

**CONCHO VALLEY COUNCIL OF
GOVERNMENTS (CVCOG)
HAZARD MITIGATION
PLAN UPDATE
2012**



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Background

The Concho Valley Council of Governments (CVCOG) was established by the Texas Legislature in May of 1967 to address regional issues and opportunities. CVCOG is a voluntary association that encompasses twenty-eight jurisdictions, including thirteen counties and fifteen cities and towns. CVCOG was organized to strengthen local governments; provide a vehicle for joint and coordinated programs; and to create and enhance partnerships among local governments, private businesses and service organizations to collaboratively plan for and maintain the highest quality of life in the Concho Valley Region. The mission of the CVCOG is to:

Support each unit of local government in the Concho Valley Region. Seek to reach community goals and provide services in the most effective and efficient manner for the lowest possible cost. To assist in reaching this goal, the Concho Valley Council of Governments will strive to:

- *Share information about local community programs and initiatives that have successfully addressed and resolved problems experienced by one or more local governments;*
- *Identify areas where communities may wish to work together to achieve mutually desired goals and effective cost saving strategies;*
- *Learn about state and federal programs and how they may be accessed to further serve the citizens of each local unit of government; and*
- *Develop relationships among the various local government units that will serve to foresee and prevent future problems.*

CVCOG provides services for residents residing in the region for housing, workforce, and senior services programs. They also administer 2-1-1 Texas, planning and training for law enforcement, homeland security, head start, community and economic development, solid waste planning and grants, regional 9-1-1, and transportation planning and services.

In 2005, the CVCOG facilitated development of a Hazard Mitigation Action Plan (HMAP) approved by the Federal Emergency Management Agency (FEMA) entitled, *“Towards a Disaster Resistant Concho Valley.”* This HMAP was formed with technical assistance

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provided by CVCOG and H2O Partners, Inc. of Austin, Texas. Twelve counties and fourteen cities and towns participated in the initial HMAP.

Consistent with this vision, CVCOG took the lead in sponsoring the development of a comprehensive Hazard Mitigation Plan Update (“Plan” or “Plan Update”) for the cities and counties that participated in the 2005 HMAP, as well as any additional communities that wished to join as part of the Plan Update. The mitigation planning regulation of the Disaster Mitigation Act requires that mitigation plans be reviewed and revised within five (5) years of approval to maintain eligibility for mitigation grant funding¹. Therefore, CVCOG began the planning process to renew the HMAP and completely update each section of the original Plan.

Although CVCOG’s District covers a thirteen-county area, the Plan Update consisted of the original twelve counties and incorporated communities that participated in the 2005 planning effort, except for the City of Brady in McCulloch County². Table 1-1 lists the participating and non-participating communities in the Plan Update, while Figure 1-1 presents an overview of the area and participating jurisdictions.

Table 1-1. Participating and Non-Participating Jurisdictions in the Study Area

PARTICIPATING JURISDICTIONS	NON-PARTICIPATING JURISDICTIONS
Coke County	
Town of Bronte	
City of Robert Lee	
Concho County	
City of Eden	
Town of Paint Rock	
Crockett County	
(No Incorporated Cities)	
Irion County	
City of Mertzon	
Kimble County	
City of Junction	
McCulloch County	

¹ 44 CFR §201.6(d)(3)

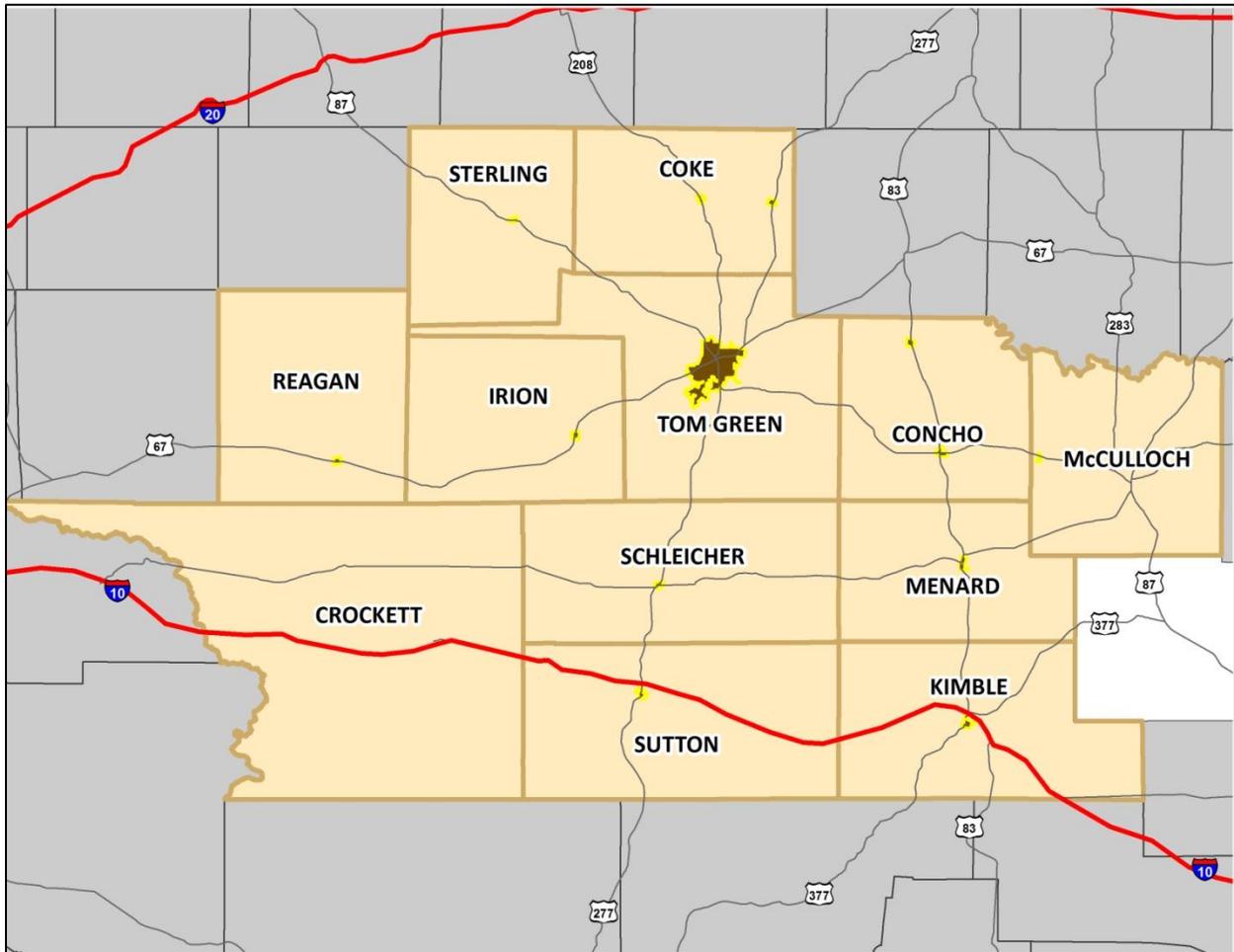
² The City of Brady participated in the Texas Colorado River Floodplain Coalition Plan Update, approved in 2011.

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PARTICIPATING JURISDICTIONS	NON-PARTICIPATING JURISDICTIONS
Town of Melvin	City of Brady
Menard County	
City of Menard	
Reagan County	
City of Big Lake	
Schleicher County	
City of Eldorado	
Sterling County	
City of Sterling City	
Sutton County	
City of Sonora	
Tom Green County	
City of San Angelo	
	Mason County

To give a comprehensive overview of the CVCOG Region in its entirety, some background information is included on Mason County and the City of Brady in McCulloch County, even though they are not participating in the Plan Update.

Figure 1-1. Overview of Jurisdictions Participating in the Plan Update



Scope

The focus of the Plan Update is to mitigate hazards that are classified as “high” or “moderate” risk as determined through a detailed hazard risk assessment conducted for the participating CVCOG jurisdictions. Hazards that pose a “low” or “negligible” risk will continue to be evaluated during future updates to the plan, but they may not be fully addressed until they are determined to be of high or moderate risk. This enables the CVCOG and its participating jurisdictions and partners to prioritize mitigation actions based on hazards which are understood to present the greatest risk to lives and property.

Purpose

This Plan Update was prepared by the CVCOG and H2O Partners, Inc. It is an opportunity for the CVCOG and participating jurisdictions to evaluate successful mitigation actions and explore opportunities to avoid future disaster loss.

In developing the Plan Update, CVCOG and Plan participants identified twelve natural and man-caused hazards (profiled in detail in Sections 5-14 and Appendix A) to be addressed, as the goal of the Plan Update is to minimize or eliminate long-term risks to human life and property from known hazards by identifying and implementing cost-effective mitigation actions. *Mitigation* is defined by FEMA as *sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects*. Therefore, the purpose of the Plan Update is to continue developing successful mitigation projects to bring together cities and counties in order to reduce future risk of loss of life or damage to property in the CVCOG Region.

Through this update process, the CVCOG and Plan participants seek to:

- Assess previous mitigation projects and develop unique mitigation strategies to meet future development and risks;
- Encourage improvements in floodplain management, participation in the National Flood Insurance Program (NFIP); and qualifying for FEMA’s Community Rating System, thereby reducing flood insurance premiums for citizens;
- Devise solutions to strengthen emergency management by addressing moderate and high risk natural and man-caused hazards; and
- Develop and implement a comprehensive Hazard Mitigation Plan Update for the CVCOG Region.

Authority

The Plan Update will comply with all requirements promulgated by the Texas Division of Emergency Management (TDEM) and all applicable provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Section 104 of the Disaster Mitigation Act of 2000 (DMA 2000) (P.L. 106-390), and the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108-264). It will also comply with FEMA's February 26, 2002



FEMA

Interim Final Rule (“the Rule”) at 44 CFR Part 201, which specifies the criteria for approval of mitigation plans required in Section 322 of the DMA 2000 and standards found in FEMA’s “Local Multi-Hazard Mitigation Planning Guidance” (released July 1, 2008).

Summary of Sections

Sections 1 and 2 of the Plan outline the purpose of the Plan Update and the process of development. Section 3 profiles the region, while Section 4 provides an overview of the people and property at risk and hazards facing the area, including the process of identification and risk assessment methodologies utilized.

Sections 5 through 14 present information on individual hazards. For each hazard, the plan presents a description of the hazard, the hazard extent, a history of historical hazard events, the probability of future occurrences, and the results of the vulnerability and risk assessment process.

Section 15 presents mitigation goals and objectives. Section 16 provides the previous mitigation strategies submitted in the 2005 Plan and a current analysis for each action, while Section 17 contains all of the newly developed mitigation actions for the Plan Update. Section 18 identifies plan maintenance procedures including Plan incorporation and implementation.

Appendix A presents information on pipeline failure and hazardous material incidents, which includes a description of each hazard, the hazard extent, a history of historical hazard events, the probability of future occurrences, and the results of the vulnerability and risk assessment process. Appendix B contains a list of the planning team and stakeholders. Public survey results are analyzed in Appendix C. Appendix D contains a detailed list of toxic sites and critical facilities for the area. Appendix E contains documentation of meetings in the form of sign-in sheets³.

³ For privacy concerns, Appendices D and E will not be made available to the general public.

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Plan Preparation and Development

Mitigation planning involves bringing together multiple components and players to create more disaster-resistant communities. This section provides an overview of the planning process, highlighting key steps as well as providing a detailed description of how stakeholders and the public were involved.

Overview of the Plan Update

Concho Valley Council of Governments (CVCOG) received funding under the Hazard Mitigation Grant Program (HMGP) to develop a FEMA-approved Hazard Mitigation Plan Update. CVCOG solicited bids and hired the consultant team of H2O Partners, Inc. to

provide technical support and oversee the development of the Plan Update. In developing the Plan, the consultants used the July 2008 “*Local Multi-Hazard Mitigation Planning Guidance*” and the *State and Local Mitigation Planning How-to Guides* (FEMA Publication Series 386) to create the Plan Update in accordance with the process as shown in Figure 2-1 below.

Figure 2-1. Mitigation Planning Process



CVCOG and the consultant team met early October 2010 to begin organizing resources by identifying Planning Team Members and conducting a capability assessment.

Planning Team

The planning team was developed using an Advisory Committee comprised of CVCOG staff including the Homeland Security Planner and Economic Development District Representative. The Advisory Committee was then supported by one or more representatives from each participating county or community in the Plan Update. Stakeholders and the public were also included in the planning process as described in Appendix B. The entire planning team consisted of participating stakeholders, CVCOG staff and project team members of H2O Partners.

Review of the 2005 Plan

In accordance with 44 CFR §201.6(d)(3), the Advisory Committee and the consultant team met in early October 2010 to review the 2005 Plan.

Each section from the 2005 Plan was reviewed and analyzed, and it was decided the entire 2005 Plan would be revised and re-developed for the plan update process. The Committee

Planning Process

decided to use the most current information in updating the demographics and profile section.

Upon review of the introductory and overview sections of the risk assessment, the Committee decided to eliminate the terrorism hazard that was considered in the 2005 Plan as this hazard is not required by FEMA to be addressed. In addition, many of the human-caused or technological hazards are included in various emergency plans and are not eligible for funding assistance under FEMA Hazard Mitigation Assistance (HMA) funding programs. For the hazards that remained from the 2005 Plan, occurrence and probability data were updated. Critical facilities, building counts and losses were also updated to reflect changes over the past five years. The overall goals and objectives of the 2005 Plan were reviewed and it was determined that the objectives and goals needed to be updated in the Plan Update as reflected in Section 15. Plan maintenance procedures were also reviewed and updated to reflect current changes in staff and annual/bi-annual meetings.

In addition to the initial review by the Advisory Committee, all of the participating jurisdictions reviewed the mitigation strategies developed in the 2005 Plan and any amendments thereto and provided an analysis as to whether each action is ongoing, has been completed or should be deleted from the Plan Update.

The following factors were taken into consideration when reviewing the 2005 Plan:

- Whether the goals address current and expected conditions;
- Whether the nature/magnitude of risks have changed;
- Whether there are current resources appropriate for implementing the Plan;
- Whether implementation problems, such as technical, political, legal or coordination issues hinder development;
- Whether outcomes have occurred as expected; and
- How communities, agencies and partners participated in the implementation process.

Planning Process

The process used to prepare this Plan Update included following the four major steps included in Figure 2-1. After the Planning Team was organized, a capability assessment was developed and distributed at the Kick-Off Workshop. Hazards were identified and assessed, the result of which was provided at the Risk Assessment Workshop. Based on the CVCOG Region's vulnerabilities, specific mitigation strategies were discussed and created at the Mitigation Workshop. Finally plan maintenance and implementation procedures were developed and are included with this Plan at Section 18. Documentation for participation at each workshop is found in Appendix E.

Kickoff Workshop

The Kickoff Workshop was held in the region on October 20, 2010. The meeting was conducted at the Concho County Emergency Operations Center. The initial meeting was an opportunity to inform city and county officials and key department personnel about how the planning process pertained to their distinct roles and responsibilities, and also to involve stakeholder groups, such as school districts and area businesses. In addition to the kickoff presentation, participants received the following information:

- Background paperwork about the Plan Update;
- Public Survey access information; and
- Capability assessment survey for completion.

Hazard Identification

At the close of the Kickoff Meeting, and through a series of email and phone correspondences, the Planning Team confirmed hazards identification by the Advisory Committee for inclusion in the Plan Update. The group reviewed and considered a full range of natural and man-caused hazards for inclusion then narrowed the list to significant hazards by reviewing hazards affecting the area as a whole, the State of Texas Hazard Mitigation Plan, and initial study results from reputable sources such as federal and state agencies. Based on this initial analysis, the team identified a total of 10 natural hazards and 2 human-caused hazards that could affect the area.

Risk Assessment

An initial risk assessment for the CVCOG Region was completed in April 2011 and results presented to Plan participants and stakeholders at a workshop on April 20, 2011. The stakeholder meeting was held at the CVCOG Regional Training Center in San Angelo, and followed by a public meeting at 6:30 p.m. At the stakeholder workshop, the characteristics and consequences of each hazard were evaluated to determine how much of the area would be affected, in terms of potential danger to property and citizens.

Potential dollar losses from each hazard were estimated using the Federal Emergency Management Agency's Hazards U.S. Multi-Hazards (MH) Model (HAZUS-MH) and other HAZUS-like modeling techniques. The assessments examined the impact of various hazards on the built environment, including on general building stock (e.g., residential, commercial, industrial), critical facilities, lifelines, and infrastructure. The resulting risk assessment profiled hazard events, provided information on previous occurrences, estimated probability of future events, and detailed the spatial extent and magnitude of impact on people and property. Each participant was also given a risk ranking sheet at the Risk Assessment Workshops in order to reflect unique and varied risks among the planning

area. Participants ranked hazards in terms of the probability or frequency of occurrence, extent of spatial impact, and the magnitude of impact.

The assessments were also used to set priorities for mitigation based on potential dollar losses and loss of lives. A hazard profile and vulnerability analysis for each of the hazards can be found in Sections 5 through 14 in this Plan Update.

Mitigation Review and Development

The mitigation strategy development for the Plan Update involved developing mitigation goals and developing new mitigation actions, in addition to evaluating and revising the mitigation strategies included in the 2005 Plan. A Mitigation Workshop was held on April 20, 2011 at the CVCOG Regional Training Center in San Angelo. The Mitigation Workshop was followed by a public meeting at 6:30 p.m. As with the Risk Assessment Workshop, stakeholder groups were invited.

An inclusive and structured process was used to develop and prioritize new mitigation actions for this Plan, including the following steps:

- A “menu” of optional mitigation actions was developed based on plan reviews, studies, and interviews with federal, state and local officials. The participants reviewed the optional mitigation actions, and narrowed the list down to those that were most applicable to their area of responsibility, most cost-effective in reducing risk, could be implemented easily, and would be most likely to receive institutional and community support.
- The participants inventoried federal and state funding sources that could potentially assist in implementing the proposed mitigation actions. Information was collected, including the program name authority, purpose of the program, types of assistance and eligible projects, conditions on funding, types of hazards covered, matching requirements, application deadlines, and a point of contact. Mitigation Planning Team Members considered benefits that would result from the mitigation actions versus the cost of those projects. Detailed cost-benefit analyses were beyond the scope of this plan. However, economic evaluation was one factor that helped Team Members select one mitigation action from competing actions.
- Team Members then selected and prioritized mitigation actions.

The prioritization method was based on FEMA’s STAPLE+E criteria and included social, technical, administrative, political, legal, economic and environmental considerations. As a result of this exercise, an overall priority was assigned to each mitigation action by each Team Member. The overall priority of each action is reflected in the mitigation actions found in Section 17.

Team Members developed action plans identifying proposed actions, costs and benefits, the responsible organization(s), effects on new and existing buildings, implementation schedules, priorities, and potential funding sources.

Mitigation actions identified in the process were made available to the Planning Team for review. In addition, the Plan Update will be made available for review and comment on CVCOG's website.

Review and Incorporation of Existing Plans

Review

A variety of existing studies, plans, reports, and technical information were reviewed as part of the planning process. Sources of the information included FEMA, the United States Army Corps of Engineers (USACE), the U.S. Fire Administration, National Oceanic and Atmospheric Administration (NOAA), the Texas Water Development Board (TWDB), the Texas Commission on Environmental Quality (TCEQ), the State Comptroller, the Texas State Data Center, Texas Forest Service, the Texas Division of Emergency Management (TDEM), local hazard assessments and plans, including those identified in the 2006 Hazard Mitigation Plan.

Section 4 and the hazard-specific sections of the Plan Update (Sections 5-14) summarize the findings from these information sources. Some of these documents, including those from FEMA, provided information on risk, existing mitigation actions currently underway, previous actions identified in the 2005 HMAP, and ideas for possible future mitigation actions. Other documents, including those from NOAA, provided histories of disasters in the area. The USACE studies were reviewed for their assessment of risk and potential projects in the region. State Data Center documents were used to obtain population projections. Materials from FEMA and TDEM were reviewed for guidance on plan development requirements. Communities included actions from other plans, such as Floodplain Management Plans and developed actions to implement and incorporate other plans such as Storm Water Management Plans and Wildfire Management Plans.

Incorporation of Existing Plans

Current projects and studies were utilized as a starting point for discussing mitigation actions among Team Members. This information was also developed into a table for review by the Planning Team for an assessment on the CVCOG Region's capability. Previous hazard events, occurrences and descriptions were identified through NOAA's National Climatic Data Center (NCDC). Results of past hazard events were found through searching the NCDC and included in Section 4 of this Plan Update. The preliminary results were also presented at the Risk Assessment Workshop held April 20, 2011 in order to facilitate a

discussion on risk to help participants appropriately rank hazards for their jurisdiction. The Water Development Board studies were reviewed for population and other projections and included in Section 3 of the Plan Update. Further, these studies were used as a starting point for suggesting grant and mitigation activities based on flood-related funding availability. The State Comptroller materials were reviewed for regional economic projections, which were also used to fully develop Section 3 of the Plan Update. Information from the Texas Forest Service was used to appropriately rank the wildfire hazard, and to help identify potential grant opportunities. The State of Texas Mitigation Plan, developed by TDEM, was discussed in the initial planning meeting in order to develop a specific group of hazards to address in the planning effort. The State Plan was also used as a guidance document, along with FEMA materials, in the development of the Plan Update.

Public and Stakeholder Involvement

An important component of mitigation planning is public participation and stakeholder involvement. Input from individual citizens and the community as a whole, provides the Planning Team with a greater understanding of local concerns and increases the likelihood of successfully implemented mitigation actions. If citizens and stakeholders, such as local businesses, non-profits, hospitals and schools, are involved, they are more likely to gain a greater appreciation of the hazards present in their community and take steps to reduce their impact.

Public Participation

Public involvement in the development of CVCOG Hazard Mitigation Plan Update was sought at three separate periods of the planning process: (1) during the beginning of the planning process; (2) during the hazard identification stage of the Plan Update; and (3) during mitigation development but prior to official plan approval and adoption. Public input was sought using three methods: (1) open public meetings; (2) survey instruments; and (3) making copies of draft Plan Update deliverables available for public review on the CVCOG website, as well as in government offices and public libraries. Two separate public meetings were held during the development of this Plan Update, as described below.

First Series of Public Meetings

Following the Kickoff workshop for stakeholders, area businesses, and schools on October 20, 2010, a public survey was posted to the CVCOG website to provide background on the Plan Update and garner input from the public. The first series of open public meetings was held on April 20, 2011 at the CVCOG office in San Angelo. This meeting was scheduled on the same day as the Risk Assessment Workshop. The meeting was scheduled to further seek public and stakeholder input. Topics of discussion for this first meeting included the

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purpose of hazard mitigation, discussion of the planning process, and types of hazards, both natural and man-caused.

Second Series of Public Meetings

The second series of open public meetings was held on July 27, 2011 at the CVCOG office in San Angelo, TX. This meeting was scheduled in the evening following the Mitigation Workshop meeting for Planning Team Members, and was specifically for seeking public and stakeholder input. The meeting was advertised through a variety of means, including a newspaper ad, flyers at meeting locations, notices on the CVCOG's website, and invitations sent via e-mail to community members.

Members of the general public did attend each of the public meetings. Representatives from area civic organizations were present, and other interested citizens. The purpose of the plan and the planning process was described as a whole. Lengthy discussion regarding hazards facing the region ensued. A key topic during the public meetings was long-term drought and wildfire. Public surveys were distributed and attendees were asked to sign in so that they could be invited to future public meetings.

Documentation of participation in meetings is found in Appendix E.

Public Participation Survey

In addition to the open public meetings, CVCOG was able to solicit input from citizens and stakeholders through the use of a public participation survey. This survey was designed to obtain data and information from the residents of the CVCOG Region. Planning Team member communities distributed surveys at public forums and posted the survey on their community website.

Copies of the Participation Survey were distributed by local officials and at public meetings. A total of 72 responses to the survey were submitted, which provided valuable input in the development of the Plan Update. A summary of the survey findings is provided in Appendix C.

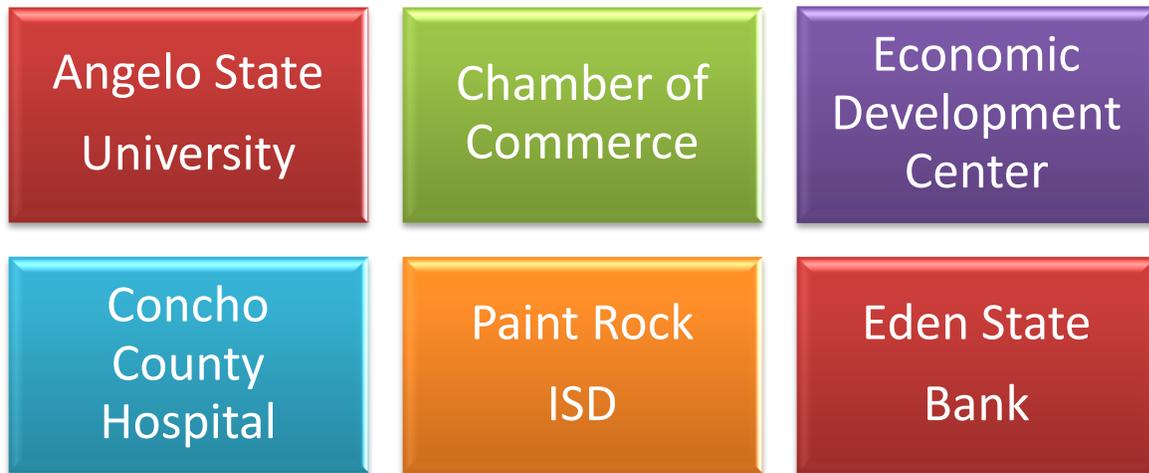
Figure 2-2. Screen Shot of CVCOG’s Online Public Survey



Stakeholder Involvement

Stakeholders provide an essential service in hazard mitigation planning; therefore, throughout the planning process, members of state and federal agencies, community groups, local businesses, schools and hospitals were invited to workshops held throughout the planning process. Numerous local businesses were invited to participate in the Hazard Mitigation Planning Process. A partial list of organizations invited to attend may be found in Figure 2-3.

