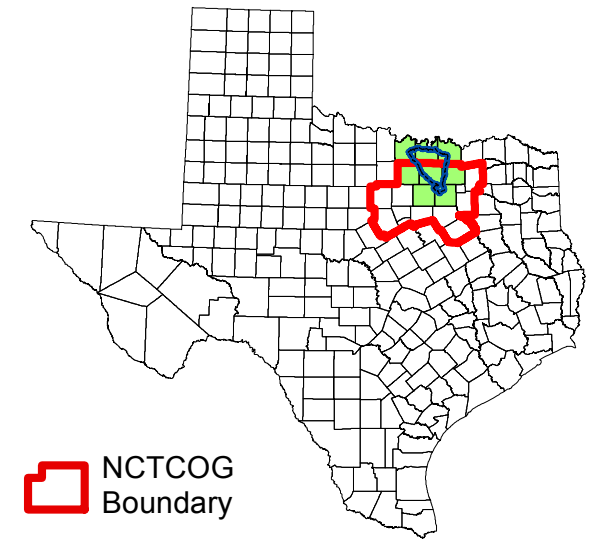


FEMA



North Central Texas
Council of Governments

WATERSHED LOCATOR
STATE OF TEXAS



NCTCOG
Boundary

Map Symbology

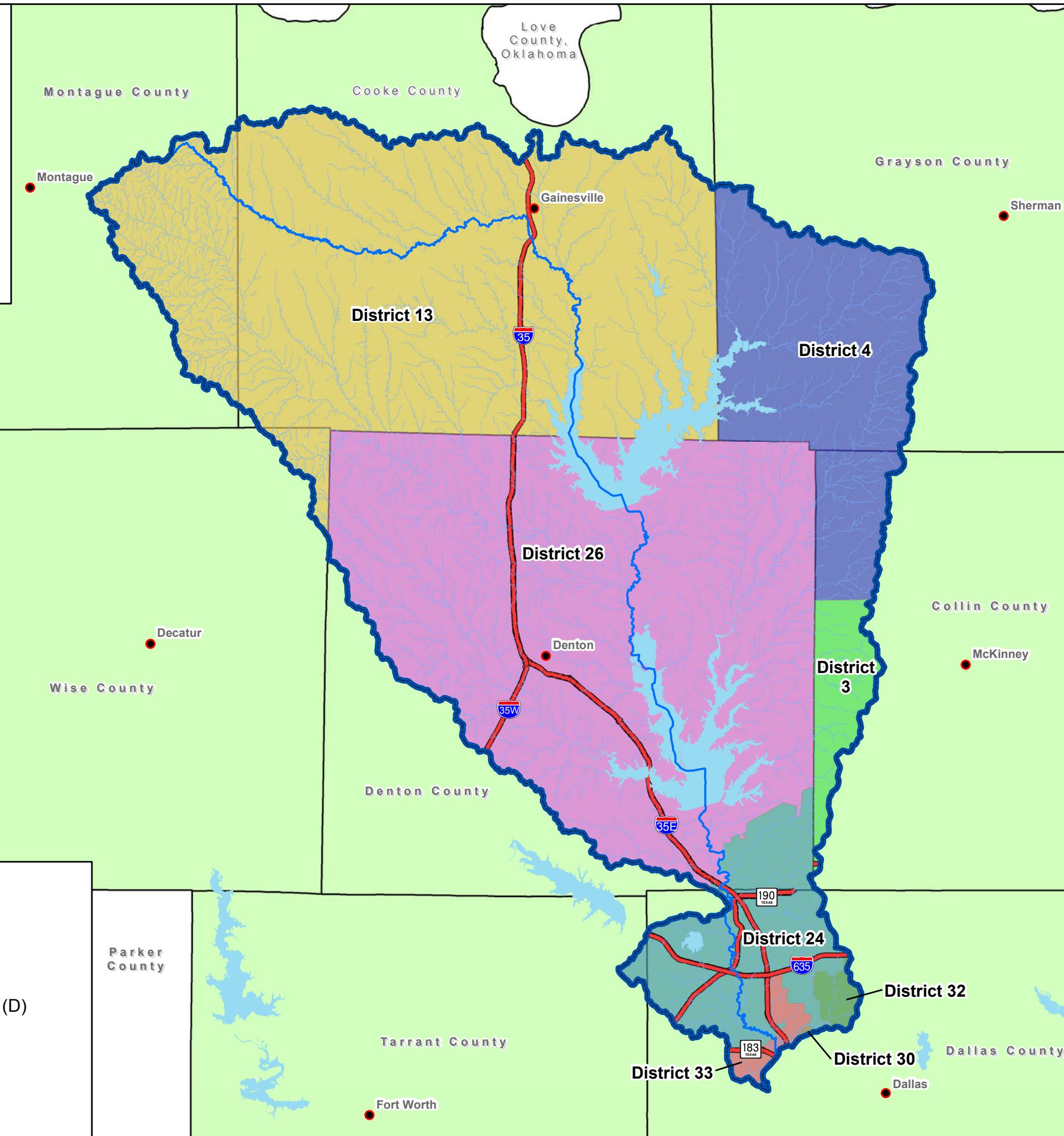
- County Seat
- ~ Elm Fork Trinity River
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- County Boundaries

Federal House Districts (2013)

- District 3
- District 4
- District 13
- District 24
- District 26
- District 30
- District 32
- District 33



0 3.5 7 14 Miles



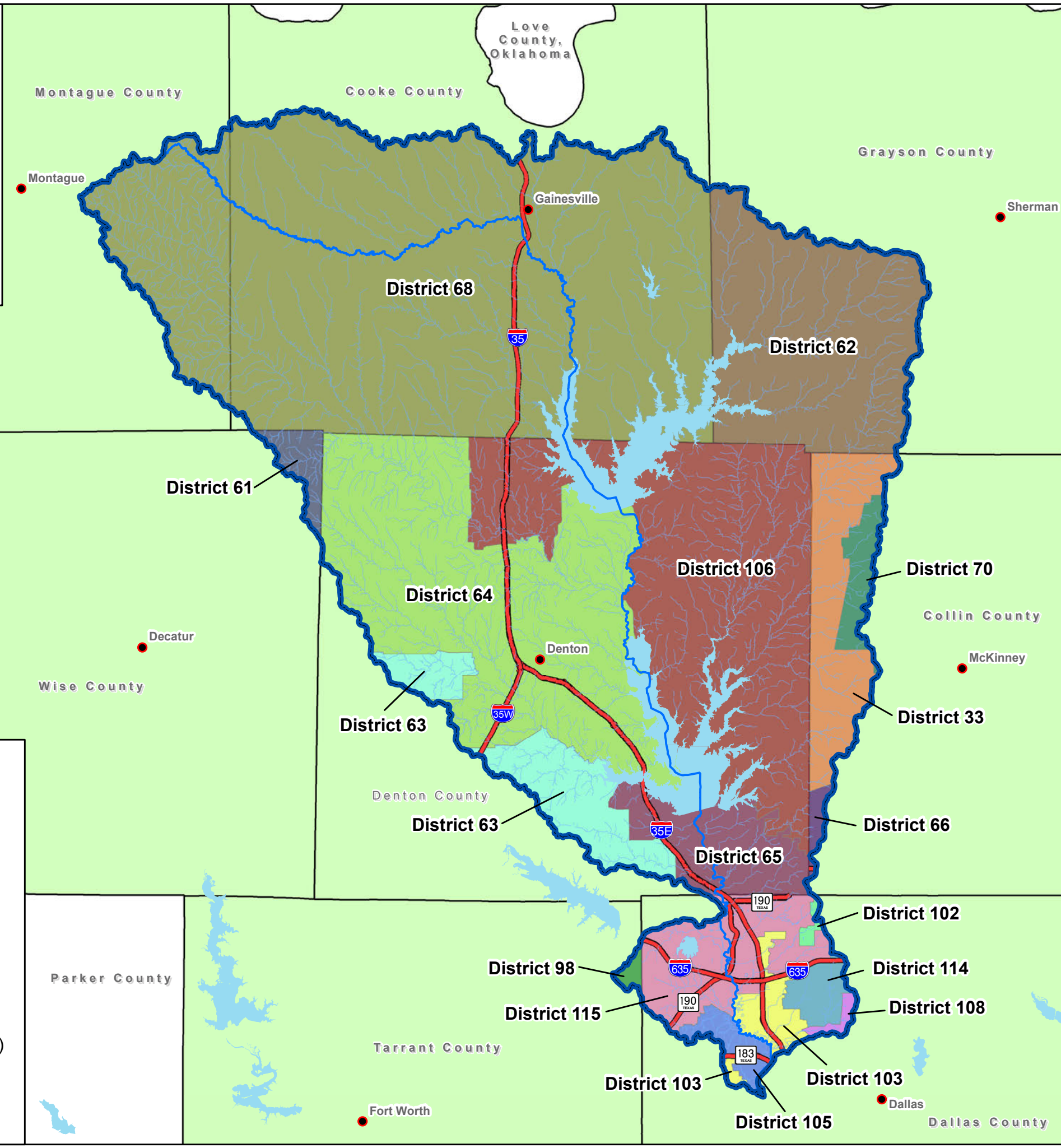
U.S. House District Representatives
 District 3: Rep. Sam Johnson (R)
 District 4: Rep. Ralph Hall (R)
 District 13: Rep. Mac Thornberry (R)
 District 24: Rep. Kenny Marchant (R)
 District 26: Rep. Michael Burgess (R)
 District 30: Rep. Eddie Bernice Johnson (D)
 District 32: Rep. Pete Sessions (R)
 District 33: Rep. Marc Veasey (D)

U.S. Senators
 Sen. John Cornyn (R)
 Sen. Ted Cruz (R)

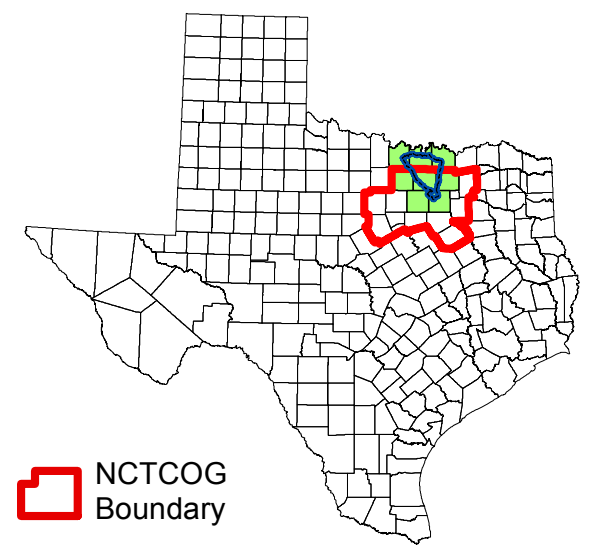
**Figure 3:
State House
Congressional Districts**

ELM FORK TRINITY WATERSHED

April 30, 2014



WATERSHED LOCATOR
STATE OF TEXAS

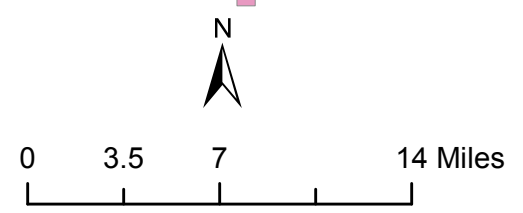


Map Symbology

- County Seat
 - ~ Elm Fork Trinity River
 - ~ Other Streams
 - Major Highways
 - ⬭ Watershed Boundary: HUC-8
 - ⬭ Lakes
 - ⬭ Elm Fork Trinity Discovery County
 - ⬭ County Boundaries
- | State House Districts (2013) | |
|------------------------------|--------------|
| ⬭ | District 33 |
| ⬭ | District 61 |
| ⬭ | District 62 |
| ⬭ | District 63 |
| ⬭ | District 64 |
| ⬭ | District 65 |
| ⬭ | District 66 |
| ⬭ | District 68 |
| ⬭ | District 70 |
| ⬭ | District 98 |
| ⬭ | District 102 |
| ⬭ | District 103 |
| ⬭ | District 105 |
| ⬭ | District 106 |
| ⬭ | District 108 |
| ⬭ | District 114 |
| ⬭ | District 115 |

State House Representatives

- District 33: Rep. Scott Turner (R)
- District 61: Rep. Phil King (R)
- District 62: Rep. Larry Phillips (R)
- District 63: Rep. Tan Parker (R)
- District 64: Rep. Myra Crownover (R)
- District 65: Rep. Ron Simmons (R)
- District 66: Rep. Van Taylor (R)
- District 68: Rep. Drew Springer (R)
- District 70: Rep. Scott Sanford (R)
- District 98: Rep. Giovanni Capriglione (R)
- District 102: Rep. Stefani Carter (R)
- District 103: Rep. Rafael Anchia (D)
- District 105: Rep. Linda Harper-Brown (R)
- District 106: Rep. Pat Fallon (R)
- District 108: Rep. Dan Branch (R)
- District 114: Rep. Jason Villalba (R)
- District 115: Rep. Bennett Ratliff (R)



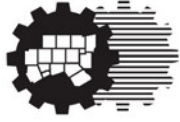
**Figure 4:
State Senate
Congressional Districts**

ELM FORK TRINITY WATERSHED

April 30, 2014

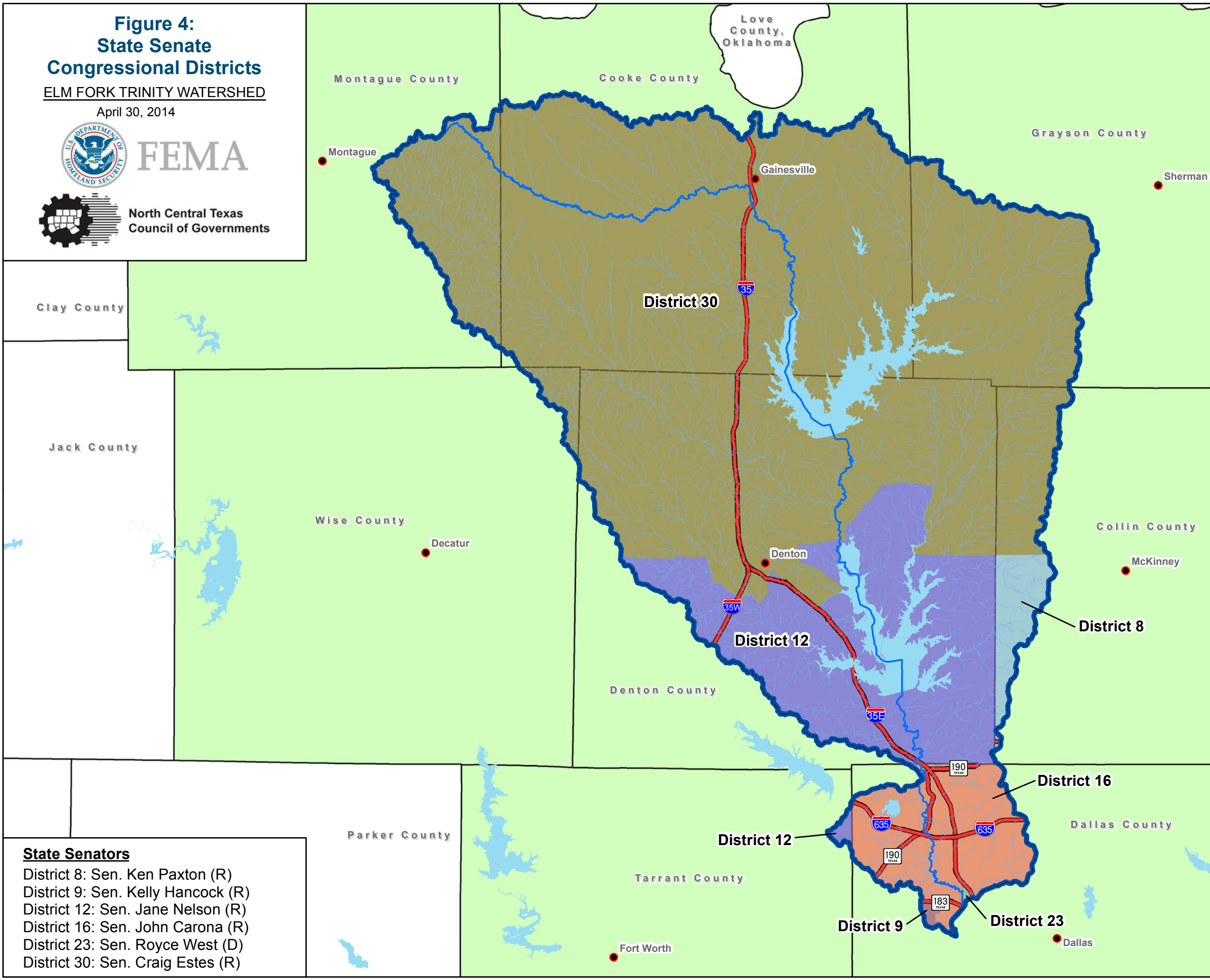
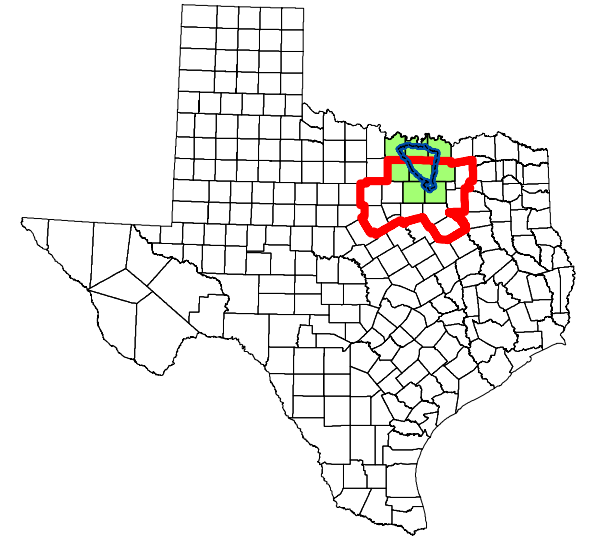


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North Central Texas
Council of Governments

WATERSHED LOCATOR
STATE OF TEXAS



Map Symbology

- County Seat
 - Elm Fork Trinity River
 - Other Streams
 - Major Highways
 - Watershed Boundary: HUC-8
 - Lakes
 - Elm Fork Trinity Discovery County
 - County Boundaries
- State Senate Districts (2013)**
- District 8
 - District 9
 - District 12
 - District 16
 - District 23
 - District 30

State Senators

- District 8: Sen. Ken Paxton (R)
- District 9: Sen. Kelly Hancock (R)
- District 12: Sen. Jane Nelson (R)
- District 16: Sen. John Carona (R)
- District 23: Sen. Royce West (D)
- District 30: Sen. Craig Estes (R)

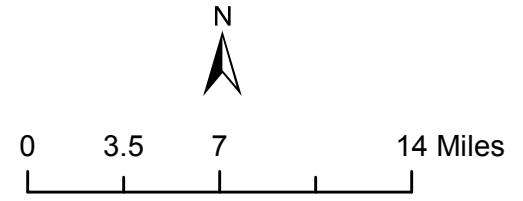


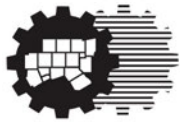
Figure 5: Population Density and CNMS Streams

ELM FORK TRINITY WATERSHED

April 30, 2014

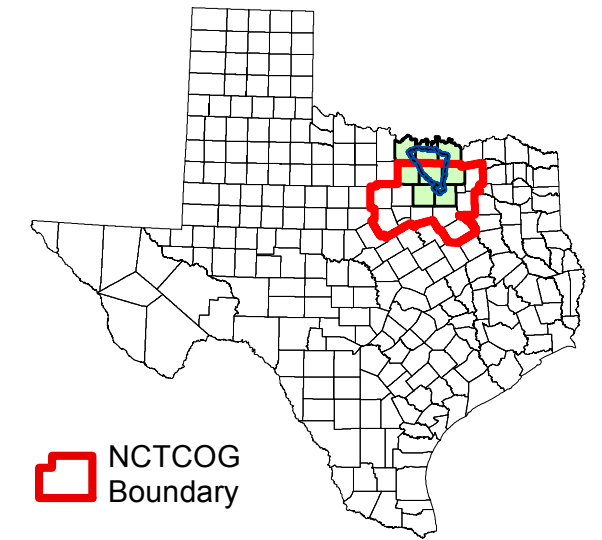


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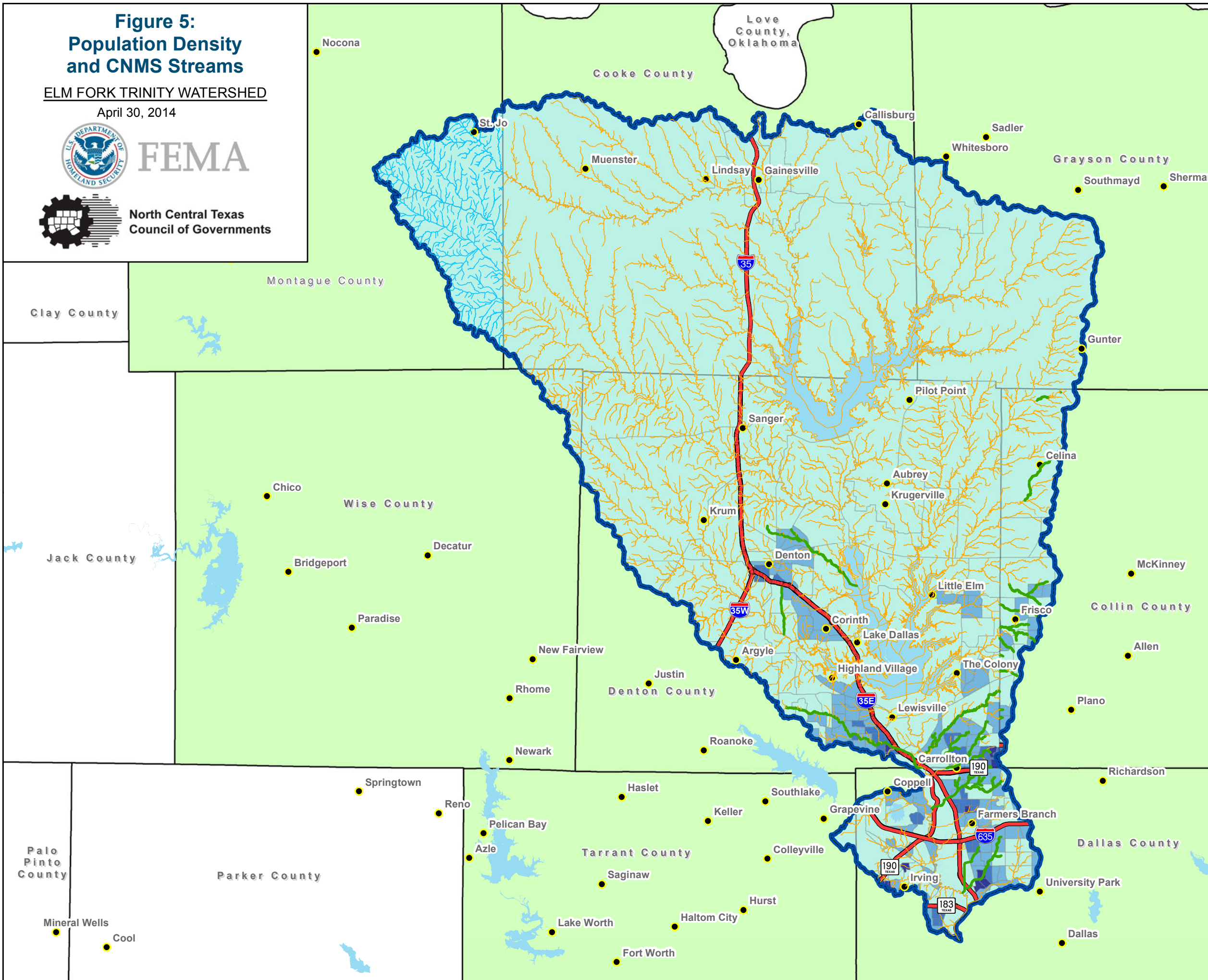


North Central Texas
Council of Governments

WATERSHED LOCATOR STATE OF TEXAS



NCTCOG
Boundary



Map Symbology

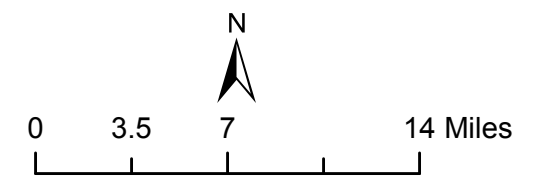
- Cities
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Elm Fork Trinity Discovery County
- County Boundaries

Population Density (2010)

- Very Low
- Low
- Medium
- High

CNMS Validation Status (2014)

- ~ Assessed, To be Studied
- ~ Unverified, To be Studied
- ~ Valid, NVUE Compliant



**Figure 6:
Land Use**

ELM FORK TRINITY WATERSHED

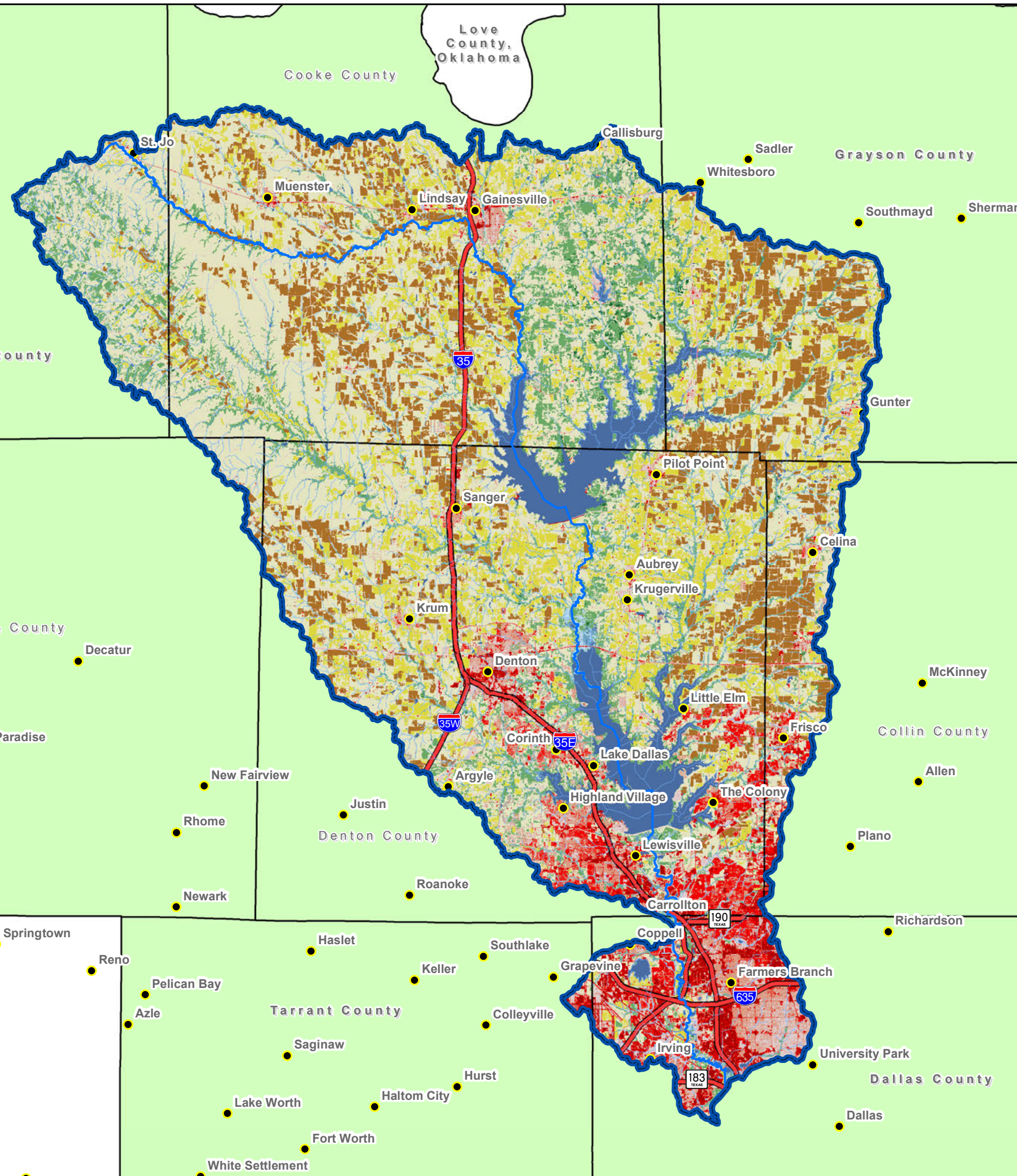
April 30, 2014



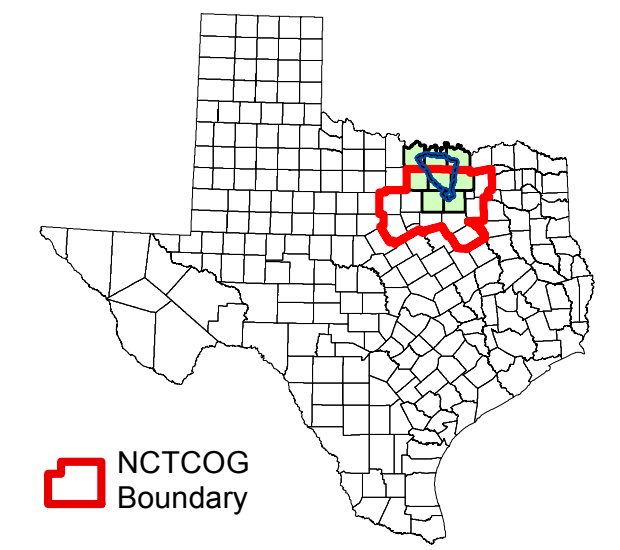
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North Central Texas
Council of Governments



**WATERSHED LOCATOR
STATE OF TEXAS**



NCTCOG
Boundary

Map Symbology

- Cities
 - ~ Elm Fork Trinity River
 - ~ Other Streams
 - Major Highways
 - ⬮ Watershed Boundary: HUC-8
 - ⬮ Elm Fork Trinity Discovery County
 - ⬮ County Boundaries
- Land Use (2006 NLCD)***
- Open Water
 - Developed Open Space
 - Developed Low Intensity
 - Developed Medium Intensity
 - Developed High Intensity
 - Barren Land
 - Deciduous Forest
 - Evergreen Forest
 - Shrubs
 - Grassland
 - Pasture
 - Cultivated Crops
 - Woody Wetlands
 - Herbaceous Wetlands

*NLCD is National Land Cover Dataset, created by the U.S. Geological Survey.



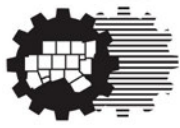
**Figure 7:
Urban Cover**

ELM FORK TRINITY WATERSHED

April 30, 2014

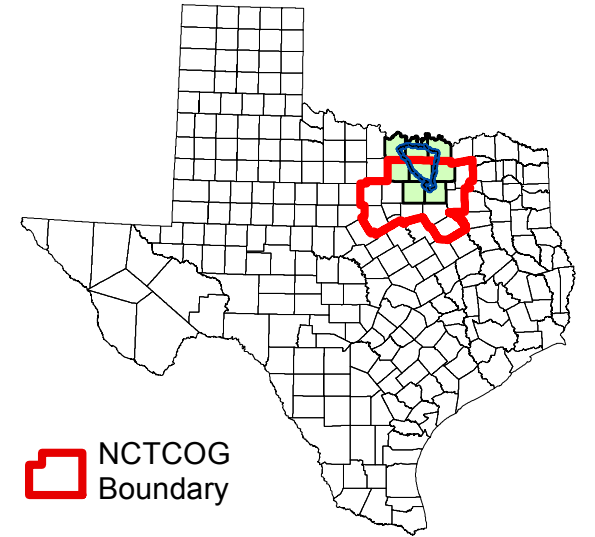


FEMA

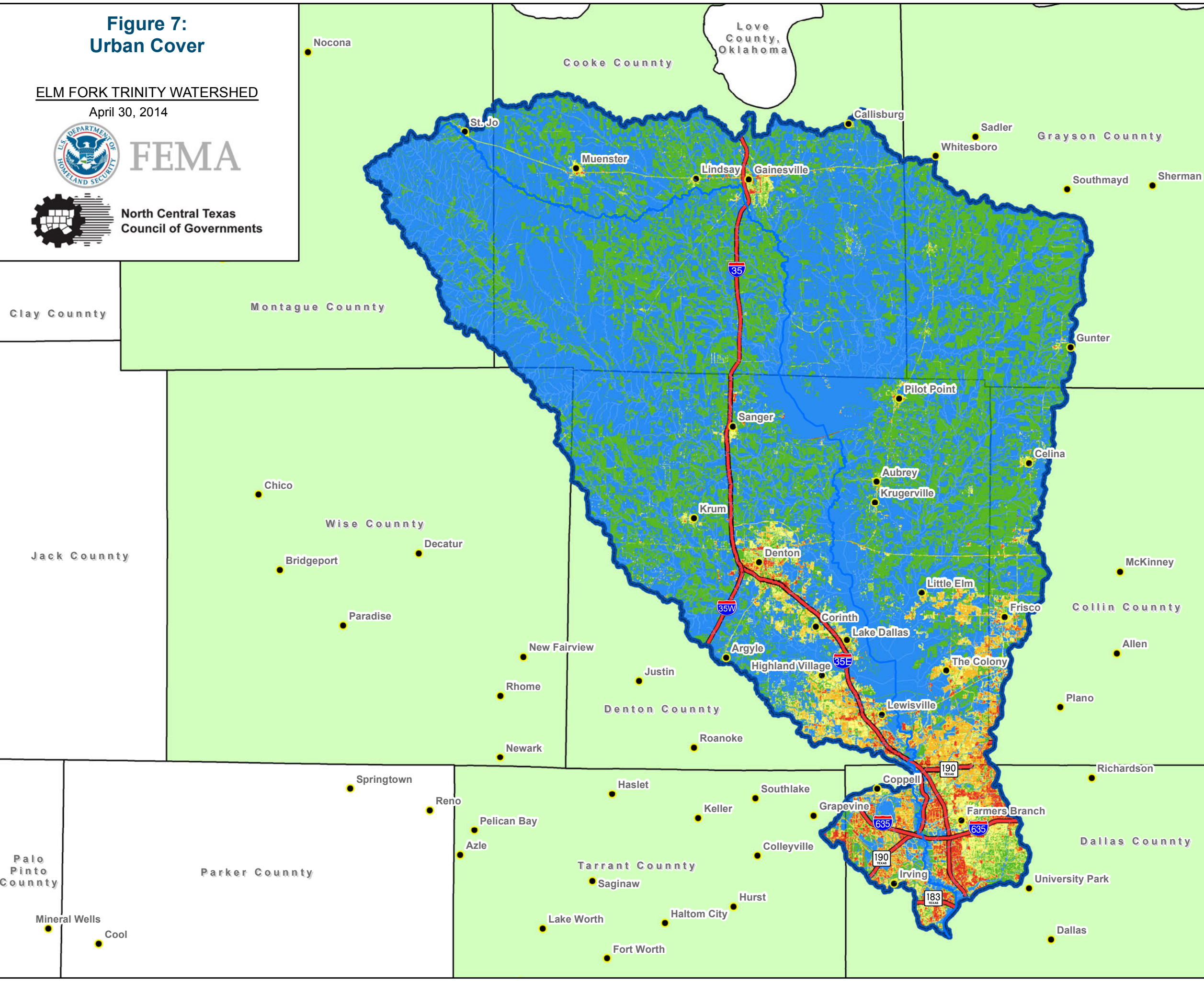


North Central Texas
Council of Governments

WATERSHED LOCATOR
STATE OF TEXAS



NCTCOG
Boundary



Map Symbology

- Cities
- ~ Elm Fork Trinity River
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Elm Fork Trinity Discovery County
- County Boundaries

Urban Cover (2006 NCLD)*

- 1 - Undeveloped
- 2 - Farmland
- 3 - Developed, Low Intensity
- 4 - Developed, Medium Intensity
- 5 - Developed, High Intensity

*NCLD is National Land Cover Dataset, created by the U.S. Geological Survey.



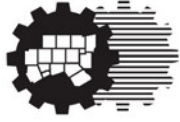
**Figure 9:
Flood Hazard Map**

ELM FORK TRINITY WATERSHED

April 30, 2014

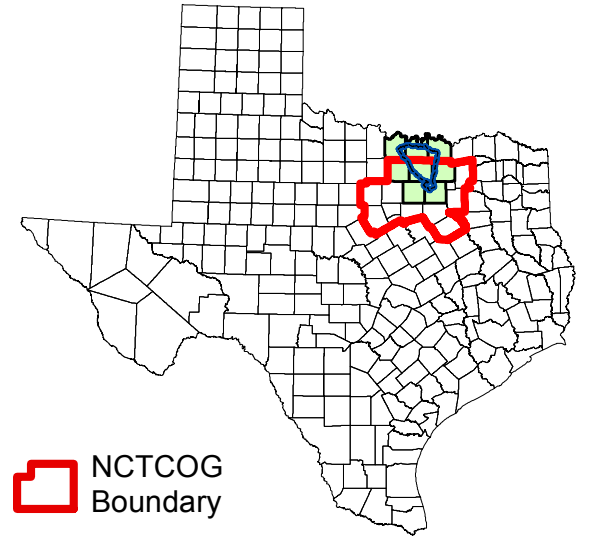


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Council of Governments

WATERSHED LOCATOR
STATE OF TEXAS



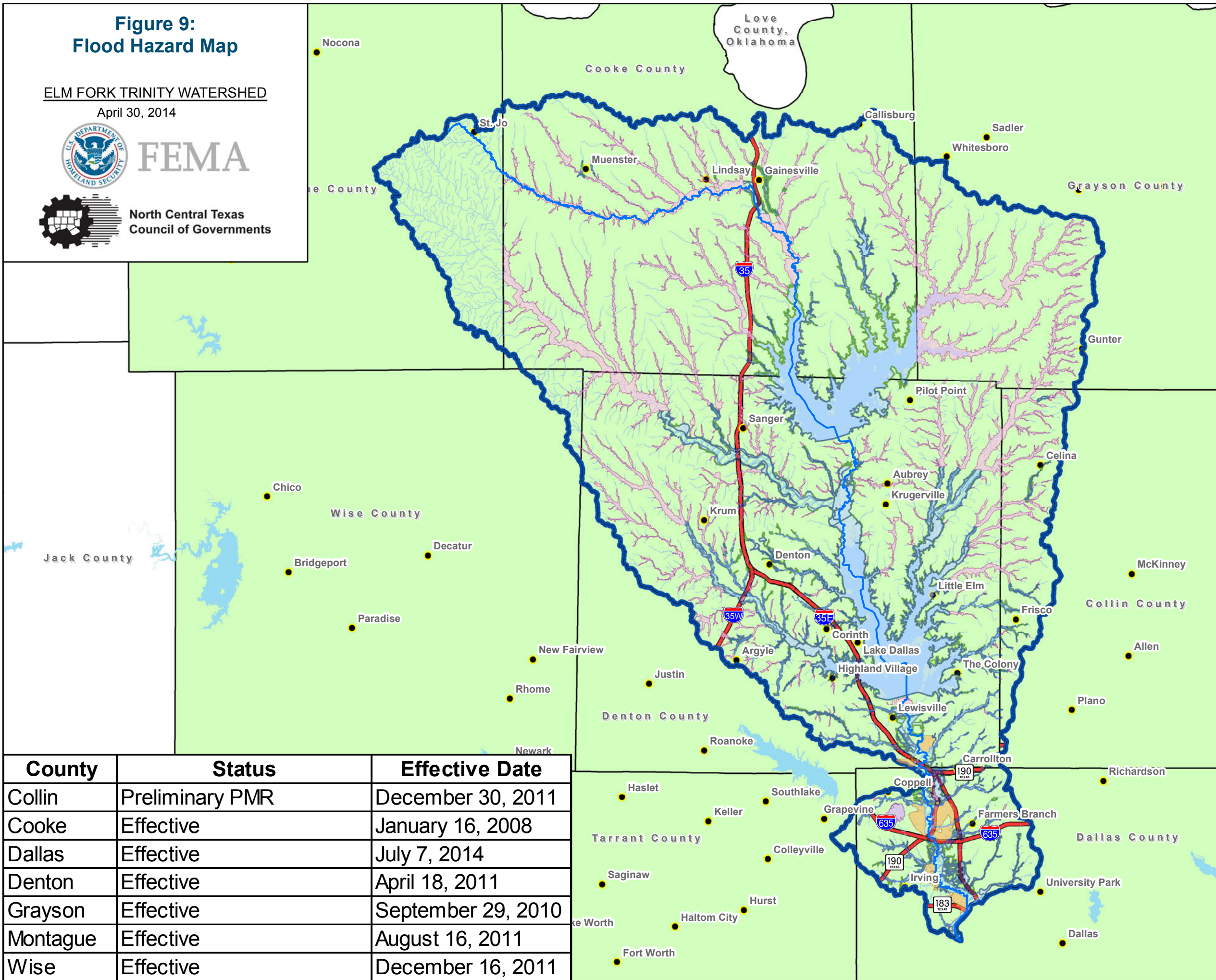
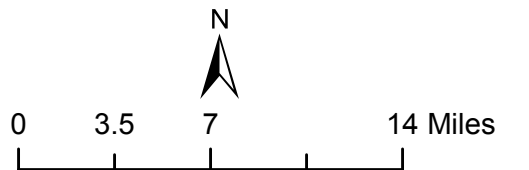
NCTCOG
Boundary

Map Symbology

- Cities
- Elm Fork Trinity River
- Other Streams
- Major Highways
- Watershed County: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- County Boundaries

Effective FEMA Floodplains (2013)

- Zone A (100-Yr, Approximate)
- Zone AE (100-Yr, Detailed)
- Floodway
- Zone X (500-Yr, Detailed)
- Zone X Protected by Levee



County	Status	Effective Date
Collin	Preliminary PMR	December 30, 2011
Cooke	Effective	January 16, 2008
Dallas	Effective	July 7, 2014
Denton	Effective	April 18, 2011
Grayson	Effective	September 29, 2010
Montague	Effective	August 16, 2011
Wise	Effective	December 16, 2011

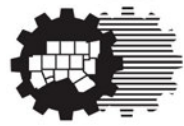
**Figure 10:
Topographic Data**

ELM FORK TRINITY WATERSHED

April 30, 2014

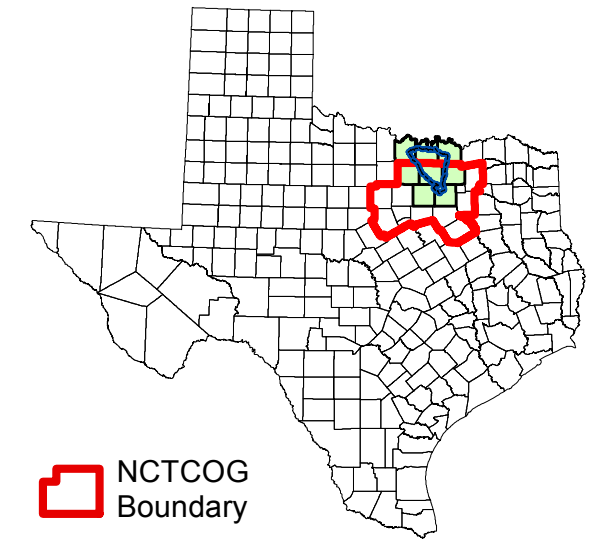


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North Central Texas
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WATERSHED LOCATOR
STATE OF TEXAS



NCTCOG
Boundary

Map Key

- Cities
- ~ Elm Fork Trinity River
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- + Elm Fork Trinity Discovery County
- + County Boundaries

Available Topography Data

- 2010 Montague, Cooke, Grayson, and Wise County LiDAR*
- 2011 Denton and Collin County LiDAR*
- 2009 Dallas and Tarrant County LiDAR*

*Data is from Texas Natural Resources Information System (TNRIS)

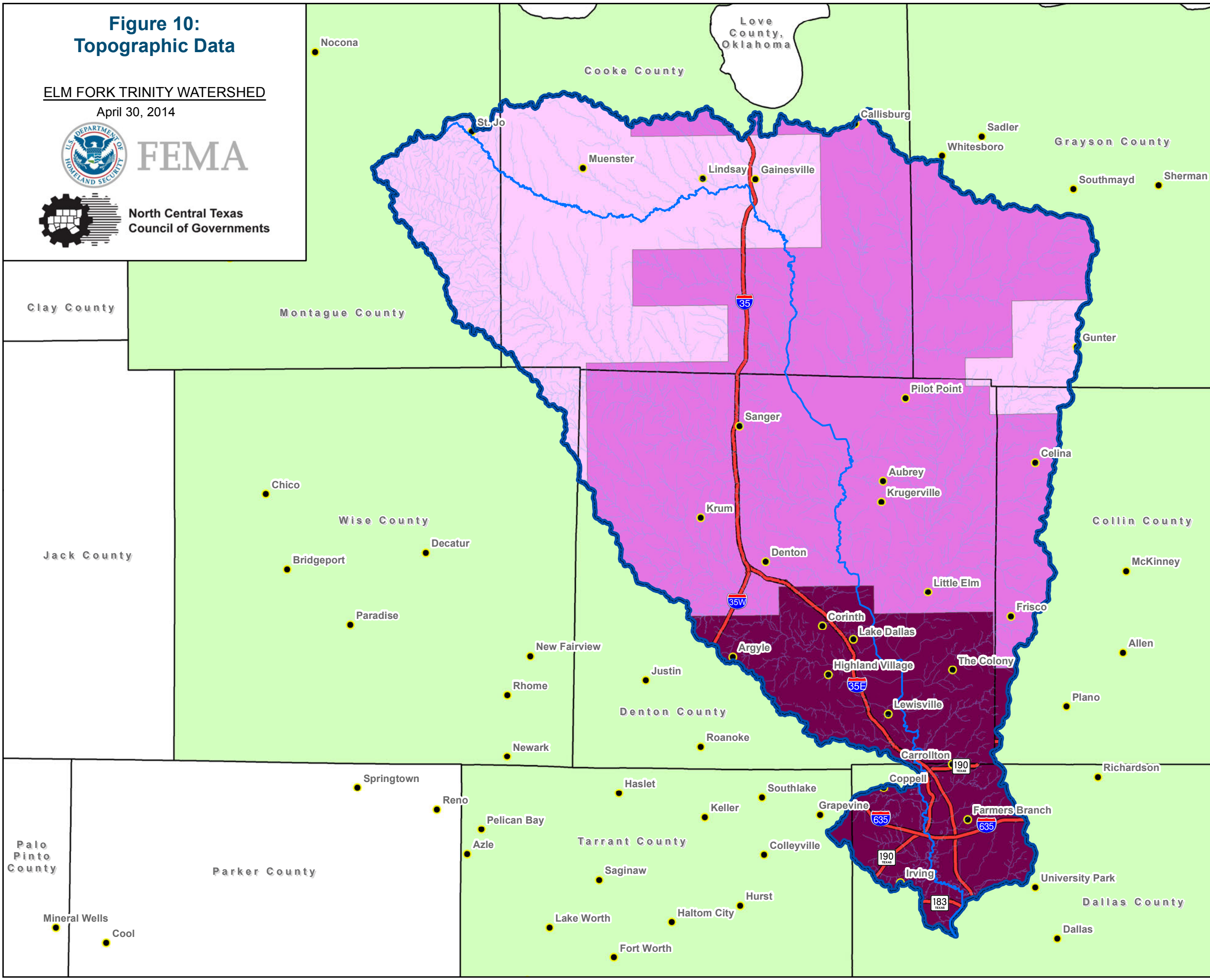
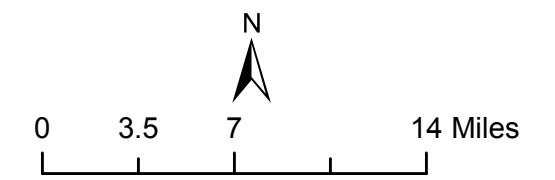


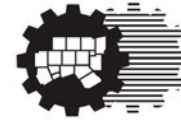
Figure 11: Low Water Crossings and High Water Marks

ELM FORK TRINITY WATERSHED

April 30, 2014

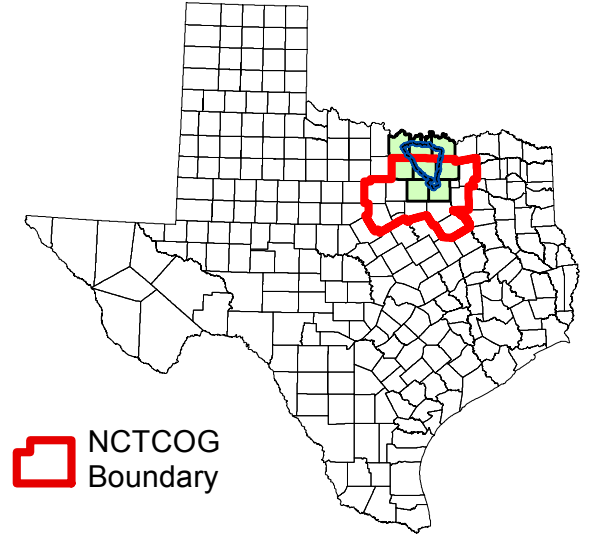


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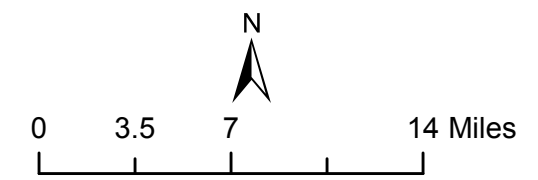
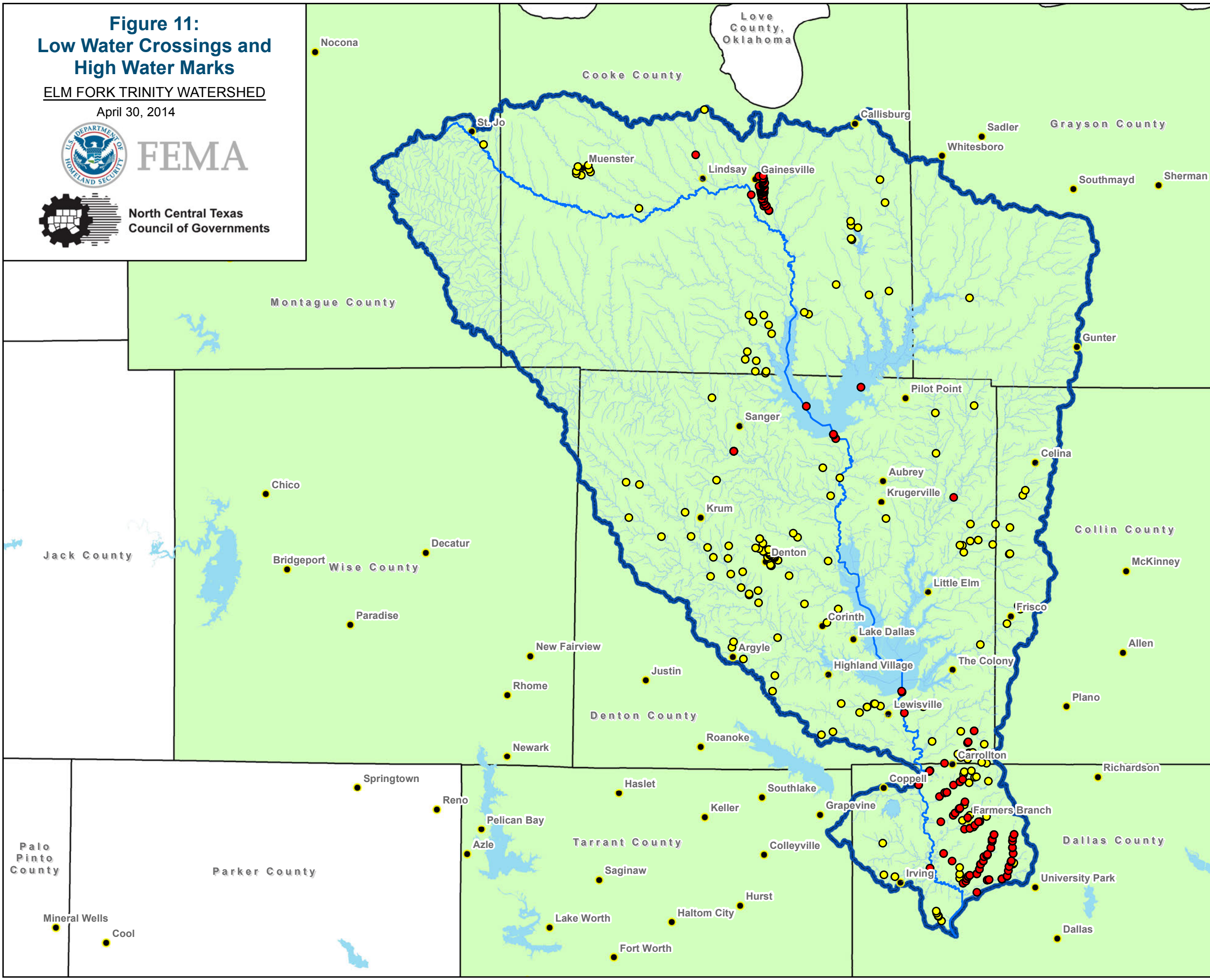
WATERSHED LOCATOR STATE OF TEXAS



NCTCOG
Boundary

Map Symbology

- Low Water Crossing
- High Water Mark
- Cities
- Elm Fork Trinity River
- Other Streams
- Watershed Boundary: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- County Boundaries



**Figure 13:
Flood Risk - Potential Losses**

ELM FORK TRINITY WATERSHED

April 30, 2014

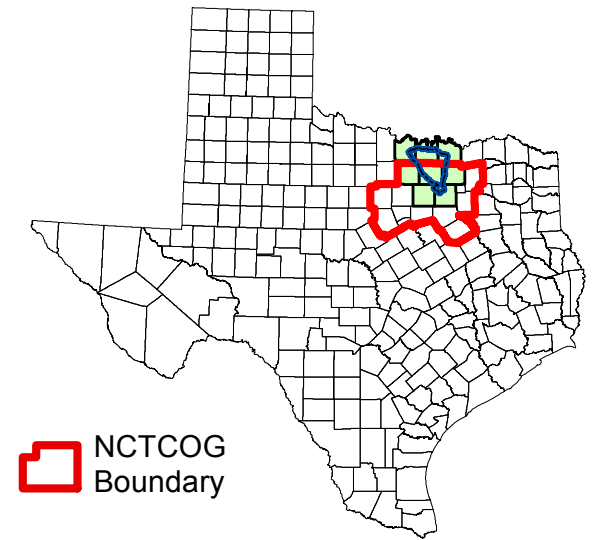


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STATE OF TEXAS



NCTCOG
Boundary

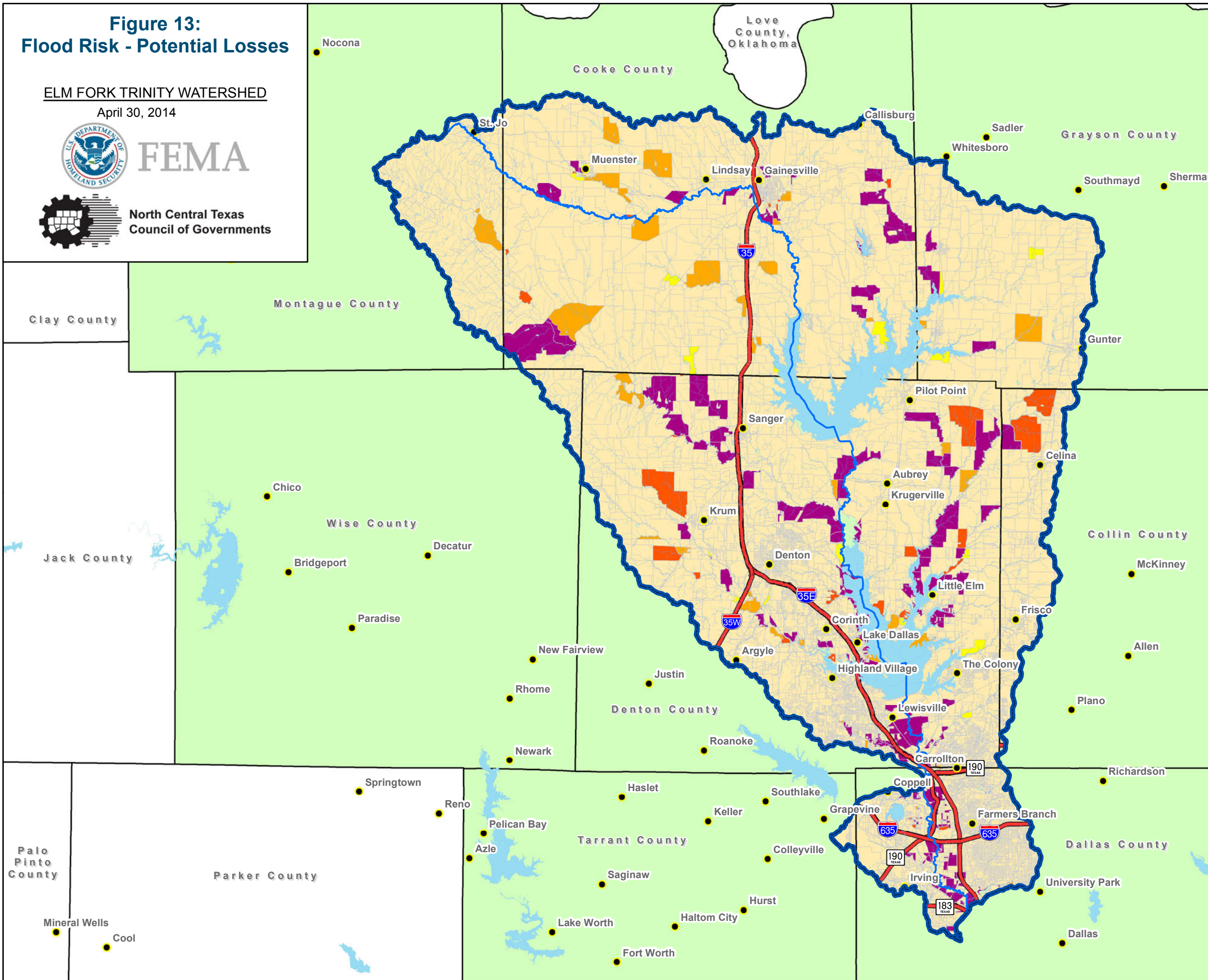
Map Symbology

- Cities
- Elm Fork Trinity River
- Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- Other County Boundary

Flood Risk*

- Very Low
- Low
- Medium
- High
- Very High

* Note: Flood Risk data source is FEMA 2010 HAZUS Average Annualize Loss (AAL) Study



**Figure 14:
Population Vulnerability**

ELM FORK TRINITY WATERSHED

April 30, 2014

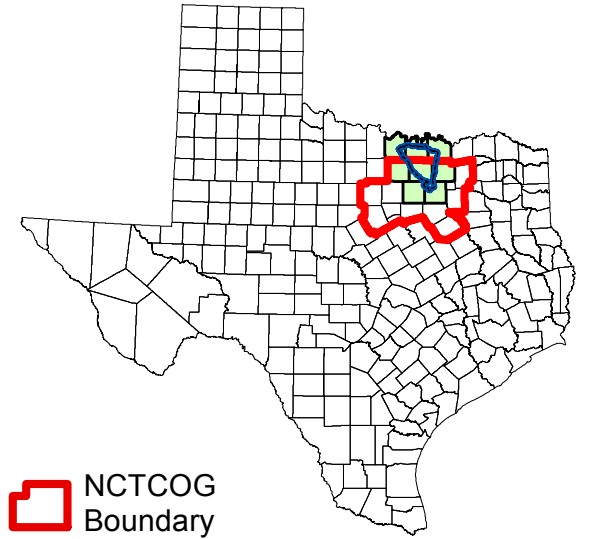


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Council of Governments

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STATE OF TEXAS



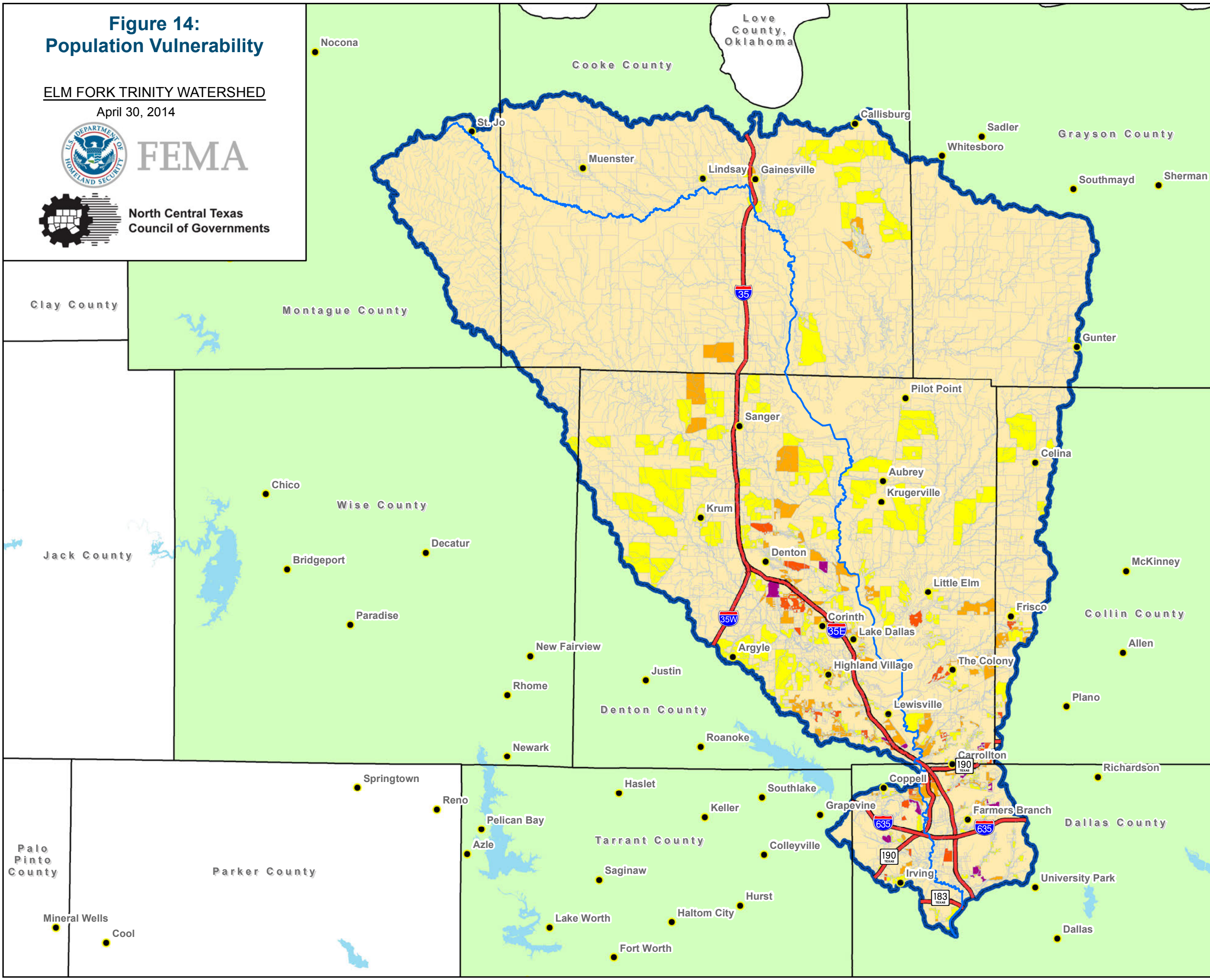
NCTCOG
Boundary

Map Symbology

- Cities
- Elm Fork Trinity River
- Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Lakes
- Elm Fork Trinity Discovery County
- Other County Boundary

**Population Vulnerability to 1% Flood
(2012 Texas Hazard Mitigation Package)**

- Very Low
- Low
- Medium
- High
- Very High

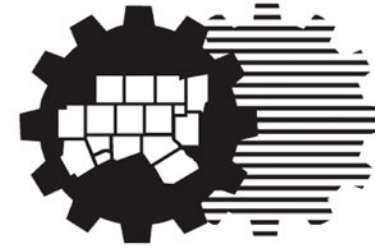


**Figure 16:
Community Rating System (CRS)
Eligible Communities Map**

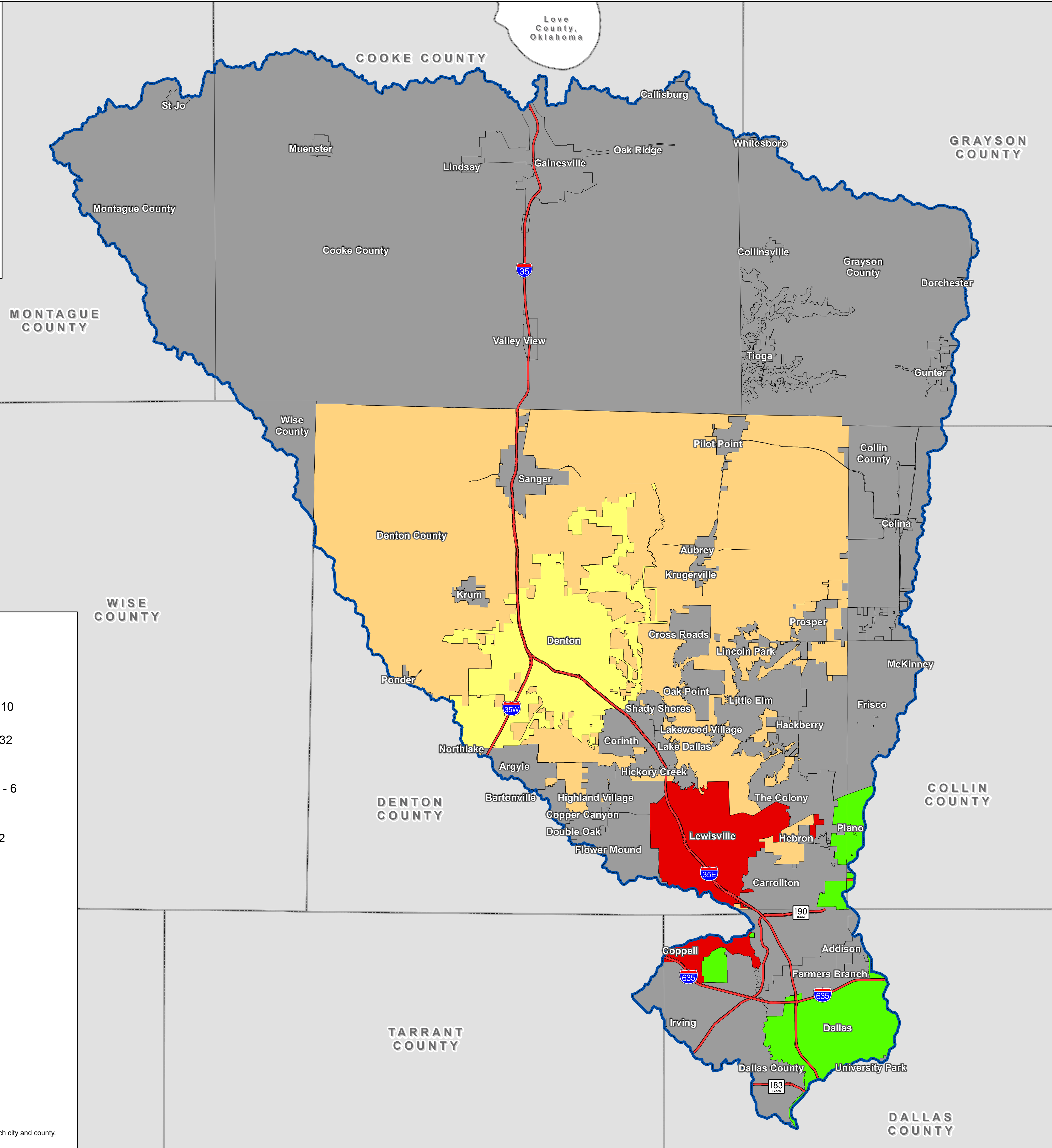
April 30, 2014



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Council of Governments**



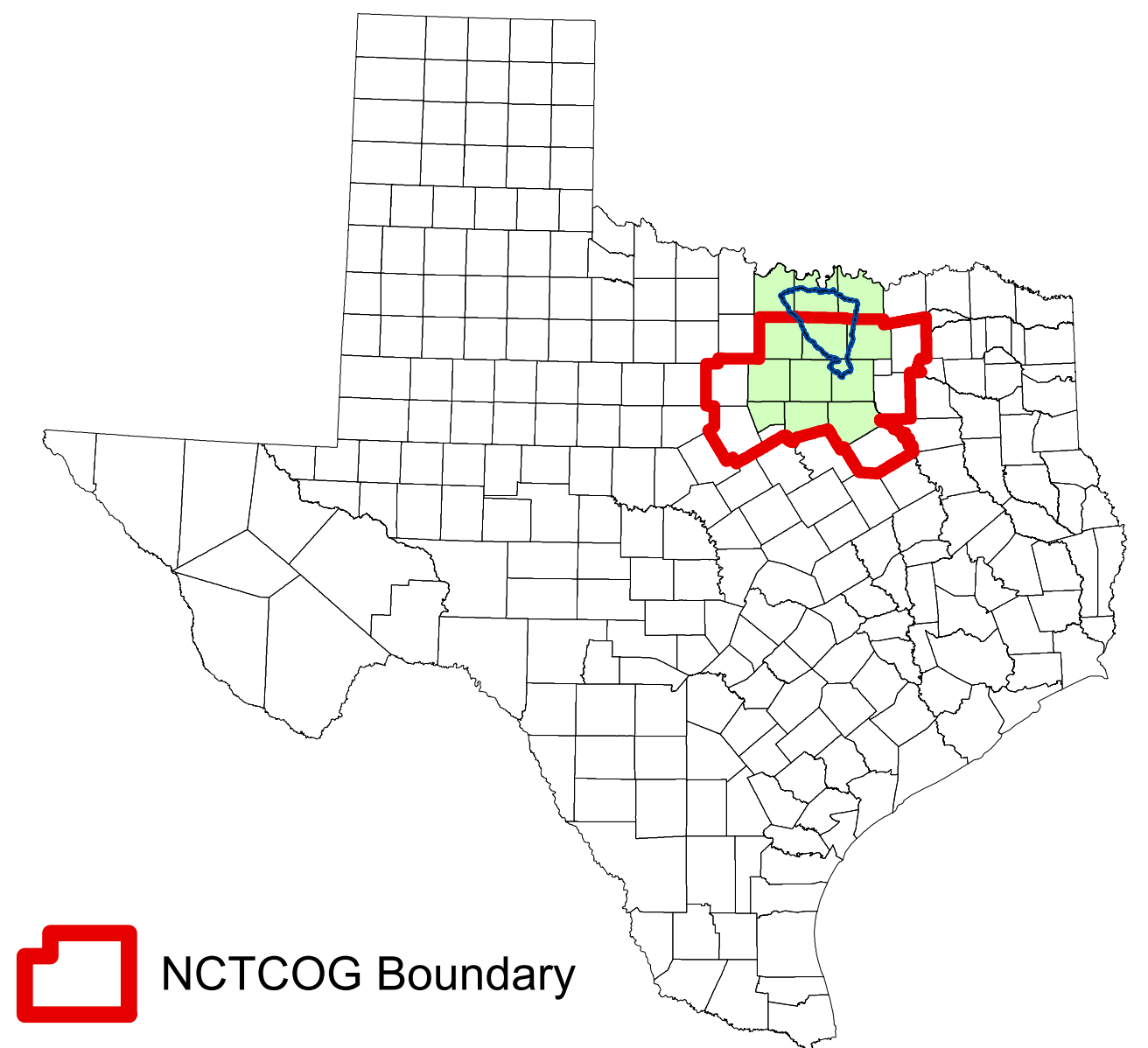
Elm Fork Watershed

Community Names & NFIP Policies In-Force

City of Aubrey - 8	Town of Argyle - 43
City of Callisburg - 1	Town of Bartonville - 14
City of Carrollton - 368	Town of Copper Canyon - 10
City of Celina - 7	Town of Double Oak - 16
City of Collinsville - 6	Town of Flower Mound - 332
City of Coppell - 258	Town of Gunter - 17
City of Corinth - 66	Town of Hickory Creek - 8
City of Denton - 500	Town of Lakewood Village - 6
City of Farmers Branch - 168	Town of Little Elm - 58
City of Frisco - 283	Town of Prosper - 6
City of Gainesville - 181	Town of Shady Shores - 42
City of Grapevine - 145	Town of Tioga - 11
City of Hackberry - 1	Collin County - 216
City of Highland Village - 98	Cooke County - 120
City of Irving - 708	Dallas County - 70
City of Krum - 13	Denton County - 366
City of Lake Dallas - 23	Grayson County - 183
City of Lake Dallas - 23	Montague County - 53
City of Lewisville - 160	Wise County - 146
City of Lindsay - 12	
City of McKinney - 187	
City of Muenster - 8	
City of Oak Point - 13	
City of Pilot Point - 4	
City of Plano - 809	
City of Sanger - 23	
City of The Colony - 48	
City of University Park - 86	

1 - * Denotes the Unincorporated Areas of the county.
2 - The NFIP Policy Statistics numbers are based on the "As of 6/30/2013" Policies In-Force for each city and county.