Figure 2-3. List of Stakeholders Invited to Attend HMAP Meetings



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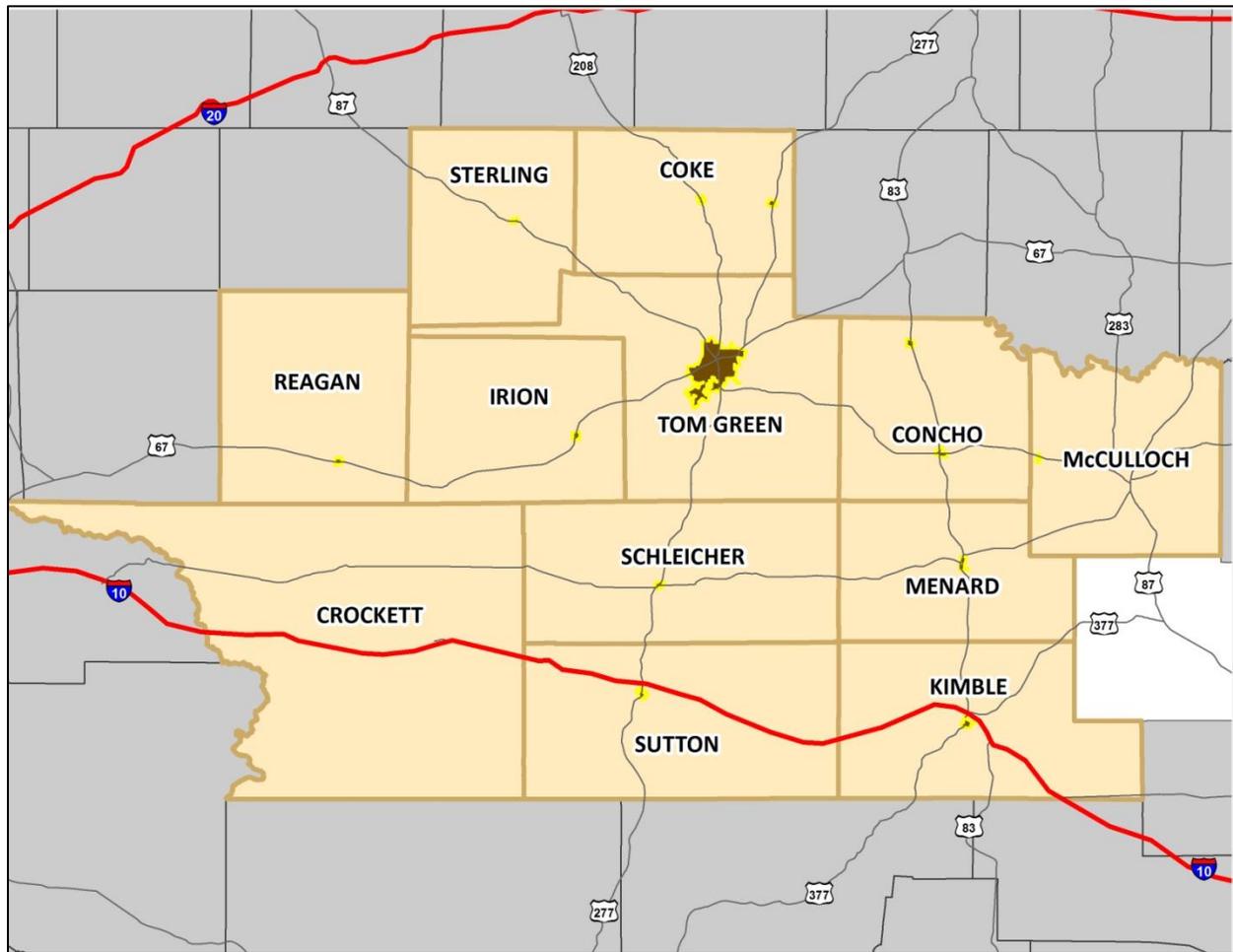
The CVCOG extends over a thirteen-county statutory district, which is bordered by the Colorado River along the north and east and Devils and Llano Rivers along the south and includes the following counties for an aggregate population of 154,192, according to the 2010 U.S. Census Bureau: Coke, Concho, Crockett, Irion, Kimble, McCulloch, Mason, Menard, Reagan, Schleicher, Sterling, Sutton, and Tom Green. The CVCOG Region covers 16,398 square miles and is home to the Brady, Colorado, Concho, Devils, Llano, and San Saba Rivers. All but its extreme northeast portion is underlain by the Edwards-Trinity (Plateau) Aquifer, which flows through sandstone and limestone formations to numerous pleasant springs. Cypress can be found along rivers and creeks, with live oak, shinnery oak, juniper, and mesquite elsewhere. Also located in the CVCOG



Regional Profile

Region is the Spraberry Trend, a large oil field that covers the majority of Reagan County and portions of Irion and Crockett counties.

Figure 3-1. Map of Concho Valley Council of Governments Study Area



The map above, Figure 3-1, illustrates the extent of the study area, including the twelve participating counties that form the Concho Valley Council of Governments. Provided in Table 3-1 below is a listing of the jurisdictions in the CVCOG and status of participation in the Hazard Mitigation Plan Update. It is important to note that Mason County, and one incorporated municipality, City of Brady in McCulloch County, are not participating in this study. Both Mason County and the City of Brady were recently part of a risk assessment for the Texas Colorado River Floodplain Coalition (TCRFC).

Table 3-1. Participating and Non-Participating Jurisdictions in the Study Area

PARTICIPATING JURISDICTIONS	NON-PARTICIPATING JURISDICTIONS
Coke County	
Town of Bronte	
City of Robert Lee	
Concho County	
City of Eden	
Town of Paint Rock	
Crockett County	
(No Incorporated Cities)	
Irion County	
City of Mertzon	
Kimble County	
City of Junction	
McCulloch County	
Town of Melvin	City of Brady
Menard County	
City of Menard	
Reagan County	
City of Big Lake	
Schleicher County	
City of Eldorado	
Sterling County	
City of Sterling City	
Sutton County	
City of Sonora	
Tom Green County	
City of San Angelo	
	Mason County

To give a more comprehensive overview of the CVCOG Region in its entirety, some background information is included on Mason County and the City of Brady in McCulloch County, even though they are not participating in the Plan Update.

Population and Demographics

The population distribution for the CVCOG is depicted in Figures 3-2 through 3-14, which is based on data from the 2000 U.S. Census Bureau. The maps display the twelve counties including unincorporated areas, as well as the participating jurisdictions. 2000 Census data at the census block level was used to determine population distribution. Table 3-2 provides a numeric breakdown of population by jurisdiction.

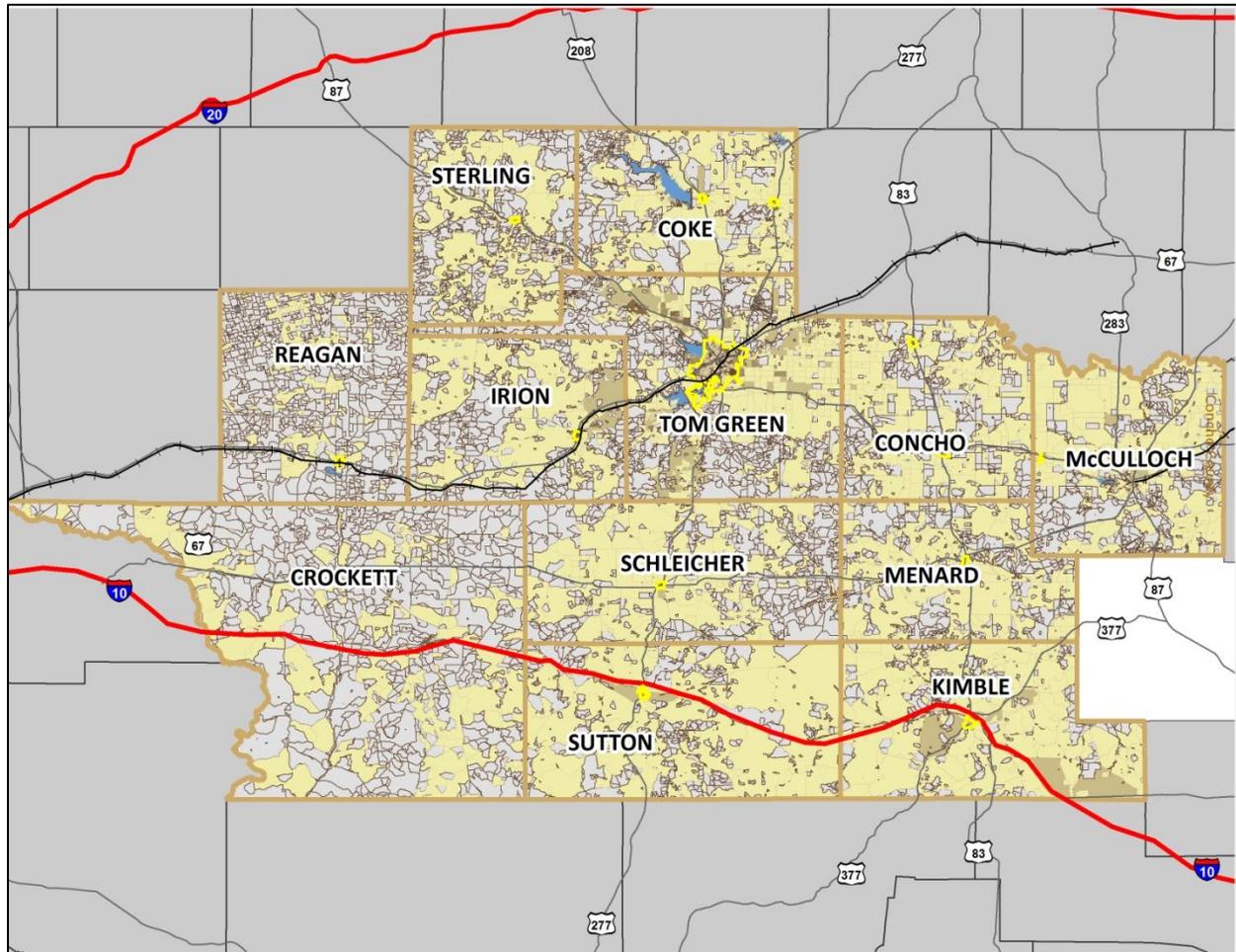
Table 3-2. Population Distribution by Jurisdiction

JURISDICTION	TOTAL 2000 POPULATION	ESTIMATED SPECIAL NEEDS POPULATIONS	
		Elderly (Over 65)	Low Income (<= \$20,000)
Coke County	3,864	931	465
Bronte	1,076	264	161
Robert Lee	1,171	335	163
Uninc. Coke County	1,617	332	141
Concho County	3,966	547	310
Eden	2,561	282	186
Paint Rock	320	43	53
Uninc. Concho County	1,085	222	71
Crockett County	4,099	528	783
(No Incorporated Cities)			
Irion County	1,771	276	148
Mertzon	839	127	80
Uninc. Irion County	932	149	68
Kimble County	4,468	932	828
Junction	2,618	474	567
Uninc. Kimble County	1,850	458	261
McCulloch County	8,205	1,602	1,798
Melvin	155	35	80
Uninc. McCulloch County	8,050	1,567	1,718
Mason County	3,738	879	488
Menard County	2,360	518	597
Menard	1,653	340	535
Uninc. Menard County	707	178	62
Reagan County	3,326	342	387
Big Lake	2,885	293	318

Regional Profile

JURISDICTION	TOTAL 2000 POPULATION	ESTIMATED SPECIAL NEEDS POPULATIONS	
		Elderly (Over 65)	Low Income (<= \$20,000)
Uninc. Reagan County	441	49	69
Schleicher County	2,935	482	621
Eldorado	1,951	312	504
Uninc. Schleicher County	984	170	117
Sterling County	1,393	204	230
Sterling City	1,081	170	186
Uninc. Sterling County	312	34	44
Sutton County	4,077	508	726
Sonora	2,924	312	492
Uninc. Sutton County	1,153	196	234
Tom Green County	104,010	13,969	15,193
San Angelo	88,439	12,211	13,275
Uninc. Tom Green County	15,571	1,758	1,918
TOTALS FOR STUDY AREA	148,212	21,718	22,574

Figure 3-2. Population Distribution for the CVCOG Study Area



LEGEND

- | | | |
|-----------------------------|----------------------------|-------------------|
| Population Per Census Block | CVCOG County | Interstates |
| 0 | Participating Municipality | U.S. Highways |
| 1 - 42 | Non-Participating County | Rail |
| 43 - 97 | Surrounding Counties | Major Water Areas |
| 98 - 202 | | |
| 203 - 400 | | |
| 401 - 1303 | | |

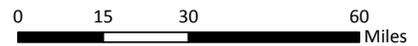
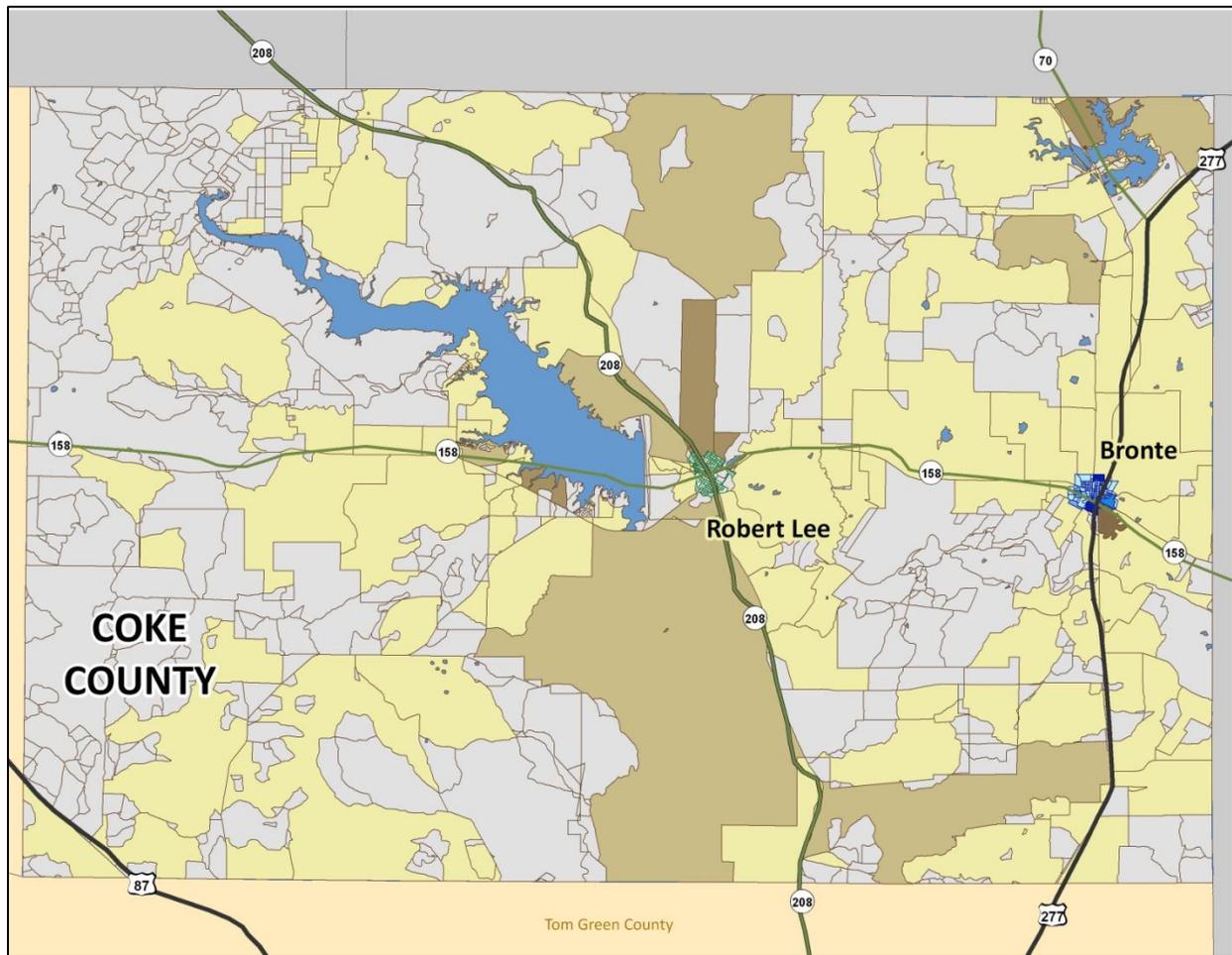


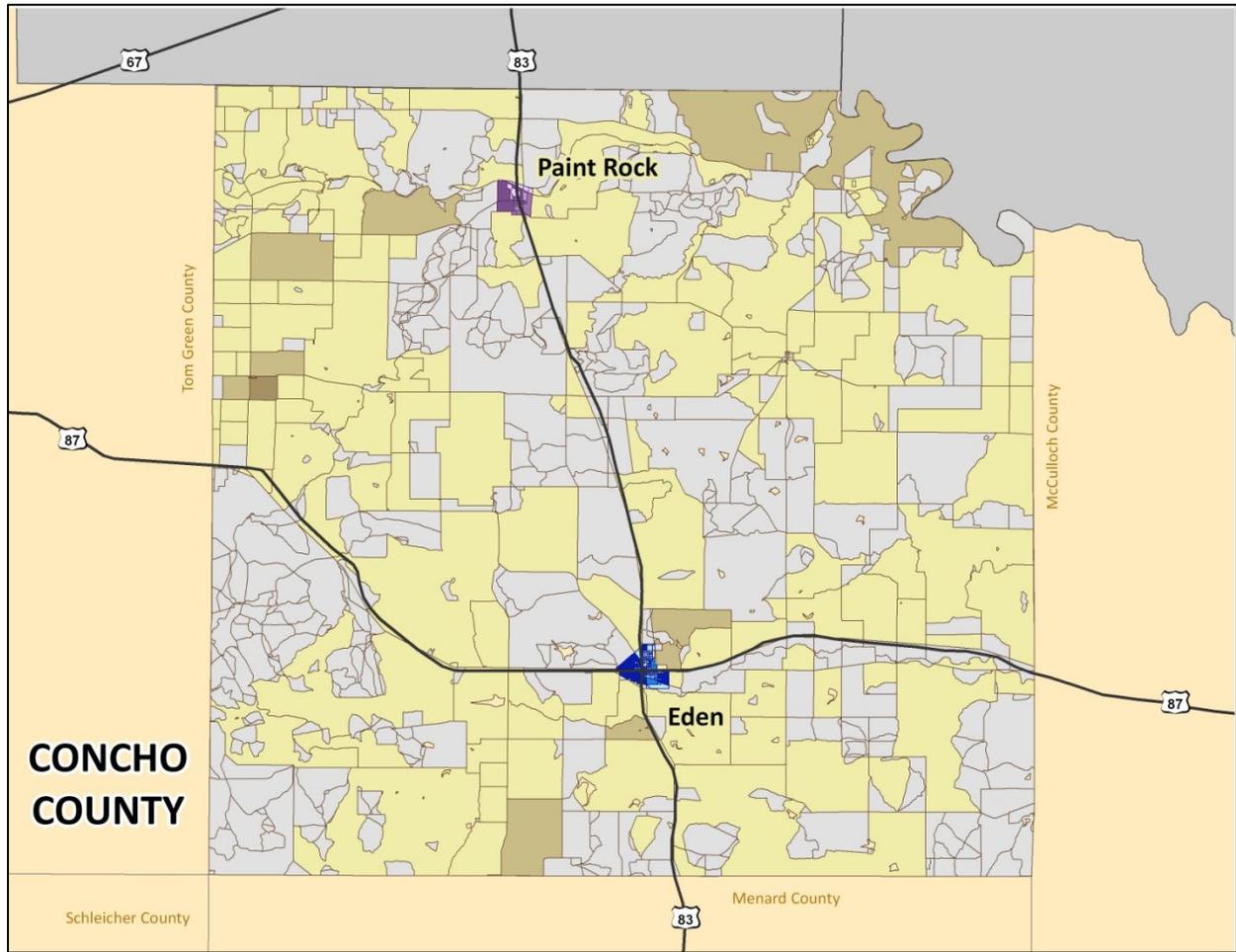
Figure 3-3. Population Distribution for Coke County



LEGEND



Figure 3-4. Population Distribution for Concho County



LEGEND

Eden	Paint Rock	Concho County	CVCOG County
0	0	0	Non-Participating County
1 - 10	1 - 6	1 - 16	Surrounding Counties
11 - 18	7 - 11	17 - 39	Major Water Areas
19 - 31	12 - 18	40 - 96	U.S. Highways
32 - 68	19 - 36	97 - 205	State Highways

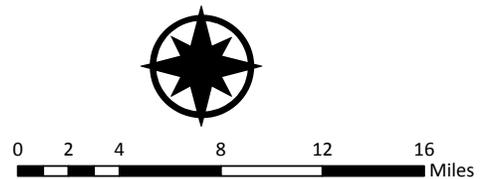
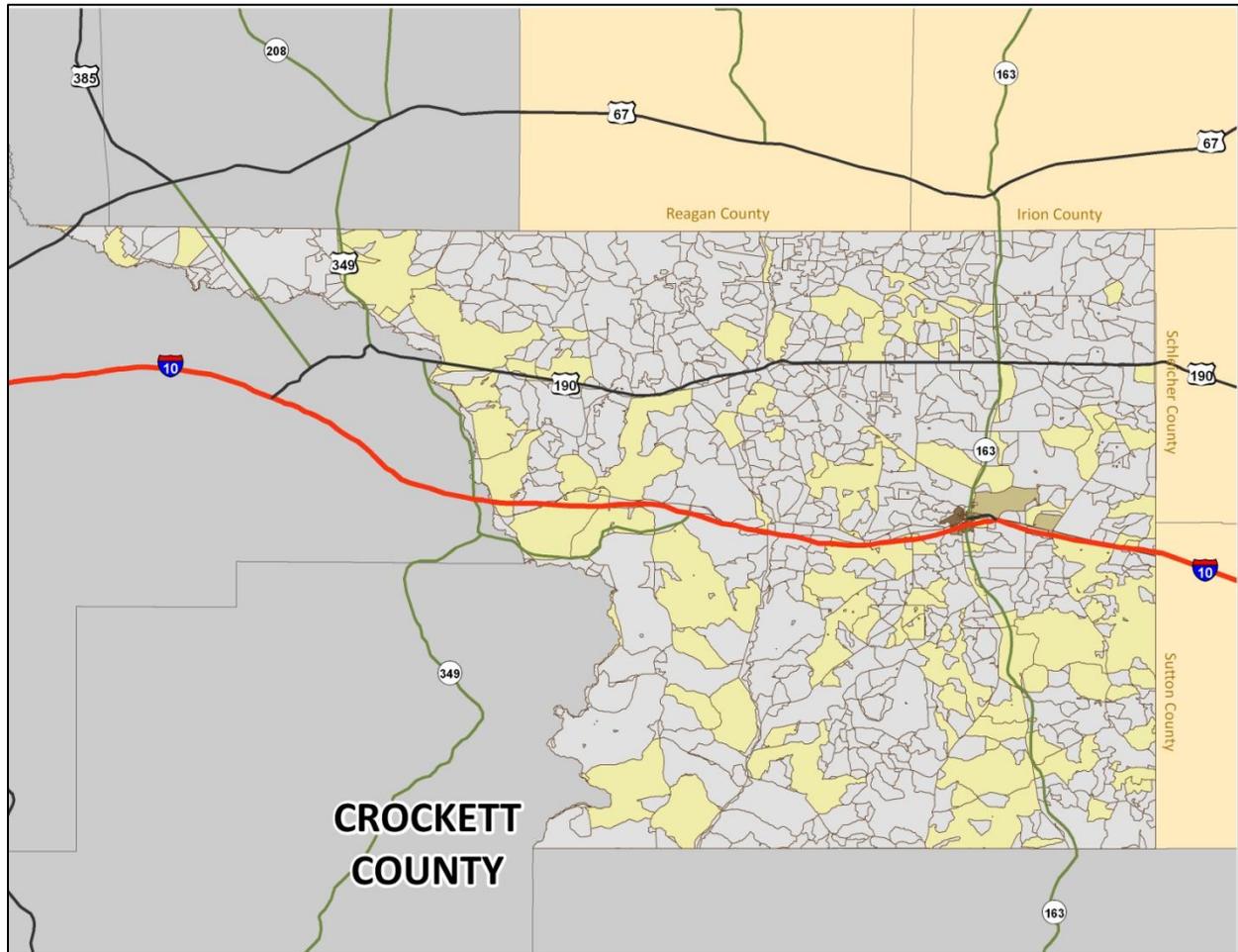