**WATERSHED LOCATOR
STATE OF TEXAS**



NCTCOG Boundary

Map Symbology

- Major Highways
- Watershed Boundary: HUC-8
- Communities Not Participating
- County Boundaries

CRS Class

- 5
- 6
- 7
- 8
- 10

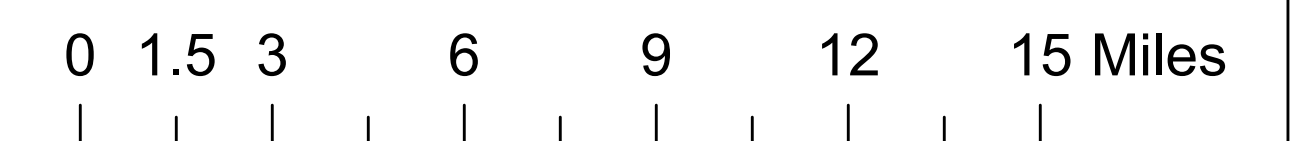


Figure 17: Stream Study Requests

ELM FORK TRINITY WATERSHED

April 30, 2014

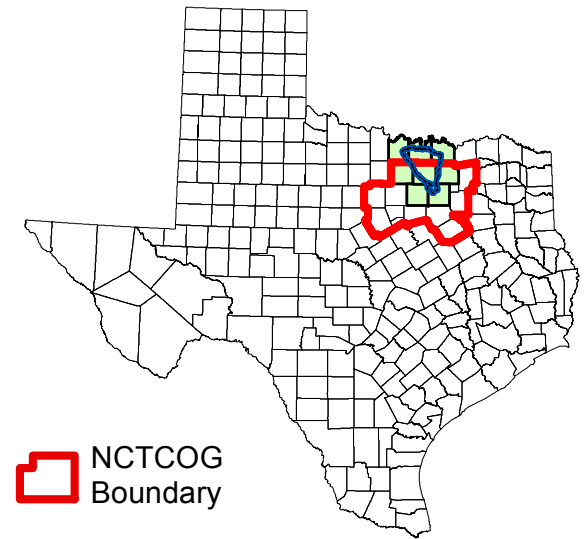


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North Central Texas
Council of Governments

WATERSHED LOCATOR STATE OF TEXAS



NCTCOG
Boundary

Map Key

- Cities
- ~ Stream Study Request
- ~ Elm Fork Trinity River
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Watershed Boundary: HUC-12
- Lakes
- Elm Fork Trinity Discovery County
- County Boundaries

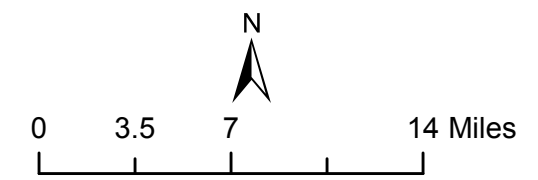
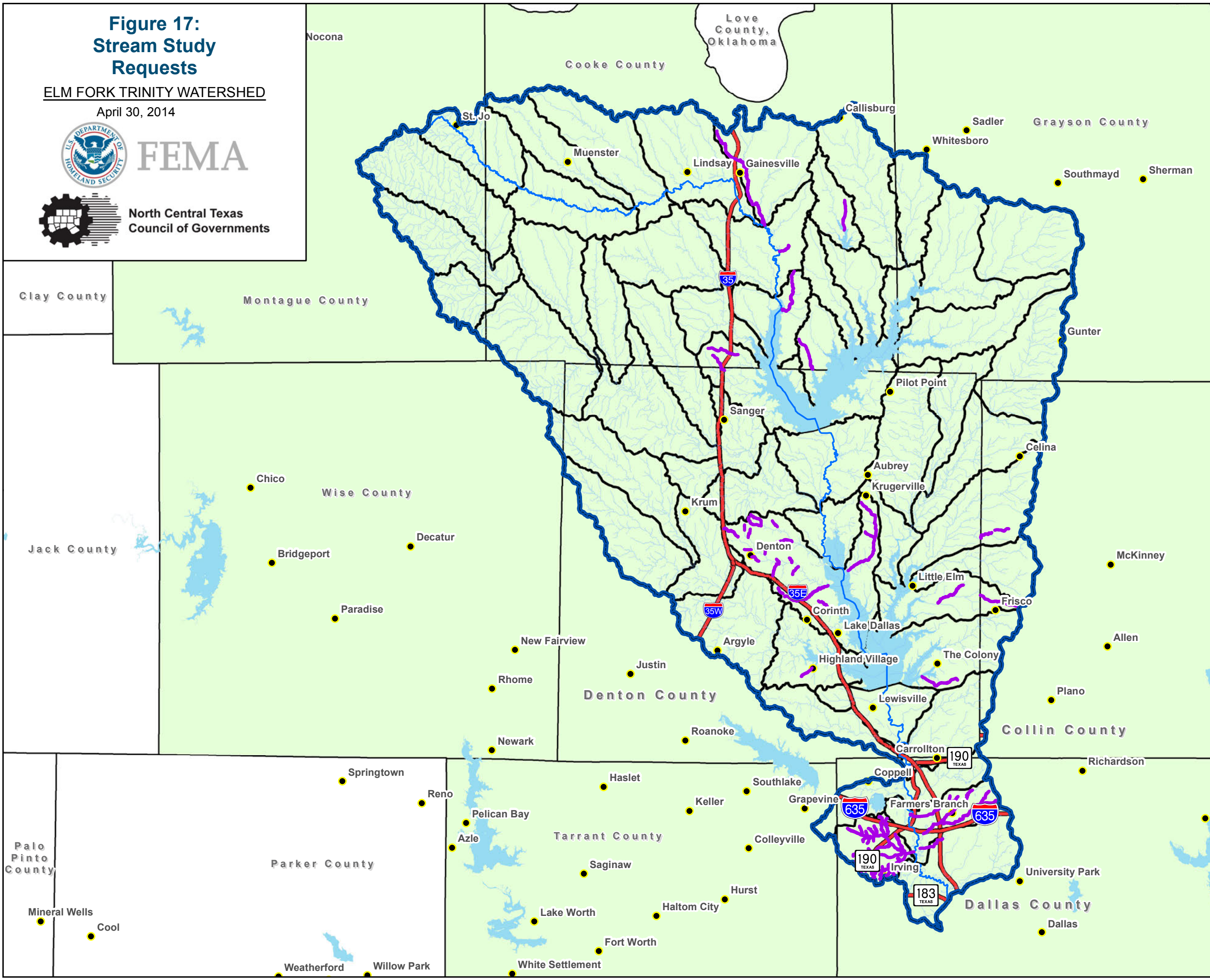


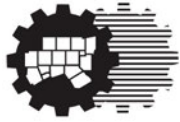
Figure 18: Proposed Watershed Projects

ELM FORK TRINITY WATERSHED

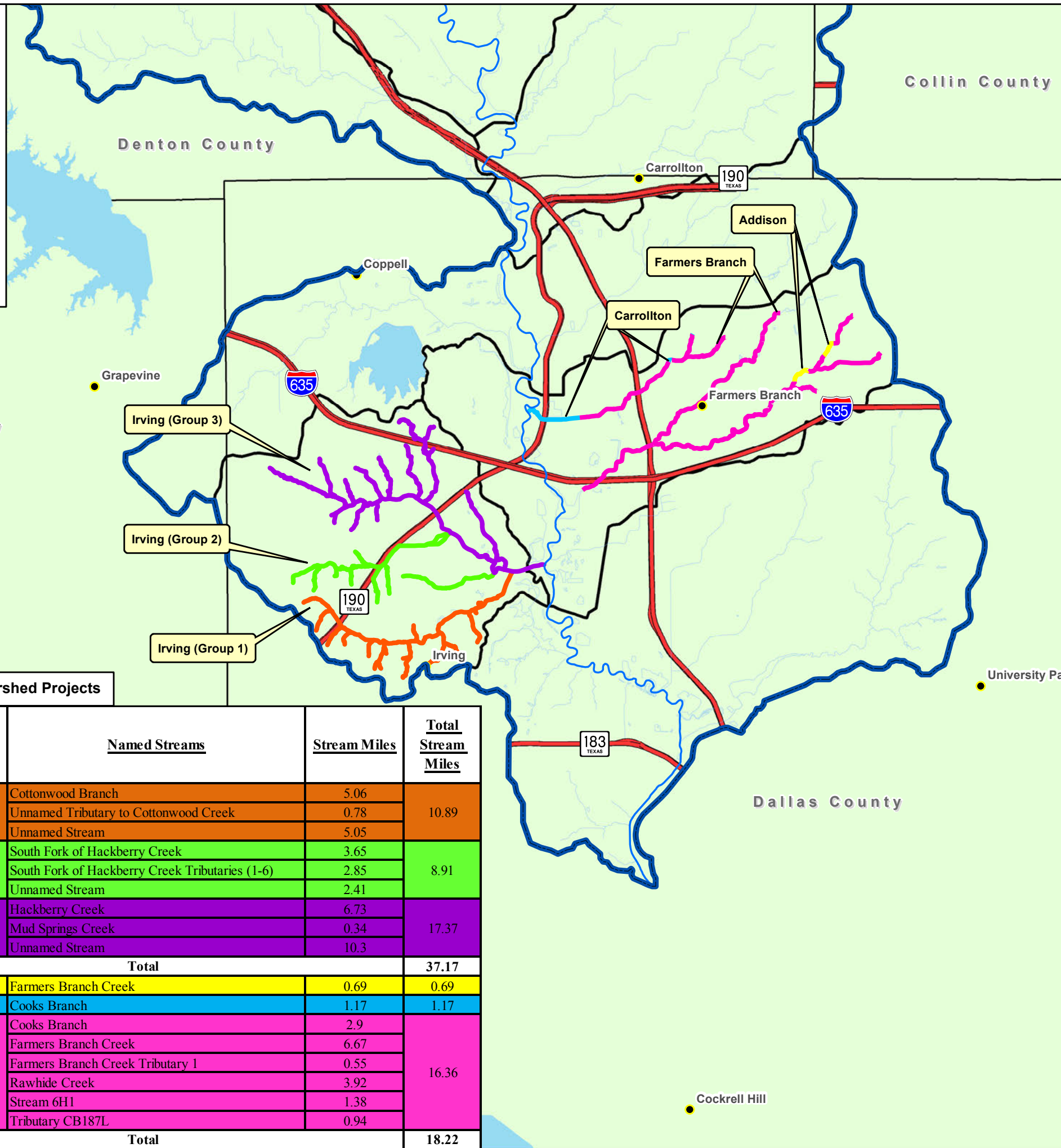
April 30, 2014



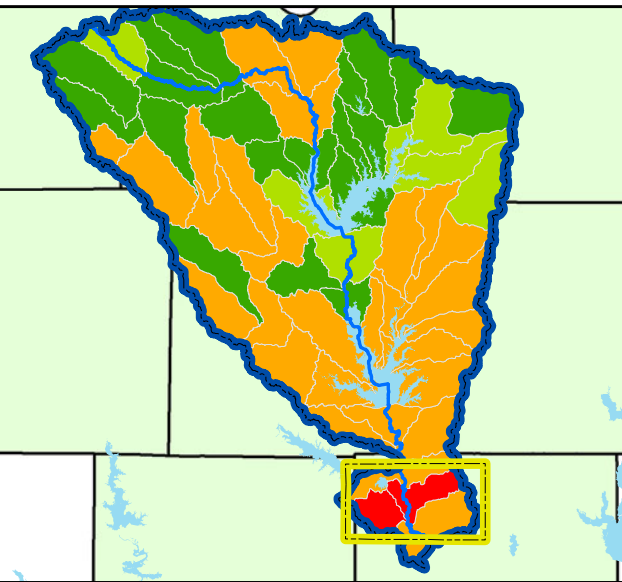
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Council of Governments



WATERSHED LOCATOR STATE OF TEXAS



Map Key

- Cities
- ~ Elm Fork Trinity River
- ~ Other Streams
- Major Highways
- Watershed Boundary: HUC-8
- Watershed Boundary: HUC-12
- Lakes
- + Elm Fork Trinity Discovery County
- + County Boundaries

HUC-12 Watershed Prioritizations

- Low Risk
- Guarded Risk (General Risk)
- Elevated Risk (Significant Risk)
- High Risk

Proposed Watershed Projects

HUC-12	Proposed Study Watershed	FY	Community	Named Streams	Stream Miles	Total Stream Miles	
Elm Fork	Cottonwood Branch-Hackberry Creek	FY14	Irving (Group 1)	Cottonwood Branch	5.06	10.89	
				Unnamed Tributary to Cottonwood Creek	0.78		
				Unnamed Stream	5.05		
		Future FY	Irving (Group 2)	South Fork of Hackberry Creek	3.65	8.91	
				South Fork of Hackberry Creek Tributaries (1-6)	2.85		
				Unnamed Stream	2.41		
	Future FY	Irving (Group 3)	Hackberry Creek	6.73	17.37		
			Mud Springs Creek	0.34			
			Unnamed Stream	10.3			
	Total						37.17
	Farmers Branch-Elm Fork Trinity	Future FY	Addison	Farmers Branch Creek	0.69	0.69	
			Carrollton	Cooks Branch	1.17	1.17	
Farmers Branch			Cooks Branch	2.9	16.36		
			Farmers Branch Creek	6.67			
			Farmers Branch Creek Tributary 1	0.55			
			Rawhide Creek	3.92			
			Stream 6H1	1.38			
Tributary CB187L			0.94				
Total						18.22	

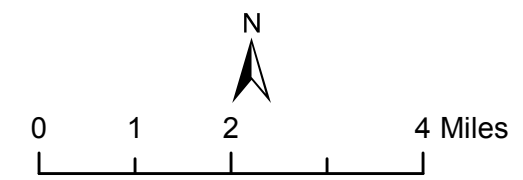


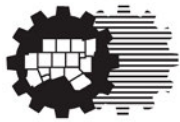
Figure 19: Stakeholder Comments

ELM FORK TRINITY WATERSHED

April 30, 2014

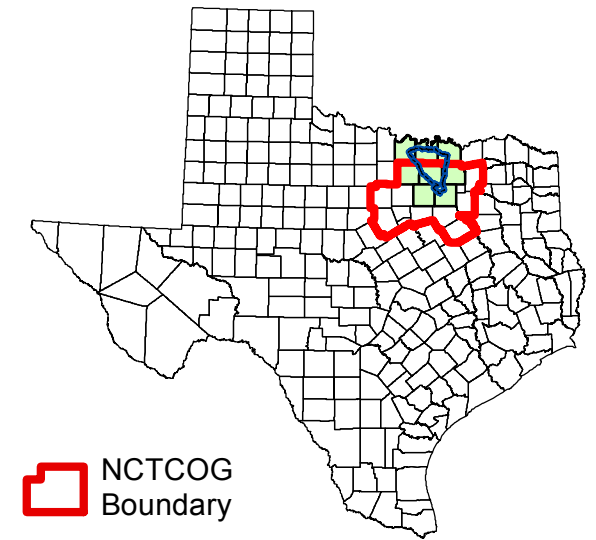


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Council of Governments

WATERSHED LOCATOR STATE OF TEXAS



NCTCOG
Boundary

Map Symbology

- Cities
- Major Highways
- Watershed County: HUC-8
- Lakes
- + Elm Fork Trinity Discovery County
- County Boundaries

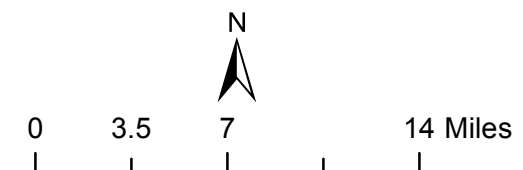
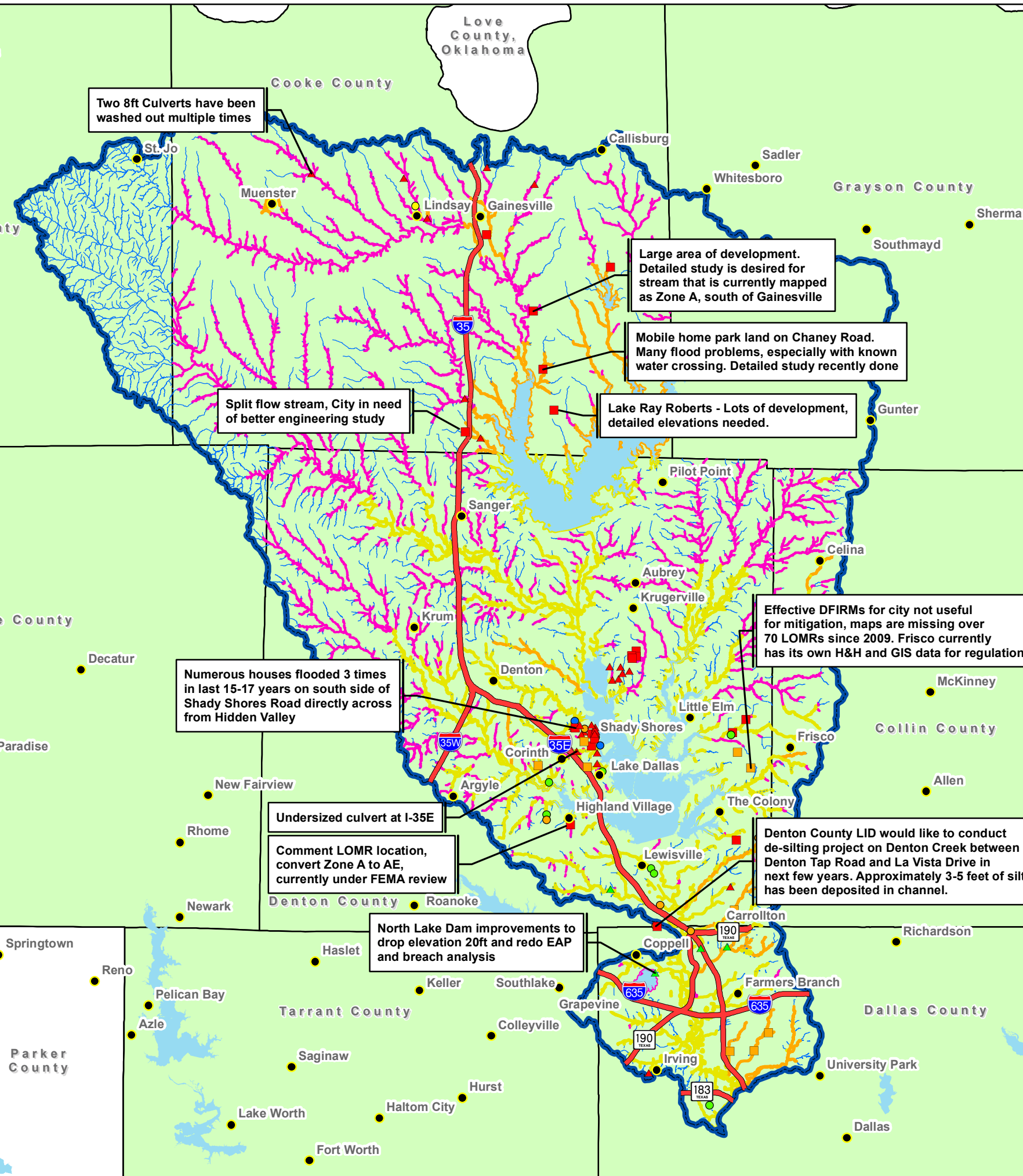
Streams Study Types[^]

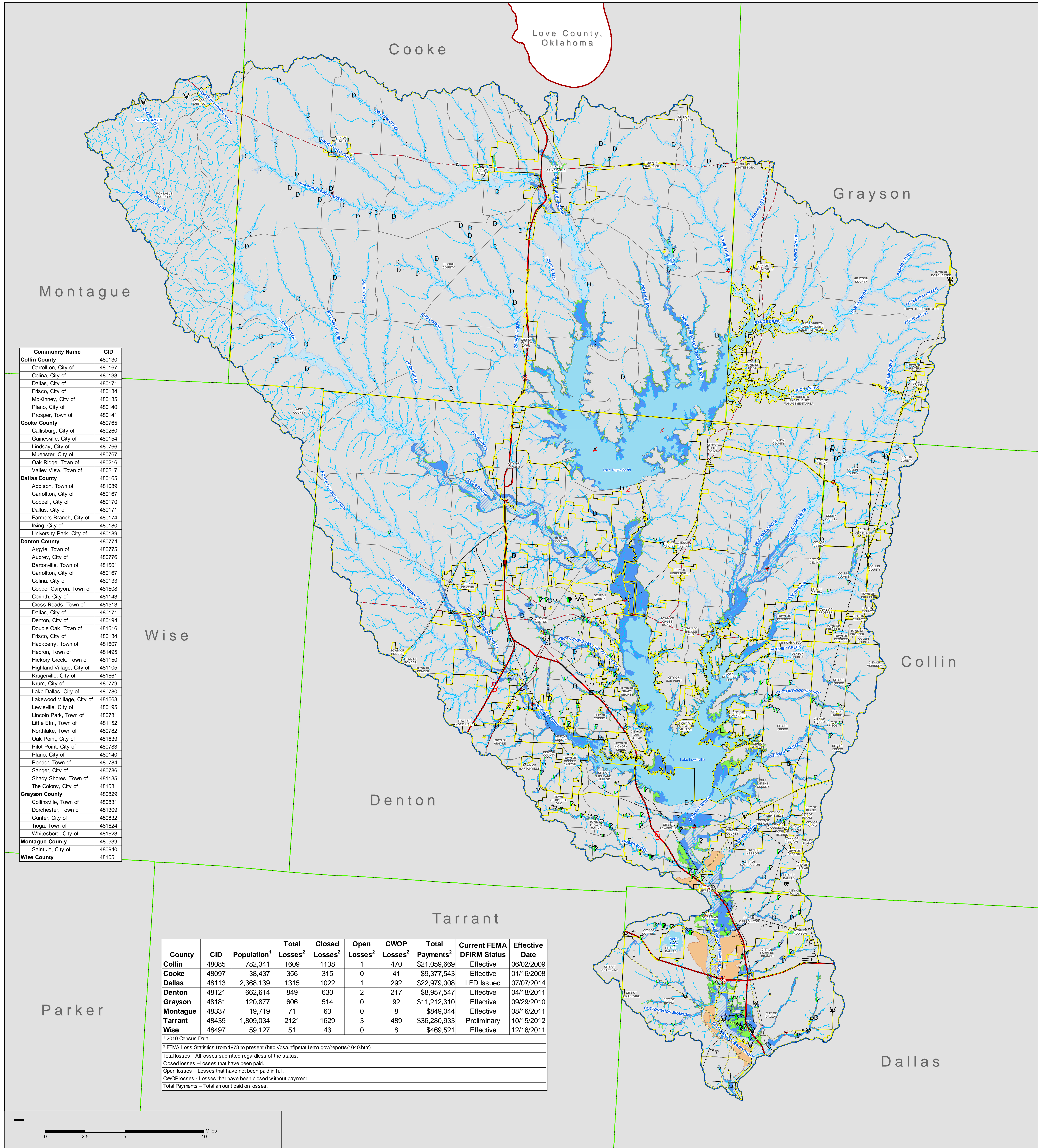
- AE, SFHA* w/High Risk
- AE, Redelineation
- A, SFHA* w/Low Risk
- X, Unshaded-X-Zones

[^]As of 2013
*SFHA - Special Flood Hazard Areas

Stakeholder Comments and Mapping Needs

- ▲ Flooding Risk
- ▲ Flooding Risk/Mitigation Action
- Mapping Concern
- Mapping Need
- Mitigation Actions
- Mitigation Actions - Completed
- Mitigation Actions - Identified
- Regulations





Community Name	CID
Collin County	480130
Carrollton, City of	480167
Celina, City of	480133
Dallas, City of	480171
Frisco, City of	480134
McKinney, City of	480135
Plano, City of	480140
Prosper, Town of	480141
Cooke County	480765
Callisburg, City of	480260
Gainesville, City of	480154
Lindsay, City of	480766
Muenster, City of	480767
Oak Ridge, Town of	480216
Valley View, Town of	480217
Dallas County	480165
Addison, Town of	481089
Carrollton, City of	480167
Coppell, City of	480170
Dallas, City of	480171
Farmers Branch, City of	480174
Iring, City of	480180
University Park, City of	480189
Denton County	480774
Argyle, Town of	480775
Aubrey, City of	480776
Bartonville, Town of	481501
Carrollton, City of	480167
Celina, City of	480133
Copper Canyon, Town of	481508
Corinth, City of	481143
Cross Roads, Town of	481513
Dallas, City of	480171
Denton, City of	480194
Double Oak, Town of	481516
Frisco, City of	480134
Hackberry, Town of	481607
Hebron, Town of	481495
Hickory Creek, Town of	481150
Highland Village, City of	481105
Krugerville, City of	481661
Krum, City of	480779
Lake Dallas, City of	480780
Lakewood Village, City of	481663
Lewisville, City of	480195
Lincoln Park, Town of	480781
Little Elm, Town of	481152
Northlake, Town of	480782
Oak Point, City of	481639
Pilot Point, City of	480783
Plano, City of	480140
Ponder, Town of	480784
Sanger, City of	480786
Shady Shores, Town of	481135
The Colony, City of	481581
Grayson County	480829
Collinsville, Town of	480831
Dorchester, Town of	481309
Gunter, City of	480832
Tioga, Town of	481624
Whitesboro, City of	481623
Montague County	480939
Saint Jo, City of	480940
Wise County	481051

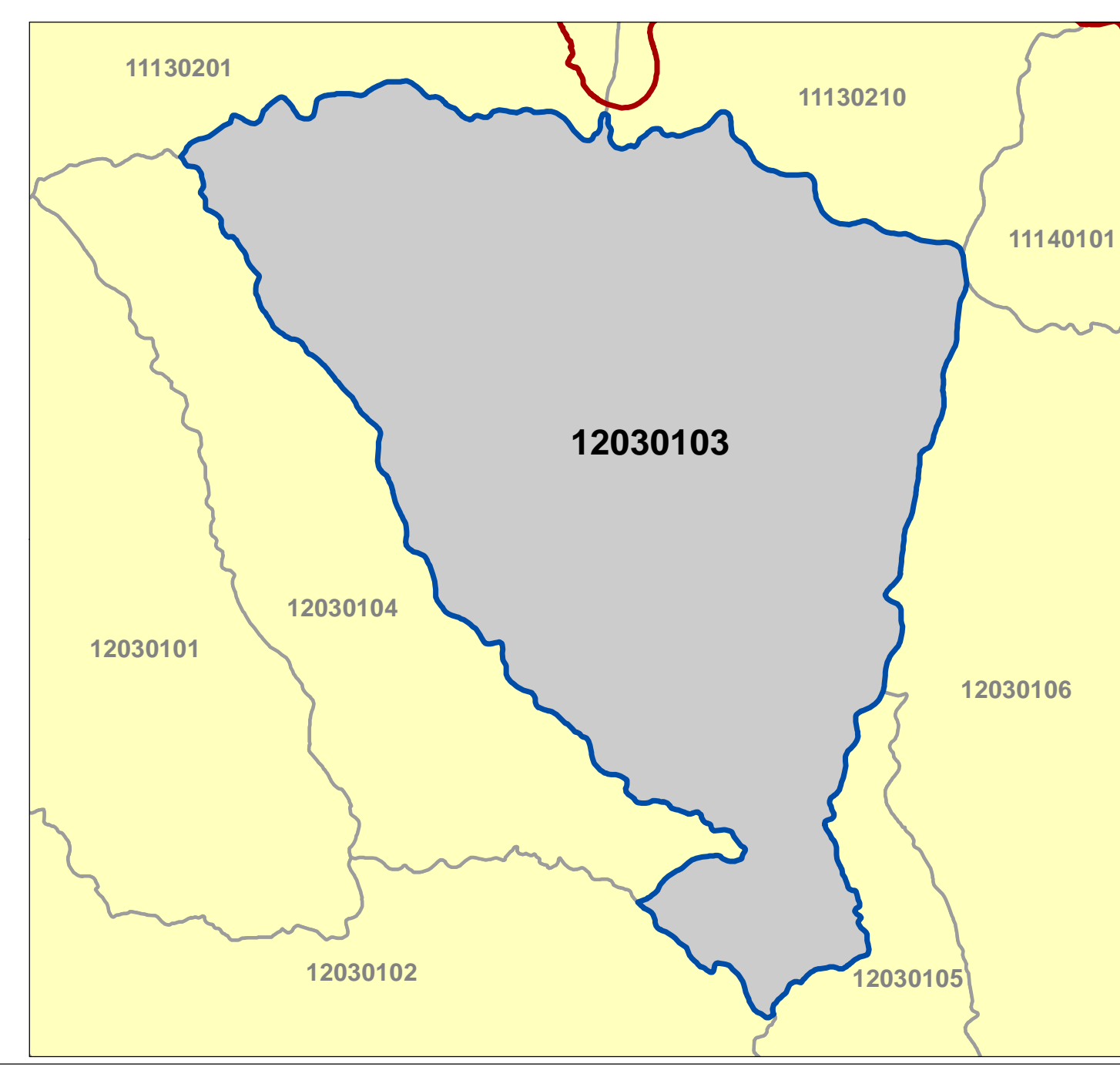
County	CID	Population ¹	Total Losses ²	Closed Losses ²	Open Losses ²	CWOP Losses ²	Total Payments ²	Current FEMA DFIRM Status	Effective Date
Collin	48085	782,341	1609	1138	1	470	\$21,059,669	Effective	06/02/2009
Cooke	48097	38,437	356	315	0	41	\$9,377,543	Effective	01/16/2008
Dallas	48113	2,368,139	1315	1022	1	292	\$22,979,008	LFD Issued	07/07/2014
Denton	48121	662,614	849	630	2	217	\$8,957,547	Effective	04/18/2011
Grayson	48181	120,877	606	514	0	92	\$11,212,310	Effective	09/29/2010
Montague	48337	19,719	71	63	0	8	\$849,044	Effective	08/16/2011
Tarrant	48439	1,809,034	2121	1629	3	489	\$36,280,933	Preliminary	10/15/2012
Wise	48497	59,127	51	43	0	8	\$469,521	Effective	12/16/2011

¹ 2010 Census Data
² FEMA Loss Statistics from 1978 to present (<http://bsa.nfipstat.fema.gov/reports/1040.htm>)
 Total losses - All losses submitted regardless of the status.
 Closed losses - Losses that have been paid.
 Open losses - Losses that have not been paid in full.
 CWOP losses - Losses that have been closed without payment.
 Total Payments - Total amount paid on losses.

MAP SYMBOLOLOGY

- FEMA Floodplains
- Floodway
- Zone AE (100-Year, Detailed)
- Zone A (100-Year, Approximate)
- Zone X500 (500-Year, Detailed)
- Zone X Protected by Levee
- Transportation**
- Interstate Highway
- US Highway
- State Highway
- Other Roads
- Railroads
- USGS Gauge
- LOMC Locations
- Dams
- Stream / Rivers
- Lakes
- City Boundaries
- County Boundaries
- Watershed Boundary
- Flood Claims**
- Rep Loss Properties
- Severe Rep Loss Properties

WATERSHED LOCATOR



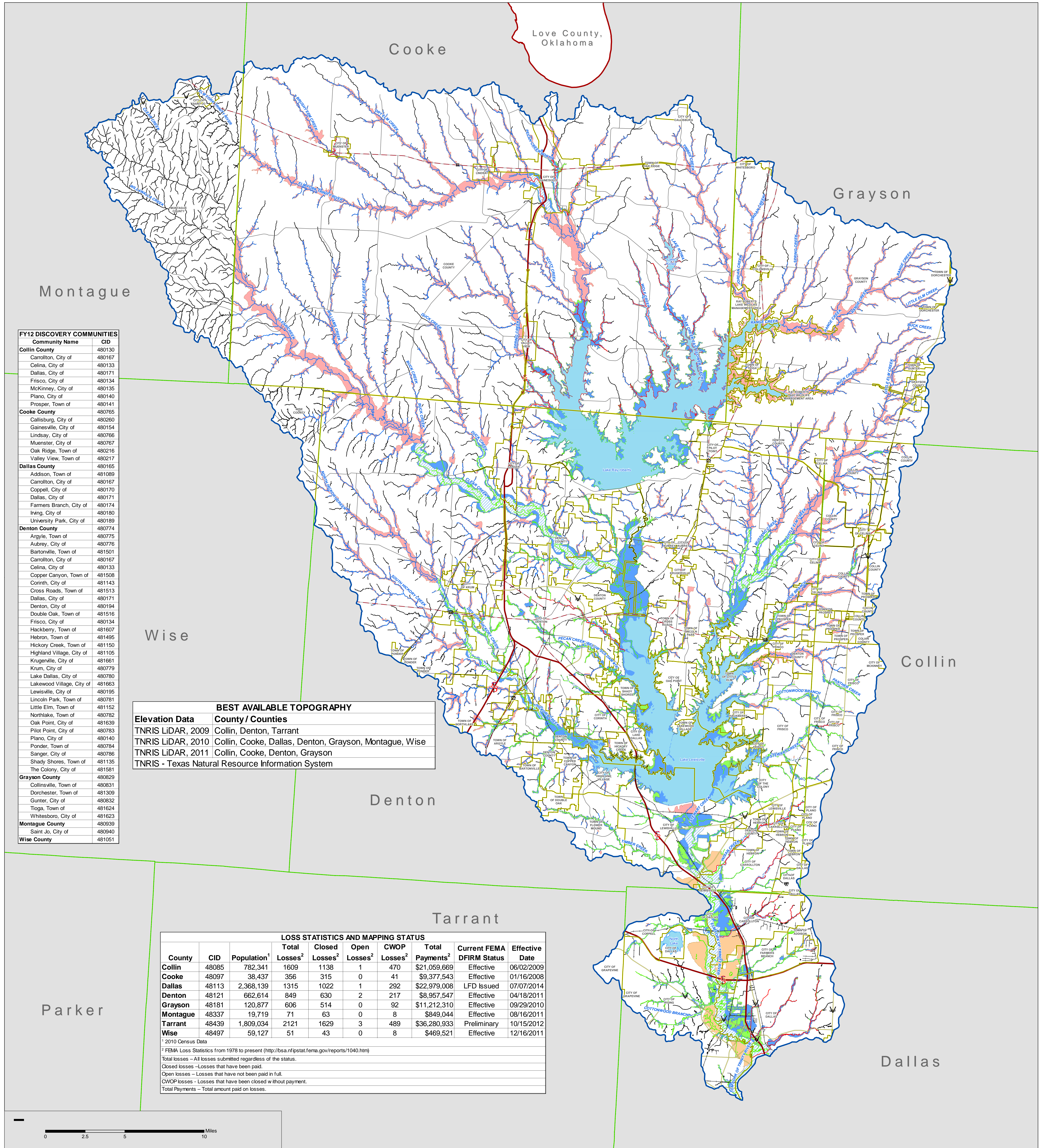
NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map
ELM FORK TRINITY WATERSHED, TEXAS

Stream Miles: 3,387
 Studied Stream Miles: 2,387
 Detailed Study Miles: 1,294
 Approximate Study Miles: 1,093



FEMA

HUC-8 Code
12090401
 Release Date
01/31/2014



FY12 DISCOVERY COMMUNITIES

Community Name	CID
Collin County	
Carrollton, City of	480130
Celina, City of	480167
Dallas, City of	480133
Frisco, City of	480171
McKinney, City of	480134
Plano, City of	480135
Prosper, Town of	480140
Prosper, Town of	480141
Cooke County	
Calisburg, City of	480765
Gainesville, City of	480260
Lindsay, City of	480154
Muenster, City of	480766
Oak Ridge, Town of	480767
Valley View, Town of	480216
Valley View, Town of	480217
Dallas County	
Addison, Town of	480165
Carrollton, City of	481089
Coppell, City of	480167
Coppell, City of	480170
Dallas, City of	480171
Farmers Branch, City of	480174
Inving, City of	480180
University Park, City of	480189
Denton County	
Argyle, Town of	480774
Argyle, Town of	480775
Aubrey, City of	480776
Bartonville, Town of	480776
Bartonville, Town of	481501
Carrollton, City of	480167
Celina, City of	480133
Copper Canyon, Town of	481508
Corinth, City of	481143
Cross Roads, Town of	481513
Dallas, City of	480171
Denton, City of	480194
Double Oak, Town of	481516
Frisco, City of	480134
Hackberry, Town of	481607
Hebron, Town of	481495
Hickory Creek, Town of	481150
Highland Village, City of	481105
Krugerville, City of	481661
Krum, City of	480779
Lake Dallas, City of	480780
Lakewood Village, City of	481663
Lewisville, City of	480195
Lincoln Park, Town of	480781
Little Elm, Town of	481152
Northlake, Town of	480782
Oak Point, City of	481639
Pilot Point, City of	480783
Plano, City of	480140
Ponder, Town of	480784
Sanger, City of	480786
Shady Shores, Town of	481135
The Colony, City of	481581
Grayson County	
Collinsville, Town of	480828
Collinsville, Town of	480831
Dorchester, Town of	481309
Gunter, City of	480832
Tioga, Town of	481624
Whitesboro, City of	481623
Montague County	
Saint Jo, City of	480939
Saint Jo, City of	480940
Wise County	
Wise, City of	481051

BEST AVAILABLE TOPOGRAPHY

Elevation Data	County/ Counties
TNRIS LiDAR, 2009	Collin, Denton, Tarrant
TNRIS LiDAR, 2010	Collin, Cooke, Dallas, Denton, Grayson, Montague, Wise
TNRIS LiDAR, 2011	Collin, Cooke, Denton, Grayson
TNRIS - Texas Natural Resource Information System	

LOSS STATISTICS AND MAPPING STATUS

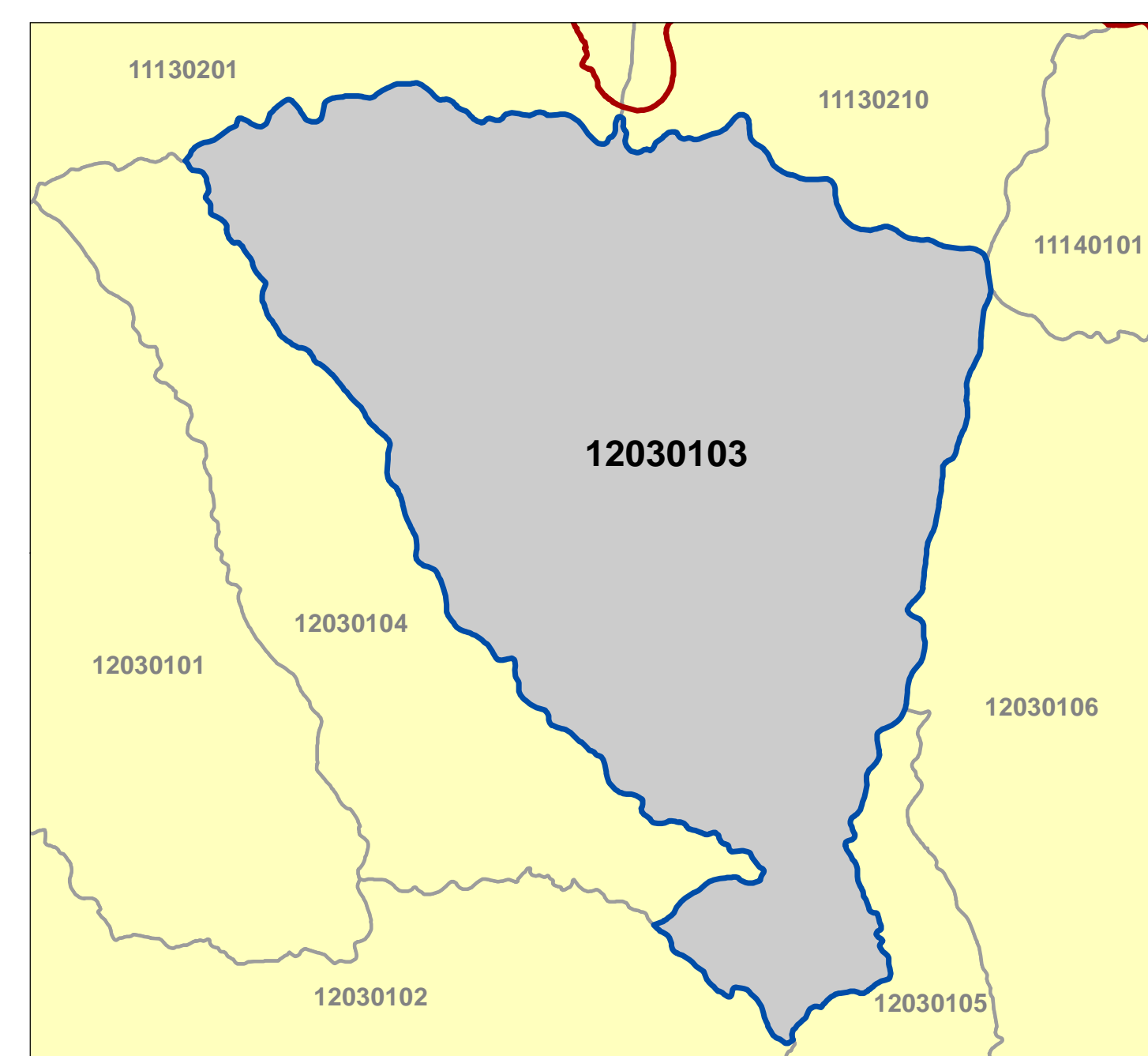
County	CID	Population ¹	Total Losses ²	Closed Losses ²	Open Losses ²	CWOP Losses ²	Total Payments ²	Current FEMA DFIRM Status	Effective Date
Collin	48085	782,341	1609	1138	1	470	\$21,059,669	Effective	06/02/2009
Cooke	48097	38,437	356	315	0	41	\$9,377,543	Effective	01/16/2008
Dallas	48113	2,368,139	1315	1022	1	292	\$22,979,008	LFD Issued	07/07/2014
Denton	48121	662,614	849	630	2	217	\$8,957,547	Effective	04/18/2011
Grayson	48181	120,877	606	514	0	92	\$11,212,310	Effective	09/29/2010
Montague	48337	19,719	71	63	0	8	\$849,044	Effective	08/16/2011
Tarrant	48439	1,809,034	2121	1629	3	489	\$36,280,933	Preliminary	10/15/2012
Wise	48497	59,127	51	43	0	8	\$469,521	Effective	12/16/2011

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 CWOP losses - Losses that have been closed without payment.
 Total Payments - Total amount paid on losses.

MAP SYMBOLOLOGY

- Lakes
- City Boundaries
- County Boundaries
- Watershed Boundary
- Transportation**
- Interstate Highway
- US Highway
- State Highway
- Other Roads
- Railroads
- Effective Stream Study Type***
- Zone A (Approximate, SFHA w/Low Risk)
- Zone AE (New/Revised Detailed, SFHA w/High Risk)
- Zone AE (Detailed, Redelineation)
- Zone X (Unshaded-X-Zones, Areas of Minimal Flood Risk)
- Effective FEMA Floodplains***
- Floodway
- Zone AE (100-Year, Detailed)
- Zone A (100-Year, Approximate)
- Zone X500 (500-Year, Detailed)
- Zone X Protected by Levee

WATERSHED LOCATOR



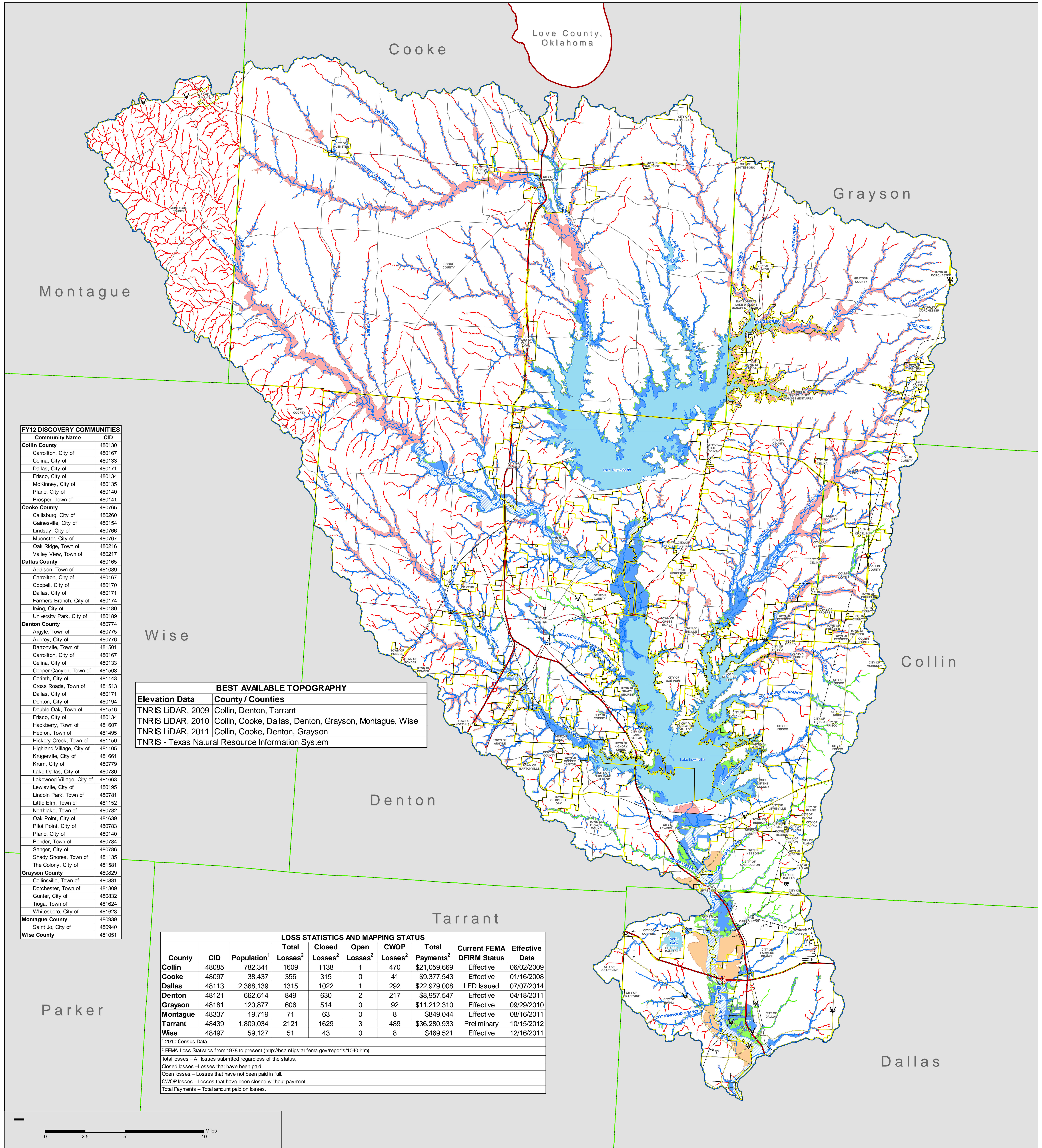
NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map
ELM FORK TRINITY WATERSHED, TEXAS

Stream Miles: 3,387
 Studied Stream Miles: 2,377
 Detailed Study Miles: 294
 (New | Revised)
 Detailed Study Miles: 789
 (Redelineation)
 Approximate Study Miles: 1294



HUC-8 Code
12030103
Release Date
04/30/2014

*Data as of January 2014



FY12 DISCOVERY COMMUNITIES	
Community Name	CID
Collin County	480130
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McKinney, City of	480135
Plano, City of	480140
Prosper, Town of	480141
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Callisburg, City of	480260
Gainesville, City of	480154
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Muenster, City of	480767
Oak Ridge, Town of	480216
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Ining, City of	480180
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Argyle, Town of	480775
Aubrey, City of	480776
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Corinth, City of	481143
Cross Roads, Town of	481513
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TNRIS LiDAR, 2011	Collin, Cooke, Denton, Grayson
TNRIS - Texas Natural Resource Information System	

LOSS STATISTICS AND MAPPING STATUS									
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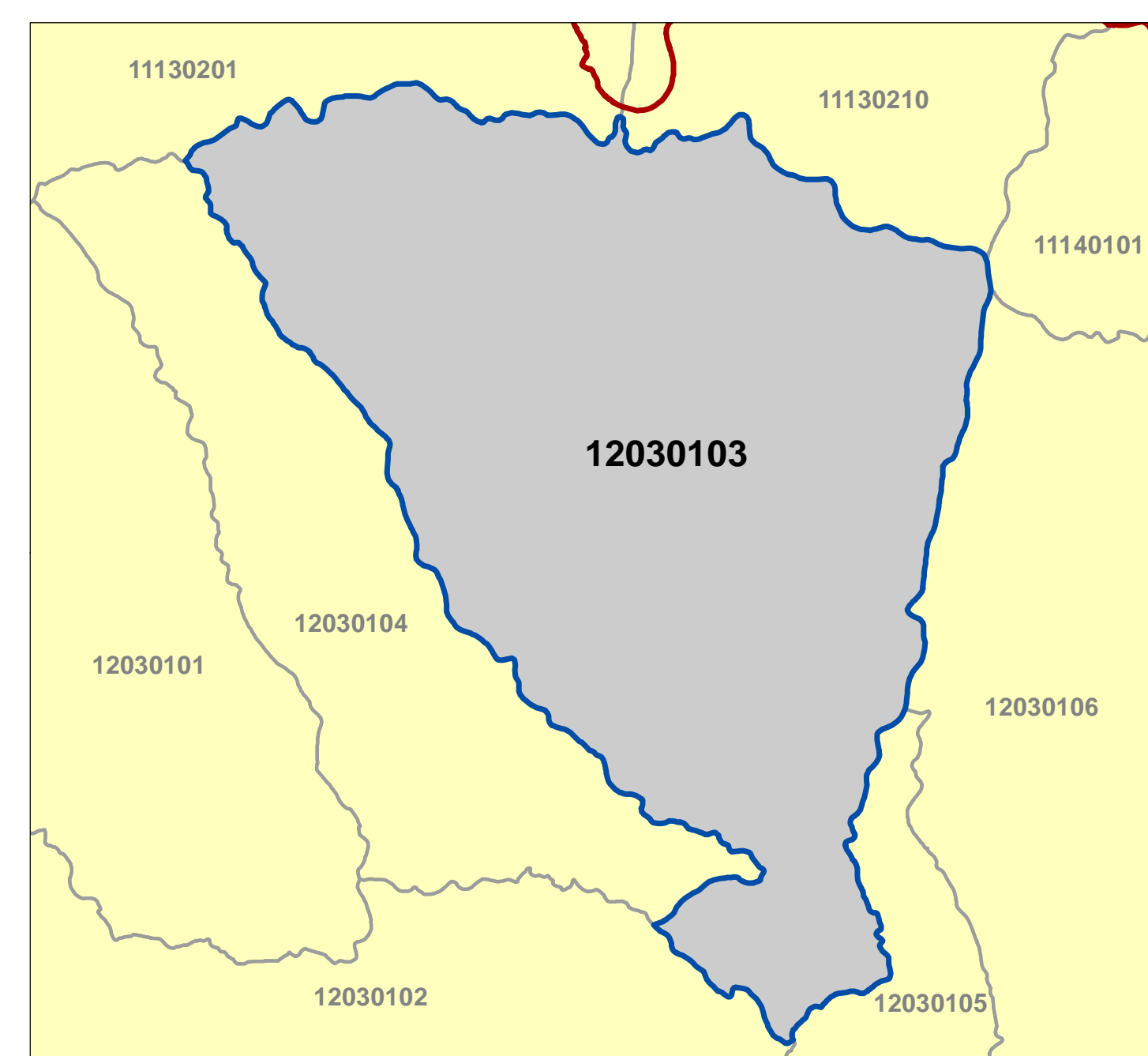
¹ 2010 Census Data
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- MAP SYMBOLOLOGY**
- Lakes
 - City Boundaries
 - County Boundaries
 - Watershed Boundary
 - Transportation
 - Interstate Highway
 - US Highway
 - State Highway
 - Other Roads
 - Railroads

- Effective FEMA Floodplains***
- Floodway
 - Zone AE (100-Year, Detailed)
 - Zone A (100-Year, Approximate)
 - Zone X500 (500-Year, Detailed)
 - Zone X Protected by Levee
- CNMS Streams Status***
- Assessed, To Be Studied
 - Unverified, To Be Studied
 - Valid, NVUE Compliant

CNMS Validation Status Definitions	
Assessed	Unmapped streams or streams not part of FEMA's SFHA inventory that have been investigated and considered for study in current and/or future Fiscal Years (FYs). Stream has not passed the Critical and Secondary Element checks (At least one critical or four or more secondary change conditions flagged) and may either be assigned resources for restudy in current and/or future FYs.
Unverified	Streams considered New, Validated, or Updated Engineering (NVUE) compliant (zero critical and fewer than four secondary elements flagged).
Valid	Streams considered New, Validated, or Updated Engineering (NVUE) compliant (zero critical and fewer than four secondary elements flagged).
To Be Studied	Mapped streams that need to be studied and are planned for a future FY or unmapped streams prioritized to be mapped with an SFHA.

WATERSHED LOCATOR



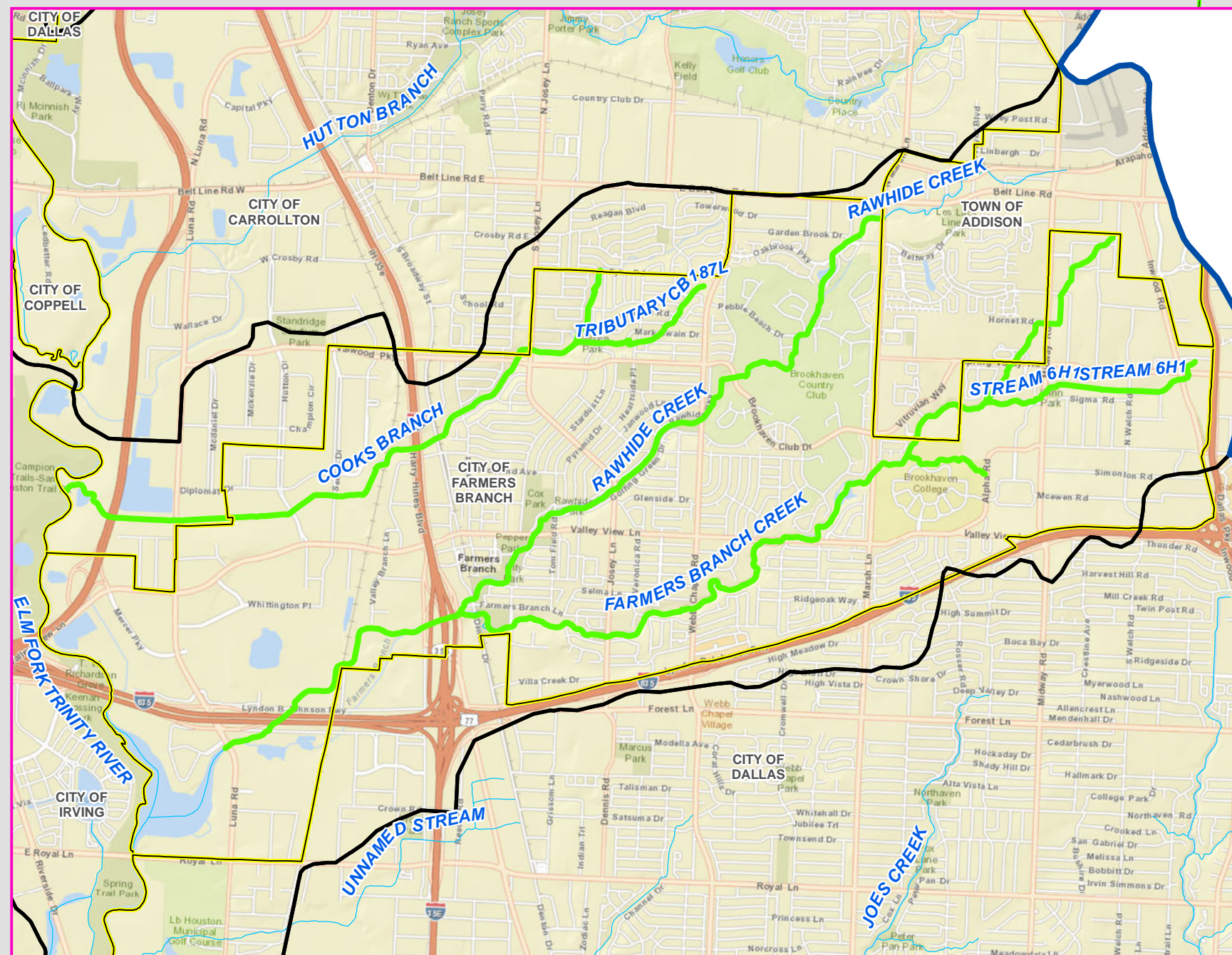
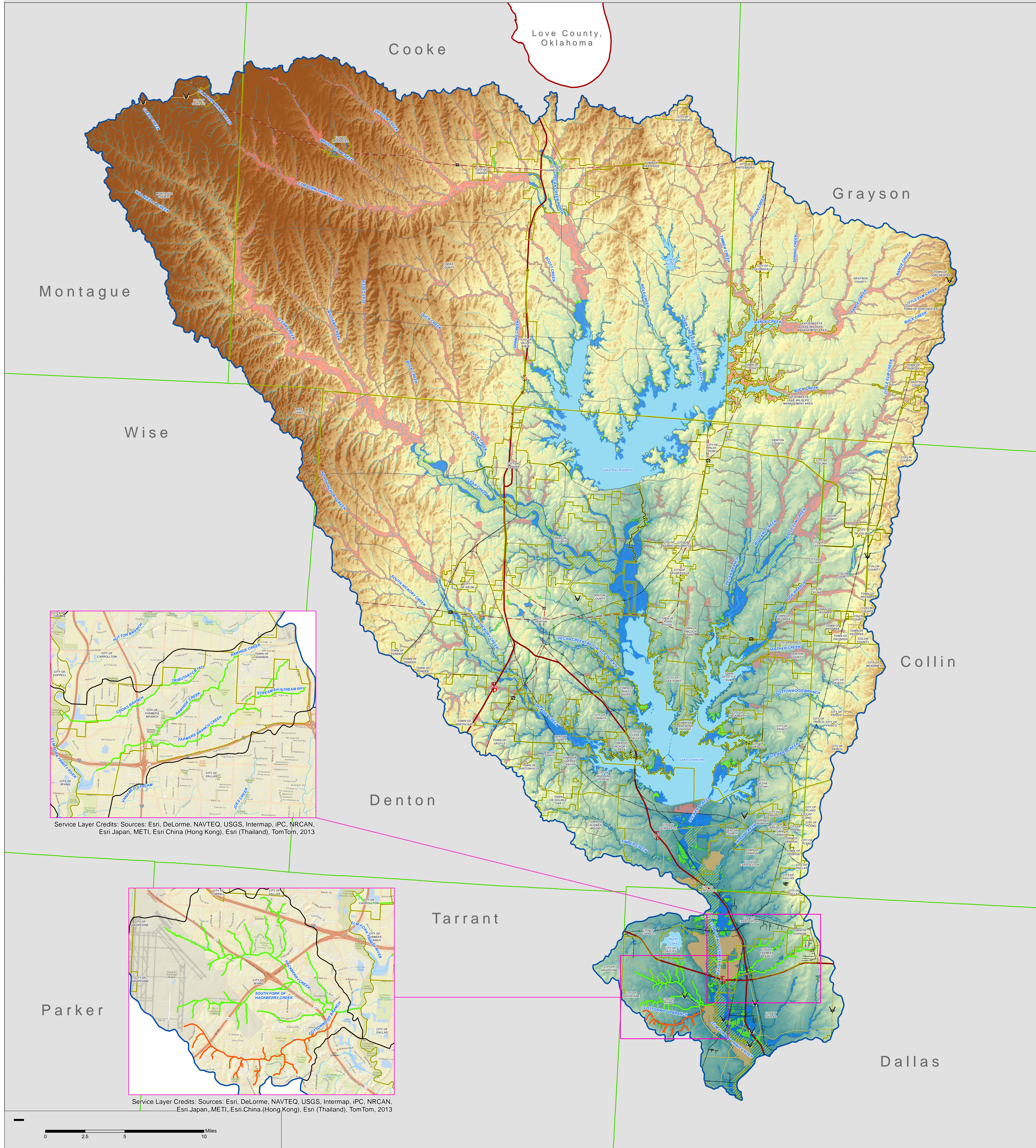
NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map
ELM FORK TRINITY WATERSHED, TEXAS

Stream Miles: 3,660
 Valid, NVUE Compliant Miles: 111
 Assessed, To Be Studied Miles: 314
 Unverified, To Be Studied Miles: 3,235
 Population: 1,218,000

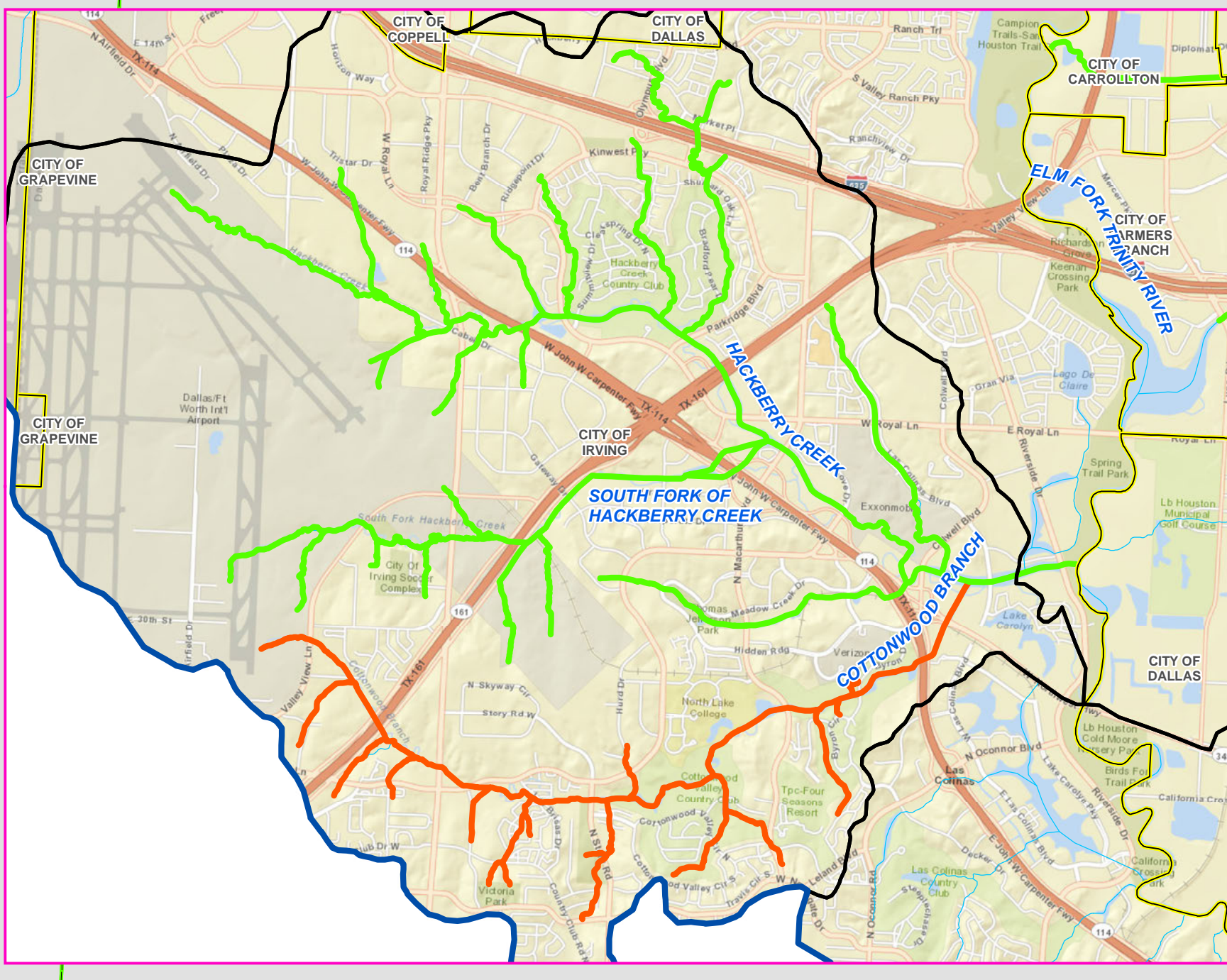
HUC-8 Code
12030103
 Release Date
04/30/2014



*Data as of January 2014



Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

MAP SYMBOLOLOGY

- Lakes
- City Boundaries
- County Boundaries
- Watershed Boundary - HUC-8
- Watershed Boundary - HUC-12
- Transportation**
- Interstate Highway
- US Highway
- State Highway
- Other Roads
- Railroads

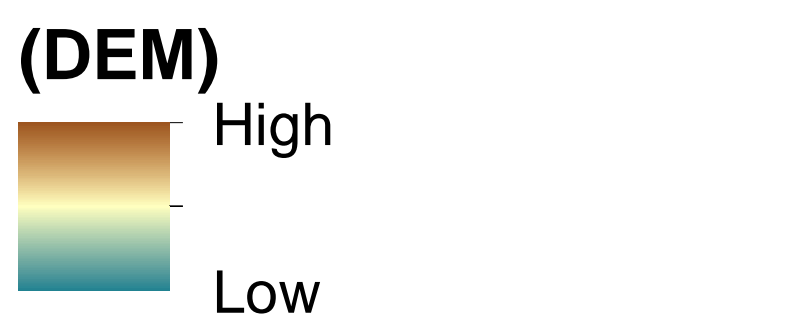
Effective FEMA Floodplains*

- Floodway
- Zone AE (100-Year, Detailed)
- Zone A (100-Year, Approximate)
- Zone X500 (500-Year, Detailed)
- Zone X Protected by Levee

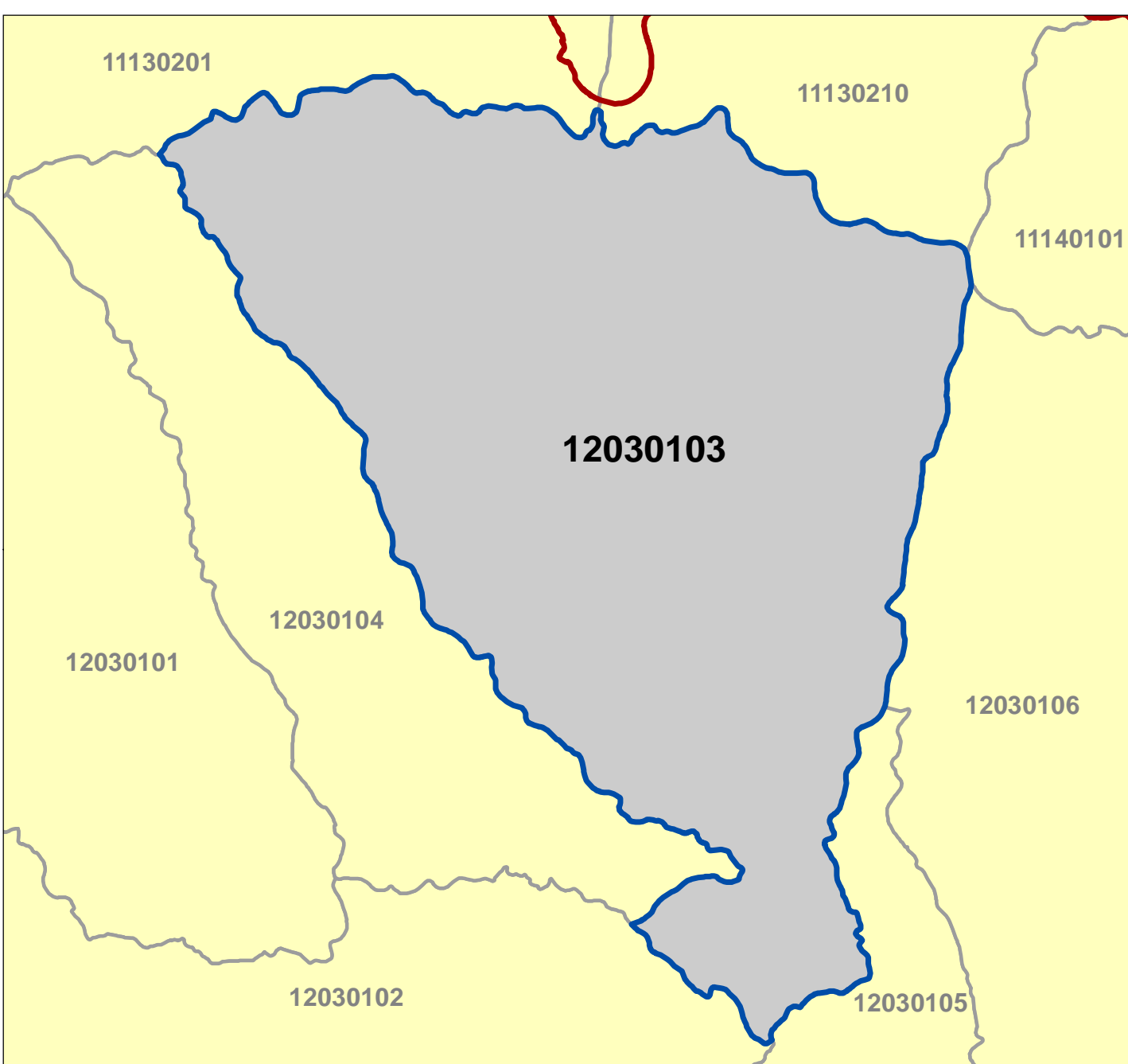
Potential Study Streams

- Proposed FY14 Studies
- Future FY Studies
- Other Stream / Rivers

Digital Elevation Model (DEM)



WATERSHED LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map
ELM FORK TRINITY WATERSHED, TEXAS



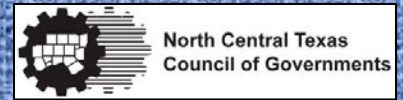
FEMA

HUC-8 Code
12030103

Release Date
04/30/2014

*Data as of January 2014.

Newsletters



Discovery Elm Fork Trinity Watershed

“Capturing a More Complete Picture of Your Community and Your Watershed”

FEMA RiskMAP Program

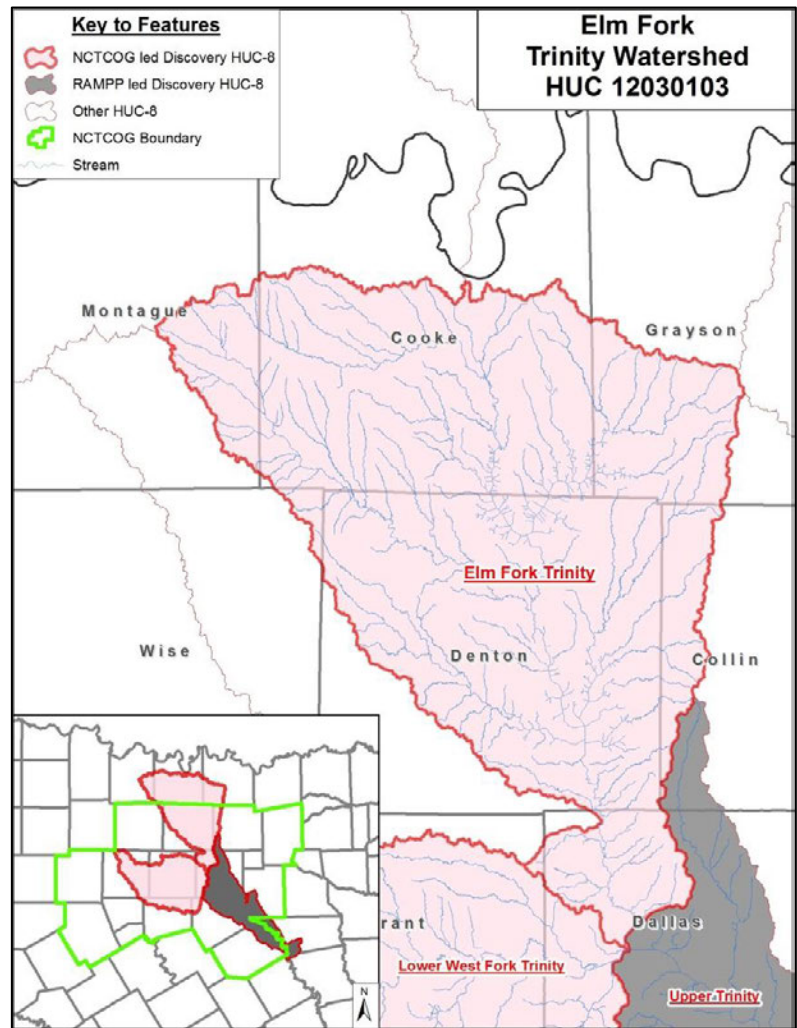
Risk Mapping, Assessment, and Planning (RiskMAP) is the Federal Emergency Management Agency (FEMA) Program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. Through more precise flood mapping products, risk assessment tools, and planning and outreach support, RiskMAP strengthens local ability to make informed decisions about reducing risk. The North Central Texas Council of Governments (NCTCOG) has been awarded a FEMA grant to assist our local governments in these important issues - locate risk, define risks, and to prepare floodplain maps within the Elm Fork Trinity Watershed.

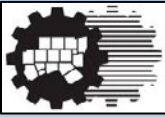
Discovery

Discovery is the first phase of an overall Hazard Mitigation process. During Discovery, we seek input from stakeholders within the basin to obtain information about local flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help communities identify areas of risk. The Discovery process is the “discovery” of flood hazards and risk throughout the watershed. The goal of Discovery is to work closely with communities to better understand local flood risk, mitigation efforts, and other topics in order to spark watershed-wide discussions about increasing resilience to flooding. Gathered information is used to determine which areas of the watershed require mapping, risk assessment, or mitigation planning assistance. Our team will collect region-wide datasets and will coordinate with our watershed stakeholders to obtain additional data that can inform discussions regarding flood risk. Discovery meetings will be conducted in the watershed. The key goals of the

Discovery Meetings are to review and validate the gathered flood risk data; discuss the community’s flooding history, development plans, flood mapping needs, and flood risk concerns; and to discuss the vision for the watershed’s future, as well as the importance of mitigation planning and community outreach. These meetings will be “open house” style where communities are able to provide flood risk data at stations and learn more about programs that may help reduce their flood risk.

Attend a Discovery Meeting!
Details on Next Page





The North Central Texas Council of Governments (NCTCOG) is a voluntary association of, by and for local governments, and was established to assist local governments in planning for common needs, cooperating mutual benefit, and coordinating for sound regional development. NCTCOG's purpose is to strengthen both the individual and collective power of local governments and to help them recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions. For more information, please visit www.nctcog.org.

NCTCOG is a FEMA Cooperating Technical Partner (CTP), which allows for them to collaborate with FEMA in order to help maintain current flood hazard information. The results of the 2009 Map Needs Assessment Study conducted by NCTCOG and the Texas Water Development Board (TWDB) were used to develop a Mapping Activity Statement (MAS) as the basis of the FEMA CTP grant. FEMA awarded a CTP grant to NCTCOG in Fiscal Year 2012 (FY12) to perform Discovery. NCTCOG's MAS is included in the RiskMAP program.

Elm Fork Trinity Watershed - Discovery Meeting Details:

Tuesday, May 28, 2013, 9 am – 12 pm: Gainesville Civic Center, 311 S Weaver Street, Gainesville, 76240

- Come-and-Go Open House meeting
- Introductory Presentation (approx. 10 minutes) will be offered at 9, 10 and 11 am – Plan to attend one of the presentations and stay to meet with open house stations.
- Communities will be able to provide flood risk data at Discovery Meeting stations
- Learn more about programs that may help reduce your flood risk
- Click [here](#) to register for this meeting

Tuesday, June 25, 2013, 9 am – 12 pm: Frisco Senior Center, 6670 Moore Street, Frisco, 75034

- Come-and-Go Open House meeting
- Introductory Presentation (approx. 10 minutes) will be offered at 9, 10 and 11 am – Plan to attend one of the presentations and stay to meet with open house stations.
- Communities will be able to provide additional flood risk data at stations
- Learn more about programs that may help reduce your flood risk
- Click [here](#) to register for this meeting

Other meeting dates and locations are also being scheduled. For more information and to RSVP, contact Leo Valencia: LValencia@nctcog.org or 817-608-2363

RiskMAP Process – Discovery

NCTCOG, in partnership with FEMA Region VI, began the Discovery process in the Elm Fork Trinity Watershed to gather local information and readily available data to determine project viability and the need for RiskMAP products to assist in the movement of communities towards resilience. Through the Discovery process, NCTCOG and FEMA can determine which areas of the watershed may be funded for further flood risk identification and assessment in a collaborative manner, taking into consideration the information collected from local communities during this process. We are currently making Pre-Discovery community contacts to gather information. We will host a Pre-Discovery meetings webinar to highlight the Discovery process and illustrate how communities can participate. Following the Discovery meetings, projects will be identified and summarized in a Discovery Report submitted to FEMA and shared with all project stakeholders.

Discovery Data Collection

The box to the right lists some of the types of data requested from each community within the watershed. We would greatly appreciate your participation in providing mapping needs and flood risk data for your community. Please submit data or questions to Leo Valencia at LValencia@nctcog.org or 817-608-2363.

Why is this Important?

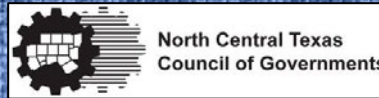
Because flood hazards change over time, this effort provides a great opportunity to take a broader look at the components and activities that contribute to your community's and your watershed's flood risk. In addition to providing another perspective, participating in this process will increase your understanding of your flood risk and help you identify proactive steps you can take to protect your community from losses of life and property that often accompany flooding.

Website Information

For more information on the Discovery Process and information on the Elm Fork Trinity Watershed, please visit: <http://www.nctcog.org/envir/SEEsafe/ctp/discovery.asp>

Requested Data from Communities:

- Areas of flooding
- Historical local flooding locations, mitigation activities and grant projects (ongoing or planned)
- High water marks
- Comprehensive plans
- Local development and floodplain management plans
- Stormwater management activities
- Community ordinances
- Infrastructure information, especially for levees and new bridges, dams, culverts and road improvements
- Flood study needs
- Regional watershed plans
- Details of the current flood risk communication process
- Other information you'd like to share



North Texas Discovery 2013

What is Discovery?

Discovery is the first phase of an overall Hazard Mitigation process. During Discovery, we seek input from stakeholders within the basin to obtain information about local flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help communities identify areas of risk. The goal of Discovery is to work closely with communities to better understand local flood risk, mitigation efforts, and other topics in order to spark watershed-wide discussions about increasing resilience to flooding. Gathered information is used to determine which areas of the watershed require mapping, risk assessment, or mitigation planning assistance. Our team will collect region-wide datasets and will coordinate with our watershed stakeholders to obtain additional data that can inform discussions regarding flood risk. The key goals of the Discovery Meetings are to review and validate the gathered flood risk data; discuss the community's flooding history, development plans, flood mapping needs, and flood risk concerns; and to discuss the vision for the watershed's future, as well as the importance of mitigation planning and community outreach. These meetings will be *"open house" style* where communities are able to provide flood risk data at stations and learn more about programs that may help reduce their flood risk.

Discovery Meeting Details:

Tuesday, May 28, 2013, 9 am – 12 pm*

Gainesville Civic Center
311 S Weaver Street
Gainesville, TX 76240

Wednesday, May 29, 2013, 9 am – 12 pm*

Tarrant County Public Health Admin Office
1101 S Main Street
Fort Worth, TX 76104

Thursday, May 30, 2013, 1:30 – 4:30 pm**

Trinity River Audubon Center
6500 Great Trinity Forest Way
Dallas, TX 75217

Tuesday, June 25, 2013, 9 am – 12 pm*

Frisco Senior Center
6670 Moore Street
Frisco, TX 75034

Wednesday, June 26, 2013, 9 am – 12 pm*

Chandor Gardens
711 West Lee Avenue
Weatherford, TX 76086

Thursday, June 27, 2013, 9 am – 12 pm**

Oran White Civic Center
701 N Tool Drive
Tool, TX 75143

RSVP

*Leo Valencia (lvalencia@nctcog.org)

**Pamela Black (pblack@dewberry.com)

For More Information:

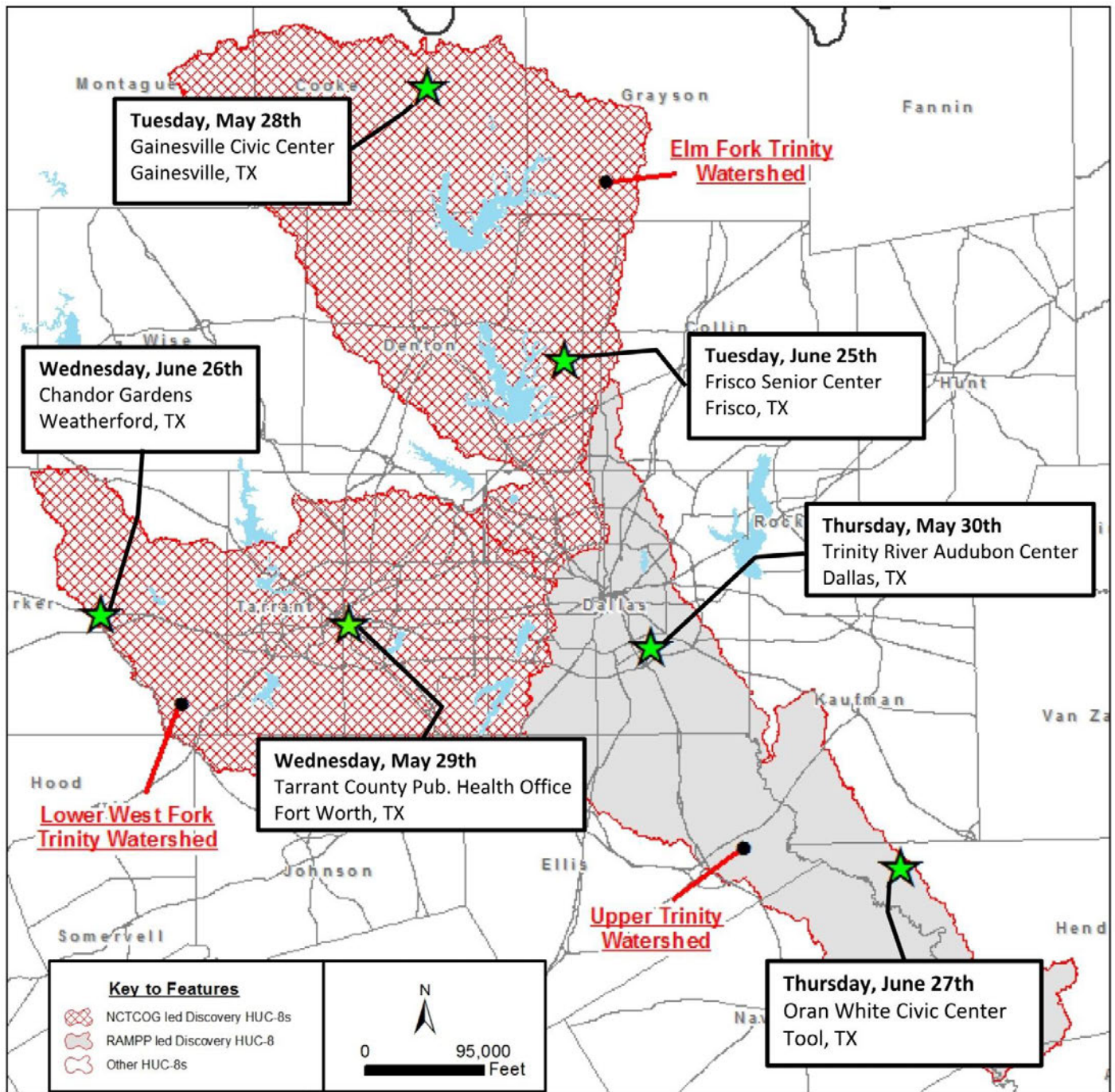
www.nctcog.org/envir/SEEsafe/ctp/discovery.asp

www.riskmap6.com

What Data Should I Bring?

- Areas of flooding
- Historical flooding locations, mitigation activities and grant projects (ongoing and planned)
- High water marks/Low water crossings
- Comprehensive plans
- Local development and floodplain management plans
- Stormwater management activities
- Community ordinances
- Infrastructure information (bridges, levees, dams, culverts, road improvements)
- Flood Study needs
- Regional watershed plans

Meeting Locations



Questions?