Figure 3-5. Population Distribution for Crockett County

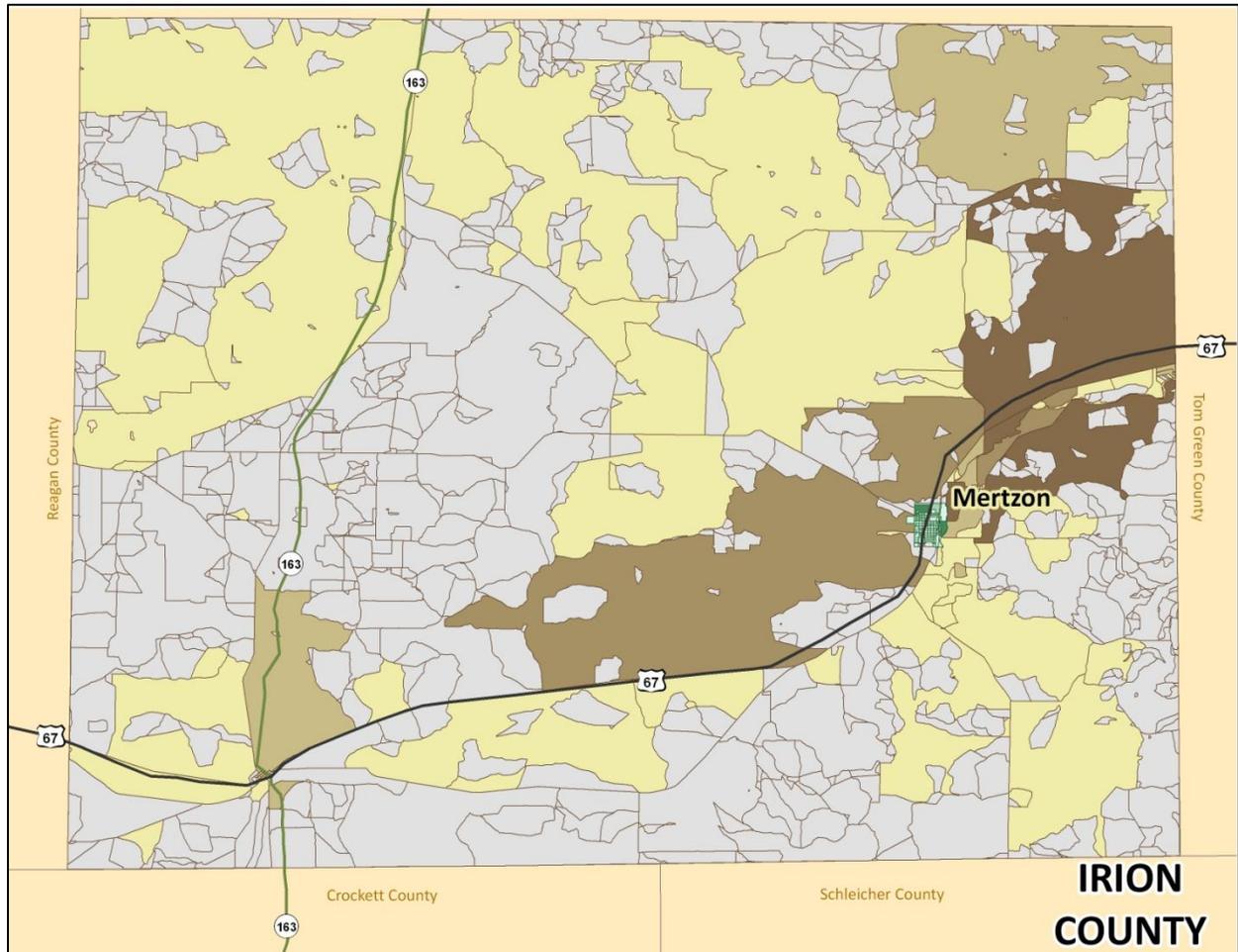


LEGEND

- | | | |
|-----------------|--------------------------|----------------|
| Crockett County | CVCOC County | Interstates |
| 0 | Non-Participating County | U.S. Highways |
| 1 - 20 | Surrounding Counties | State Highways |
| 21 - 48 | Major Water Areas | |
| 49 - 97 | | |
| 98 - 251 | | |



Figure 3-6. Population Distribution for Irion County



LEGEND

Mertzon	Irion County	CVCOG County	Interstates
0	0	Non-Participating County	U.S. Highways
1 - 10	1 - 12	Surrounding Counties	State Highways
11 - 20	13 - 25	Major Water Areas	
21 - 30	26 - 39		
31 - 65	40 - 62		

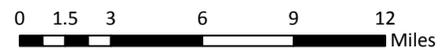
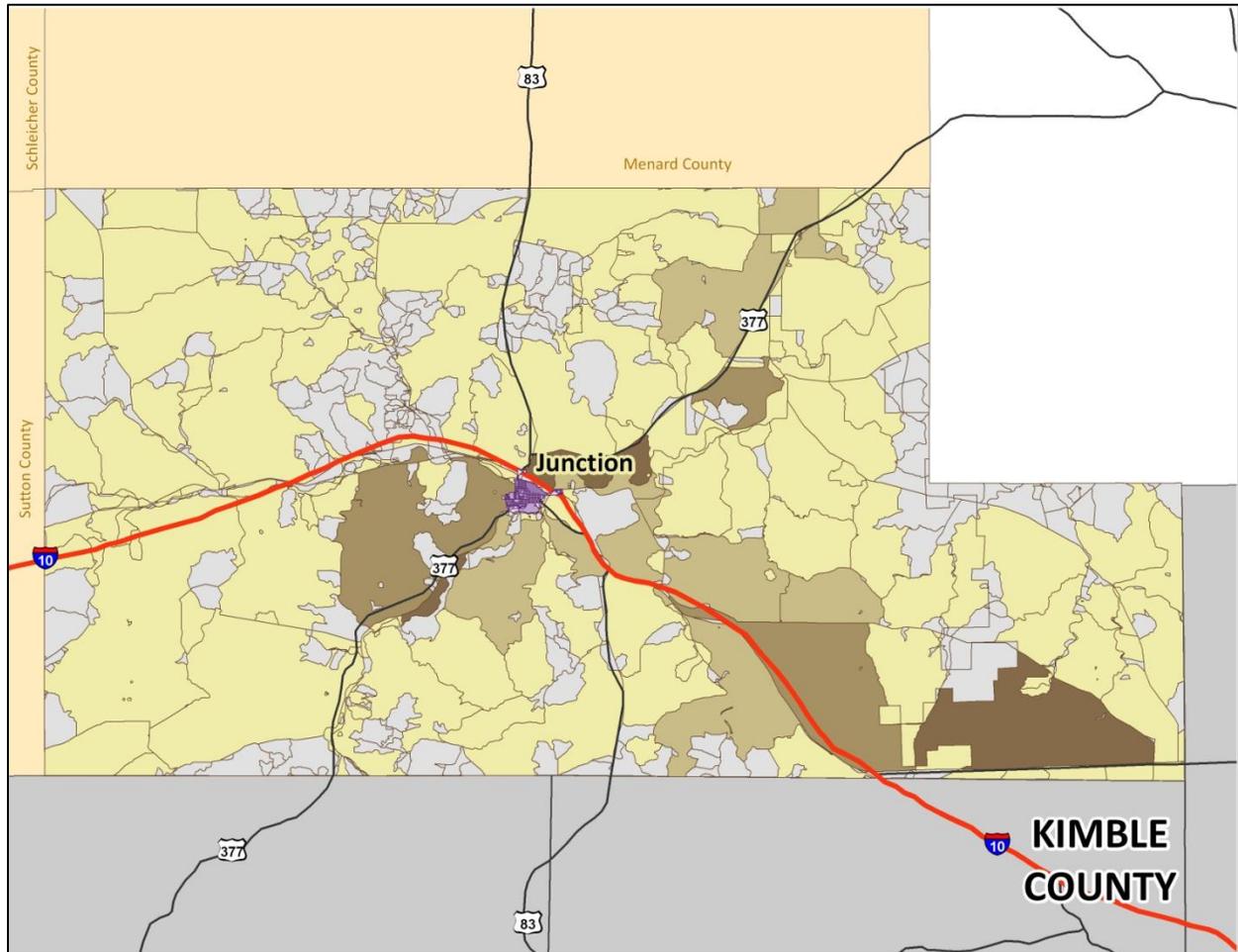


Figure 3-7. Population Distribution for Kimble County

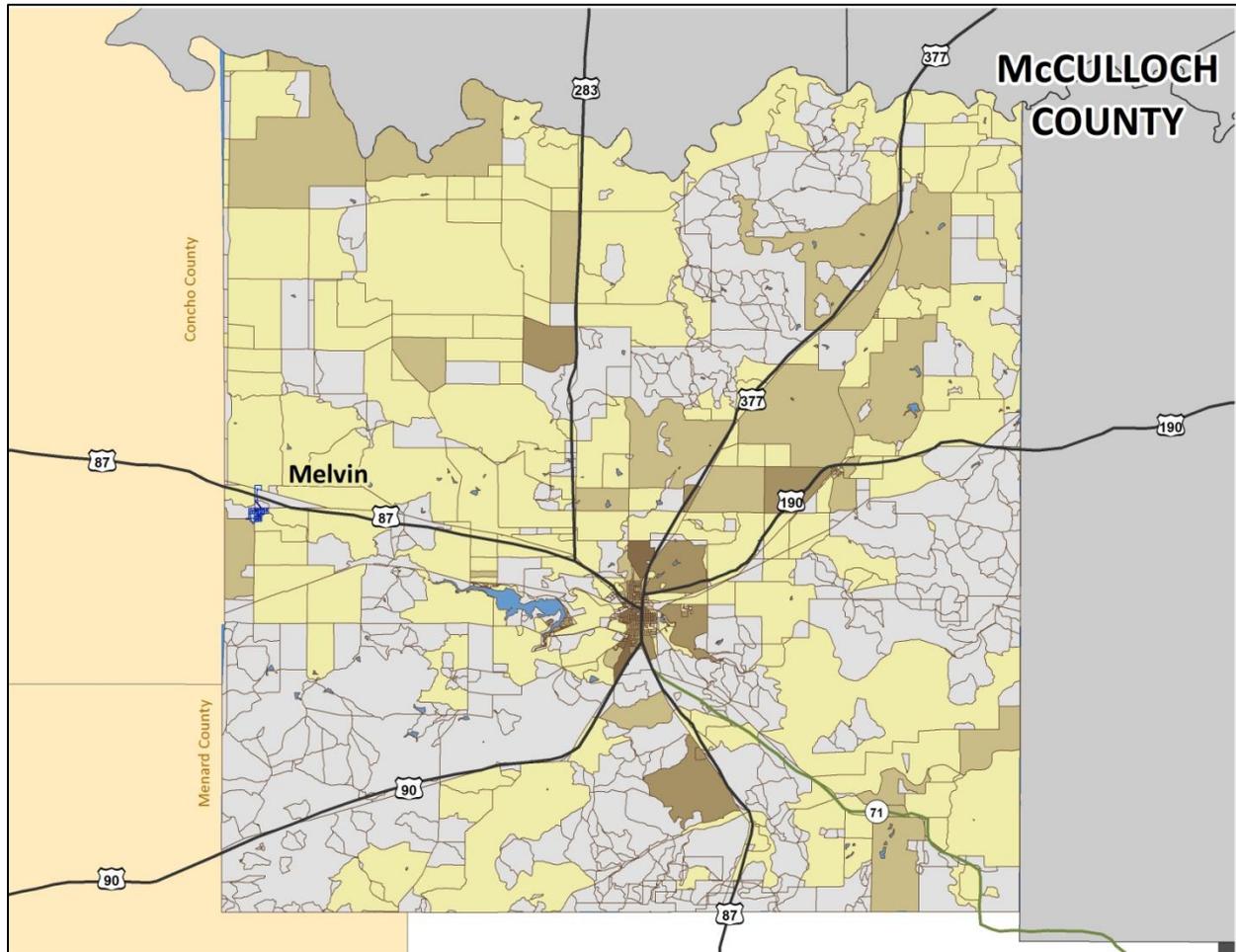


LEGEND

Junction	Kimble County	CVCOG County	Interstates
0	0	Major Water Areas	State Highways
1 - 17	1 - 17	Non-Participating County	U.S. Highways
18 - 33	18 - 36	Surrounding Counties	
34 - 58	37 - 61		
59 - 125	62 - 125		



Figure 3-8. Population Distribution for McCulloch County



LEGEND

Melvin	McCulloch County	CVCOG County
0	0	Non-Participating County
1 - 3	1 - 16	Surrounding Counties
4 - 6	17 - 35	Major Water Areas
7 - 10	36 - 70	U.S. Highways
11 - 13	71 - 131	State Highways

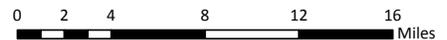
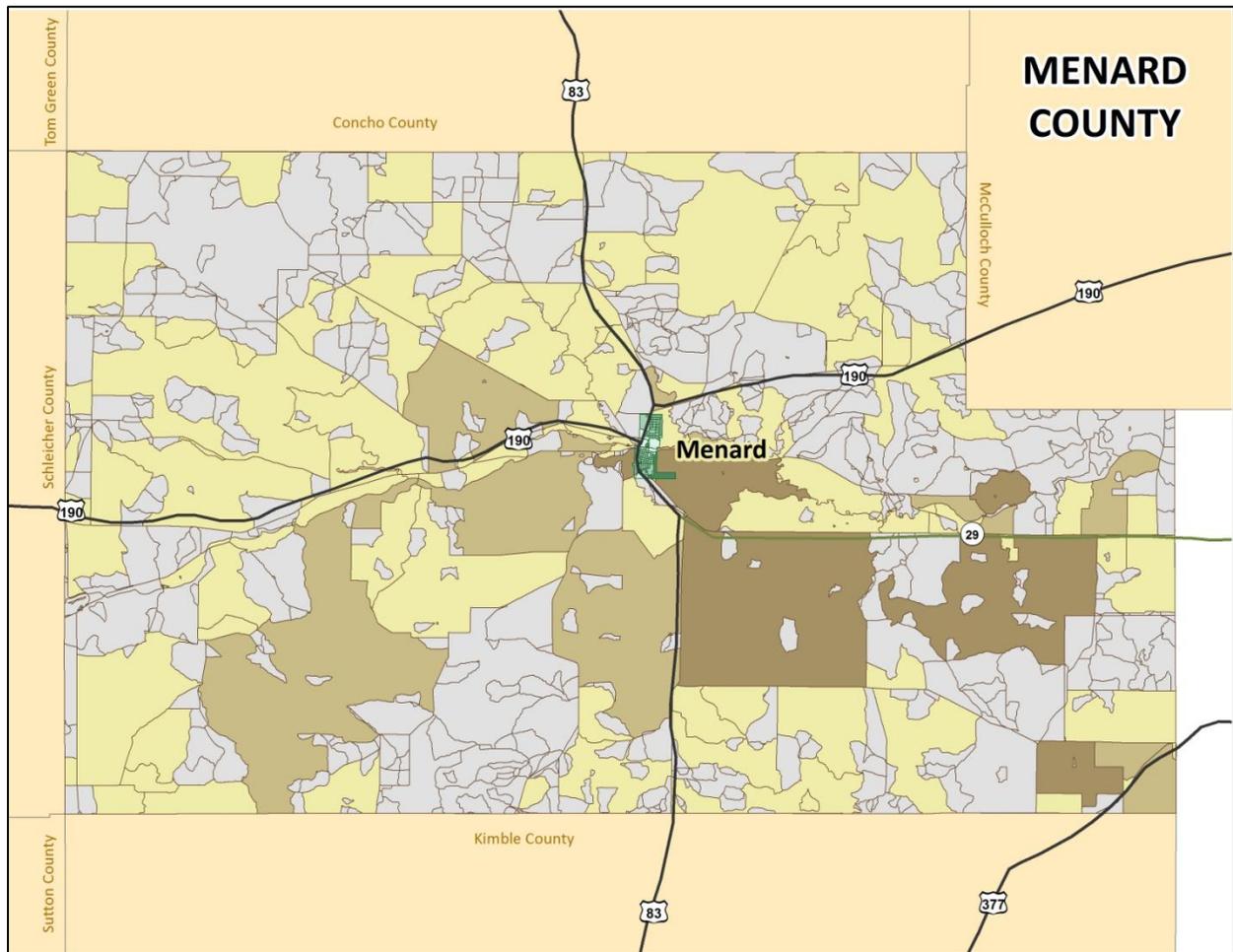


Figure 3-9. Population Distribution for Menard County



LEGEND

Menard	Menard County	CVCOG County	U.S. Highways
0	0	Non-Participating County	State Highways
1 - 17	1 - 9	Surrounding Counties	Rail
18 - 43	10 - 19	Major Water Areas	
44 - 91	20 - 66		
92 - 177	67 - 177		

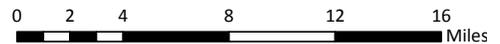
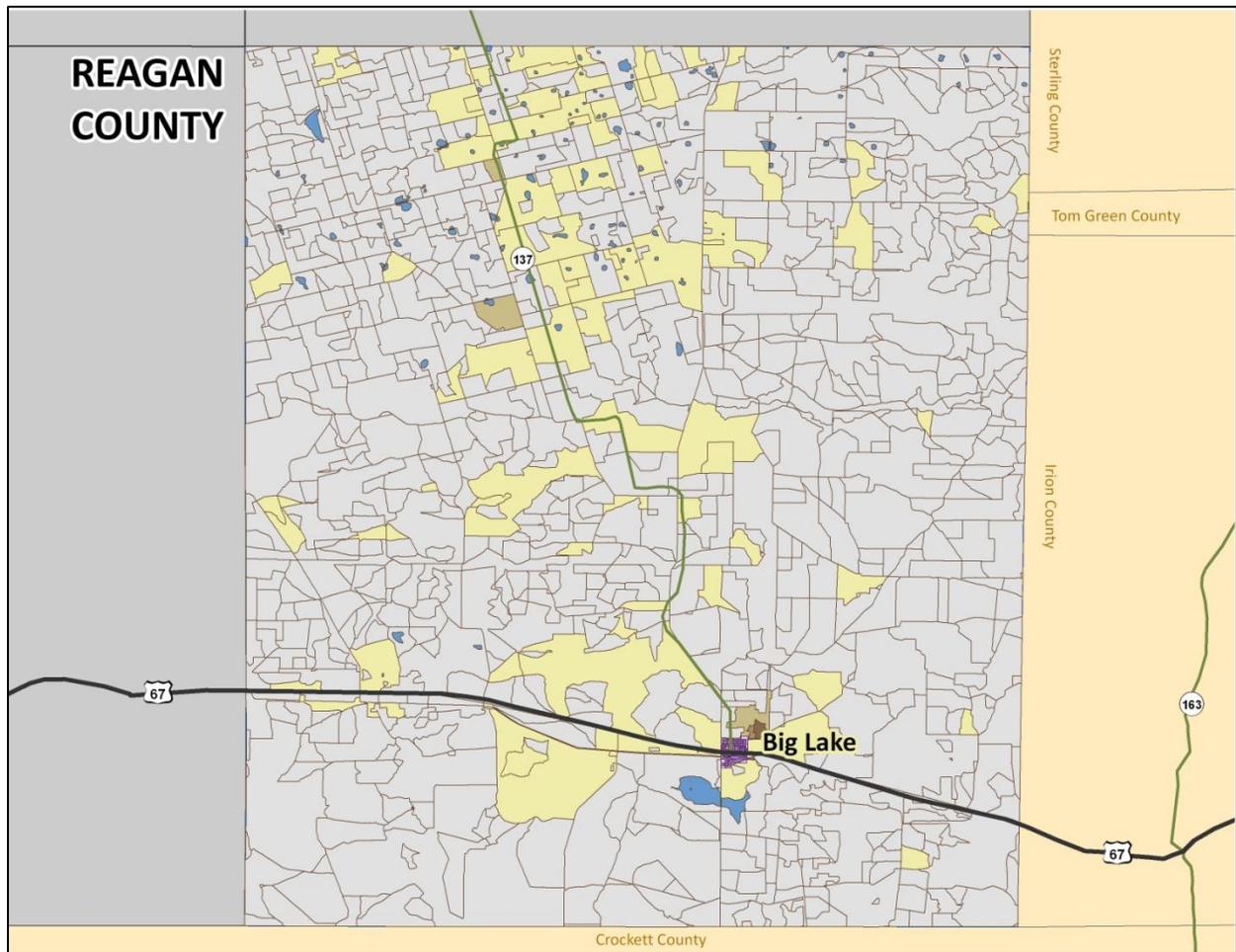


Figure 3-10. Population Distribution for Reagan County



LEGEND

- | | | | |
|----------|---------------|--------------------------|----------------|
| Big Lake | Reagan County | CVCOG County | Interstates |
| 0 | 0 | Non-Participating County | State Highways |
| 1 - 15 | 1 - 15 | Surrounding Counties | U.S. Highways |
| 16 - 23 | 16 - 24 | Major Water Areas | |
| 24 - 38 | 25 - 38 | | |
| 39 - 60 | 39 - 60 | | |

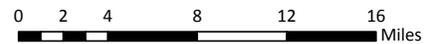
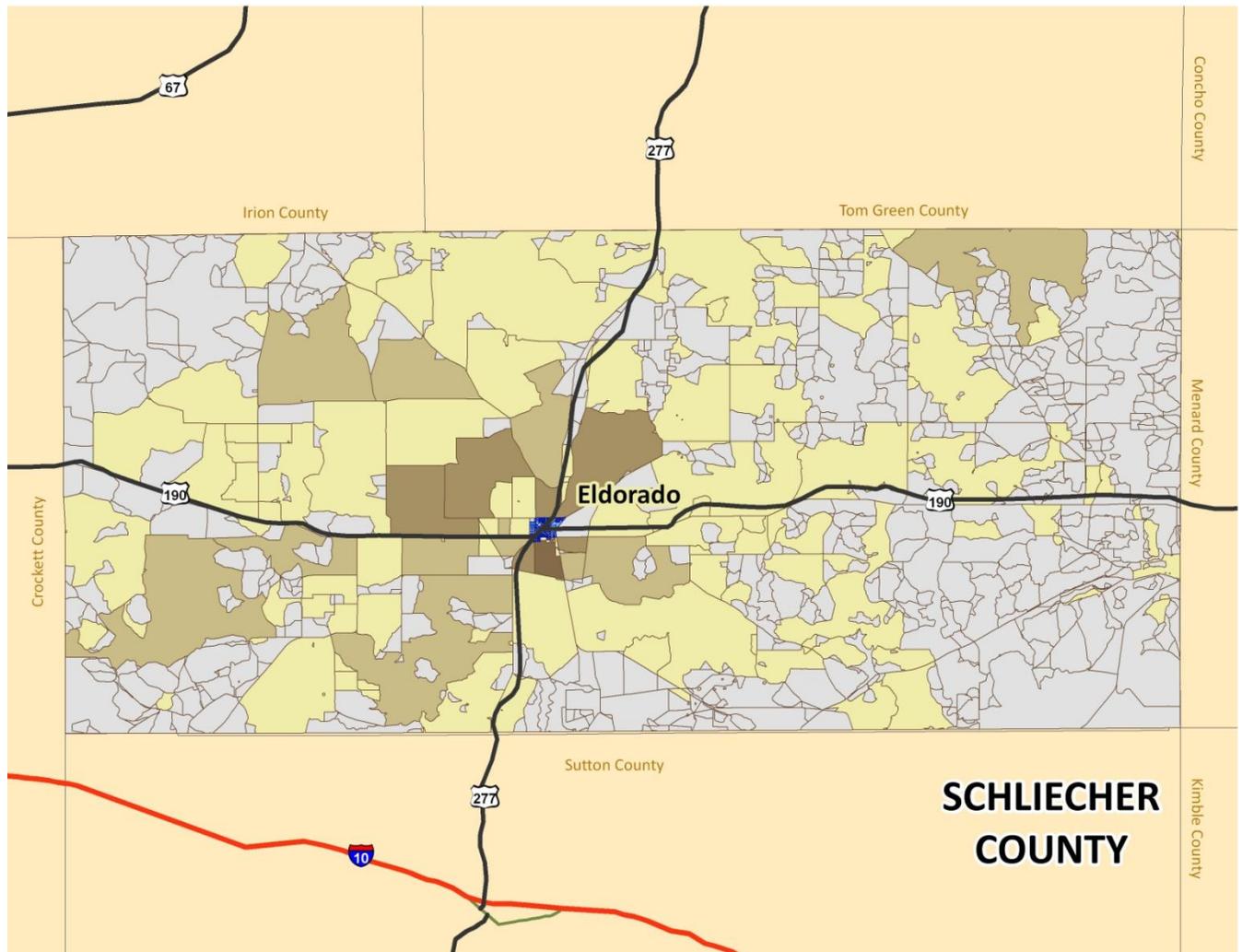


Figure 3-11. Population Distribution for Schleicher County



LEGEND

- | | | | |
|----------|-------------------|--------------------------|----------------|
| Eldorado | Schleicher County | CVCOG County | Interstates |
| 0 | 0 | Non-Participating County | U.S. Highways |
| 1 - 12 | 1 - 11 | Surrounding Counties | State Highways |
| 13 - 23 | 12 - 23 | Major Water Areas | |
| 24 - 47 | 24 - 47 | | |
| 48 - 73 | 48 - 82 | | |

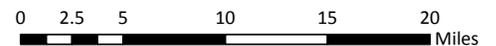
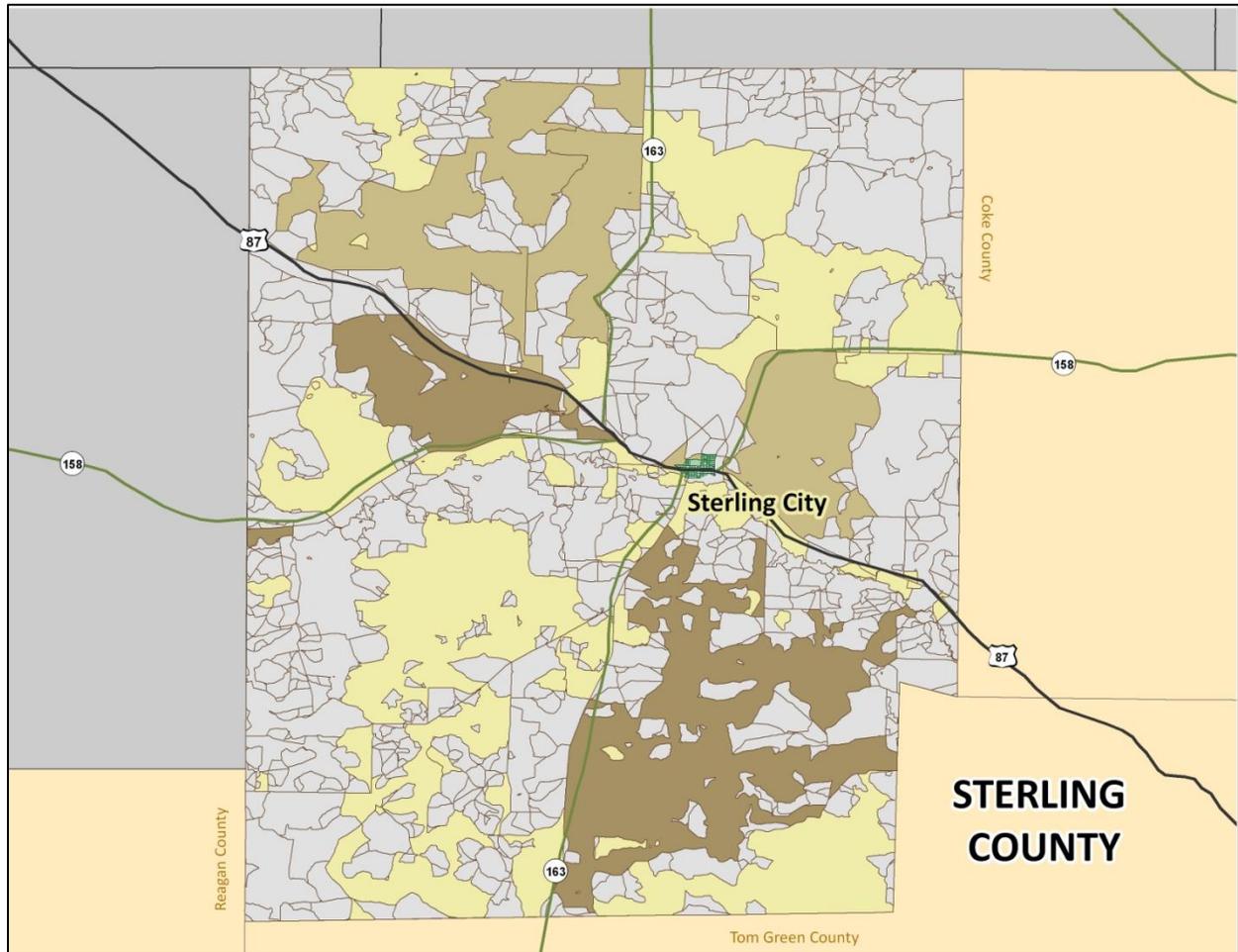


Figure 3-12. Population Distribution for Sterling County



LEGEND

0	0	CVMCOG County	Interstates
1 - 11	1 - 10	Non-Participating County	U.S. Highways
12 - 18	11 - 17	Surrounding Counties	State Highways
19 - 26	18 - 26		
27 - 45	27 - 45		

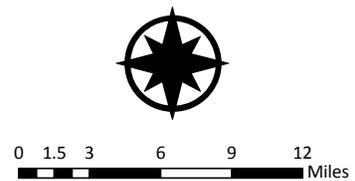
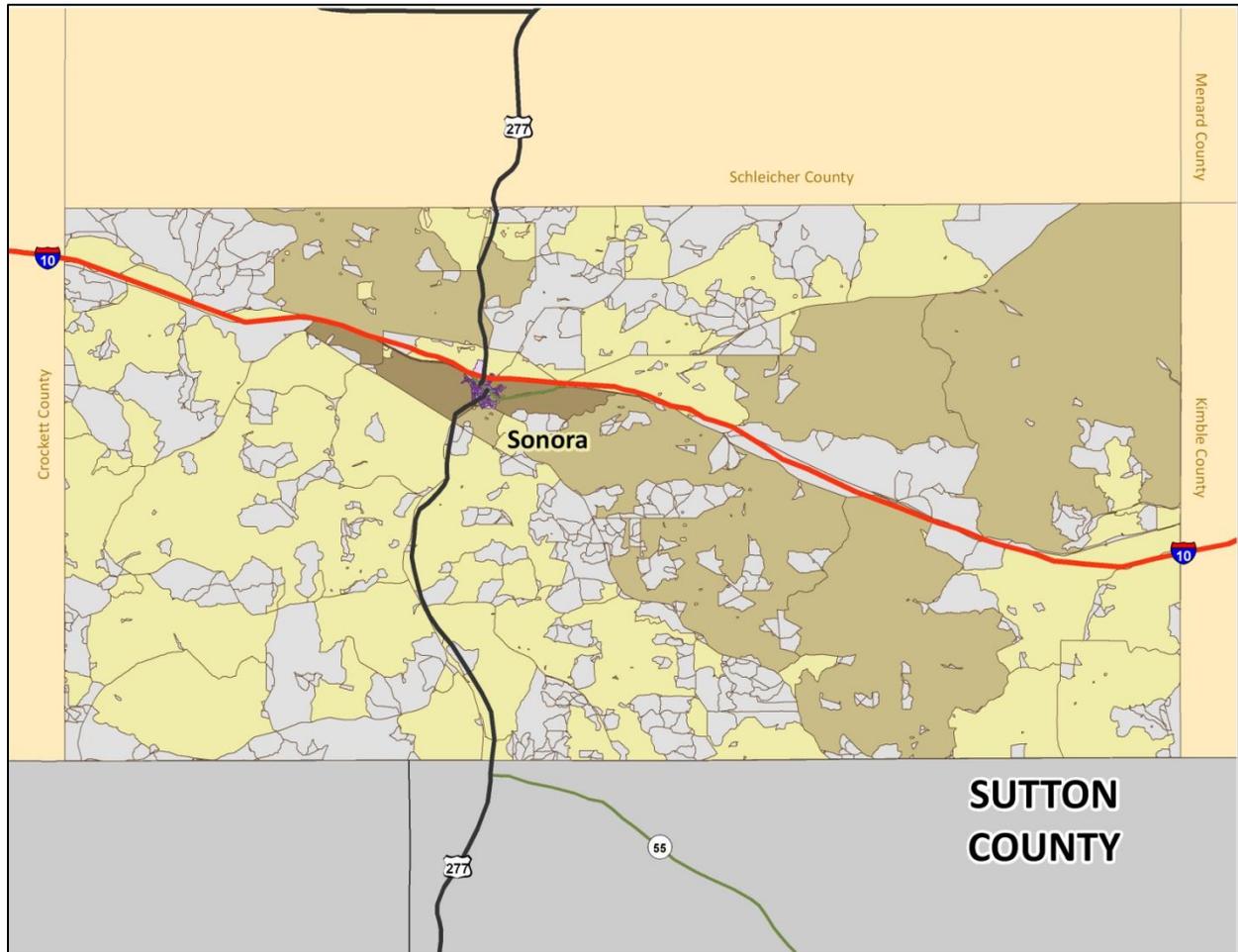


Figure 3-13. Population Distribution for Sutton County



LEGEND

Sonora	Sutton County	CVCOG County	Interstates
0	0	Non-Participating County	U.S. Highways
1 - 19	1 - 20	Surrounding Counties	State Highways
20 - 43	21 - 43		
44 - 84	44 - 84		
85 - 144	85 - 144		

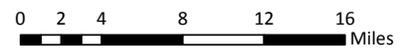
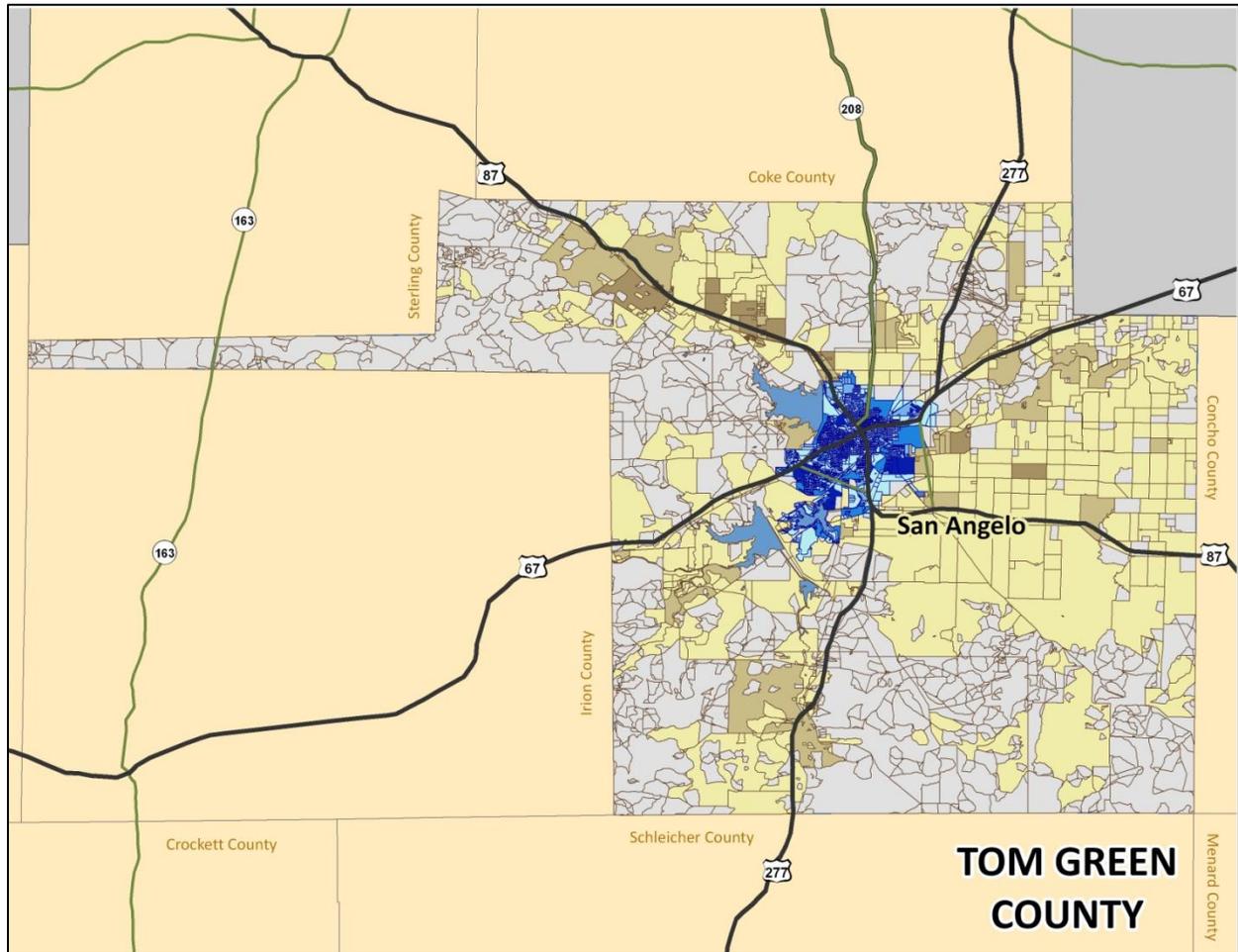
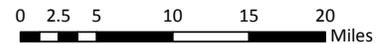


Figure 3-14. Population Distribution for Tom Green County



LEGEND

San Angelo	Tom Green County	CVCOG County	Interstates
0	0	Non-Participating County	U.S. Highways
1 - 56	1 - 53	Surrounding Counties	State Highways
57 - 136	54 - 136		
137 - 324	137 - 324		
325 - 795	325 - 795		



2010 Population

The CVCOG Region has a population of 154,192, according to the 2010 U.S. Census Bureau. Tom Green County is the largest county in the CVCOG, with 71.5 percent of the total population, with the City of San Angelo being the largest jurisdiction in the CVCOG Region with a population of 93,200. McCulloch County is the second largest with its population accounting for 5.4 percent of the CVCOG population. All of the other counties are small in comparison, each accounting for less than 3.0 percent of the total population.

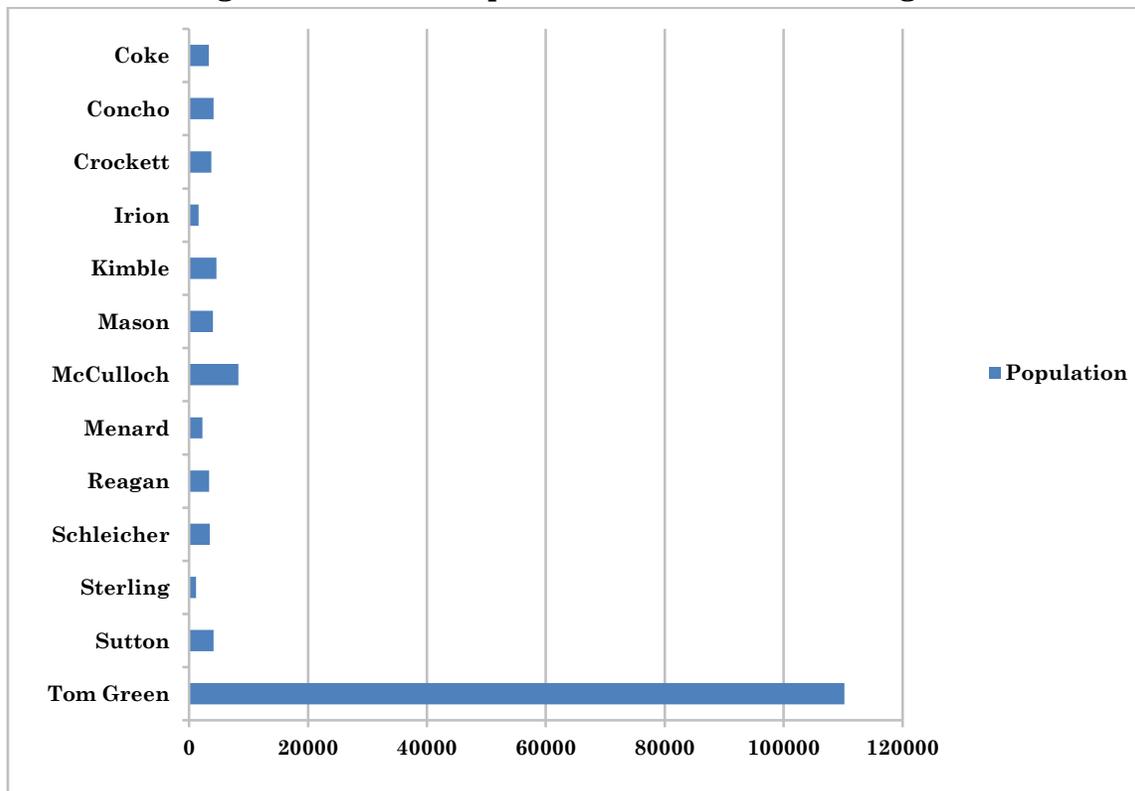
Table 3-3. 2010 Population for the CVCOG Region

JURISDICTION	2010 POPULATION		PERCENTAGE – CVCOG REGION	
Coke County	3,320		2.2%	
Bronte		999		30.1%
Robert Lee		1,049		31.6%
Uninc. Coke County		1,272		38.3%
Concho County	4,087		2.7%	
Eden		2,766		67.7%
Paint Rock		273		6.7%
Uninc. Concho County		1,048		25.6%
Crockett County	3,719		2.4%	
(No Incorporated Cities)				
Uninc. Crockett County		3,719		100.0%
Irion County	1,599		1.0%	
Mertzon		781		48.8%
Uninc. Irion County		818		51.2%
Kimble County	4,607		3.0%	
Junction		2,574		55.9%
Uninc. Kimble County		2,033		44.1%
McCulloch County	8,283		5.4%	
Brady		5,528		66.7%
Melvin		178		2.1%
Uninc. McCulloch County		2,577		31.1%
Mason County	4,012		2.6%	
Menard County	2,242		1.5%	
Menard		1,471		65.6%
Uninc. Menard County		771		34.4%
Reagan County	3,367		2.2%	

Regional Profile

JURISDICTION	2010 POPULATION		PERCENTAGE – CVCOG REGION	
Big Lake		2,936		87.2%
Uninc. Reagan County		431		12.8%
Schleicher County	3,461		2.2%	
Eldorado		1,951		56.4%
Uninc. Schleicher County		1,510		43.6%
Sterling County	1,143		0.7%	
Sterling City		888		77.7%
Uninc. Sterling County		255		22.3%
Sutton County	4,128		2.7%	
Sonora		3,027		73.3%
Uninc. Sutton County		1,101		26.7%
Tom Green County	110,224		71.5%	
San Angelo		93,200		84.6%
Uninc. Tom Green County		17,024		15.4%
TOTALS FOR STUDY AREA		154,192		100%

Figure 3-15. 2010 Population for the CVCOG Region



Population Growth

The CVCOG Region experienced an increase in population between 1980 and 2010 by 19.5 percent or 25,185 people. The counties of Concho, Irion, Kimble, Schleicher, and Tom Green all exhibited a significant increase in population between 1980 and 2010 by 13.4 percent or higher, with all continuing to have population growth between 2000 and 2010, except Irion County. Between 2000 and 2010, two of the counties experienced significant population losses of 14.1 percent or higher, while three counties saw their population decline slightly. During that same time period, McCulloch, Mason, Reagan, and Sutton Counties had population growth.

Table 3-4. Population for the CVCOG Region, 1980 – 2010

COUNTY	1980	1990	2000	2010	POP CHANGE 1980-2010	PERCENT OF CHANGE	POP CHANGE 2000-2010	PERCENT OF CHANGE
Coke	3,196	3,424	3,864	3,320	124	3.9%	-544	-14.1%
Concho	2,915	3,044	3,966	4,087	1,172	40.2%	121	3.1%
Crockett	4,608	4,078	4,099	3,719	-889	-19.3%	-380	-9.3%
Irion	1,386	1,629	1,771	1,599	213	15.4%	-172	-9.7%
Kimble	4,063	4,122	4,468	4,607	544	13.4%	139	3.1%
Mason	3,683	3,423	3,738	4,012	329	8.9%	274	7.3%
McCulloch	8,735	8,778	8,205	8,283	-452	-5.2%	78	1.0%
Menard	2,346	2,252	2,360	2,242	-104	-4.4%	-118	-5.0%
Reagan	4,135	4,514	3,326	3,367	-768	-18.6%	41	1.2%
Schleicher	2,820	2,990	2,935	3,461	641	22.7%	526	17.9%
Sterling	1,206	1,438	1,393	1,143	-63	-5.2%	-250	-17.9%
Sutton	5,130	4,135	4,077	4,128	-1,002	-19.5%	51	1.3%
Tom Green	84,784	98,458	104,010	110,224	25,440	30.0%	6,214	6.0%
TOTALS FOR STUDY AREA	129,007	142,285	148,212	154,192	25,185	19.5%	5,980	4.0%

Age

The median age of persons living in the CVCOG Region varies for the different counties ranging from 32 years of age to 48 years of age, according to the 2010 U.S. Census Bureau. Reagan County has the highest percentage of persons under the age of 18, with 30.8 percent of the population. The county with the highest percentage of persons 65 years of age and older is Menard County, with 26.8 percent of the population.

Table 3-5. Age of Population for the CVCOG Region

JURISDICTION	MEDIAN AGE	UNDER 18	AGE 18 TO 24	AGE 25 TO 34	AGE 35 TO 44	AGE 45 TO 54	AGE 55 TO 64	AGE 65 TO 74	AGE 75 TO 84	AGE 85+
Coke County	48.4	21.1%	5.3%	8.8%	9.4%	15.0%	14.4%	14.4%	9.0%	2.6%
Bronte	41.3	27.9%	4.9%	10.2%	12.0%	12.5%	11.3%	10.3%	7.2%	3.6%
Robert Lee	45.8	22.6%	6.6%	10.7%	9.1%	14.7%	11.0%	11.6%	11.2%	2.7%
Concho County	41.4	14.1%	6.7%	17.1%	19.8%	16.4%	12.3%	8.3%	3.9%	1.5%
Eden	38.9	11.6%	7.8%	21.6%	24.8%	16.5%	9.5%	4.6%	2.3%	1.2%
Paint Rock	40.3	28.6%	6.2%	9.5%	13.6%	17.2%	12.8%	7.7%	3.7%	0.7%
Crockett County	39.1	26.7%	6.5%	11.9%	12.0%	15.1%	13.1%	8.5%	4.5%	1.7%
(No Incorporated Cities)										
Irion County	45.1	23.0%	6.8%	8.3%	11.7%	18.6%	13.4%	10.5%	6.1%	1.6%
Mertzon	40.9	25.7%	7.3%	9.1%	12.9%	18.2%	11.5%	8.2%	5.8%	1.3%
Kimble County	48.6	20.4%	5.3%	9.1%	10.4%	14.4%	17.7%	13.0%	7.4%	2.5%
Junction	40.8	25.1%	6.8%	11.5%	11.0%	14.2%	13.3%	9.9%	5.4%	2.8%
McCulloch County	43.5	24.6%	6.4%	9.7%	11.1%	13.7%	14.6%	10.4%	6.9%	2.6%
Brady	51.5	19.1%	3.9%	10.1%	7.3%	15.2%	16.9%	14.6%	10.7%	2.2%
Melvin	50.4	19.6%	5.7%	8.6%	8.5%	15.2%	15.7%	14.3%	9.1%	3.4%
Menard County	46.9	22.6%	6.3%	9.9%	9.3%	15.2%	14.5%	10.3%	7.9%	4.0%
Menard	33.5	30.0%	8.5%	13.4%	12.3%	14.6%	10.8%	5.9%	3.6%	0.9%
Reagan County	32.5	30.8%	9.0%	13.5%	12.4%	14.2%	10.2%	5.7%	3.5%	0.8%
Big Lake	33.7	31.9%	7.7%	11.8%	11.4%	11.9%	12.5%	7.5%	4.3%	0.9%
Schleicher County	34.6	29.9%	7.4%	13.1%	11.7%	12.9%	12.6%	6.9%	4.6%	0.8%
Eldorado	41.8	24.4%	7.6%	12.2%	10.1%	16.1%	13.1%	7.4%	6.6%	2.4%
Sterling County	42.5	24.5%	7.8%	10.9%	10.4%	17.3%	12.3%	7.1%	6.8%	2.9%
Sterling City	38.7	27.5%	7.3%	10.9%	12.5%	14.8%	13.2%	7.5%	5.1%	1.2%
Sutton County	35.4	30.0%	7.9%	11.6%	13.1%	14.3%	10.6%	6.6%	4.9%	1.0%
Sonora	34.3	23.5%	13.9%	13.4%	11.0%	13.1%	11.3%	7.2%	4.8%	1.9%
Tom Green County	32.8	23.4%	15.0%	14.1%	10.7%	12.4%	10.7%	6.9%	4.9%	2.0%
San Angelo	48.4	21.1%	5.3%	8.8%	9.4%	15.0%	14.4%	14.4%	9.0%	2.6%

Ethnicity

The CVCOG Region is ethnically diverse varying considerably among the counties. Crockett County has the highest population of residents whose ethnicity is Hispanic alone at 63.2 percent; they also have the lowest percentage of residents with an ethnicity of white alone at 35.3 percent. Coke County’s population is mainly of white alone ethnicity at 79.9 percent. A relatively small percentage of African Americans, American Indians, Asians, and Native Hawaiians reside in the CVCOG Region.