Jack Tidwell (NCTCOG): jtidwell@nctcog.org
Leo Valencia (NCTCOG): lvalencia@nctcog.org
Jessica Baker, P.E., CFM, PMP (Halff): jbaker@halff.com

Ron Wanhanen (FEMA):
Ronald.Wanhanen@fema.dhs.gov

Webinars



North Texas Discovery

“Capturing a More Complete Picture of Your Watershed”

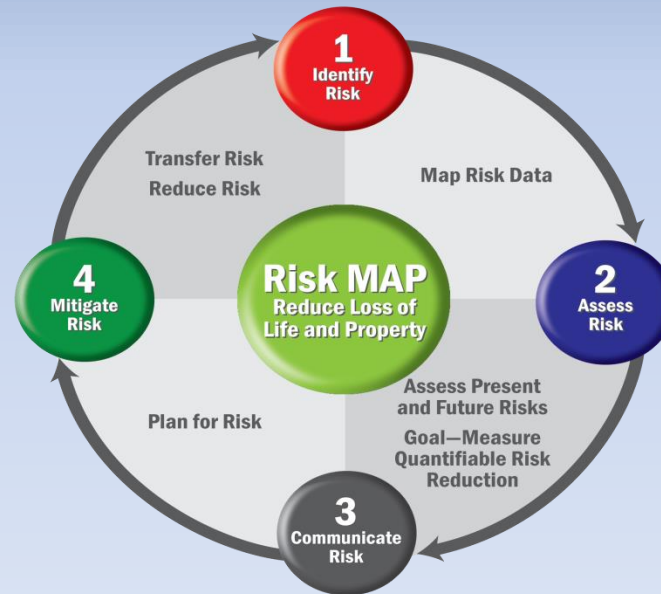
Pre-Discovery Webinars

May 16, 2013



FEMA's Risk MAP Program

- Risk Mapping, Assessment, and Planning
 - Provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens.
 - Risk MAP Vision
 - ACTION-driven, not map-driven



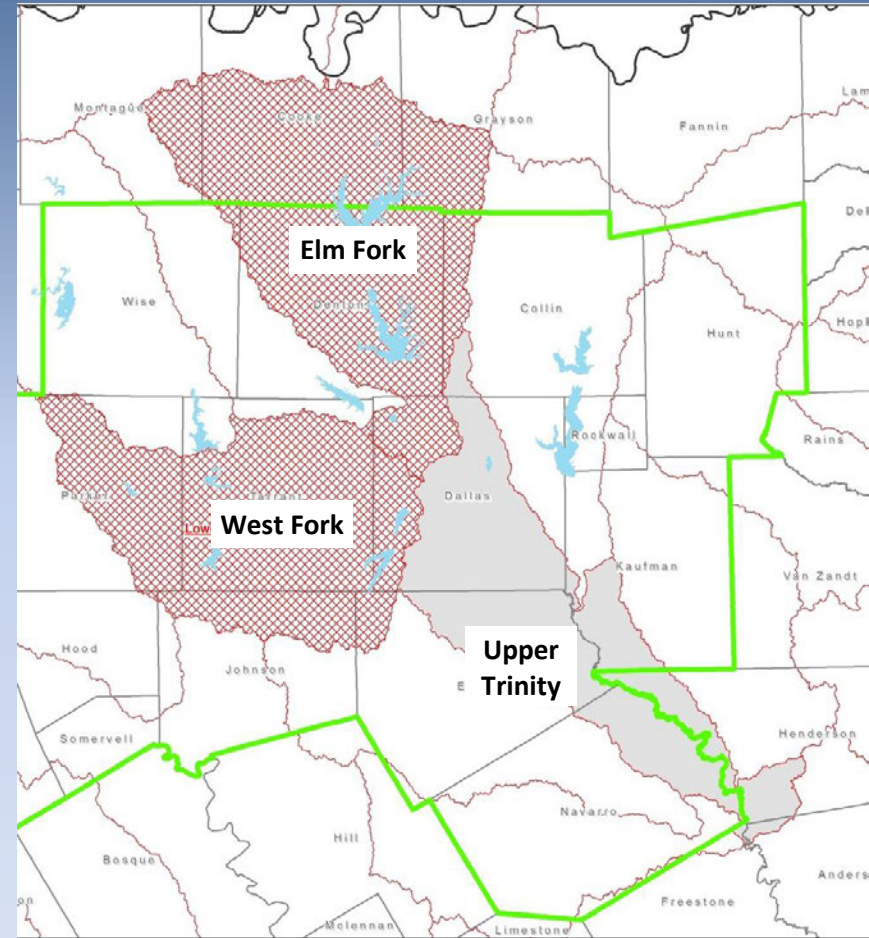
FEMA's Risk MAP Program

- Risk MAP offers opportunities to change the way FEMA and Local communities interact
- Empowering communities
 - Reduce Future Losses
 - Implementing Mitigation Actions
 - Reduce Your Risks
 - All Hazard Mitigation Planning
 - Look for Grant Opportunities
 - Insure Your Risks
 - The National Flood Insurance Program (NFIP)
 - Communicate Effectively about Risk



North Central Texas Council of Governments

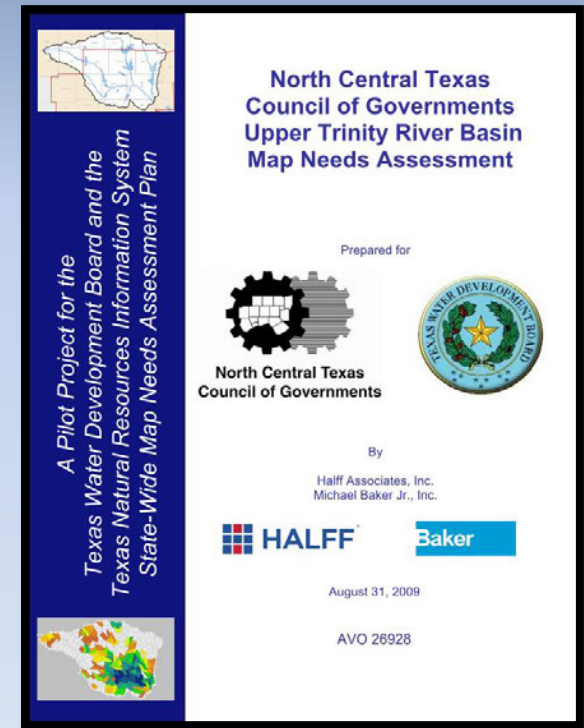
- FEMA Cooperating Technical Partner (CTP) FY 12 Project – North Texas Discovery
 - NCTCOG Leading Elm Fork and West Fork Watersheds
 - NCTCOG Supporting RAMPP for Upper Trinity Watershed



NCTCOG Activities



- 2009 TWDB/NCTCOG Map Needs Assessment (MNA) documented...
 - 1,291 new mapping needs
 - 2,370 miles of stream
 - \$44 Million in Flood Mapping Needs
- 2013 Discovery will utilize MNA data and update results



Discovery

- *Capture a more complete picture of your watershed by working closely with local communities...*

Watershed Selected for Discovery

- **Selection Criteria:**
 - Risk
 - Need
 - Elevation data availability
 - Regional knowledge
 - CTP/State input

Community Engagement / Data Collection

- **Develop watershed partnerships**
- **Discovery Newsletter**
- **Pre-Discovery community visits**
- **Gather all available data**
 - Data needs
 - Issues / Concerns
 - Areas of Mitigation

Discovery Meeting

- **Review / validate watershed for project areas**
- **Provide information**
 - Mapping
 - Mitigation Planning
 - Grants
 - NFIP Compliance
- **Comprehensive understanding of risk in the watershed**

Post-Meeting Coordination / Scope Refinement

- **Once data is collected**
 - FEMA will coordinate with State/NCTCOG on proposed scope refinement
 - Selected Projects – move toward Kick off meeting
 - Non-Selected Projects – engaged for potential mitigation actions, mitigation plan updates, and/or mitigation technical assistance

Discovery Community Engagement

FEMA ENGAGEMENT WITH STAKEHOLDERS AND DATA COLLECTION

Review of all available data begins the process...

Risk Identification and Communication

- Low water crossings?
- Large areas of fill placement?
- Future development areas?
- Capital improvement projects?
- Channelization projects?
- Large reservoirs? O&M plan?
- Flood risk reduction projects?
- Digital stream inventory?
- Digital building stock?
- High water marks from recent flooding event?
- Elevation data? LIDAR?
- Local flood studies?



Mitigation Planning and Mitigation Actions

- Approved hazard mitigation plan?
- Local evacuation plans?
- Current land use plan?
- Future land use plan?
- Drainage master plan(s)?
- Flood reduction projects?
- Culvert enlargement projects?
- Areas of evacuation during high water?
- Local HAZUS runs?
- Digital parcel boundaries?



Engage:

- U.S. Geological Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- State NFIP coordinator
- State Hazard Mitigation Officer
- State floodplain management associations
- State emergency management associations
- Local elected officials
- Regional authorities
- Local floodplain administrators
- Local emergency management officials
- Local levee districts
- Watershed groups
- Special interest groups
- Local business and commerce entities
- CTPs



NFIP Community Actions

- Participating in the NFIP?
- Community assistance meetings?
- Community Rating System (CRS)?
- Repetitive loss properties?
- Areas of insurance claims?
- Community assistance visits?
- Community assistance calls?
- Active Letters of Map Change (LOMCs)?
- Recent disaster? Declared?
- Data from PDAs?



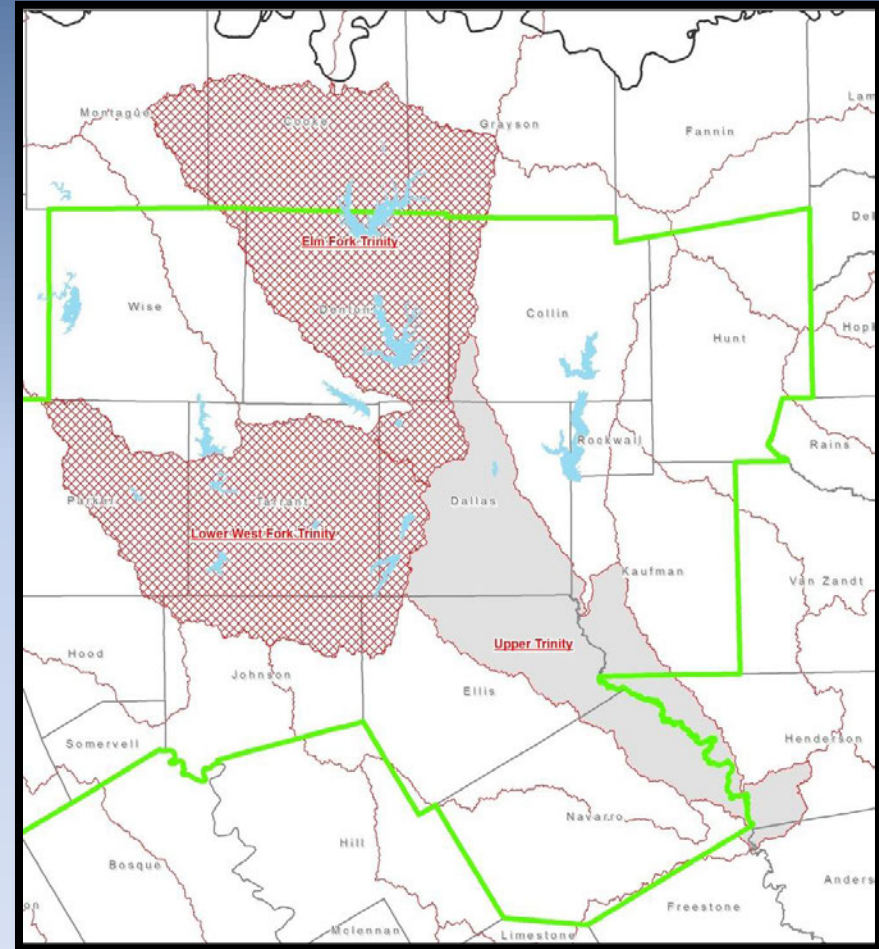
Community Benefits and Grant Opportunities

- Grant administration plan?
- Ongoing grant projects?
- Hard projects? (infrastructure)
- Soft projects? (outreach/education)
- Targeted buy-out areas?
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- Grants in need of engineering info?
- Post-disaster 404 projects?
- Post-disaster 406 projects?



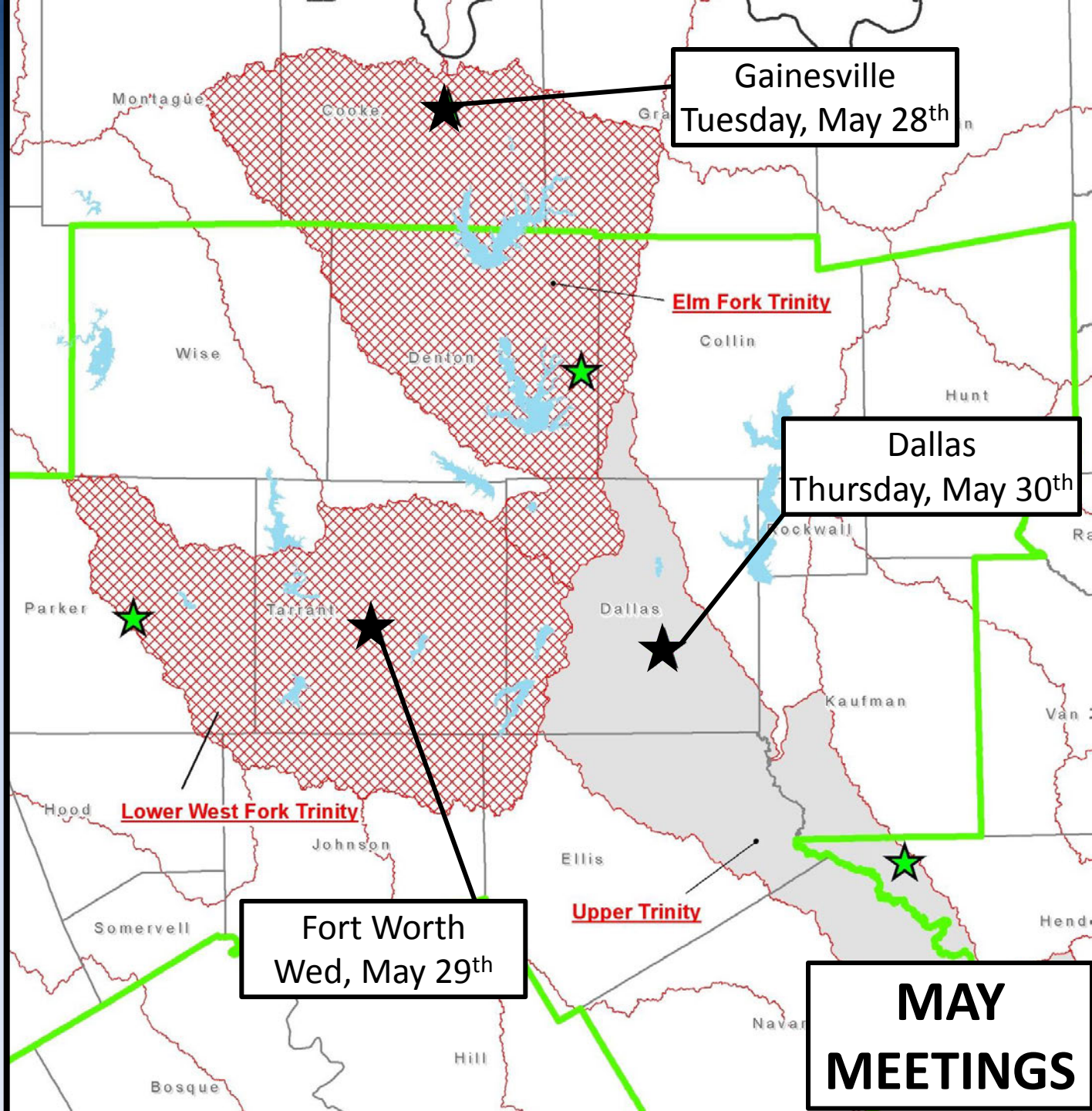
North Texas Discovery

- Goals:
 - Gather information
 - Local flood risks and hazards
 - Current mitigation
 - Provide information
 - Mitigation planning and actions
 - Risk Communication



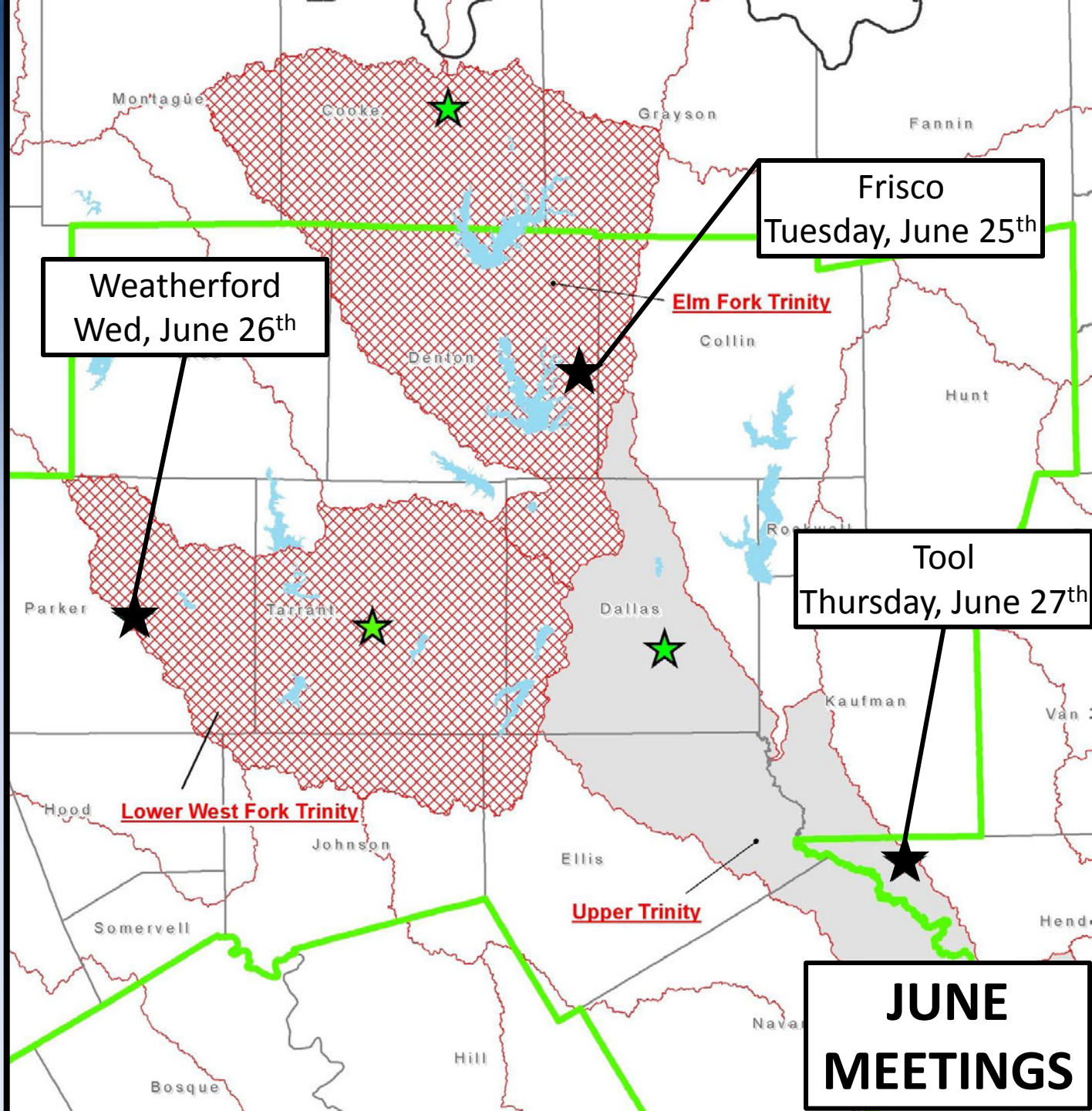
North Texas Discovery Meetings

- 6 Discovery Meetings in May and June
- All community stakeholders are welcome to attend



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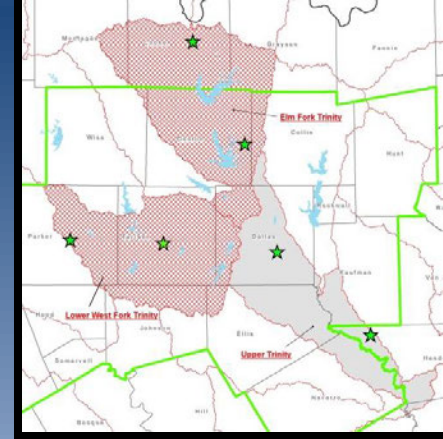


North Texas Discovery Meetings

Join Us for a Discovery Meeting...

- **Tuesday, May 28th**, 9 AM to 12 PM – Gainesville
- **Wednesday, May 29th**, 9 AM to 12 PM – Fort Worth
- **Thursday, May 30th**, 1:30 PM to 4:30 PM – Dallas
- **Tuesday, June 25th**, 9 AM to 12 PM – Frisco
- **Wednesday, June 26th**, 9 AM to 12 PM – Weatherford
- **Thursday, June 27th**, 9 AM – 12 PM – Tool

- All Community Stakeholders Welcome at Any Meeting



NCTCOG Discovery Meeting Room Layout

Introductory
Presentation (10
min) at 9, 10,
and 11 AM



Community Seating



Discovery Maps for
Comments

Risk
Identification

Mitigation
Planning

Open House
Style Meetings –
Come and Go

NCTCOG
Programs

USACE

NFIP

Check-out

Check-in

Check-in

Who Should Come?

- Community Officials Including:
 - Leaders, Floodplain Administrators, City Engineers, Watershed Organizations, Planners, Emergency Managers, and GIS specialists
- Federal, State, and Regional Agencies
- Other locally identified stakeholders concerned with flood risks or hazard mitigation






What Do I Bring?

- Knowledge of Flood Risks and Past Flooding in your Community
- Hazard Mitigation Projects – Identified, In Progress, or Complete?
- Master Drainage Plan(s), floodplain studies – completed or identified as needs
- Questions or Concerns regarding your current Digital Flood Insurance Rate Maps – Flood Study Needs
- Current Flood Risk Communication Process
- Dams and Levees – Questions or Concerns
- GIS data



Discovery Newsletters



Discovery Elm Fork Trinity Watershed

"Capturing a More Complete Picture of Your Community and Your Watershed"

FEMA RiskMAP Program


Risk Mapping, Assessment, and Planning (RiskMAP) is the Federal Emergency Management Agency (FEMA) Program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. Through more precise flood mapping products, risk assessment tools, and planning and outreach support, RiskMAP strengthens local ability to make informed decisions about reducing risk. The North Central Texas Council of Governments (NCTCOG) has been awarded a FEMA grant to assist our local governments in these important issues - locate risk, define risks, and to prepare floodplain maps within the Elm Fork Trinity Watershed.

Discovery

Discovery is the first phase of an overall Hazard Mitigation process. During Discovery, we seek input from stakeholders within the basin to obtain information about local flood risk, flood hazards, mitigation plans, mitigation activities, flooding history, development plans, and floodplain management activities to help communities identify areas of risk. The Discovery process is the "discovery" of flood hazards and risk throughout the watershed. The goal of Discovery is to work closely with communities to better understand local flood risk, mitigation efforts, and other topics in order to spark watershed-wide discussions about increasing resilience to flooding. Gathered information is used to determine which areas of the watershed require mapping, risk assessment, or mitigation planning assistance. Our team will collect region-wide datasets and will coordinate with our watershed stakeholders to obtain additional data that can inform discussions regarding flood risk. Discovery meetings will be conducted in the watershed. The key goals of the

Discovery Meetings are to review and validate the gathered flood risk data; discuss the community's flooding history, development plans, flood mapping needs, and flood risk concerns; and to discuss the vision for the watershed's future, as well as the importance of mitigation planning and community outreach. These meetings will be "open house" style where communities are able to provide flood risk data at stations and learn more about programs that may help reduce their flood risk.

Attend a Discovery Meeting!
Details on Next Page



Key to Features

- NCTCOG led Discovery HUC-8
- RAMPP led Discovery HUC-8
- Other HUC-8
- NCTCOG Boundary
- Stream

Elm Fork Trinity Watershed HUC 12030103

Counties shown: Montague, Cooke, Grayson, Wise, Denton, Collin, Tarrant, Dallas, Lower West Fork Trinity, Upper Trinity.

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North Central Texas Council of Governments

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Programs > Topics A-J > Topics K-Z > Departments > Services > About Us

environment & development

Home > Environment and Development
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FEMA and NCTCOG

Risk MAP Discovery


The Discovery process of FEMA's Risk MAP program helps communities identify areas at risk for flooding and solutions for reducing that risk.

The Goal

- To work closely with communities
- To better understand local flood risk,
- Mitigation efforts, and other topics and
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- Collect information from communities about their flooding history, development plans, daily operations, and stormwater and floodplain management activities
- Use all information gathered to determine which areas of the watershed require mapping, risk assessment, or mitigation planning assistance through a Risk MAP project

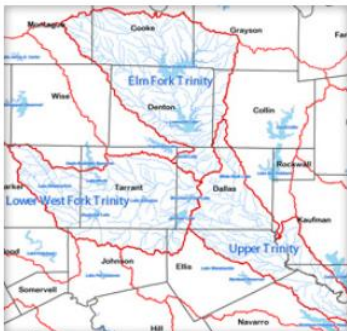


NCTCOG Leading Discovery Efforts in the

- [Elm Fork Trinity Watershed](#)
- [Lower West Fork Trinity Watershed](#)

Supporting Discovery efforts in the

- [Upper Trinity Watershed](#)



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FEMA and NCTCOG

Risk MAP Discovery - Elm Fork Trinity Watershed

Located in North Texas the Elm Fork Trinity Watershed is part of the Trinity River Basin. It has been identified by the federal government using a national standard hierarchical system which is based on surface hydrologic features. The Elm Fork is classified as a fourth-level (sub-basin) with a unique 8-digit Hydrologic Unit Code (HUC) - #12030103.

The Elm Fork Watershed covers an area of 1857.7 square miles and crosses into eight (8) counties. These counties include: Collin, Cooke, Dallas, Denton, Grayson, Montague, Tarrant, and Wise. The watershed either totally covers or partially spans across fifty-two (52) cities/towns. The Elm Fork contains about 5% of the State's total population with approximately 1,218,000 residents.

The Elm Fork of the Trinity River is the primary river in the watershed. Each of the four branches (the West Fork, the Clear Fork, the Elm Fork, and the East Fork) of the Trinity begins its journey near the Texas-Oklahoma border near the Red River. The Trinity River completes its journey at Trinity Bay (the northeast portion of Galveston Bay) in Chambers County.



Elm Fork Trinity Watershed Related Information

- [Locator Map](#)
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Elm Fork Meeting Dates and Locations

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[Register](#)
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RiskMAP6.com

RiskMAP6.com

Helping communities understand a complete picture of their natural hazard risk

- Home
- What is Risk MAP?
- The Risk MAP Process Path
- Communities: Know the Risk
- Take Action: Empowering Communities
- Contact Us
- Resources and Related Links

Communities: Know the Risk

Arkansas

Louisiana

New Mexico

Oklahoma

Texas

Sterling County

Stonewall County

Sutton County

Swisher County

Tarrant County

Taylor County

Terrell County

Terry County

Throckmorton County

Titus County

Tom Green County

Travis County

2009 & 2011 Tarrant County Physical Map Revision

Lower West Fork Trinity Watershed Information

Elm Fork Trinity Watershed Information

NFIP Information for Tarrant County

Mapping Information

What's Next on the Path?

Discovery



Resources for Lower West Fork Trinity Watershed Information

For more helpful information, look under [Resources and Related Links](#).
For mapping questions, contact the FEMA Mapping Information eXchange (FMIX) – 1-877-336-2627.

Community Meetings

Community-specific Documents

Lower West Fork Trinity Discovery Newsletter

Lower West Fork Trinity Locator Map

Meeting Locator Map

Community-specific Links



Contact Information

- NCTCOG:
 - Jack Tidwell – JTidwell@nctcog.org
 - Leo Valencia – LValencia@nctcog.org
- Halff Associates:
 - Jessica Baker – JBaker@halff.com
- FEMA:
 - Ron Wanhanen – Ronald.Wanhanen@fema.dhs.gov
- TWDB / TNRIS:
 - Melinda Luna – Melinda.Luna@twdb.texas.gov
 - Michael Segner – Michael.Segner@twdb.texas.gov





RiskMAP
Increasing Resilience Together



North Texas Discovery

“Capturing a More Complete Picture of Your Watershed”

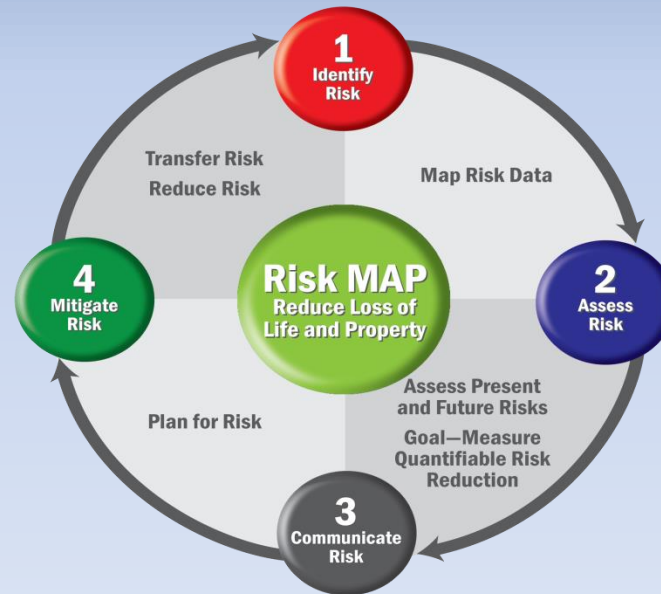
Post-Discovery Outreach Webinar

August 12, 2013



FEMA's Risk MAP Program

- Risk Mapping, Assessment, and Planning
 - Provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens.
 - Risk MAP Vision
 - ACTION-driven, not map-driven



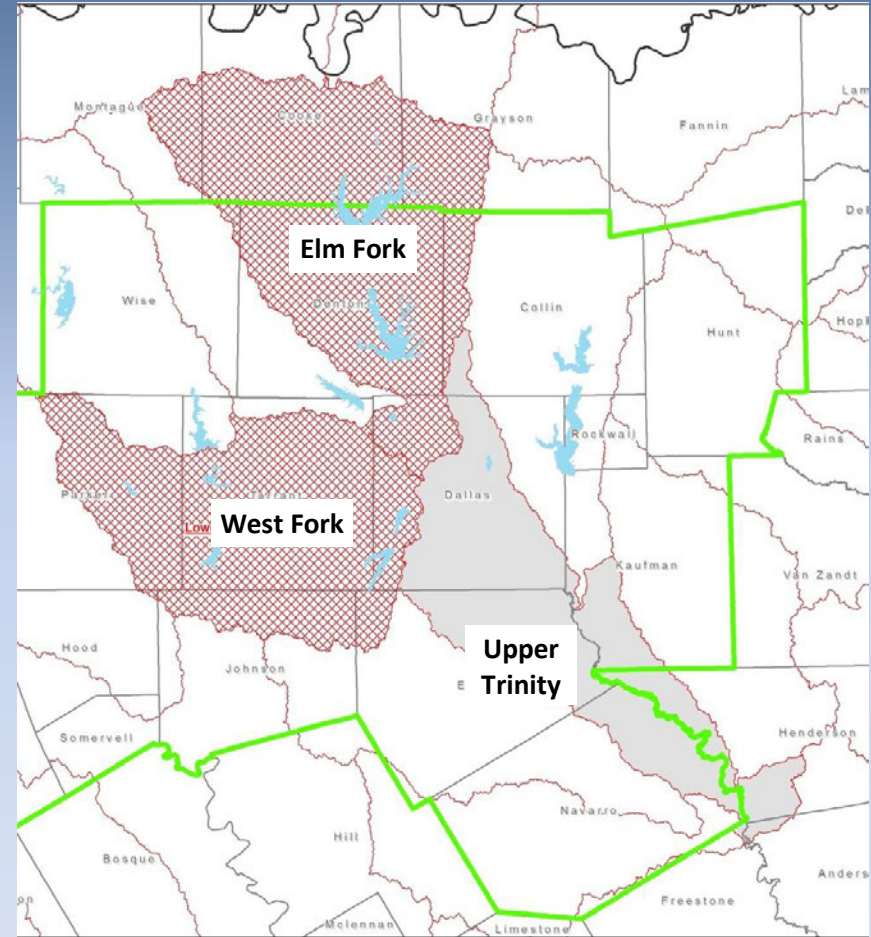
FEMA's Risk MAP Program

- Risk MAP offers opportunities to change the way FEMA and Local communities interact
- Empowering communities
 - Reduce Future Losses
 - Implementing Mitigation Actions
 - Reduce Your Risks
 - All Hazard Mitigation Planning
 - Look for Grant Opportunities
 - Insure Your Risks
 - The National Flood Insurance Program (NFIP)
 - Communicate Effectively about Risk



North Central Texas Council of Governments

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NCTCOG Activities

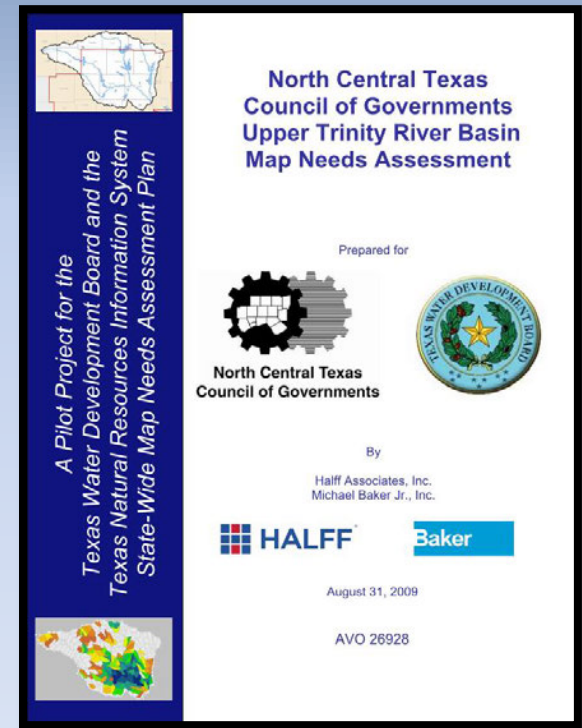
2004-2008
FEMA Map
Modernization

2009
Map Needs
Assessment

2012
Partnered with
FEMA for CTP
Grant

2013
Discovery

- 2009 TWDB/NCTCOG Map Needs Assessment (MNA) documented...
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- **Pre-Discovery community visits**
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 - Areas of Mitigation

Discovery Meeting

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Engage:

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Discovery Newsletters



Discovery Elm Fork Trinity Watershed

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FEMA RiskMAP Program


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Attend a Discovery Meeting!
Details on Next Page



Key to Features

- NCTCOG led Discovery HUC-8
- RAMPP led Discovery HUC-8
- Other HUC-8
- NCTCOG Boundary
- Stream

Elm Fork Trinity Watershed HUC 12030103

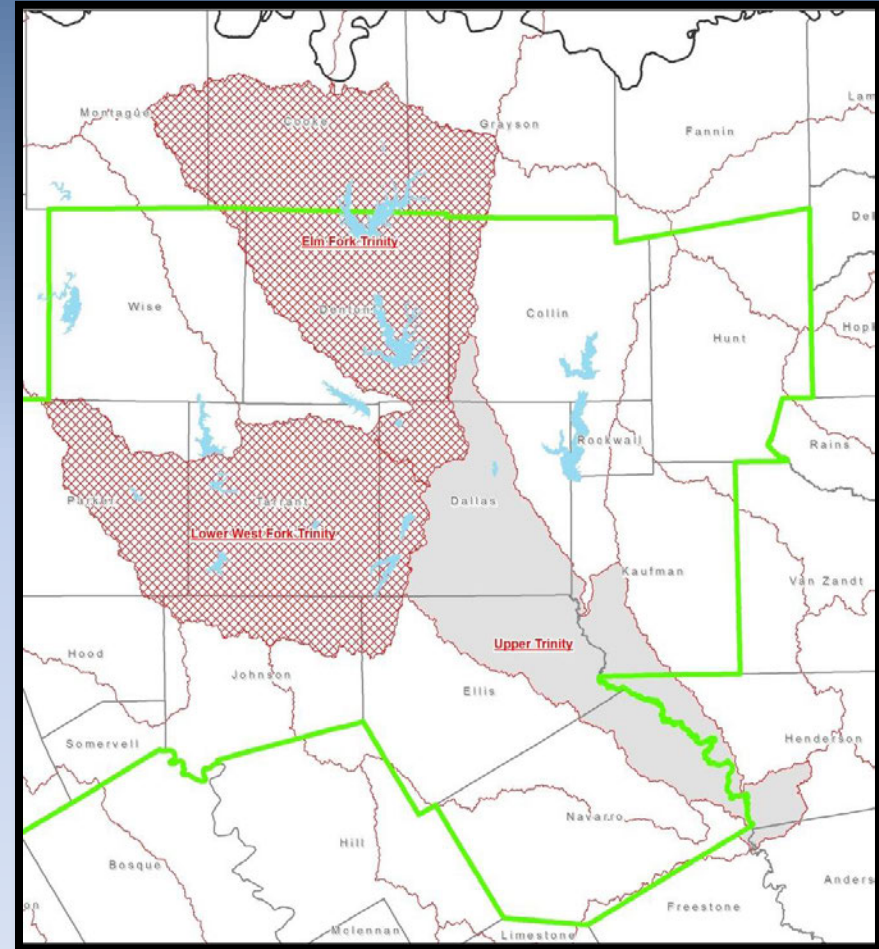
Map labels: Mortgage, Cooke, Grayson, Wise, Denton, Collin, Lower West Fork Trinity, Upper Trinity.

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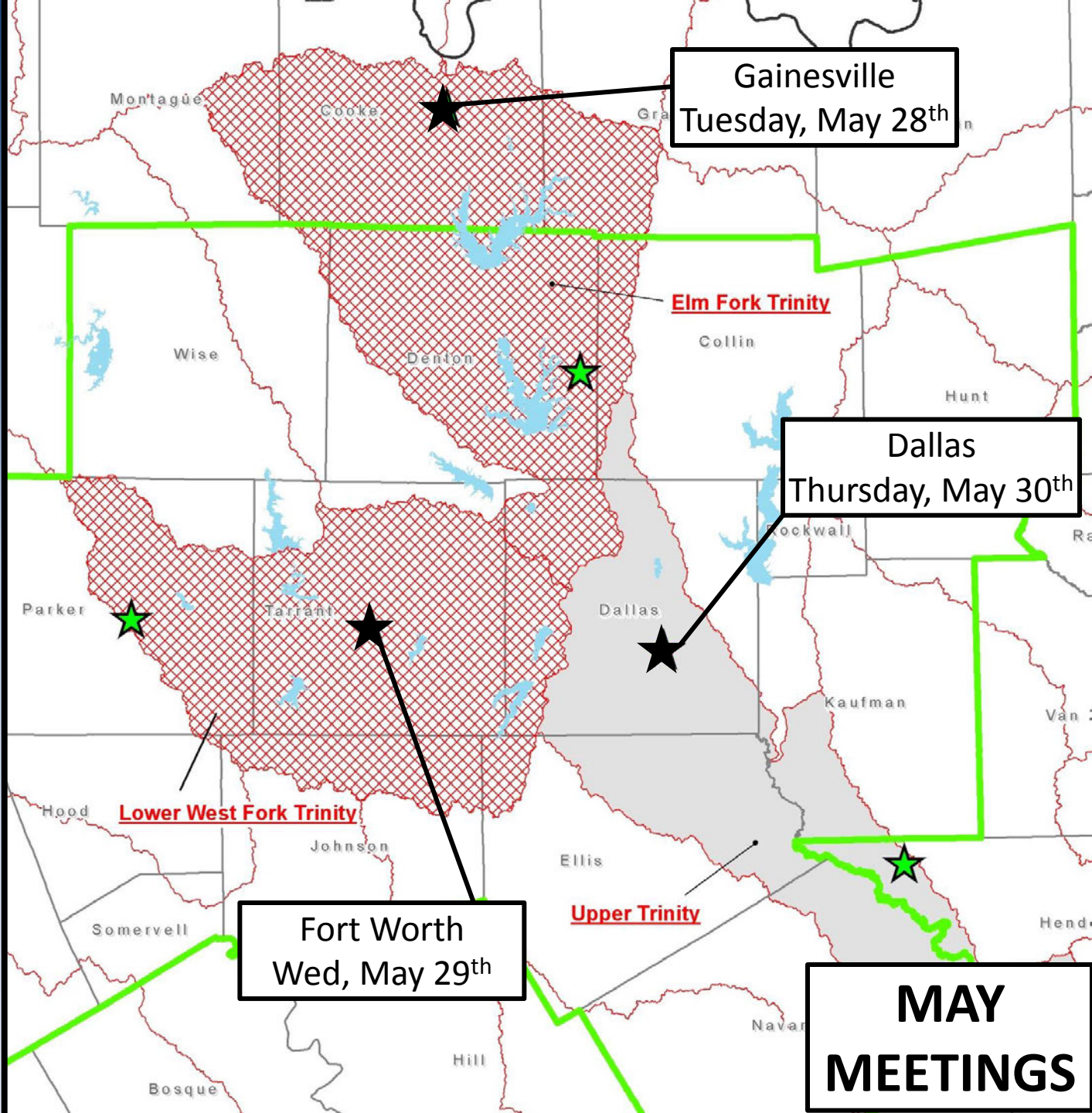
North Texas Discovery

- Goals:
 - Gather information
 - Local flood risks and hazards
 - Current mitigation
 - Provide information
 - Mitigation planning and actions
 - Risk Communication



North Texas Discovery Meetings

- 6 Discovery Meetings in May and June



Gainesville
Tuesday, May 28th

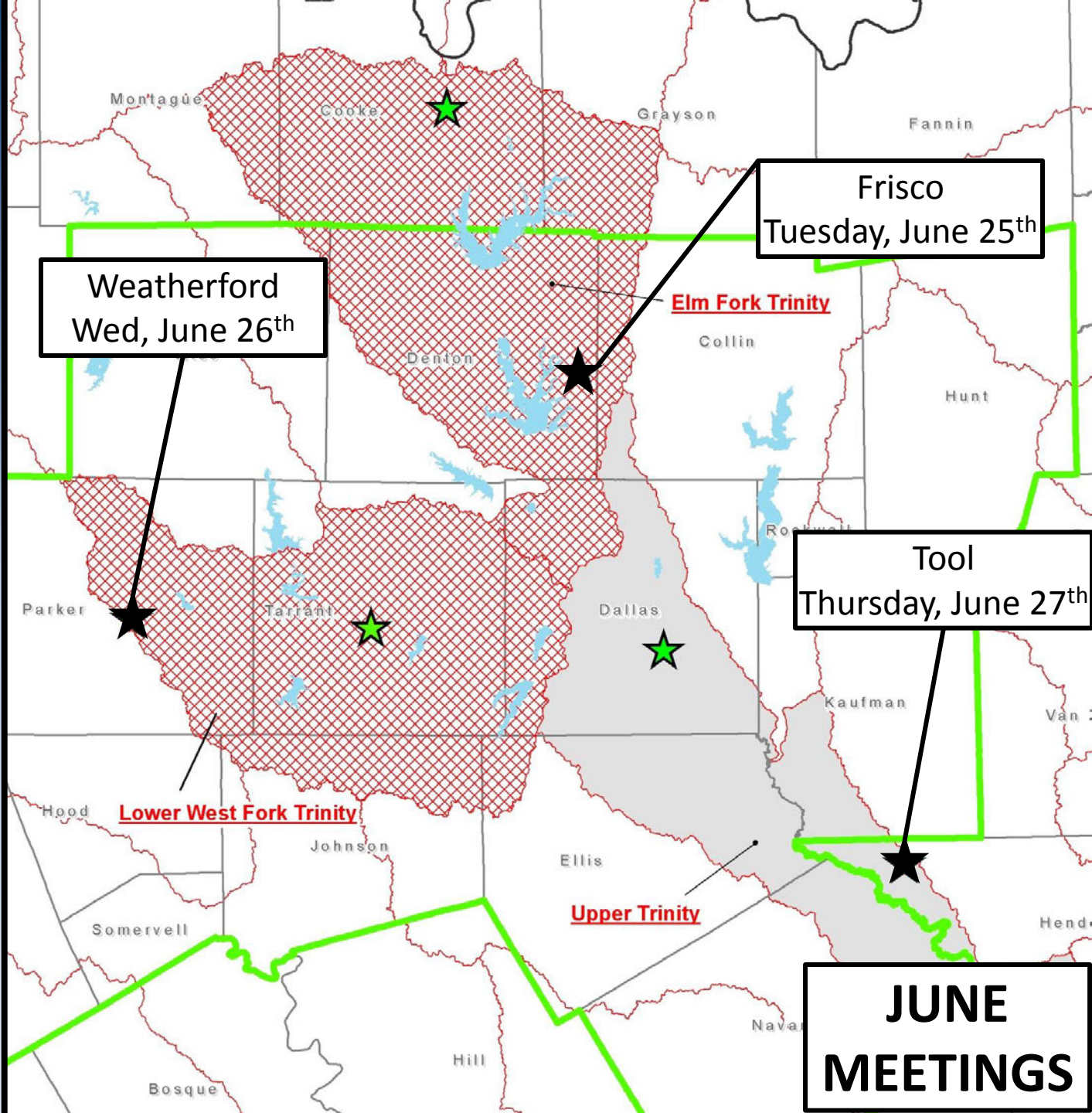
Dallas
Thursday, May 30th

Fort Worth
Wed, May 29th

**MAY
MEETINGS**

North Texas Discovery Meetings

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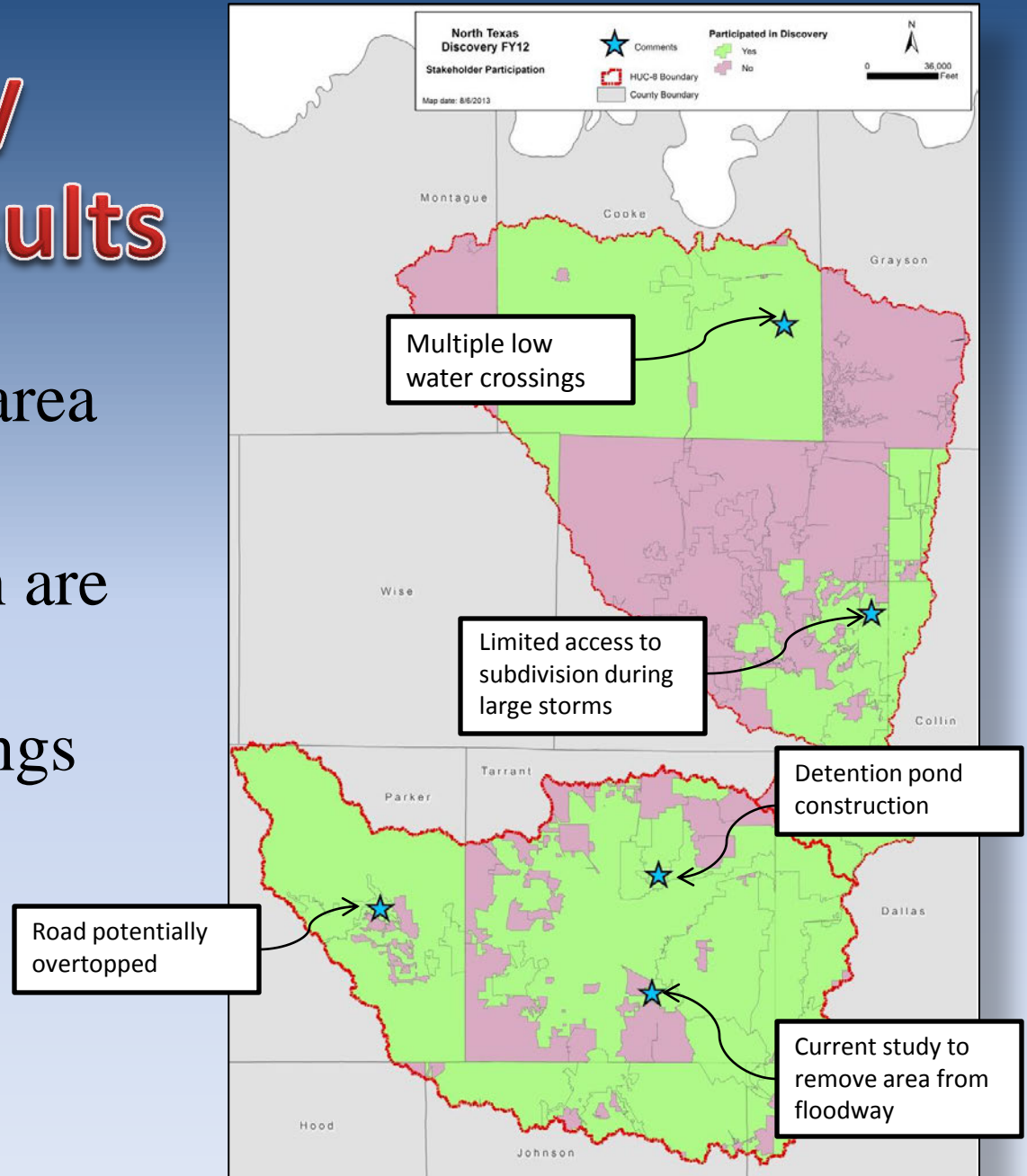
JUNE MEETINGS

What Did We Find?



Discovery Meeting Results

- 64.55% of study area covered
- Comments shown are sampling of 160+ received at meetings



What Do We Need?

- Knowledge of Flood Risks and Past Flooding in your Community
- Hazard Mitigation Projects – Identified, In Progress, or Complete?
- Master Drainage Plan(s), floodplain studies – completed or identified as needs
- Questions or Concerns regarding your current Digital Flood Insurance Rate Maps – Flood Study Needs
- Current Flood Risk Communication Process
- Dams and Levees – Questions or Concerns
- GIS data



Why Do We Need This Info?

- **DON'T BE LEFT OUT!**
- Future FEMA projects funded in North Texas are dependent on the input and results of this Discovery effort
- Ensure your community is included!






How do I Submit Data?

- Complete the questionnaire sent via email
- Be as thorough as possible!
- Additional data?

– Submit via email

LValencia@nctcog.org

– FTP available for larger datasets

North Texas Discovery Data Questionnaire

Community Name: _____

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	
Does your community participate in CRS? What is the community's current rating?	
Available topographic data, ongoing or future topographic acquisition efforts	
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	
Completed or In Progress Hazard Mitigation Projects?	
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	
Master Drainage Plan(s), floodplain studies, existing/needed?	
Stormwater management plan?	
Structural and flooding issues not represented on effective DFIRMs?	
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	
Any information on new construction of culverts and bridges?	

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North Central Texas Council of Governments

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FEMA and NCTCOG

Risk MAP Discovery


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- To work closely with communities
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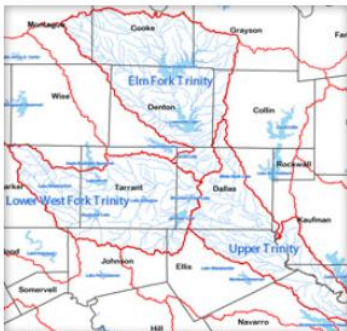
NCTCOG Leading Discovery Efforts in the

[Elm Fork Trinity Watershed](#)

[Lower West Fork Trinity Watershed](#)

Supporting Discovery efforts in the

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FEMA and NCTCOG

Risk MAP Discovery - Elm Fork Trinity Watershed

Located in North Texas the Elm Fork Trinity Watershed is part of the Trinity River Basin. It has been identified by the federal government using a national standard hierarchical system which is based on surface hydrologic features. The Elm Fork is classified as a fourth-level (sub-basin) with a unique 8-digit Hydrologic Unit Code (HUC) - #12030103.

The Elm Fork Watershed covers an area of 1857.7 square miles and crosses into eight (8) counties. These counties include: Collin, Cooke, Dallas, Denton, Grayson, Montague, Tarrant, and Wise. The watershed either totally covers or partially spans across fifty-two (52) cities/towns. The Elm Fork contains about 5% of the State's total population with approximately 1,218,000 residents.

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Elm Fork Trinity Watershed Related Information

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Elm Fork Meeting Dates and Locations

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[Register](#)



RiskMAP6.com

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Communities: Know the Risk

- Arkansas
- Louisiana
- New Mexico
- Oklahoma
- Texas
 - Sterling County
 - Stonewall County
 - Sutton County
 - Swisher County
 - Tarrant County**
 - Taylor County
 - Terrell County
 - Terry County
 - Throckmorton County
 - Titus County
 - Tom Green County
 - Travis County

2009 & 2011 Tarrant County Physical Map Revision **Lower West Fork Trinity Watershed Information** Elm Fork Trinity Watershed Information

NFIP Information for Tarrant County

Mapping Information

What's Next on the Path?

Discovery



Resources for Lower West Fork Trinity Watershed Information

For more helpful information, look under [Resources and Related Links](#).
For mapping questions, contact the FEMA Mapping Information eXchange (FMIX) – 1-877-336-2627.

Community Meetings

Community-specific Documents

- Lower West Fork Trinity Discovery Newsletter
- Lower West Fork Trinity Locator Map
- Meeting Locator Map

Community-specific Links



Questions?

- Please submit questions via the chat window or over the phone
- We will follow up with each of you today via phone to answer any additional questions



Questions?

- NCTCOG:
 - Jack Tidwell – JTidwell@nctcog.org
 - Leo Valencia – LValencia@nctcog.org
- Halff Associates:
 - Jessica Baker – JBaker@halff.com
- FEMA:
 - Ron Wanhanen – Ronald.Wanhanen@fema.dhs.gov
 - Matt DuBois – Matthew.DuBois@fema.dhs.gov
 - Shona Gibson – Shona.Gibson@fema.dhs.gov



Appendix B – Discovery Meetings

Community Backgrounders



North Central Texas
Council of Governments

CITY OF ARGYLE
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

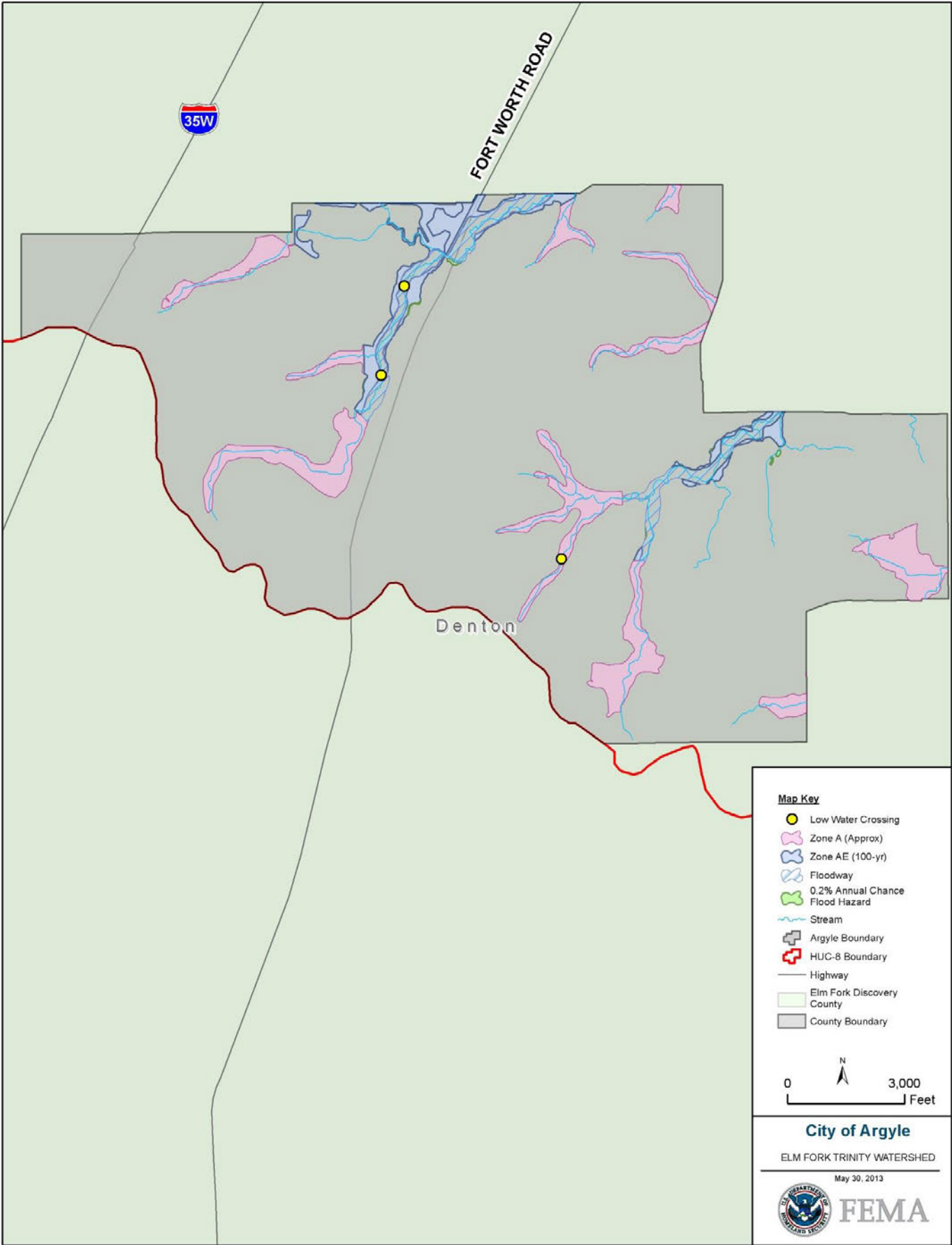
<u>CID:</u>	480775
<u>Population (2010 Census):</u>	3,282
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	3
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	16.24
<u>Total Zone A Miles:</u>	8.23
<u>Repetitive Loss Property Count:</u>	1
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	44
<u>NFIP Claims:</u>	6
<u>Total Losses:</u>	\$3,383
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 DFIRM structures within watershed

[Redacted]

[Redacted]

[Redacted]

Congressmen: Rep. Michael Burgess, Sens. Cornyn and Cruz



- Map Key**
- Low Water Crossing
 - Zone A (Approx)
 - Zone AE (100-yr)
 - Floodway
 - 0.2% Annual Chance Flood Hazard
 - Stream
 - Argyle Boundary
 - HUC-8 Boundary
 - Highway
 - Elm Fork Discovery County
 - County Boundary



City of Argyle

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

CITY OF AUBREY
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

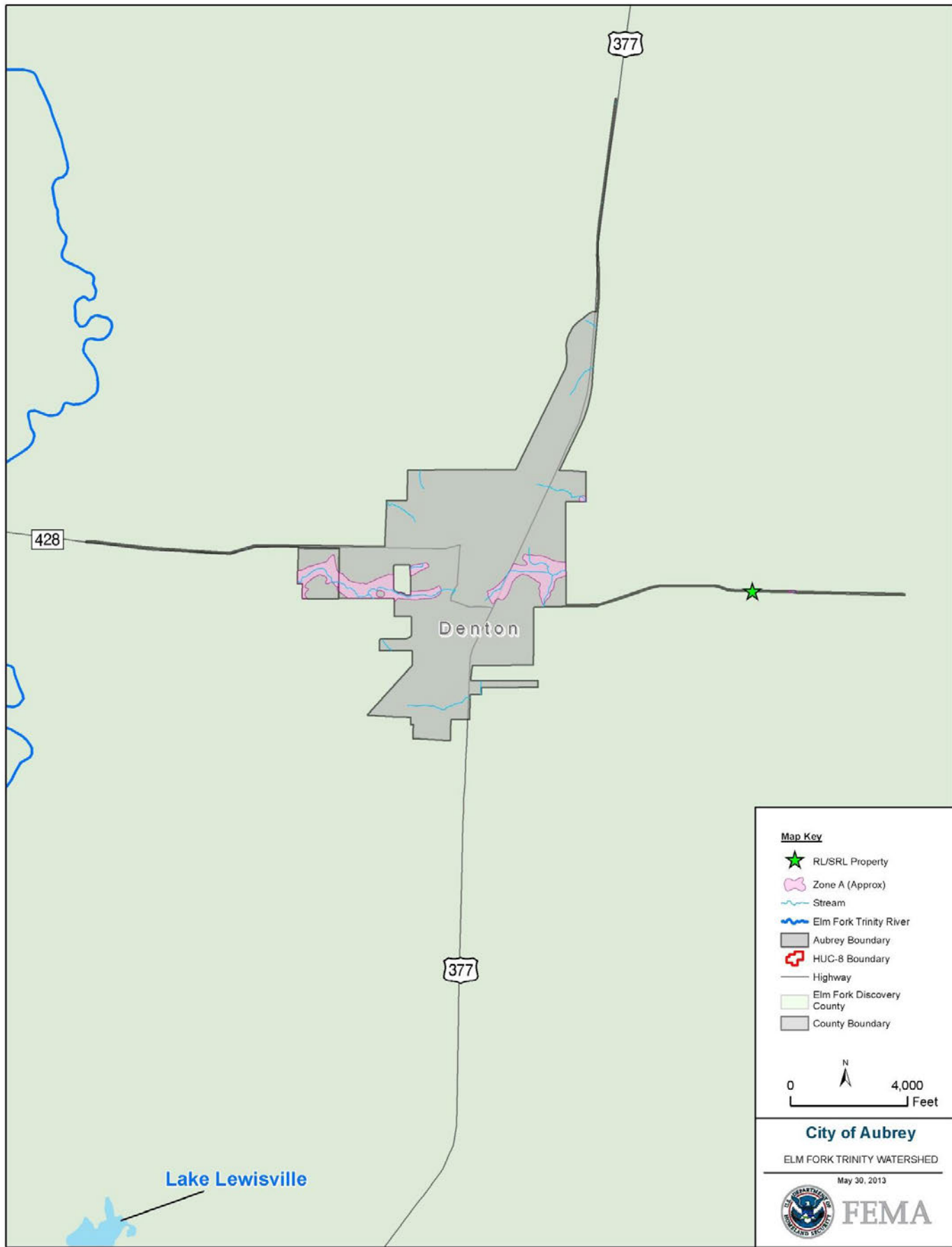
<u>CID:</u>	480776
<u>Population (2010 Census):</u>	2,595
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	4.32
<u>Total Zone A Miles:</u>	2.36
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	1
<u>NFIP Policies:</u>	8
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	0
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Colin)
<u>Levees/Dams:</u>	0 DFIRM structures within watershed

[Redacted]

[Redacted]

[Redacted]

Congressmen: Rep. Michael Burgess, Sens. Cornyn and Cruz




Map Key

- RL/SRL Property
- Zone A (Approx)
- Stream
- Elm Fork Trinity River
- Aubrey Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

0 4,000 Feet

City of Aubrey
 ELM FORK TRINITY WATERSHED
 May 30, 2013



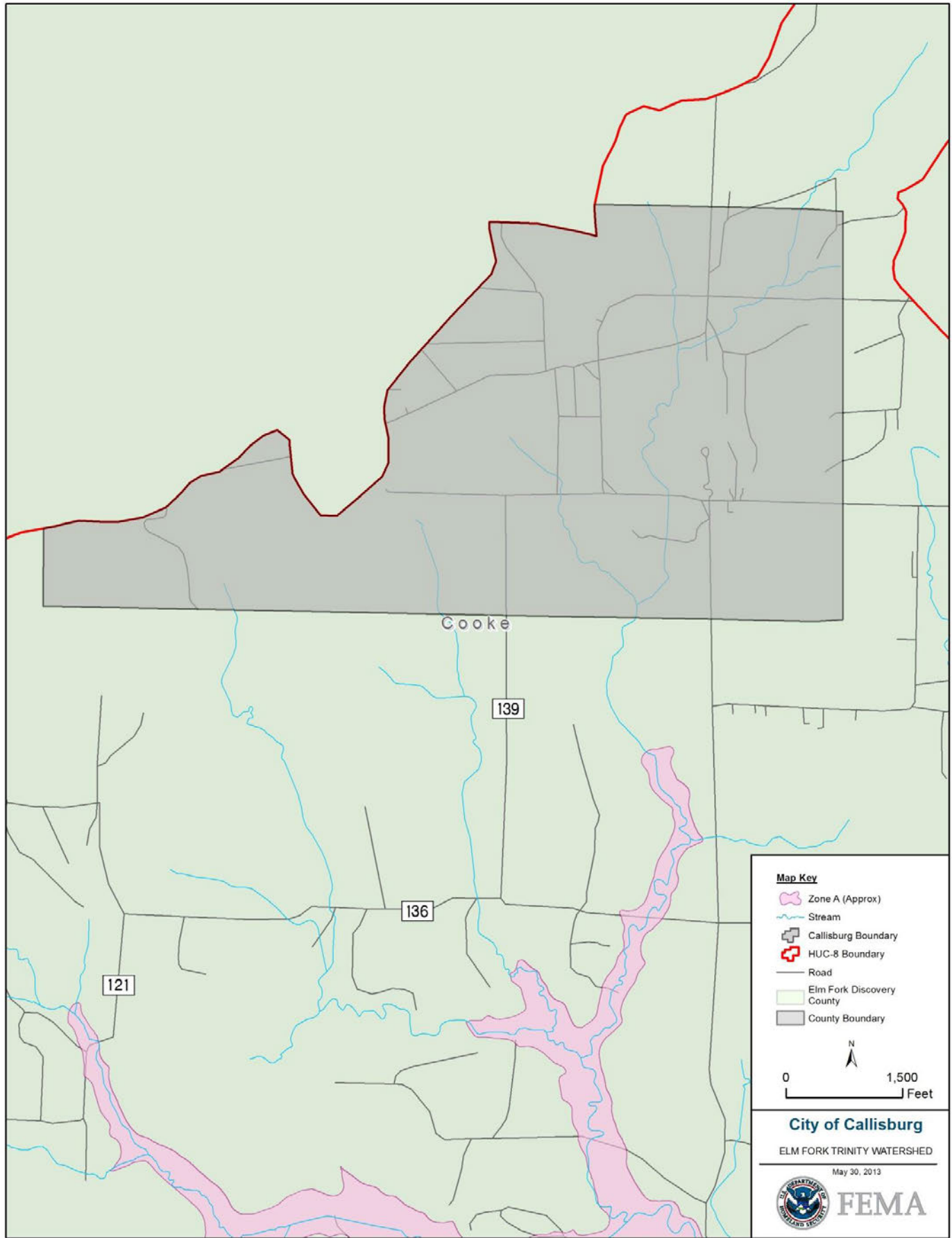
FEMA



North Central Texas
Council of Governments

CITY OF CALLISBURG
Cooke County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480260
<u>Population (2010 Census):</u>	353
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – 1/16/2008
<u>Total Stream Miles:</u>	2.74
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	1
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No DFIRM within boundary
<u>Congressmen:</u>	Rep. Mac Thornberry, Sens. Cornyn and Cruz





North Central Texas
Council of Governments

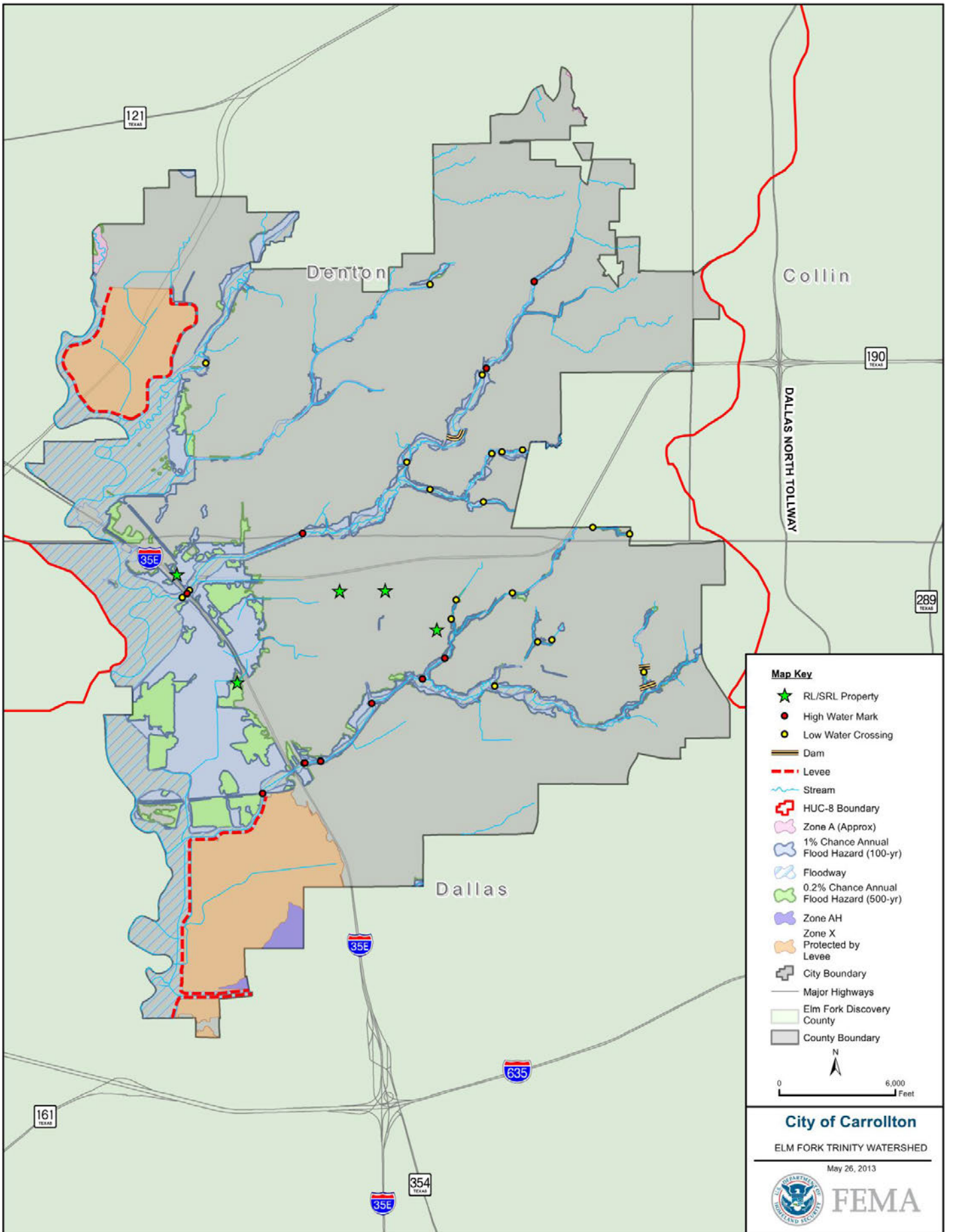
CITY OF CARROLLTON

Collin, Denton, Dallas Counties

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480167
<u>Population (2010 Census):</u>	119,097
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	6
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	N/A
<u>Plan Expiration Date:</u>	N/A
<u>High Water Marks:</u>	19
<u>Low Water Crossings:</u>	22
<u>DFIRM Status:</u>	See below
<u>Effective Date:</u>	Collin – June 2, 2009 Dallas – Aug.23, 2001 Denton – April 18, 2011
<u>Total Stream Miles:</u>	77.37
<u>Total Zone A Miles:</u>	0.63
<u>Repetitive Loss Property Count:</u>	5
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	352
<u>NFIP Claims:</u>	118
<u>Total Losses:</u>	\$343,971
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	32 (countywide)
<u>LiDAR:</u>	2010 TNRIS LiDAR
<u>Levees/Dams:</u>	4 levees (Valwood), 4 dams
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Kenny Marchant, Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Dam
- - - Levee
- ~ Stream
- ⊕ HUC-8 Boundary
- Zone A (Approx)
- 1% Chance Annual Flood Hazard (100-yr)
- Floodway
- 0.2% Chance Annual Flood Hazard (500-yr)
- Zone AH
- Zone X
- Protected by Levee
- ⊕ City Boundary
- Major Highways
- Elm Fork Discovery County
- County Boundary



City of Carrollton

ELM FORK TRINITY WATERSHED

May 26, 2013



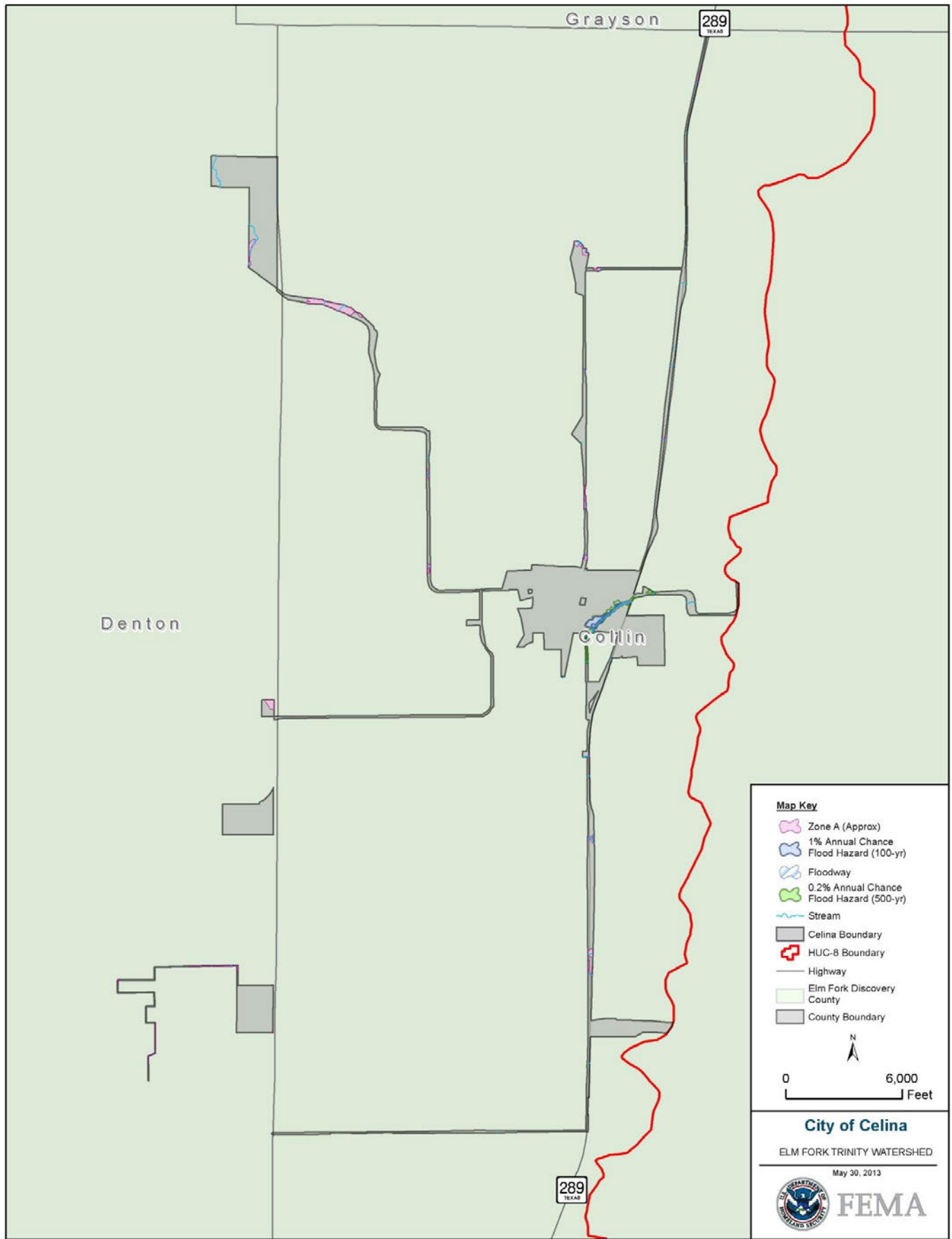
FEMA





North Central Texas
Council of Governments

CITY OF CELINA
 Collin County/Denton County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	480133
<u>Population (2010 Census):</u>	6,028
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Collin – 6/2/09 Denton – 4/18/2011
<u>Total Stream Miles:</u>	2.75
<u>Total Zone A Miles:</u>	0.91
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	9
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	0
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 Denton, 24 Collin
<u>LiDAR:</u>	2011 North Texas (Denton/Colin)
<u>Levees/Dams:</u>	0 DFIRM structures, but several dams just outside limits.
<u>Congressmen:</u>	Reps. Sam Johnson, Ralph Hall and Michael Burgess; Sens. Cornyn and Cruz



Map Key

-  Zone A (Approx)
-  1% Annual Chance Flood Hazard (100-yr)
-  Floodway
-  0.2% Annual Chance Flood Hazard (500-yr)
-  Stream
-  Celina Boundary
-  HUC-8 Boundary
-  Highway
-  Elm Fork Discovery County
-  County Boundary



City of Celina

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

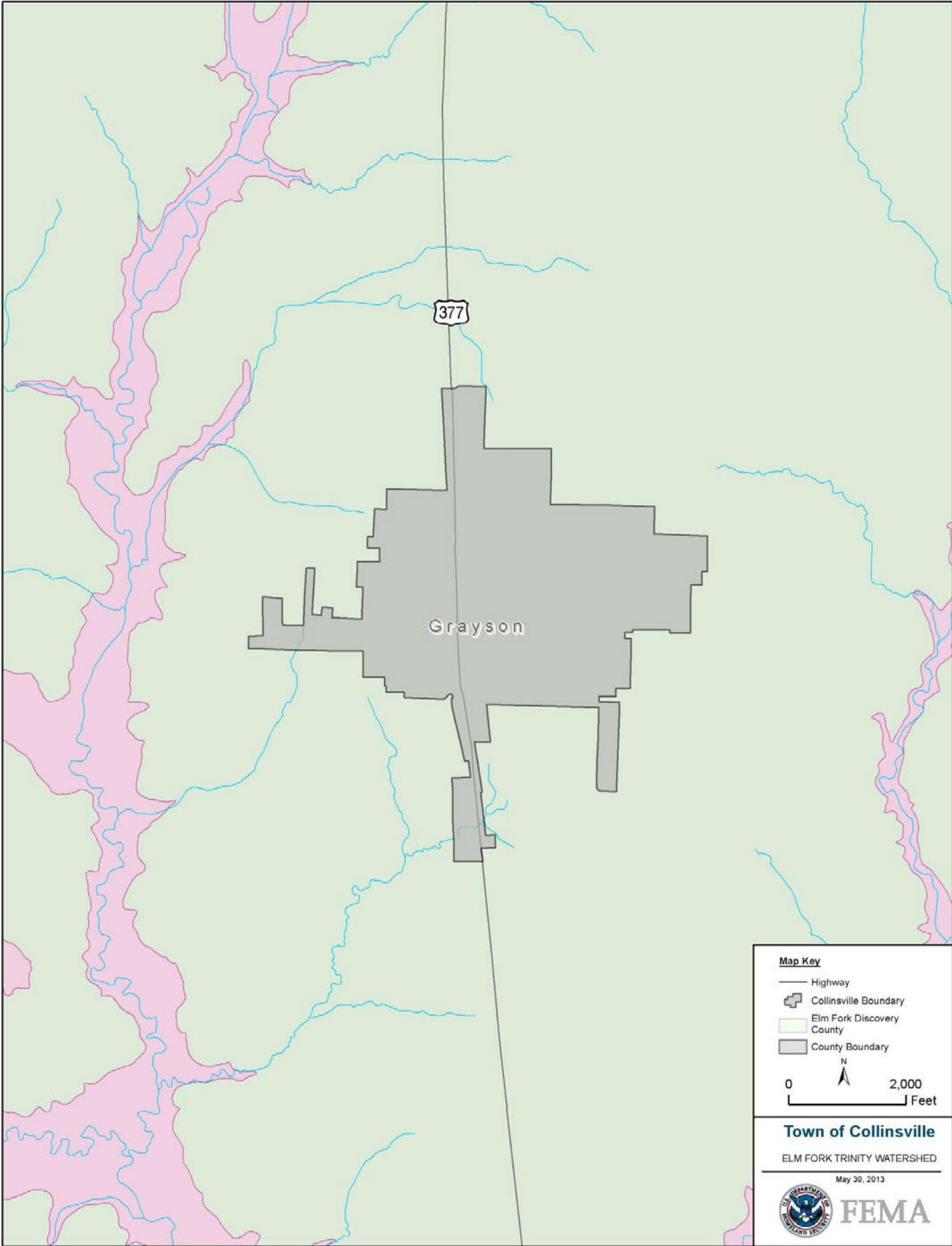
TOWN OF COLLINSVILLE

Grayson County

Elm Fork Trinity Watershed

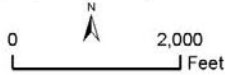
NCTCOG FY12 Discovery

<u>CID:</u>	480831
<u>Population (2010 Census):</u>	1,624
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	0.22
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	4
<u>NFIP Claims:</u>	0
<u>Total Losses:</u>	\$0
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz



Map Key

- Highway
- Collinsville Boundary
- Elm Fork Discovery County
- County Boundary



Town of Collinsville

ELM FORK TRINITY WATERSHED

May 30, 2013

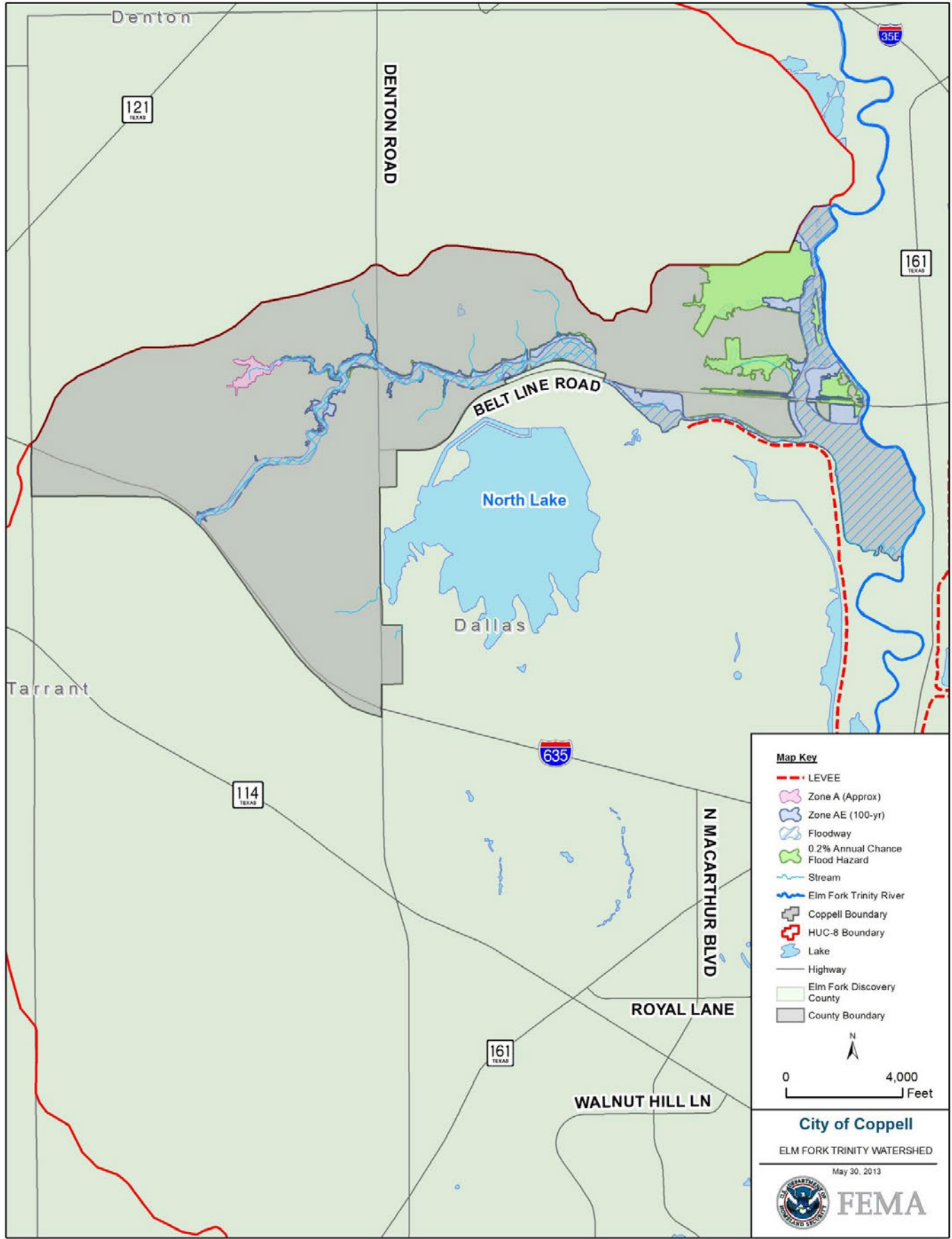




North Central Texas
Council of Governments

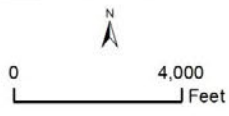
CITY OF COPPELL
 Collin County/Denton County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	480170
<u>Population (2010 Census):</u>	38,659
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	7
<u>Mitigation Plan Name:</u>	Dallas County
<u>Plan Approval Date:</u>	1/12/2009
<u>Plan Expiration Date:</u>	1/2/2014
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Prelim
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	10.37
<u>Total Zone A Miles:</u>	0.28
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	249
<u>NFIP Claims:</u>	12
<u>Total Losses:</u>	\$2,521
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 (countywide)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	Dallas Floodway levees are just outside City boundary
<u>Congressmen:</u>	Rep. Kenny Marchant; Sens. Cornyn and Cruz



Map Key

- LEVEE
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Stream
- Elm Fork Trinity River
- Coppel Boundary
- HUC-8 Boundary
- Lake
- Highway
- Elm Fork Discovery County
- County Boundary



City of Coppel

ELM FORK TRINITY WATERSHED

May 30, 2013



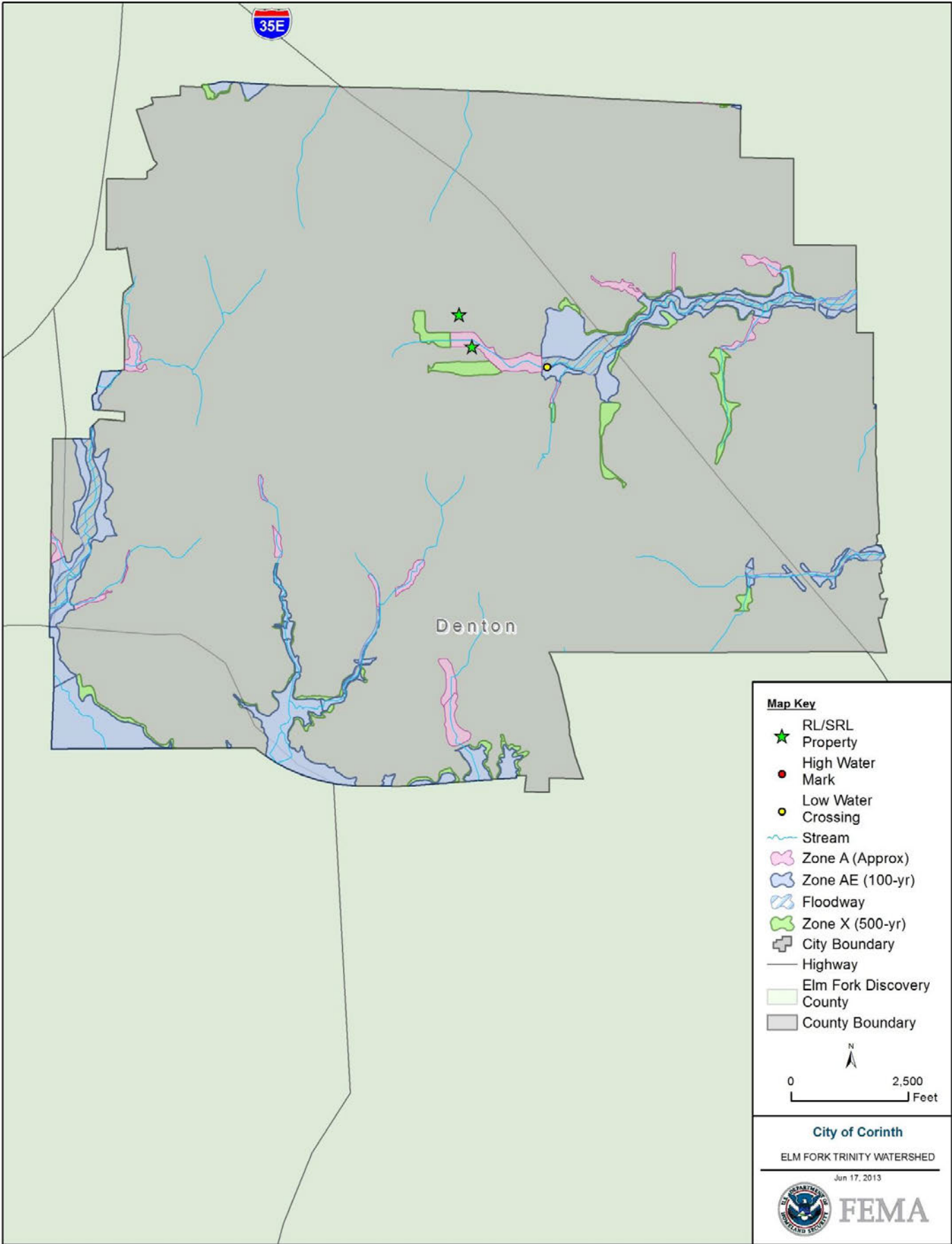
FEMA



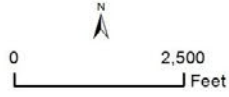
North Central Texas
Council of Governments

CITY OF CORINTH
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481143
<u>Population (2010 Census):</u>	19,935
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	05/26/2011
<u>Plan Expiration Date:</u>	05/25/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	1
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	April 18, 2011
<u>Total Stream Miles:</u>	14.89
<u>Total Zone A Miles:</u>	2.06
<u>Repetitive Loss Property Count:</u>	2
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	69
<u>NFIP Claims:</u>	15
<u>Total Losses:</u>	\$14,918
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 TNRIS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Michael Burgess, Sens. Cornyn and Cruz



- Map Key**
- ★ RL/SRL Property
 - High Water Mark
 - Low Water Crossing
 - ~ Stream
 - Zone A (Approx)
 - Zone AE (100-yr)
 - Floodway
 - Zone X (500-yr)
 - City Boundary
 - Highway
 - Elm Fork Discovery County
 - County Boundary



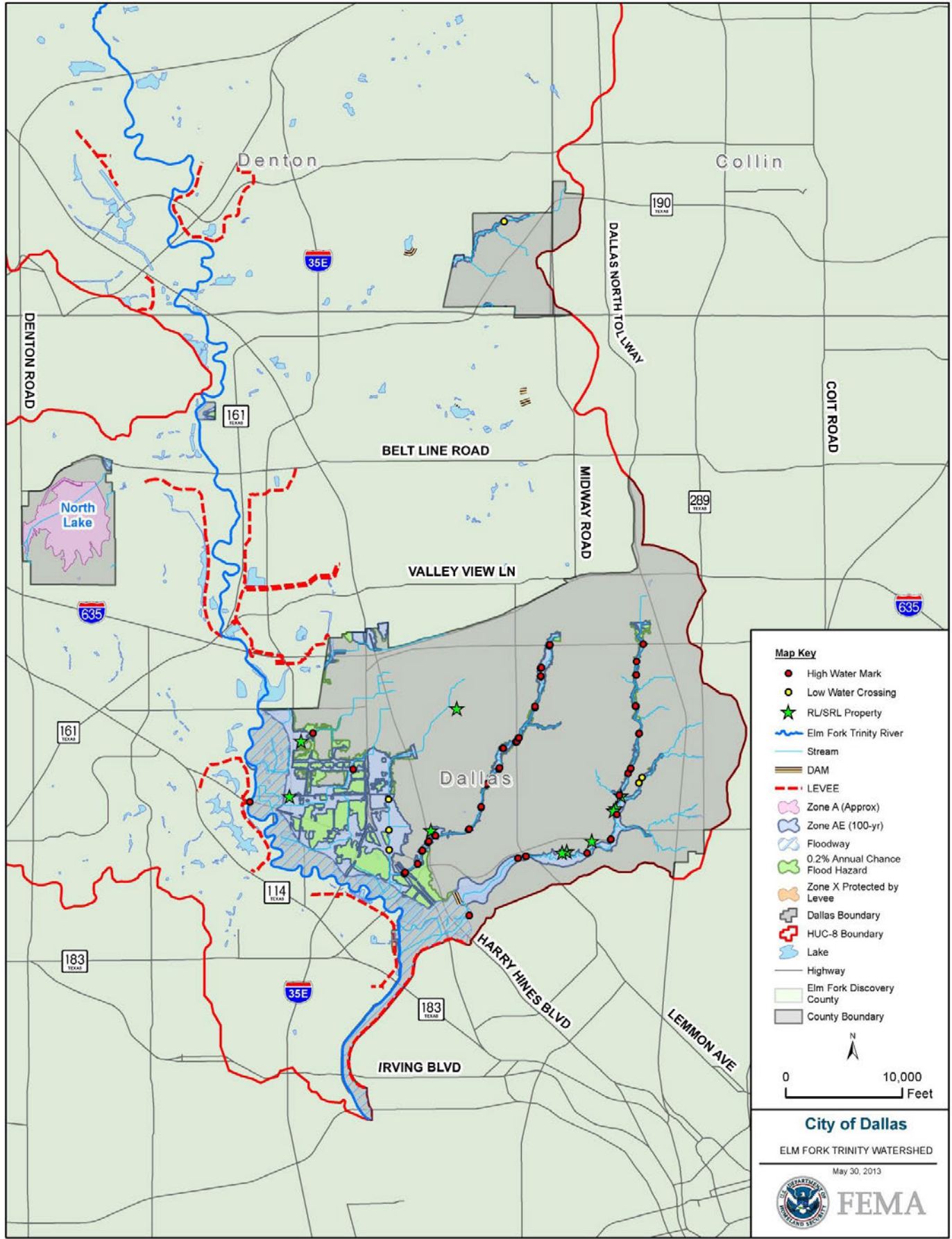
City of Corinth
 ELM FORK TRINITY WATERSHED
 Jun 17, 2013
 **FEMA**



North Central Texas
Council of Governments

CITY OF DALLAS
Collin County/Dallas County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480171
<u>Population (2010 Census):</u>	2,368,139
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	5
<u>Mitigation Plan Name:</u>	Dallas County
<u>Plan Approval Date:</u>	1/12/2009
<u>Plan Expiration Date:</u>	1/2/2014
<u>High Water Marks:</u>	86
<u>Low Water Crossings:</u>	13
<u>DFIRM Status:</u>	Prelim (Dallas), Effective (Collin)
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012; Collin – 6/2/2009
<u>Total Stream Miles:</u>	61.9
<u>Total Zone A Miles:</u>	1.81
<u>Repetitive Loss Property Count:</u>	8
<u>Severe Repetitive Loss Property Count:</u>	2
<u>NFIP Policies:</u>	3,966
<u>NFIP Claims:</u>	909
<u>Total Losses:</u>	\$11,405,733
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 Dallas County, 24 Collin County
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	Dallas Floodway levees
<u>Congressmen:</u>	Reps. Marchant, S. Johnson, Veasey, Sessions and E. Johnson ; Sens. Cornyn and Cruz



Map Key

- High Water Mark
- Low Water Crossing
- ★ RL/SRL Property
- Elm Fork Trinity River
- Stream
- DAM
- - - LEVEE
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Zone X Protected by Levee
- Dallas Boundary
- HUC-8 Boundary
- Lake
- Highway
- Elm Fork Discovery County
- County Boundary

0 10,000 Feet

N

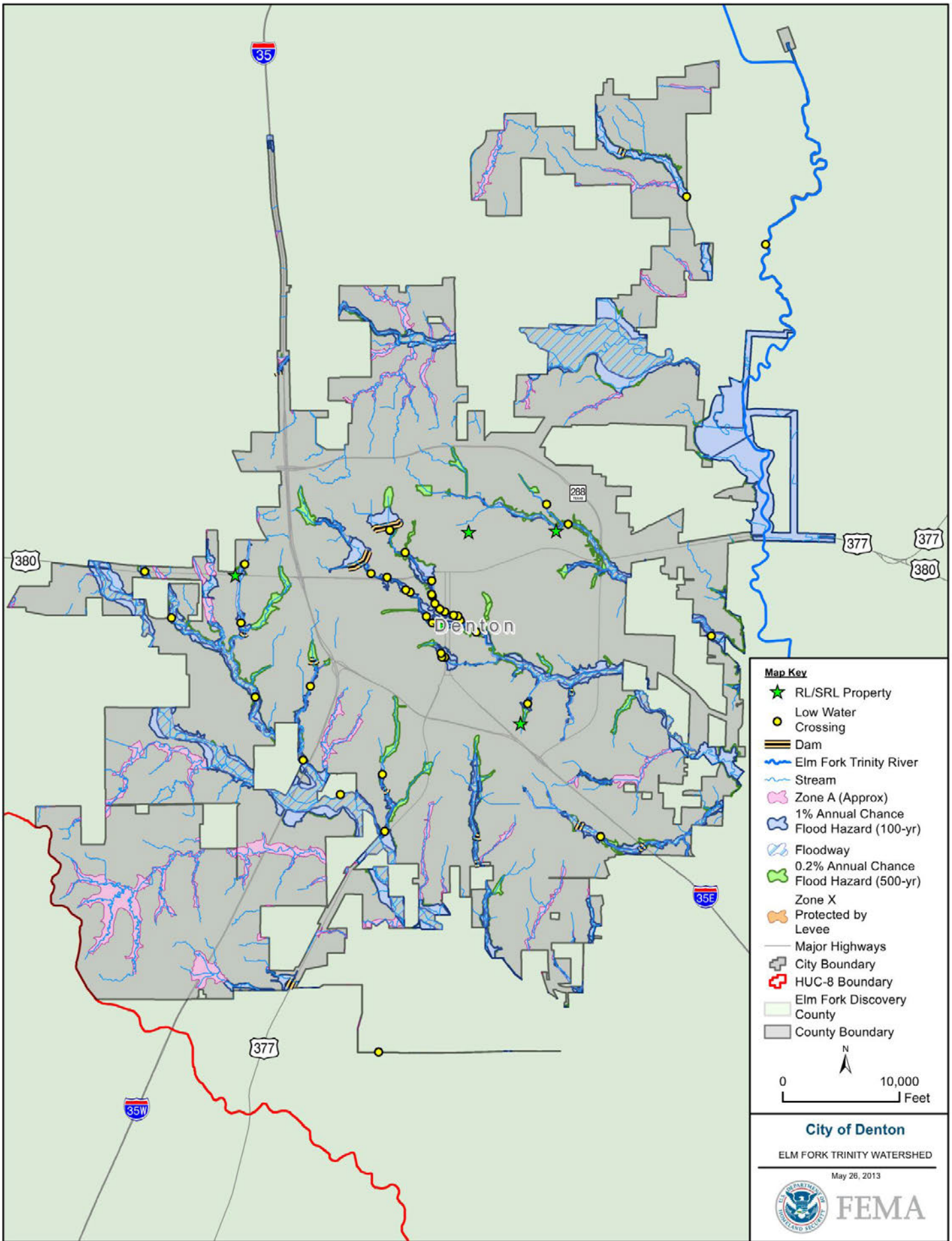
City of Dallas
 ELM FORK TRINITY WATERSHED
 May 30, 2013
 **FEMA**



North Central Texas
Council of Governments

CITY OF DENTON
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480194
<u>Population (2010 Census):</u>	113,383
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	6
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	05/26/2011
<u>Plan Expiration Date:</u>	05/25/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	40
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	April 18, 2011
<u>Total Stream Miles:</u>	236.22
<u>Total Zone A Miles:</u>	58.52
<u>Repetitive Loss Property Count:</u>	5
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	505
<u>NFIP Claims:</u>	116
<u>Total Losses:</u>	\$125,527
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	15 dams
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz





North Central Texas
Council of Governments

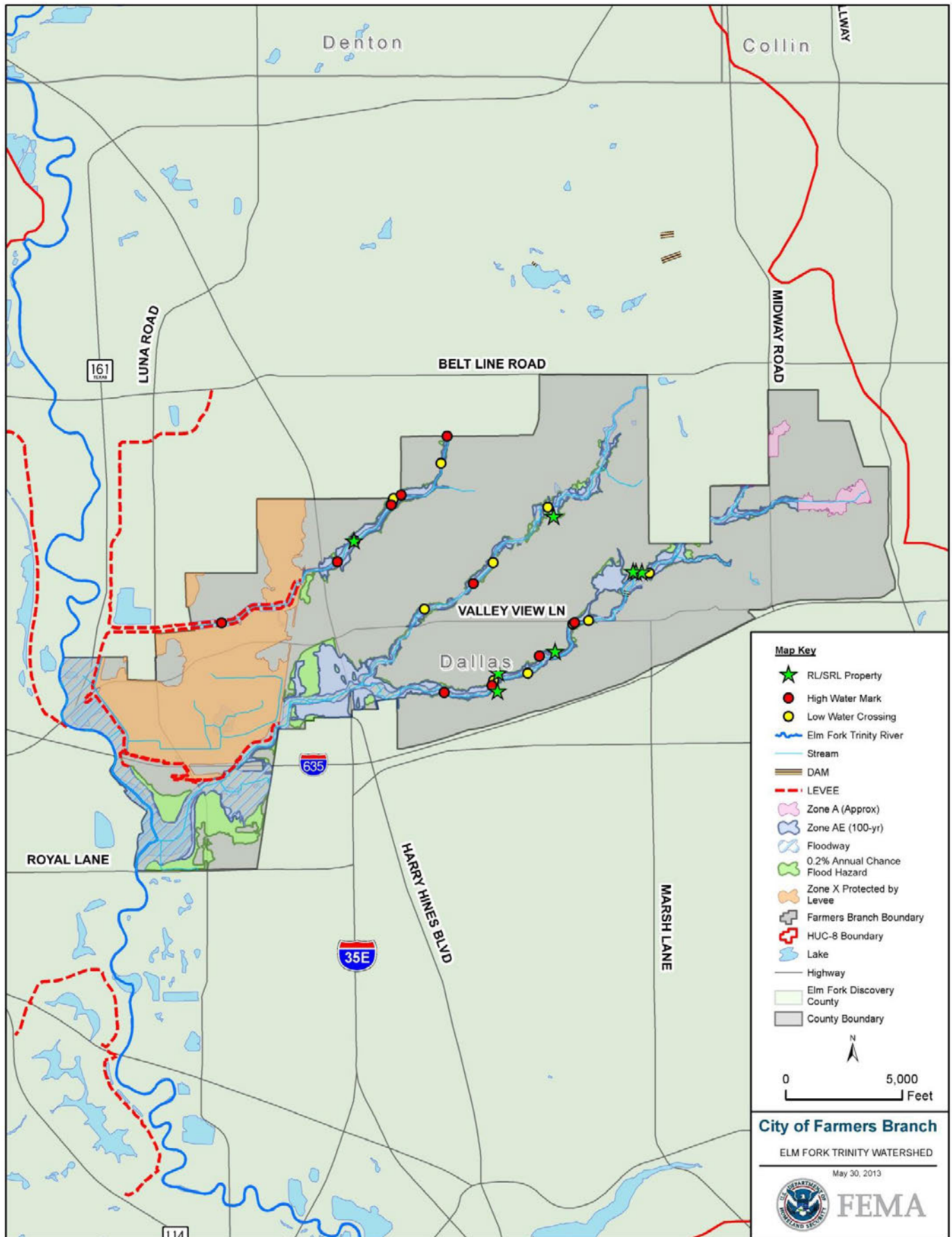
CITY OF FARMERS BRANCH

Dallas County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480174
<u>Population (2010 Census):</u>	28,616
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Dallas County
<u>Plan Approval Date:</u>	1/12/2009
<u>Plan Expiration Date:</u>	1/2/2014
<u>High Water Marks:</u>	12
<u>Low Water Crossings:</u>	13
<u>DFIRM Status:</u>	Prelim (Dallas)
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	24.23
<u>Total Zone A Miles:</u>	0.59
<u>Repetitive Loss Property Count:</u>	5
<u>Severe Repetitive Loss Property Count:</u>	3
<u>NFIP Policies:</u>	192
<u>NFIP Claims:</u>	75
<u>Total Losses:</u>	\$792,186
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 Dallas County
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	1 levee – Valwood Improvement Authority
<u>Congressmen:</u>	Rep. Marchant ; Sens. Cornyn and Cruz



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Elm Fork Trinity River
- Stream
- DAM
- - - LEVEE
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Zone X Protected by Levee
- Farmers Branch Boundary
- HUC-8 Boundary
- Lake
- Highway
- Elm Fork Discovery County
- County Boundary

0 5,000 Feet

City of Farmers Branch
 ELM FORK TRINITY WATERSHED
 May 30, 2013



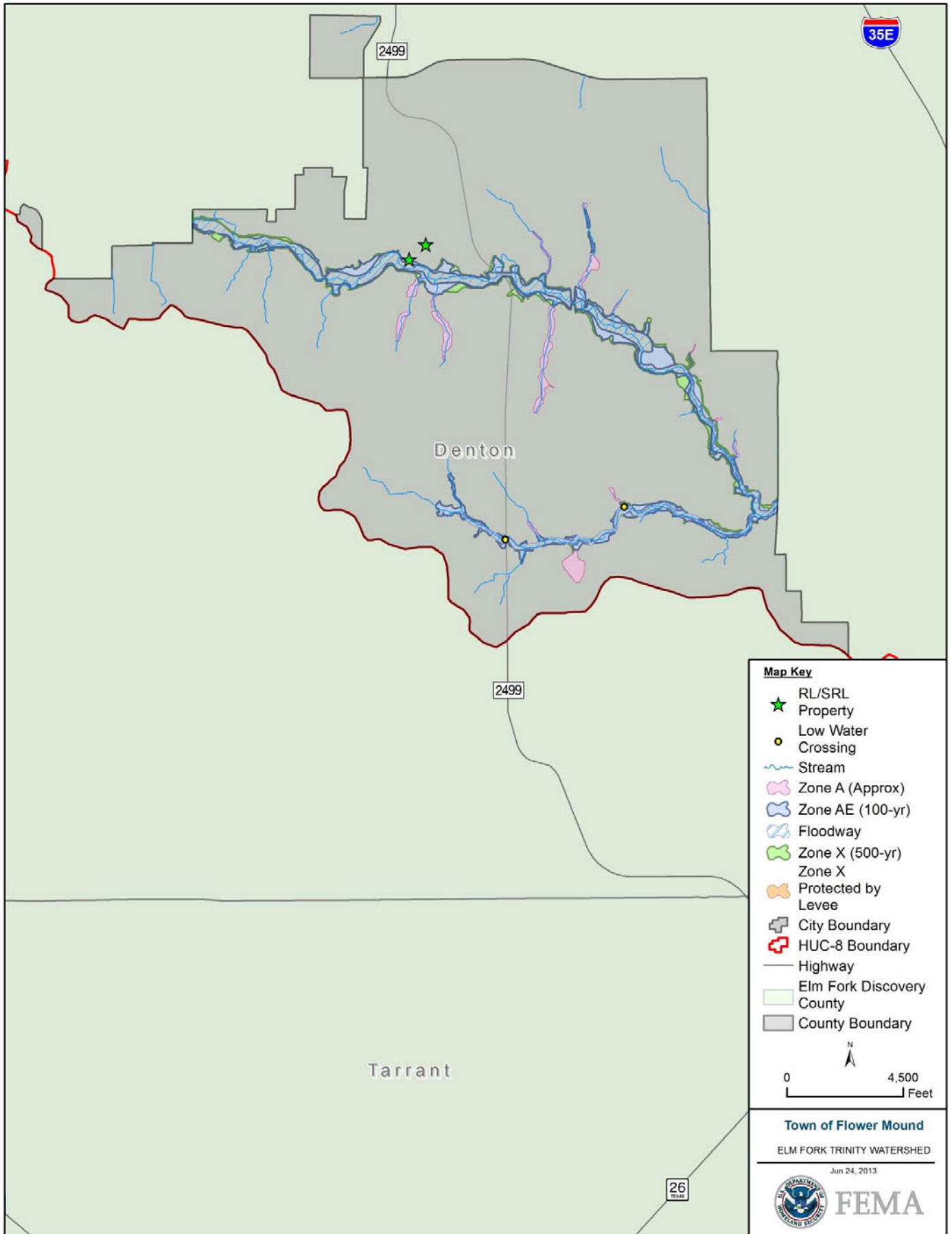
North Central Texas
Council of Governments

TOWN OF FLOWER MOUND

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480777
<u>Population (2010 Census):</u>	64,669
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	2
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	22.00
<u>Total Zone A Miles:</u>	2.74
<u>Repetitive Loss Property Count:</u>	4
<u>Severe Repetitive Loss Property Count:</u>	1
<u>NFIP Policies:</u>	347
<u>NFIP Claims:</u>	23
<u>Total Losses:</u>	\$565,866
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRIS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- Low Water Crossing
- ~ Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- Zone X (500-yr)
- Zone X
- Protected by Levee
- City Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

0 4,500 Feet

Town of Flower Mound
 ELM FORK TRINITY WATERSHED
 Jun 24, 2013



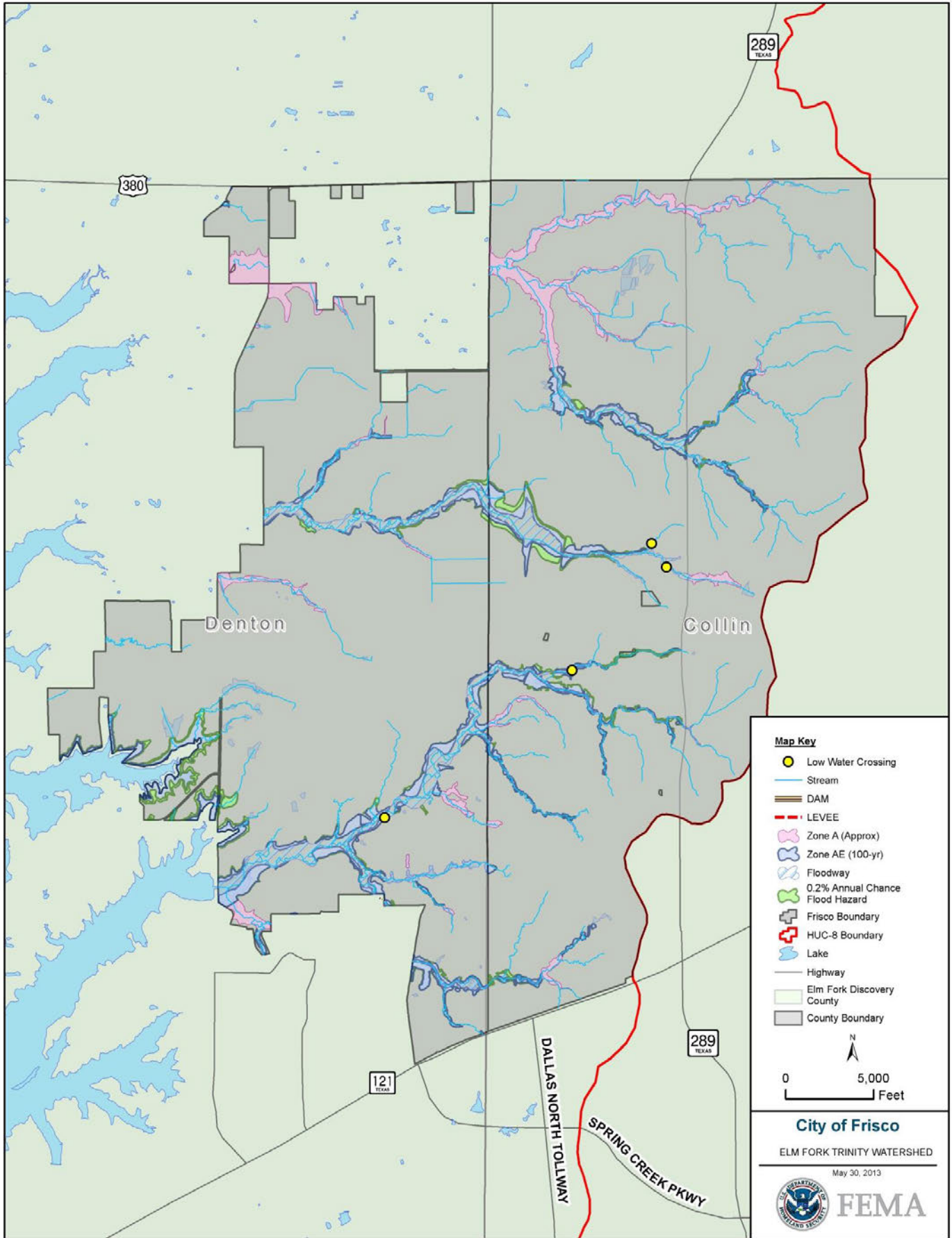
FEMA



North Central Texas
Council of Governments

CITY OF FRISCO
Collin County/Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480134
<u>Population (2010 Census):</u>	116,989
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Collin County/City of Frisco
<u>Plan Approval Date:</u>	5/31/2011
<u>Plan Expiration Date:</u>	5/30/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	4
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Collin – 6/29/2009; Denton – 4/18/2011
<u>Total Stream Miles:</u>	114.56
<u>Total Zone A Miles:</u>	19.25
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	281
<u>NFIP Claims:</u>	8
<u>Total Losses:</u>	\$6,134
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	24 Collin County, 28 Denton County
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Congressmen:</u>	Reps. S. Johnson and Burgess ; Sens. Cornyn and Cruz

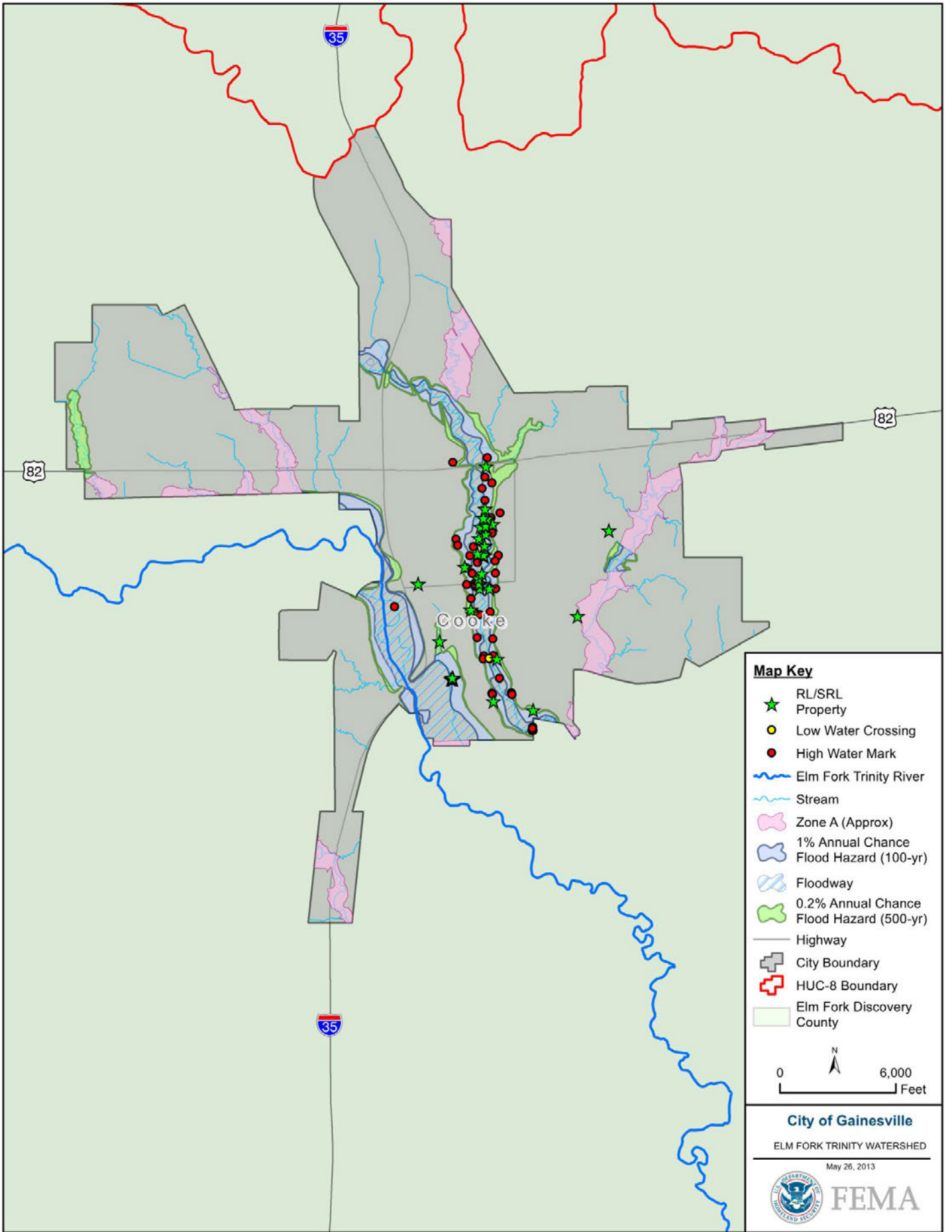




North Central Texas
Council of Governments

CITY OF GAINESVILLE
Cooke County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480154
<u>Population (2010 Census):</u>	16,002
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	48
<u>Low Water Crossings:</u>	1
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – Jan. 16, 2008
<u>Total Stream Miles:</u>	77.37
<u>Total Zone A Miles:</u>	11.6
<u>Repetitive Loss Property Count:</u>	34
<u>Severe Repetitive Loss Property Count:</u>	8
<u>NFIP Policies:</u>	187
<u>NFIP Claims:</u>	300
<u>Total Losses:</u>	\$8,288,583.21
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson/Wise LiDAR
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	Not in CRS
<u>Congressmen:</u>	Rep. Michael Burgess, Rep. Mac Thornberry, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- Low Water Crossing
- High Water Mark
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Highway
- City Boundary
- HUC-8 Boundary
- Elm Fork Discovery County

0 6,000 Feet

City of Gainesville
 ELM FORK TRINITY WATERSHED
 May 26, 2013



FEMA

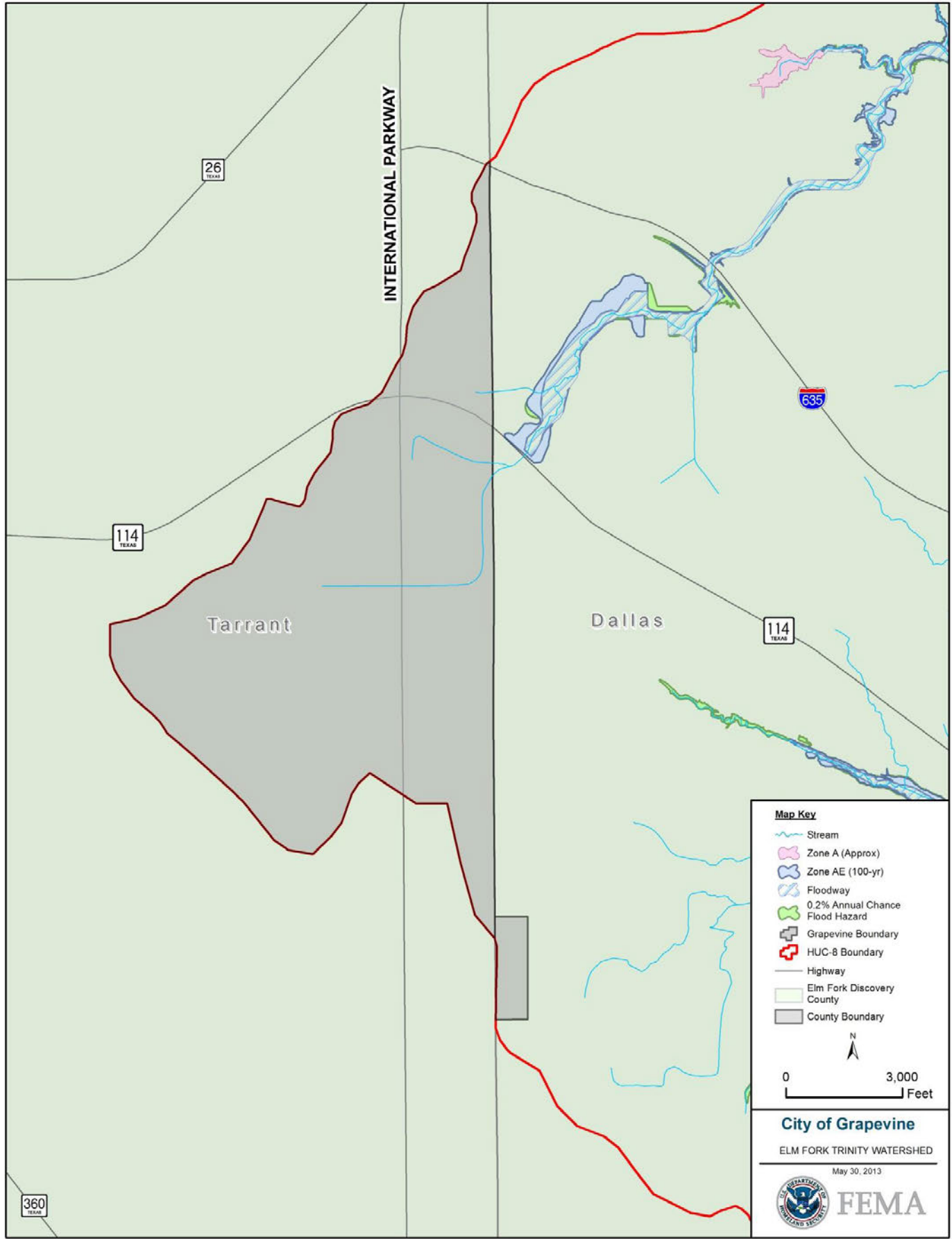


North Central Texas
Council of Governments

CITY OF GRAPEVINE

Tarrant County/Dallas County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480598
<u>Population (2010 Census):</u>	46,334
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Tarrant County Mid-Cities
<u>Plan Approval Date:</u>	9/18/2008/
<u>Plan Expiration Date:</u>	9/18/2013
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective; Prelim
<u>Effective Date:</u>	Tarrant – 9/25/2009; Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	1.88
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	146
<u>NFIP Claims:</u>	43
<u>Total Losses:</u>	\$897,801
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	Unknown
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Congressmen:</u>	Rep. Marchant ; Sens. Cornyn and Cruz



Map Key

- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Grapevine Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

N

0 3,000
Feet

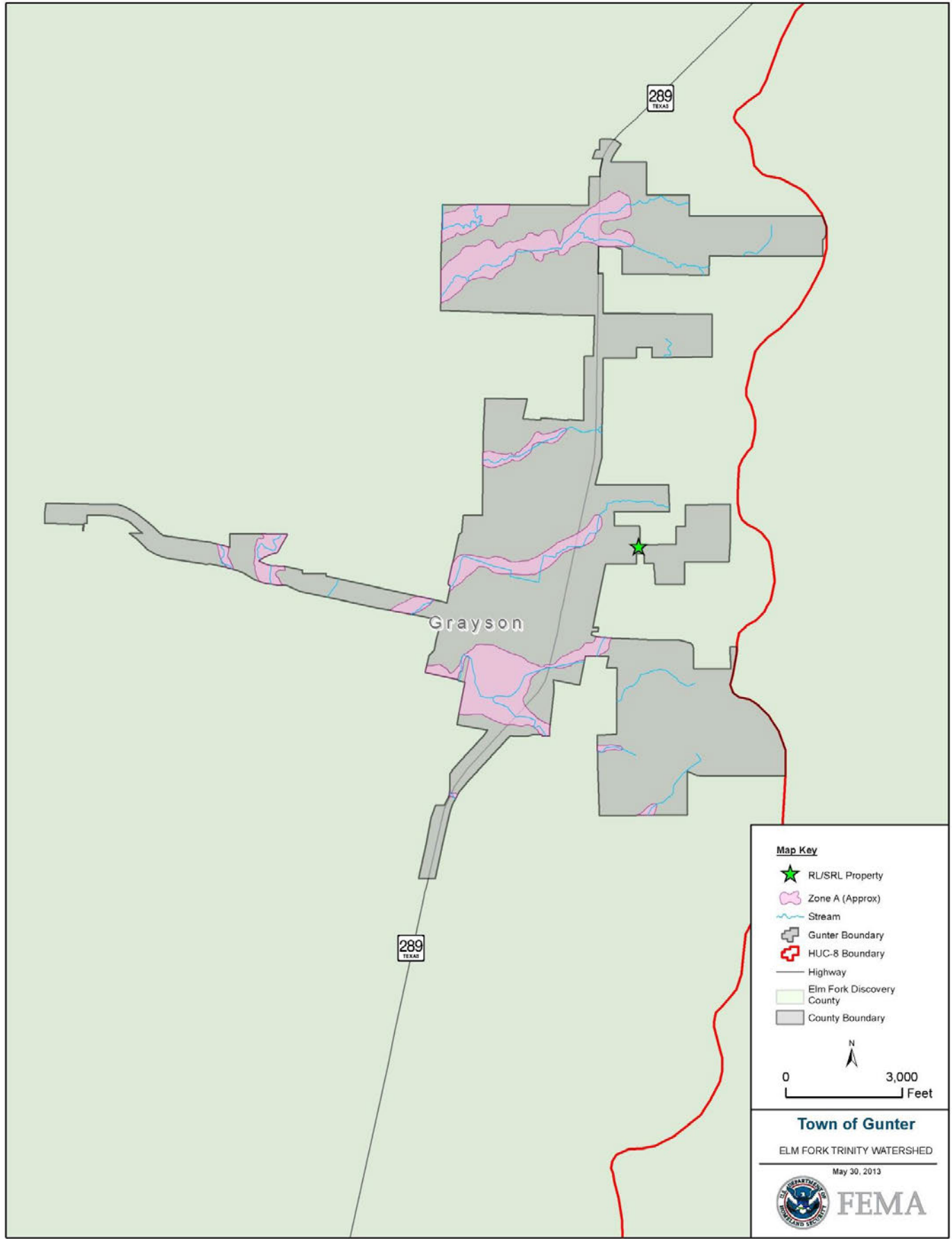
City of Grapevine
 ELM FORK TRINITY WATERSHED
 May 30, 2013



North Central Texas
Council of Governments

TOWN OF GUNTER
 Grayson County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	480832
<u>Population (2010 Census):</u>	148
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	8.86
<u>Total Zone A Miles:</u>	5.37
<u>Repetitive Loss Property Count:</u>	1
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	15
<u>NFIP Claims:</u>	4
<u>Total Losses:</u>	\$55,738
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	All Zone A within boundary
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz



Map Key

- ★ R/SRL Property
- Zone A (Approx)
- Stream
- Gunter Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

0 3,000 Feet

Town of Gunter
ELM FORK TRINITY WATERSHED
May 30, 2013



FEMA



North Central Texas
Council of Governments

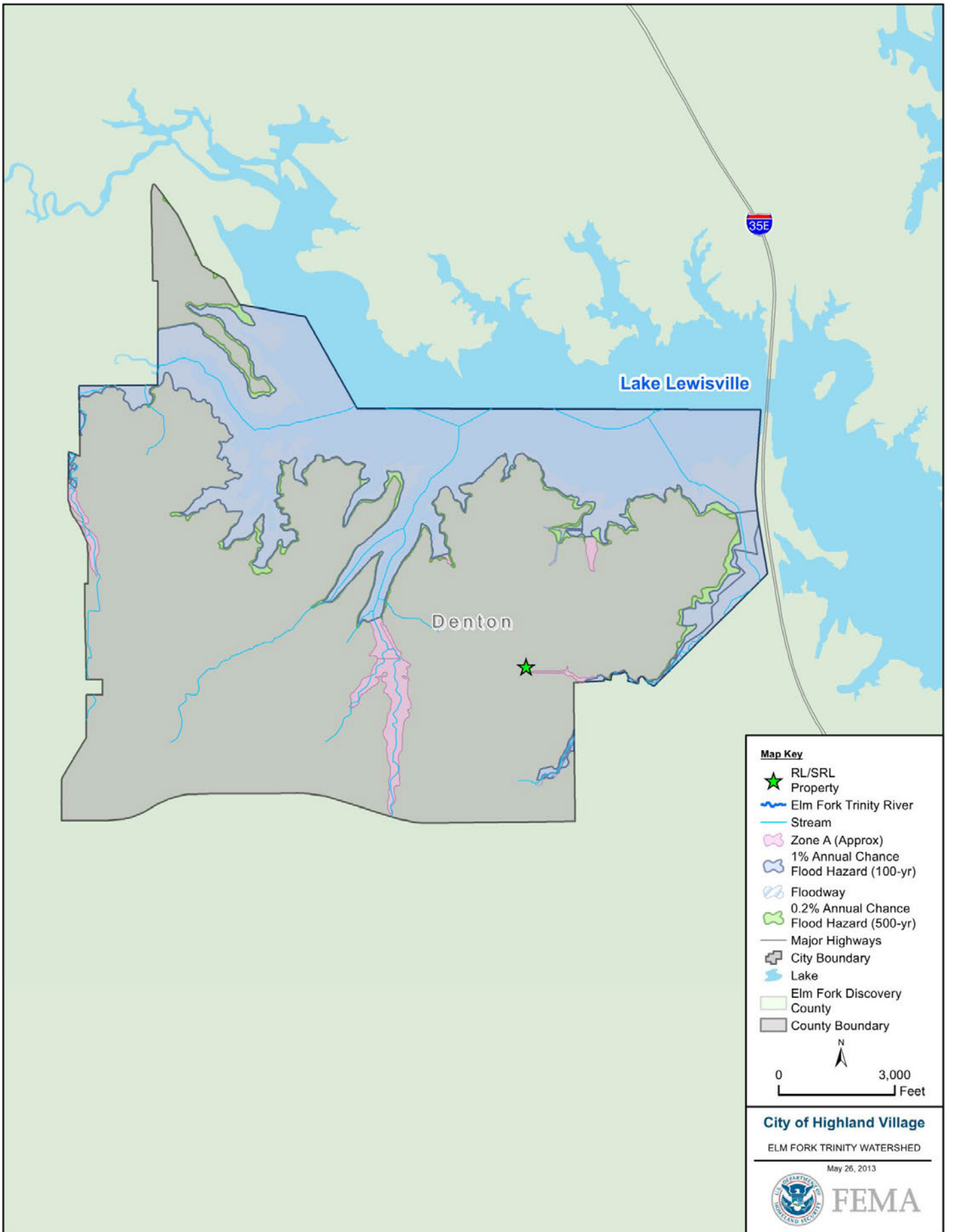
CITY OF HIGHLAND VILLAGE

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481105
<u>Population (2010 Census):</u>	95,920
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	5/26/2011
<u>Plan Expiration Date:</u>	5/25/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – April 18, 2011
<u>Total Stream Miles:</u>	11.84
<u>Total Zone A Miles:</u>	2.03
<u>Repetitive Loss Property Count:</u>	1
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	101
<u>NFIP Claims:</u>	15
<u>Total Losses:</u>	\$48,191
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 TNRIS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Major Highways
- City Boundary
- Lake
- Elm Fork Discovery County
- County Boundary

N

0 ————— 3,000
Feet

City of Highland Village
 ELM FORK TRINITY WATERSHED
 May 26, 2013



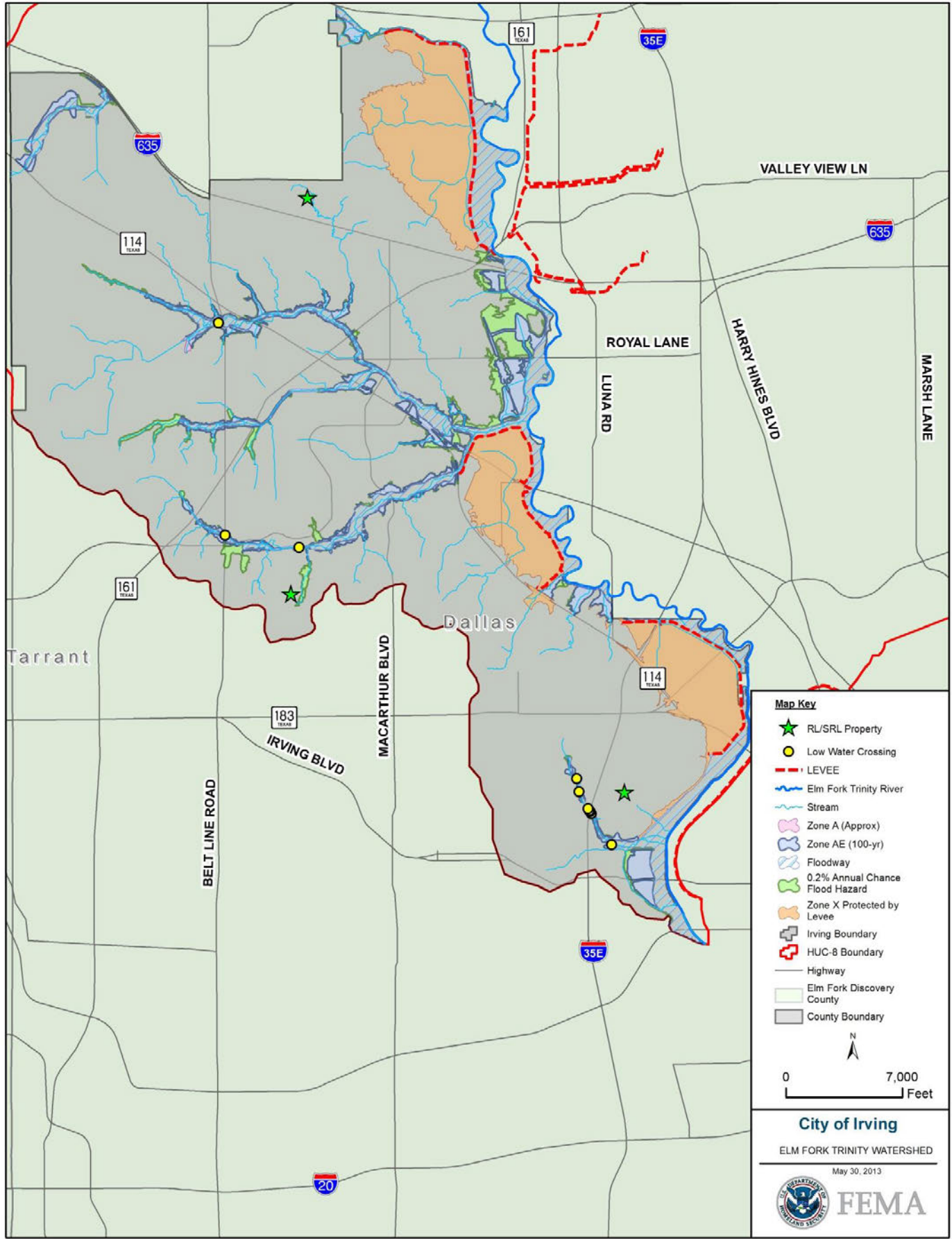
FEMA



North Central Texas
Council of Governments

CITY OF IRVING
Dallas County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480180
<u>Population (2010 Census):</u>	216,290
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Dallas County
<u>Plan Approval Date:</u>	1/12/2009
<u>Plan Expiration Date:</u>	1/12/2014
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	10
<u>DFIRM Status:</u>	Prelim
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	87.19
<u>Total Zone A Miles:</u>	0.2
<u>Repetitive Loss Property Count:</u>	3
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	716
<u>NFIP Claims:</u>	154
<u>Total Losses:</u>	\$883,495
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 (Dallas County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	IFCD-1 levee, IFCD-3 levee, DCURD levee
<u>Congressmen:</u>	Reps. Marchant and Veasey ; Sens. Cornyn and Cruz



Map Key

- ★ RL/SRL Property
- Low Water Crossing
- - - LEVEE
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Zone X Protected by Levee
- Irving Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

0 7,000 Feet

City of Irving
 ELM FORK TRINITY WATERSHED
 May 30, 2013



North Central Texas
Council of Governments

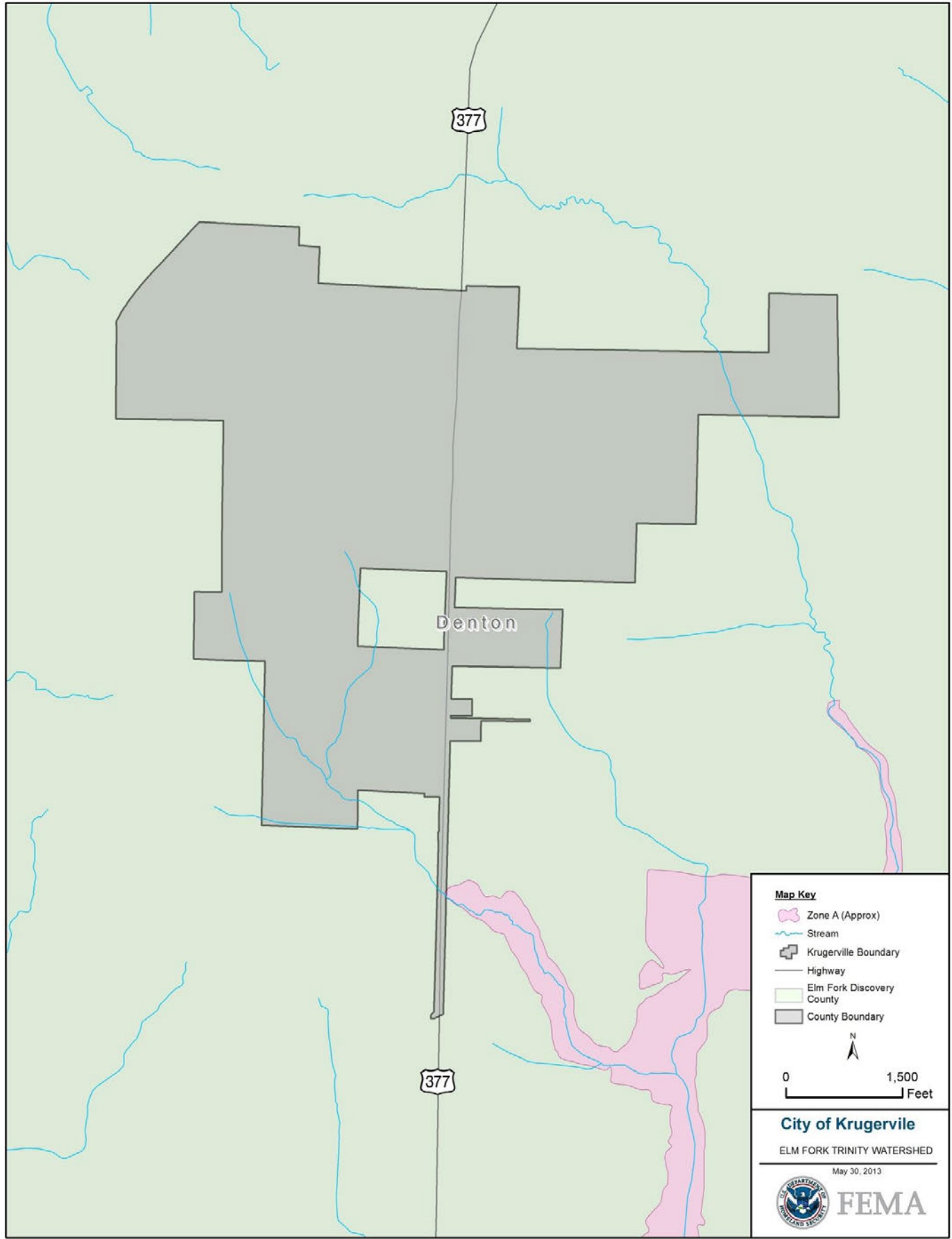
CITY OF KRUGERVILLE

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481661
<u>Population (2010 Census):</u>	1,662
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	1.58
<u>Total Zone A Miles:</u>	0.008
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	1
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Congressmen:</u>	Rep. Burgess ; Sens. Cornyn and Cruz



Map Key

- Zone A (Approx)
- Stream
- Krugerville Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

N

0 1,500 Feet

City of Krugerville
ELM FORK TRINITY WATERSHED
May 30, 2013



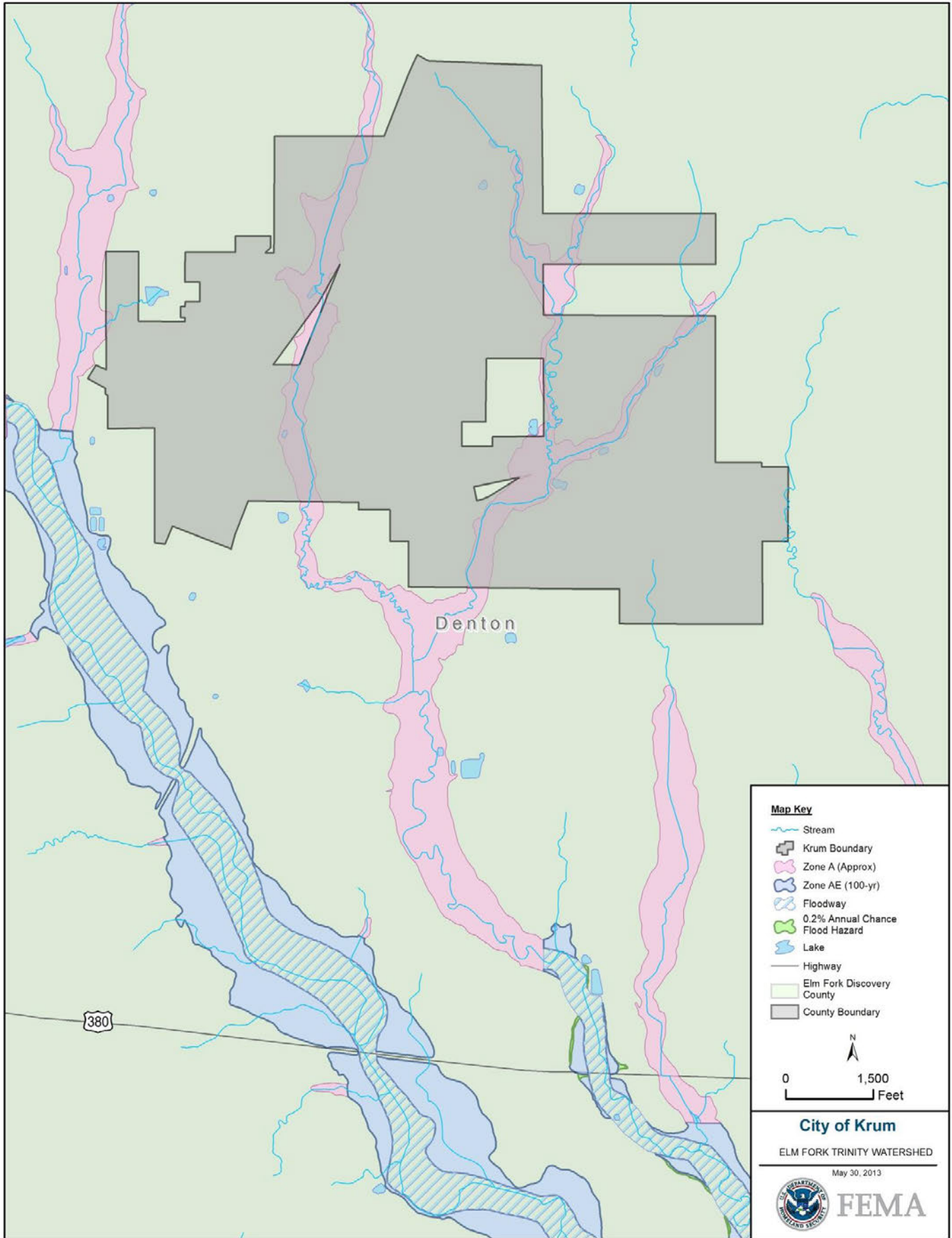
FEMA



North Central Texas
Council of Governments

CITY OF KRUM
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480779
<u>Population (2010 Census):</u>	4,157
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	5.35
<u>Total Zone A Miles:</u>	0.55
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	14
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Congressmen:</u>	Rep. Burgess ; Sens. Cornyn and Cruz



Map Key

-  Stream
-  Krum Boundary
-  Zone A (Approx)
-  Zone AE (100-yr)
-  Floodway
-  0.2% Annual Chance Flood Hazard
-  Lake
-  Highway
-  Elm Fork Discovery County
-  County Boundary



City of Krum

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

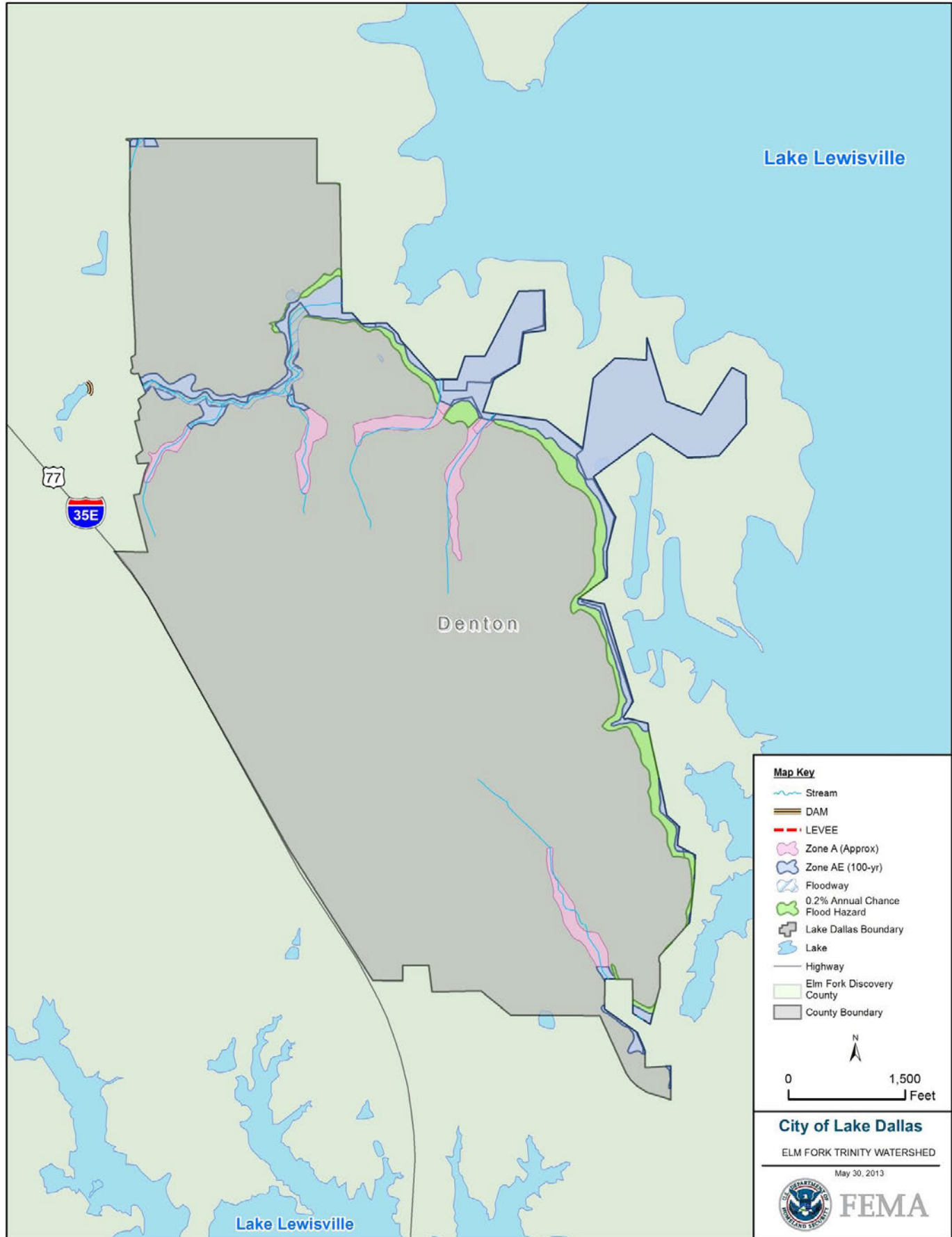
CITY OF LAKE DALLAS

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480780
<u>Population (2010 Census):</u>	7,105
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	3.22
<u>Total Zone A Miles:</u>	1.04
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	25
<u>NFIP Claims:</u>	4
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	Swisher Creek dam just west of city limits
<u>Congressmen:</u>	Rep. Burgess ; Sens. Cornyn and Cruz

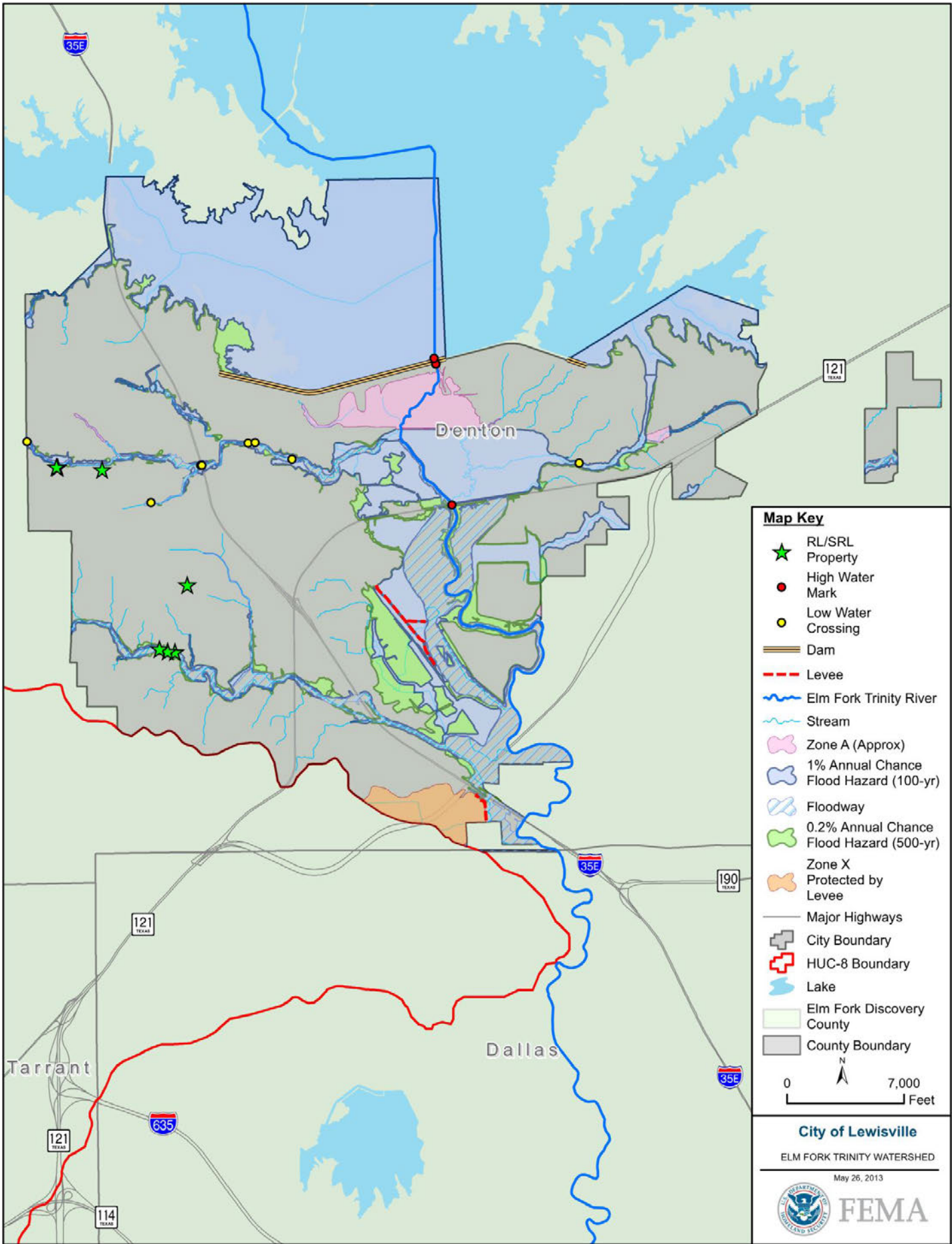




North Central Texas
Council of Governments

CITY OF LEWISVILLE
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480195
<u>Population (2010 Census):</u>	95,920
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	7
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	5/26/2011
<u>Plan Expiration Date:</u>	5/25/2016
<u>High Water Marks:</u>	5
<u>Low Water Crossings:</u>	8
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – April 18, 2011
<u>Total Stream Miles:</u>	75.42
<u>Total Zone A Miles:</u>	3.54
<u>Repetitive Loss Property Count:</u>	6
<u>Severe Repetitive Loss Property Count:</u>	1
<u>NFIP Policies:</u>	166
<u>NFIP Claims:</u>	49
<u>Total Losses:</u>	\$532,475
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 TNRIS
<u>Levees/Dams:</u>	2 levee systems, 1 dam
<u>Additional Comments:</u>	Lake Lewisville Dam, Timber Creek and Elm Fork Trinity Levee systems
<u>Congressmen:</u>	Rep. Kenny Marchant, Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Dam
- - - Levee
- Elm Fork Trinity River
- Stream
- Zone A (Approx) 1% Annual Chance Flood Hazard (100-yr)
- 0.2% Annual Chance Flood Hazard (500-yr)
- Zone X Protected by Levee
- Major Highways
- City Boundary
- HUC-8 Boundary
- Lake
- Elm Fork Discovery County
- County Boundary

0 7,000 Feet

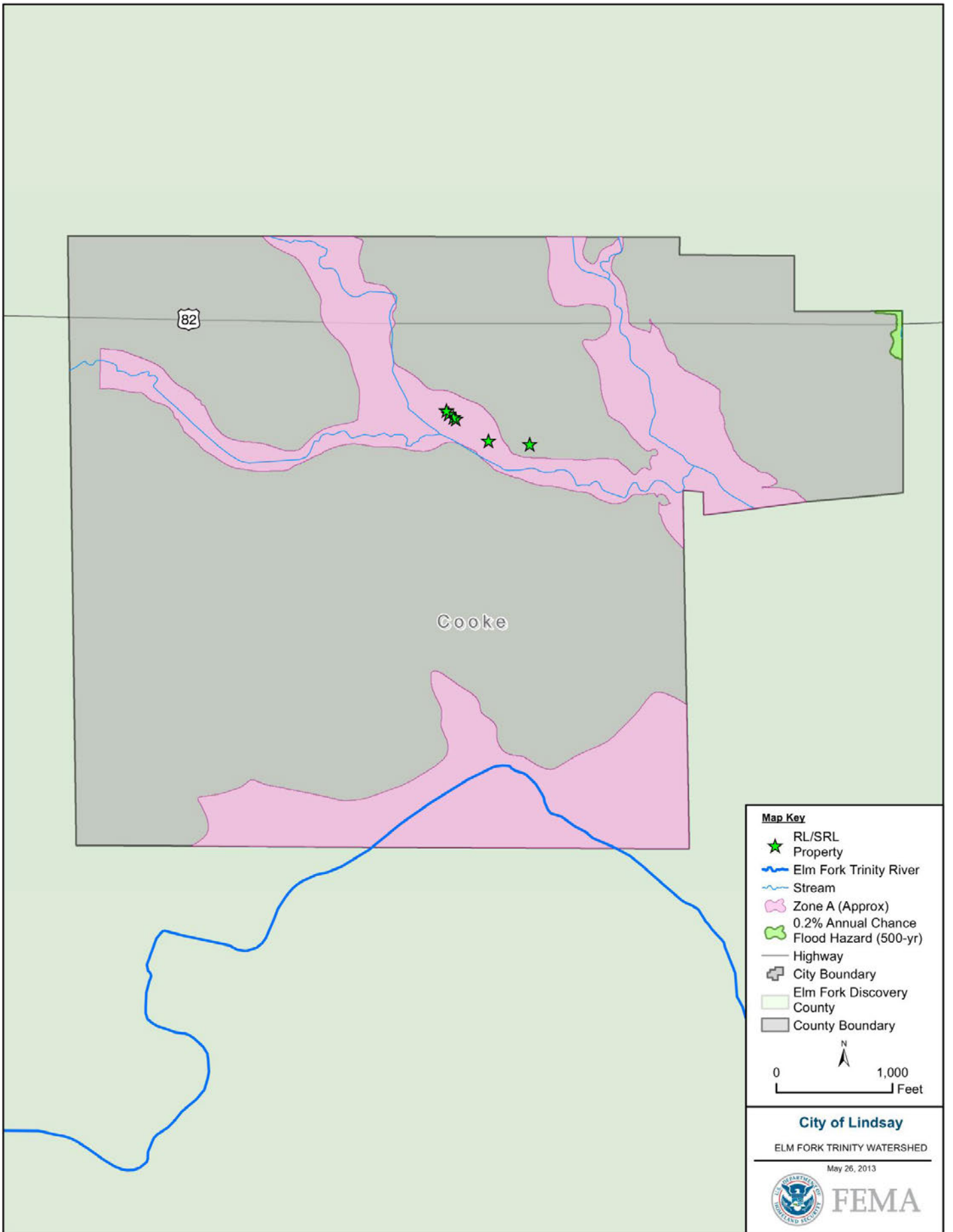


North Central Texas
Council of Governments

CITY OF LINDSAY
Cooke County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

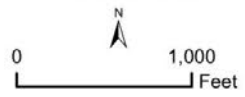
<u>CID:</u>	480766
<u>Population (2010 Census):</u>	1,018
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	NA
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	04/15/2012
<u>Plan Expiration Date:</u>	04/15/2015
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Jan. 16, 2008
<u>Total Stream Miles:</u>	3.06
<u>Total Zone A Miles:</u>	2.88
<u>Repetitive Loss Property Count:</u>	6
<u>Severe Repetitive Loss Property Count:</u>	2
<u>NFIP Policies:</u>	12
<u>NFIP Claims:</u>	28
<u>Total Losses:</u>	\$710,458
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	0
<u>Additional Comments:</u>	Not in CRS

Congressmen: Rep. Michael Burgess, Rep. Mac Thornberry, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 0.2% Annual Chance Flood Hazard (500-yr)
- Highway
- City Boundary
- Elm Fork Discovery County
- County Boundary



City of Lindsay

ELM FORK TRINITY WATERSHED

May 26, 2013



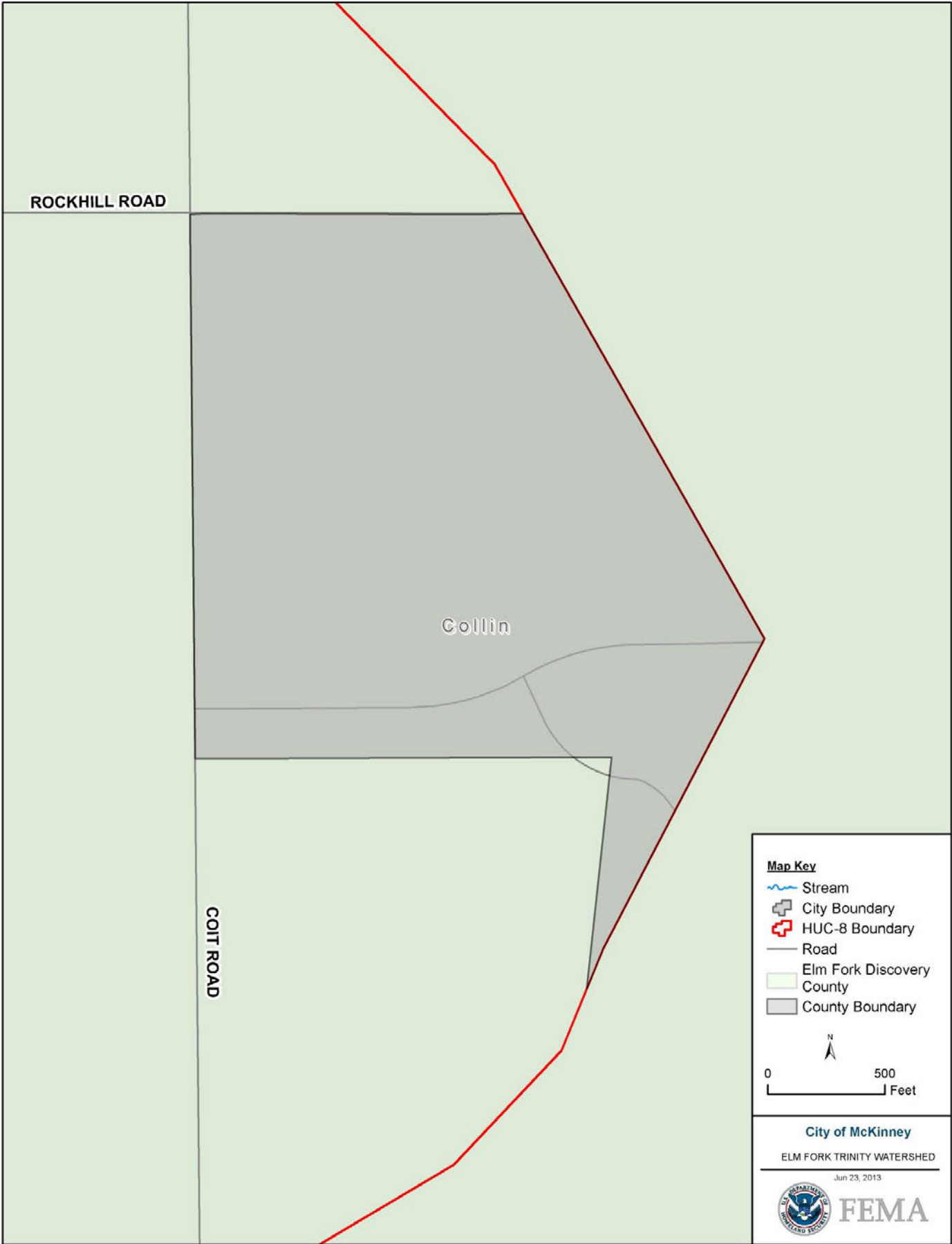
FEMA



North Central Texas
Council of Governments

CITY OF MCKINNEY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480135
<u>Population (2010 Census):</u>	131,117
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	Collin – 6/2/2009
<u>Total Stream Miles:</u>	0 (in watershed)
<u>Total Zone A Miles:</u>	0 (in watershed)
<u>Repetitive Loss Property Count:</u>	0 (within watershed)
<u>Severe Repetitive Loss Property Count:</u>	0 (within watershed)
<u>NFIP Policies:</u>	192
<u>NFIP Claims:</u>	8
<u>Total Losses:</u>	\$113,406
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	24 (Collin County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures within watershed
<u>Additional Comments:</u>	Majority of city within Upper Trinity watershed
<u>Congressmen:</u>	Rep. Sam Johnson, Sen. John Cornyn, Sen. Ted Cruz