Table 3-6. Ethnicity for the CVCOG Region

JURISDICTION	HISPANIC ALONE	WHITE ALONE	AFRICAN AMERICAN ALONE	AMERICAN INDIAN & ALASKAN NATIVE ALONE	ASIAN ALONE	NATIVE HAWAIIAN/ PACIFIC ISLANDER ALONE	OTHER RACE ALONE	MULTI-RACIAL
Coke County	18.1%	79.8%	0.2%	0.6%	0.2%	0.0%	0.0%	1.1%
Bronte	22.3%	75.4%	0.6%	0.3%	0.1%	0.1%	0.0%	1.2%
Robert Lee	23.3%	74.1%	0.1%	1.1%	0.0%	0.0%	0.0%	1.4%
Concho County	53.2%	44.3%	1.4%	0.3%	0.3%	0.1%	0.0%	0.3%
Eden	68.5%	28.5%	2.0%	0.2%	0.4%	0.2%	0.1%	0.2%
Paint Rock	27.8%	68.5%	0.0%	1.8%	0.7%	0.0%	0.0%	1.1%
Crockett County	63.2%	35.3%	0.3%	0.2%	0.3%	0.0%	0.1%	0.5%
(No Incorporated Cities)								
Irion County	25.5%	72.1%	0.7%	0.4%	0.2%	0.0%	0.0%	1.1%
Mertzon	35.9%	61.1%	1.2%	0.1%	0.1%	0.0%	0.0%	1.7%
Kimble County	23.4%	74.9%	0.3%	0.4%	0.4%	0.1%	0.1%	0.4%
Junction	33.1%	65.6%	0.2%	0.1%	0.2%	0.0%	0.2%	0.5%
McCulloch County	29.9%	67.2%	1.6%	0.3%	0.3%	0.0%	0.1%	0.5%
Melvin	34.3%	65.2%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%
Menard County	35.2%	63.6%	0.5%	0.3%	0.1%	0.0%	0.0%	0.3%
Menard	45.9%	53.2%	0.4%	0.3%	0.0%	0.0%	0.1%	0.1%
Reagan County	60.9%	36.2%	1.9%	0.2%	0.0%	0.0%	0.0%	0.7%
Big Lake	62.4%	34.7%	2.0%	0.2%	0.0%	0.0%	0.0%	0.6%
Schleicher County	44.4%	54.1%	0.9%	0.0%	0.1%	0.0%	0.0%	0.5%

Regional Profile

JURISDICTION	HISPANIC ALONE	WHITE ALONE	AFRICAN AMERICAN ALONE	AMERICAN INDIAN & ALASKAN NATIVE ALONE	ASIAN ALONE	NATIVE HAWAIIAN/ PACIFIC ISLANDER ALONE	OTHER RACE ALONE	MULTI-RACIAL
Eldorado	61.3%	37.0%	1.0%	0.1%	0.2%	0.0%	0.0%	0.5%
Sterling County	31.9%	64.1%	1.1%	1.1%	0.0%	0.0%	0.2%	1.5%
Sterling City	36.5%	59.8%	1.5%	0.8%	0.0%	0.0%	0.2%	1.2%
Sutton County	59.6%	39.7%	0.1%	0.0%	0.1%	0.0%	0.2%	0.2%
Sonora	62.7%	36.8%	0.1%	0.0%	0.1%	0.0%	0.1%	0.2%
Tom Green County	35.7%	57.9%	3.6%	0.4%	0.9%	0.1%	0.1%	1.3%
San Angelo	38.5%	54.4%	4.2%	0.4%	1.1%	0.1%	0.1%	1.4%

Education

The level of education varies among the different jurisdictions, according to the U.S. Census Bureau 2005-2009 American Community Survey 5-year estimates. Kimble County has the highest population of people with a graduate or professional degree with 10.6 percent. In the CVCOG Region, the highest percentage of population with a Bachelors Degree resides in Sterling County with 19.8 percent of their population. Table 3-7 depicts the level of education data for the CVCOG Region.

Table 3-7. Level of Education for the CVCOG Region

JURISDICTION	GRADUATE OR PROFESSIONAL DEGREE	BACHELORS DEGREE	ASSOCIATES DEGREE	SOME COLLEGE, NO DEGREE	HIGH SCHOOL GRADUATE	NO DIPLOMA
Coke County	2.9%	8.4%	7.7%	22.8%	38.9%	19.2%
Bronte	2.9%	8.8%	9.8%	21.9%	34.6%	22.0%
Robert Lee	3.1%	4.2%	7.4%	17.9%	45.7%	21.7%
Concho County	3.3%	9.2%	5.2%	19.2%	37.0%	26.2%
Eden	3.0%	9.3%	3.6%	17.0%	35.3%	31.9%
Paint Rock	0.6%	13.1%	8.0%	31.4%	24.0%	22.9%
Crockett County	0.0%	12.0%	6.0%	15.1%	22.5%	44.4%
(No Incorporated Cities)						
Irion County	1.8%	10.4%	9.6%	13.1%	44.8%	20.2%
Mertzon	2.0%	7.2%	8.1%	8.9%	41.8%	32.0%

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JURISDICTION	GRADUATE OR PROFESSIONAL DEGREE	BACHELORS DEGREE	ASSOCIATES DEGREE	SOME COLLEGE, NO DEGREE	HIGH SCHOOL GRADUATE	NO DIPLOMA
Kimble County	10.6%	10.9%	4.5%	25.6%	25.9%	22.5%
Junction	7.3%	7.5%	2.5%	27.6%	24.8%	30.3%
McCulloch County	5.5%	13.5%	3.7%	20.2%	32.6%	24.5%
Brady	4.0%	11.5%	2.7%	21.1%	33.9%	26.8%
Melvin	0.0%	2.0%	0.0%	24.0%	36.0%	38.0%
Menard County	2.9%	7.5%	0.9%	28.5%	38.2%	22.1%
Menard	2.3%	5.3%	1.4%	23.1%	41.4%	26.6%
Reagan County	3.5%	5.5%	4.4%	18.3%	32.6%	35.6%
Big Lake	4.0%	4.5%	3.6%	16.5%	35.4%	35.9%
Schleicher County	1.9%	16.0%	4.3%	18.2%	31.1%	28.5%
Eldorado	1.9%	13.0%	5.1%	15.6%	31.6%	32.7%
Sterling County	2.2%	19.8%	4.0%	15.2%	31.2%	27.6%
Sterling City	2.3%	14.0%	5.2%	15.1%	34.8%	28.6%
Sutton County	3.7%	12.3%	3.5%	18.5%	28.5%	33.5%
Sonora	2.9%	11.2%	2.7%	19.2%	33.6%	30.4%
Tom Green County	6.0%	15.3%	6.7%	23.1%	29.1%	19.8%
San Angelo	6.1%	15.4%	6.7%	23.1%	29.0%	19.6%

Household Income

The data for household income is reported from the 2005-2009 5-year estimates of the U.S. Census Bureau's American Community Survey. The median household income for the State of Texas is \$48,199 and the median household income for the United States is \$51,425. The jurisdiction with the highest median household income in the CVCOG Region is the City of Sonora in Sutton County, which is \$57,156. There are two other cities and towns whose median household income is higher than the state's. These jurisdictions are Big Lake and Eldorado. Statistics indicate that 13.2 percent of the families residing in the State of Texas are in poverty. Five counties in the CVCOG Region have a higher percentage of residents living in poverty.

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Table 3-8. Household Income for the CVCOG Region

JURISDICTION	MEDIAN FAMILY INCOME	AT OR ABOVE \$200K	\$150,000 TO \$199,999	\$100,000 TO \$149,999	\$75,000 TO \$99,999	\$50,000 TO \$74,999	\$35,000 TO \$49,999	\$25,000 TO \$34,999	\$15,000 TO \$24,999	\$10,000 TO \$14,999	LESS THAN \$10,000	BELOW POVERTY LEVEL
Coke County	\$33,375	0.5%	1.0%	3.2%	7.5%	19.0%	17.0%	10.1%	22.0%	8.4%	11.3%	11.3%
Bronte	\$34,000	0.0%	0.0%	2.9%	7.9%	19.9%	18.8%	12.7%	21.9%	8.4%	7.5%	13.4%
Robert Lee	\$24,455	0.0%	0.0%	2.3%	8.9%	12.0%	17.6%	7.7%	22.0%	11.7%	17.8%	13.1%
Concho County	\$45,625	0.4%	3.6%	12.4%	12.0%	16.8%	12.6%	11.7%	14.6%	6.0%	9.8%	12.9%
Eden	\$41,875	0.0%	0.4%	14.7%	13.7%	16.0%	11.4%	4.7%	20.0%	8.8%	10.4%	10.9%
Paint Rock	\$47,917	0.0%	14.7%	1.8%	3.7%	27.5%	15.6%	18.3%	13.8%	2.8%	1.8%	21.2%
Crockett County	\$47,143	4.9%	1.7%	6.4%	12.9%	15.1%	19.1%	14.8%	6.5%	9.9%	8.6%	14.5%
(No Incorporated Cities)												
Irion County	\$43,536	2.9%	3.7%	9.8%	16.8%	11.1%	22.0%	12.2%	11.6%	6.7%	3.2%	1.0%
Mertzton	\$37,500	1.6%	0.0%	0.0%	18.7%	7.0%	37.3%	10.1%	13.6%	7.6%	4.1%	2.3%
Kimble County	\$42,188	3.0%	7.1%	7.6%	8.9%	17.3%	18.2%	12.4%	9.4%	8.8%	7.4%	11.0%
Junction	\$35,947	1.4%	3.0%	3.9%	7.2%	15.7%	20.1%	16.3%	13.6%	8.3%	10.6%	15.7%
McCulloch County	\$36,495	2.2%	3.2%	5.9%	11.5%	12.3%	15.8%	11.9%	18.1%	8.2%	11.0%	16.3%
Melvin	\$31,563	0.0%	6.6%	0.0%	3.3%	11.5%	19.7%	13.1%	18.0%	14.8%	13.1%	0.0%
Menard County	\$31,016	3.8%	3.4%	4.6%	5.6%	18.8%	11.7%	9.1%	16.1%	8.3%	18.6%	16.7%
Menard	\$25,039	1.0%	1.1%	0.6%	5.9%	15.0%	15.5%	10.9%	17.9%	7.5%	24.5%	24.5%
Reagan County	\$51,619	0.0%	6.8%	6.8%	14.6%	28.4%	22.9%	4.5%	8.9%	1.3%	5.8%	7.2%
Big Lake	\$51,434	0.0%	3.7%	5.7%	15.9%	31.4%	25.4%	5.2%	8.0%	1.0%	3.7%	4.5%
Schleicher County	\$52,872	1.6%	1.5%	15.7%	10.8%	25.1%	11.8%	10.2%	8.5%	3.3%	11.4%	13.3%
Eldorado	\$49,948	1.0%	0.5%	12.5%	10.7%	25.3%	12.8%	9.4%	10.6%	2.3%	15.1%	19.0%
Sterling County	\$38,750	0.0%	3.6%	14.5%	6.5%	14.0%	16.5%	13.1%	12.9%	6.5%	12.5%	15.1%
Sterling City	\$32,813	0.0%	2.5%	11.8%	7.6%	14.9%	11.2%	15.7%	12.9%	8.1%	15.2%	19.1%
Sutton County	\$54,557	1.9%	5.6%	9.2%	10.1%	28.2%	14.8%	7.6%	10.5%	2.7%	9.3%	11.5%
Sonora	\$57,156	2.6%	5.3%	8.7%	13.8%	28.8%	15.8%	9.4%	7.8%	2.9%	4.9%	8.1%
Tom Green County	\$40,753	1.9%	1.3%	8.5%	10.7%	19.5%	15.2%	13.2%	15.2%	6.8%	7.8%	12.3%

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JURISDICTION	MEDIAN FAMILY INCOME	AT OR ABOVE \$200K	\$150,000 TO \$199,999	\$100,000 TO \$149,999	\$75,000 TO \$99,999	\$50,000 TO \$74,999	\$35,000 TO \$49,999	\$25,000 TO \$34,999	\$15,000 TO \$24,999	\$10,000 TO \$14,999	LESS THAN \$10,000	BELOW POVERTY LEVEL
San Angelo	\$38,777	1.8%	1.0%	7.7%	10.1%	19.2%	15.4%	13.7%	15.6%	7.1%	8.5%	13.9%

Asset Inventory

Provided in Table 3-9 is the total estimated dollar exposure by key occupancy. This demographic and building stock data form the basis of large portions of this risk assessment and were derived from HAZUS-MH MR4. Commercial building stock data has been updated to Dun & Bradstreet 2006, building valuations have been updated to R.S. Means 2006, and building counts are based on census housing unit counts.

HAZUS-MH MR4 estimates there are around 73,000 buildings in the study area, with an aggregate value of \$8.8 billion. The buildings are broken down by occupancy, which is broken down with residential making up 95 percent, commercial making up 4.0 percent, industrial making up 1.0 percent and essential facilities making up 0.3 percent of the building inventory.

Table 3-9. Estimated Building Distribution by Key Occupancy by Jurisdiction

JURISDICTION	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		ESSENTIAL FACILITIES	
	Number	Value	Number	Value	Number	Value	Number	Value
Coke County	3,454	\$260,965,000	69	\$15,165,000	18	\$4,151,000	12	\$14,811,000
Bronte	610	\$46,175,000	19	\$4,317,000	4	\$572,000	4	\$5,959,000
Robert Lee	941	\$58,440,000	21	\$5,921,000	4	\$870,000	7	\$7,606,000
Uninc. Coke County	1,903	\$156,350,000	29	\$4,927,000	10	\$2,709,000	1	\$1,246,000
Concho County	1,860	\$146,542,000	54	\$20,429,000	13	\$7,991,000	14	\$17,235,000
Eden	709	\$70,726,000	29	\$8,983,000	6	\$7,038,000	8	\$12,678,000
Paint Rock	172	\$9,407,000	2	\$854,000	1	\$58,000	2	\$1,762,000
Uninc. Concho County	979	\$66,409,000	23	\$592,000	6	\$895,000	4	\$2,795,000
Crockett County	2,673	\$203,021,000	103	\$41,899,000	25	\$7,504,000	6	\$9,382,000
(No Incorporated Cities)								
Irion County	1,100	\$87,751,000	32	\$14,958,000	13	\$3,572,000	3	\$5,209,000
Mertzon	450	\$29,214,000	19	\$5,211,000	6	\$792,000	0	\$0
Uninc. Irion County	650	\$58,537,000	13	\$9,747,000	7	\$2,780,000	3	\$5,209,000
Kimble County	3,835	\$281,753,000	114	\$32,598,000	35	\$18,374,000	6	\$1,367,500
Junction	1,708	\$106,456,000	96	\$27,264,000	22	\$10,386,000	6	\$1,367,500
Uninc. Kimble County	2,127	\$175,297,000	18	\$8,334,000	13	\$7,988,000	0	\$0

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JURISDICTION	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		ESSENTIAL FACILITIES	
	Number	Value	Number	Value	Number	Value	Number	Value
McCulloch County	5,174	\$352,119,000	208	\$59,298,000	44	\$14,825,000	14	\$38,078,000
Melvin	100	\$8,627,000	1	\$70,000	0	\$0	0	\$0
Uninc. McCulloch County	5,074	\$343,492,000	207	\$59,228,000	44	\$14,825,000	14	\$38,078,000
Menard County	1,865	\$133,880,000	23	\$7,733,000	9	\$1,100,000	5	\$5,112,000
Menard	1,124	\$66,088,000	15	\$6,233,000	7	\$876,000	5	\$5,112,000
Uninc. Menard County	738	\$67,792,000	8	\$1,500,000	2	\$254,000	0	\$0
Reagan County	1,997	\$128,232,000	81	\$24,596,000	29	\$12,555,000	7	\$11,204,000
Big Lake	1,398	\$103,847,000	71	\$22,956,000	23	\$7,812,000	7	\$11,204,000
Uninc. Reagan County	599	\$24,385,000	10	\$1,640,000	6	\$4743	0	\$0
Schleicher County	1,994	\$134,153,000	56	\$18,971,000	10	\$3,124,000	7	\$10,456,000
Eldorado	1,360	\$79,275,000	33	\$10,848,000	6	\$1,518,000	2	\$2,337,000
Uninc. Schleicher County	634	\$54,878,000	23	\$8,123,000	4	\$1,606	5	\$8,119,000
Sterling County	901	\$69,708,000	25	\$9,080,000	10	\$3,138,000	4	\$3,873,000
Sterling City	656	\$54,148,000	17	\$5,425,000	8	\$2,571,000	4	\$3,873,000
Uninc. Sterling County	251	\$15,560,000	8	\$3,655	2	\$567,000	0	\$0
Sutton County	2,360	\$201,834,000	112	\$35,305,000	29	\$6,973,000	7	\$17,292,000
Sonora	1,476	\$119,877,000	83	\$21,115,000	23	\$4,876,000	7	\$17,292,000
Uninc. Sutton County	2,213	\$81,957	29	\$14,190,000	6	\$2,097,000	0	\$0
Tom Green County	41,598	\$4,708,700,000	2,167	\$929,553,000	557	\$216,027,000	117	\$400,375,000
San Angelo	34,189	\$4,047,547,000	1,884	\$858,310,000	433	\$190,929,000	54	\$326,105,000
Uninc. Tom Green County	7,409	\$661,153,000	283	\$71,243	124	\$25,098	63	\$74,270,000
TOTALS FOR STUDY AREA	68,811	\$6,708,658,000	3,044	\$1,209,585,000	792	\$299,334,000	202	\$534,394,500

Future Development

CVCOG provides assistance to the local governments in its 13-county statutory district, which includes Coke, Concho, Crockett, Irion, Kimble, McCulloch, Mason, Menard, Reagan, Schleicher, Sterling, Sutton and Tom Green counties (not all of which are participating in this risk assessment). CVCOG administers a program for community and economic development assistance funds, where they assist local cities and counties in acquiring

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information about available grants and the information needed for the grants to help with future development.

To better understand how future growth and developments in this region might affect hazard vulnerability, it is useful to consider population growth, occupied and vacant land, the potential for future development in hazard areas, and current planning and growth management efforts.

This section includes an analysis of the projected population change, the number of permits that have been issued throughout the region and economic impacts.

Population projections from 2010 to 2040 are listed in Table 3-10 and illustrated in Figures 3-16a and 3-16b, as provided by the Office of the State Demographer, Texas State Data Center, and Institute for Demographic and Socioeconomic Research. Population projects were based on a 0.5 scenario growth rate, which is 50 percent of the population growth rate that occurred during 1990-2000.

Table 3-10. CVCOG Study Area Population Projections

COUNTY	LAND AREA	2010		2020		2030		2040	
		Population							
		Total Number	Density (Land Area, SQ MI)	Total Number	Density (Land Area, SQ MI)	Total Number	Density (Land Area, SQ MI)	Total Number	Density (Land Area, SQ MI)
Coke	915.07	3,320	4	3,813	4	3,598	4	3,394	4
Concho	988.00	4,087	4	4,095	4	3,853	4	3,368	3
Crockett	2,808.63	3,719	1	4,733	2	4,696	2	4,516	2
Irion	1,053.06	1,599	2	1,789	2	1,651	2	1,429	1
Kimble	1,254.69	4,607	4	4,572	4	4,411	4	4,261	3
McCulloch	933.10	8,283	9	8,722	9	8,685	9	8,484	9
Menard	1,073.40	2,242	2	2,436	2	2,322	2	2,204	2
Reagan	904.53	3,367	4	4,166	5	4,364	5	4,380	5
Schleicher	1,178.20	3,461	3	3,349	3	3,396	3	3,323	3
Sterling	1,313.23	1,143	1	1,535	1	1,485	1	1,366	1
Sutton	924.65	4,128	4	4,883	5	4,937	5	4,930	5
Tom Green	1,456.73	110,224	76	117,729	81	121,484	83	123,394	85

Figure 3-16a. CVCOG Study Area Population Projections

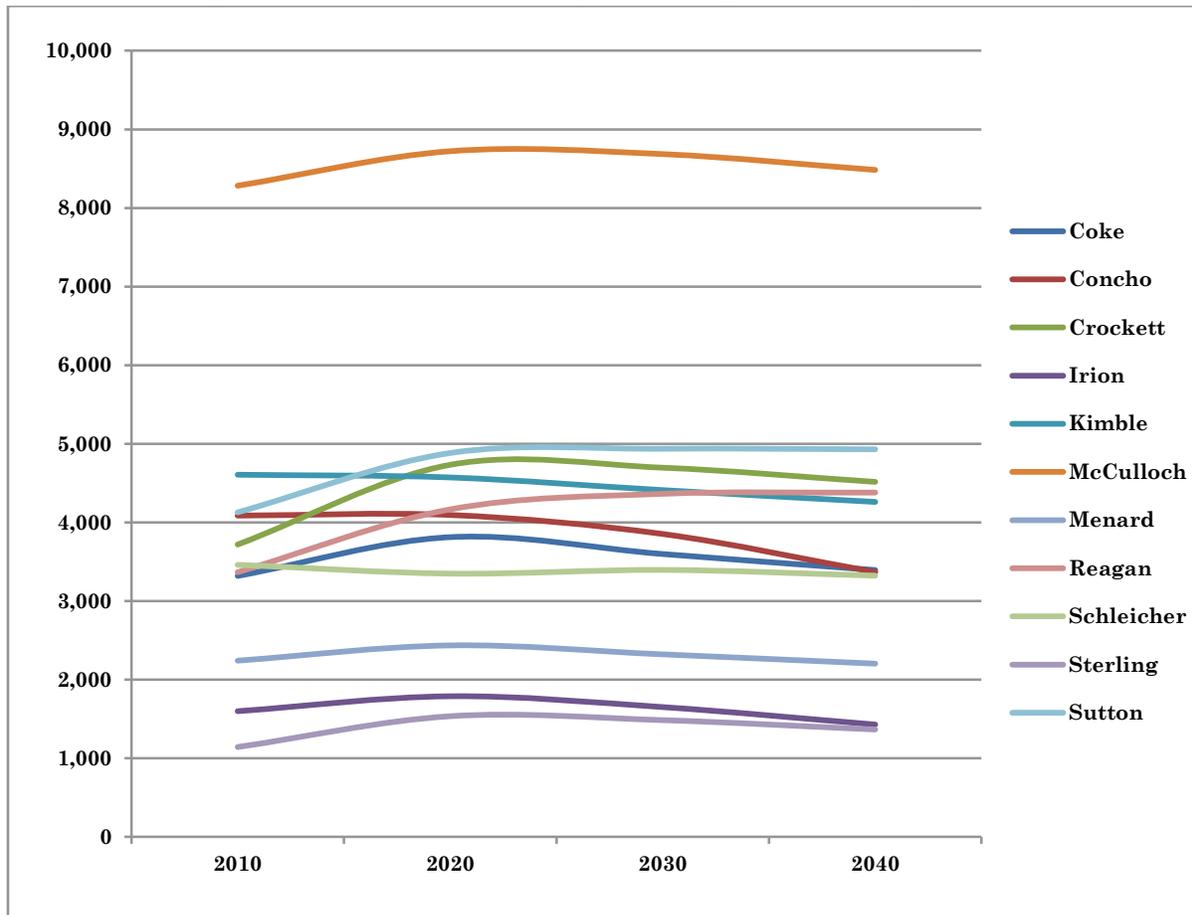
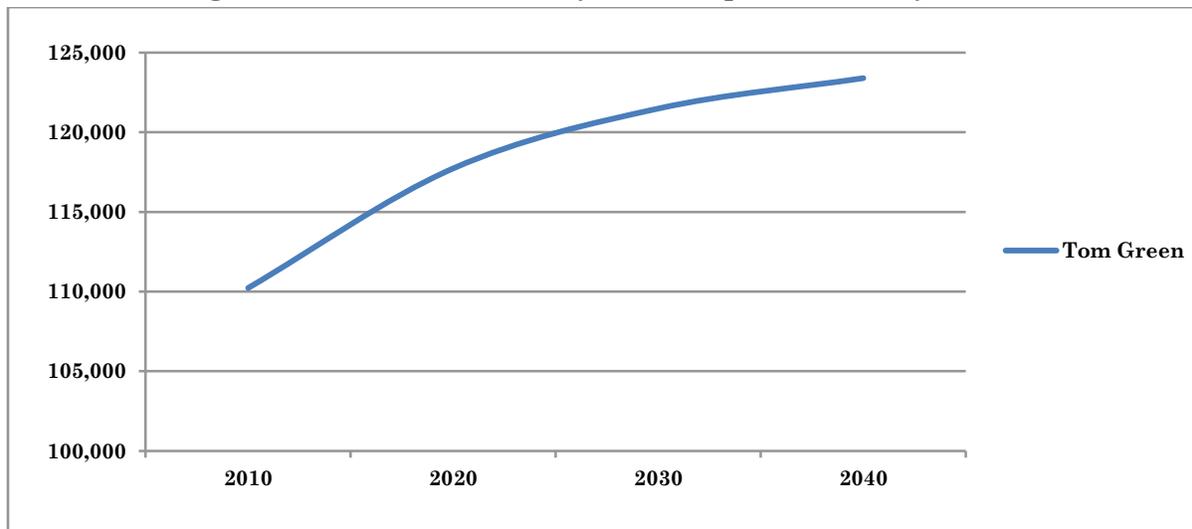


Figure 3-16b. CVCOG Study Area Population Projections



Economic Impacts

The economy is vital to all infrastructures. CVCOG administers the Concho Valley Economic Development District, which serves all thirteen counties in the CVCOG Region with planning, grant search, grant writing, business development and technical assistance. Located in the CVCOG Region is also the Concho Valley Center for Entrepreneurial Development to help with economic development by providing management and technical assistance. Their mission is to “grow and support new business in the Concho Valley.” They offer a wide range of services to clients from strategic planning and business development assistance to support services. One of the many reasons they decided to locate in the Concho Valley Region is because the City of San Angelo was listed on the 2002 Forbes/Milliken Best Places for Business and Careers.