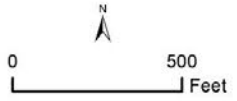
ROCKHILL ROAD

Collin

COIT ROAD

Map Key

-  Stream
-  City Boundary
-  HUC-8 Boundary
-  Road
-  Elm Fork Discovery County
-  County Boundary



City of McKinney

ELM FORK TRINITY WATERSHED

Jun 23, 2013



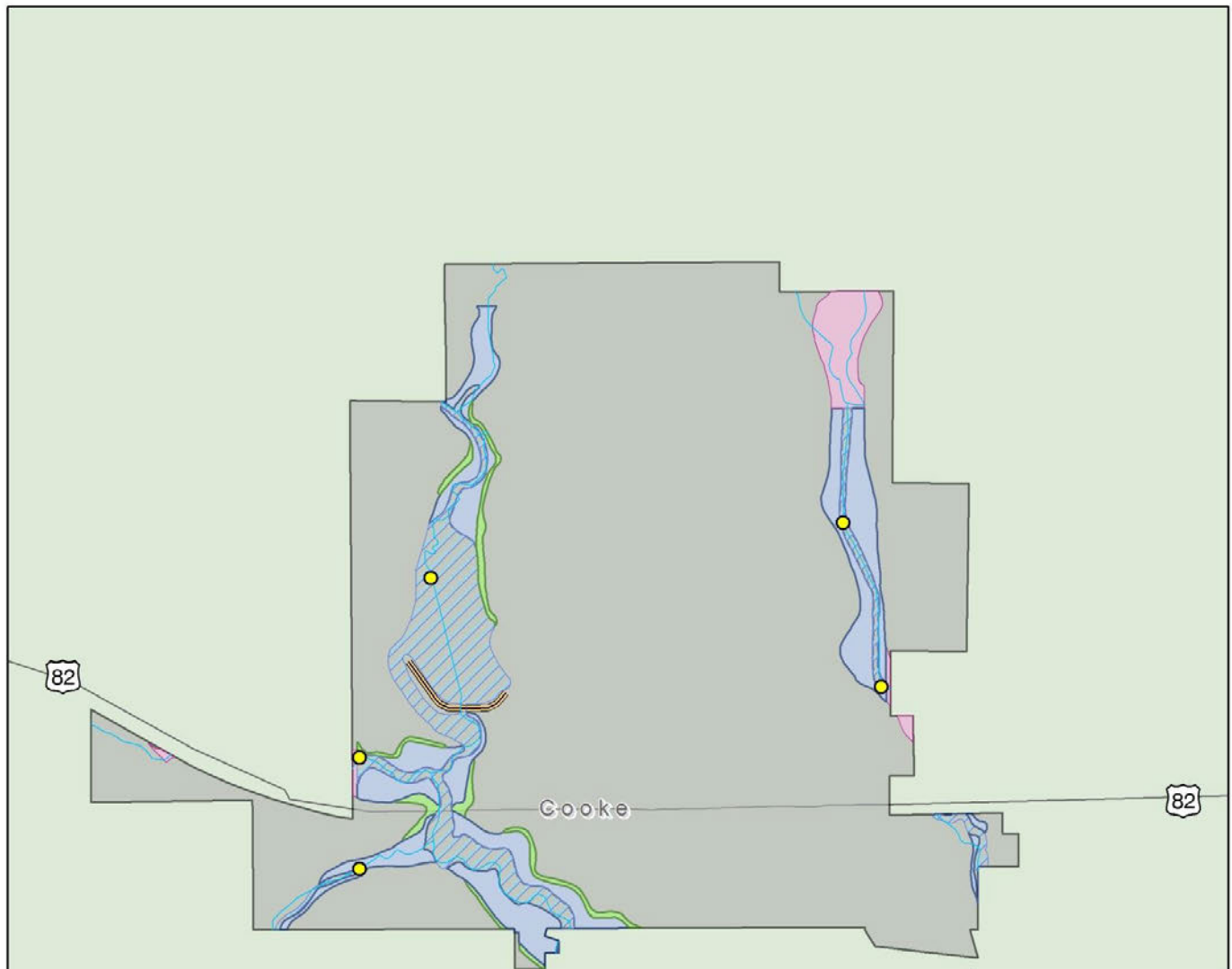
FEMA



North Central Texas
Council of Governments

CITY OF MUENSTER
Cooke County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480767
<u>Population (2010 Census):</u>	1,544
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	5
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – 1/16/2008
<u>Total Stream Miles:</u>	3.87
<u>Total Zone A Miles:</u>	0.51
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	10
<u>NFIP Claims:</u>	1
<u>Total Losses:</u>	\$3,863
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	1 dam on Brushy Elm Trib No 3
<u>Additional Comments:</u>	Downstream of Elm Fork WS
	NRCS Site 19 Dam
<u>Congressmen:</u>	Rep. Mac Thornberry, Sens. Cornyn and Cruz



Map Key

- Low Water Crossing
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Stream
- Dam
- Muenster Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

N

0 ————— 1,500
Feet

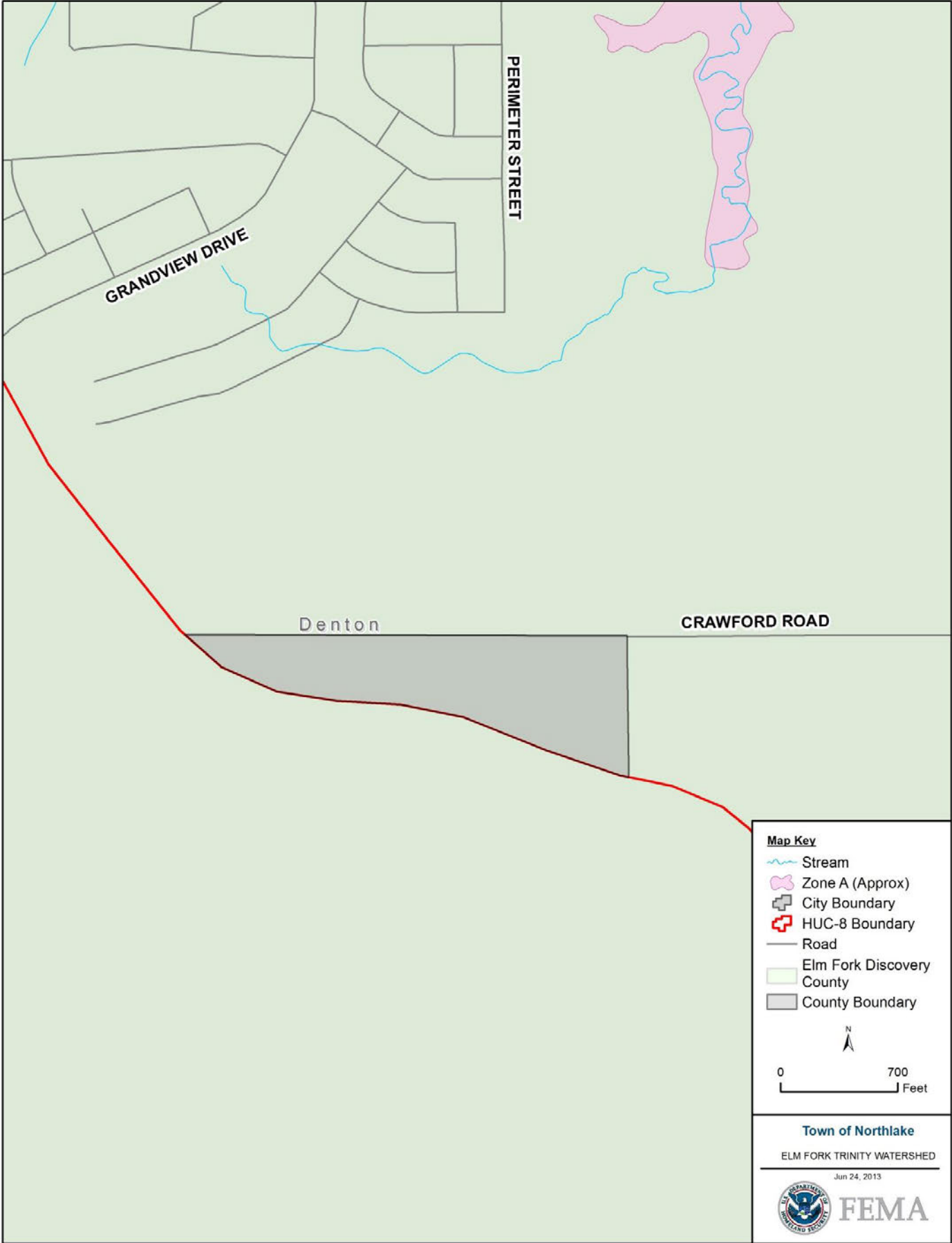
City of Muenster
ELM FORK TRINITY WATERSHED
May 30, 2013








North Central Texas
Council of Governments

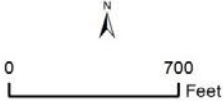
TOWN OF NORTHLAKE
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480782
<u>Population (2010 Census):</u>	1,724
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	0
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRIS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	South of Roark Branch; No DFIRM within town limits
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Zone A (Approx)
-  City Boundary
-  HUC-8 Boundary
-  Road
-  Elm Fork Discovery County
-  County Boundary



Town of Northlake

ELM FORK TRINITY WATERSHED

Jun 24, 2013



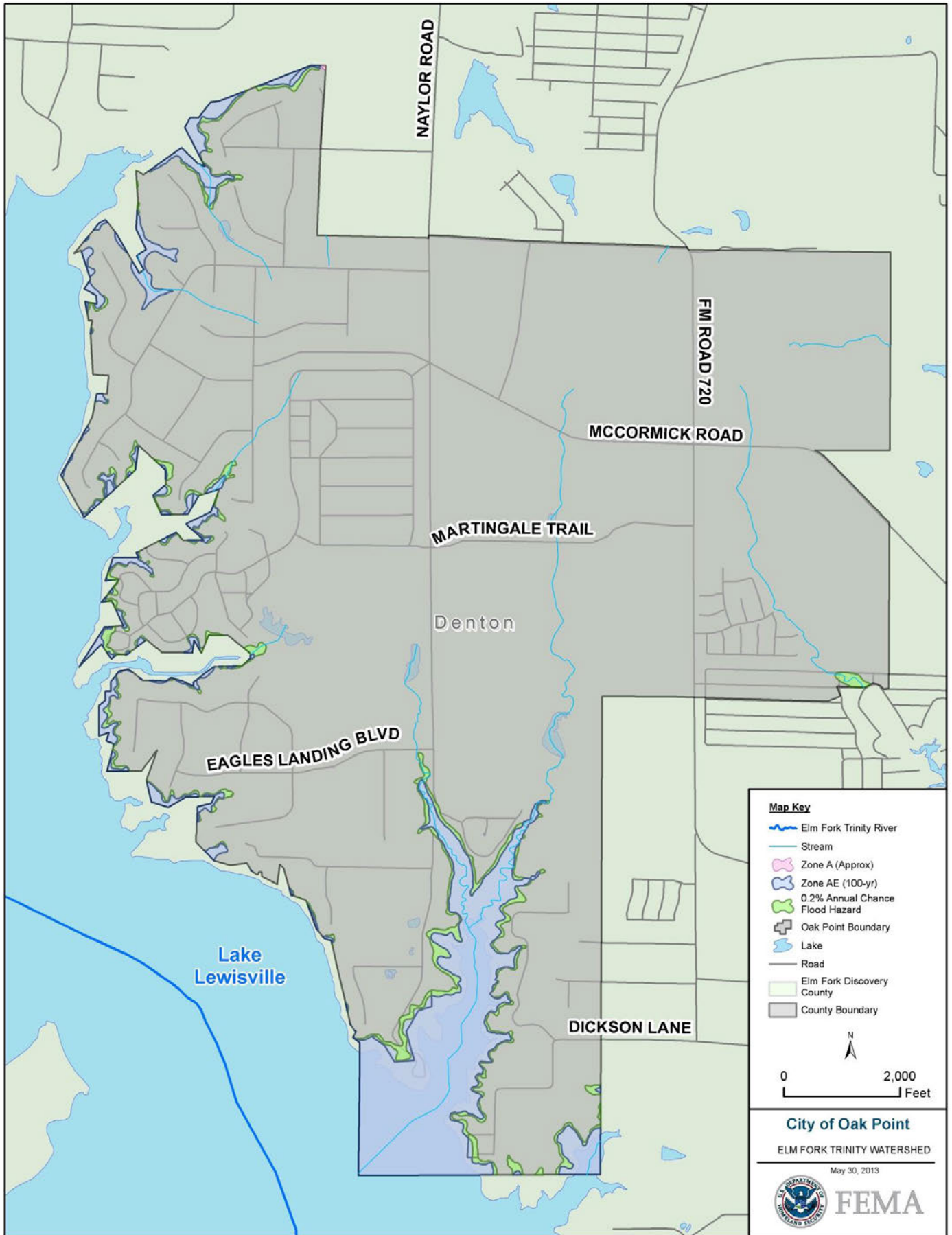
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North Central Texas
Council of Governments

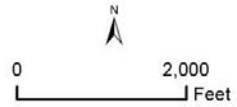
CITY OF OAK POINT
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481639
<u>Population (2010 Census):</u>	2,786
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	NA
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	NA
<u>Plan Expiration Date:</u>	NA
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	NA
<u>Effective Date:</u>	NA
<u>Total Stream Miles:</u>	7.99
<u>Total Zone A Miles:</u>	NA
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	13
<u>NFIP Claims:</u>	1
<u>Total Losses:</u>	\$3,496
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	NA
<u>LiDAR:</u>	2010 TNRIS, 2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	On Lake Lewisville
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- 0.2% Annual Chance Flood Hazard
- Oak Point Boundary
- Lake
- Road
- Elm Fork Discovery County
- County Boundary



City of Oak Point

ELM FORK TRINITY WATERSHED

May 30, 2013



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North Central Texas
Council of Governments

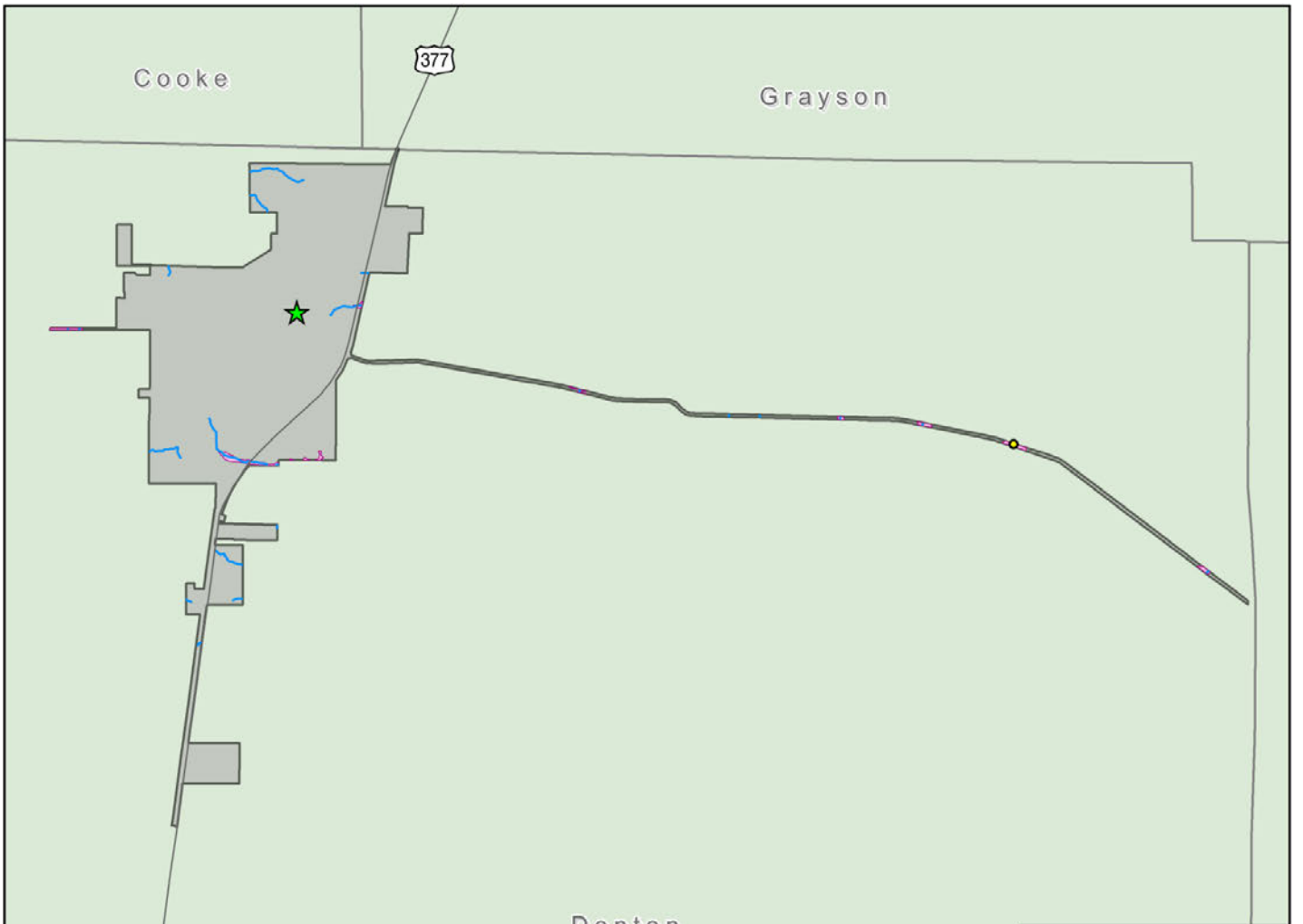
CITY OF PILOT POINT

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480783
<u>Population (2010 Census):</u>	3,856
<u>NFIP Participant:</u>	No
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	N/A
<u>Plan Expiration Date:</u>	N/A
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	1
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – April 18, 2011
<u>Total Stream Miles:</u>	2.67
<u>Total Zone A Miles:</u>	0.576
<u>Repetitive Loss Property Count:</u>	1
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	5
<u>NFIP Claims:</u>	2
<u>Total Losses:</u>	\$26,129
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 North Texas (Denton/Collin) LiDAR
<u>Levees/Dams:</u>	N/A
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Kenny Marchant, Rep. Sam Johnson, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- RL/SRL Property
- Low Water Crossing
- Stream
- Zone A (Approx) 1% Chance Annual Flood Hazard (100-yr) Floodway
- Floodway
- 0.2% Chance Annual Flood Hazard (500-yr) Zone X Protected by Levee
- Zone X Protected by Levee
- City Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

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City of Pilot Point
 ELM FORK TRINITY WATERSHED
 May 26, 2013



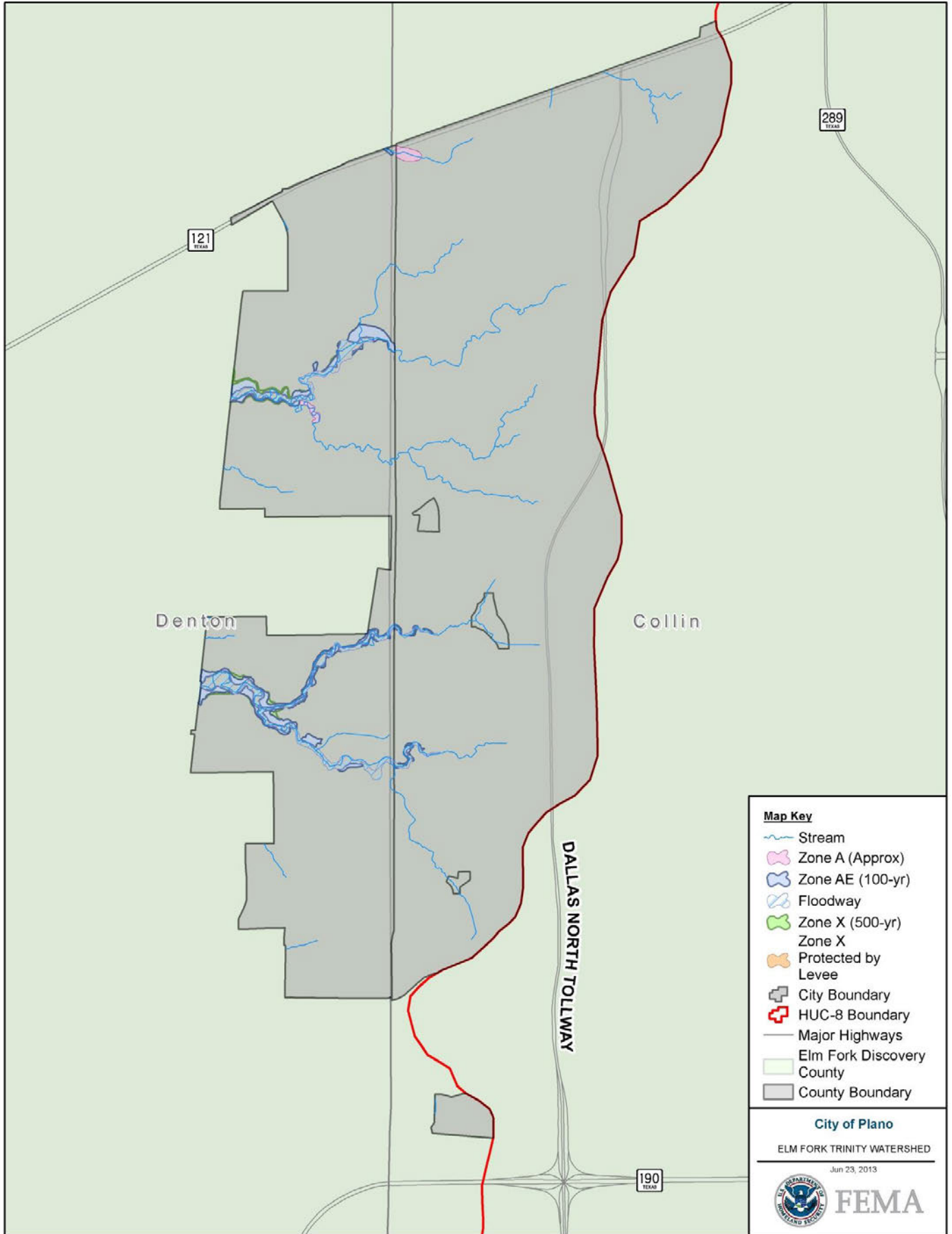
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North Central Texas
Council of Governments

CITY OF PLANO
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480140
<u>Population (2010 Census):</u>	259,841
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	5
<u>Mitigation Plan Name:</u>	City of Plano
<u>Plan Approval Date:</u>	4/7/2008
<u>Plan Expiration Date:</u>	4/7/2013
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	Collin – 6/2/2009
<u>Total Stream Miles:</u>	15.68
<u>Total Zone A Miles:</u>	0.35
<u>Repetitive Loss Property Count:</u>	6
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	803
<u>NFIP Claims:</u>	79
<u>Total Losses:</u>	\$159,696
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	24 (Collin County)
<u>LiDAR:</u>	2010 TNRI
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Kenny Marchant, Rep. Sam Johnson, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Zone A (Approx)
-  Zone AE (100-yr)
-  Floodway
-  Zone X (500-yr)
-  Zone X
-  Protected by Levee
-  City Boundary
-  HUC-8 Boundary
-  Major Highways
-  Elm Fork Discovery County
-  County Boundary

City of Plano
ELM FORK TRINITY WATERSHED
Jun 23, 2013

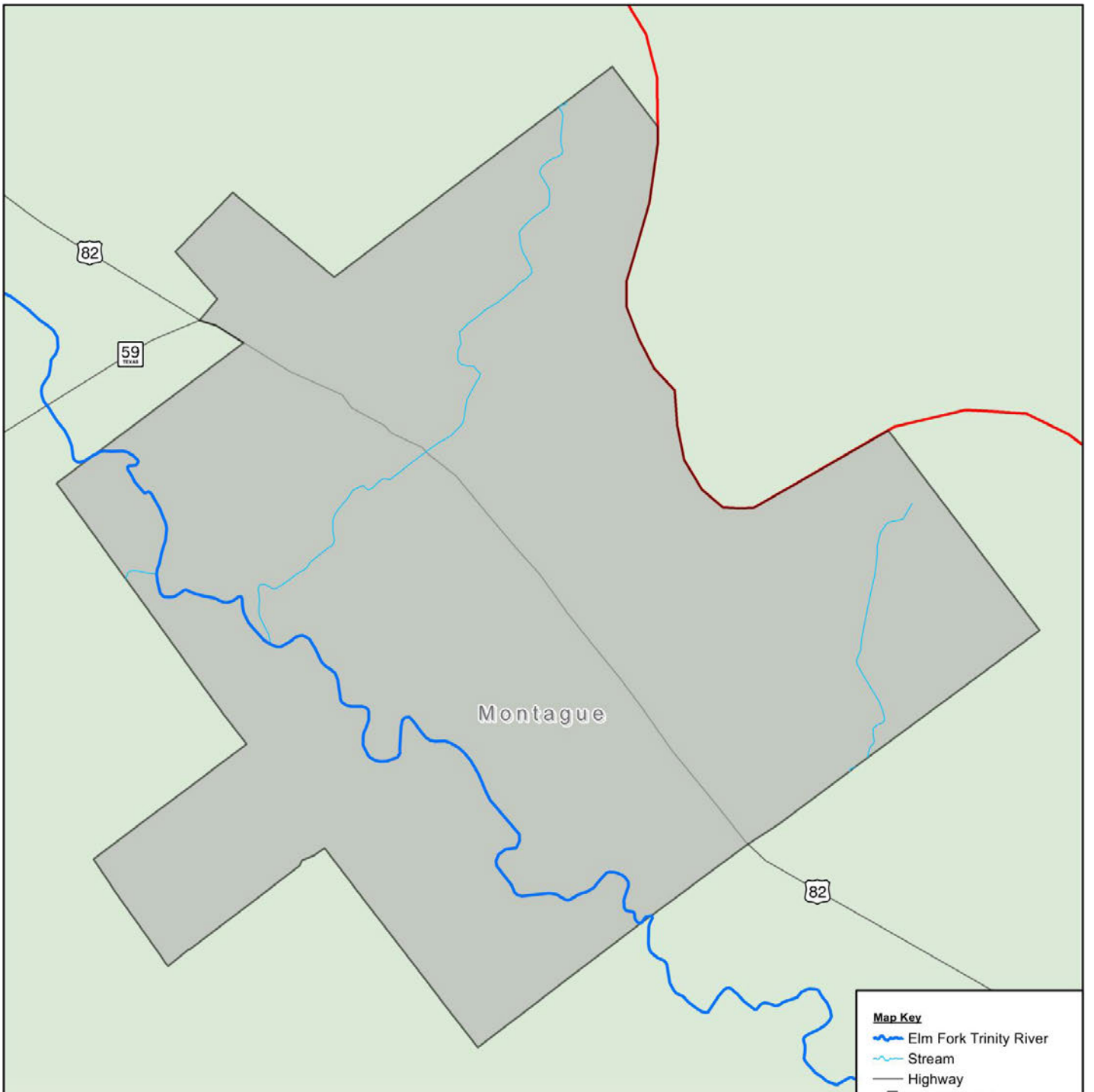





North Central Texas
Council of Governments

CITY OF SAINT JO
 Montague County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	480940
<u>Population (2010 Census):</u>	1,043
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	N/A
<u>Plan Expiration Date:</u>	N/A
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Montague – Aug. 16, 2011
<u>Total Stream Miles:</u>	11.84
<u>Total Zone A Miles:</u>	N/A
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson/Wise LiDAR
<u>Levees/Dams:</u>	None in DFIRM structures
<u>Additional Comments:</u>	Panel 350 Not Printed
<u>Congressmen:</u>	Rep. Mac Thornberry, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Elm Fork Trinity River
- Stream
- Highway
- City Boundary
- HUC-8 Boundary
- Elm Fork Discovery County
- County Boundary

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City of Saint Jo
ELM FORK TRINITY WATERSHED
May 26, 2013

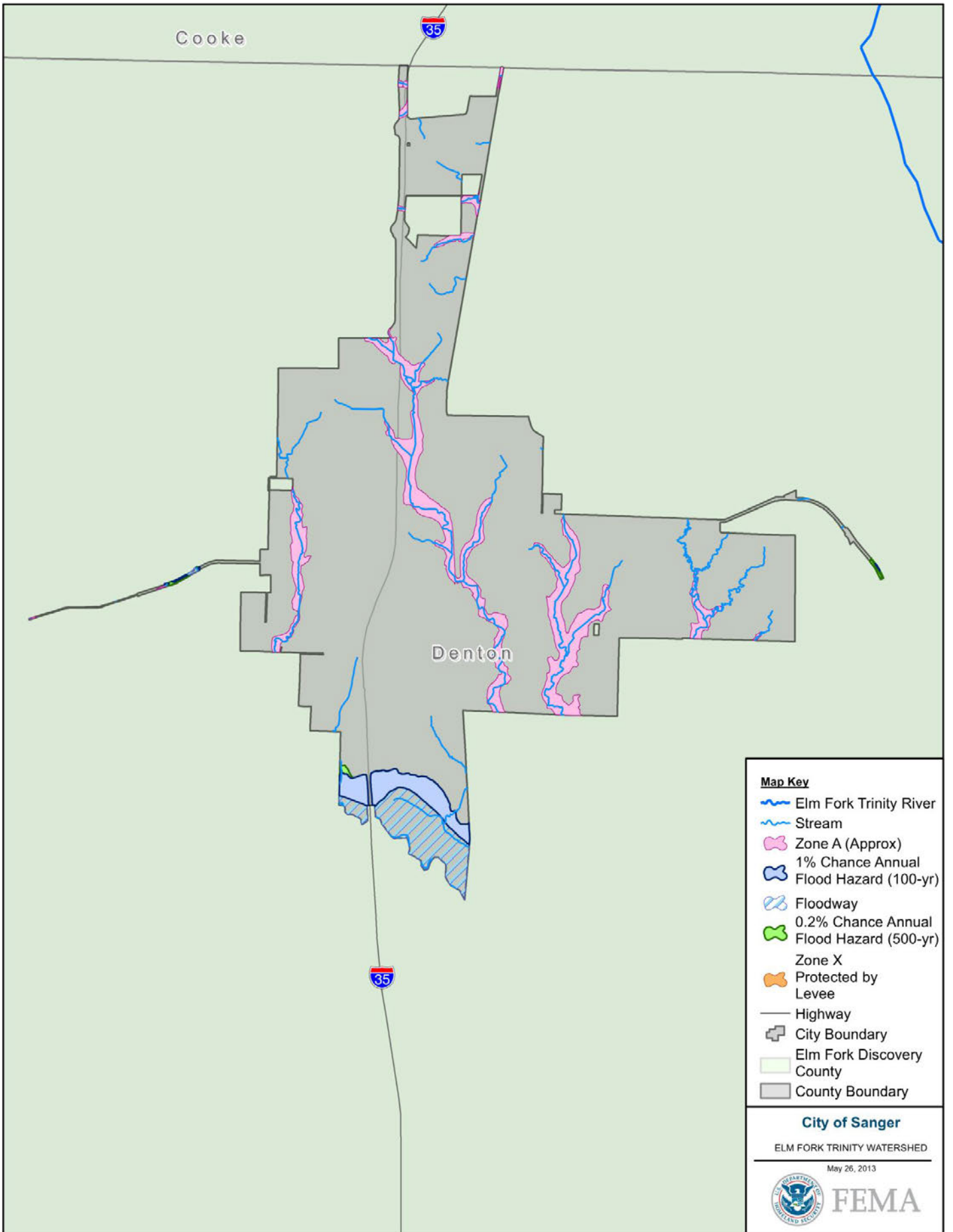
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North Central Texas
Council of Governments

CITY OF SANGER
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480786
<u>Population (2010 Census):</u>	6,916
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No Plan
<u>Plan Approval Date:</u>	N/A
<u>Plan Expiration Date:</u>	N/A
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – April 18, 2011
<u>Total Stream Miles:</u>	23.71
<u>Total Zone A Miles:</u>	13.16
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	23
<u>NFIP Claims:</u>	4
<u>Total Losses:</u>	\$57,524
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin) LiDAR
<u>Levees/Dams:</u>	0 in DFIRM Structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Chance Annual Flood Hazard (100-yr)
- Floodway
- 0.2% Chance Annual Flood Hazard (500-yr)
- Zone X
- Protected by Levee
- Highway
- City Boundary
- Elm Fork Discovery County
- County Boundary

City of Sanger

ELM FORK TRINITY WATERSHED

May 26, 2013


FEMA

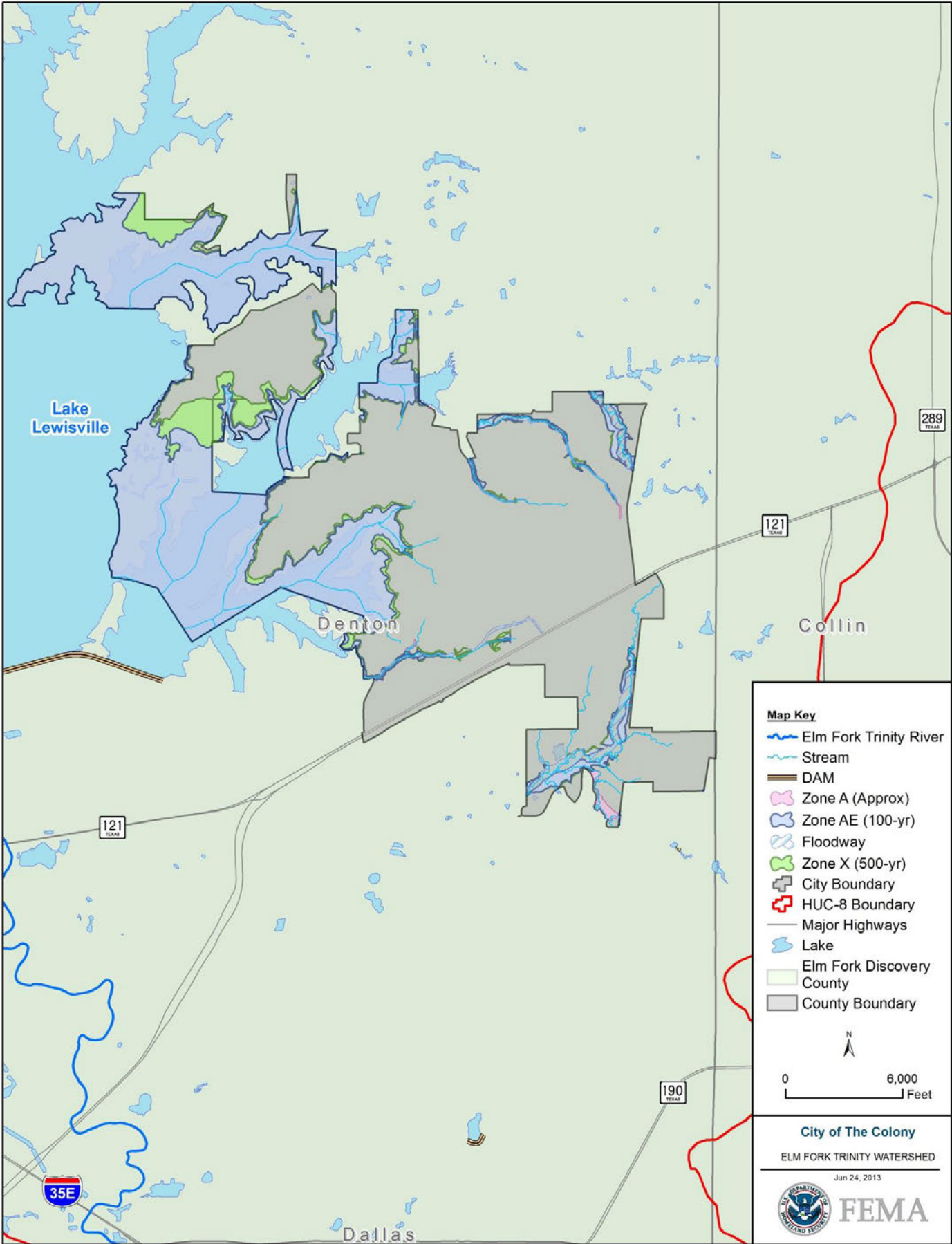


North Central Texas
Council of Governments

CITY OF THE COLONY
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481581
<u>Population (2010 Census):</u>	36,328
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	5/26/2011
<u>Plan Expiration Date:</u>	5/26/2011
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	30.58
<u>Total Zone A Miles:</u>	1.28
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	50
<u>NFIP Claims:</u>	2
<u>Total Losses:</u>	\$890
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNIRIS
<u>Levees/Dams:</u>	Lake Lewisville dam
<u>Additional Comments:</u>	On Lake Lewisville

Congressmen: Rep. Kenny Marchant, Rep. Michael Burgess,
Sen. John Cornyn, Sen. Ted Cruz



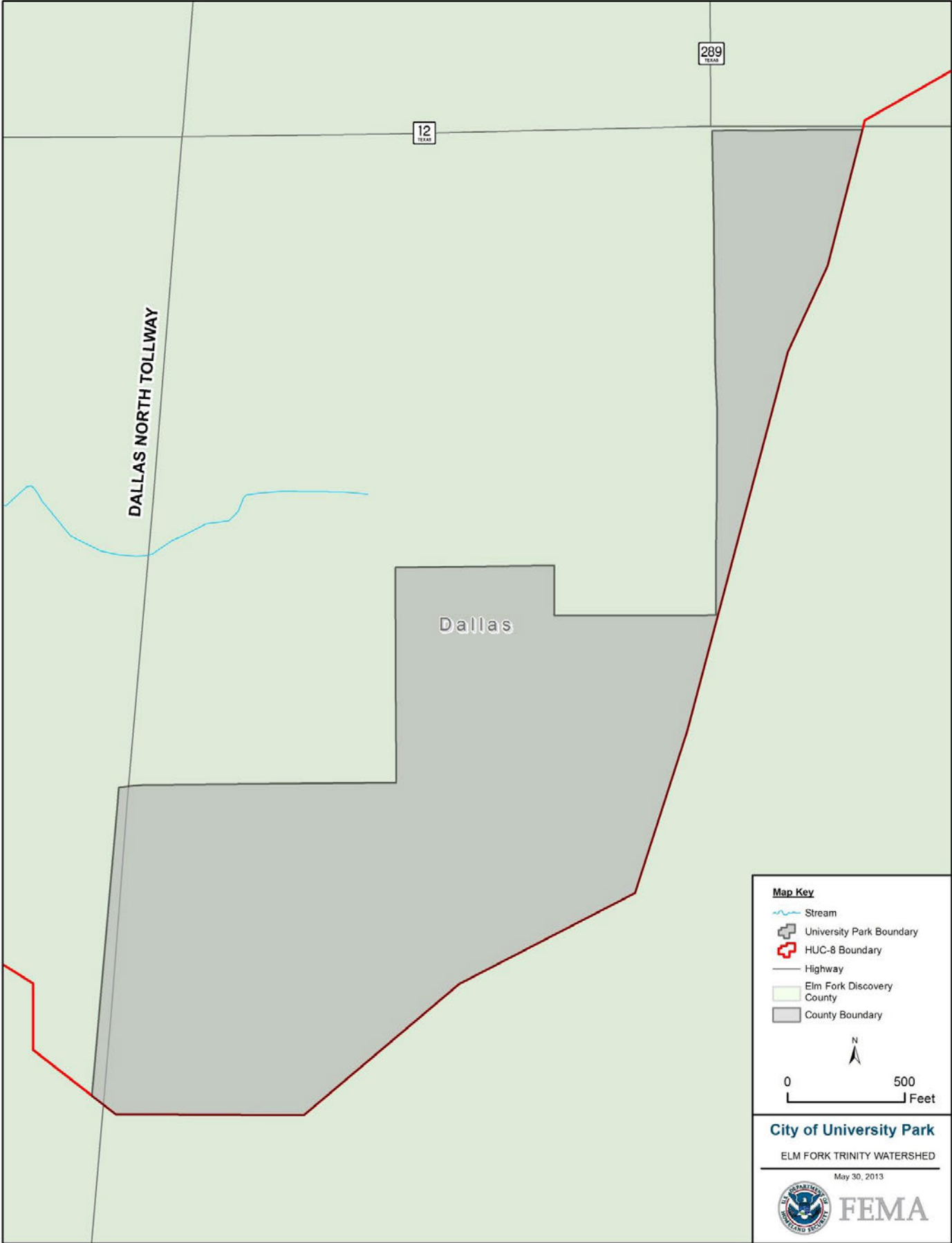


North Central Texas
Council of Governments

CITY OF UNIVERSITY PARK
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480189
<u>Population (2010 Census):</u>	23,068
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	No plan
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	0 (none in watershed)
<u>Total Zone A Miles:</u>	0 (none in watershed)
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	86
<u>NFIP Claims:</u>	5
<u>Total Losses:</u>	\$7,672
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 (Dallas County)
<u>LiDAR:</u>	2010 TNIRIS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	City is mostly within Upper Trinity watershed

Congressmen: Rep. Pete Sessions, Sen. John Cornyn,
Sen. Ted Cruz



Map Key

- Stream
- University Park Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary



City of University Park

ELM FORK TRINITY WATERSHED

May 30, 2013

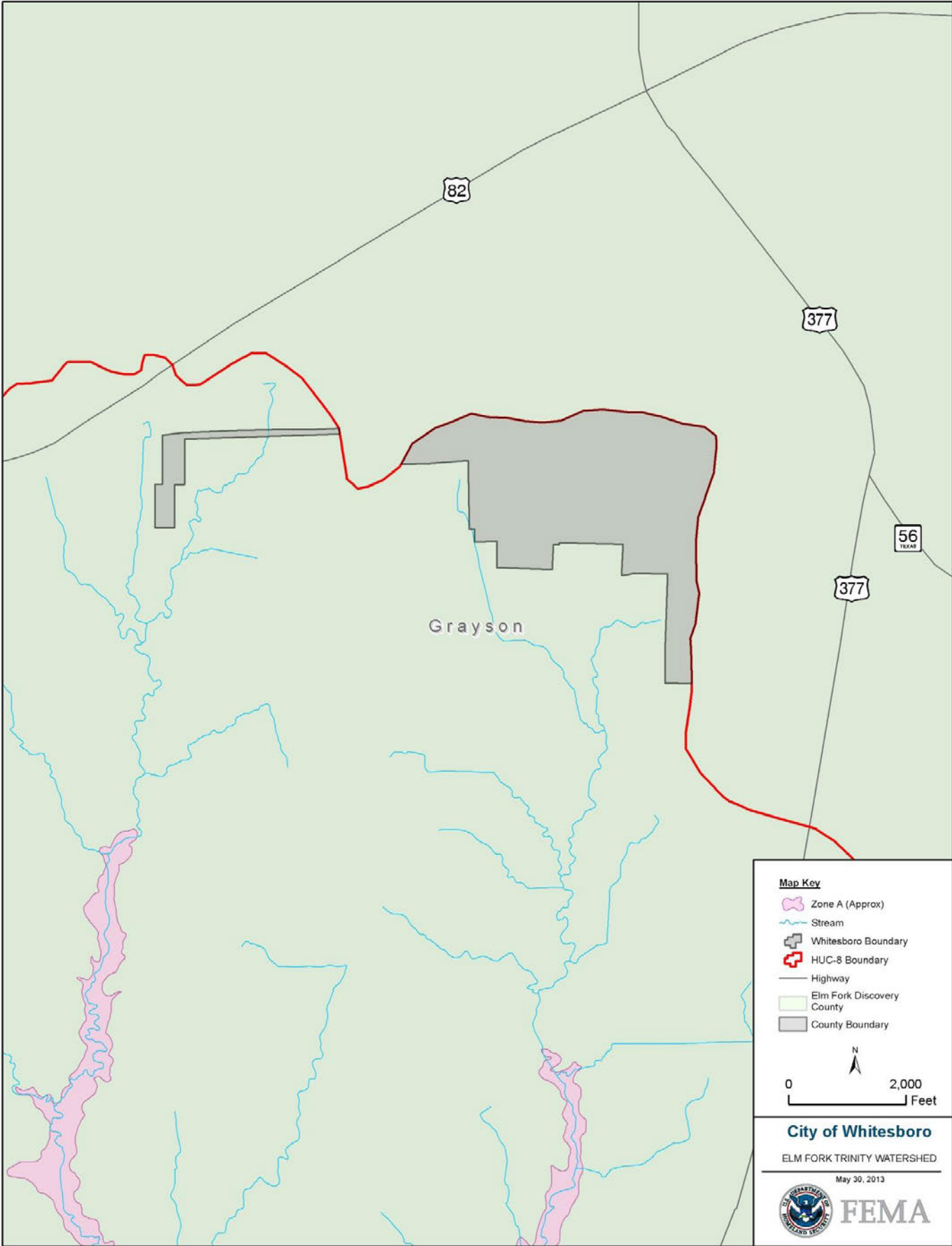




North Central Texas
Council of Governments

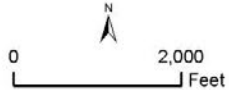
CITY OF WHITESBORO
 Grayson County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	481623
<u>Population (2010 Census):</u>	3,793
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	0.04
<u>Total Zone A Miles:</u>	1.01
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No DFIRM within boundary
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz



Map Key

- Zone A (Approx)
- Stream
- Whitesboro Boundary
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary



City of Whitesboro

ELM FORK TRINITY WATERSHED

May 30, 2013



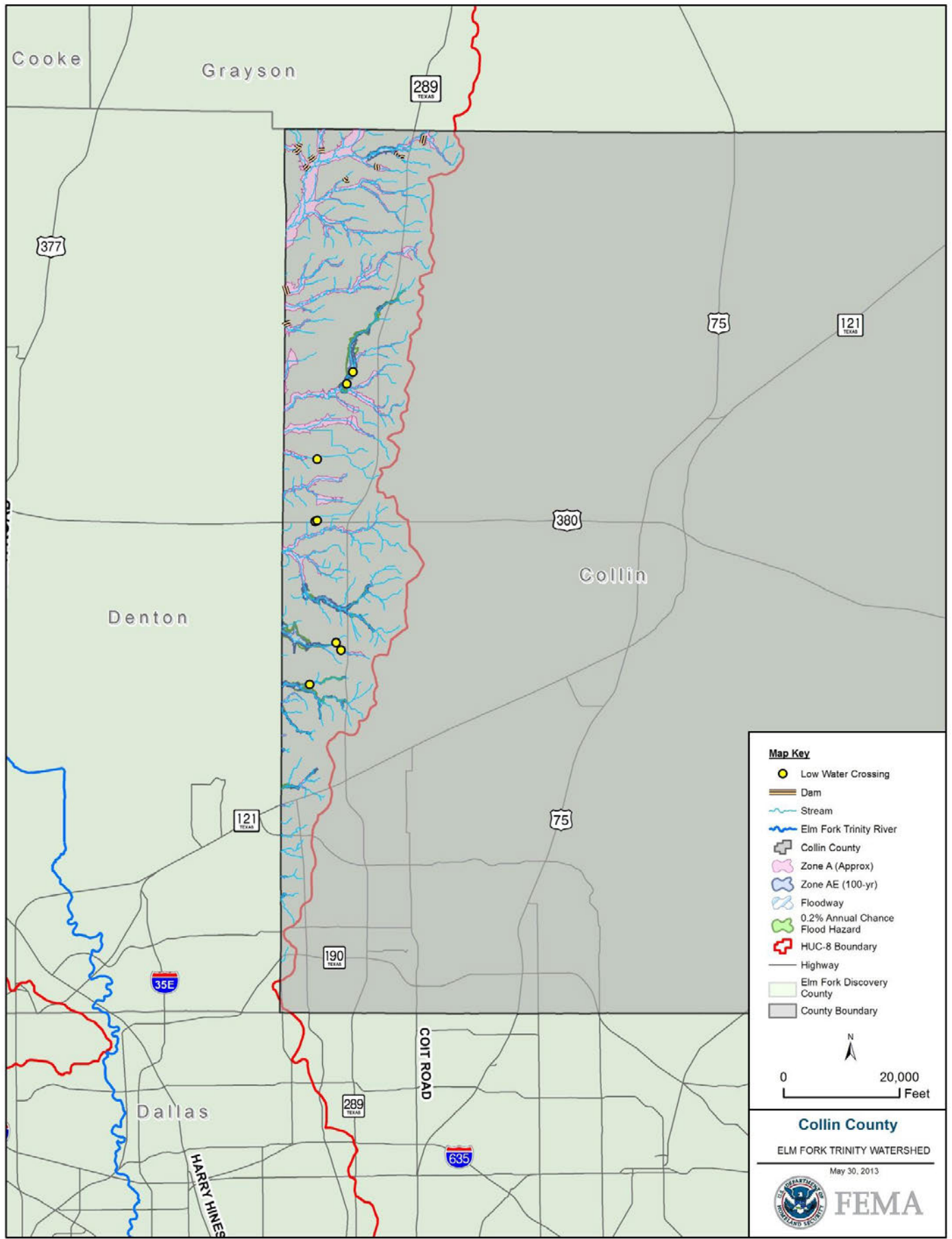
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North Central Texas
Council of Governments

COLLIN COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480130
<u>Population (2010 Census):</u>	782,341
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Collin County
<u>Plan Approval Date:</u>	5/31/2011
<u>Plan Expiration Date:</u>	5/30/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	8
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	6/2/2009
<u>Total Stream Miles:</u>	216.05
<u>Total Zone A Miles:</u>	92.97
<u>Repetitive Loss Property Count:</u>	0 (in watershed)
<u>Severe Repetitive Loss Property Count:</u>	0 (in watershed)
<u>NFIP Policies:</u>	210
<u>NFIP Claims:</u>	34
<u>Total Losses:</u>	\$698,376
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	24 (Collin County)
<u>LiDAR:</u>	2010 TNRS, 2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	12 dams
<u>Additional Comments:</u>	Data received on several lakes and dams within county
<u>Congressmen:</u>	Reps. S. Johnson and R. Hall, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Low Water Crossing
- Dam
- Stream
- Elm Fork Trinity River
- Collin County
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- HUC-8 Boundary
- Highway
- Elm Fork Discovery County
- County Boundary



Collin County

ELM FORK TRINITY WATERSHED

May 30, 2013



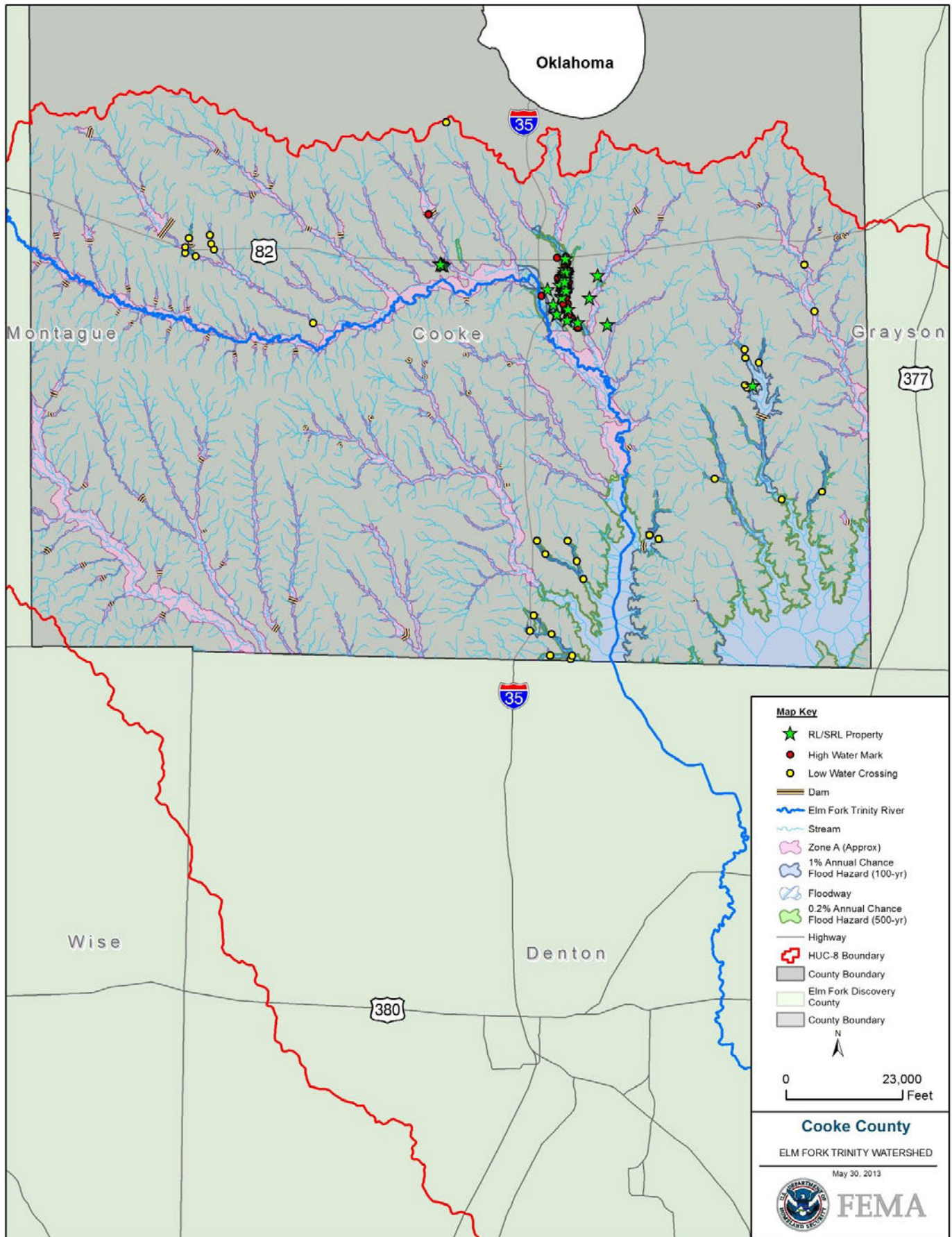
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North Central Texas
Council of Governments

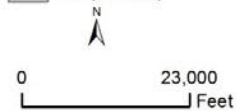
COOKE COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480765
<u>Population (2010 Census):</u>	38,437
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	49
<u>Low Water Crossings:</u>	33
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – 1/16/2008
<u>Total Stream Miles:</u>	1,800.22
<u>Total Zone A Miles:</u>	585.54
<u>Repetitive Loss Property Count:</u>	40
<u>Severe Repetitive Loss Property Count:</u>	10
<u>NFIP Policies:</u>	120
<u>NFIP Claims:</u>	27
<u>Total Losses:</u>	\$374,638
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	70 dams
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Mac Thornberry, Sens. Cornyn and Cruz



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Dam
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Highway
- HUC-8 Boundary
- County Boundary
- Elm Fork Discovery County
- County Boundary



Cooke County

ELM FORK TRINITY WATERSHED

May 30, 2013



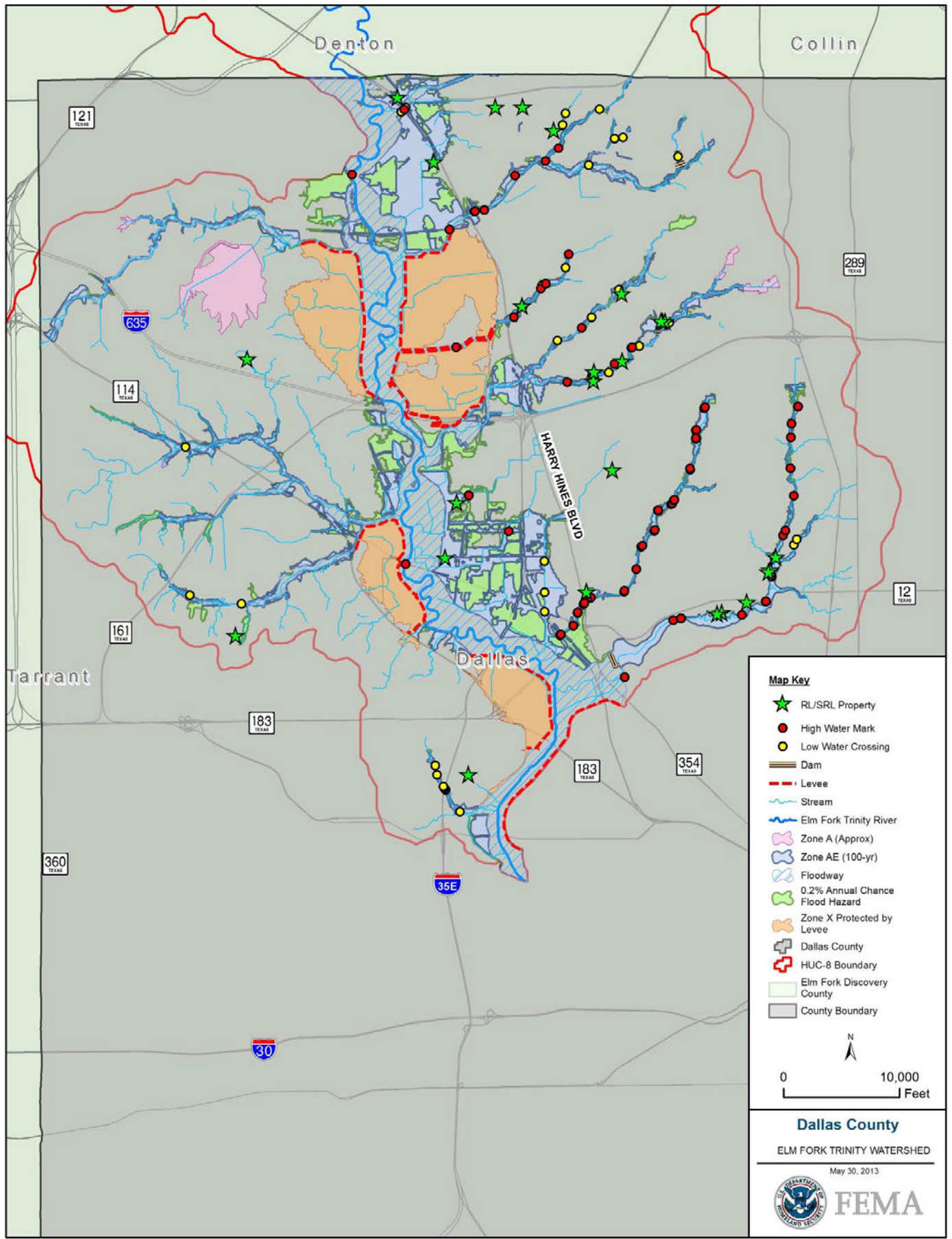
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North Central Texas
Council of Governments

DALLAS COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480165
<u>Population (2010 Census):</u>	2,368,139
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Dallas County
<u>Plan Approval Date:</u>	1/12/2009
<u>Plan Expiration Date:</u>	1/12/2014
<u>High Water Marks:</u>	121
<u>Low Water Crossings:</u>	46
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	215.93
<u>Total Zone A Miles:</u>	3.07
<u>Repetitive Loss Property Count:</u>	21 (in watershed)
<u>Severe Repetitive Loss Property Count:</u>	5 (in watershed)
<u>NFIP Policies:</u>	70
<u>NFIP Claims:</u>	79
<u>Total Losses:</u>	\$1,162,928
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 (Dallas County)
<u>LiDAR:</u>	2010 TNRIS, 2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	7 dams, 5 levee systems
<u>Additional Comments:</u>	Dallas Floodway levees, IFCD-1, IFCD-3, DCURD levee, Valwood Improvement Authority Levee
<u>Congressmen:</u>	Reps. S. Johnson and R. Hall, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- ▬ Dam
- - - Levee
- ~ Stream
- Elm Fork Trinity River
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Zone X Protected by Levee
- Dallas County
- HUC-8 Boundary
- Elm Fork Discovery County
- County Boundary

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Dallas County
ELM FORK TRINITY WATERSHED
May 30, 2013

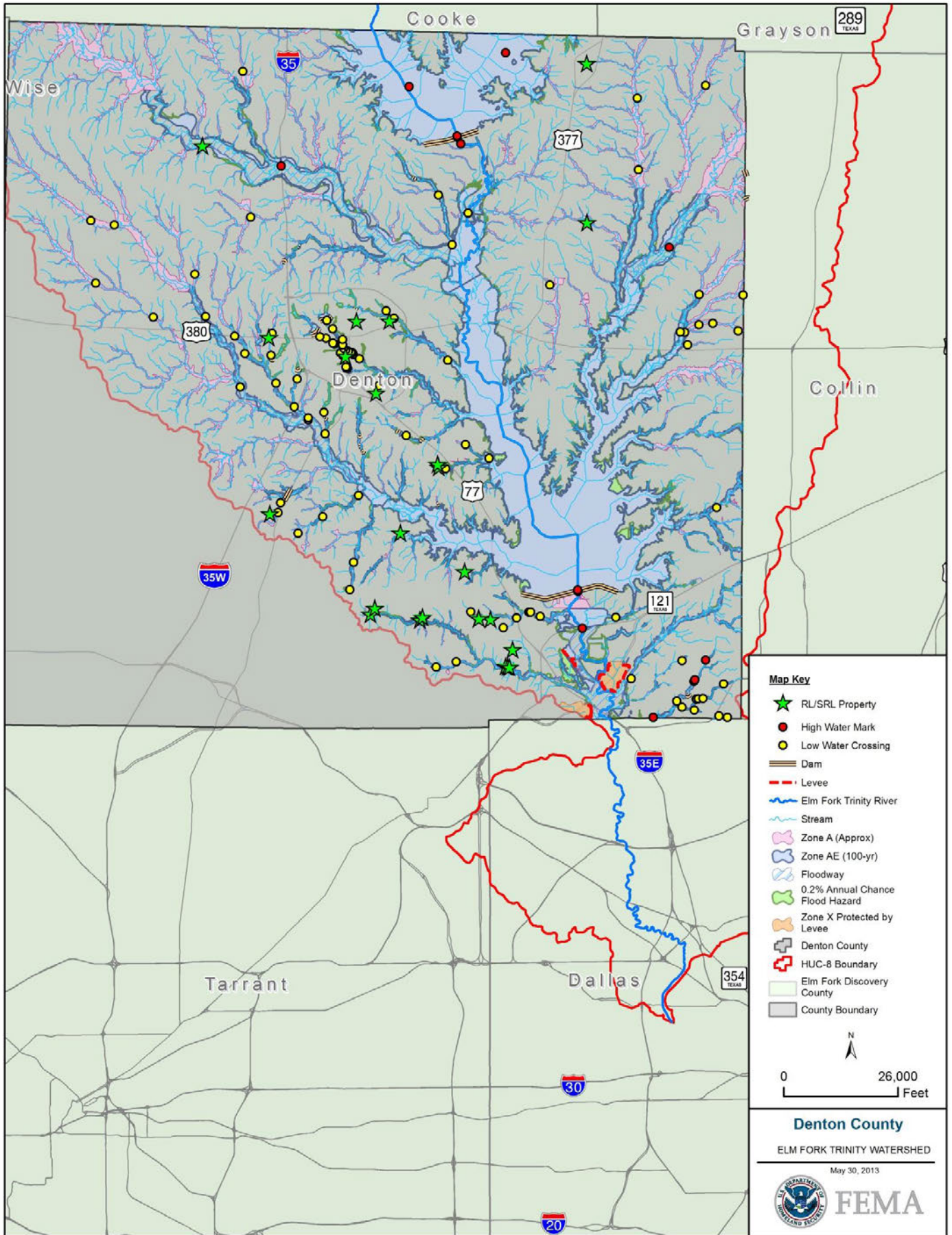
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North Central Texas
Council of Governments

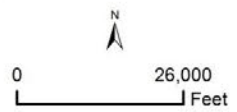
DENTON COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480774
<u>Population (2010 Census):</u>	662,614
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	5/26/2011
<u>Plan Expiration Date:</u>	5/25/2016
<u>High Water Marks:</u>	34
<u>Low Water Crossings:</u>	95
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	4/18/2011
<u>Total Stream Miles:</u>	1,869.72
<u>Total Zone A Miles:</u>	548.53
<u>Repetitive Loss Property Count:</u>	21 (in watershed)
<u>Severe Repetitive Loss Property Count:</u>	3 (in watershed)
<u>NFIP Policies:</u>	372
<u>NFIP Claims:</u>	59
<u>Total Losses:</u>	\$531,459
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRIS, 2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	27 dams, 3 levee systems
<u>Additional Comments:</u>	Timber Creek levee, Elm Fork South Tributary 2 levee, Unnamed levee
<u>Congressmen:</u>	Reps. Burgess and Marchant, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- RL/SRL Property
- High Water Mark
- Low Water Crossing
- Dam
- Levee
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Zone X Protected by Levee
- Denton County
- HUC-8 Boundary
- Elm Fork Discovery County
- County Boundary



Denton County

ELM FORK TRINITY WATERSHED

May 30, 2013



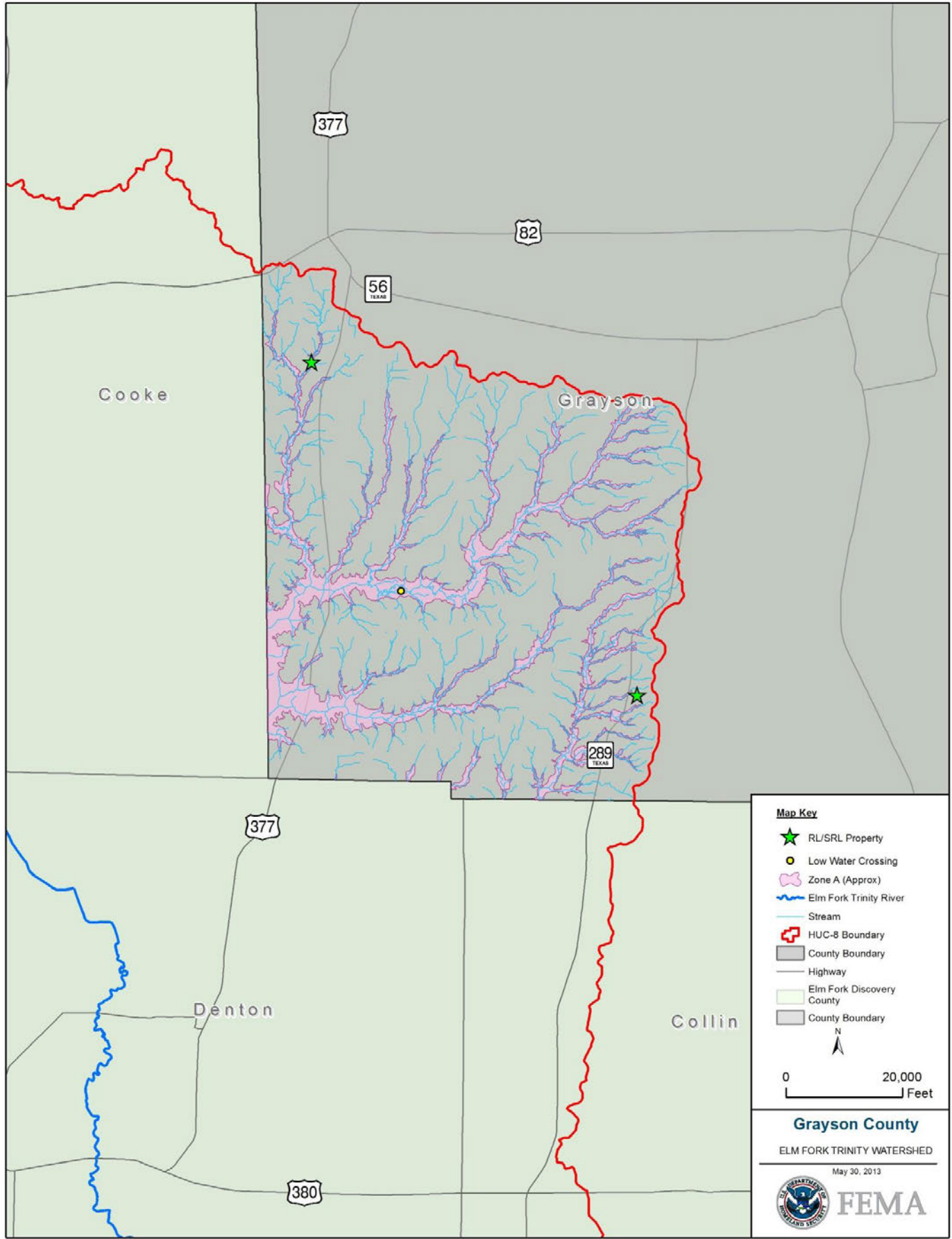
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North Central Texas
Council of Governments

GRAYSON COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480829
<u>Population (2010 Census):</u>	120,877
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	1
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	455.60
<u>Total Zone A Miles:</u>	245
<u>Repetitive Loss Property Count:</u>	2
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	185
<u>NFIP Claims:</u>	107
<u>Total Losses:</u>	\$3,713,055
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	0 DFIRM structures within watershed
<u>Additional Comments:</u>	All Zone A in watershed
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz



Map Key

- ★ RL/SRL Property
- Low Water Crossing
- Zone A (Approx)
- Elm Fork Trinity River
- Stream
- HUC-8 Boundary
- County Boundary
- Highway
- Elm Fork Discovery County
- County Boundary



Grayson County

ELM FORK TRINITY WATERSHED

May 30, 2013



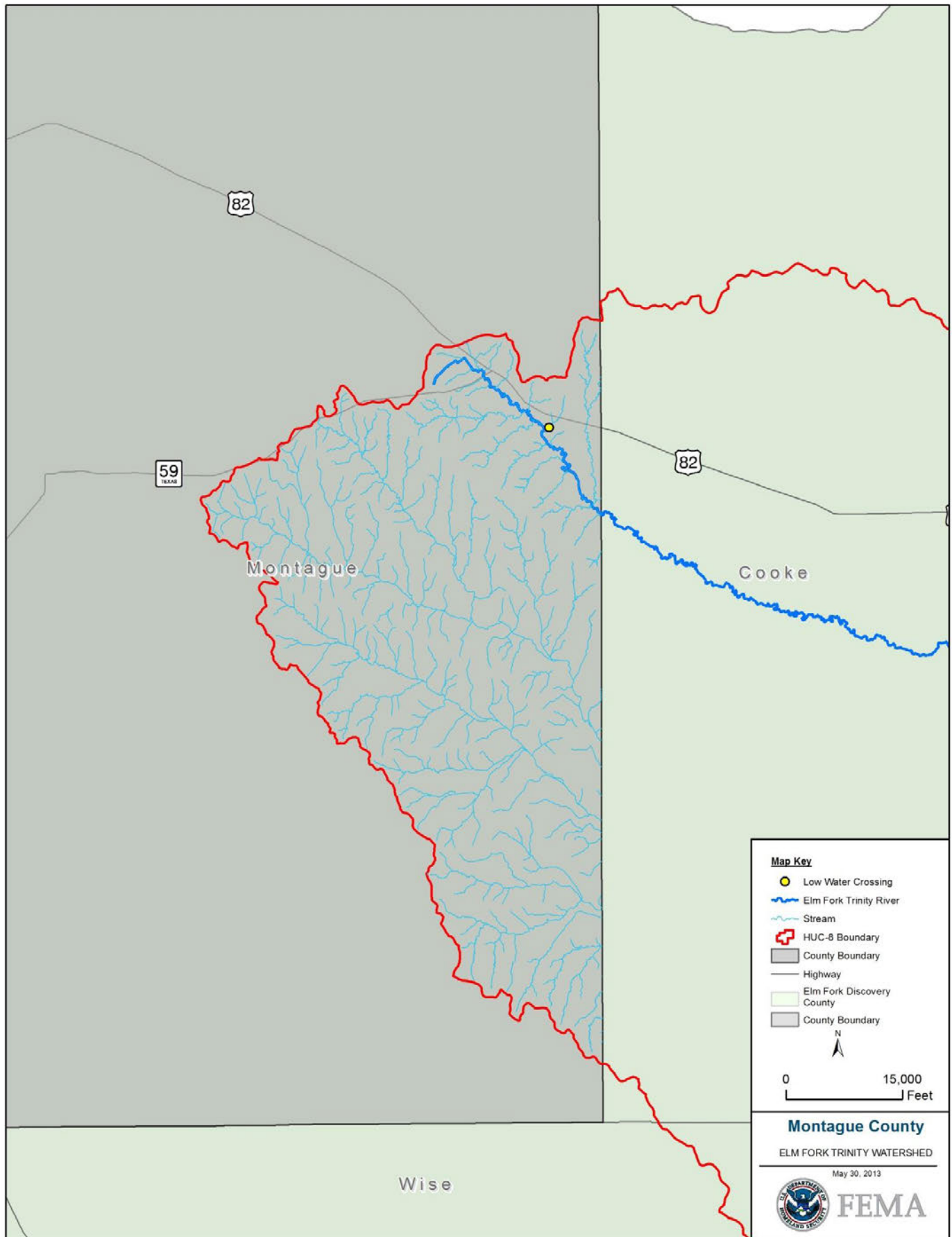
FEMA



North Central Texas
Council of Governments

MONTAGUE COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480939
<u>Population (2010 Census):</u>	19,719
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	1
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Montague – 8/16/2011
<u>Total Stream Miles:</u>	311.31
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	53
<u>NFIP Claims:</u>	42
<u>Total Losses:</u>	\$544,268
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	0 DFIRM structures within watershed
<u>Additional Comments:</u>	Portion of county in watershed is “Panel not Printed” in DFIRM.
<u>Congressmen:</u>	Rep. Mac Thornberry, Sens. Cornyn and Cruz



Map Key

- Low Water Crossing
- Elm Fork Trinity River
- Stream
- HUC-8 Boundary
- County Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

N

0 15,000
 Feet

Montague County
 ELM FORK TRINITY WATERSHED
 May 30, 2013

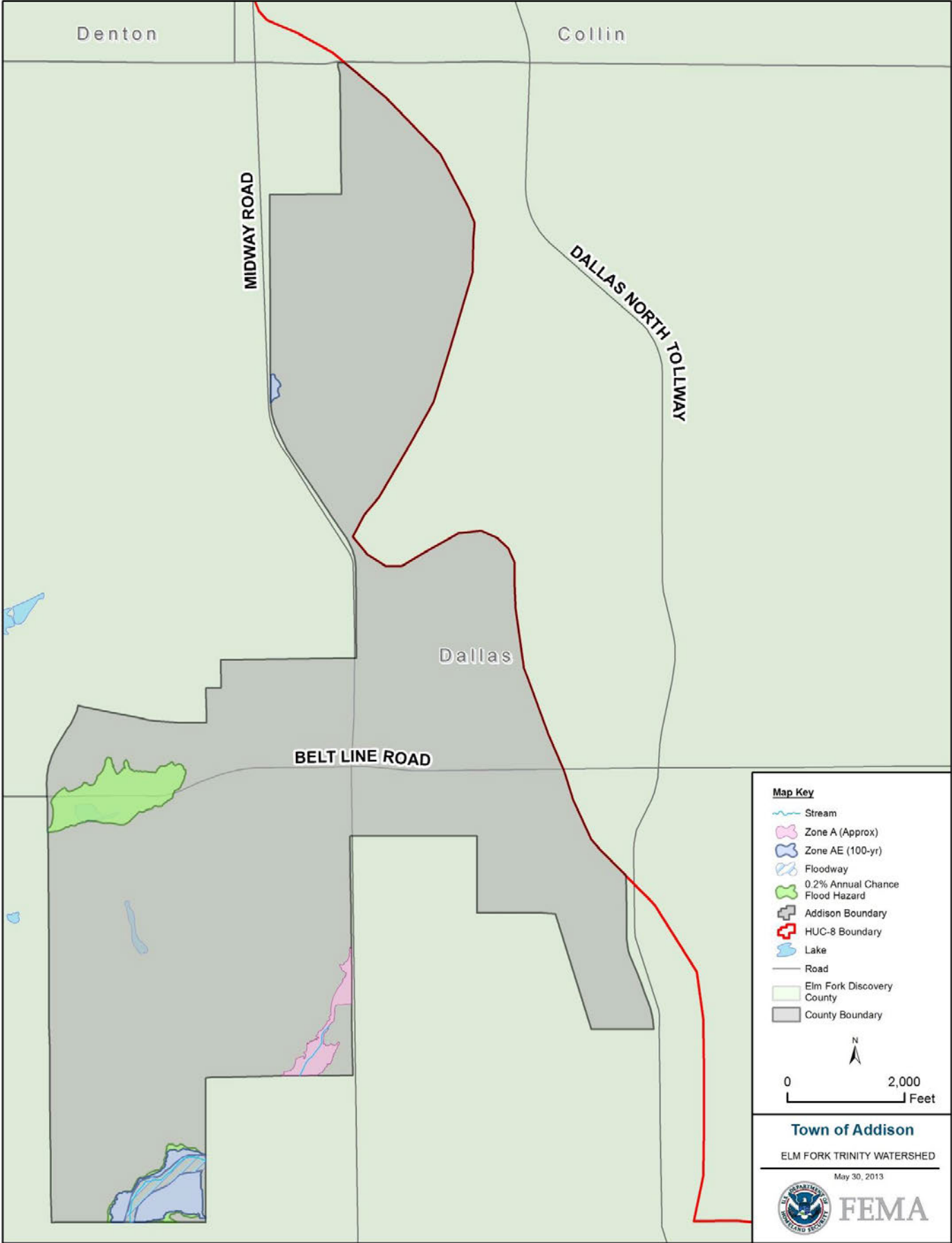




North Central Texas
Council of Governments

TOWN OF ADDISON
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481089
<u>Population (2010 Census):</u>	13,056
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Preliminary
<u>Effective Date:</u>	Dallas – 9/28/2010, 8/15/2012
<u>Total Stream Miles:</u>	0.57
<u>Total Zone A Miles:</u>	0.189
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	17
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26 (Dallas County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	Downstream of dams on Stream 6D8
<u>Congressmen:</u>	Rep. Marchant, Sen. John Cornyn, Sen. Ted Cruz



Denton

Collin

MIDWAY ROAD

DALLAS NORTH TOLLWAY

Dallas

BELT LINE ROAD

Map Key

- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Addison Boundary
- HUC-8 Boundary
- Lake
- Road
- Elm Fork Discovery County
- County Boundary



0 2,000 Feet

Town of Addison

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

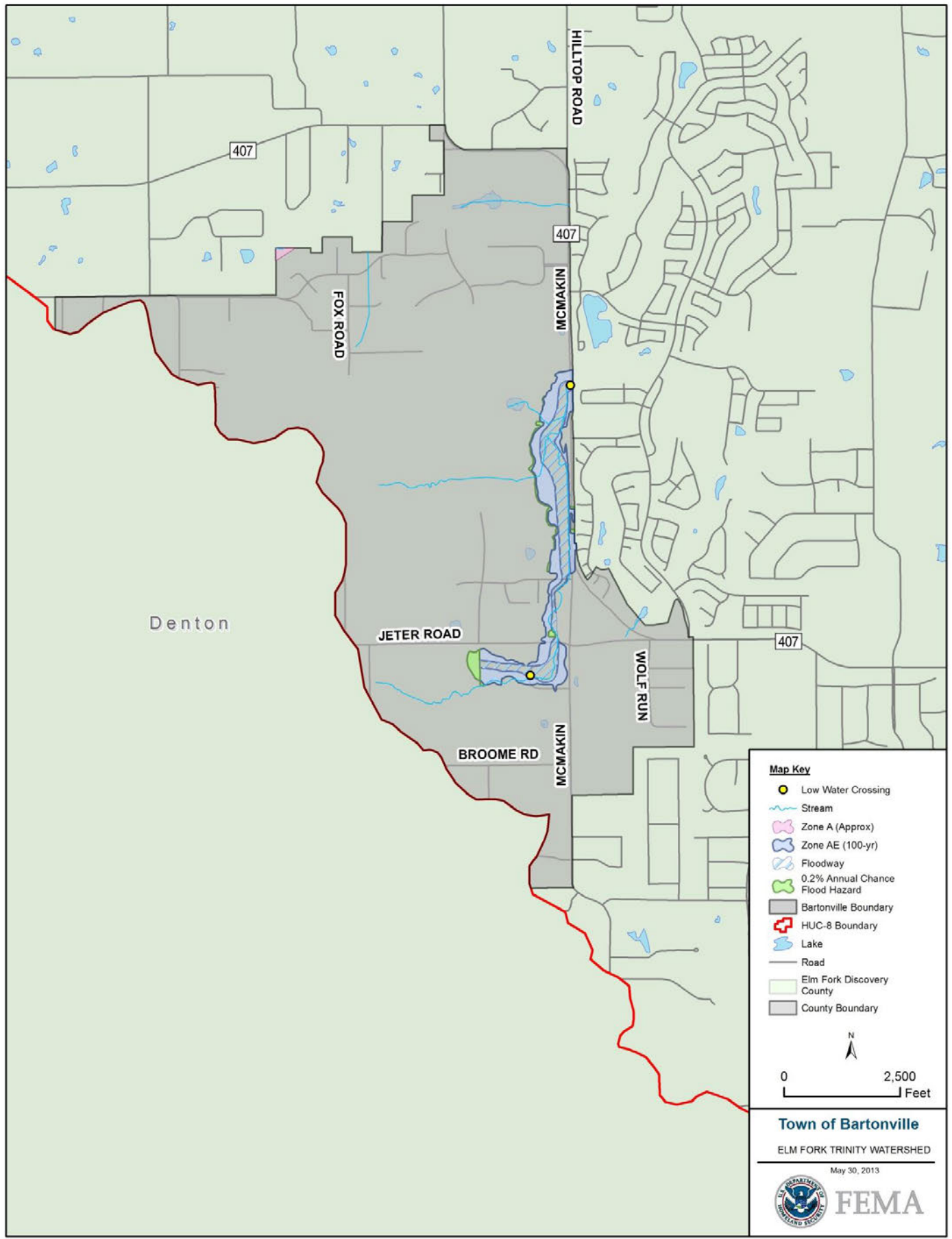
TOWN OF BARTONVILLE

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481501
<u>Population (2010 Census):</u>	1,469
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	2
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	4.35
<u>Total Zone A Miles:</u>	0.035
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	5
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Low Water Crossing
- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard
- Bartonville Boundary
- HUC-8 Boundary
- Lake
- Road
- Elm Fork Discovery County
- County Boundary



Town of Bartonville

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

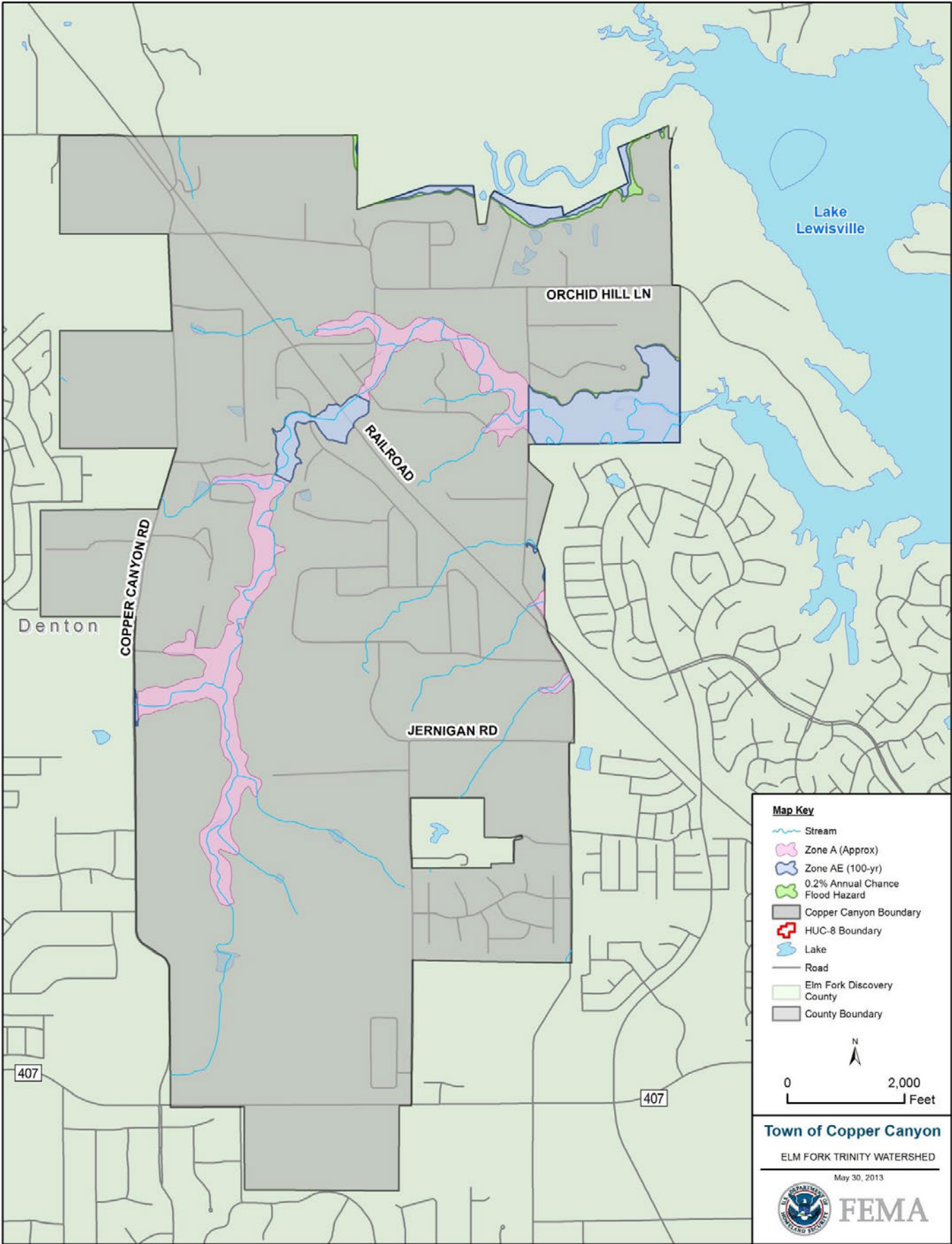
TOWN OF COPPER CANYON

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481508
<u>Population (2010 Census):</u>	1,334
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	10.77
<u>Total Zone A Miles:</u>	4.16
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	4
<u>NFIP Claims:</u>	1
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Stream
- Zone A (Approx)
- Zone AE (100-yr) 0.2% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Copper Canyon Boundary
- HUC-8 Boundary
- Lake
- Road
- Elm Fork Discovery County
- County Boundary



Town of Copper Canyon

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

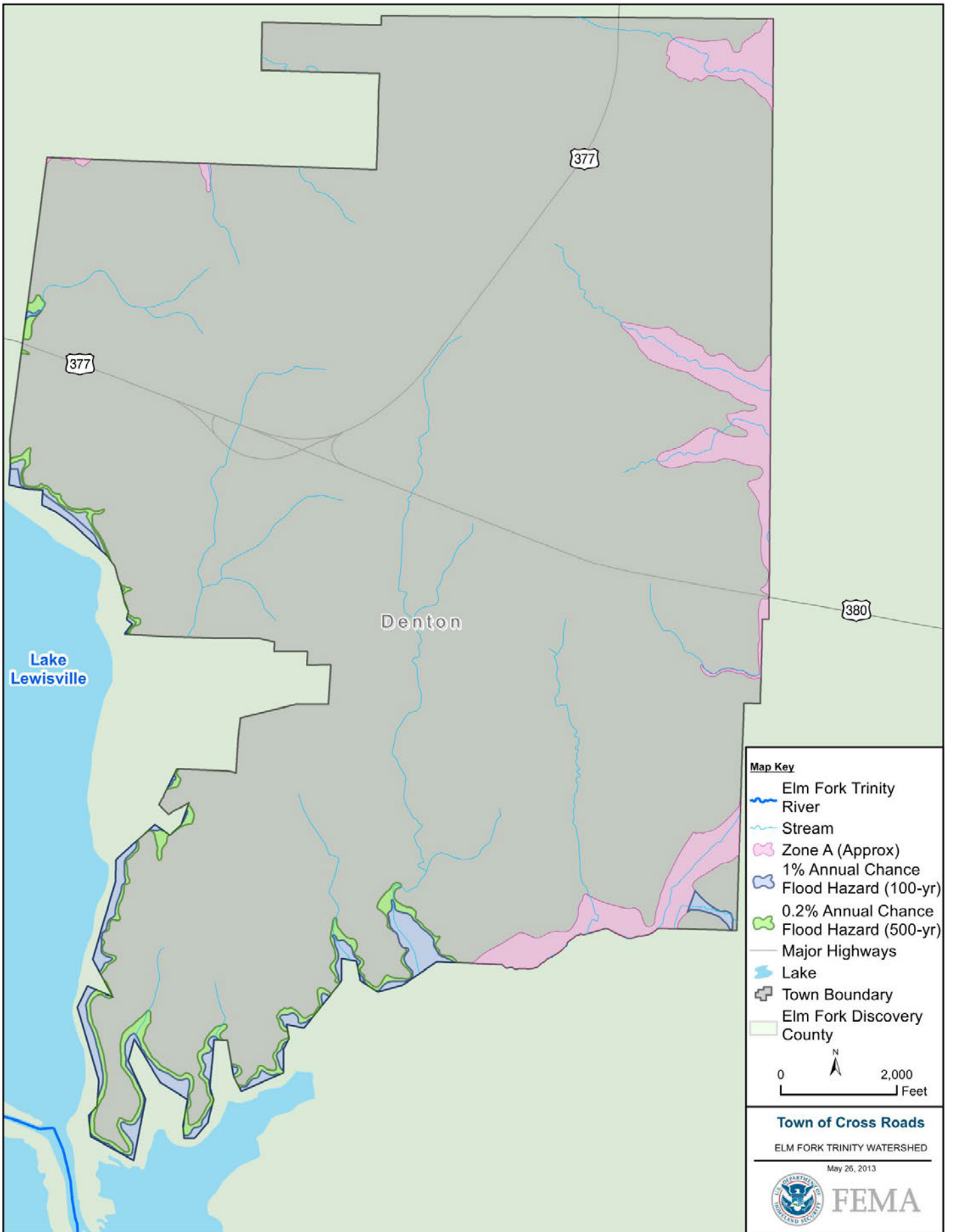
TOWN OF CROSS ROADS

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481513
<u>Population (2010 Census):</u>	1,563
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	05/26/2011
<u>Plan Expiration Date:</u>	05/25/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	April 18, 2011
<u>Total Stream Miles:</u>	13.35
<u>Total Zone A Miles:</u>	2.42
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0
<u>Additional Comments:</u>	Not in CRS
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- 0.2% Annual Chance Flood Hazard (500-yr)
- Major Highways
- Lake
- Town Boundary
- Elm Fork Discovery County

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Feet

Town of Cross Roads
ELM FORK TRINITY WATERSHED
May 26, 2013



North Central Texas
Council of Governments

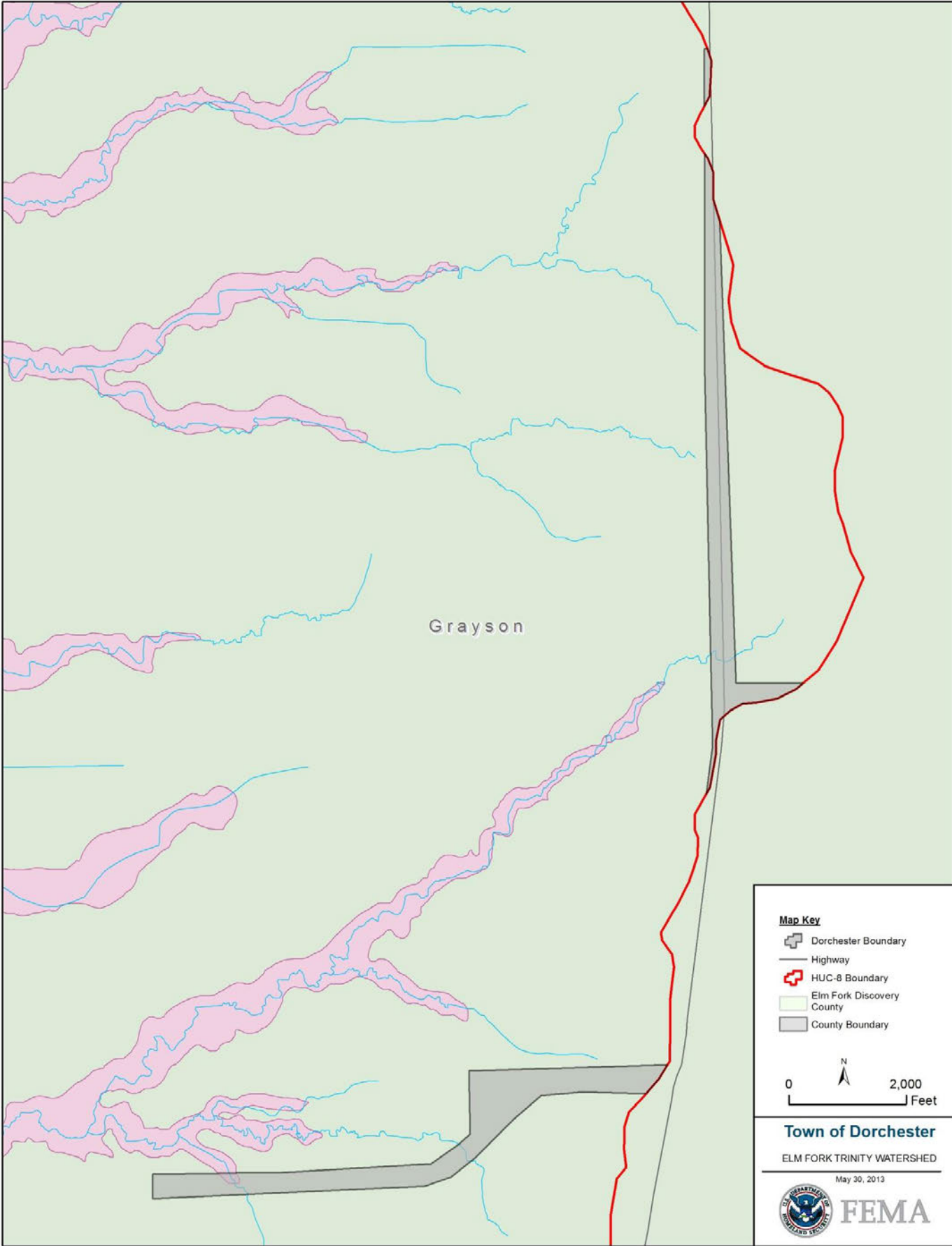
TOWN OF DORCHESTER

Grayson County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481309
<u>Population (2010 Census):</u>	148
<u>NFIP Participant:</u>	No
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	0.29
<u>Total Zone A Miles:</u>	0.008
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz



Grayson

- Map Key**
-  Dorchester Boundary
 -  Highway
 -  HUC-8 Boundary
 -  Elm Fork Discovery County
 -  County Boundary



Town of Dorchester

ELM FORK TRINITY WATERSHED

May 30, 2013





North Central Texas
Council of Governments

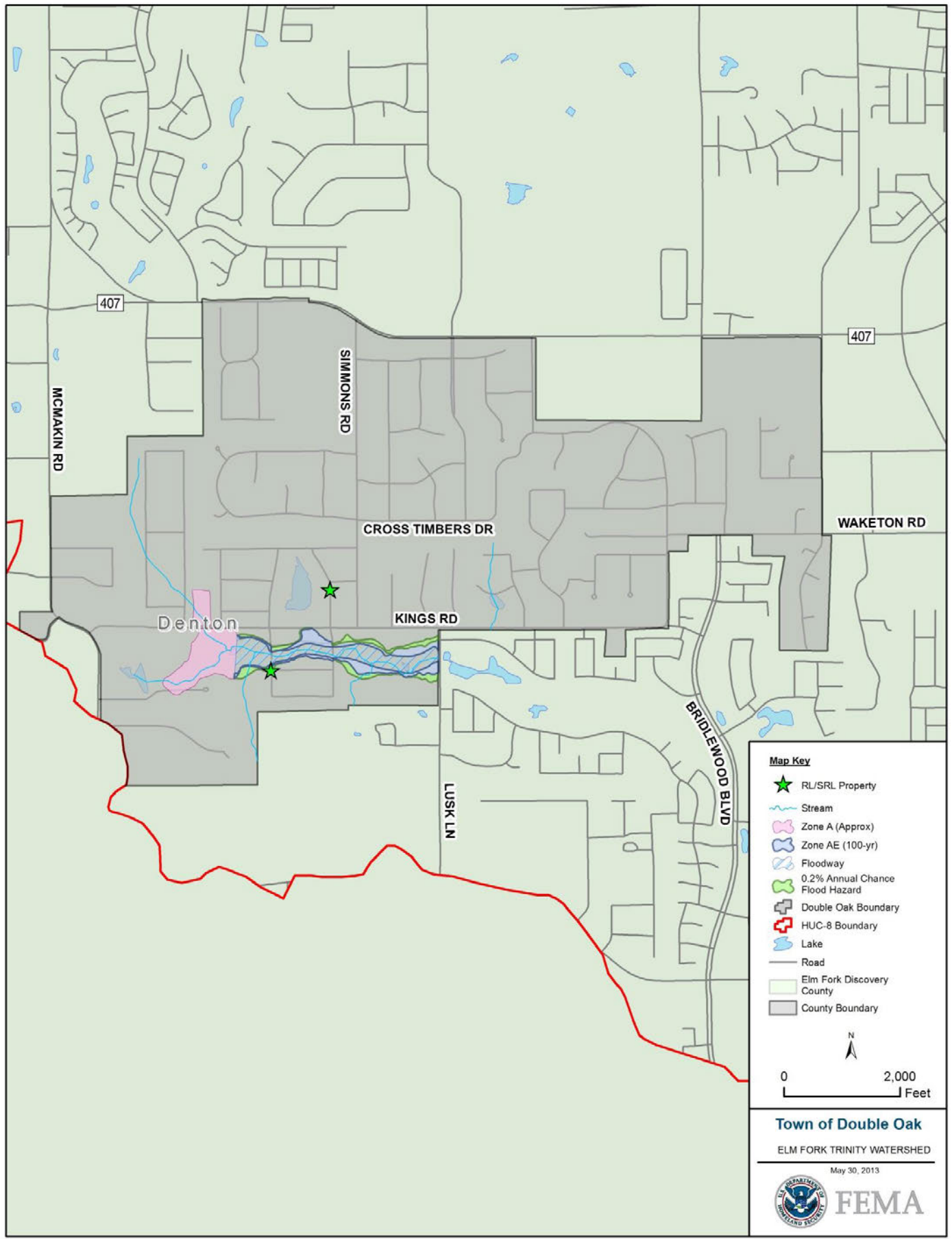
TOWN OF DOUBLE OAK

Denton County

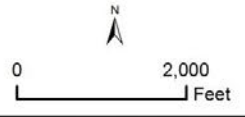
Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481516
<u>Population (2010 Census):</u>	2,867
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	2.77
<u>Total Zone A Miles:</u>	0.49
<u>Repetitive Loss Property Count:</u>	2
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	8
<u>NFIP Claims:</u>	11
<u>Total Losses:</u>	\$82,208
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



- Map Key**
- ★ RL/SRL Property
 - Stream
 - Zone A (Approx)
 - Zone AE (100-yr)
 - Floodway
 - 0.2% Annual Chance Flood Hazard
 - Double Oak Boundary
 - HUC-8 Boundary
 - Lake
 - Road
 - Elm Fork Discovery County
 - County Boundary



Town of Double Oak

ELM FORK TRINITY WATERSHED

May 30, 2013

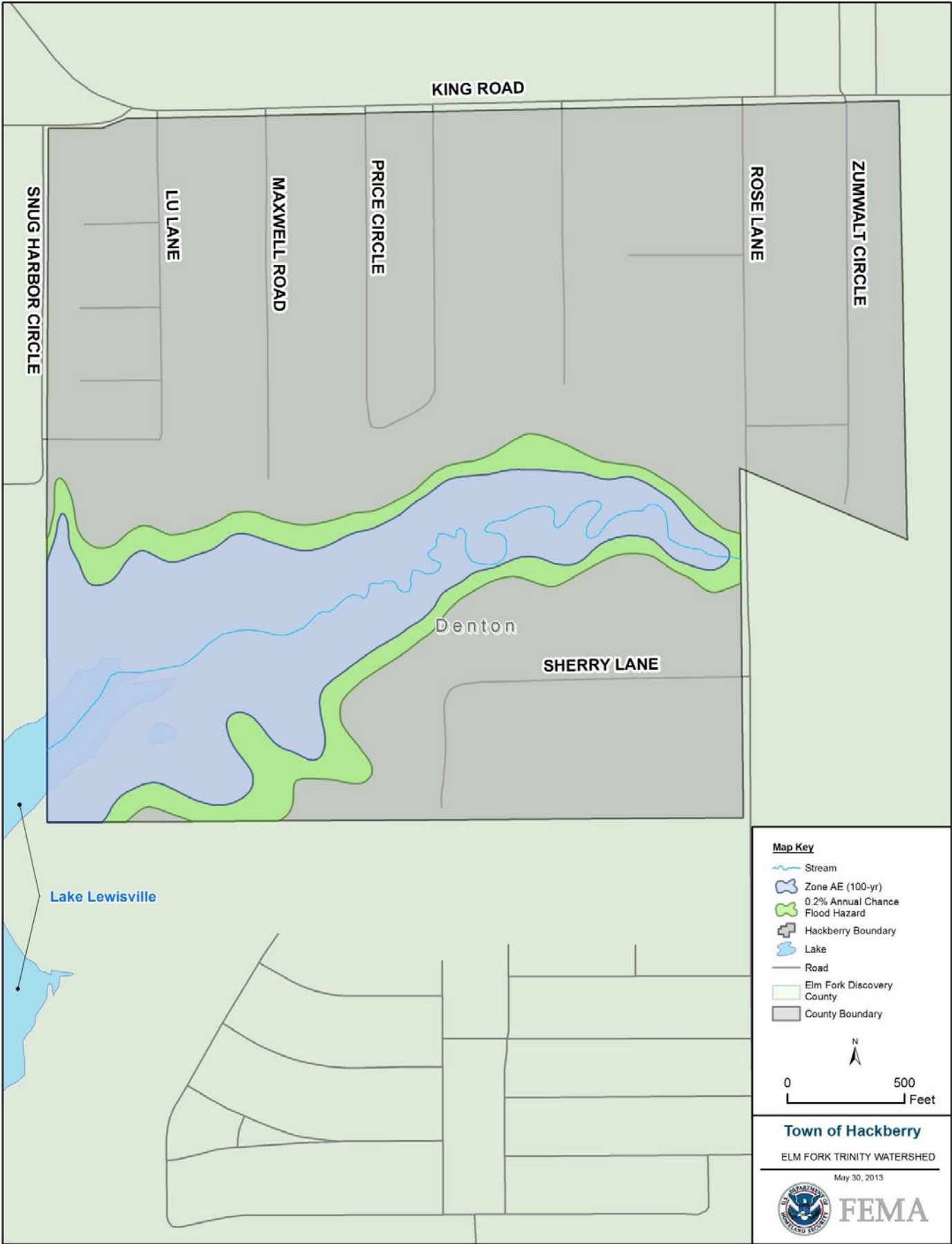




North Central Texas
Council of Governments

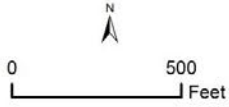
TOWN OF HACKBERRY
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481607
<u>Population (2010 Census):</u>	968
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	0.87
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	3
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	On Lake Lewisville
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Zone AE (100-yr) 0.2% Annual Chance Flood Hazard
-  Flood Hazard
-  Hackberry Boundary
-  Lake
-  Road
-  Elm Fork Discovery County
-  County Boundary



Town of Hackberry

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA

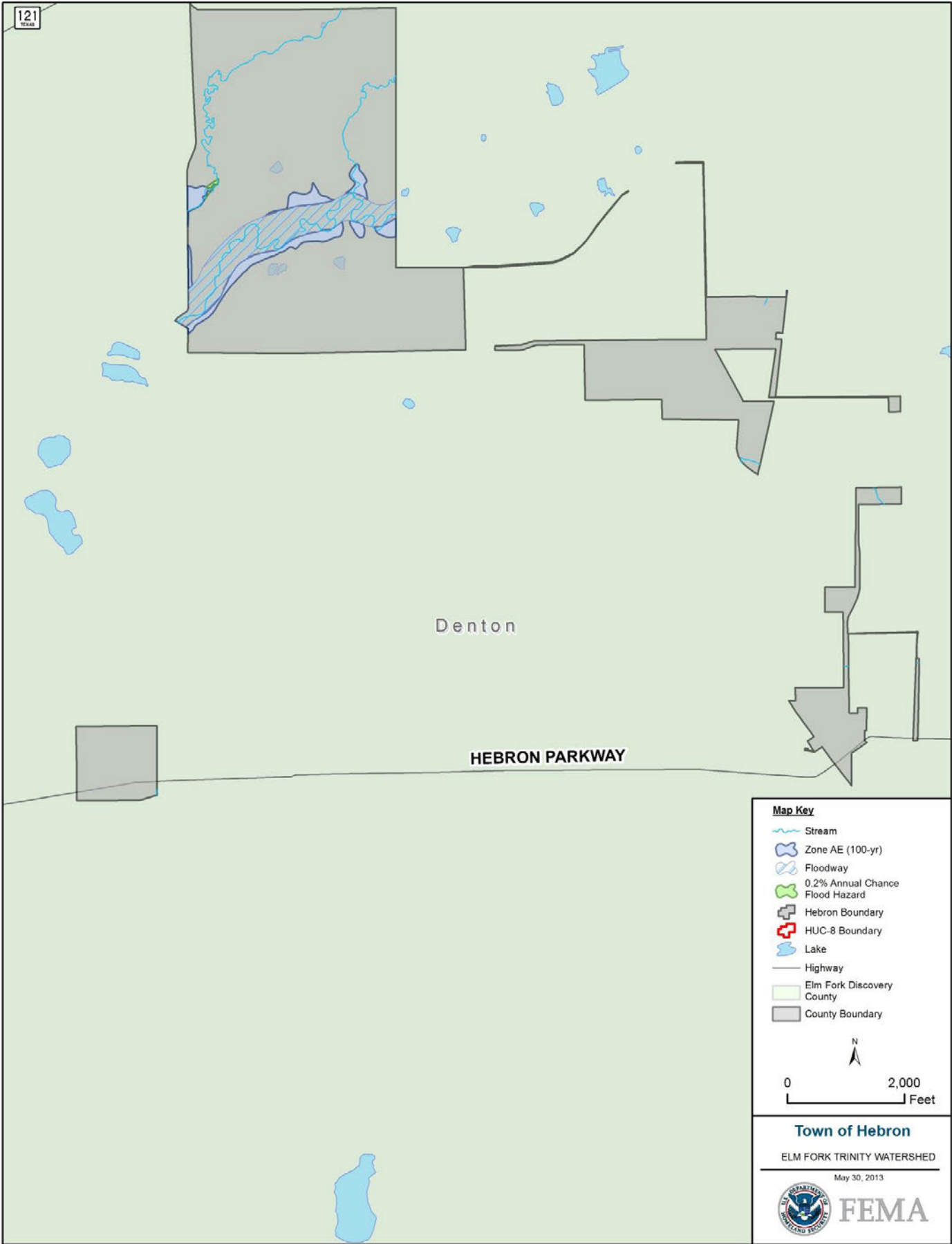


North Central Texas
Council of Governments

TOWN OF HEBRON
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481495
<u>Population (2010 Census):</u>	415
<u>NFIP Participant:</u>	NO
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	3.87
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	NOT IN NFIP!
<u>Congressmen:</u>	Rep. Marchant, Sen. John Cornyn, Sen. Ted Cruz









121
Scale



Denton

HEBRON PARKWAY

Map Key

-  Stream
-  Zone AE (100-yr)
-  Floodway
-  0.2% Annual Chance Flood Hazard
-  Hebron Boundary
-  HUC-8 Boundary
-  Lake
-  Highway
-  Elm Fork Discovery County
-  County Boundary



0 2,000
Feet

Town of Hebron

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

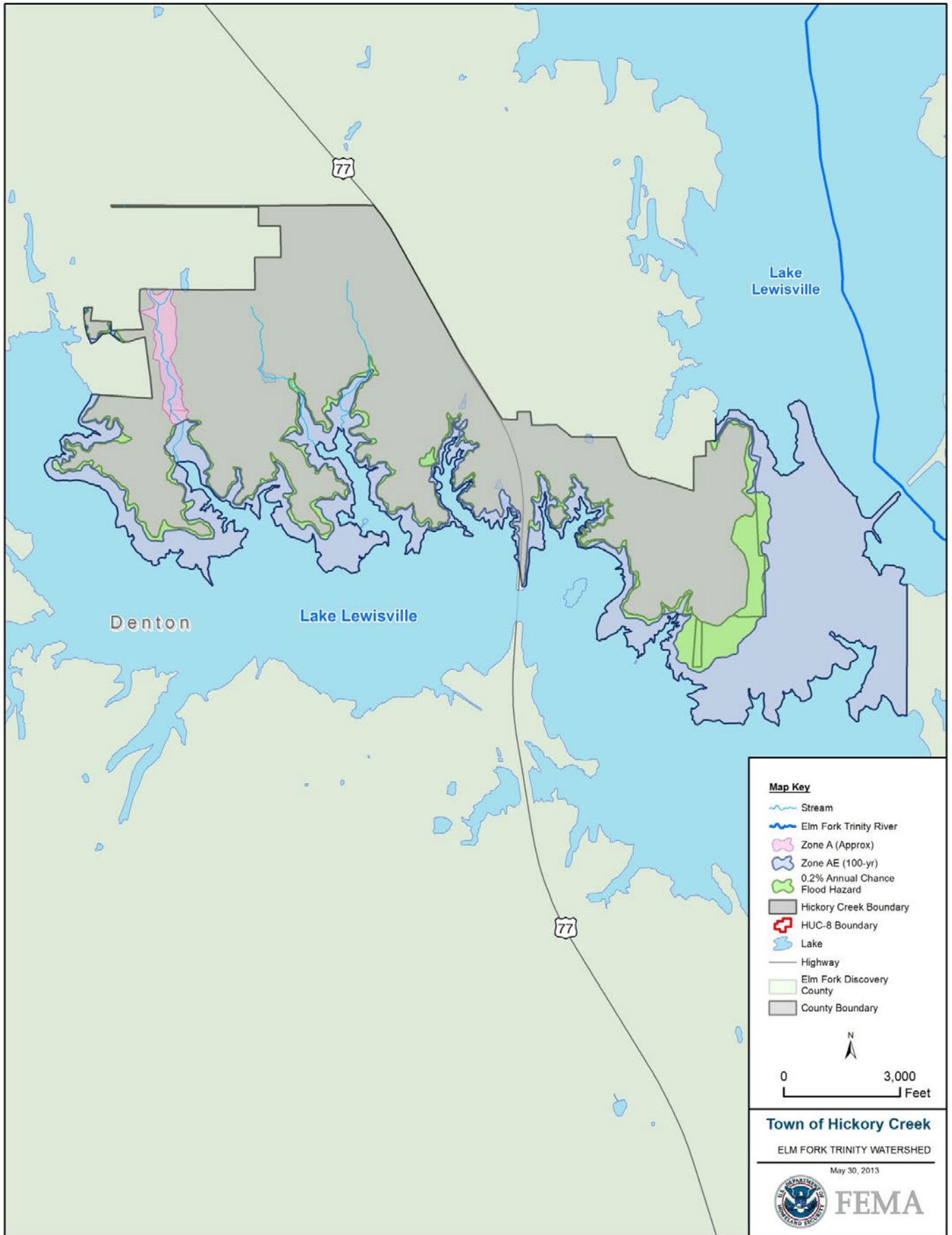
TOWN OF HICKORY CREEK

Denton County












Elm Fork Trinity Watershed

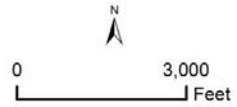
NCTCOG FY12 Discovery

<u>CID:</u>	481150
<u>Population (2010 Census):</u>	3,247
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	2.89
<u>Total Zone A Miles:</u>	0.87
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	4
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	On Lake Lewisville
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Elm Fork Trinity River
-  Zone A (Approx)
-  Zone AE (100-yr)
-  0.2% Annual Chance Flood Hazard
-  Hickory Creek Boundary
-  HUC-8 Boundary
-  Lake
-  Highway
-  Elm Fork Discovery County
-  County Boundary



Town of Hickory Creek

ELM FORK TRINITY WATERSHED

May 30, 2013





North Central Texas
Council of Governments

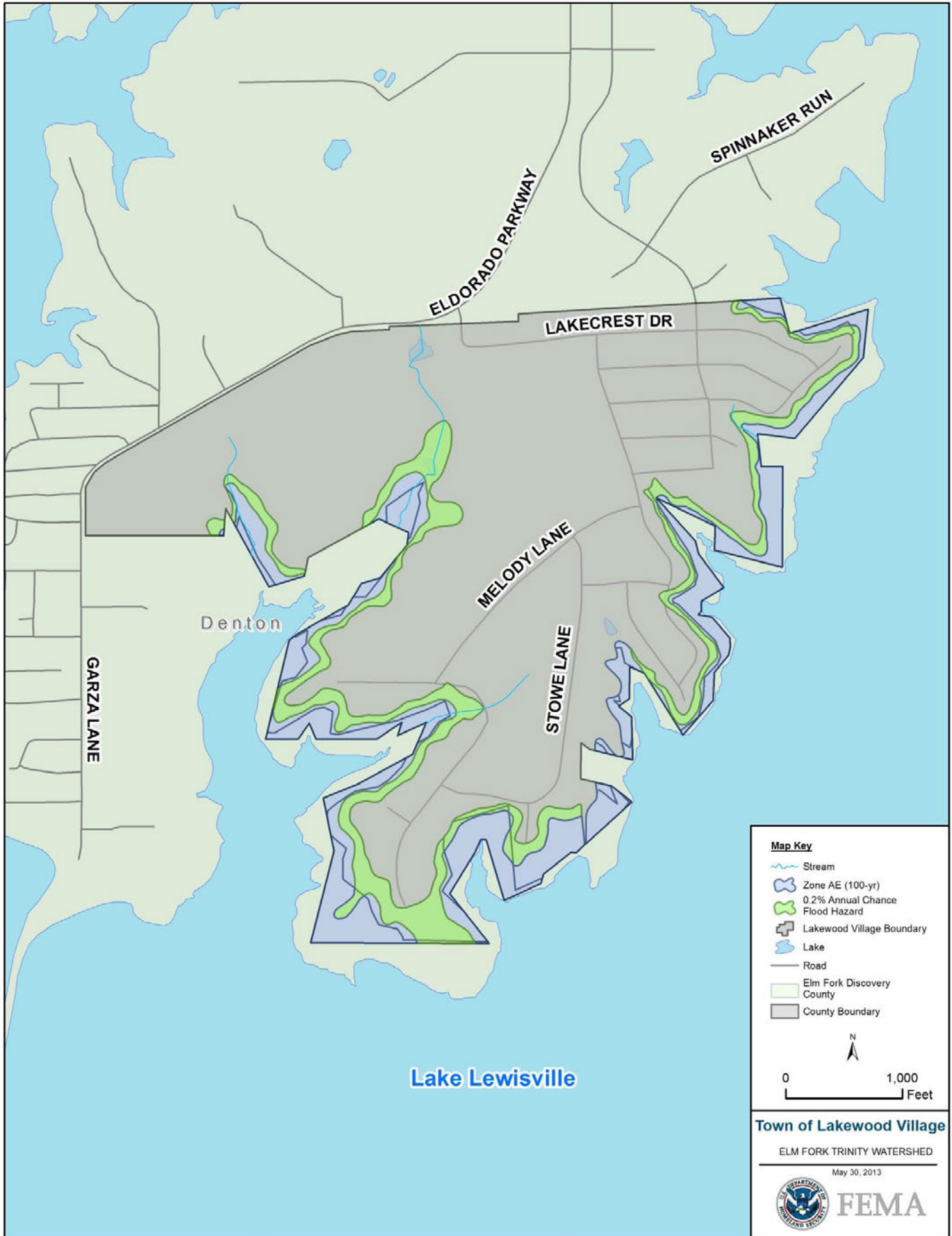
TOWN OF LAKEWOOD VILLAGE

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481663
<u>Population (2010 Census):</u>	545
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	N/A
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	0.87
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	6
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS
<u>Levees/Dams:</u>	On Lake Lewisville
<u>Congressmen:</u>	Rep. Burgess ; Sens. Cornyn and Cruz



Lake Lewisville

Denton

GARZA LANE

ELDORADO PARKWAY

SPINNAKER RUN

LAKECREST DR

MELODY LANE

STOWE LANE



North Central Texas
Council of Governments

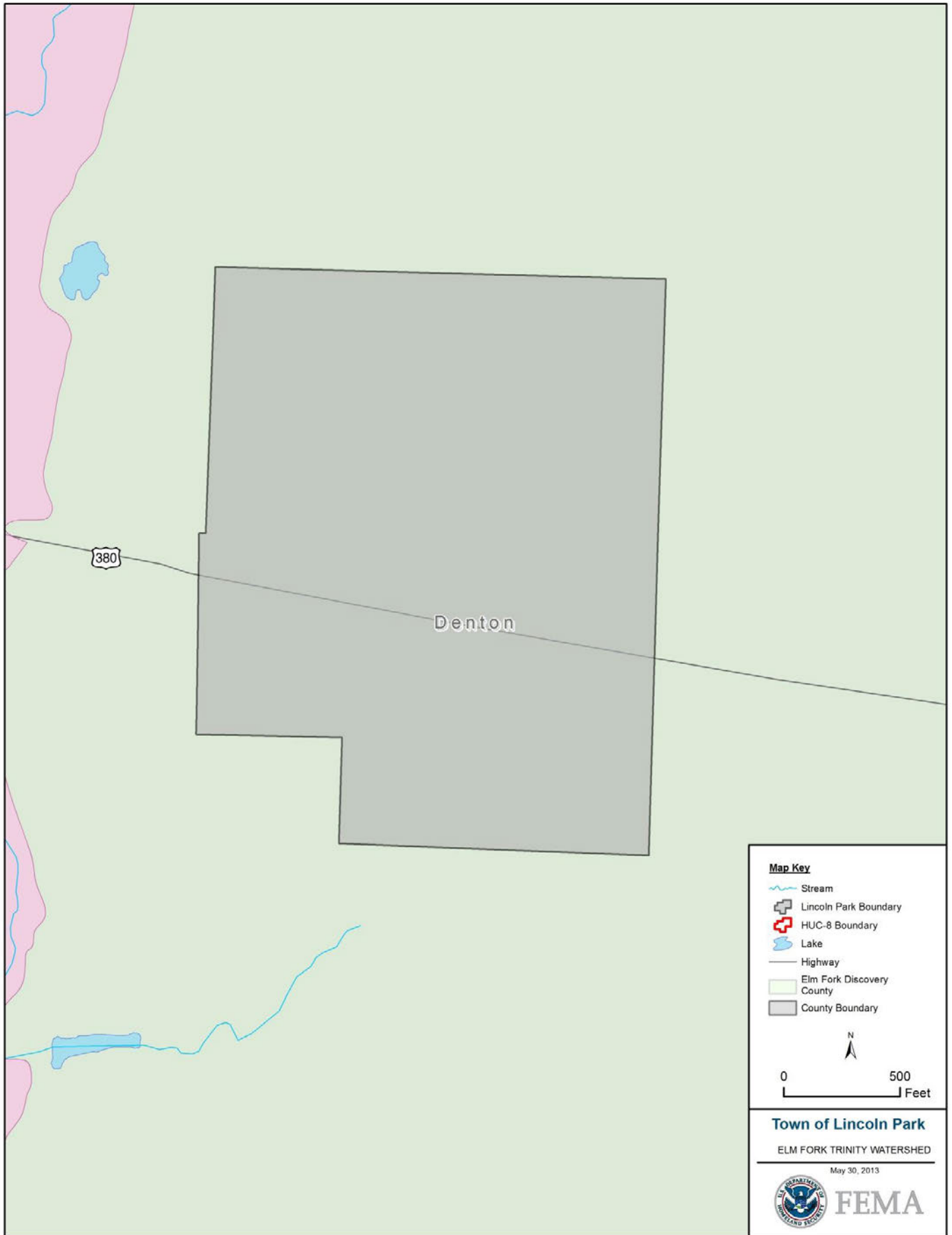
TOWN OF LINCOLN PARK

Denton County








Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480781
<u>Population (2010 Census):</u>	308
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	0
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No DFIRM in boundary; East of Cantrell Slough
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Lincoln Park Boundary
-  HUC-8 Boundary
-  Lake
-  Highway
-  Elm Fork Discovery County
-  County Boundary



0 500
Feet

Town of Lincoln Park

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

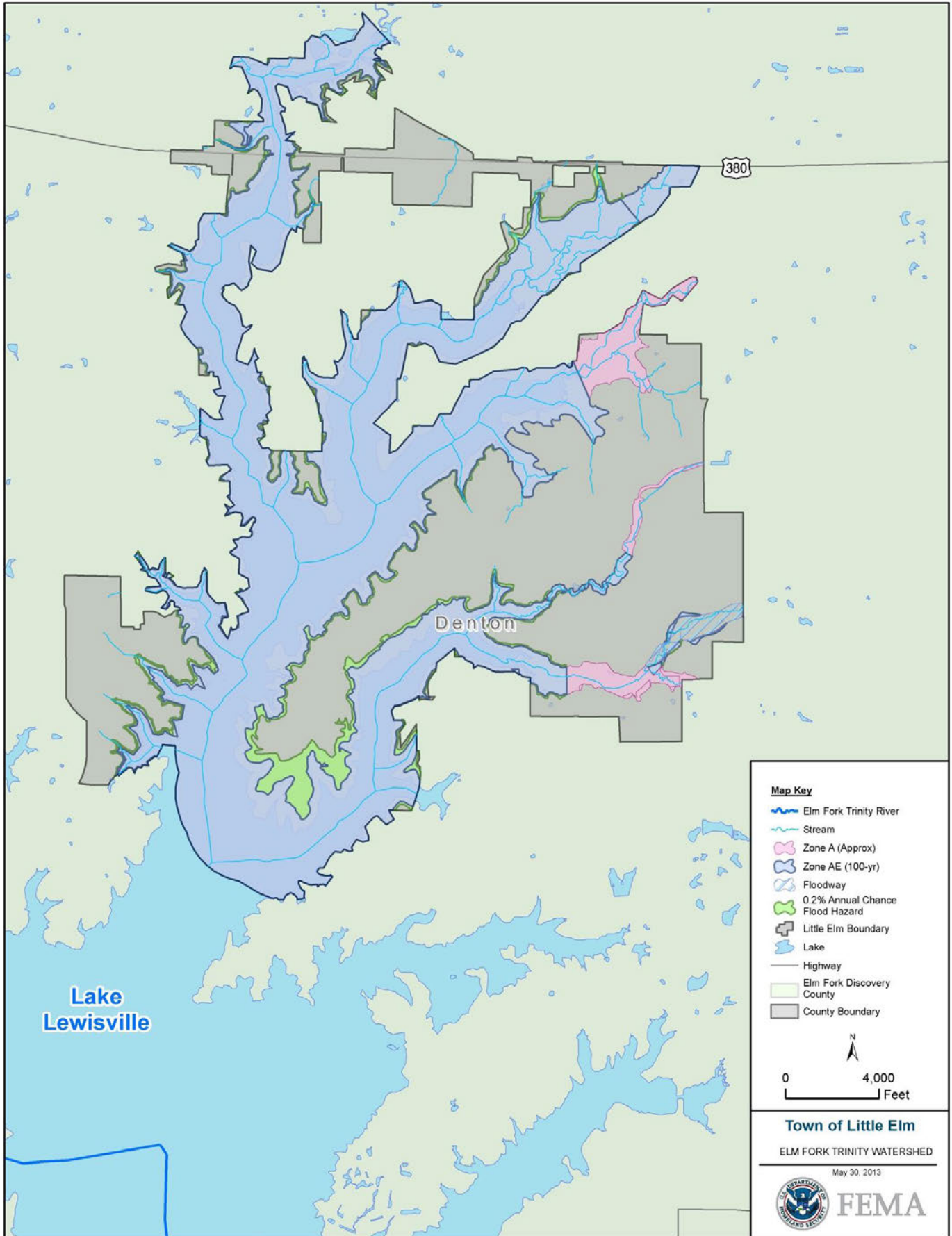
TOWN OF LITTLE ELM

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481152
<u>Population (2010 Census):</u>	25,898
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	In progress
<u>Mitigation Plan Name:</u>	Local plan under review
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	53.12
<u>Total Zone A Miles:</u>	5.19
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	10
<u>NFIP Claims:</u>	2
<u>Total Losses:</u>	\$2,353
<u>Grants:</u>	HMAP Grant in 2013
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2010 TNRS, 2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	On Lake Lewisville
<u>Congressmen:</u>	Rep. Burgess ; Sens. Cornyn and Cruz





North Central Texas
Council of Governments

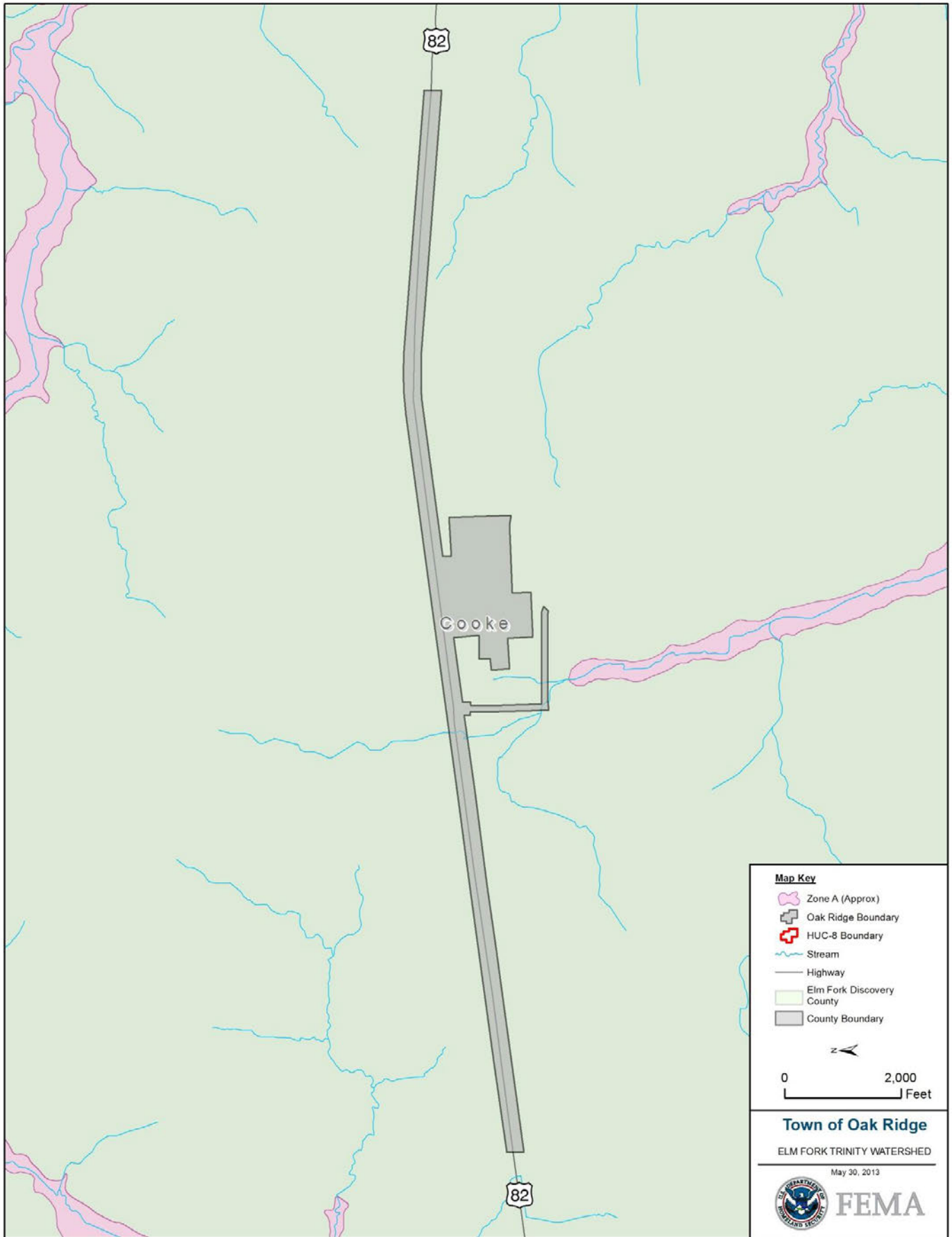
TOWN OF OAK RIDGE

Cooke County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480216
<u>Population (2010 Census):</u>	141
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – 1/16/2008
<u>Total Stream Miles:</u>	0.15
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin), 2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No mapped flood hazards within city limits
<u>Congressmen:</u>	Rep. Mac Thornberry, Sens. Cornyn and Cruz



Map Key

-  Zone A (Approx)
-  Oak Ridge Boundary
-  HUC-8 Boundary
-  Stream
-  Highway
-  Elm Fork Discovery County
-  County Boundary



0 2,000 Feet

Town of Oak Ridge

ELM FORK TRINITY WATERSHED

May 30, 2013



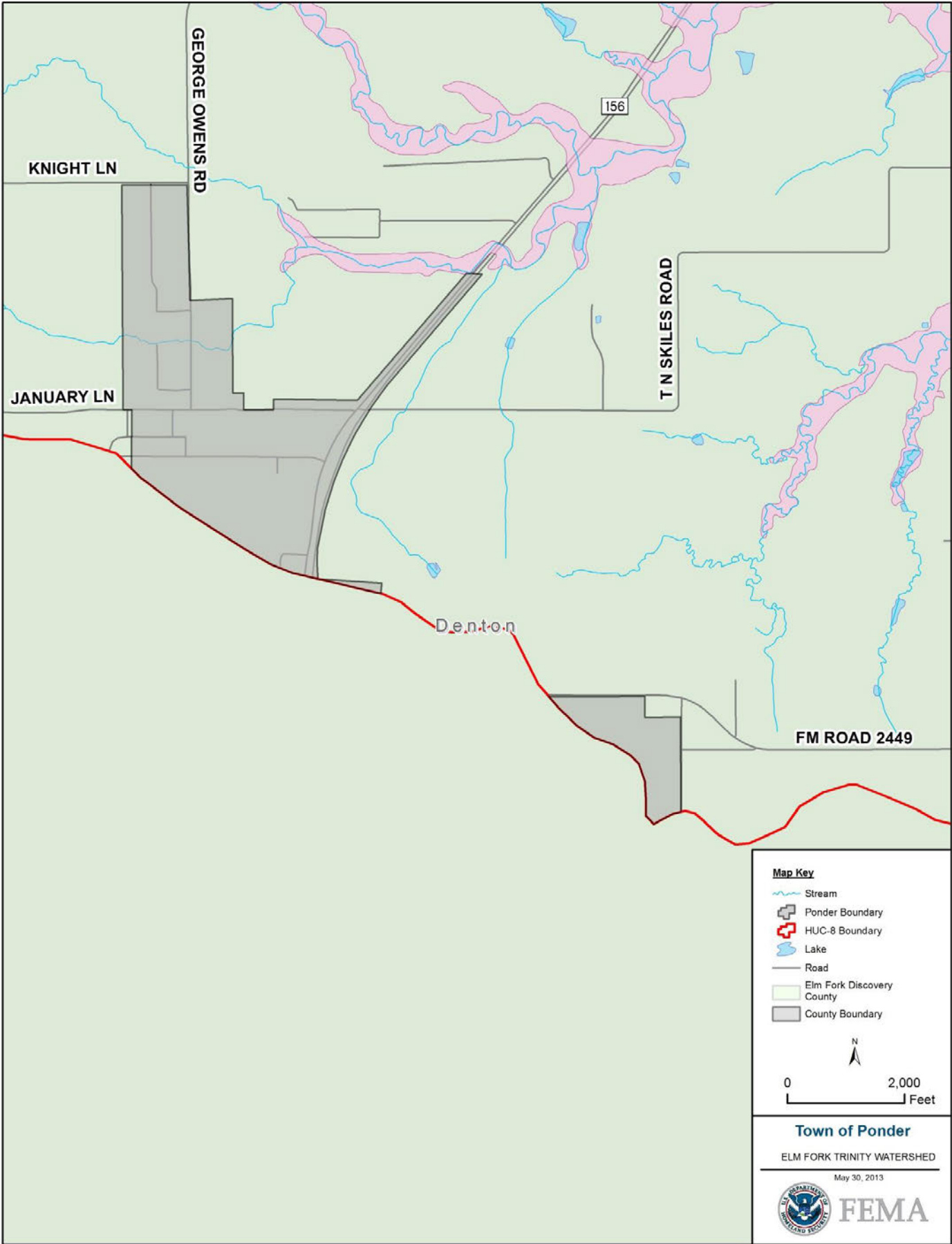
FEMA










North Central Texas
Council of Governments

TOWN OF PONDER
Denton County
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	480784
<u>Population (2010 Census):</u>	1,395
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Denton – 4/18/2011
<u>Total Stream Miles:</u>	0.42
<u>Total Zone A Miles:</u>	0
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No DFIRM in boundary
<u>Congressmen:</u>	Rep. Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

-  Stream
-  Ponder Boundary
-  HUC-8 Boundary
-  Lake
-  Road
-  Elm Fork Discovery County
-  County Boundary



0 2,000 Feet

Town of Ponder

ELM FORK TRINITY WATERSHED

May 30, 2013



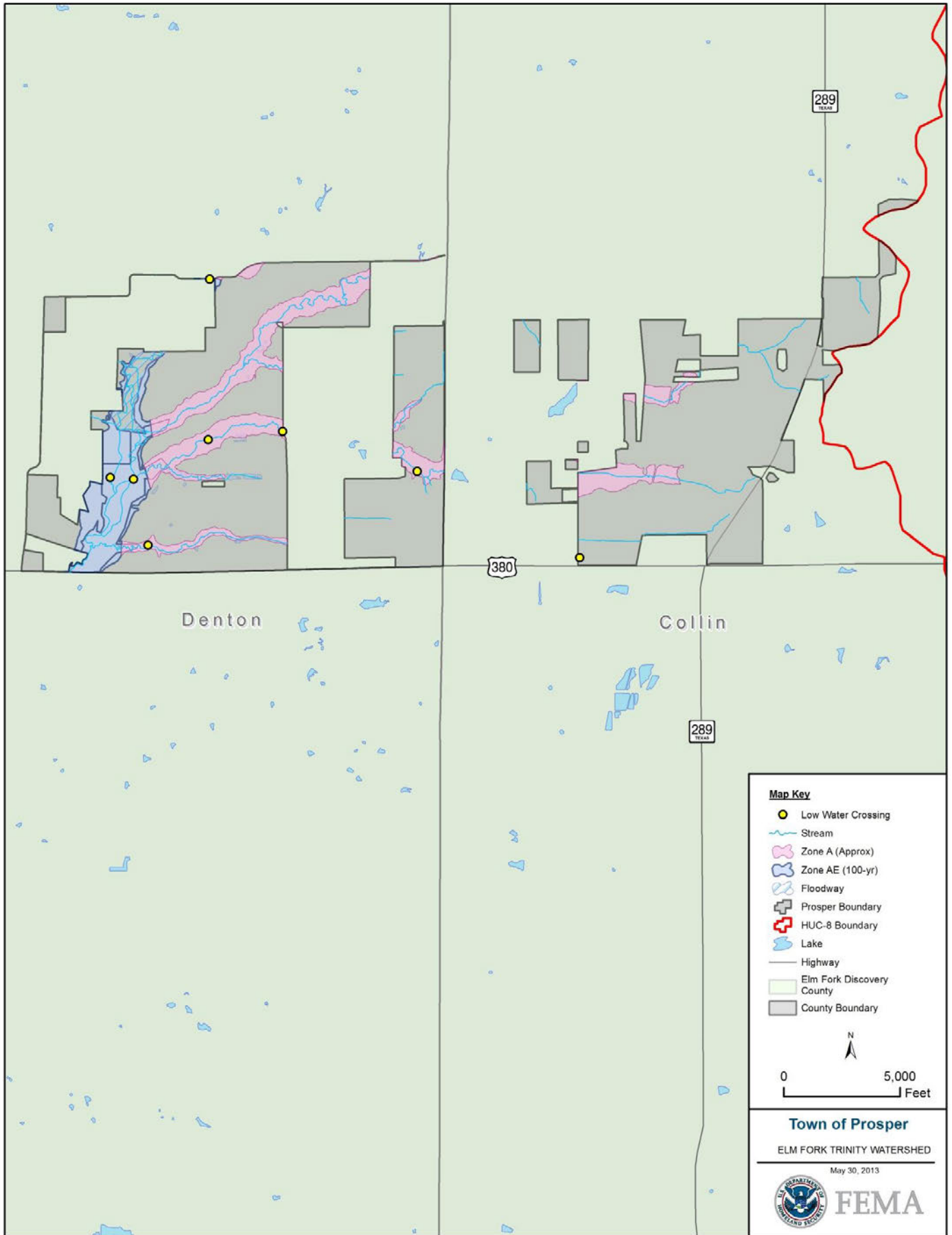
FEMA



North Central Texas
Council of Governments

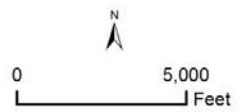
TOWN OF PROSPER
 Denton County/Collin County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	480141
<u>Population (2010 Census):</u>	9,423
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	8
<u>DFIRM Status:</u>	Effective, Prelim
<u>Effective Date:</u>	Denton – 4/18/2011; Collin – 6/2/2009
<u>Total Stream Miles:</u>	21.84
<u>Total Zone A Miles:</u>	9.86
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (Denton County)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	No DFIRM in boundary
<u>Congressmen:</u>	Reps. S. Johnson and Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Low Water Crossing
- Stream
- Zone A (Approx)
- Zone AE (100-yr)
- Floodway
- Prosper Boundary
- HUC-8 Boundary
- Lake
- Highway
- Elm Fork Discovery County
- County Boundary



Town of Prosper

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA



North Central Texas
Council of Governments

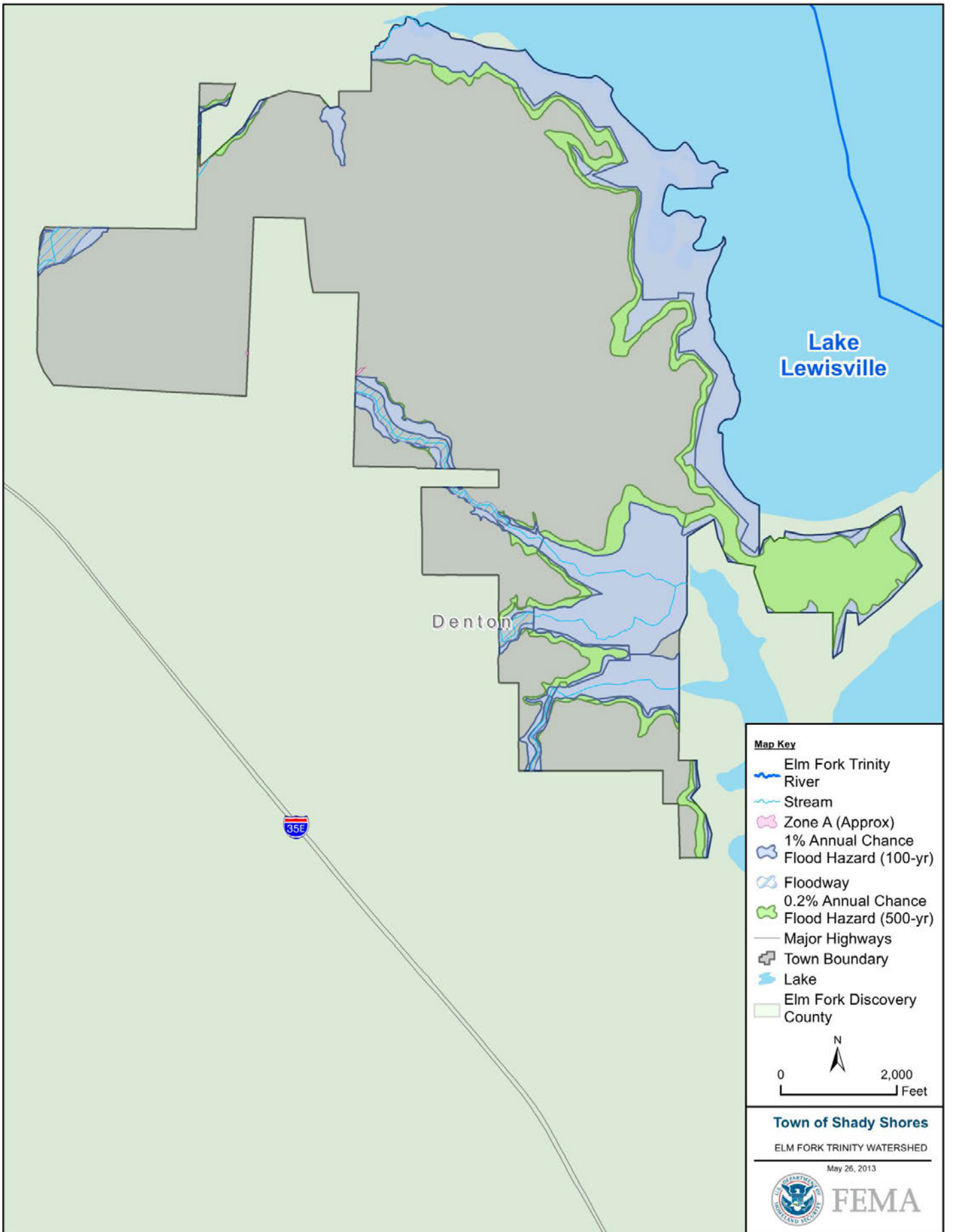
TOWN OF SHADY SHORES

Denton County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	481135
<u>Population (2010 Census):</u>	2,612
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Denton County
<u>Plan Approval Date:</u>	05/26/2011
<u>Plan Expiration Date:</u>	05/25/2016
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	April 18, 2011
<u>Total Stream Miles:</u>	3.5
<u>Total Zone A Miles:</u>	0 (All Zone AE)
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	9
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	28 (countywide)
<u>LiDAR:</u>	2010 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0
<u>Additional Comments:</u>	Not in CRS
<u>Congressmen:</u>	Rep. Michael Burgess, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- 0.2% Annual Chance Flood Hazard (500-yr)
- Major Highways
- Town Boundary
- Lake
- Elm Fork Discovery County

N

0 2,000
Feet

Town of Shady Shores
ELM FORK TRINITY WATERSHED
May 26, 2013



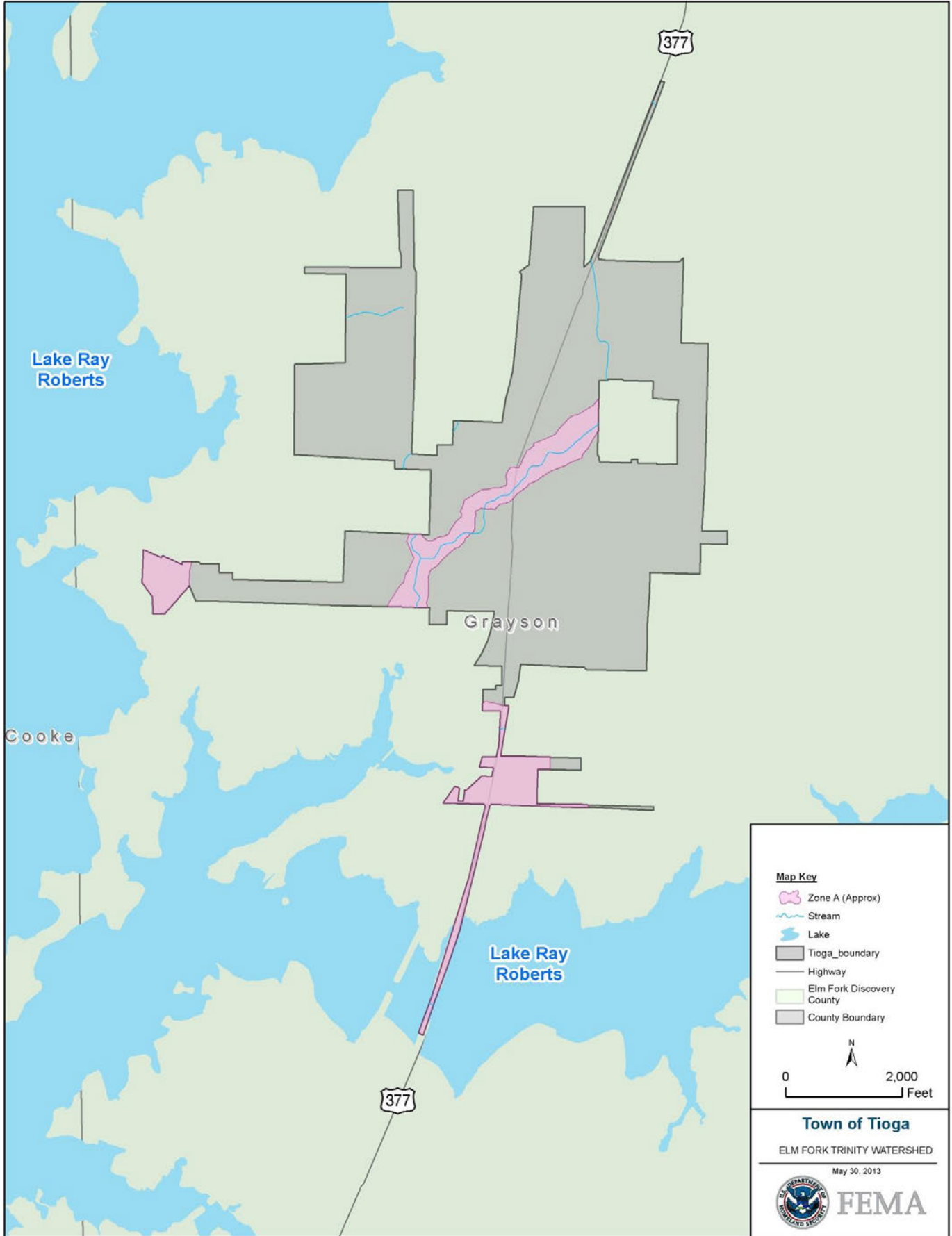
FEMA



North Central Texas
Council of Governments

TOWN OF TIOGA
 Grayson County
 Elm Fork Trinity Watershed
 NCTCOG FY12 Discovery

<u>CID:</u>	481624
<u>Population (2010 Census):</u>	803
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Grayson County
<u>Plan Approval Date:</u>	4/30/2012
<u>Plan Expiration Date:</u>	4/30/2017
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Grayson – 9/29/2010
<u>Total Stream Miles:</u>	1.85
<u>Total Zone A Miles:</u>	1.01
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	Unknown
<u>NFIP Claims:</u>	Unknown
<u>Total Losses:</u>	Unknown
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2011 North Texas (Denton/Collin)
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	All Zone A within boundary
<u>Congressmen:</u>	Rep. Ralph Hall, Sens. Cornyn and Cruz





North Central Texas
Council of Governments

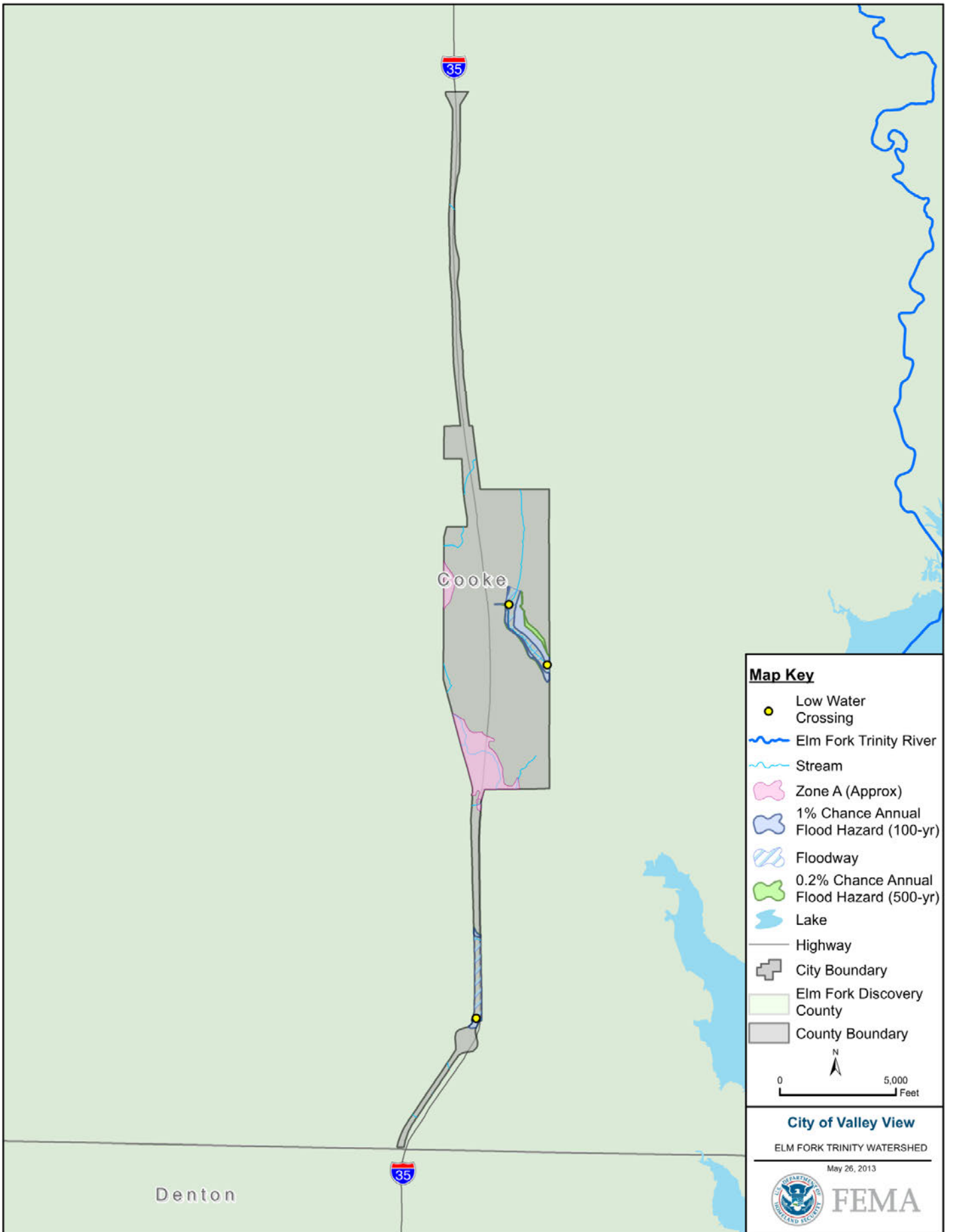
CITY OF VALLEY VIEW

Cooke County

Elm Fork Trinity Watershed

NCTCOG FY12 Discovery

<u>CID:</u>	480217
<u>Population (2010 Census):</u>	757
<u>NFIP Participant:</u>	No
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	Cooke County
<u>Plan Approval Date:</u>	4/15/2012
<u>Plan Expiration Date:</u>	4/15/2015
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	3
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	Cooke – Jan. 16, 2008
<u>Total Stream Miles:</u>	4.19
<u>Total Zone A Miles:</u>	1.03
<u>Repetitive Loss Property Count:</u>	0
<u>Severe Repetitive Loss Property Count:</u>	0
<u>NFIP Policies:</u>	N/A
<u>NFIP Claims:</u>	N/A
<u>Total Losses:</u>	\$N/A
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	25 (countywide)
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson/Wise LiDAR
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	<i>Not in NFIP, not in CRS</i>
<u>Congressmen:</u>	Rep. Mac Thornberry, Sen. John Cornyn, Sen. Ted Cruz



Map Key

- Low Water Crossing
- Elm Fork Trinity River
- Stream
- Zone A (Approx)
- 1% Chance Annual Flood Hazard (100-yr)
- Floodway
- 0.2% Chance Annual Flood Hazard (500-yr)
- Lake
- Highway
- City Boundary
- Elm Fork Discovery County
- County Boundary

0 5,000 Feet

City of Valley View
 ELM FORK TRINITY WATERSHED
 May 26, 2013

Denton

Cooke

35

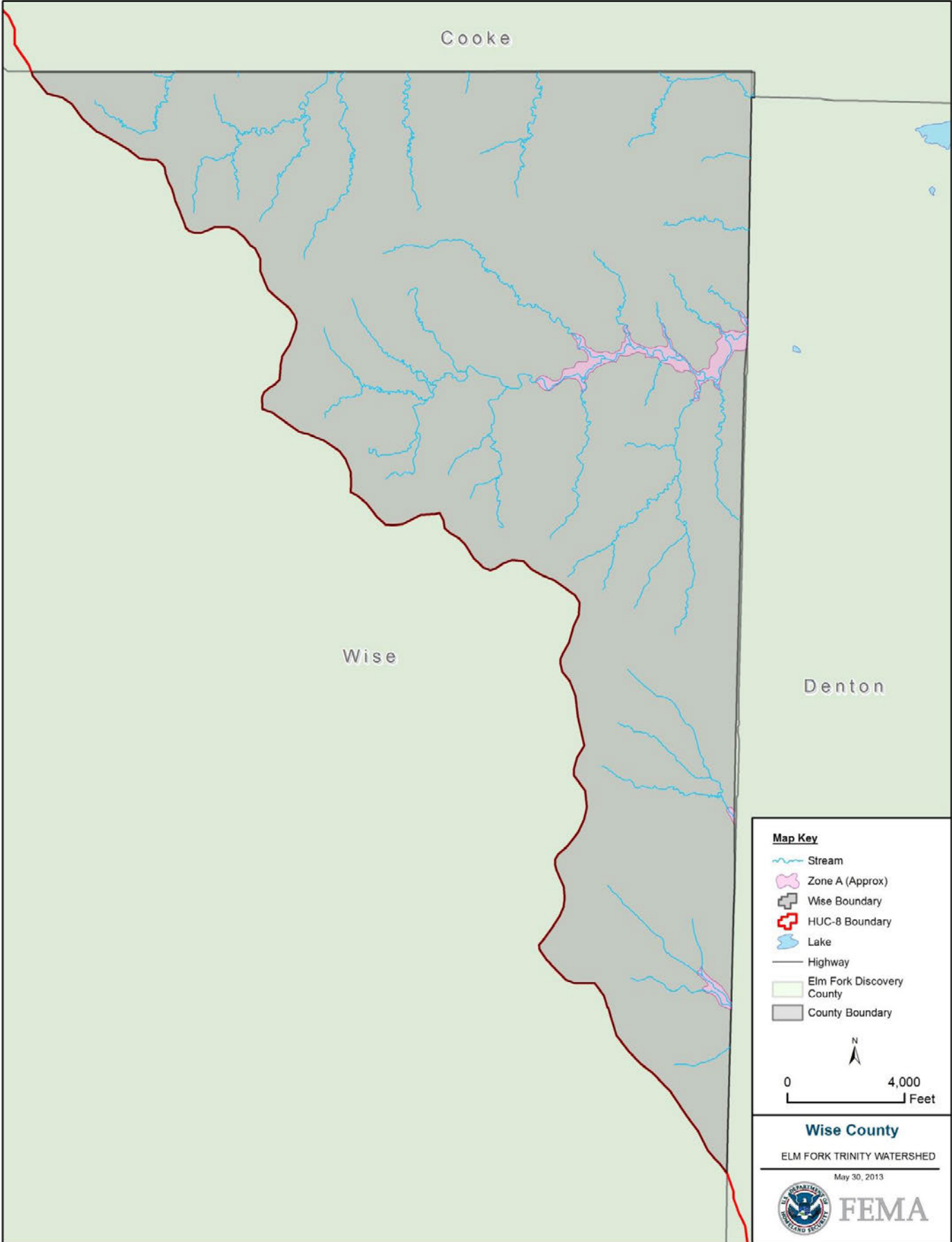
35



North Central Texas
Council of Governments

WISE COUNTY
Elm Fork Trinity Watershed
NCTCOG FY12 Discovery

<u>CID:</u>	481051
<u>Population (2010 Census):</u>	59,127
<u>NFIP Participant:</u>	Yes
<u>CRS Rating:</u>	N/A
<u>Mitigation Plan Name:</u>	None
<u>Plan Approval Date:</u>	
<u>Plan Expiration Date:</u>	
<u>High Water Marks:</u>	0
<u>Low Water Crossings:</u>	0
<u>DFIRM Status:</u>	Effective
<u>Effective Date:</u>	12/16/2011
<u>Total Stream Miles:</u>	42.9
<u>Total Zone A Miles:</u>	4.56
<u>Repetitive Loss Property Count:</u>	0 (in watershed)
<u>Severe Repetitive Loss Property Count:</u>	0 (in watershed)
<u>NFIP Policies:</u>	142
<u>NFIP Claims:</u>	33
<u>Total Losses:</u>	\$85,235
<u>Grants:</u>	Unknown
<u>Disaster Declarations:</u>	26
<u>LiDAR:</u>	2010 Montague/Cooke/Grayson/Wise
<u>Levees/Dams:</u>	0 in DFIRM structures
<u>Additional Comments:</u>	See attached list of floodprone Areas.
<u>Congressmen:</u>	Rep. Thornberry, Sen. John Cornyn, Sen. Ted Cruz



Cooke

Wise

Denton

Map Key

-  Stream
-  Zone A (Approx)
-  Wise Boundary
-  HUC-8 Boundary
-  Lake
-  Highway
-  Elm Fork Discovery County
-  County Boundary



0 4,000 Feet

Wise County

ELM FORK TRINITY WATERSHED

May 30, 2013



FEMA

Community Data Questionnaires



North Texas Discovery Data Questionnaire

Community Name: Carrollton

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Very good
Does your community participate in CRS? What is the community's current rating?	Yes - 6. Don't want to improve due to amount of upkeep
Available topographic data, ongoing or future topographic acquisition efforts	NCTCOG 2005 data. Looking to update
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	In process with Dallas County; unsure about Denton County
Completed or In Progress Hazard Mitigation Projects?	
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Study of downtown Carrollton (2D XP Modeling)
Master Drainage Plan(s), floodplain studies, existing/needed?	Master Drainage Plan – 1988 Downtown Master Plan - 2007
Stormwater management plan?	Yes
Structural and flooding issues not represented on effective DFIRMs?	Frankford Road flooding
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	I-35E near downtown – part of I-35E reconstruction Dudley Branch at Rosemeade
Any information on new construction of culverts and bridges?	Downtown study will likely identify improvements, but not available yet.
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Small number (less than 10) properties, mainly located near Trinity Mills/PGBT and I35
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	Dam breach analysis for Woodlake Dam; also dam on Hutton Branch (Josey Ranch Dam) but no analysis
Information from dam Emergency Action Plans (EAPs)	Currently in process – not available at this time.
Does your community use GIS?	Yes
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	
Recent Letters of Map Amendment (LOMAs)?	
Hazard Mitigation Grants? If so, when, amount and purpose?	None
Any disaster declarations? If so, when and what storm event?	None
Additional Comments?	How do you address development in area covered by complex 2D models? Do developers have to buy the model or can they only hire the engineers that own the model? How do you define a floodway? And what elevation do you regulate to? Attempting to pursue Stormwater Utility for additional funding



North Texas Discovery Data Questionnaire

Community Name: Celina

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Needs some updating.
Does your community participate in CRS? What is the community's current rating?	No.
Available topographic data, ongoing or future topographic acquisition efforts	None.
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	No.
Completed or In Progress Hazard Mitigation Projects?	No.
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	In planning. Projects outlined in 2010 CIP.
Master Drainage Plan(s), floodplain studies, existing/needed?	Existing for the downtown area. Needed for remainder.
Stormwater management plan?	In process.
Structural and flooding issues not represented on effective DFIRMs?	Possibly.
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Yes. CR 55, Smiley, Fairfield, CR 8, FM 455, CR 9.
Any information on new construction of culverts and bridges?	No.
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	South downtown area. The above mentioned roads as well.
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	No.
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	None.
Information from dam Emergency Action Plans (EAPs)	None. Collin County may have.
Does your community use GIS?	No.
GIS Data Layers to include if available:	N/A
• Hydrography	N/A
• New Topographic or Survey Data	N/A
• Location of critical facilities in flood hazard area	N/A
• Locations of Previous Flood Damage	N/A
▪ Non-SFHA Flooding Boundaries	N/A
• Location of Dams and Levees	N/A
• Land Use/Zoning	Available but not in GIS.
• Culvert/Bridge Inventories	Available but not in GIS.
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	No.
Recent Letters of Map Amendment (LOMAs)?	No.
Hazard Mitigation Grants? If so, when, amount and purpose?	No.
Any disaster declarations? If so, when and what storm event?	No.