A major key to the economy of the area is agriculture. Agriculture is one of the largest industries in the CVCOG and brings in a significant amount of revenue for the area. In the CVCOG Region, majority of the land is comprised of farm and ranch land, primarily used for cattle, sheep, goats, grain, pecans, hay, and cotton. Concho, Kimble, McCulloch, and Menard Counties rely on an agricultural economy, where Coke, Crockett, Irion, Reagan, Schleicher, Sutton, and Tom Green Counties are the largest oil and gas producing lands of the Concho Valley Region.

Additionally, a critical portion of the economy lies within the major industries in the Concho Valley Region. With many being in Tom Green County, the major employers are Goodfellow Air Force Base (4,990 employees), Shannon Health System (2,565), San Angelo ISD (2,063), Angelo State University (1,635), City of San Angelo (877), San Angelo State Supported Living Center (860), San Angelo Community Medical Center (843), Tom Green County (748), and SITEL, Inc. (715).

For a broader perspective on occupation and development in the CVCOG Region, Figures 3-17a through 3-17c display the percentage of occupation by industry for each of the counties in the area.

Figure 3-17a. Occupation by Industry

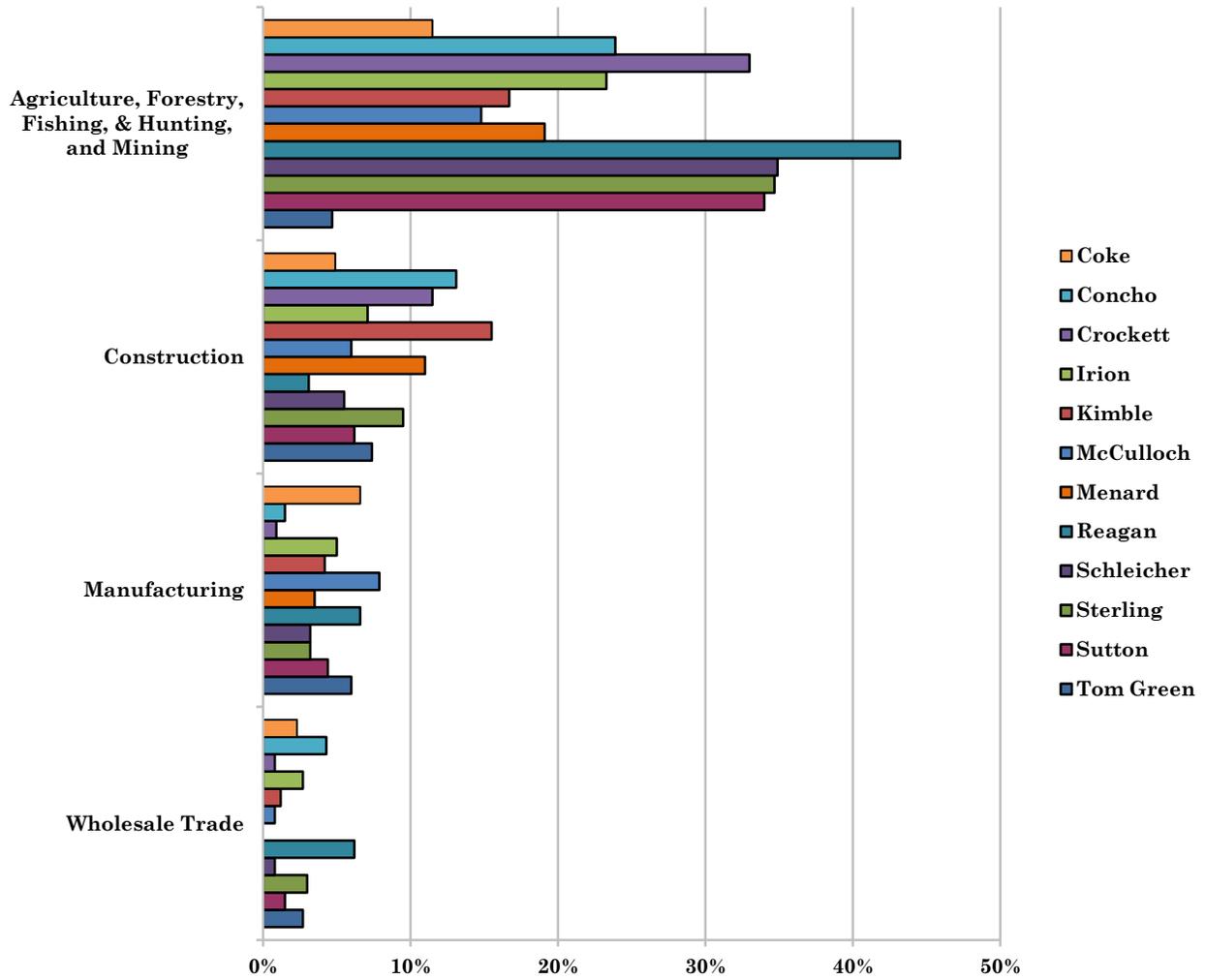


Figure 3-17b. Occupation by Industry

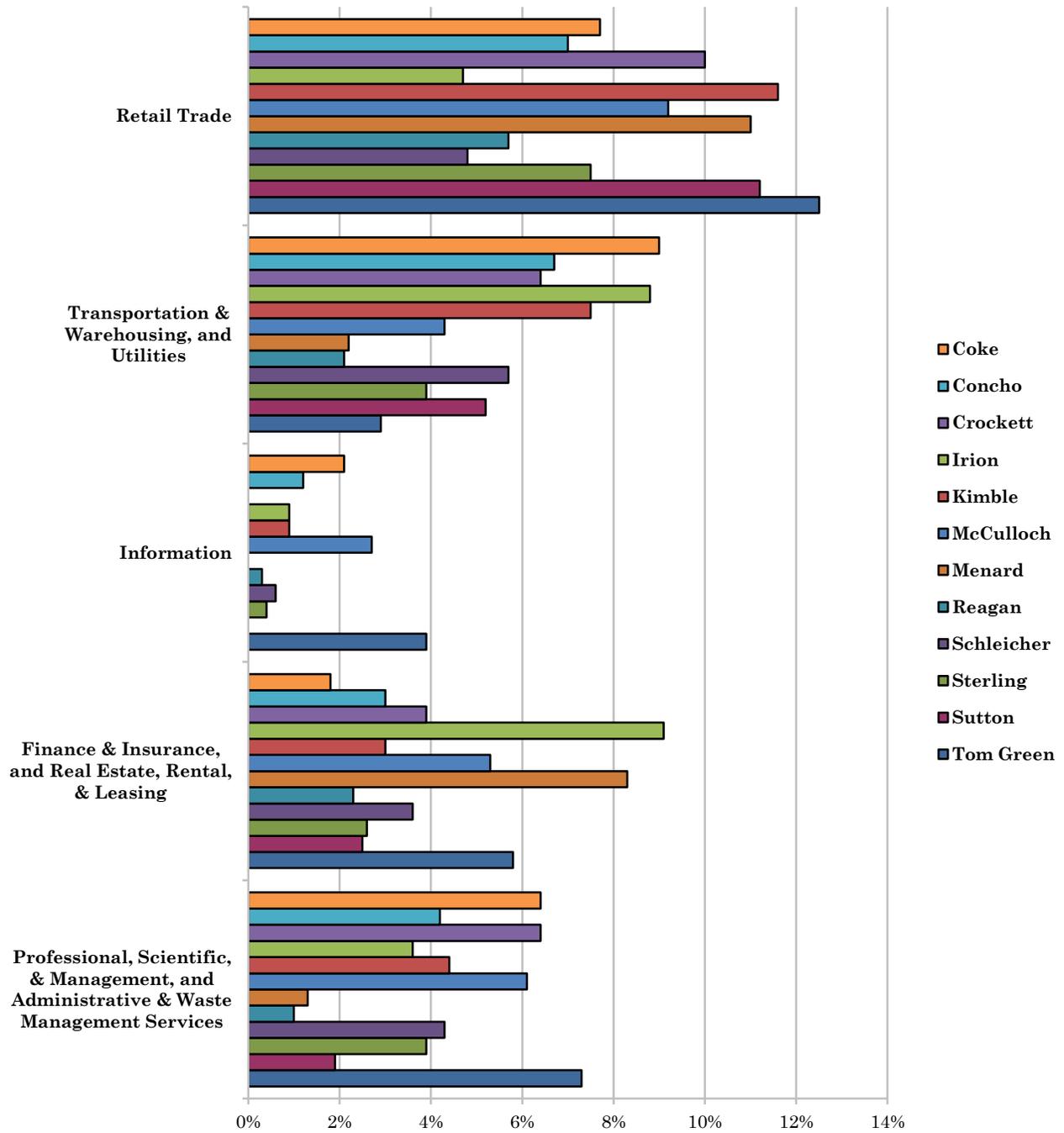
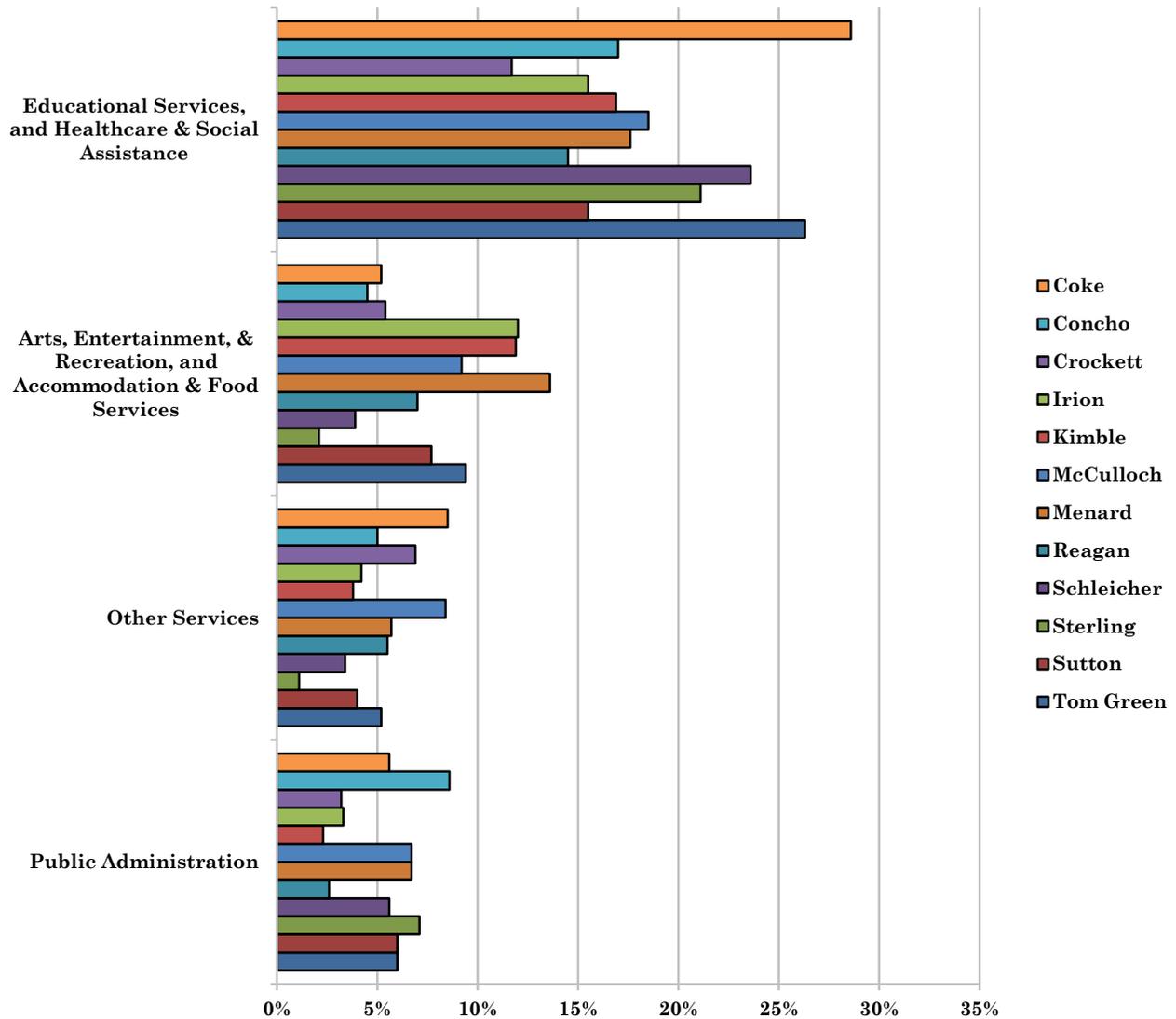


Figure 3-17c. Occupation by Industry



Also of importance to note, is the transportation capability for the CVCOG Region. There is one major interstate, Interstate 10, which provides access to Kimble, Sutton, and Crockett Counties. The other major roadways are US 87 that connects Sterling, Tom Green, Concho, and McCulloch Counties; US 83 that runs through Concho, Menard, and Kimble Counties; US 67, which passes through Tom Green, Irion, and Reagan Counties; and US 277 that goes through Coke, Tom Green, Schleicher, and Sutton Counties. There also are railways that service the area in the Counties of Irion, McCulloch, Reagan, and Tom Green. There is one commercial airport in the City of San Angelo in Tom Green County, and multiple small community airports for local use spread throughout the Concho Valley Region.

Building Permits

Building permits indicate what types of buildings are being constructed and their relative uses. Table 3-11 lists the number of residential building permits for each county that have been granted between 1990 and 2010. The data includes all sizes of family homes for reported permits, as well as the construction costs to show the potential increase in vulnerability of structures to the various hazards assessed in this risk assessment. The increase in vulnerability can be attributed to the higher construction costs that would be factored into repairing or replacing a structure using current market values. Permits are reported annually in September and the data includes that for the years of 2009 and 2010 if available to demonstrate growth.

Table 3-11. County Residential Building Permits¹

Coke County				Concho County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	6	6	\$208,365	1990	No data reported		
1995	1	1	\$100,000	1995	No data reported		
2000	0	0	\$0	2000	No data reported		
2005	0	0	\$0	2005	No data reported		
2009	0	0	\$0	2009	No data reported		
2010	0	0	\$0	2010	No data reported		
Crockett County				Irion County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	No data reported			1990	No data reported		
1995	No data reported			1995	No data reported		
2000	No data reported			2000	No data reported		
2005	No data reported			2005	No data reported		
2009	No data reported			2009	No data reported		
2010	No data reported			2010	No data reported		
Kimble County				McCulloch County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	4	4	\$154,000	1990	3	3	\$160,000
1995	7	7	\$176,000	1995	11	11	\$689,800
2000	0	0	\$0	2000	5	6	\$275,000
2005	13	13	\$598,503	2005	0	0	\$0
2009	1	1	\$175,000	2009	1	1	\$88,000
2010	1	1	\$126,602	2010	0	0	\$0

¹ <http://censtats.census.gov/cgi-bin/bldgprmt/bldgdisp.pl>

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Menard County				Reagan County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	No data reported			1990	5	5	\$171,650
1996	No data reported			1995	3	3	\$55,000
2000	No data reported			2000	0	0	\$0
2005	No data reported			2005	3	3	\$75,000
2009	No data reported			2009	3	3	\$525,000
2010	No data reported			2010	0	0	\$0
Schleicher County				Sterling County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	0	0	\$0	1990	No data reported		
1995	3	3	\$134,530	1995	No data reported		
2000	0	0	\$0	2000	No data reported		
2005	0	0	\$0	2005	No data reported		
2009	0	0	\$0	2009	No data reported		
2010	0	0	\$0	2010	No data reported		
Sutton County				Tom Green County			
Year	Buildings	Units	Construction Cost	Year	Buildings	Units	Construction Cost
1990	13	33	\$753,000	1990	131	131	\$5,427,059
1995	1	1	\$65,830	1995	223	225	\$18,820,596
2000	0	0	\$0	2000	243	247	\$25,994,248
2005	0	0	\$0	2005	270	270	\$38,472,930
2009	0	0	\$0	2009	193	516	\$38,385,984
2010	0	0	\$0	2010	177	177	\$24,682,463

RISK OVERVIEW

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Hazard Identification

This section begins the risk assessment, which also includes hazard profiles and vulnerability assessments found in Sections 5 – 14 and Appendix A. The purpose of this section is to provide background information for the hazard identification process, as well as descriptions for the natural and technological hazards identified.

Upon a review of the full range of natural hazards suggested under FEMA planning guidance, the CVCOG and participating jurisdictions identified 12 hazards that are to be addressed in the Plan Update. These hazards were identified through an extensive process utilizing input from planning team members, preliminary hazard profiling based on the review of the 2005 Plan and a review of the current State of Texas Hazard Mitigation Plan (“State Plan”). Readily available online information from reputable sources such as federal and state agencies was also evaluated to supplement information as needed. Based on this review, nine natural hazards and three technological hazards were identified as significant as shown in Table 4-1.

Atmospheric hazards are events or incidents associated with weather generated phenomenon. Atmospheric hazards identified as significant from Table 4-1 include: thunderstorm, hail, tornado, winter storm, hurricane, and extreme heat.

Hydrologic hazards are events or incidents associated with water related damage and account for over 75 percent of Federal disaster declarations in the United States. Hydrologic hazards identified as significant includes flood and drought. For the purposes of the risk assessment, the hazard wildfire is considered “other” since it is neither atmospheric nor hydrologic.

The terms construction and maintenance of dams; the use of gas and oil pipelines; and the manufacture, transportation, storage, and use of hazardous materials are considered technological hazards. Incidents are distinct from natural hazards primarily in that they originate from human activity. While the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-induced; therefore dam failure, pipeline failure, and hazardous material release are

classified as technological hazards. Pipeline failure and hazardous material incident were assessed and summarized in Appendix A.

Table 4-1. Hazard Descriptions

HAZARD	DESCRIPTION
ATMOSPHERIC	
Extreme Heat	Extreme heat is the condition whereby temperatures hover ten degrees or more above the average high temperature in a region for an extended period.
Hailstorm	Any storm that produces hailstones that fall to the ground; usually used when the amount or size of the hail is considered significant.
Hurricane	According to the National Oceanic and Atmospheric Administration (NOAA), a hurricane is an intense tropical weather system of strong thunderstorms with well-defined surface circulation and maximum sustained winds of 74 mph or higher.
Thunderstorm	A thunderstorm occurs when an observer hears thunder. Radar observers use the intensity of the radar echo to distinguish between rain showers and thunderstorms. Lightning detection networks routinely track cloud-to-ground flashes, and therefore thunderstorms.
Tornado	A tornado is a violently rotating column of air that has contact with the ground and is often visible as a funnel cloud. Its vortex rotates cyclonically with wind speeds ranging from as low as 40 mph to as high as 300 mph. The destruction caused by tornadoes ranges from light to catastrophic depending on the intensity, size and duration of the storm.
Winter Storm	Severe winter storms may include snow, sleet, freezing rain, or a mix of these wintry forms of precipitation. Blizzards, the most dangerous of all winter storms, combine low temperatures, heavy snowfall, and winds of at least 35 miles per hour, reducing visibility to only a few yards. Ice storms occur when moisture falls and freezes immediately upon impact on trees, power lines, communication towers, structures, roads and other hard surfaces. Winter storms and ice storms can down trees, cause widespread power outages, damage property, and cause fatalities and injuries to human life.
HYDROLOGIC	

Risk Overview

HAZARD	DESCRIPTION
Drought	A prolonged period of less than normal precipitation such that the lack of water causes a serious hydrologic imbalance. Common effects of drought include crop failure, water supply shortages, and fish and wildlife mortality.
Flood	The accumulation of water within a body of water, which results in the overflow of excess water onto adjacent lands, usually floodplains. The floodplain is the land adjoining the channel of a river, stream, ocean, lake or other watercourse or water body that is susceptible to flooding. Most floods fall into the following three categories: riverine flooding, coastal flooding, or shallow flooding.
OTHER	
Wildfire	An uncontrolled fire burning in an area of vegetative fuels such as grasslands, brush, or woodlands. Heavier fuels with high continuity, steep slopes, high temperatures, low humidity, low rainfall, and high winds all work to increase the risk for people and property located within wildfire hazard areas or along the urban/wildland interface. Wildfires are part of the natural management of forest ecosystems, but most are caused by human factors.
TECHNOLOGICAL	
Dam Failure	Dam failure is the collapse, breach, or other failure of a dam structure resulting in downstream flooding. In the event of a dam failure, the energy of the water stored behind even a small dam is capable of causing loss of life and severe property damage if development exists downstream of the dam.
Hazardous Material Release	Hazardous materials are substances which if released or misused can cause death, serious injury, long-lasting health effects, and damage to structure and other properties, as well as to the environment. Many products containing hazardous chemicals are used and stored in homes routinely.
Pipeline Failure	Fuel pipeline breach or pipeline failure addresses the rare, but serious hazard of an oil or natural gas pipeline. Pipeline failure is a rare occurrence, but has the potential to cause extensive property damage and loss of life.

Overview of Hazard Analysis

This risk assessment was conducted using two distinct methodologies: HAZUS-MH (FEMA's loss estimation software) and a statistical approach. Each approach provides estimates of potential impact by using a common, systematic framework for evaluation.

The HAZUS-MH risk assessment methodology is parametric, in that distinct hazard and inventory parameters (e.g., wind speed and building types) were modeled using the HAZUS-MH software to determine the impact (e.g., damages and losses) on the built environment. The HAZUS-MH software was used to estimate losses from the flood hazard.

HAZUS-MH is FEMA's standardized loss estimation software program built upon an integrated geographic information system (GIS) platform. This risk assessment applies HAZUS-MH produce regional profiles and estimate losses for the flood hazard only.

Records retrieved from National Climatic Data Center (NCDC) are reported for the named participating cities. Remaining NCDC records occurring in a named area in a county were considered in the total for county events and maximum recorded magnitude of event.

The risk assessment includes four general parameters that are described for each hazard; frequency of return, approximate annualized losses, a description of general vulnerability, and a statement of the hazard's impact.

Frequency of return was calculated by dividing the number of events in the recorded time period for each hazard by the overall time period that the resource database was recording events.

Each of the hazard profiles includes a description of a general vulnerability assessment. Vulnerability is the total of assets that are subject to damages from a hazard (based on historic recorded damages). Assets in the region were inventoried and defined in hazard zones where appropriate. The total amount of damages (including property and crop damages) for each hazard is divided by the total number of assets (building value totals) in that community in order to find out the percentage of damage that each hazard can cause to the community.

Once loss estimates and vulnerability were known, an impact statement was applied to relate the potential impact of the hazard on the assets within the area of impact.

Building Values

Table 4-2 presents the asset distribution for the CVCOG Region. Data was gathered from the 2010 U.S. Census Bureau for population and housing units. Housing units are defined as structures in which people "live" (not work, or otherwise), therefore commercial and

Risk Overview

industrial buildings were not counted for this assessment. Building values were collected from HAZUS and include valuations from all building occupancies, which includes commercial, industrial, residential, etc. Building values are reported by millions or billions of dollars as indicated by an “M” or “B” in Table 4-2.

Table 4-2. Asset Distribution¹

JURISDICTION	2010 POPULATION		2010 HOUSING UNITS		BUILDING VALUES	
Coke County	3,320		2,667		\$291.4 M	
Bronte		999		473		\$54.9 M
Robert Lee		1,049		636		\$70.8 M
Concho County	4,087		1,637		\$187.2 M	
Eden		2,766		581		\$92.5 M
Paint Rock		273		128		\$11.3 M
Crockett County	3,719		1,866		\$263.7 M	
(No Incorporated Cities)						
Irion County	1,599		856		\$112.3 M	
Mertzon		781		358		\$38.6 M
Kimble County	4,607		3,371		\$345.1 M	
Junction		2,574		1,270		\$152.9 M
McCulloch County	8,283		4,302		\$459.6 M	
Melvin		178		113		\$8.9 M
Menard County	2,242		1,702		\$148.4 M	
Menard		1,471		828		\$69.4 M
Reagan County	3,367		1,372		\$178.8 M	
Big Lake		2,936		1,089		N/A
Schleicher County	3,461		1,489		\$163.7 M	
Eldorado		1,951		838		\$95.8 M
Sterling County	1,143		615		\$89.1 M	
Sterling City		888		419		\$65.8 M
Sutton County	4,128		2,031		\$259.0 M	
Sonora		3,027		1,323		\$157.0 M
Tom Green County	110,224		46,571		\$6.423 B	
San Angelo		93,200		39,548		\$5.6 B

¹ Source: U.S. Census Bureau (2010), [Housing Units]: 2010 U.S. Census Bureau, [Building Values]: using RS Means construction valuations from 2006 to estimate the Building Values by Census geography.