North Texas Discovery Data Questionnaire

Community Name: City of Denton

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	6 or 7 LOMR's were not included in the 2011 maps and were reissued by FEMA. Cooper Creek was restudied and there are errors in the HEC-RAS and HEC-HMS models. Floodplain delineation of a few areas of Pecan Creek are questionable. City of Denton has 23 stream reaches that are labeled shaded Zone X that have no detailed study and are actually a 1% chance floodplain that should be Zone A. City of Denton can answer questions if needed.
Does your community participate in CRS? What is the community's current rating?	Yes 6
Available topographic data, ongoing or future topographic acquisition efforts	
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Denton County Local Mitigation Strategy (includes the City of Denton), Approval May 26, 2011, Expires May 26, 2016.
Completed or In Progress Hazard Mitigation Projects?	In progress – Metro (Tornado) Safe Room Rebate Program. Rebate program is administered through the North Central Texas Council of Governments.
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	
Master Drainage Plan(s), floodplain studies, existing/needed?	Unnamed stream in Lakeview subdivision needs to be studied
Stormwater management plan?	Yes. Current for 2007 – TXR040000. IN process of revising SWMP for new permit (expected DEC 2013)
Structural and flooding issues not represented on effective DFIRMs?	
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Yes – List to be provided upon request
Any information on new construction of culverts and bridges?	5 railroad crossings for DCTA were widened after 2011 maps were published. Other culverts have been upgraded.
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	High water marks were taken after April 2007 flood
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	
Information from dam Emergency Action Plans (EAPs)	Existing Plans for NRCS (Dams 16, 17 –North Lakes), Also existing is Unicorn Lake and Sandlin Dam (both private. No Plans for these on record.
Does your community use GIS?	Yes
GIS Data Layers to include if available:	
• Hydrography	Yes
• New Topographic or Survey Data	Yes
• Location of critical facilities in flood hazard area	No
• Locations of Previous Flood Damage	No

▪ Non-SFHA Flooding Boundaries	No
• Location of Dams and Levees	No but we are adding this information
• Land Use/Zoning	Yes
• Culvert/Bridge Inventories	Not currently but we are working on this as part of our stormwater asset management
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	
Recent Letters of Map Amendment (LOMAs)?	
Hazard Mitigation Grants? If so, when, amount and purpose?	No
Any disaster declarations? If so, when and what storm event?	FEMA DR-1697 Severe Storms & Tornadoes, 4/21-24/2007, Major Disaster Declaration on 5/1/2007. FEMA DR-1709 Severe Storms, Tornadoes, and Flooding, 7/1607-8/3/2007, Major Disaster Declaration on 6/29/2007.



North Texas Discovery Data Questionnaire

Community Name: **Cooke County – collected by Rigel Rucker**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	See markups on map
Does your community participate in CRS? What is the community's current rating?	Maybe interested
Available topographic data, ongoing or future topographic acquisition efforts	New development information with Dot #147
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	County plan, Gainesville included
Completed or In Progress Hazard Mitigation Projects?	Lindsay completed buyouts
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	
Master Drainage Plan(s), floodplain studies, existing/needed?	
Stormwater management plan?	
Structural and flooding issues not represented on effective DFIRMs?	See markups on maps
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	See markups on maps
Any information on new construction of culverts and bridges?	See markups on maps
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	See markups on maps
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	CR 303 near Lindsay
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	See markups
Information from dam Emergency Action Plans (EAPs)	Available for county except for Gainesville
Does your community use GIS?	All through COG
GIS Data Layers to include if available:	All through COG
• Hydrography	All through COG
• New Topographic or Survey Data	TNRIS LiDAR
• Location of critical facilities in flood hazard area	All through COG
• Locations of Previous Flood Damage	All through COG
▪ Non-SFHA Flooding Boundaries	All through COG
• Location of Dams and Levees	All through COG
• Land Use/Zoning	All through COG
• Culvert/Bridge Inventories	All through COG
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	Lake Kiowa area
Recent Letters of Map Amendment (LOMAs)?	Lake Kiowa area
Hazard Mitigation Grants? If so, when, amount and purpose?	Storm Shelter only
Any disaster declarations? If so, when and what storm event?	
Other comments	Provided copy of flood ordinance; 2007 floods



North Texas Discovery Data Questionnaire

Community Name: City of Coppel

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	yes
Does your community participate in CRS? What is the community's current rating?	Yes, 7
Available topographic data, ongoing or future topographic acquisition efforts	no
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	no
Completed or In Progress Hazard Mitigation Projects?	no
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	yes
Master Drainage Plan(s), floodplain studies, existing/needed?	yes
Stormwater management plan?	yes
Structural and flooding issues not represented on effective DFIRMs?	no
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	no
Any information on new construction of culverts and bridges?	yes
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	no
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	no
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	no
Information from dam Emergency Action Plans (EAPs)	
Does your community use GIS?	yes
GIS Data Layers to include if available:	
• Hydrography	Water body locations
• New Topographic or Survey Data	2001 cog
• Location of critical facilities in flood hazard area	n/a
• Locations of Previous Flood Damage	n/a
▪ Non-SFHA Flooding Boundaries	FIRM
• Location of Dams and Levees	yes
• Land Use/Zoning	yes
• Culvert/Bridge Inventories	yes
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	yes
Recent Letters of Map Amendment (LOMAs)?	yes
Hazard Mitigation Grants? If so, when, amount and purpose?	no
Any disaster declarations? If so, when and what storm event?	no



North Texas Discovery Data Questionnaire

Community Name: City of Corinth – collected by Eric Hajek

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Master Drainage Study (MDS) incorporated
Does your community participate in CRS? What is the community's current rating?	No
Available topographic data, ongoing or future topographic acquisition efforts	COG topo
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Yes – City of Corinth, expires 2015
Completed or In Progress Hazard Mitigation Projects?	Roadway projects in past
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Roadways; no
Master Drainage Plan(s), floodplain studies, existing/needed?	MDS
Stormwater management plan?	Yes
Structural and flooding issues not represented on effective DFIRMs?	No – Shady Shores Road
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	I-35
Any information on new construction of culverts and bridges?	I-35 has undersized culverts
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Shady Shores Road
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	No historical flooding; Shady Shores Road, South Corinth/Lynchburg Creek, Dobbs Road and Barry
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	Dams not on DFIRMs
Information from dam Emergency Action Plans (EAPs)	No
Does your community use GIS?	Yes
GIS Data Layers to include if available:	Can send GIS data via FTP
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	TxDOT inspects; Yes/No; MDP may have
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	No
Recent Letters of Map Amendment (LOMAs)?	Couple – based on fill; 3-5 other LOMAs over 5yrs
Hazard Mitigation Grants? If so, when, amount and purpose?	Storm shelter rebate
Any disaster declarations? If so, when and what storm event?	Drought/wildfires?
Other comments	



North Texas Discovery Data Questionnaire

Community Name: Cross Roads

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	LOMR #
Does your community participate in CRS? What is the community's current rating?	No
Available topographic data, ongoing or future topographic acquisition efforts	Not electronically – some ground topo
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	
Completed or In Progress Hazard Mitigation Projects?	No
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Upsize culverts with road projects (?)
Master Drainage Plan(s), floodplain studies, existing/needed?	See LOMR comment (on map?)
Stormwater management plan?	No
Structural and flooding issues not represented on effective DFIRMs?	Marked on map
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	See mark on map
Any information on new construction of culverts and bridges?	Walmart; Mill Creek; Singleterry Precinct(?)
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Maybe once a year – on map
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	See maps; Tipps Road
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	Stock tanks, no dams
Information from dam Emergency Action Plans (EAPs)	None
Does your community use GIS?	Getting ready to implement
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	Yes
Recent Letters of Map Amendment (LOMAs)?	Just 1
Hazard Mitigation Grants? If so, when, amount and purpose?	None
Any disaster declarations? If so, when and what storm event?	
Other comments	2-ft freeboard



North Texas Discovery Data Questionnaire

Community Name: **City of Frisco**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Mapping not accurate. Had over 70 LOMCs since 2009. Will share via FTP or hard drive.
Does your community participate in CRS? What is the community's current rating?	No – not interested. Structures are out of SFHA and no discount for Zone X.
Available topographic data, ongoing or future topographic acquisition efforts	Yes
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Yes
Completed or In Progress Hazard Mitigation Projects?	No
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Prioritizing CIP but need Master Plan first
Master Drainage Plan(s), floodplain studies, existing/needed?	Have 3, need 2 more (5 total in watershed)
Stormwater management plan?	Yes
Structural and flooding issues not represented on effective DFIRMs?	Yes – Mapping not accurate. See 1 st comment.
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Yes – As-built data available
Any information on new construction of culverts and bridges?	Yes – As-built data available
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	No
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	No
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	Yes – EAP through TCEQ, waiting for approval
Information from dam Emergency Action Plans (EAPs)	Yes
Does your community use GIS?	Yes
GIS Data Layers to include if available:	Yes
• Hydrography	Yes
• New Topographic or Survey Data	Yes
• Location of critical facilities in flood hazard area	Yes
• Locations of Previous Flood Damage	Yes
▪ Non-SFHA Flooding Boundaries	Yes
• Location of Dams and Levees	Yes
• Land Use/Zoning	Yes
• Culvert/Bridge Inventories	Yes
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	Yes
Recent Letters of Map Amendment (LOMAs)?	Yes
Hazard Mitigation Grants? If so, when, amount and purpose?	No
Any disaster declarations? If so, when and what storm event?	No

Other comments

There may be more than 4 low water crossing in the city (4 identified through Discovery); NFIP claims information – would like to know the location in order to mitigate; Participates in saferoom program; Not interested in CRS because there is no incentive for policy holders in Zone X since city doesn't allow development in SFHA; growth frustrating – 2009 void in Denton County, no insurance for 2 years, no LOMRs incorporated since 2005 Denton County. Discrepancy between effective and developed areas



North Texas Discovery Data Questionnaire

Community Name: **Gainesville**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	No, covers flooding hazards in area
Does your community participate in CRS? What is the community's current rating?	Yes – at office (?)
Available topographic data, ongoing or future topographic acquisition efforts	No
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Tri-county; last year
Completed or In Progress Hazard Mitigation Projects?	Tri-county; last year
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Finishing CIP; Pecan Creek: replaced 4 bridges and removed 1 bridge
Master Drainage Plan(s), floodplain studies, existing/needed?	Yes, no update, 0 Coeff. Plan
Stormwater management plan?	Yes, no update, 0 Coeff. Plan
Structural and flooding issues not represented on effective DFIRMs?	No
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	No
Any information on new construction of culverts and bridges?	CIP – bridge replacements (4), remove 1 bridge
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Yes
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	Yes
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	No
Information from dam Emergency Action Plans (EAPs)	Yes – Moss Lake
Does your community use GIS?	Yes
GIS Data Layers to include if available:	
• Hydrography	Yes
• New Topographic or Survey Data	No
• Location of critical facilities in flood hazard area	Yes
• Locations of Previous Flood Damage	No
▪ Non-SFHA Flooding Boundaries	No
• Location of Dams and Levees	Yes
• Land Use/Zoning	Yes
• Culvert/Bridge Inventories	No
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	No
Recent Letters of Map Amendment (LOMAs)?	No
Hazard Mitigation Grants? If so, when, amount and purpose?	<2005 iStorm?; 04-06
Any disaster declarations? If so, when and what storm event?	1981, 2007
Other comments	Mitigation with USACE; Pecan Creek, Hwy 82; Want to get some CFM/NFIP-related training; Maintenance

	agreement waiver as opposed to Mitigation on Pecan; Levee at Zoo – will need to check certification; HMP expires in 2015; Cooke Co DFIRMs – Dots 205 and 310
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North Texas Discovery Data Questionnaire

Community Name: **City of Highland Village – collected by Catherine Rowley**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	FM 2499 missing – check DFIRMs
Does your community participate in CRS? What is the community’s current rating?	Would like to join
Available topographic data, ongoing or future topographic acquisition efforts	Halff 2’ elevations
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Yes - Working to update
Completed or In Progress Hazard Mitigation Projects?	No
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Raised a bridge (Halff project)
Master Drainage Plan(s), floodplain studies, existing/needed?	Somewhat of a plan but not official
Stormwater management plan?	No – only spray for mosquitos
Structural and flooding issues not represented on effective DFIRMs?	None
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Raised crossing on 537 (Halff project)
Any information on new construction of culverts and bridges?	Low water crossing at I-35E frontage road, highway expansion should fix
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	1 property – near city hall
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	Chinchapel Road
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	None
Information from dam Emergency Action Plans (EAPs)	No
Does your community use GIS?	Yes
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	Yes – Halff doing LOMR (check) that’s currently under FEMA review
Recent Letters of Map Amendment (LOMAs)?	Yes – several in GIS
Hazard Mitigation Grants? If so, when, amount and purpose?	None
Any disaster declarations? If so, when and what storm event?	TS Hermine (county)
Other comments	Talked with Mayra about CRS; will send LOMA data via



North Texas Discovery Data Questionnaire

Community Name: City of Lake Dallas – Charmaine DuPree (community rep), collected by Rigel Rucker

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Maps are OK
Does your community participate in CRS? What is the community's current rating?	No – but interested
Available topographic data, ongoing or future topographic acquisition efforts	None
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	None
Completed or In Progress Hazard Mitigation Projects?	Drainage project on intersection noted on large maps
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Drainage project on intersection noted on large maps
Master Drainage Plan(s), floodplain studies, existing/needed?	In progress
Stormwater management plan?	In progress with assistance from TCEQ
Structural and flooding issues not represented on effective DFIRMs?	None
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	None except for project noted above
Any information on new construction of culverts and bridges?	None
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Project ongoing to fix
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	Project ongoing to fix
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	None
Information from dam Emergency Action Plans (EAPs)	None
Does your community use GIS?	Somewhat – only have data provided by others
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	LOMR last year, noted on map
Recent Letters of Map Amendment (LOMAs)?	LOMAs based on LOMR
Hazard Mitigation Grants? If so, when, amount and purpose?	None
Any disaster declarations? If so, when and what storm event?	None

Other comments

Discussed applications for individual safe rooms; discussed with USACE about who to contact for use of USACE property; city borders USACE flowage easement on west side of Lake Lewisville



North Texas Discovery Data Questionnaire

Community Name: **Lindsay – Joseph Schmitz**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Zone A to AE (particularly Trib to MC)
Does your community participate in CRS? What is the community's current rating?	No
Available topographic data, ongoing or future topographic acquisition efforts	2010 LiDAR
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Yes – Cooke County
Completed or In Progress Hazard Mitigation Projects?	Yes – city buyouts
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Yes – parkland/floodplain buyouts (maybe 4 homes?)
Master Drainage Plan(s), floodplain studies, existing/needed?	No DMP, some LOMA & development but no cohesive
Stormwater management plan?	
Structural and flooding issues not represented on effective DFIRMs?	
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Parkview subdivision FM & overpass cause backup of water
Any information on new construction of culverts and bridges?	No
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Parkview subdivision
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	Parkview – no HWM
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	From Aug 12, 2013 – lake north of city with dam in poor repair
Information from dam Emergency Action Plans (EAPs)	No
Does your community use GIS?	? (Unsure)
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	LOMAs for new development, not sure of LOMRs
Recent Letters of Map Amendment (LOMAs)?	Yes
Hazard Mitigation Grants? If so, when, amount and purpose?	SRL – 2007
Any disaster declarations? If so, when and what storm event?	Yes
Other comments	NRCS dam upstream with less capacity (?); new subdivision on Hwy 82 east of Montague Creek



North Central Texas
Council of Governments

North Texas Discovery Data Questionnaire

Community Name: Town of Little Elm

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Bad, they were based on inaccurate modeling data
Does your community participate in CRS? What is the community's current rating?	No – in progress
Available topographic data, ongoing or future topographic acquisition efforts	2013 contours and planimetrics
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Current HMAP at FEMA for review 6/2013
Completed or In Progress Hazard Mitigation Projects?	No
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Witt Road Bridge, Lobo Lane
Master Drainage Plan(s), floodplain studies, existing/needed?	Existing
Stormwater management plan?	Yes
Structural and flooding issues not represented on effective DFIRMs?	No
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	No, Studies done and bridges built
Any information on new construction of culverts and bridges?	
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	None
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	No
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	No
Information from dam Emergency Action Plans (EAPs)	No
Does your community use GIS?	Yes
GIS Data Layers to include if available:	
• Hydrography	Yes
• New Topographic or Survey Data	Yes
• Location of critical facilities in flood hazard area	N/A
• Locations of Previous Flood Damage	N/A
▪ Non-SFHA Flooding Boundaries	No
• Location of Dams and Levees	N/A
• Land Use/Zoning	Yes
• Culvert/Bridge Inventories	Yes
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	Yes
Recent Letters of Map Amendment (LOMAs)?	Yes
Hazard Mitigation Grants? If so, when, amount and purpose?	Yes – 2013 - \$50,000 HMAP
Any disaster declarations? If so, when and what storm event?	No
Other comments	Stream bank monitoring needs near Frisco; Shell Beach high flow access issues near Cottonwood Park in western Little Elm



North Texas Discovery Data Questionnaire

Community Name: **Shady Shores**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	
Does your community participate in CRS? What is the community's current rating?	No; there are 9 insurance policies in the community
Available topographic data, ongoing or future topographic acquisition efforts	2010 LiDAR
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	Denton County
Completed or In Progress Hazard Mitigation Projects?	
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Near RFQ for Drainage Master Plan
Master Drainage Plan(s), floodplain studies, existing/needed?	RFQ for Drainage Master Plan
Stormwater management plan?	Work in progress – 2010 might need updates
Structural and flooding issues not represented on effective DFIRMs?	
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Bridge on South Shady Shores Road (Comment #244)
Any information on new construction of culverts and bridges?	On maps
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	Notes on maps
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	Yes – looking for old photos, will provide
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	No
Information from dam Emergency Action Plans (EAPs)	No
Does your community use GIS?	Some through the County
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	2010 LiDAR
• Location of critical facilities in flood hazard area	Yes
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	Not sure
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	No LOMRs in progress
Recent Letters of Map Amendment (LOMAs)?	Mass LOMA from FEMA using LiDAR
Hazard Mitigation Grants? If so, when, amount and purpose?	None; Drainage Master Plan RFQ
Any disaster declarations? If so, when and what storm event?	Yes
Other comments	iSWM adoption?; New AE on LC-1, lots of issues and no recent cohesive study; nothing left to acquire property-

	wise, new middle school potentially at risk, considering a flood study within town?
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North Texas Discovery Data Questionnaire

Community Name: **City of Southlake – collected by Eric Hajek**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Known issue with Denton and Tarrant County match line
Does your community participate in CRS? What is the community's current rating?	No
Available topographic data, ongoing or future topographic acquisition efforts	
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	2-ft freeboard ordinance
Completed or In Progress Hazard Mitigation Projects?	
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Designed road widening to start construction in 2014
Master Drainage Plan(s), floodplain studies, existing/needed?	In place
Stormwater management plan?	In place
Structural and flooding issues not represented on effective DFIRMs?	No
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	Yes
Any information on new construction of culverts and bridges?	Yes, see CIP comment
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	No – nuisance flooding along border with Keller
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	No
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	Yes – see map, private EAP for another neighborhood that is talking with city due to failure
Information from dam Emergency Action Plans (EAPs)	See above
Does your community use GIS?	Yes
GIS Data Layers to include if available:	(Will send FTP info for data upload)
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	
Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	
Recent Letters of Map Amendment (LOMAs)?	A few in recent past
Hazard Mitigation Grants? If so, when, amount and purpose?	Not currently
Any disaster declarations? If so, when and what storm event?	No -
Other comments	Discussed safe rooms and related grants



North Texas Discovery Data Questionnaire

Community Name: **City of University Park – Harry Persaud (community rep), gathered by Cindy Crouch**

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, please let us know if you have the following information which we will coordinate with you to collect:

Data Item	Comments/Notes
Comments on the accuracy of the current floodplain mapping?	Several mapping concerns: would like studies at dots 103 and 104 to extend further upstream on Turtle Creek, some flooding during heavy storms, city is completely built-out which has created more runoff, no room for detention ponds or reservoirs; looking into building subterranean reservoirs but city requires engineering plans for these, money not an issue for residents
Does your community participate in CRS? What is the community's current rating?	
Available topographic data, ongoing or future topographic acquisition efforts	
Local Hazard Mitigation Plan? If so, what is the name, approval and expiration date?	
Completed or In Progress Hazard Mitigation Projects?	
Completed or In Progress Capital Improvements Program (CIP) projects that involve flood hazard reduction?	Thinking of implementing a "flood impact fee" or "mitigation fee" to cover projects
Master Drainage Plan(s), floodplain studies, existing/needed?	Ordinance in place that limits the amount of hard surface on lots
Stormwater management plan?	
Structural and flooding issues not represented on effective DFIRMs?	
Any known undersized culverts or narrow bridge openings that restrict flow and cause flooding, or overtop frequently?	
Any information on new construction of culverts and bridges?	
Neighborhoods or Roads that Receive Repetitive Flooding (Repetitive Loss and Severe Repetitive Loss)?	
Areas of historical flooding, high water marks (HWMs)/low water crossings (LWCs)?	1 death from floods around 2008/2009
Information on existing dams/levees, new dams/levees or dams/levees not shown on DFIRM (and condition, if known)	
Information from dam Emergency Action Plans (EAPs)	
Does your community use GIS?	
GIS Data Layers to include if available:	
• Hydrography	
• New Topographic or Survey Data	
• Location of critical facilities in flood hazard area	
• Locations of Previous Flood Damage	
▪ Non-SFHA Flooding Boundaries	
• Location of Dams and Levees	
• Land Use/Zoning	
• Culvert/Bridge Inventories	

Recent Letters of Map Revision (LOMRs) or Conditional Letters of Map Revision (CLOMRs)?	
Recent Letters of Map Amendment (LOMAs)?	
Hazard Mitigation Grants? If so, when, amount and purpose?	
Any disaster declarations? If so, when and what storm event?	
Other comments	Talked with Mayra about CRS; will send LOMA data via FTP

FEMA Handouts



National Flood Insurance Program

Myths and Facts about the National Flood Insurance Program



FEMA

Who needs flood insurance? Everyone!

And almost everyone in a participating community of the National Flood Insurance Program (NFIP) can buy flood insurance. Nationwide, more than 20,000 communities have joined the Program. In some instances, people have been told that they cannot buy flood insurance because of where they live. To clear up this and other misconceptions about National Flood Insurance, the NFIP has compiled a list of common myths about the Program, and the real facts behind them, to give you the full story about this valuable protection.

MYTH: You can't buy flood insurance if you are located in a high-flood risk area.

FACT: You can buy National Flood Insurance no matter where you live if your community participates in the NFIP, except in Coastal Barrier Resources System (CBRS) or other protected areas. The Program was created in 1968 to make federally backed flood insurance available to property owners who live in eligible communities. Flood insurance was then virtually unavailable from the private insurance industry. The Flood Disaster Protection Act of 1973, as amended, requires federally regulated lending institutions to make sure that mortgage loans secured by buildings in high-flood risk areas are protected by flood insurance.

Lenders should notify borrowers, prior to closing, that their property is located in a high-flood risk area and that National Flood Insurance is required.

MYTH: You can't buy flood insurance immediately before or during a flood.

FACT: You can purchase National Flood Insurance at any time. There is usually a 30-day waiting period after premium payment before the policy is effective, with the following exceptions:

1. If the initial purchase of flood insurance is in connection with the making, increasing, extending, or renewing of a loan, there is no waiting period. Coverage becomes effective at

the time of the loan, provided application and payment of premium is made at or prior to loan closing.

2. If the initial purchase of flood insurance is made during the 13-month period following the effective date of a revised flood map for a community, there is a 1-day waiting period. This applies only where the Flood Insurance Rate Map (FIRM) is revised to show the building to be in a Special Flood Hazard Area (SFHA) when it had not been in an SFHA.

The policy does not cover a "loss in progress," defined by the NFIP as a loss occurring as of 12:01 a.m. on the first day of the policy term. In addition, you cannot increase the amount of insurance coverage you have during a loss in progress.

MYTH: Homeowners insurance policies cover flooding.

FACT: Unfortunately, many home and business owners do not find out until it is too late that their homeowners and business multiperil policies do not cover flooding. The NFIP offers a separate policy that protects the single most important financial asset, which for most people is their home or business.

Homeowners can include contents coverage in their NFIP policy. Residential and commercial renters can purchase contents coverage. Business

owners can purchase flood insurance coverage for their buildings and contents/inventory and, by doing so, protect their livelihood.

MYTH: Flood insurance is only available for homeowners.

FACT: Most people who live in NFIP participating communities, including renters and condo unit owners, are eligible to purchase federally backed flood insurance. A maximum of \$250,000 of building coverage is available for single-family residential buildings; \$250,000 per unit for residential condominiums. The limit for contents coverage on all residential buildings is \$100,000, which is also available to renters.

Commercial structures can be insured to a limit of \$500,000 for the building and \$500,000 for the contents. The maximum insurance limit may not exceed the insurable value of the property.

MYTH: You can't buy flood insurance if your property has been flooded.

FACT: You are still eligible to purchase flood insurance after your home, apartment, or business has been flooded, provided that your community is participating in the NFIP.

MYTH: Only residents of high-flood risk areas need to insure their property.

FACT: All areas are susceptible to flooding, although to varying degrees. If you live in a low-to-moderate flood risk area, it is advisable to have flood insurance. Nearly 25 percent of the NFIP's claims come from outside high-flood risk areas. Residential and commercial property owners located in low-to-moderate risk areas should ask their agents if they are eligible for the Preferred Risk Policy, which provides inexpensive flood insurance protection.

MYTH: National Flood Insurance can only be purchased through the NFIP directly.

FACT: NFIP flood insurance is sold through private insurance companies and agents, and is backed by the federal government.

MYTH: The NFIP does not offer any type of basement coverage.

FACT: Yes it does. The NFIP defines a basement as any area of a building with a floor that is below ground level on all sides. While flood insurance does not cover basement improvements (such as finished walls, floors, or ceilings), or personal belongings kept in a basement (such as furniture and other contents), it does cover structural elements and essential equipment.

The following items are covered under building coverage, as long as they are connected to a power source, if required, and installed in their functioning location:

- Sump pumps
- Well water tanks and pumps, cisterns, and the water in them
- Oil tanks and the oil in them, natural gas tanks and the gas in them
- Pumps and/or tanks used in conjunction with solar energy
- Furnaces, water heaters, air conditioners, and heat pumps
- Electrical junction and circuit breaker boxes and required utility connections
- Foundation elements
- Stairways, staircases, elevators, and dumbwaiters
- Unpainted drywall walls and ceilings, including nonflammable insulation
- Cleanup

The following items are covered under contents coverage:

- Clothes washers and dryers
- Food freezers and the food in them

The NFIP recommends both building and contents coverage for the broadest protection.

MYTH: The NFIP encourages coastal development.

FACT: One of the NFIP's primary objectives is to guide development away from high-flood risk areas. NFIP regulations minimize the impact of structures that are built in SFHAs by requiring them not to cause obstructions to the natural flow of floodwaters. Also, as a condition of community participation in the NFIP, those structures built within SFHAs must adhere to strict floodplain management regulations enforced by the community.

In addition, the Coastal Barrier Resources Act (CBRA) of 1982 relies on the NFIP to discourage building in fragile coastal areas by prohibiting the sale of flood insurance in designated CBRA areas. While the NFIP does not prohibit property owners from building in these areas, any Federal financial assistance, including federally backed flood insurance, is prohibited. However, the CBRA does not prohibit privately financed development or insurance.

MYTH: Federal disaster assistance will pay for flood damage.

FACT: Before a community is eligible for disaster assistance, it must be declared a federal disaster area. Federal disaster assistance

declarations are issued in less than 50 percent of flooding events. The premium for an NFIP policy, averaging a little over \$500 a year, can be less expensive than the monthly payments on a federal disaster loan.

Furthermore, if you are uninsured and receive federal disaster assistance after a flood, you must purchase flood insurance to remain eligible for future disaster relief.

MYTH: The NFIP does not cover flooding resulting from hurricanes or the overflow of rivers or tidal waters.

FACT: The NFIP defines covered flooding as a general and temporary condition during which the surface of normally dry land is partially or completely inundated. Two properties in the area or two or more acres must be affected. Flooding can be caused by:

- Overflow of inland or tidal waters, or
- Unusual and rapid accumulation or runoff of surface waters from any source, such as heavy rainfall, or
- Mudflow, i.e., a river of liquid and flowing mud on the surfaces of normally dry land areas, or
- Collapse or subsidence of land along the shore of a lake or other body of water, resulting from erosion or the effect of waves, or water currents exceeding normal, cyclical levels.

For more information about the NFIP and flood insurance, call
1-800-427-4661

or contact your insurance company or agent.

For an agent referral, call 1-888-435-6637
TDD 1-800-427-5593

<http://www.fema.gov/business/nfip>
<http://www.floodsmart.gov>



FEMA

Fact Sheet

Federal Insurance and Mitigation Administration

Community Rating System

The National Flood Insurance Program (NFIP) Community Rating System (CRS) was implemented in 1990 as a voluntary program for recognizing and encouraging community floodplain management activities exceeding the minimum NFIP standards. Any community in full compliance with the minimum NFIP floodplain management requirements may apply to join the CRS.

1,192 Communities Participate in the CRS

Nearly 3.7 million policyholders in 1,192 communities participate in the CRS by implementing local mitigation, floodplain management, and outreach activities that exceed the minimum NFIP requirements.

Under the CRS, flood insurance premium rates are discounted to reward community actions that meet the three goals of the CRS, which are: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management.

Although CRS communities represent only 5 percent of the over 21,000 communities participating in the NFIP, more than 67 percent of all flood insurance policies are written in CRS communities.

CRS Classes

The CRS uses a class rating system that is similar to fire insurance rating to determine flood insurance premium reductions for residents. CRS classes* are rated from 10 to 1. A community that does not apply for the CRS or that does not maintain the minimum number of credit points would be considered a Class 10 community. Today, most communities enter the program at a Class 9 rating, which entitles residents in Special Flood Hazard Areas (SFHAs)

* CRS class changes occur on May 1 and October 1 of each year. The data contained in this fact sheet were current through October 1, 2011.

to a 5 percent discount on their flood insurance premiums. As a community engages in additional mitigation activities, its residents become eligible for increased NFIP policy premium discounts. Each CRS Class improvement produces a 5 percent greater discount on flood insurance premiums for properties in the SFHA, with a Class 1 community receiving the maximum 45 percent premium reduction.

Best of the Best

Four communities occupy the highest levels of the CRS. Each has developed a floodplain management program tailored to its own particular hazards, character, and goals. Under these programs, each community carries out numerous and varied activities, many of which are credited by the CRS. The average discount in policyholder premiums varies according to a community's CRS class and the average amount of insurance coverage in place. Some highlights:

Roseville, California was the first to reach the highest CRS rating (Class 1). Damaging floods in 1995 spurred Roseville to strengthen and broaden its floodplain management program. Today the City earns points for almost all CRS creditable activities. The average premium discount for policies in the Special Flood Hazard Area (SFHA) is \$768.

Comprehensive planning for floodplain management has been a key contributor to **Tulsa, Oklahoma's** progress in reducing flood damage from the dozens of creeks within its jurisdiction. The City (Class 2) has cleared more than 900 buildings from its floodplains. The average premium discount for policies in the SFHA is \$461.

King County, Washington (Class 2) has preserved more than 100,000 acres of floodplain open space and receives additional CRS credit for maintaining it in a natural state. The average premium discount for policies in the SFHA is \$381.

Pierce County, Washington (Class 3) maintains over 80 miles of river levees. County officials annually mail informational brochures to all floodplain residents. The average premium discount for policies in the SFHA is \$381.

CRS Credit

A community accrues points to improve its CRS Class rating and receive increasingly higher discounts. Points are awarded for engaging in any of 18 creditable activities, organized under four categories:

- Public information
- Mapping and regulations
- Flood damage reduction
- Flood preparation

Formulas and adjustment factors are used to calculate credit points for each activity.

The communities listed below are among those that have qualified for the greatest premium discounts:

Class 1: Roseville, California

Class 2: Tulsa, Oklahoma
King County, Washington

Class 3: Pierce County, Washington

Class 4: Fort Collins, Colorado
Skagit County, Washington
Snohomish County, Washington
Charleston County, South Carolina
Sacramento County, California

Benefits of the CRS

Lower cost flood insurance rates are only one of the rewards a community receives from participating in the CRS. Other benefits include:

- Citizens and property owners in CRS communities have increased opportunities to learn about risk, evaluate their individual vulnerabilities, and take action to protect themselves, as well as their homes and businesses.
- CRS floodplain management activities provide enhanced public safety, reduced damage to property and public infrastructure, and avoidance of economic disruption and loss.
- Communities can evaluate the effectiveness of their flood programs against a nationally recognized benchmark.
- Technical assistance in designing and implementing some activities is available to community officials at no charge.

- CRS communities have incentives to maintain and improve their flood programs over time.

How to Apply

To apply for CRS participation, a community must initially inform the Federal Emergency Management Agency (FEMA) Regional Office of its interest in applying to the CRS and will eventually submit a CRS application, along with documentation that shows it is implementing the activities for which credit is requested. The application is submitted to the Insurance Services Office, Inc. (ISO)/CRS Specialist. ISO works on behalf of FEMA and insurance companies to review CRS applications, verify communities' credit points, and perform program improvement tasks.

A community's activities and performance are reviewed during a verification visit. FEMA establishes the credit to be granted and notifies the community, the State, insurance companies, and other appropriate parties.

Each year, the community must verify that it is continuing to perform the activities that are being credited by the CRS. In addition, a community can continue to improve its class rating by undertaking new mitigation and floodplain management activities that earn even more points.

CRS Training

CRS specialists are available to assist community officials in applying to the program and in designing, implementing, and documenting the activities that earn even greater premium discounts. In addition, a week-long CRS course for local officials is offered for free at FEMA's Emergency Management Institute (EMI) located on the National Emergency Training Center campus in Emmitsburg, Maryland, and can be field deployed in interested states.

For More Information

A list of resources is available at the CRS website: <http://www.fema.gov/nfp/crs.shtm>. For more information about the CRS or to obtain the CRS application, contact the Insurance Services Office by phone at (317) 848-2898 or by e-mail at nlipcrs@iso.com.



Flood Risk Products

Risk MAP will provide state and community officials with three Flood Risk Products to help them gain a better understanding of flood risk and its potential impact on communities and individuals. These products will also enable communities to take proper mitigation actions to reduce this risk.

- Flood Risk Report
- Flood Risk Map
- Flood Risk Database

These products will summarize information captured through the Flood Risk Datasets during a Flood Risk study. These datasets include:

- Changes Since Last Flood Insurance Rate Map (FIRM)
- Flood Depth and Analysis Grids
- Flood Risk Assessment Data
- Areas of Mitigation Interest

Flood Risk Report, Flood Risk Map and Flood Risk Database

The **Flood Risk Report** provides stakeholders with a comprehensive understanding of flood hazard and risk exposure within their community, watershed, or other geographic area. The report parallels the Flood Insurance Study report by providing a narrative of the flood risk assessment methodology and results.

The report provides risk assessment information at the project level, placing emphasis on risk reduction activities that may have impacts beyond the specific stream area or community. The report will also provide risk assessment information that can be incorporated into mitigation plans.

The report will also include a **Flood Risk Map** that depicts select flood risk data for jurisdictions within the project area, emphasizing that risk reduction activities may have an impact beyond the site.

The **Flood Risk Database** will be the primary source to access information collected and developed during the flood risk assessment process. The Flood Risk Database parallels the Flood Insurance Rate Map database. It is a project-level database that includes flood risk assessment data collected, created, and analyzed during the flood risk project. FEMA will publish and maintain the database in a standardized form to support national, State, regional, and local distribution. Viewing tools are currently under development, to provide users without access to Geographic Information System (GIS) software, the ability to visualize and understand the multiple flood risk datasets contained within the database.



Planning for Risk

Risk is the possibility of suffering harm or loss; danger; a factor, thing, element, or course involving uncertain danger; a hazard.

Hazard mitigation planning is the process State, Tribal, and local governments use to identify risks and vulnerabilities associated with natural disasters, and to develop long-term strategies for protecting people and property from future hazard events.

What is HAZUS?

HAZUS-MH is a powerful risk assessment methodology for analyzing potential losses from floods, hurricane winds, and earthquakes.

Quantification of Risk Allows Communities to Analyze:

- Physical damages to residential/commercial buildings, schools, critical facilities, and infrastructure
- Economic losses, including lost jobs, business interruptions, repair and reconstruction costs; and
- Social impacts, including estimates of shelter requirements, displaced

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Changes Since Last FIRM

The **Changes Since Last FIRM** dataset helps communities understand changes to their flood maps and prepare for the

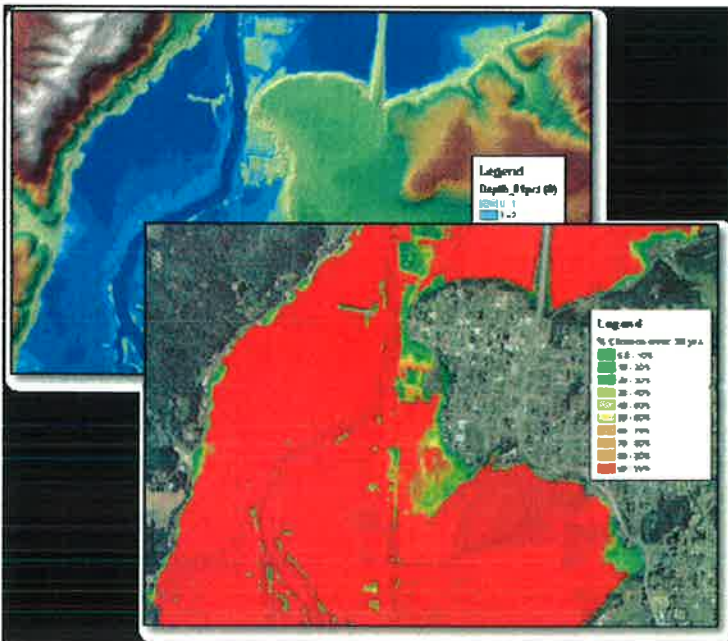


upcoming flood map adoption process. This product is a spatial dataset that identifies areas of floodplain and flood zone changes that have occurred since the

previous flood map study. The dataset captures areas where the floodplain and floodway have increased or decreased, as well as areas where the flood zone designation has changed (e.g., A to AE). In areas where the mapped flood hazard has changed, the engineering factors that may have contributed to that change will also be identified within the dataset. The built environment affected by the change is quantified and summarized to help locate previously unidentified areas at risk.

Flood Depth and Analysis Grids

Flood Depth and Analysis Grids help communities better understand their flood hazard and risk in the mapped floodplain. Depth Grids will be produced for the 10 percent, 4 percent, 2 percent, 1 percent, and 0.2 percent annual chance flood events. The analysis grids will be used to create additional analyses that depict the percent annual chance of flooding and the percent chance of flooding over a 30-year time period in the floodplain.



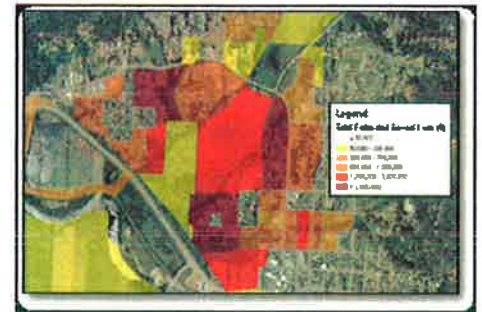
Risk Assessment

Flood Risk Assessments helps guide community mitigation efforts by highlighting areas where risk reduction actions may produce the highest return on investment. Building on the foundation of the 2010 nationwide HAZUS Level 1

Average Annualized Flood Loss (AAL) Study, basic refined HAZUS loss estimation analyses will be done for flooding sources with default HAZUS building stock information.

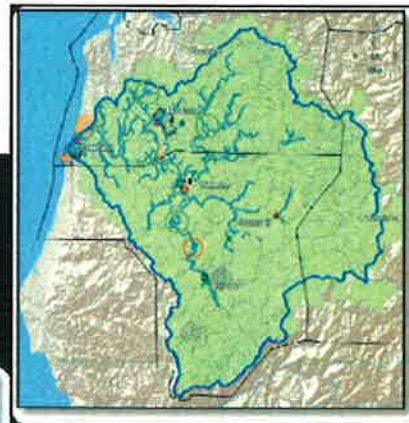
Where local built

environment data is available, enhanced HAZUS or other risk assessment analyses are possible. Communities are encouraged to pursue enhanced analysis where possible by providing FEMA with additional GIS data such as parcel data, building footprints, or elevation certificates. Communities may also provide additional funding to support analysis enhancement. The results of both the basic refined and enhanced HAZUS analysis can be incorporated into hazard mitigation plans.



Areas of Mitigation Interest

The **Areas of Mitigation Interest** dataset helps communities better understand the impact of multiple physical factors on



the floodplain elevation and extent. This enhanced spatial dataset, identifies conditions within a flood risk project area (watershed or otherwise) that may contribute to the severity of the flood hazard and associated losses. These conditions include areas with a history of flood claims,

hydraulic or other structures that contribute to backwater (e.g., undersized culverts, bridges and dams), and areas experiencing land use change or development. By identifying these conditions within the watershed, this product will also assist communities in determining potential mitigation opportunities.

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What is Risk MAP?

Risk Mapping, Assessment, and Planning (Risk MAP) is the Federal Emergency Management Agency (FEMA) Program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. Through more precise flood mapping products, risk assessment tools, and planning and outreach support, Risk MAP strengthens local ability to make informed decisions about reducing risk.

The Risk MAP Vision

Through collaboration with State, Tribal, and local entities, Risk MAP delivers quality data that increases public awareness and leads to action that reduces risk to life and property. Risk MAP focuses on products and services beyond the traditional Flood Insurance Rate Map (FIRM) and works with officials to help put flood risk data and assessment tools to use, effectively communicating risk to citizens and enabling communities to enhance their mitigation plans and actions.



Risk MAP Solution

Building on the Risk MAP Multi-Year Plan, FEMA has developed a Risk MAP Solution to achieve the Program's vision. The Solution identifies new strategies and products designed to achieve the goals and objectives laid out in the vision. These strategies and products address project prioritization, elevation data acquisition, a watershed study approach, engineering and mapping, risk assessment, mitigation planning support, and risk communications. The following sections provide the overall objective of each of these strategies.

Vision

Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property

Multi-Year Plan

Risk MAP Program Measures

Goal 1: Data Gaps Address gaps in flood hazard data	Goal 2: Awareness & Understanding Measurably increase public's awareness & understanding	Goal 3: Mitigation Planning Lead effective engagement in Mitigation Planning	Goal 4: Digital Platform Provide an enhanced digital platform	Goal 5: Synergize Programs Align Risk Analysis programs and develop synergies
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The Risk MAP Team

FEMA's ten Regional Offices implement Risk MAP at the local level through close collaboration with community officials.

FEMA Headquarters provides direction, policy, and guidance to enable consistent implementation nationwide.

State, regional, Tribal, and local communities can use enhanced hazard data to make more informed decisions regarding risk.

FEMA's Risk MAP Multi-Year Plan and FY11 Report to Congress

On March 16, 2009, Congress approved the Risk MAP Multi-Year Plan for fiscal years 2010 to 2014. The document outlines the goals, objectives, and strategies for Risk MAP and summarizes FEMA's strategic planning approach and stakeholder roles and responsibilities. For more information please visit http://www.fema.gov/plan/prevent/fhm/rm_main.shtm#8.

FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) Fiscal Year 2011 Report to Congress provides an update on FEMA's strategic approach, program budget and measures, and implementation activities for Risk MAP. For more information about the report please visit http://www.fema.gov/plan/prevent/fhm/rm_main.shtm#4.

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Project Prioritization

Guides FEMA's investments in engineering, mapping, assessment, and planning support in order to achieve Risk MAP objectives

- * Applies a quantitative approach to determine which communities FEMA will study

Elevation Data Acquisition

Improves engineering data and supports risk assessment data development

- * Elevation data is essential to the accuracy and reliability of flood hazard data
- * Updated digital elevation data enables better risk assessments
- * Detailed, digital elevation data supports innovative risk communication products

Watershed Study Approach

Improves engineering credibility and opens the door to understanding risks in a more holistic, comprehensive way

- * Encourages work across community boundaries and a more comprehensive understanding of flooding
- * Allows for a better understanding of flood hazards as a result of more comprehensive assessments of stream and tributary relationships
- * Provides a framework to evaluate flood risk, engineering need, elevation data acquisition availability and gaps, and availability of community contribution by watershed

Engineering and Mapping

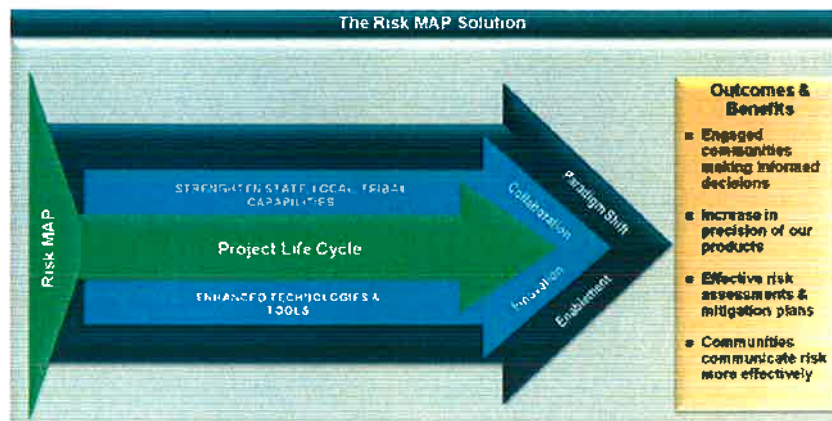
Identifies flood hazards, provides local floodplain management data, supports the National Flood Insurance Program (NFIP), and provides data for risk assessments and mitigation plans for flood hazards

- * Includes the scientific collection, processing, and analysis of flood hazard data to provide communities with accurate flood maps and risk assessment products
- * Engineering and mapping data provide the foundation for more effective risk communications through assessments and also enable effective mitigation at the local level
- * Includes significant investments in the flood mapping of areas impacted by levees and coastal flood hazard

Risk Assessment

Allows communities to make informed mitigation decisions by providing products and technologies that communicate and visualize risks

- * Equips communities with the information and tools they need to develop effective mitigation plans
- * Provides communities with flood risk information through a Flood Risk Report, Flood Risk Map, and Flood RiskDatabase



Mitigation Planning Support

Provides technical assistance, incentivizes risk reduction activities at the local level, and develops the programmatic infrastructure to monitor community efforts

- * Enables communities to assess risks and identify actions to reduce vulnerability to those risks
- * Enhances collaboration with and among local stakeholders
- * Provides tools to improve communities' understanding of risk and facilitate mitigation planning and local risk reduction efforts
- * Incentivizes local effective mitigation planning and risk reduction activities

Risk Communications

Motivates citizens to make informed decisions regarding their risks and encourages communities to take the lead in protecting their constituents

- * Enhances local capabilities to communicate effectively with constituents about risk
- * Allows for an exchange of information about risk between FEMA and other stakeholders
- * Provides customizable communications plans, key messages, and materials to communities
- * Facilitates national and local collaboration through key partnerships

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FEMA



Flood Insurance and the Grandfathering Rule

New Flood Maps; New Insurance Requirements

The Federal Emergency Management Agency's (FEMA's) current nationwide flood hazard remapping effort, Risk Mapping, Assessment, and Planning (Risk MAP), builds on the success of FEMA's Flood Map Modernization program. Risk MAP is updating current flood hazard maps resulting in more accurate Flood Insurance Rate Maps (FIRMs) that reflect current flood risk. During this process, residents and business owners may find that their current flood risk has changed and in some cases a property may be mapped into a lower-risk zone. For others, a property's risk may change from a moderate- or low-risk area to a high-risk area, making flood insurance mandatory by most lenders. Other changes could include a change in high-risk area designation (e.g., from a zone beginning with the letter "A" to a zone beginning with the letter "V") or a change in the Base Flood Elevation (BFE).¹

If a property is mapped into a higher risk zone, or if the BFE changes, the flood insurance premium could increase. Property owners need to understand their options following changes to their community's FIRM. One of their options might be "grandfathering," which is a National Flood Insurance Program (NFIP) rule that was created in order to recognize property owners who carried a policy before the maps became effective or built to the correct standards relative to the flood map in effect at the time of construction. This rule, along with other NFIP rules, can result in significant cost savings to policyholders compared to a potentially higher premium rate that results from a flood map revision.

Low-Cost Policies Extended for Two Years

With past flood hazard map changes, FEMA required a flood insurance policy for properties mapped into a high-risk area to be rated using the new flood risk zone, unless it was grandfathered. One method for property owners to grandfather was to purchase an NFIP low-cost Preferred Risk Policy (PRP) before the new FIRM became effective. At renewal, the

Staying Informed

Knowing when and where map changes are occurring will help you understand what insurance options are available. FEMA provides updated monthly listings of all communities that have received a Letter of Final Determination (LFD), a document that states that a flood risk map will become effective in six months.²

LFD Listings:

http://www.fema.gov/plan/prevent/fhm/st_hot.shtm#2

Risk MAP:

http://www.fema.gov/plan/prevent/fhm/rm_main.shtm

Rating Using the Grandfather Rule:

<http://www.fema.gov/business/nfip/manual.shtm>

Flood Insurance:

<http://www.floodsmart.gov>

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policy could be rewritten using standard rates, but would still be based on the grandfathered lower-risk zone.

The resulting premium would typically be lower than using the updated map's higher-risk zone rating, though it would be higher than the previous PRP premium. Recognizing the financial burden that this may place on affected property owners, starting January 1, 2011, FEMA is extending the eligibility to write the PRP for two policy years after an updated flood map's date. Consequently, the ability to grandfather in a flood zone for future rating for a property newly mapped into a high-risk area has been extended for two years.

Pre-FIRM Buildings Have One Opportunity

A pre-FIRM building is one that was constructed prior to the date of the community's first FIRM. In most cases, owners of pre-FIRM buildings have just one opportunity to use the grandfathering rule, which is to purchase a policy before the updated FIRM becomes effective. The exception is a pre-FIRM building that is newly mapped into a high-risk area. If it qualifies for a PRP, the property owner has up to two years from the new map's effective date to purchase a PRP to then grandfather in the lower risk zone for future rating. In either instance, to maintain the grandfathered zone, the policy must stay continuously in effect. Continuity of coverage can be maintained even if the building is sold, as the policy can be assigned to the new owner.

Post-FIRM Buildings Have Two Opportunities

Buildings constructed after the effective date of the initial FIRM (known as post-FIRM structures) have two opportunities to apply the grandfathering rules:

- Purchase a policy before the FIRM becomes effective and lock in the zone or BFE for future rating (as described above for pre-FIRM structures); or
- Purchase after the updated FIRM is effective, but provide evidence that the building was built in compliance with the FIRM in effect at the time of construction (note to grandfather in a flood zone for post-FIRM properties newly mapped into a high-risk area, the two-year extension for PRP eligibility also applies, so this opportunity to grandfather applies after the two-year PRP period).

If a post-FIRM building was constructed in compliance with the FIRM in effect at the time of construction, the owner is eligible to obtain a policy using the zone and the BFE from that FIRM if it results in a lower insurance rate. To do so, the building cannot have been altered in a way that resulted in a floor being lower than the BFE on that FIRM (e.g., enclosing the area below an elevated building) and the building cannot have been substantially improved or damaged.³ The property owner must also provide proper documentation to the insurance company or agent that shows:

- The date of the FIRM
- The flood zone on the FIRM panel in which the property is located
- The BFE, if any, for that zone
- A copy of the map panel showing the location of the building; and
- The rating element that is to be grandfathered; or
- A letter from a community official verifying this information or an Elevation Certificate.

Note that continuous coverage is not required to maintain this rate and this method of grandfathering can be used at any time after the new FIRM becomes effective.

Use the Best Rate

Sometimes using the data based on the new FIRM will provide a better rate than grandfathering. Both options should always be explored, but always use the new map if it will provide a more favorable premium (lower rate).

¹ The height to which floodwater has at least a 1-percent chance of reaching in any given year.

² Assuming that the community passes an ordinance that adopts the new flood maps before the proposed effective date of the map.

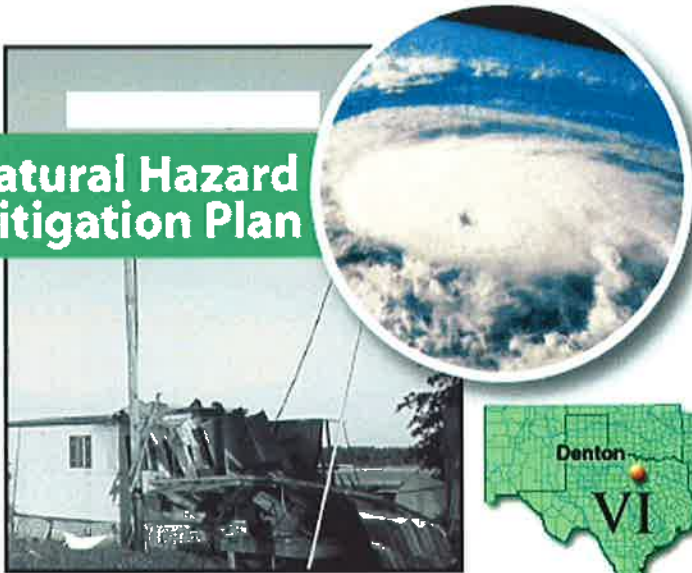
³ A structure is considered substantially damaged if the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. Substantially improved refers to any improvement of a structure where the cost equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement.



FEMA

Do you have a Hazard Mitigation Plan?

Natural Hazard Mitigation Plan



A Hazard Mitigation plan is a gateway for local governments to improve the quality of life for the citizens in their community. A Hazard Mitigation plan is required as a condition for receiving mitigation project grants under the Pre-Disaster Mitigation (PDM) program, post-disaster Hazard Mitigation Grant Program (HMGP), and Flood Mitigation Assistance (FMA) Program. The requirements for writing local Hazard Mitigation plans are found in 44 Code of Federal Regulation (CFR) 201.6.

Mitigation planning is the systematic process of:

- Organizing technical, financial, and human resources
- Learning about the hazards that can affect a community
- Setting clear goals to reduce a community's vulnerability to the identified hazards
- Implementing an effective Hazard Mitigation strategy linked to specific actions

Why Planning?

- Reduction of Risk to your community
- Putting your Digital Flood Insurance Rate Map (DFIRM) to work
- Community Rating System (CRS) activity helping reduce your NFIP premiums
- Federal Hazard Mitigation funding eligibility

Get Started

Contact your State Hazard Mitigation Office for Guidance:

Texas Division of
Emergency Management / Mitigation
P.O. Box 4087
Austin, TX 78773
Ph: 512-424-2138

Additional Information at <http://www.fema.gov/plan/mitplanning/resources.shtm>





Mitigation Planning

Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards. Hazard mitigation planning is the process State, Tribal, and local governments use to identify risks and vulnerabilities associated with natural disasters, and to develop long-term strategies for protecting people and property from future hazard events.

www.fema.gov/plan/mitplanning



FLOOD



INSURANCE



HAZUS



DAMS/LEVEES



PLANNING

Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended, State, Tribal, and local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects.

Mitigation Planning Process

The planning process promoted by Federal Emergency Management Agency (FEMA) is as important as the resulting plan because it creates a framework for governments to reduce the negative impacts from future disasters on lives, property, and the economy. Mitigation planning includes the following elements:

Public Involvement – Planning creates a way to solicit and consider input from diverse interests.

Involving stakeholders is essential to building community-wide support for the plan. In addition to emergency managers, the planning process involves other government agencies

(e.g., zoning, floodplain management, public works, community and economic development), businesses, civic groups, environmental groups, and schools.




Risk Assessment – Mitigation plans identify natural hazards and risks based on history, estimate the potential frequency and magnitude of disasters, and assess the potential losses of life and property. The assessment considers the built environment, including the type and numbers of existing and future buildings, infrastructure, and critical facilities located in or near identified hazard areas.

Mitigation Strategy – Based on the risk assessment, communities develop mitigation goals and objectives, as part of a strategy for mitigating disaster losses. The strategy is a community’s approach for implementing mitigation activities that are cost-effective, technically feasible, and environmentally sound as well as allowing strategic investment of limited resources.

Benefits of Mitigation Planning

- Increases public awareness and understanding of vulnerabilities as well as support for specific actions to reduce losses from future natural disasters.
- Builds partnerships with diverse stakeholders, thereby maximizing opportunities to leverage data and resources, which can help reduce workloads and achieve shared community objectives. For example, managing floodplain development may not only reduce flood losses, but also protect water quality by restoring natural functions.

- 
- Expands understanding of potential risk reduction measures to include structural and regulatory tools, where available, such as ordinances and building codes. Implementation of local floodplain ordinances prevents an estimated \$1.1 billion in flood damages annually.
 - Informs development, prioritization, and implementation of mitigation projects. Benefits accrue over the life of the project as losses are avoided from each subsequent hazard event.

Planning Guidance, Tools, and Training

To assist with mitigation planning, FEMA and its partners offer a variety of guidance, training, and informative publications, such as:

- Multi-Hazard Mitigation Planning Guidance, or "Blue Books," designed to increase State, Tribal, and local governments' understanding of the requirements for developing new or updated mitigation plans. They also help Federal and State reviewers fairly and consistently evaluate mitigation plans from different jurisdictions.
- Training sessions, including the following courses: Mitigation Planning Workshop for Local Governments (G318), HAZUS Multi-Hazard/DMA 2000 Risk Assessment (E296), and Protecting Tribal Communities and Acquiring Resources (E344).
- A series of "How-To" guides with information beyond FEMA's basic requirements. The guides focus on initiating and maintaining a planning process that will result in safer communities and are applicable to jurisdictions of all size, resource, and capability levels.

Hazard Mitigation Planning Results

History shows that the physical, financial, and emotional losses caused by disasters can be reduced significantly through hazard mitigation planning. A broad range of activities designed to reduce risk can result from the mitigation planning process. The examples listed below illustrate a range of possible long-term mitigation actions; however, they are not necessarily intended to serve as examples of eligible activities under the FEMA Hazard Mitigation Assistance programs:

- Consider adopting and enforcing regulatory tools, including ordinances, regulations, and building codes to guide and inform land use, development, and construction decisions in areas affected by hazards. Where authorized, adopt more stringent criteria to provide greater protection for citizens, as conditions may change over time. For example, consider:
 - Exceeding the National Flood Insurance Program (NFIP) floodplain management regulations by elevating structures above the Base Flood Elevation (BFE) in high-risk areas.
 - Creating a buffer area by protecting natural resources, such as floodplains, wetlands, or sensitive habitats. Additional benefits to the community may include improved water quality and recreational opportunities.
- Develop mitigation projects to acquire and demolish flood damaged structures, such as homes or businesses, or to retrofit public buildings, schools, and critical facilities to withstand extreme wind events or ground shaking from earthquakes.

Hazard Mitigation Assistance (HMA)

FEMA's HMA programs fund eligible mitigation activities that reduce future disaster losses and protect life and property. Funding is available for mitigation plan development and updates as well as mitigation projects. For more information on FEMA's HMA programs, visit www.fema.gov/government/grant/hma/index.shtm.



FEMA

Program Information

Mitigation



Hazard Mitigation Assistance

The Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) programs present a critical opportunity to reduce the risk to individuals and property from natural hazards while simultaneously reducing reliance on Federal disaster funds.

A Common Goal

While the statutory origins of the programs differ, all share the common goal of reducing the risk of loss of life and property due to natural hazards.

Funding Disaster Recovery Efforts

The Hazard Mitigation Grant Program (HMGP) may provide funds to States, Territories, Indian Tribal governments, local governments, and eligible private non-profits following a Presidential major disaster declaration.

The Unified Hazard Mitigation Assistance Grant Programs

The Hazard Mitigation Grant Program (HMGP)

is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, United States Code (U.S.C.) 5170c. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under a Presidential major disaster declaration, in the areas of the State requested by the Governor. The amount of HMGP funding available to the Applicant is based upon the total Federal assistance to be provided by FEMA for disaster recovery under the Presidential major disaster declaration.

The Pre-Disaster Mitigation (PDM)



program is authorized by Section 203 of the Stafford Act, 42 U.S.C. 5133. The PDM program is designed to assist States, Territories, Indian Tribal governments, and local communities in implementing a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future disasters.

The Flood Mitigation Assistance (FMA)

program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42 U.S.C. 4104c, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

The Repetitive Flood Claims (RFC)



program is authorized by Section 1323 of the NFIA, 42 U.S.C. 4030, with the goal of reducing flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Fund (NFIF) in the shortest period of time.

The Severe Repetitive Loss (SRL)



program is authorized by Section 1361A of the NFIA, 42 U.S.C. 4102a, with the goal of reducing flood damages to residential properties that have experienced severe repetitive losses under flood insurance coverage and that will result in the greatest amount of savings to the NFIF in the shortest period of time.

Application Process

Applications for HMGP are processed through the National Emergency Management Information System (NEMIS). Applicants use the Application Development Module of NEMIS, which enables each Applicant to create project applications and submit them to the appropriate FEMA Region in digital format for the relevant disaster.

Applications for PDM, FMA, RFC, and SRL are processed through a web-based, electronic grants management system (eGrants), which encompasses the entire grant application process. The eGrants system allows Applicants and subapplicants to apply for and manage their mitigation grant application processes electronically. Applicants and subapplicants can access eGrants at <https://portal.fema.gov>.



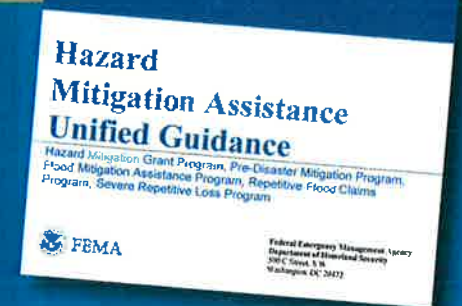
Application Deadline

The PDM, FMA, RFC, and SRL application period is from early June through early December. Applicants must submit a grant application to FEMA through the eGrants system. The HMGP application deadline is 12 months after the disaster declaration date and is not part of the annual application period. Details can be found in the HMA Unified Guidance.

FEMA Review and Selection

All subapplications will be reviewed for eligibility and completeness, cost-effectiveness, engineering feasibility and effectiveness, and for Environmental Planning and Historical Preservation compliance. Subapplications that do not pass these reviews will not be considered for funding. FEMA will notify Applicants of the status of their subapplications and will work with Applicants on subapplications identified for further review.

Details about the HMA Grant Application process can be found in the Hazard Mitigation Assistance Unified Guidance, which is available at www.fema.gov/government/grant/hma/index.shtm



GovDelivery Notifications

Stay up-to-date on the HMA Grant Programs by subscribing to GovDelivery notifications. Have updates delivered to an e-mail address or mobile device. To learn more, visit www.fema.gov

Contact Information

HMA Helpline: Tel 866-222-3580, or e-mail hmagrantshelpline@dhs.gov

Contact information for FEMA Regional Offices is provided at www.fema.gov/about/contact/regions.shtm

Contact information for each State Hazard Mitigation Officer (SHMO) is provided at www.fema.gov/about/contact/shmo.shtm



FEMA

Water for Texas

Severe Repetitive Loss Grant Program

The Severe Repetitive Loss grant program, under the Federal Emergency Management Agency's Hazard Mitigation Assistance Grant Programs, provides federal funding to assist states and communities in implementing mitigation measures to reduce or eliminate the long-term risk of flood damage to severe repetitive loss residential structures insured under the National Flood Insurance Program. The Severe Repetitive Loss program was created as part of the National Flood Insurance Reform Act of 2004 (42 United States Code 4030) with the goal of reducing or eliminating claims under the National Flood Insurance Program. The Texas Water Development Board administers the Severe Repetitive Loss grant program for the State of Texas on behalf of the Federal Emergency Management Agency.

Severe Repetitive Loss Properties

Severe Repetitive Loss properties are defined as single or multifamily residential properties that are covered under a National Flood Insurance Program flood insurance policy and

- ▶ that have incurred flood-related damage for which four or more separate claims payment have been made, with the amount of each claim (including building and contents) exceeding \$5,000 and with the cumulative amount of such claims payments exceeding \$20,000; or
- ▶ for which at least two separate claim payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

In both instances, at least two of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as one claim.

Eligible Activities

Funds can be used for

- ▶ acquisition and demolition or relocation of residential structures;
- ▶ elevation of existing residential structures;
- ▶ mitigation reconstruction of residential structures (only when traditional elevation cannot be implemented);
- ▶ minor localized flood reduction projects; and
- ▶ dry flood proofing (historic residential properties only).

Applicant Eligibility

Any political subdivision, including any Indian or authorized tribal or native organization, that has zoning and building code jurisdiction over a particular area having special flood hazards, and who is participating in the National Flood Insurance Program, is eligible to apply for a Severe Repetitive Loss grant. A community applying for a grant must have an approved Multi-Hazard Mitigation Plan in accordance with the Code of Federal Regulations Title 44 § 201.6.

Project Grant Eligibility Criteria

A project must, at a minimum, be

- ▶ feasible and effective at mitigating flood hazards within a participating National Flood Insurance Program community;
- ▶ cost beneficial to the National Flood Insurance Fund (benefit-cost ratio must yield 1.0 or greater);
- ▶ protecting structures insured by the National Flood Insurance Program; for minor localized

flood reduction projects, 50 percent of those structures must be insured by the National Flood Insurance Program and primarily benefit Severe Repetitive Loss structures.

- ▶ in accordance with the Environmental Planning and Historical Preservation requirements, and in accordance with Hazard Mitigation Assistance Unified Guidance (http://www.fema.gov/government/grant/hma/grant_resources.shtml); and
- ▶ able to show completion and documentation of the property owner consultation process.

A project must conform with

- ▶ the minimum standards of the National Flood Insurance Program floodplain management regulations;
- ▶ the applicant's Multi-Hazard Mitigation Plan; and
- ▶ all applicable laws and regulations, such as federal and state environmental standards and local building codes.

Severe Repetitive Loss Consultation Process

The consultation process is a requirement for submission of an application for a Severe Repetitive Loss project. The consultation process is to notify the property owner that his or her property has been selected for the program, to collect sufficient information about the property, to advise the property owner that the applicant may include his or her property in the Severe Repetitive Loss application, and also to advise that there are potential consequences to declining a mitigation offer. Property owners who decline offers of mitigation assistance will be subject to increases to their National Flood Insurance Program flood insurance premium rates, unless an appeal is granted by the Federal Emergency Management Agency.

Multi-Hazard Mitigation Plans

An approved Multi-Hazard Mitigation Plan (Mitigation Plan), whether covering a single or multiple jurisdictions, is required for a community to be eligible to apply for a Severe Repetitive Loss project grant. The Mitigation Plan is submitted to the Federal Emergency Management Agency for approval through the Texas Division of Emergency Management. The Mitigation Plan must assess flood risk and identify technically feasible and cost-effective options to reduce that risk. The Mitigation Plan must describe the planning process and public involvement during the planning process in developing the Mitigation Plan and must provide proper documentation of its formal adoption by the jurisdiction. For more information regarding the Multi-Hazard Mitigation Plan, please visit the following links:

<http://www.txdps.state.tx.us/dem/pages/hazardmitigation.htm> and <http://www.fema.gov/plan/mitplanning/index.shtml>.

Benefit-Cost Analysis

A benefit-cost analysis is a well-established method for quantitatively comparing the benefits and costs of mitigation

projects. The end result is a benefit-cost ratio, which is derived from a project's total net present value of benefits divided by the total project cost. Only projects having a ratio of 1.0 or greater will be considered. Applicants must use the Federal Emergency Management Agency-approved benefit-cost analysis software to conduct their analyses. For information on the software, visit the following link: <http://www.bchelpline.com>.

Cost-Share

The Federal Emergency Management Agency may contribute as much as 90 percent of the total eligible costs. At least 10 percent of the total eligible costs must be provided by a non-federal source. Mitigation Reconstruction projects are limited to a federal share of \$150,000 per property. Increased Cost of Compliance funds (available to property owners through coverage under the National Flood Insurance Program) can be used to help meet the local share requirements.

For information on how to apply for a Severe Repetitive Loss grant through the Federal Emergency Management Agency's electronic grants system, contact

Kathy C. Hopkins
Texas Water Development Board
Flood Mitigation Planning
1700 N. Congress Avenue
P. O. Box 13231
Austin Texas, 78711-3231
<http://www.twdb.state.tx.us>

Telephone: (512) 463-6198
Fax: (512) 936-0889
E-mail: kathy.hopkins@twdb.state.tx.us

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Water for Texas

Flood Protection Planning Grant Program

Through the Research and Planning Fund, the Texas Water Development Board (TWDB) provides financial assistance to political subdivisions to conduct feasibility studies on the practical solutions to flood hazards occurring within their jurisdiction. Flood Protection Planning grants allow political subdivisions to conduct flood studies for an entire watershed to evaluate both structural and nonstructural solutions to flooding problems.

Eligible Planning Activities

Planning studies may include, but are not limited to, the following activities:

- ▶ Determining and describing problems resulting from or relating to flooding;
- ▶ Conducting hydrologic and hydraulic studies;
- ▶ Identifying potential solutions;
- ▶ Estimating benefits and costs of potential solutions, including structural and nonstructural measures;
- ▶ Determining the views and needs of the affected public relating to flooding problems;
- ▶ Recommending feasible solutions to flood protection problems;
- ▶ Evaluating environmental, social, and cultural factors; and
- ▶ Ensuring that any proposed solutions are consistent with appropriate regional or statewide plans and relevant laws and regulations.

Activities directly related to preparing applications for state or federal permits or other approvals and activities associated with administrative or legal proceedings by regulatory agencies are not eligible for Flood Protection Planning Grant assistance.

Applicant Eligibility

Any political subdivisions of the State of Texas who have the legal authority to plan for and implement flood protection measures within their jurisdictional area and who are members of the National Flood

Insurance Program are eligible to apply for assistance. Political subdivisions include cities, counties, districts, or authorities created under the Texas Constitution, Article III, Section 52, or Article XVI, Section 59; any other political subdivision of the state; any interstate compact commission to which the state is a party; and any nonprofit water supply corporation created and operating under Texas Civil Statutes, Article 1434a.

Cost Share

The TWDB may contribute up to 50 percent of the total cost of the planning study, with the exception that some economically disadvantaged applicants may be eligible for more funding. To qualify, economically disadvantaged applicants must have unemployment rates exceeding the state average by 50 percent or more and per capita income that is 65 percent or less of the state average for the last reporting period available. If the applicant meets these qualifications, the TWDB may contribute as much as 75 percent of the total planning study cost. In-kind services may be substituted for any part of the local share if such services are directly in support of the planning effort, are properly documented, and are approved in advance by the TWDB.

Application Period

The TWDB publishes a request for proposals in the Texas Register each fiscal year. Unsolicited applications may be filed at any time but will only be considered if funds are available and the planning to be done is deemed urgent. For more information on how to apply, please visit the following link: <http://www.twdb.state.tx.us/wrpi/flood/fpp.htm>.

For more information on the Flood Protection
Planning Grant Program, contact:

Gilbert Ward
Texas Water Development Board
Flood Mitigation Planning
1700 N. Congress Avenue
P. O. Box 13231
Austin, Texas 78711-3231
<http://www.twdb.state.tx.us>

Telephone: (512) 463-6418
Fax (512) 936-0889
E-mail: gilbert.ward@twdb.state.tx.us

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Water for Texas

Flood Mitigation Assistance Grant Program

The Flood Mitigation Assistance grant program, under the Federal Emergency Management Agency's Hazard Mitigation Assistance Grant Programs, assists states and communities by providing federal funds for cost-effective measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program. The Flood Mitigation Assistance grant program was created as part of the National Flood Insurance Reform Act of 1994 (42 United States Code 4101) with the goal of reducing or eliminating claims under the National Flood Insurance Program through mitigation activities. The Texas Water Development Board administers the Flood Mitigation Assistance grant program for the State of Texas on behalf of the Federal Emergency Management Agency. Two types of grants are available under the program—planning and project.

Flood Mitigation Assistance Planning Grants

The planning grant is limited to funding activities that only develop or update the flood hazard component of the jurisdiction's Multi-Hazard Mitigation Plan, which must meet the planning requirements under the Code of Federal Regulations Title 44 § 201.6. Ineligible planning activities include (but are not limited to) flood studies or floodplain mapping activities (general hydrologic and hydraulic studies/analyses or Map Modernization or Risk Map activities).

Flood Mitigation Assistance Project Grants

Project grants are designed to reduce flood losses to structures insurable under the National Flood Insurance Program. Funding can be used for

- » acquisition of insured structures and real property;
- » relocation or demolition of insured structures;
- » dry flood proofing of insured structures;

- » elevation of insured structures; and
- » minor localized flood reduction projects

Applicant Eligibility

Any political subdivision, including any Indian or authorized tribal or native organization, that has zoning and building code jurisdiction over a particular area having special flood hazards, and that is participating in the National Flood Insurance Program, is eligible to apply for a Flood Mitigation Assistance grant. A community applying for a project grant must have an approved and adopted Multi-Hazard Mitigation Plan in accordance with the Code of Federal Regulations Title 44 § 201.6.

Project Grant Eligibility Criteria

A project must, at a minimum, be

- » feasible and effective at mitigating flood hazards within a participating National Flood Insurance Program community;
- » cost beneficial to the National Flood Insurance Fund, yielding a benefit-cost ratio of 1.0 or greater; and
- » in compliance with the Environmental Planning and Historical Preservation requirements in accordance with Hazard Mitigation Assistance Unified Guidance (http://www.fema.gov/government/grant/hma/grant_resources.shtm).

A project must also conform with

- » the minimum standards of the National Flood Insurance Program floodplain management regulations;

- » the applicant's Multi-Hazard Mitigation Plan; and
- » all applicable laws and regulations, such as federal and state environmental standards and local building codes.

Multi-Hazard Mitigation Plans

An approved Multi-Hazard Mitigation Plan (Mitigation Plan), whether covering a single or multiple jurisdictions, is required for a community to be eligible to apply for a Flood Mitigation Assistance project grant. The Mitigation Plan is submitted to the Federal Emergency Management Agency for approval through the Texas Division of Emergency Management. The Mitigation Plan must assess flood risk and identify technically feasible and cost-effective options to reduce that risk. The Mitigation Plan must describe the planning process and public involvement during the planning process in developing the Mitigation Plan and must provide proper documentation of its formal adoption by the jurisdiction. For more information regarding the Multi-Hazard Mitigation Plan, please visit the following links: <http://www.txdps.state.tx.us/dem/pages/hazardmitigation.htm> and <http://www.fema.gov/plan/mitplanning/index.shtm>.

Benefit-Cost Analysis

A benefit-cost analysis is a well-established method for quantitatively comparing the benefits and costs of mitigation projects. The end result is a benefit-cost ratio, which is derived from a project's total net present value of benefits divided by the total project cost. Only projects having a ratio of 1.0 or greater will be considered. Applicants must use the Federal Emergency Management Agency-approved benefit-cost software to conduct their analyses. For information on the software, visit the following link: <http://www.bchelpline.com>.

Cost-Share and Funding Limits

The Federal Emergency Management Agency may contribute as much as 75 percent of the total eligible costs. At least 25 percent of the total eligible costs must be provided by the local political subdivision or other non-federal source. Of this 25 percent, no more than half (12.5 percent) can be provided as in-kind contributions from third parties. Funding limits for planning grants are no more than \$300,000 per year to any state and no more than \$50,000 per grant to any one community, with no more than one grant to any one community per five-year period. Funding limits for project grants are no more than \$20,000,000 statewide during any five-year period and no more than \$3,300,000 to any one community during any five-year period. Waivers of the funding limits are possible at the discretion of the Federal Emergency Management Agency if the proposed project occurs in an area designated as a Presidential disaster area during the five-year period. Increased Cost of Compliance funds (available to property owners through coverage under the National

Flood Insurance Program) can be used as a part of the local share after the property has been declared substantially damaged.

For information on how to apply for a Flood Mitigation Assistance planning or project grant through the Federal Emergency Management Agency's Electronic Grants system (egrants), contact:

Ivan Ortiz
 Texas Water Development Board
 Flood Mitigation Planning
 1700 N. Congress Avenue
 P. O. Box 13231
 Austin, Texas, 78711-3231
<http://www.twdb.state.tx.us>
 Telephone: (512) 463-8184
 Fax: (512) 936-0889
 E-mail: ivan.ortiz@twdb.state.tx.us

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Water for Texas

National Flood Insurance Program

What is the National Flood Insurance Program?

The National Flood Insurance Program, created by the National Flood Insurance Act of 1968, is a federal program based on an agreement between local communities and the federal government. The National Flood Insurance Program states that if a community adopts the minimum regulations and standards in accordance with Federal Emergency Management Agency floodplain management guidelines and enforces a floodplain management ordinance to reduce flood risks in Special Flood Hazard Areas, the federally backed flood insurance will be made available to owners of improved real estate. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

Why is it important?

Participation in the National Flood Insurance Program provides many benefits to communities; to participate, the community is required to adopt a floodplain management ordinance. Without participation in the program, communities face the following restrictions:

- ▶ No resident will be able to purchase a flood insurance policy.
- ▶ If the community withdraws from the program or is suspended, existing flood insurance policies will not be renewed.
- ▶ No federal grants or loans for the acquisition or construction of buildings may be made in identified flood hazard areas under programs administered by federal agencies such as the Department of Housing and Urban Development, the Environmental Protection Agency, and the Small Business Administration.
- ▶ No federal disaster assistance, including home repair assistance, may be provided to repair

insurable buildings located in identified flood hazard areas for damage caused by a flood.

- ▶ No federal mortgage insurance or loan guarantees may be provided in identified flood hazard areas. This provision includes policies written by the Federal Housing Administration, the Department of Veterans Affairs, and others.
- ▶ Federally insured or regulated lending institutions, such as banks and credit unions, must notify applicants seeking loans for insurable buildings in flood hazards that there is a flood hazard and the property is not eligible for federal disaster relief.

How can the TWDB help?

The Texas Legislature has designated the Texas Water Development Board (TWDB) as the agency to coordinate National Flood Insurance Program activities in Texas. The TWDB will assist interested communities in developing and adopting necessary floodplain management measures required by the program.

TWDB National Flood Insurance Program staff can also provide the following services:

- ▶ Ordinance assistance
- ▶ Community assistance visits and community assistance contacts
- ▶ Floodplain management workshops
- ▶ Training and educational materials
- ▶ General technical assistance
- ▶ Regulation and map-reading assistance
- ▶ National Flood Insurance Program enrollment assistance

- ▶ Coordination with other state programs and agencies
- ▶ National Flood Insurance Program–related disaster assistance

How do I get started?

To join the National Flood Insurance Program, the community needs to complete and send to the Federal Emergency Management Agency a National Flood Insurance Program application and a resolution committing the community to floodplain management. The community must also adopt and enforce a floodplain management ordinance or court order. This ordinance must include all of the Federal Emergency Management Agency's minimum requirements or reflect the agency's model ordinance. The community may also choose to adopt higher regulatory standards. These enrollment documents can be downloaded from the TWDB National Flood Insurance Program Web site at <http://www.twdb.texas.gov/wrpi/flood/nfip.asp>. Once the Federal Emergency Management Agency approves the enrollment documents and enrolls the community in the National Flood Insurance Program, the residents in that community may purchase flood insurance.

To maintain participating status, the community must develop and maintain a floodplain permitting system. The community could include floodplain information on existing development permits or could instead choose to create a permit solely for development in the floodplain. A downloadable sample permit package is available on the TWDB National Flood Insurance Program Web site. Communities must ensure that the adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations should be updated when additional data are provided by the Federal Emergency Management Agency or when federal standards are revised.

Where may I find Flood Insurance Rate Maps?

The best way to determine flood risk is by using the Federal Emergency Management Agency's Flood Insurance Rate Maps, which illustrate the 1-percent-chance flood (a flood that has a 1-percent chance of being equaled or exceeded in any given year) and assign flood zones according to risk and available technical flood data. The online Federal Emergency Management Agency's Map Service Center is available to search for and order paper maps, digital maps, Flood Insurance Studies, and Letters of Map Change. Printed copies of the Flood Insurance Rate Maps are also available for viewing at the Texas Natural Resources Information System, a division of the TWDB.

Where may I find more information?

- ▶ TWDB National Flood Insurance Program: (512) 463-4187; <http://www.twdb.texas.gov/wrpi/flood/nfip.asp>
- ▶ Texas Natural Resources Information System: <http://www.tnris.texas.gov/>
- ▶ Flood maps, insurance, and information: <http://www.fema.gov/hazard/flood/info.shtm>
- ▶ National Flood Insurance Program: <http://www.floodsmart.gov>
- ▶ Federal Emergency Management Agency Map Service Center: <http://www.msc.fema.gov>
- ▶ Association of State Floodplain Managers: <http://www.floods.org>
- ▶ Texas Floodplain Management Association: <http://www.tfma.org>

For information on the National Flood Insurance Program, contact Michael Segner at (512) 463-3509 or michael.segner@twdb.texas.gov.

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Meeting Maps

Watershed Information
ELM FORK TRINITY WATERSHED
View A

May 27, 2013



FEMA

Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Bridge
- Channel Contains
 - ▬▬▬▬▬▬ 1% Annual Chance Flood Event (100-yr)
 - ▬▬▬▬▬▬ 0.2% Annual Chance Flood Event
- Culvert
- Culvert Contains 1% flood (100-yr)
- Culvert Contains 0.2% Flood (500-yr)
- Dam
- Drop Structure
- Floodway Contained In Channel
- Footbridge
- Levee
- Storm Sewer
- Weir

Current Effective

- FEMA Floodplains**
- Zone A (Approx)
 - 1% Annual Chance Flood Hazard (100-yr)
 - Floodway
 - 0.2% Annual Chance Flood Hazard (500-yr)
 - Zone AH
 - Zone X Protected by Levee

- Elm Fork Trinity River
- Stream
- Lake
- HUC-8 Boundary
- City Boundary
- NCTCOG Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

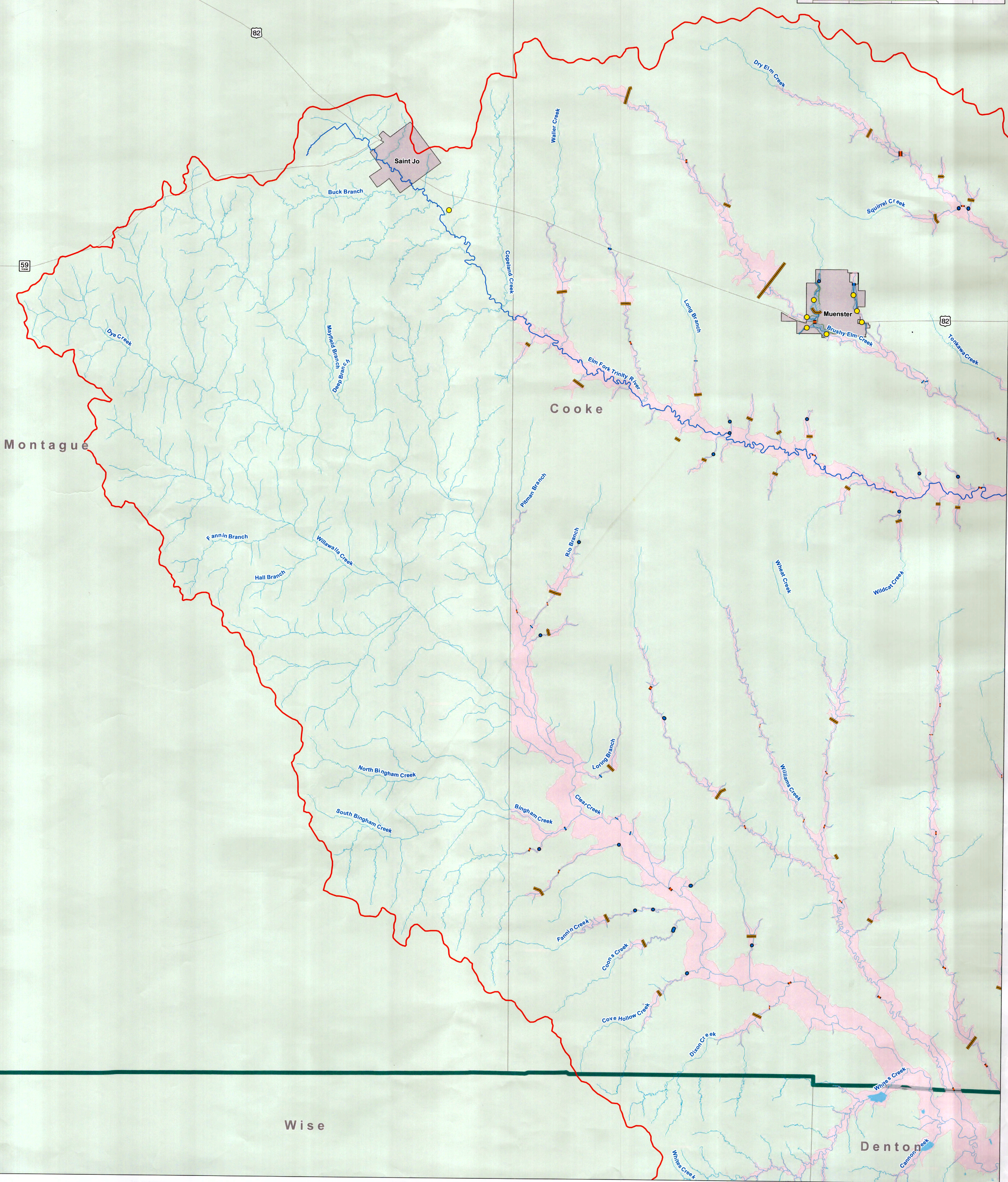
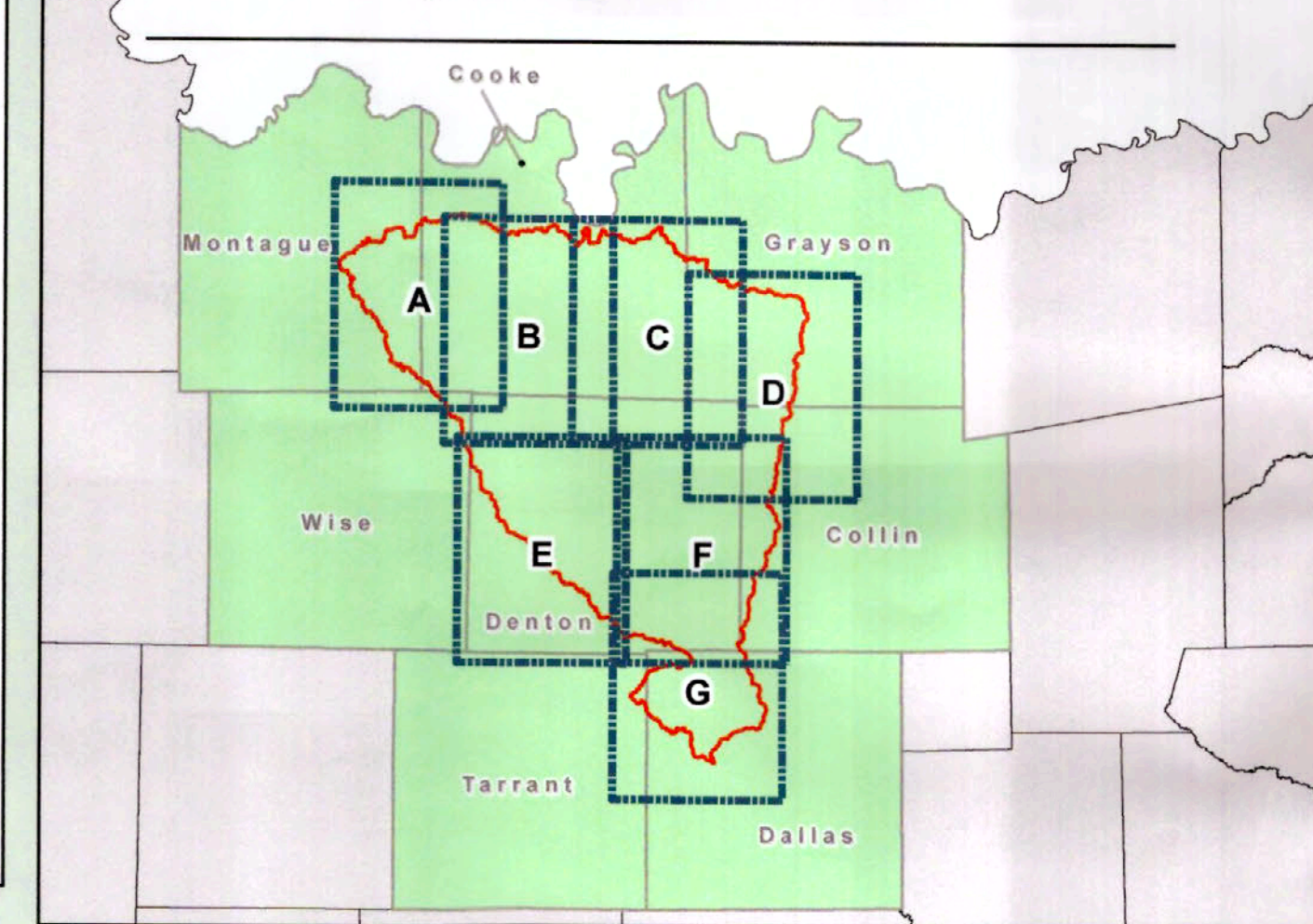
RiskMAP
Increasing Resilience Together

North Central Texas Council of Governments



0 3,000 6,000 9,000 Feet

WATERSHED LOCATOR STATE OF TEXAS



Watershed Information
ELM FORK TRINITY WATERSHED
View B

May 27, 2013



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Bridge
- Channel Contains 1% Annual Chance Flood Event (100-yr)
- Channel Contains 0.2% Annual Chance Flood Event
- Culvert
- Culvert Contains 1% flood (100-yr)

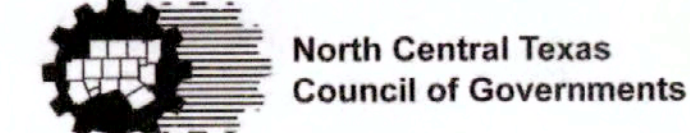
- Culvert Contains 0.2% Flood (500-yr)
- Dam
- Drop Structure
- Floodway Contained in Channel
- Footbridge
- Levee
- Storm Sewer
- Weir

Current Effective FEMA Floodplains

- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Zone AH
- Zone X Protected by Levee

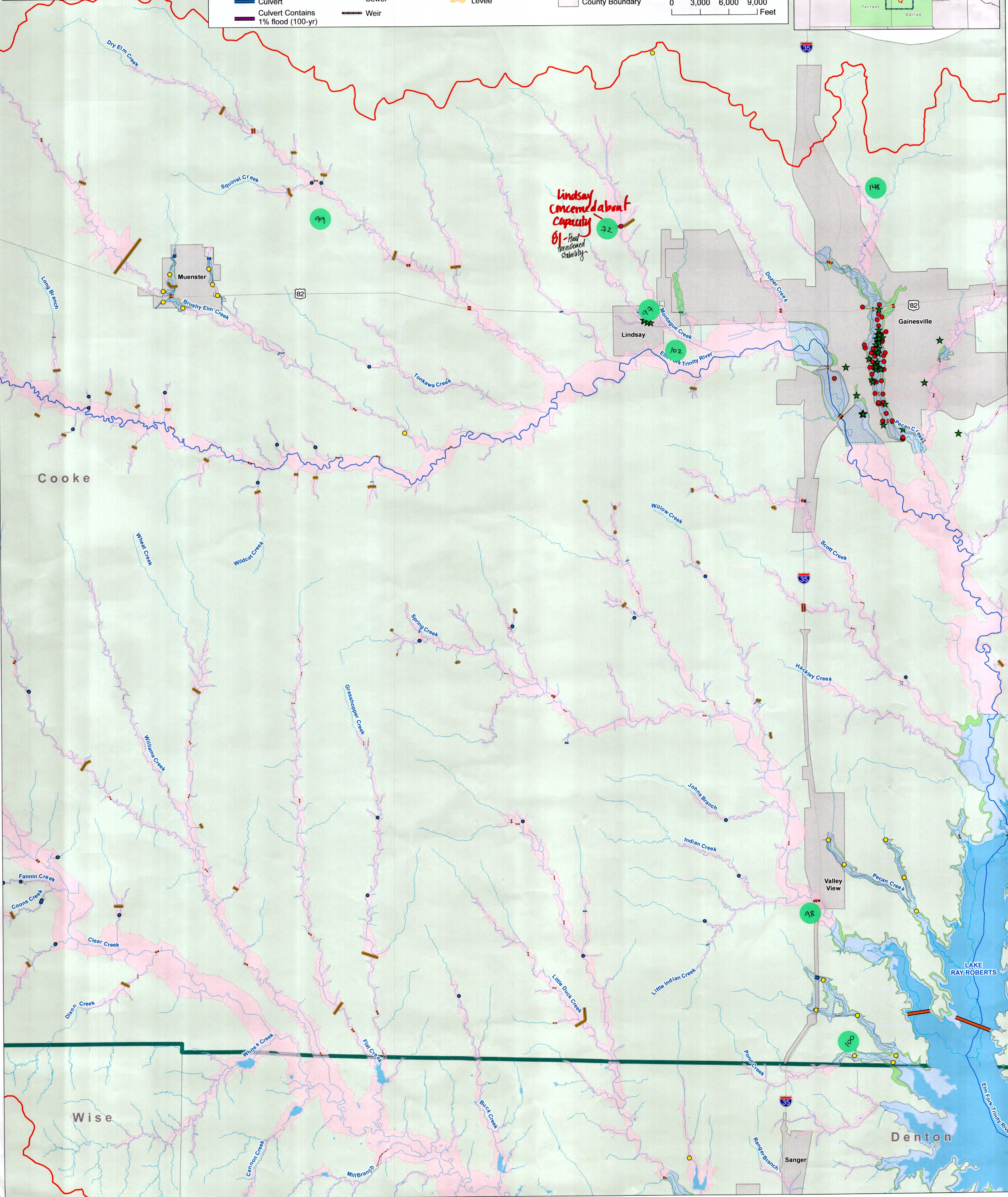
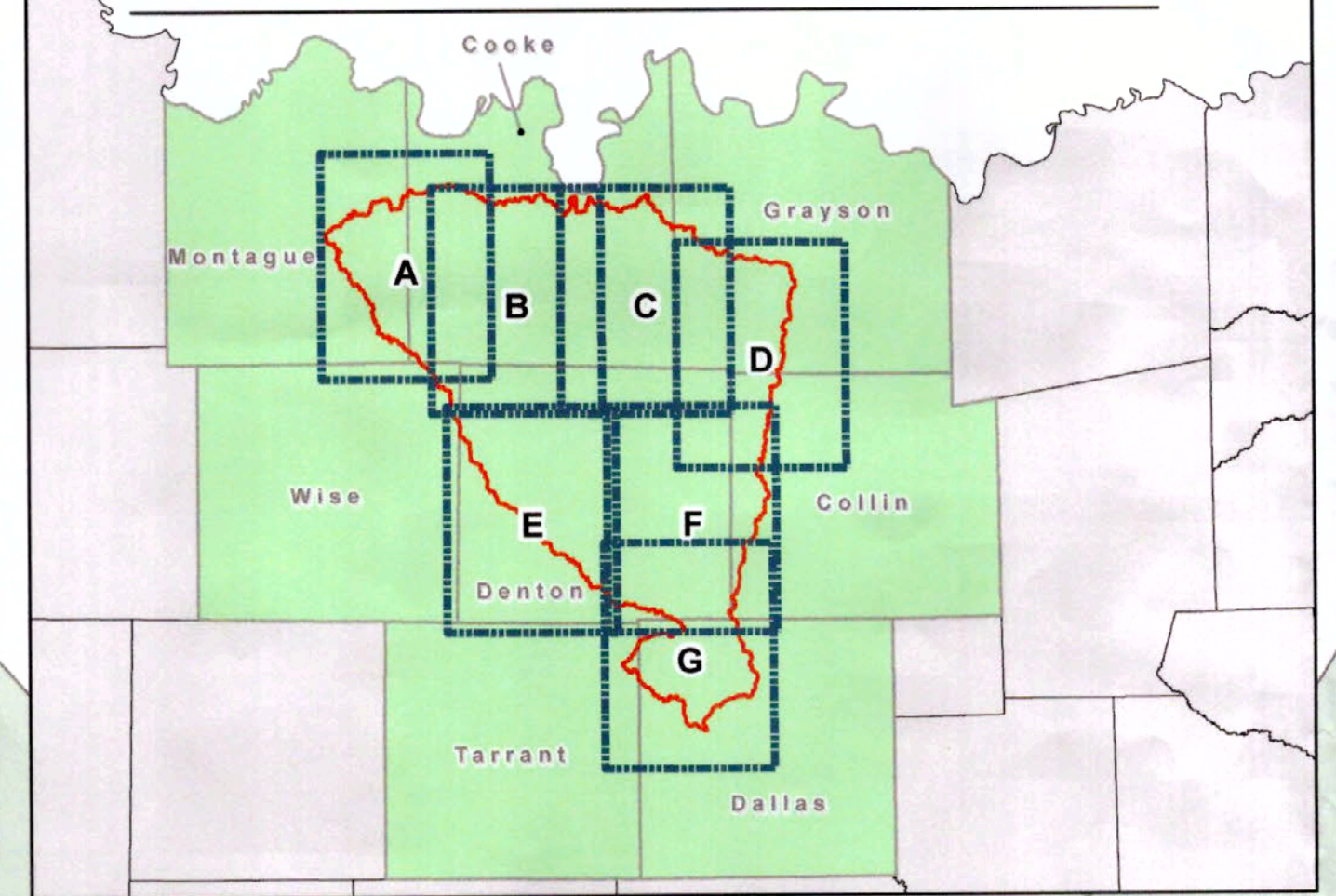
- Elm Fork Trinity River
- Stream
- Lake
- HUC-8 Boundary
- City Boundary
- NCTCOG Boundary
- Highway
- Elm Fork Discovery County
- County Boundary

RiskMAP
Increasing Resilience Together



0 3,000 6,000 9,000 Feet

WATERSHED LOCATOR
STATE OF TEXAS



Watershed Information
ELM FORK TRINITY WATERSHED
View C

May 27, 2013



Map Key

- ★ RL/SRL Property
- High Water Mark
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- Bridge
- Channel Contains 1% Annual Chance Flood Event (100-yr)
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- Floodway Contained In Channel
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- Levee
- Storm Sewer
- Weir

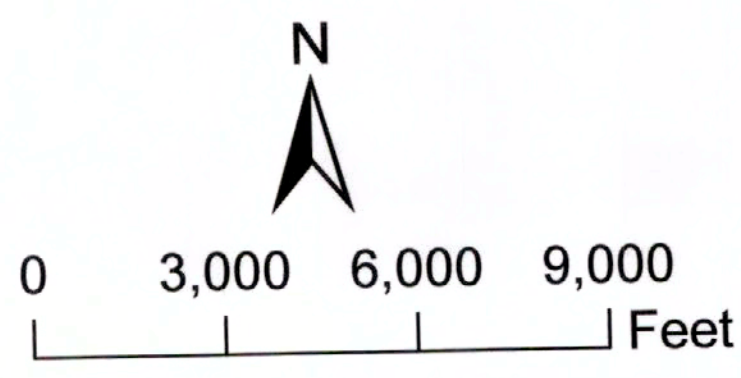
Current Effective FEMA Floodplains

- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway 0.2% Annual Chance Flood Hazard (500-yr)
- Zone AH
- Zone X Protected by Levee

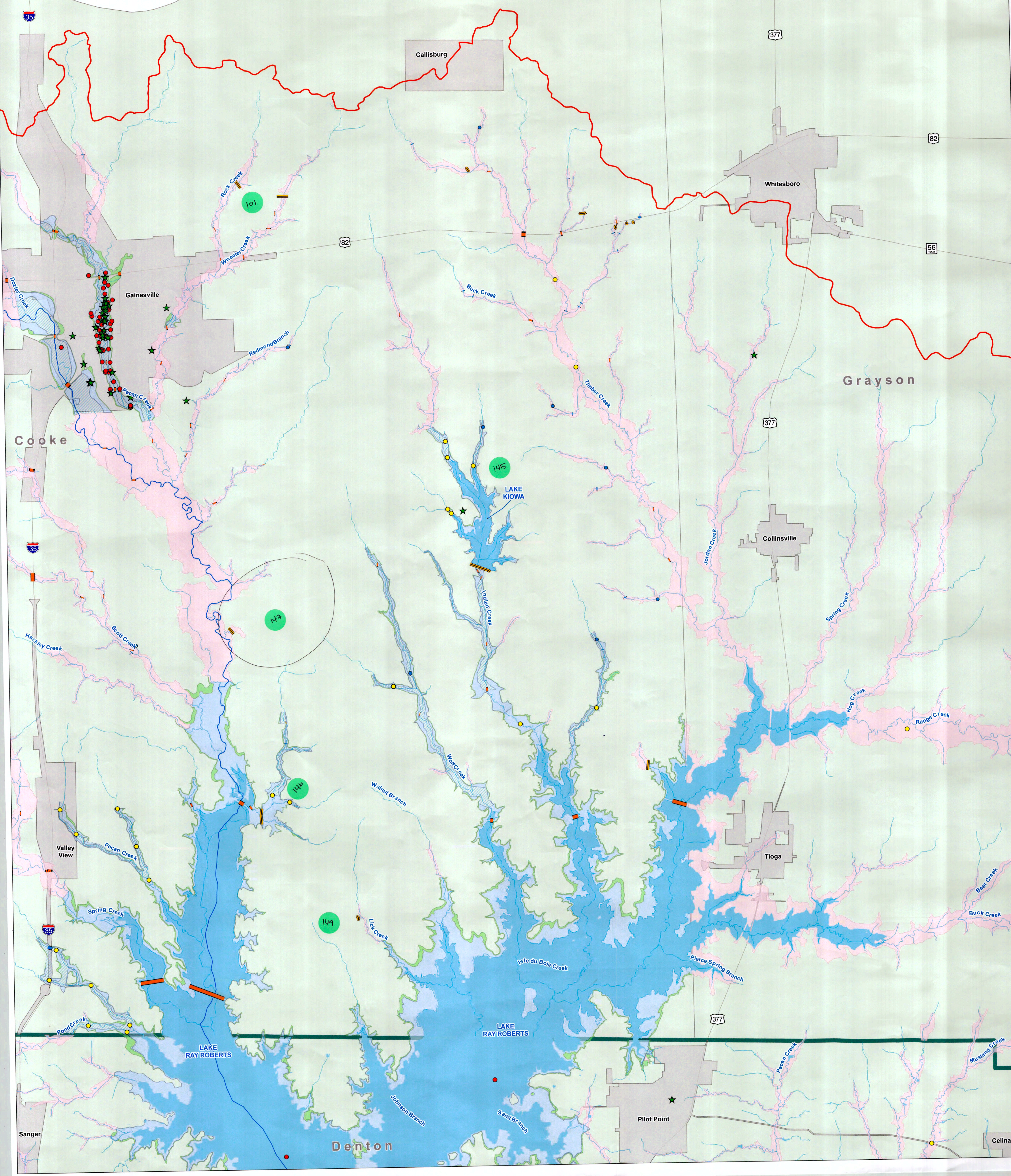
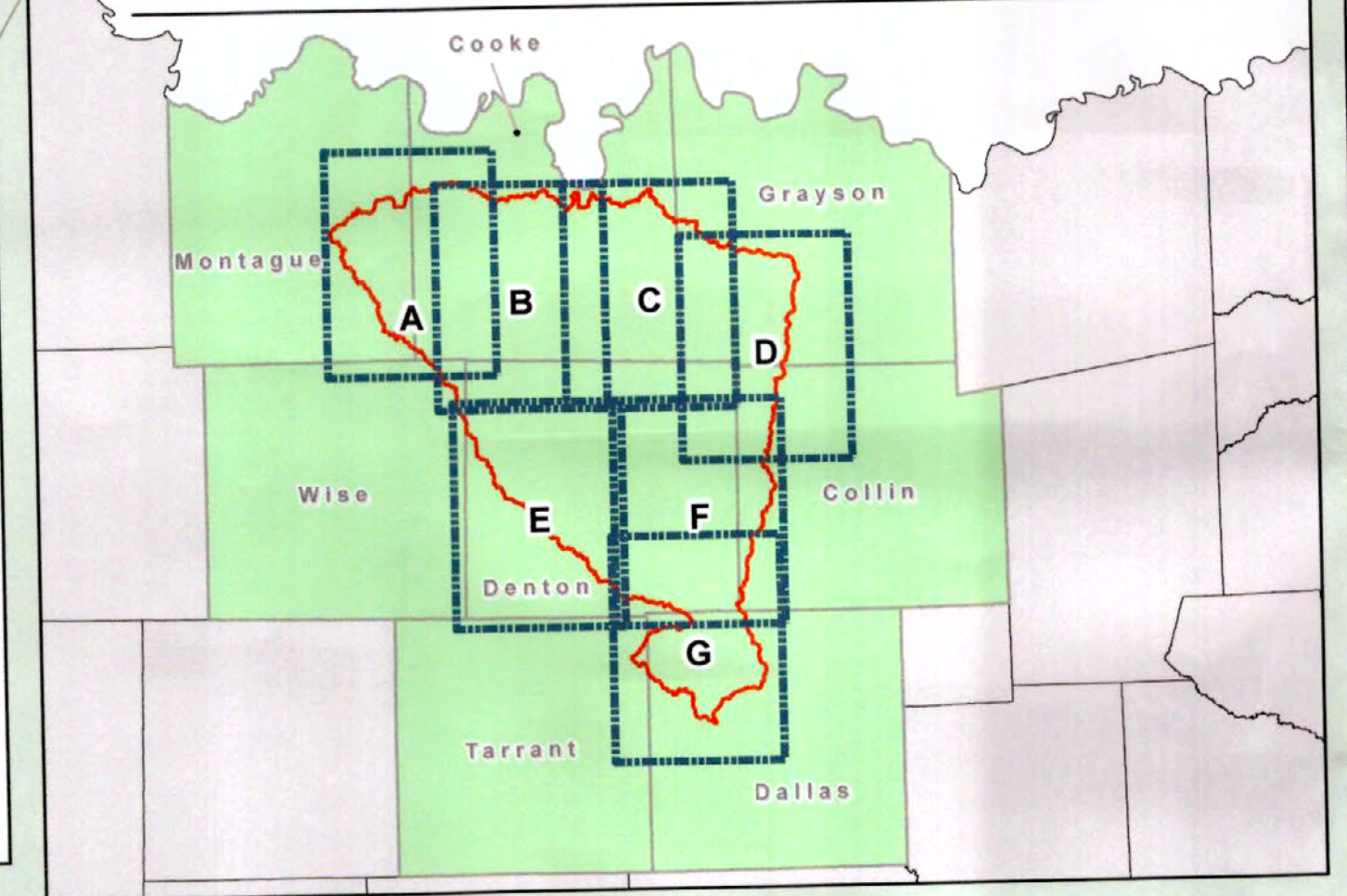
- Elm Fork Trinity River
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RiskMAP
Increasing Resilience Together

North Central Texas Council of Governments



WATERSHED LOCATOR STATE OF TEXAS



Watershed Information
ELM FORK TRINITY WATERSHED
View D

May 27, 2013



Map Key

- ★ RL/SRL Property
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- ▬ Channel Contains 1% Annual Chance Flood Event (100-yr)
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- ▬ Culvert Contains 0.2% Flood (500-yr)
- Dam
- ▬ Drop Structure
- ▬ Floodway Contained In Channel
- ▬ Footbridge
- ▬ Levee
- ▬ Storm Sewer
- ▬ Weir

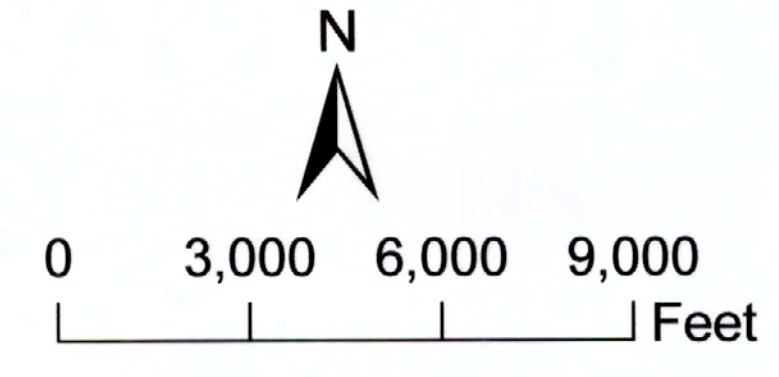
Current Effective

- FEMA Floodplains**
- Zone A (Approx)
 - 1% Annual Chance Flood Hazard (100-yr)
 - Floodway
 - 0.2% Annual Chance Flood Hazard (500-yr)
 - Zone AH
 - Zone X Protected by Levee

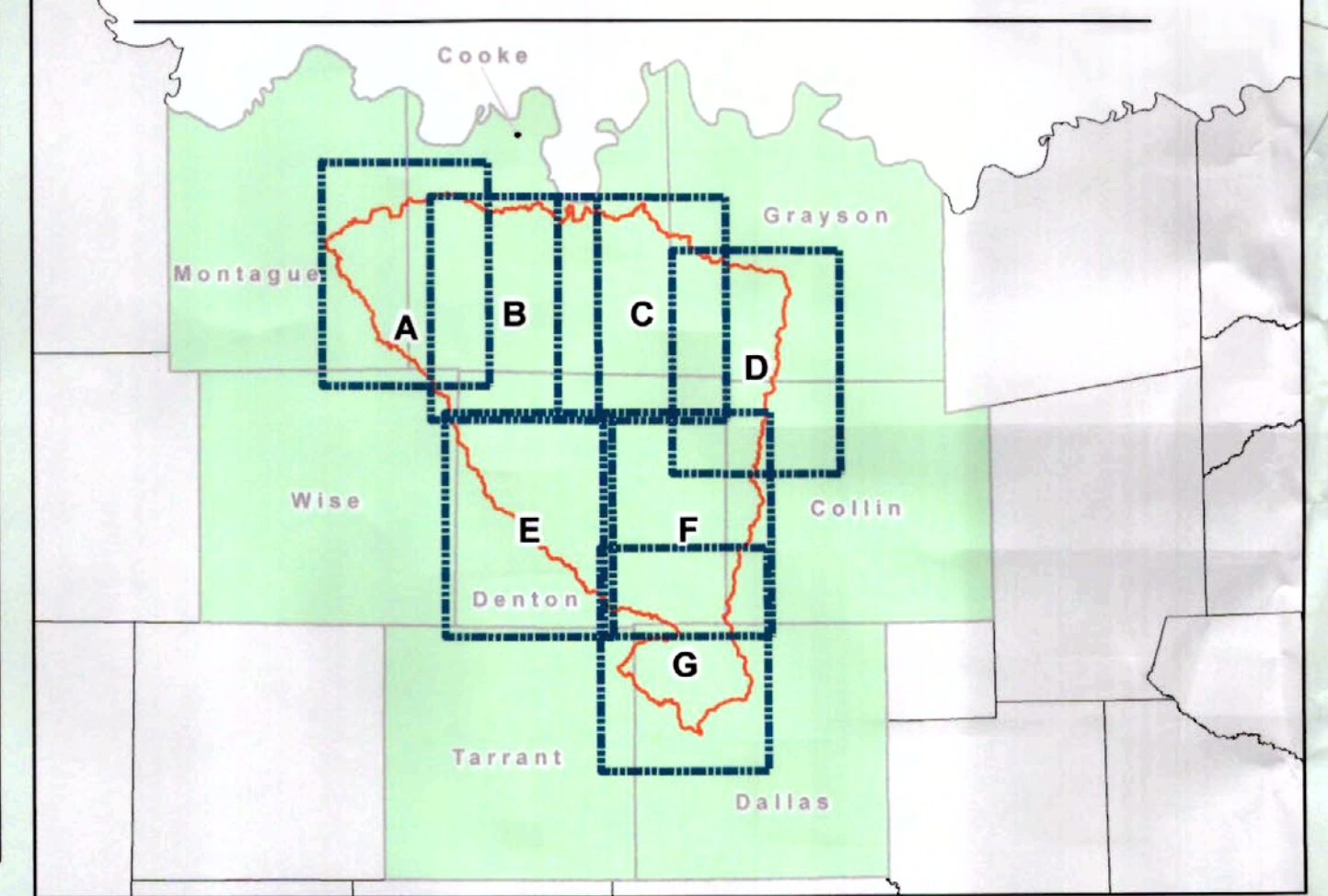
- Elm Fork Trinity River
- Stream
- Lake
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- NCTCOG Boundary
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- County Boundary



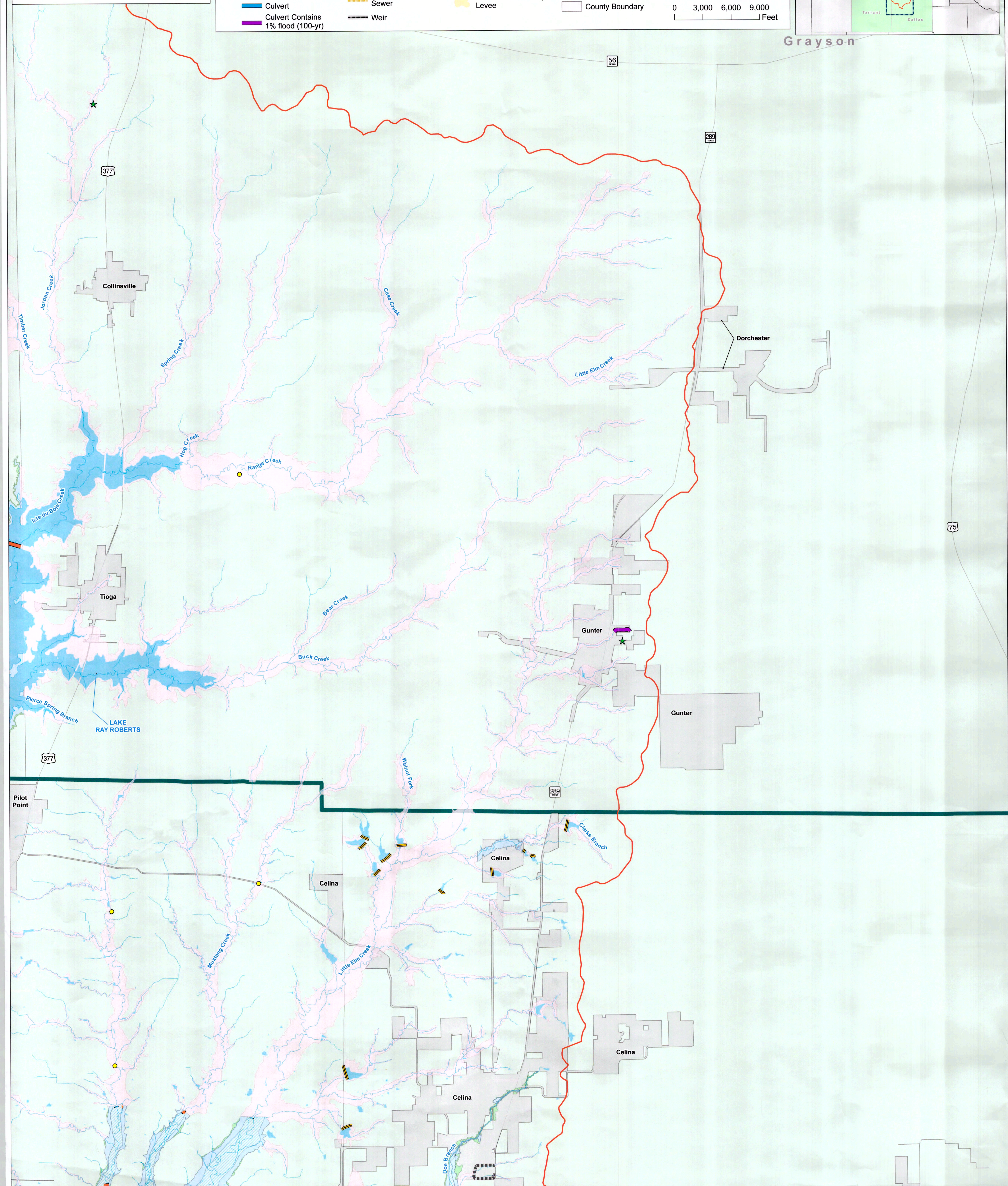
North Central Texas Council of Governments



WATERSHED LOCATOR
STATE OF TEXAS



Grayson



Watershed Information
ELM FORK TRINITY WATERSHED
View E

May 27, 2013



Map Key

- ★ RL/SRL Property
- High Water Mark
- Low Water Crossing
- Bridge
- Channel Contains 1% Annual Chance Flood Event (100-yr)
- Channel Contains 0.2% Annual Chance Flood Event
- Culvert
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- Dam
- Drop Structure
- Floodway Contained In Channel
- Footbridge
- Levee
- Storm Sewer
- Weir

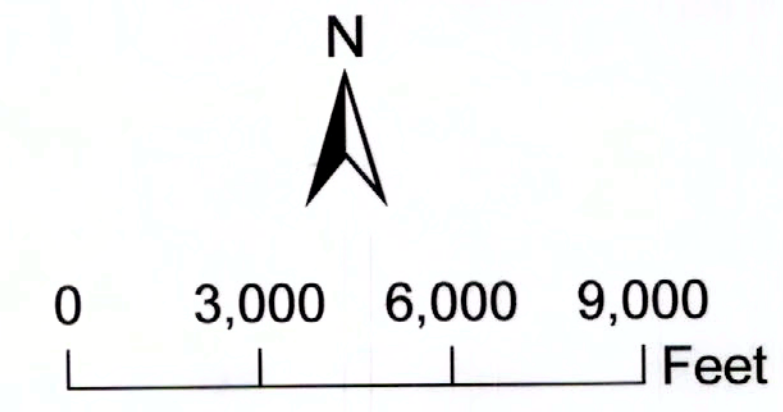
Current Effective FEMA Floodplains

- Zone A (Approx)
- 1% Annual Chance Flood Hazard (100-yr)
- Floodway
- 0.2% Annual Chance Flood Hazard (500-yr)
- Zone AH
- Zone X Protected by Levee

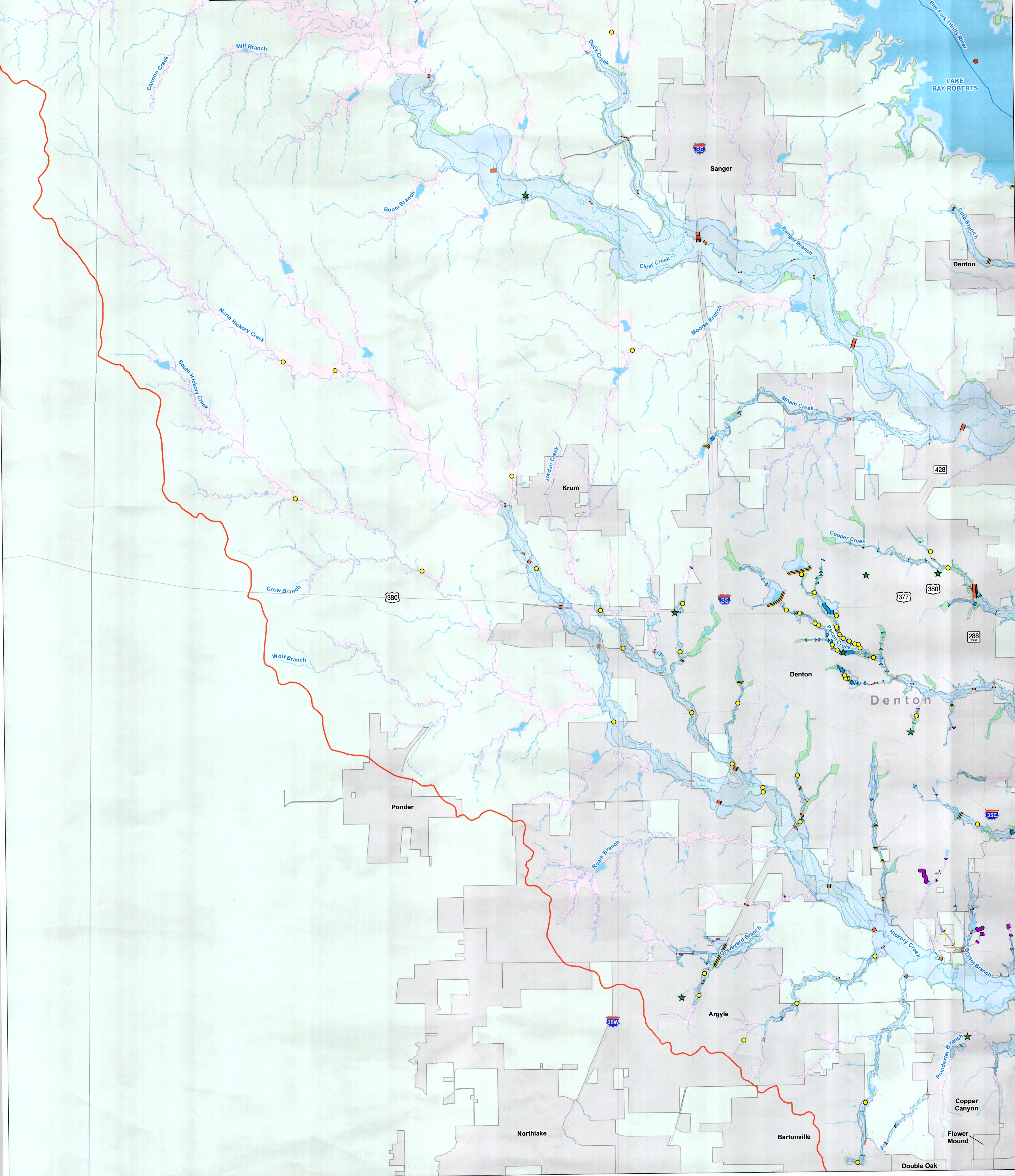
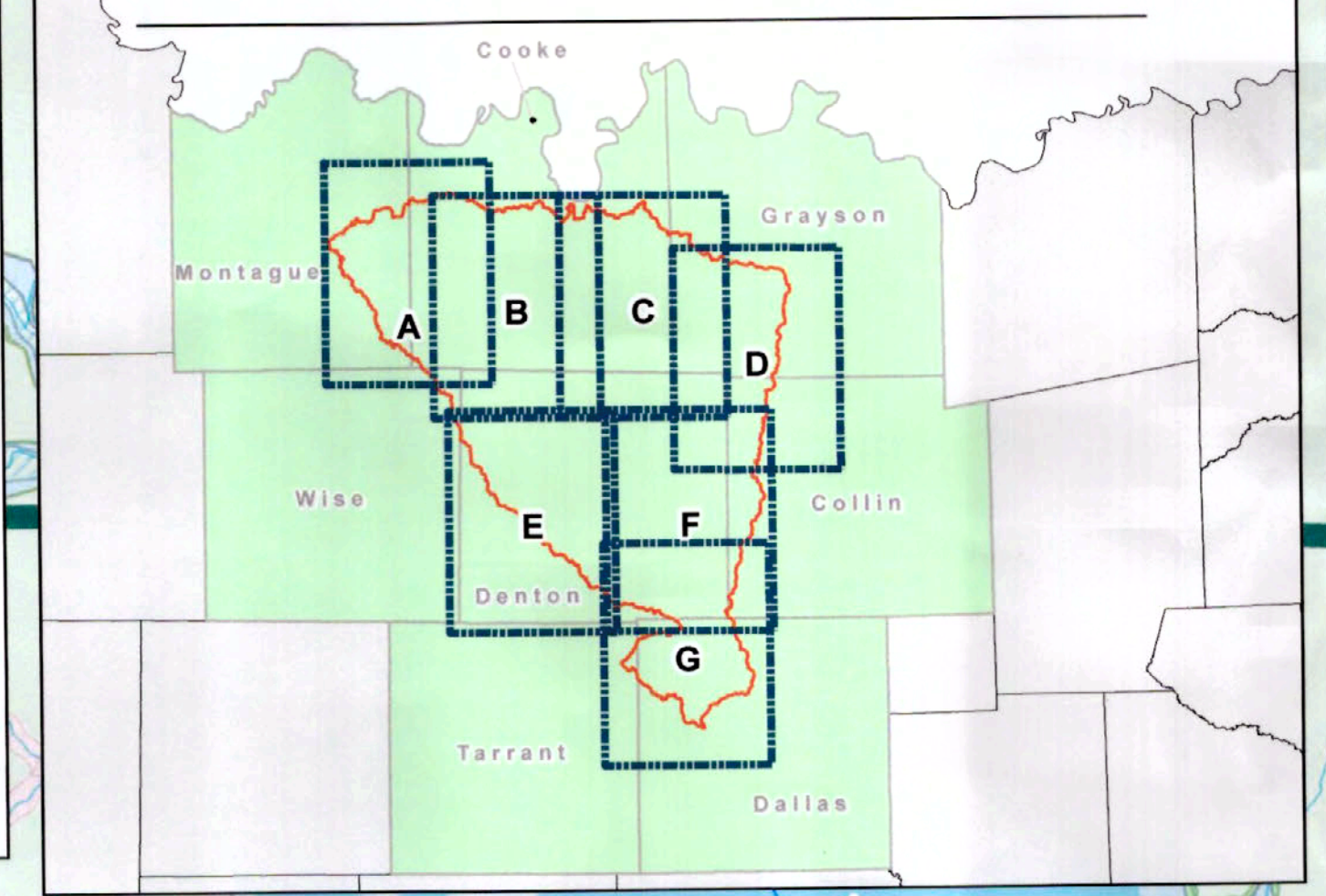
- Elm Fork Trinity River
- Stream
- Lake
- HUC-8 Boundary
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- NCTCOG Boundary
- Highway
- Elm Fork Discovery County
- County Boundary



North Central Texas Council of Governments



WATERSHED LOCATOR STATE OF TEXAS



Watershed Information

ELM FORK TRINITY WATERSHED

View F

May 27, 2013



FEMA

Map Key

- ★ RL/SRL Property
- High Water Mark
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Current Effective FEMA Floodplains

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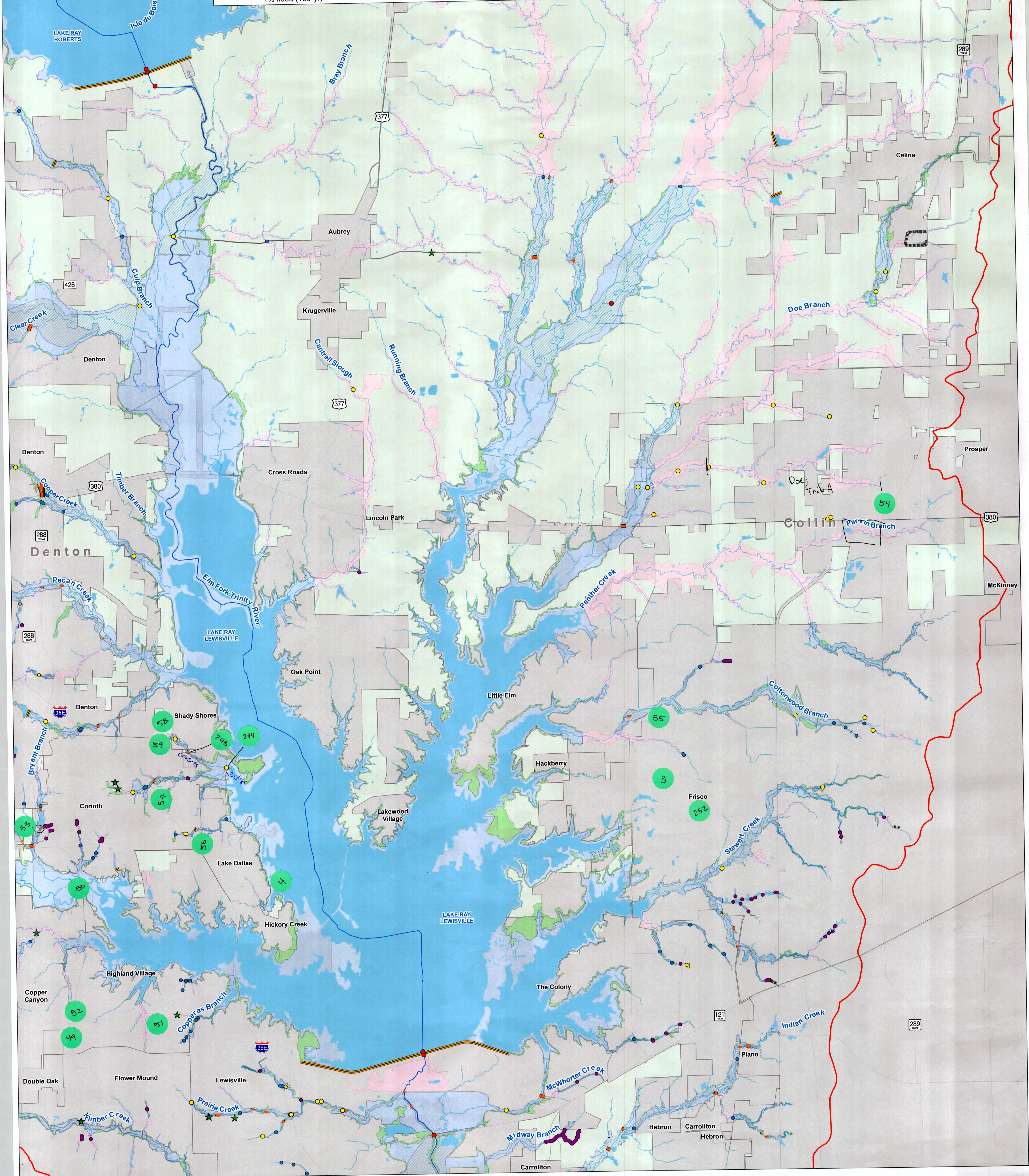
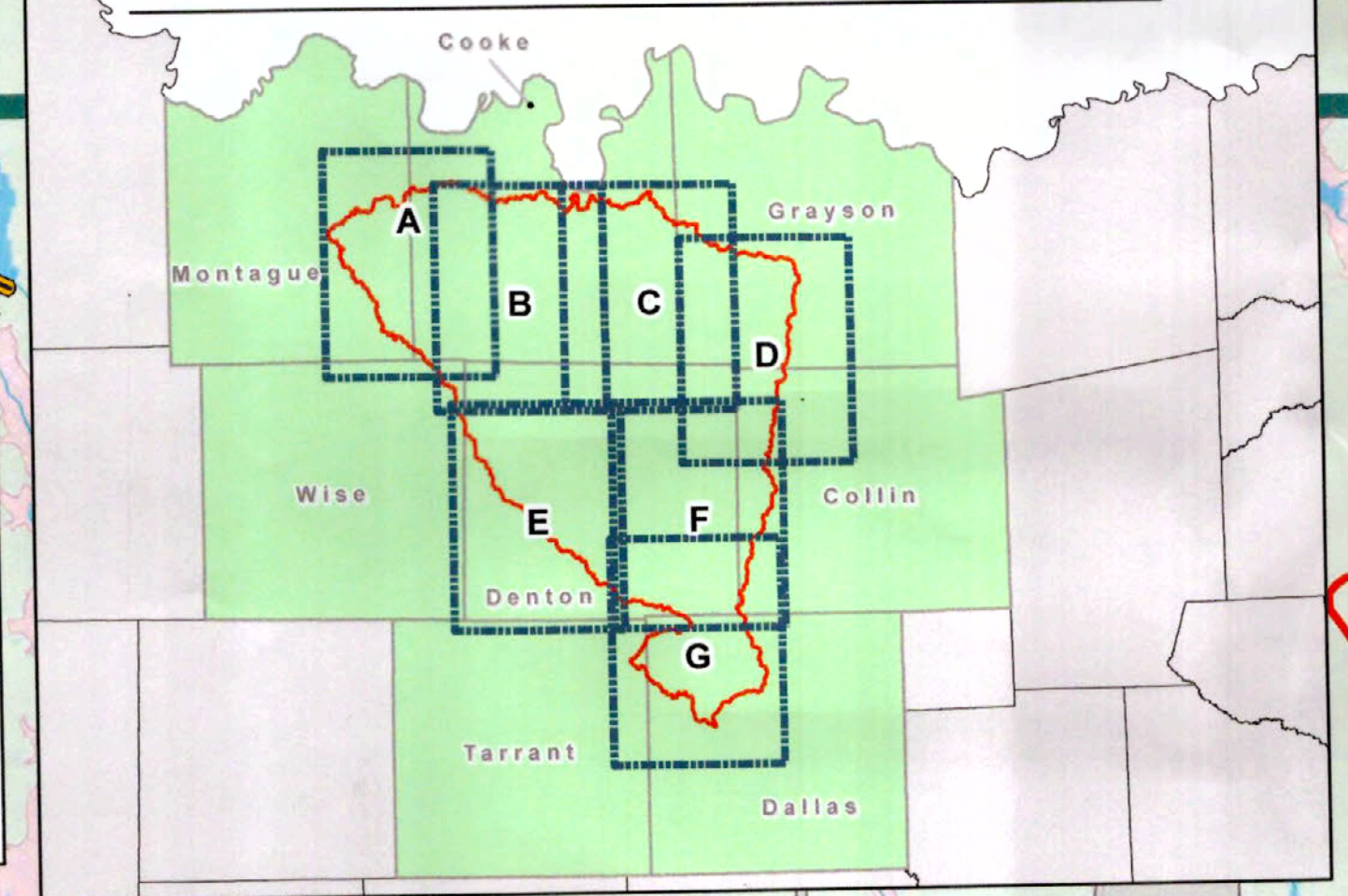
RiskMAP
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North Central Texas Council of Governments



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WATERSHED LOCATOR STATE OF TEXAS



Watershed Information

ELM FORK TRINITY WATERSHED

View G

May 27, 2013



Map Key

- ★ RL/SRL Property
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- ▬ Channel Contains 1% Annual Chance Flood Event (100-yr)
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- ▬ Storm Sewer
- ▬ Weir

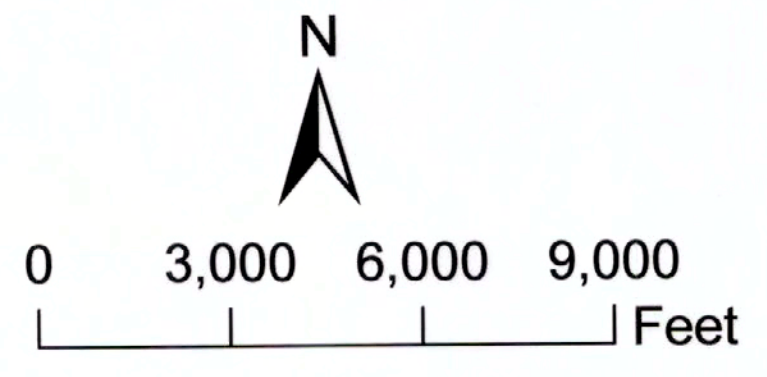
Current Effective

- ▬ Zone A (Approx)
- ▬ 1% Annual Chance Flood Hazard (100-yr)
- ▬ Floodway
- ▬ 0.2% Annual Chance Flood Hazard (500-yr)
- ▬ Zone AH
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- ▬ Elm Fork Trinity River
- ▬ Stream
- ▬ Lake
- ▬ HUC-8 Boundary
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- ▬ NCTCOG Boundary
- ▬ Highway
- ▬ Elm Fork Discovery County
- ▬ County Boundary

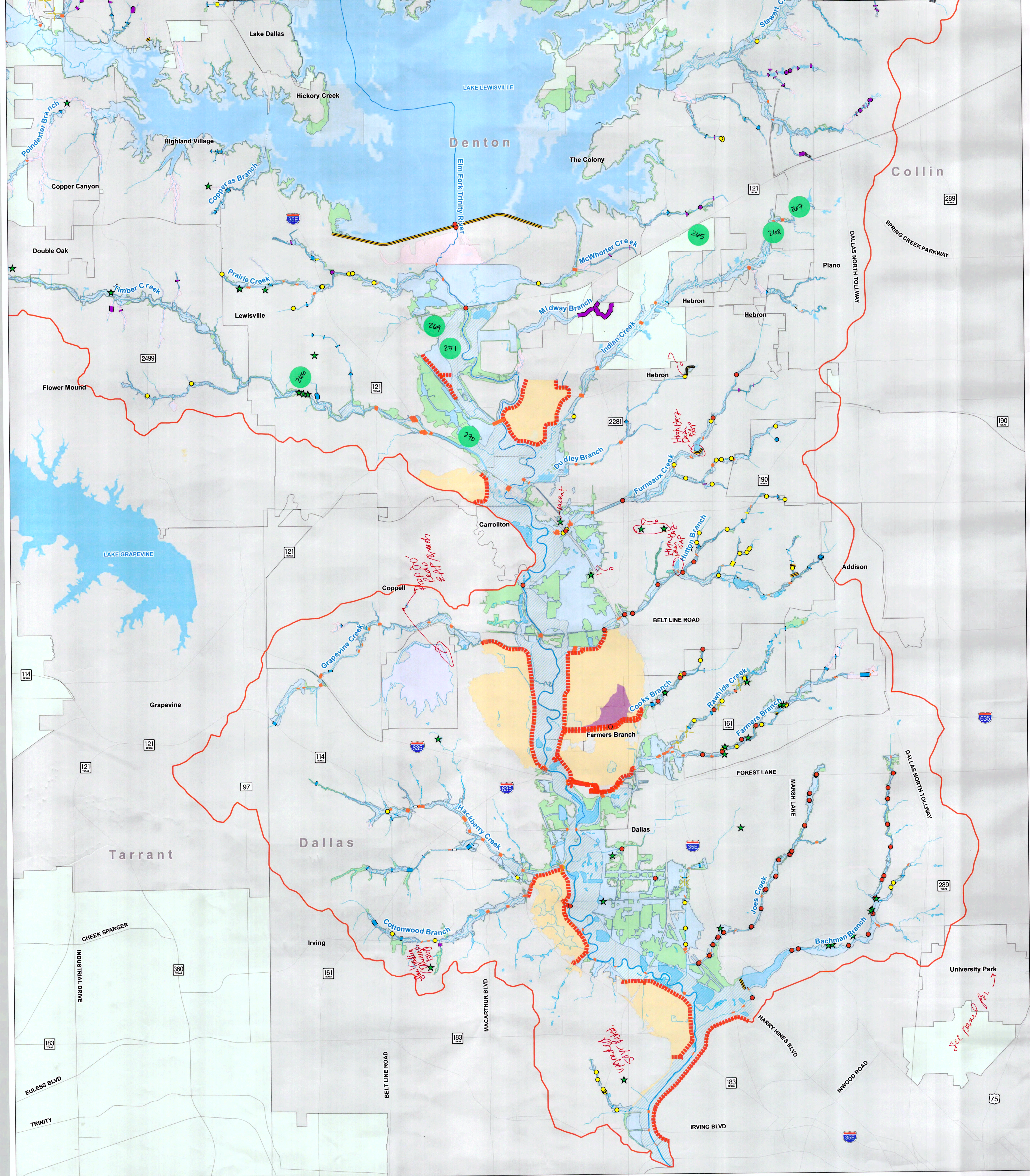
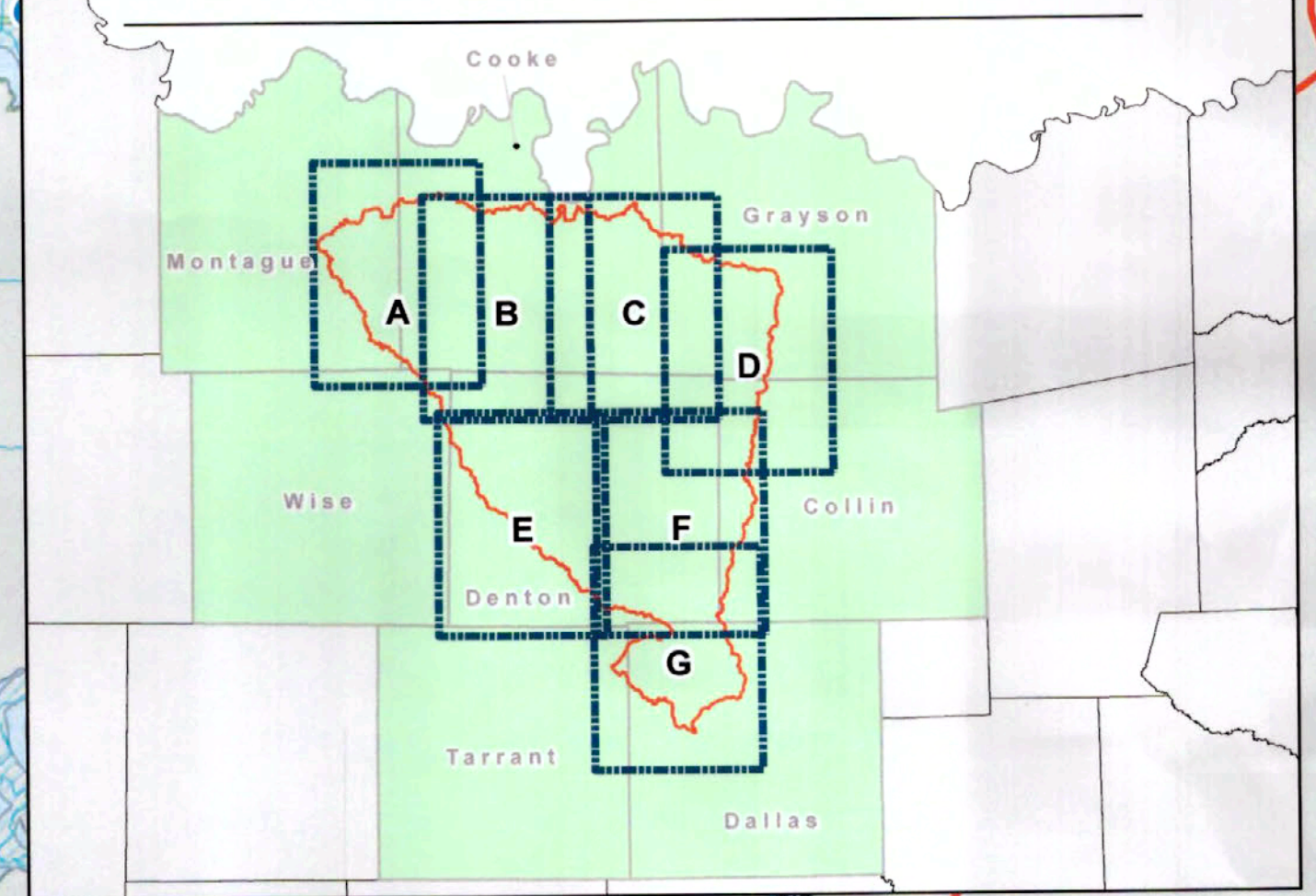
RiskMAP
Increasing Resilience Together

North Central Texas Council of Governments



WATERSHED LOCATOR

STATE OF TEXAS



Meeting Sheets



NORTH TEXAS DISCOVERY FY12

Sign in Sheet - Meeting 1

Elm Fork Trinity River Watershed

FEMA Region 6 and NCTCOG

Date: Tuesday, May 28, 2013

Time: 9:00 am

Location: Gainesville Civic Center

Name	Organization	Title	Phone	Email	Signature of Attendance
✓ Baker, Jessica	Half Associates	Project Manager	214-217-6692	jbaker@half.com	
Housewright, Noreen	City of Denton	Engineer	940-349-7121	noreen.housewright@cityofdenton.com	
Hunter, David	City of Denton	Manager, Watershed and Industrial Pretreatment	940-349-7123	david.hunter@cityofdenton.com	
Hurst, Rhonda	Citizen within watershed	Community Representative	214-455-1077	hydrogirl@verizon.net	
Louviere, Rodney	Citizen	Taxpayer	972-317-6734	rodneysu@verizon.net	
✓ Marchuk, Charla	Town of Shady Shores	Planning and Zoning Chairman	469-438-3064	themarducks@aol.com	
✓ McBroom, Randy	Texoma Council of Governments	Government Services Dept. Director	903-813-3523	rmcbroom@texoma.cog.tx.us	
Payne, Frank	City of Denton	City Engineer	940-349-8946	frank.payne@cityofdenton.com	<i>send newsletter</i>
✓ Pool, Jason	Town of Cross Roads	Engineer	214-850-7129	jason.r.pool@gmail.com	
✓ Rowley, Catherine	Half Associates	GIS	214-217-6484	crowley@half.com	
✓ Schmitz, Joseph	City of Lindsay	Chairman, PZ	940-372-6849	ja_schmitz@sbcglobal.net	
✓ Thomas, Susan	Texoma Council of Governments	Executive Director	903-813-3152	stthomas@texoma.cog.tx.us	
✓ Tidwell, Jack	NCTCOG	Manager of Environmental and Development Services	817-695-9220	jtiddwell@nctcog.org	
✓ Valencia, Leo	NCTCOG	Environmental Planner	817-608-2363	lvalencia@nctcog.org	
✓ Steve Boyer	Gainesville	Fire Chief / EM	940-668-7777	SBoyer@wps.org	
✓ Ray Fletcher	Cooke Co	EMC / FM	940-668-5900	ray.fletcher@co.cooke.tx.us	
Lauren Blanton	Cooke Co	FM/Environmental	940-668-5454	lblanton@co.cooke.tx.us	
✓ John Noblitt	Gainesville	Development Director	940-668-4540	jnoblitt@coastx.org	



NORTH TEXAS DISCOVERY FY12

Sign in Sheet - Meeting 1

Elm Fork Trinity River Watershed
FEMA Region 6 and NCTCOG

Date: Tuesday, May 28, 2013

Time: 9:00 am

Location: Gainesville Civic Center

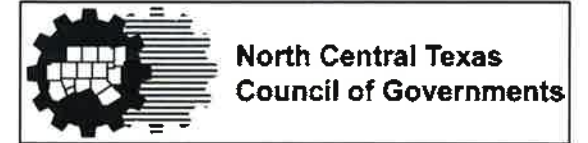
Name	Organization	Title	Phone	Email	Signature of Attendance
✓ Chris Baugh	City of Gainesville	GIS Tech	940-668-4540	cbaugh@costx.org	<i>Chris Baugh</i>
✓ RICHARD ARVIZU	BINKLEY PARK FIELD (SHADY SHORES)	Town ENGINEER	972-644-2800	rarvizu@bbcp.com	<i>Richard Arvizu</i>
✓ Cindy Spencer	Shady Shores	Mayor	940-498-0044	cindy.spencer@shady-shores.com	<i>Cindy Spencer</i>
✓ PAULA WOOLWORTH	Shady Shores, Alderman		214-683-8902	paula.woolworth@shady-shores.com	<i>Paula Woolworth</i>
✓ Erik With	Off. of Cont. Budget	Dist. Dir.	972/434-9700	erik.with@mail.house.gov	<i>Erik With</i>
✓ TOM SPENCER	SHADY SHORES	Com MISS	940-321-2411	OLT.HS4@CENTURYTEL.NET	<i>Tom Spencer</i>
Eric Hrek	Half	GIS Analyst			
Barrett Goodwin	RAMPP	Project Manager	940-735-3337	bgoodwin@dentberry.com	<i>Barrett Goodwin</i>
Royal Rucker	RAMPP	RSC Coordinator	575-545-1107	royal.rucker@ws.com	<i>Royal Rucker</i>

Privacy Act Statement (5 U.S.C. 522(a) Privacy Act)

Routine Uses: To the Department of Homeland Security, Federal Emergency Management Agency and other authorized federal, state or local government who are authorized to develop and enforce governmental standards

Disclosure: Disclosure of you name, street address, or other contact information is voluntary; however if information is not provided, we may not be able to provide copies of decisional documents and to retrieve additional comments related to environmental impact actions or decisions.

Photographs: In the event that photographs are taken, you acknowledge that FEMA and RAMPP have permission to use that photograph



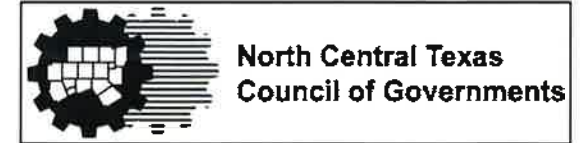
Sign in Sheet - Meeting 2

Elm Fork Trinity River Watershed
FEMA Region 6 and NCTCOG

Date: Tuesday, June 25, 2013
Location: Frisco Senior Center

Time: 9:00 am

Name	Organization	Title	Phone	Email	Signature of Attendance
Brown, Justin	City of Corinth	Director of Public Works	940-498-3200	jbrown@cityofcorinth.com	<i>Justin Brown</i>
Cosgrove, Gerald	City of Plano	Director of Public Works	972-941-7152	geraldc@plano.gov	<i>Gerald Cosgrove</i>
Gibbs, Fred	City of Corinth	Director of Planning	940-498-3260	fgibbs@cityofcorinth.com	<i>Fred Gibbs</i>
Homfeld, Tracy	Collin County	Assistant Director of Engineering	972-548-3733	thomfeld@co.collin.tx.us	
Howell, Bennet	Denton County	Director of Public Works	9403493250	bennett.howell@dentoncounty.com	
Ingalls, Scott	City of Pilot Point	Development Services Director	9406862165	singalls@cityofpilotpoint.org	
Kriston, Scott	City of Highland Village	Dep. Director of Public Works	972-317-2989	skriston@highlandvillage.org	<i>Scott Kriston</i>
Lane, Jason	Collin County Homeland Security	Assistant EMC	972-548-4708	jlane@co.collin.tx.us	
Lindsey, Sunny	City of Highland Village	GIS Administrator	972-899-5089	slindsey@highlandvillage.org	<i>Sunny Lindsey</i>
Marvin, Edith	NCTCOG	Director of Environment and Development	817-695-9211	emarvin@nctcog.org	
McAfee, Dusty	Town of Little Elm	Planning Manager	214-975-0444	dmcafee@littleelm.org	<i>Dusty McAfee</i>
Mousel, Douglas	City of Oak Point	City Manager	972-294-2312	dmousel@oakpointtexas.com	
Nessner, Rick	City of Combine	EMC/Fire Chief	214-536-0156	ricnessner@aol.com	<i>Rick Nessner</i>
Pearson, Jeffrey	City of Euless	Civil Engineer	8176851877	jpearson@eulessstx.gov	<i>(Attended LWF #2)</i>



Sign in Sheet - Meeting 2

Elm Fork Trinity River Watershed
FEMA Region 6 and NCTCOG

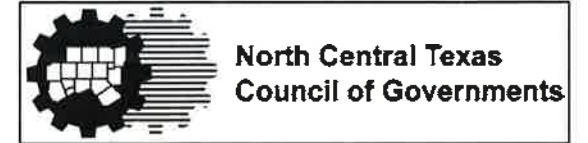
Date: Tuesday, June 25, 2013

Time: 9:00 am

Location: Frisco Senior Center

Name	Organization	Title	Phone	Email	Signature of Attendance
Perry, Gregory	Town of Flower Mound	Senior Project Engineer	972-874-6302	gregory.perry@flower-mound.com	
Persaud, Harry	City of University Park	Chief Planning Official	214 987 5410	hpersaud@uptexas.org	Harry Persaud
Pool, Jason	Town of Cross Roads	Engineer	214-850-7129	jason.r.pool@gmail.com	✓
Renz, Samantha	City of Haltom City	Staff Engineer	9726243138	srenz@thecolonytx.gov	Samantha Renz
Thiessen, Chad	Lake Cities Fire/City of Corinth	Deputy Fire Chief	940-321-2141	cthiessen@cityofcorinth.com	Chad Thiessen
Valencia, Leo	NCTCOG	Environmental Planner	817-608-2363	lvalencia@nctcog.org	Leo Valencia
Kelly, Jeff	City of Lewisville	Asst. City Engineer	972-219-3492	jkelly@cityoflewisville.com	Jeff Kelly
Garry Fennell	City of Irving	Senior Civil Engineer	972-721-3721	gfennell@cityofirving.org	Garry Fennell
Mayra Diaz	FEMA	Nat. Haz. Prog. Spec.	940-898-5541	mayra.diaz@fema.dhs.gov	Mayra Diaz
Jerry Coffe	USACE	Water Resource	817 991 4112	Jerry.L.Coffe@usace.army.mil	Jerry Coffe
Alyssa Sanders	City of Frisco	Stormwater Eng	972 292 5438	asanders@friscotexas.gov	Alyssa Sanders
Math Dubois	FEMA	Risk Analysis	940-898-5175	matthew.dubois@fema.dhs.gov	Math Dubois
Rona Stringfellow	Lancaster	Dir. of Public Works/ Dev. Services	972-275-1722	rstringfellow@lancaster-tx.com	Rona Stringfellow
Mike McKay	City of Carrollton	Civil Eng. Manager	972 466 3183	MIKE.McKay@CityofCarrollton.com	Mike McKay

wants info on CFM



Sign in Sheet - Meeting 2

Elm Fork Trinity River Watershed
FEMA Region 6 and NCTCOG

Date: Tuesday, June 25, 2013

Time: 9:00 am

Location: Frisco Senior Center

Name	Organization	Title	Phone	Email	Signature of Attendance
Matthew Haines	Shady Shores	City Council	469-278-6025	mhaines@tangentproperties.com	
Jason Pool	Cross Roads	Town Engineer	214-858-1129	jason.r.pool@qual.com	
Tom SPENCER	Shady Shores	P&Z	940 321-2411	OLT.HS.H@CENTURYTEL.NET	
RICHARD ARVIZU	SHADY SHORES	ENGINEER	972-644-2800	rarvizu@bbcp.com	
DAN PERRENOUD DAN PERRENOUD	"	P&Z MEMBER	940-497-0582	d/dan.002@CENTURYTEL.NET	
Patty Durkin	Shady Shores	Town Council	940-555-8154	Patty.durkin@shady-shores.com	
PAULA WOOLWORTH	Shady Shores	Alderman - Place 2	940-498-5030	paula.woolworth@shady-shores.com	
SCOTT SHIPP	BLUE STAR LAND	DIR. OF ENGINEERING	214-728-9274	sshipp@dallascowboys.net	→ owners around prosper
Charla Marchuca	Shady Shores	Chairman P&Z	469-438-3064	Charla.marchuca@shady-shores.com	
CHAR DUPREE	LAKE DALLAS	COMMUNITY DEV. DIR.	940/497-2226	CDUPREE@LAKE DALLAS.COM	
Barrett Goodwin	RAMP	Study Manager	940-735-3337	bgoodone@denberry.com	
Reddy Mudumalaguthy	RAMP	Engineer	940-735-3335	ymudumalaguthy@denberry.com	



Sign in Sheet - Meeting 2

Elm Fork Trinity River Watershed
FEMA Region 6 and NCTCOG

Date: Tuesday, June 25, 2013
Location: Frisco Senior Center

Time: 9:00 am

Name	Organization	Title	Phone	Email	Signature of Attendance

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Disclosure: Disclosure of you name, street address, or other contact information is voluntary; however if information is not provided, we may not be able to provide copies of decisional documents and to retrieve additional comments related to environmental impact actions or decisions.

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Meeting Photos



