JURISDICTION	2010 POPULATION	2010 HOUSING UNITS	BUILDING VALUES
TOTALS	150,180	68,479	\$8.9 B

Potential Dollar Losses

Using the statistical risk assessment methodology, loss estimates were obtained by hazard at the city and county level. Methodology of estimations was described and is presented in summary in Table 4-3 below.

Table 4-3. Summary of Annualized Loss (AL) Estimates

COUNTY	DROUGHT ²	FLOOD	HAIL	HURRICANE	THUNDER-STORM	TORNADO	WINTER STORM
Coke	\$833,266	\$52,500	Negligible	\$21,838	\$21,838	\$18,881	\$44,082
Concho	\$833,266	Negligible	Negligible	Negligible	Negligible	\$2,374	\$26,554
Crockett	\$851,786	\$57,722	Negligible	Negligible	Negligible	\$15,212	\$26,260
Irion	\$833,266	\$35,167	Negligible	\$253,255	\$253,255	Negligible	\$23,046
Kimble	\$852,320	\$747,778	Negligible	\$5,560	\$5,560	\$16,205	\$26,968
McCulloch	\$833,266	\$28,333	Negligible	\$15,597	\$15,597	\$127,524	\$27,478
Menard	\$1,379,167	\$36,667	Negligible	\$9,948	\$9,948	Negligible	\$26,971
Reagan	\$1,771,461	\$16,667	Negligible	Negligible	Negligible	\$30,144	\$22,979
Schleicher	\$851,786	\$30,556	Negligible	\$17,401	\$17,401	\$131,841	\$26,662
Sterling	\$833,266	\$51,667	Negligible	Negligible	Negligible	Negligible	\$23,046
Sutton	\$851,786	\$448,722	Negligible	Negligible	Negligible	Negligible	\$27,881
Tom Green	\$833,266	\$101,611	\$36,624	\$1,600,319	\$1,600,319	\$3,204,683	\$26,573

² For drought, the numbers presented are based upon the annualized expected agriculture product market value exposure. Exposure was estimated at the county level due to data limitations.

Note: Negligible is less than \$5,000

FLOOD

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Hazard Profile

Floods generally result from excessive precipitation and the severity of a flood event is typically determined by a combination of several major factors, including: stream and river basin topography and physiography, precipitation and weather patterns, recent soil moisture conditions, and the degree of vegetative clearing and impervious surface. Generally floods are long-term events that may last for several days. The primary types of general flooding are inland and coastal flooding. Inland flooding is profiled in this section since coastal flooding is not applicable to the study area.

Inland or riverine flooding is a function of excessive precipitation levels and water runoff volumes within the watershed of a stream or river. It is natural and inevitable as it is the overbank flooding of rivers and streams, typically resulting from large-scale weather systems that generate prolonged rainfall over a wide geographic area. Some river floods occur seasonally when winter or spring rainfalls fill river basins with too much water, too quickly. Torrential rains from decaying hurricanes or tropical systems can also produce river flooding.

Location

Location of flood zones in the CVCOG Region is illustrated in Figures 5-1 to 5-17. No DFIRM or Q3 digital flood maps were available for any of the counties in the CVCOG. However, other digital flood map sources were available for four counties in entirety and partially available for four counties and the cities within those four counties. The source for the flood maps was First American Flood Data Service. No flood maps were available for the City of Big Lake. All flood zones mapped are the 100 year event probabilities or the base flood.

Figure 5-1. Estimated Flood Zones in the CVCOG Region

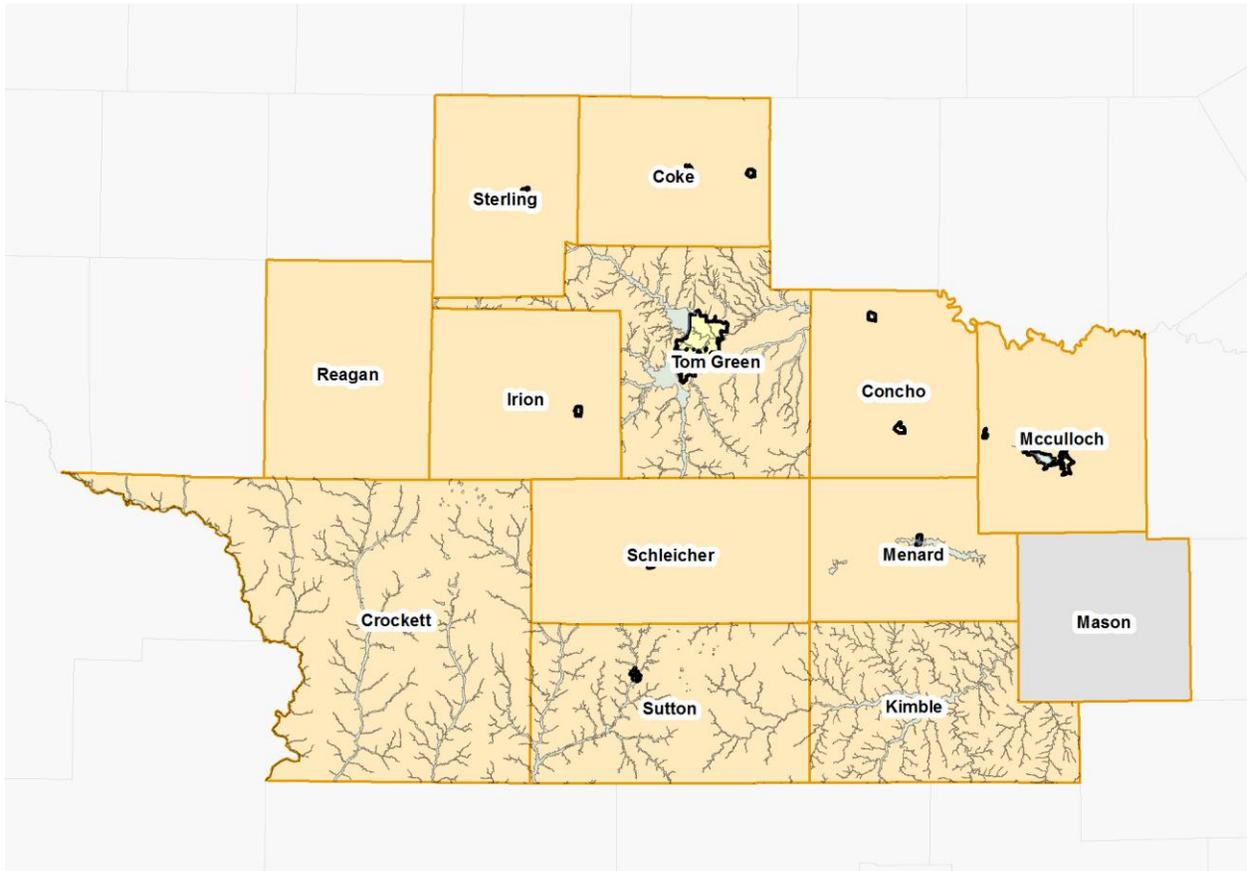


Figure 5-2. Estimated Flood Zones in the Town of Bronte (Coke County)

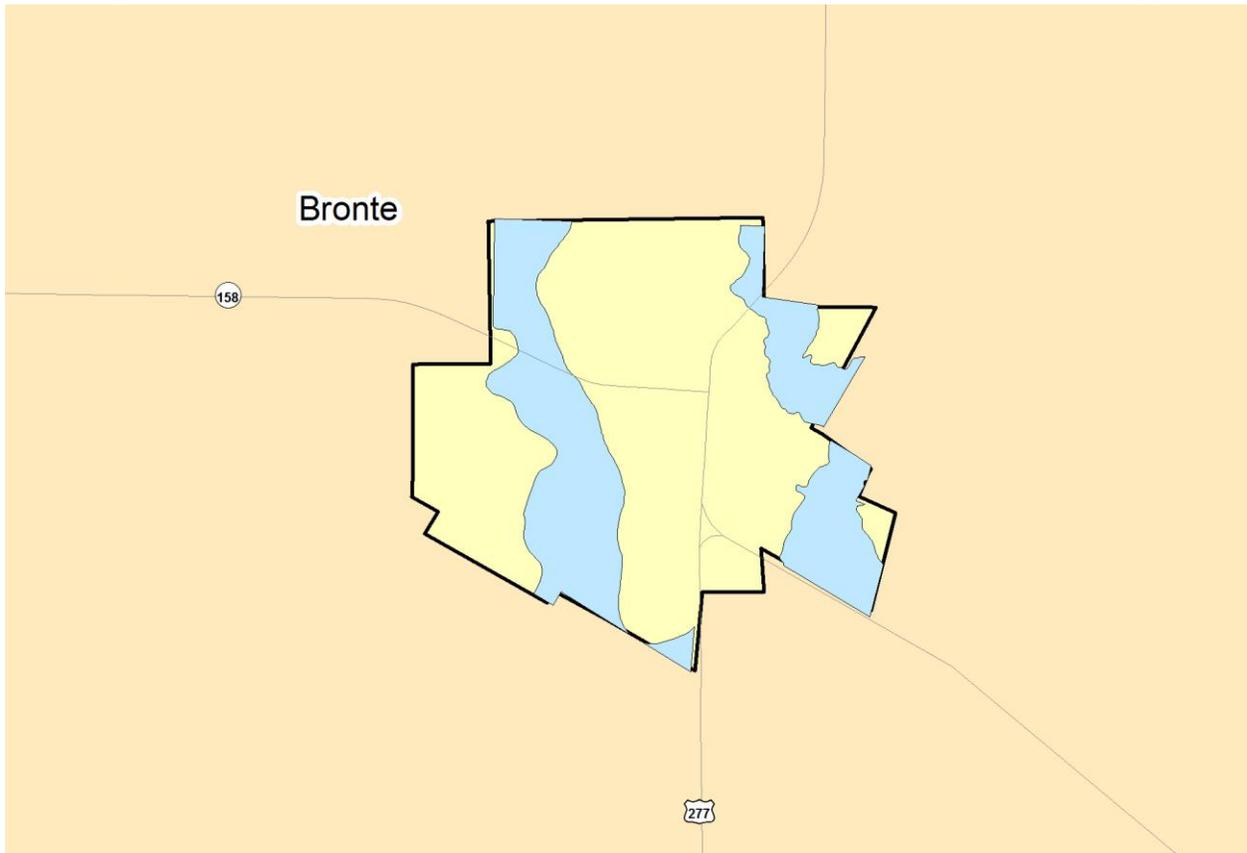


Figure 5-3. Estimated Flood Zones in the City of Robert Lee (Coke County)

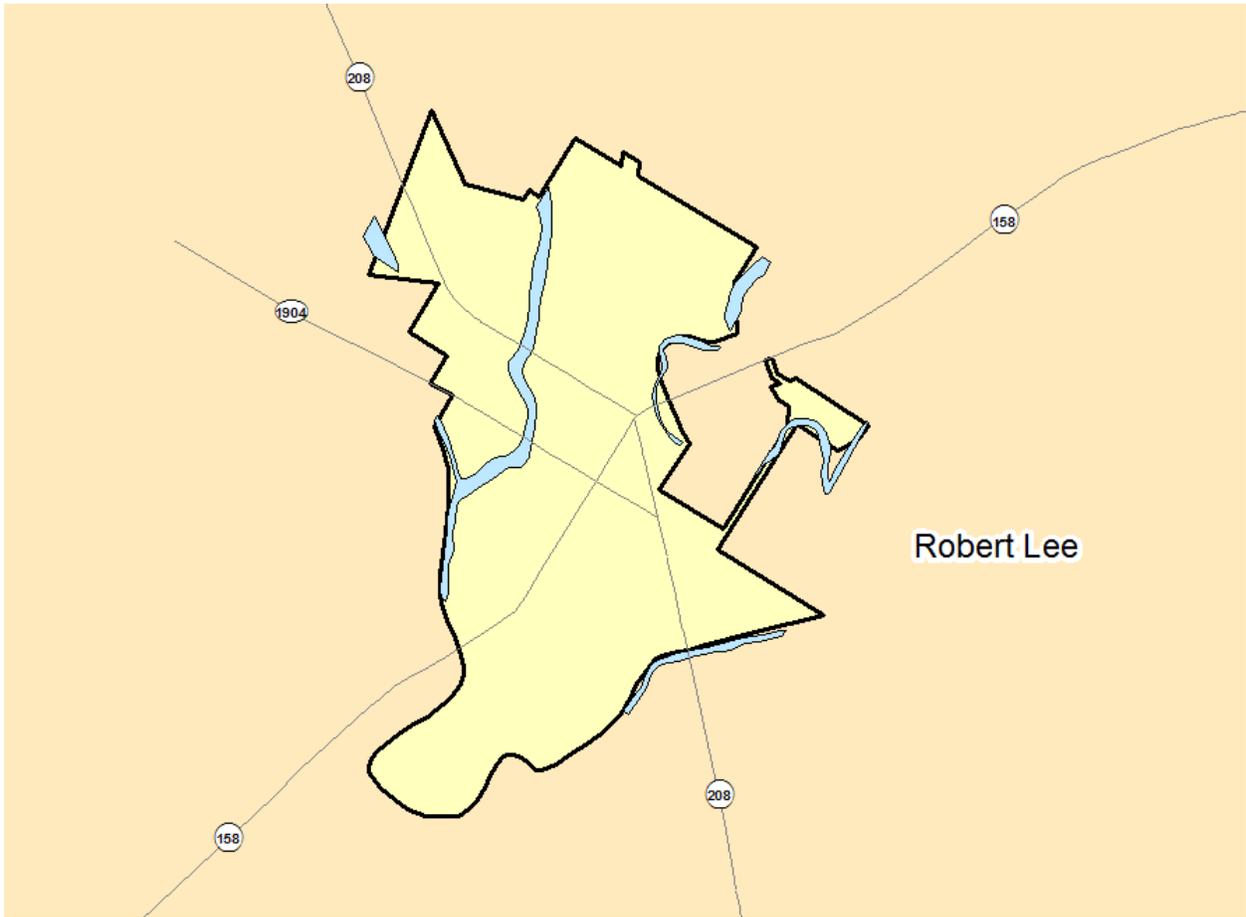


Figure 5-4. Estimated Flood Zones in the City of Eden (Concho County)

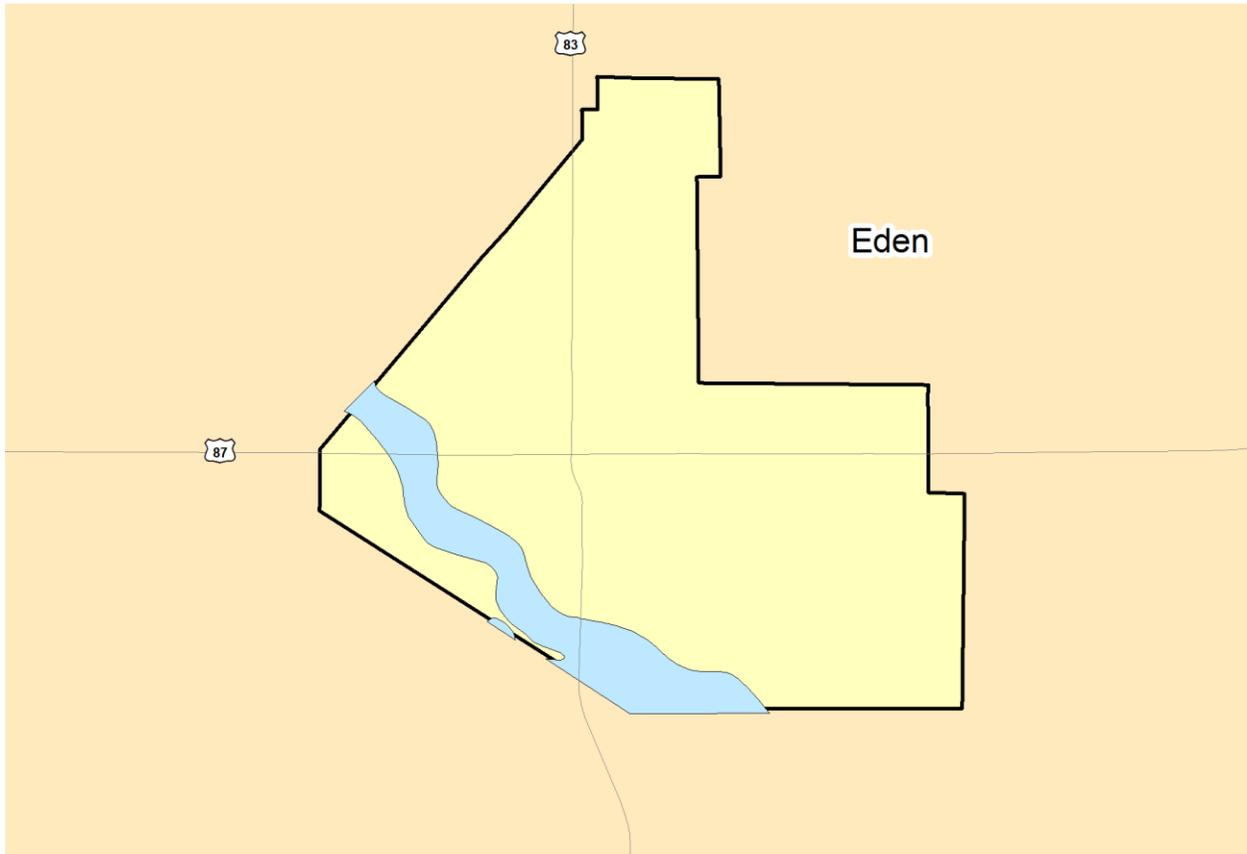


Figure 5-5. Estimated Flood Zones in the Town of Paint Rock (Concho County)

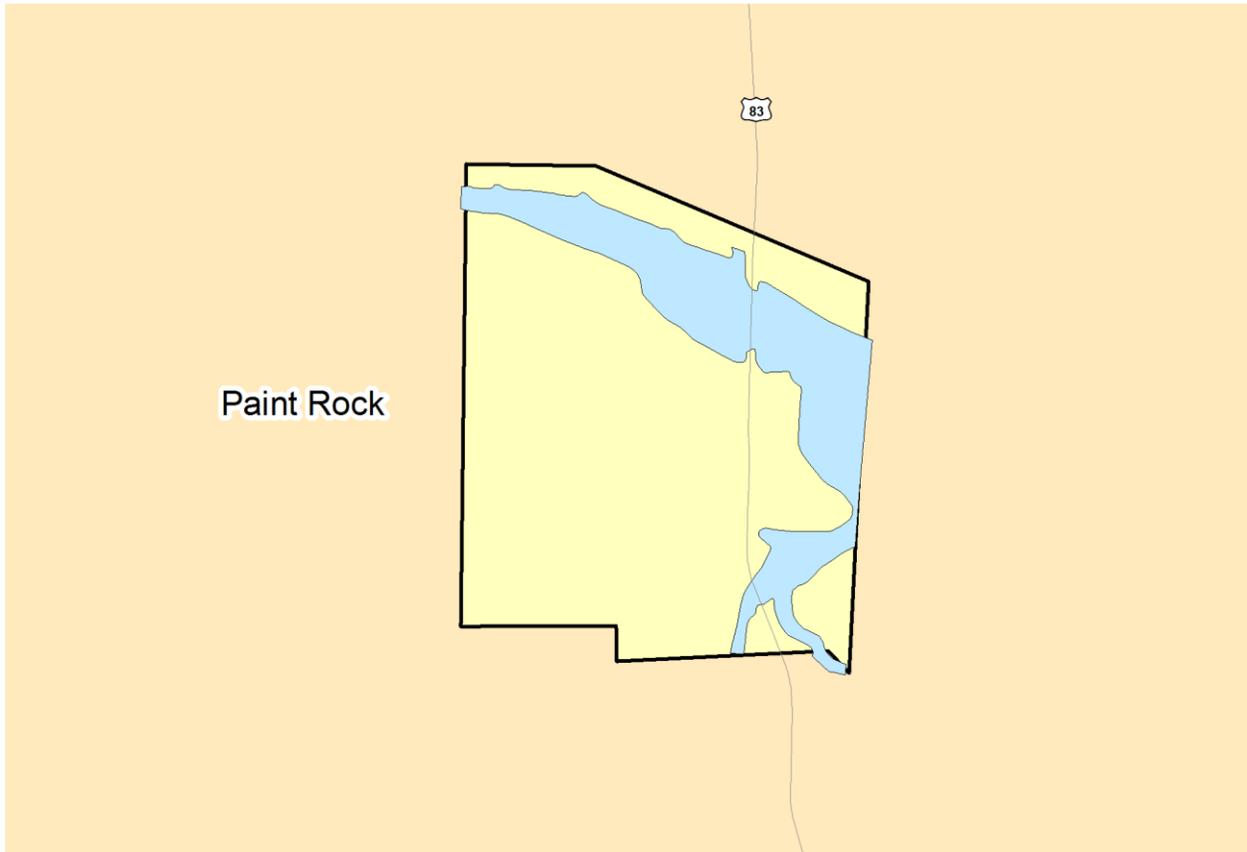


Figure 5-6. Estimated Flood Zones in Crockett County



Figure 5-7. Estimated Flood Zones in the City of Mertzon (Irion County)

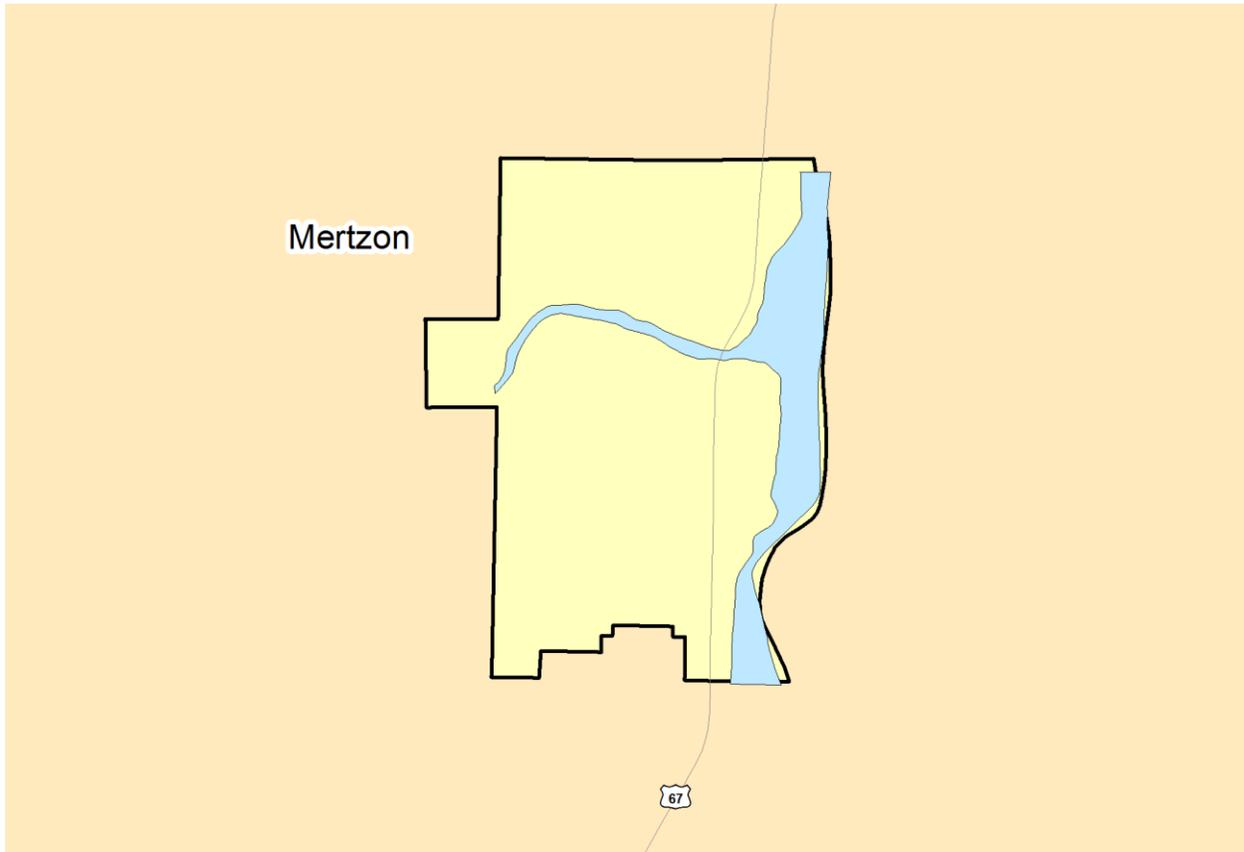


Figure 5-8. Estimated Flood Zones in Kimble County

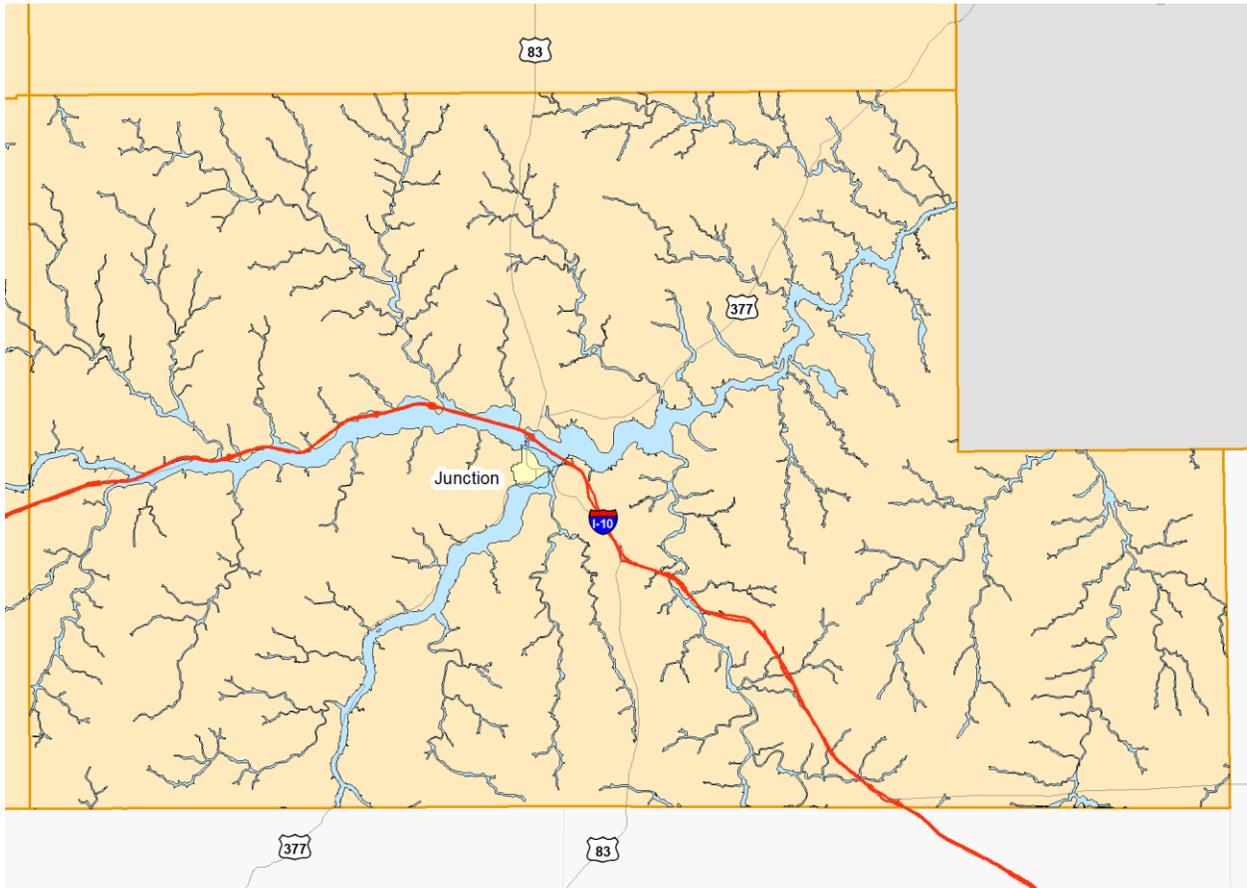


Figure 5-9. Estimated Flood Zones in the City of Junction (Kimble County)

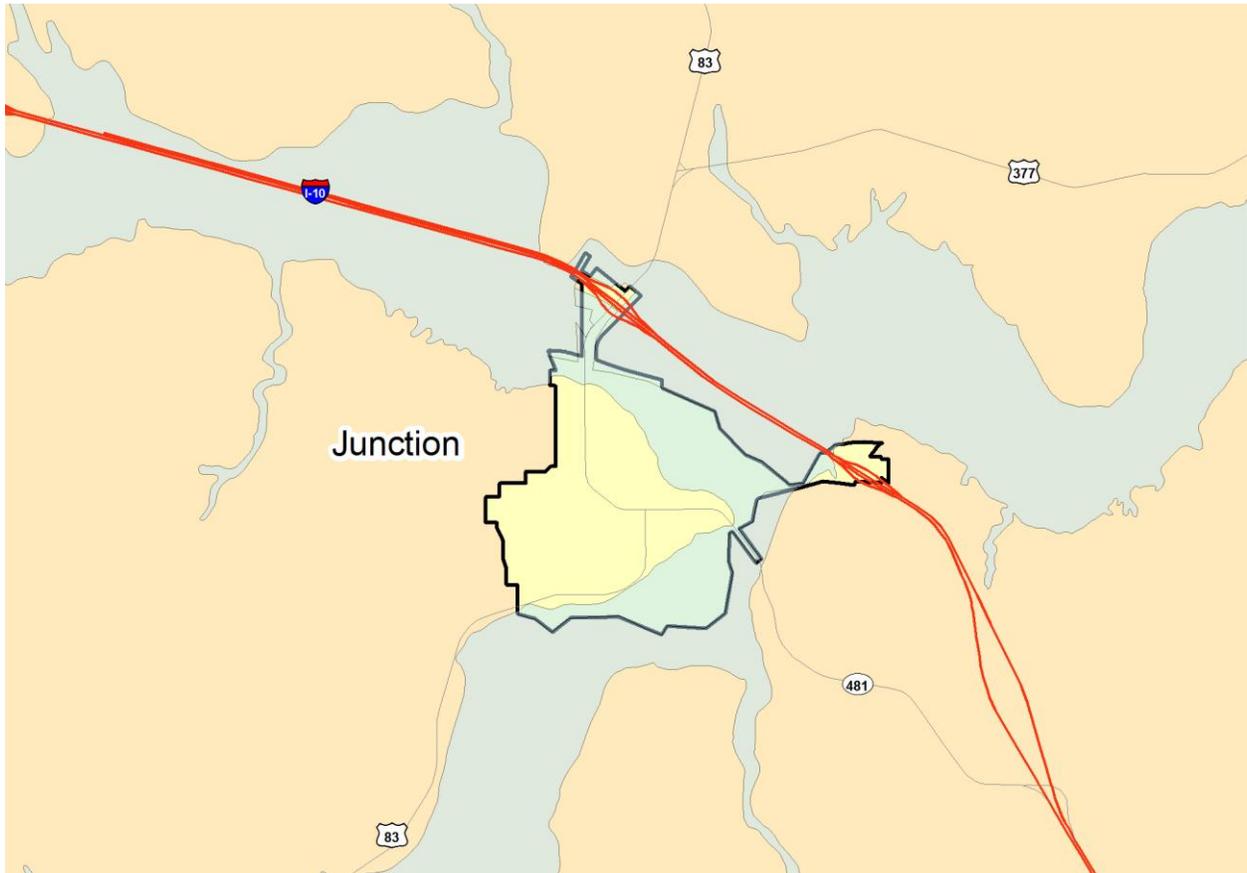


Figure 5-10. Estimated Flood Zones in the Town of Melvin (McCulloch County)

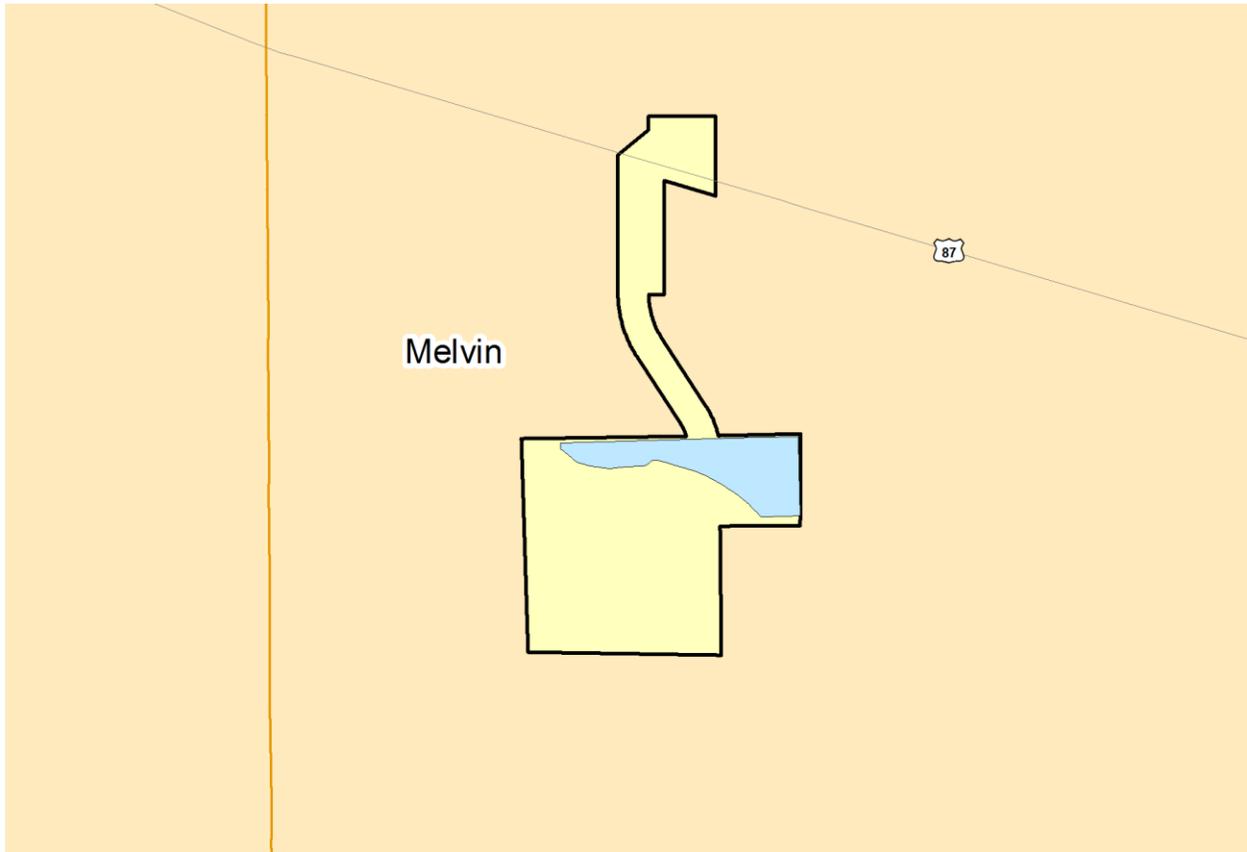


Figure 5-11. Estimated Flood Zones in the City of Menard (Menard County)

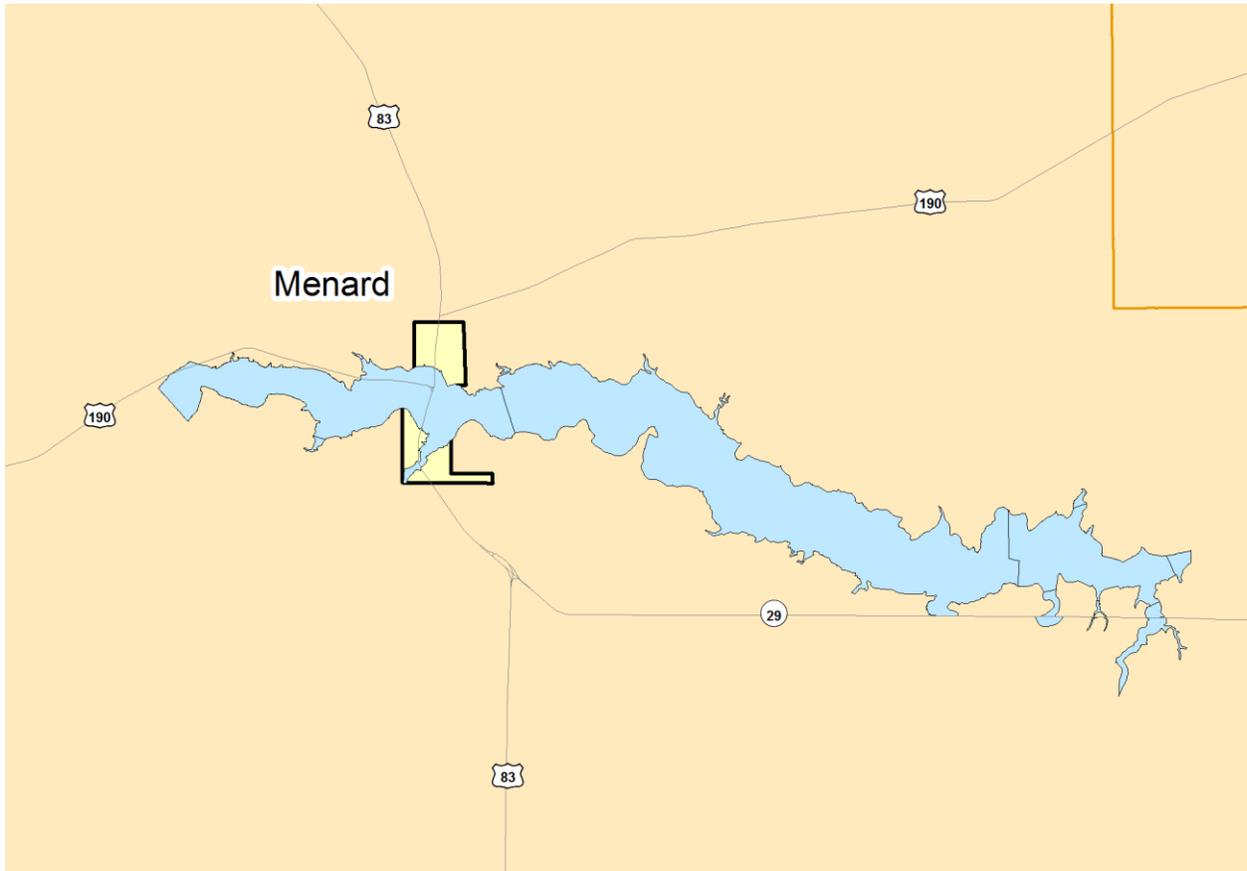


Figure 5-12. Estimated Flood Zones in the City of Eldorado (Schleicher County)

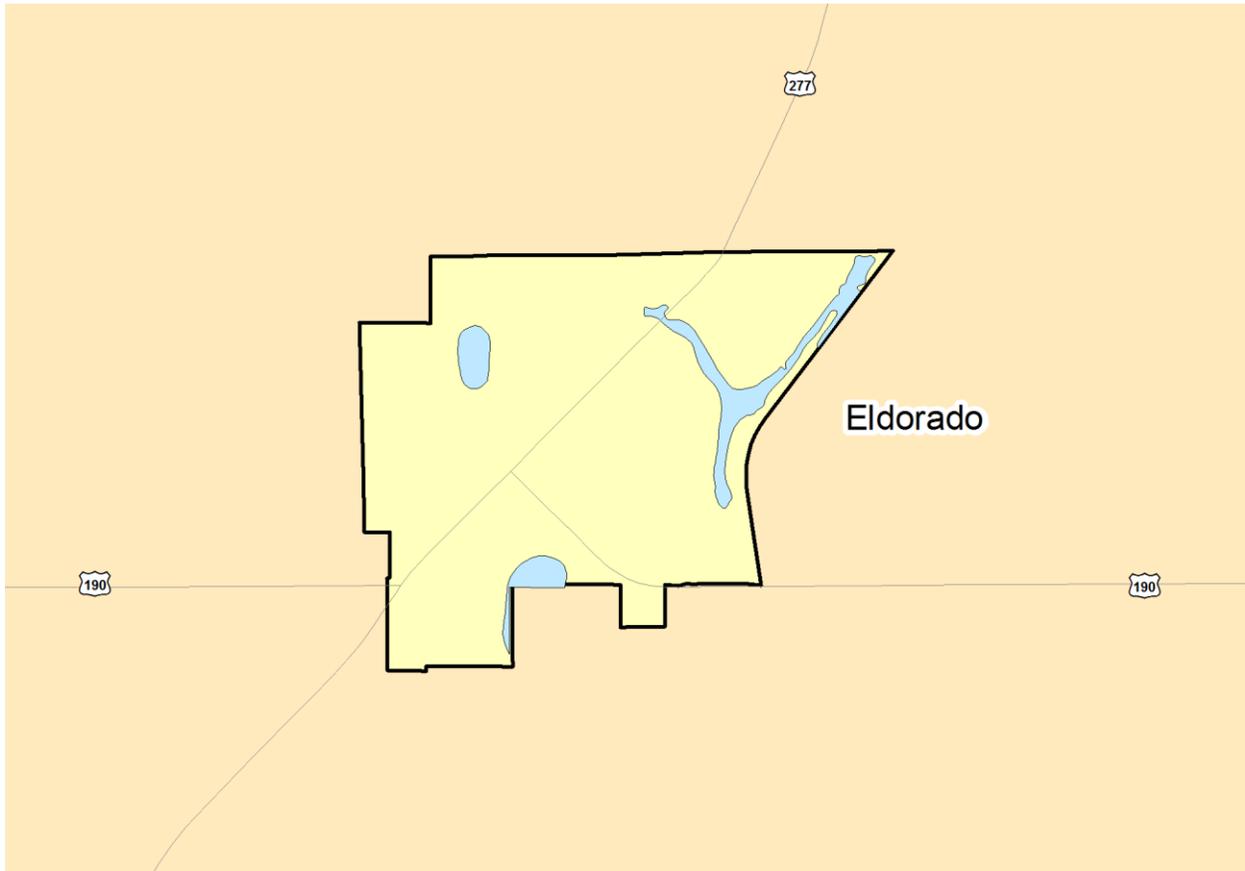


Figure 5-13. Estimated Flood Zones in the City of Sterling City (Sterling County)

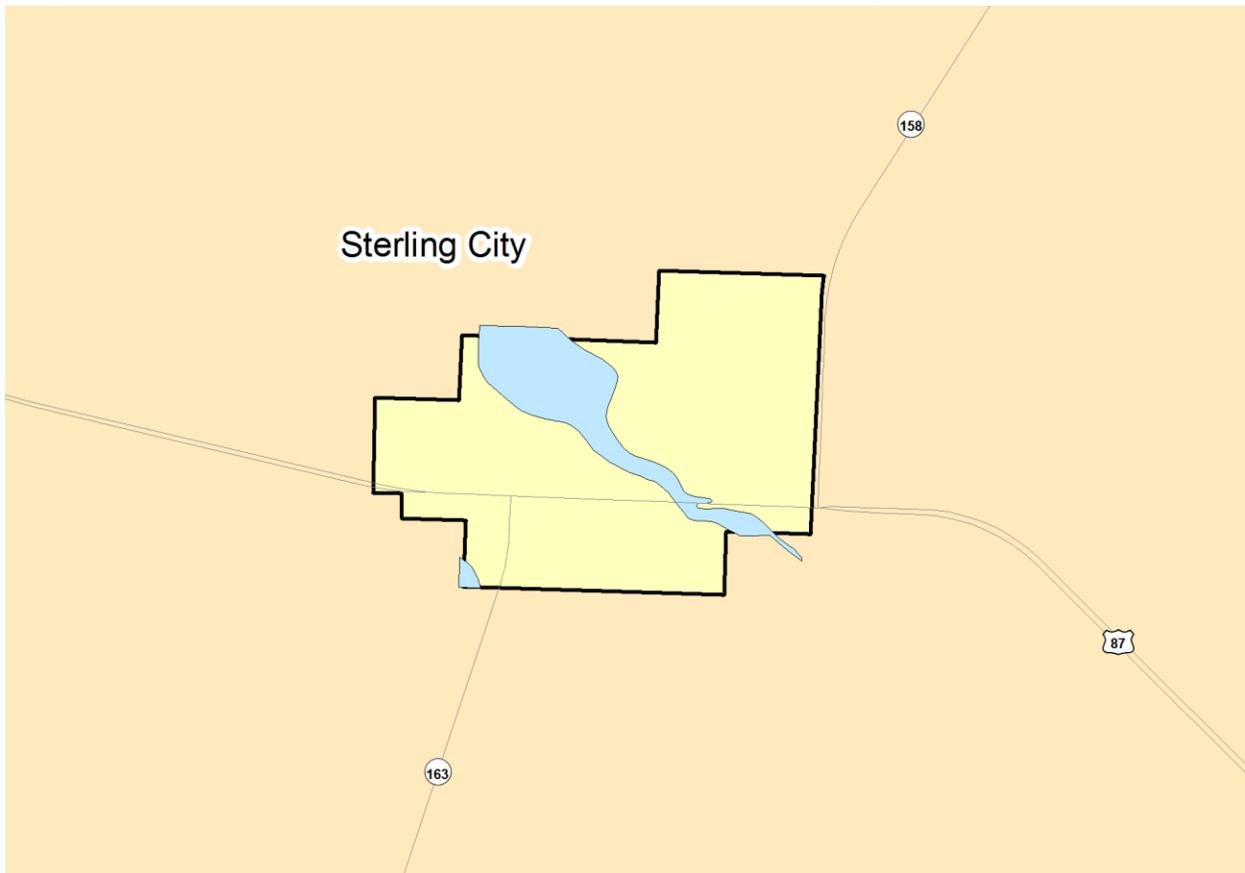


Figure 5-14. Estimated Flood Zones in Sutton County

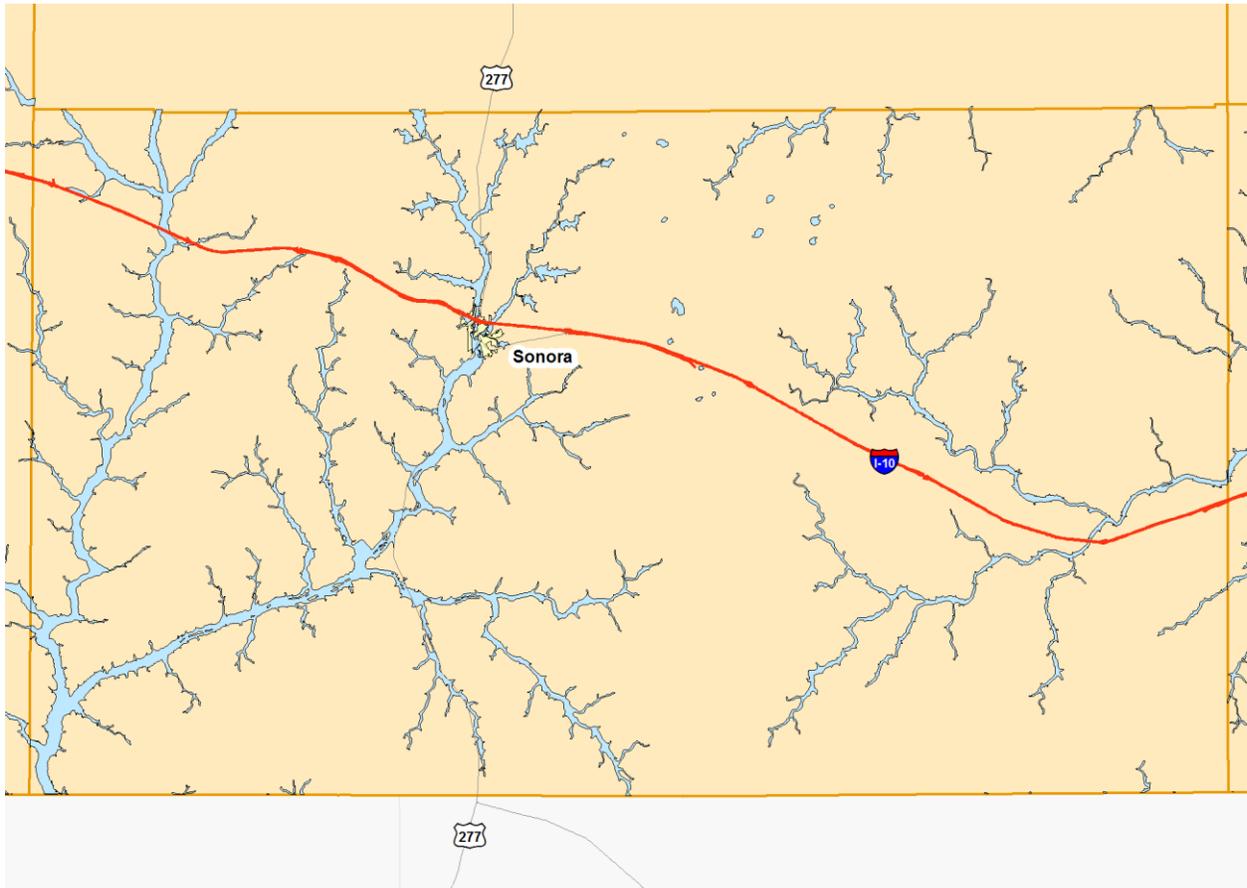


Figure 5-15. Estimated Flood Zones in the City of Sonora (Sutton County)



Figure 5-16. Estimated Flood Zones in Tom Green County

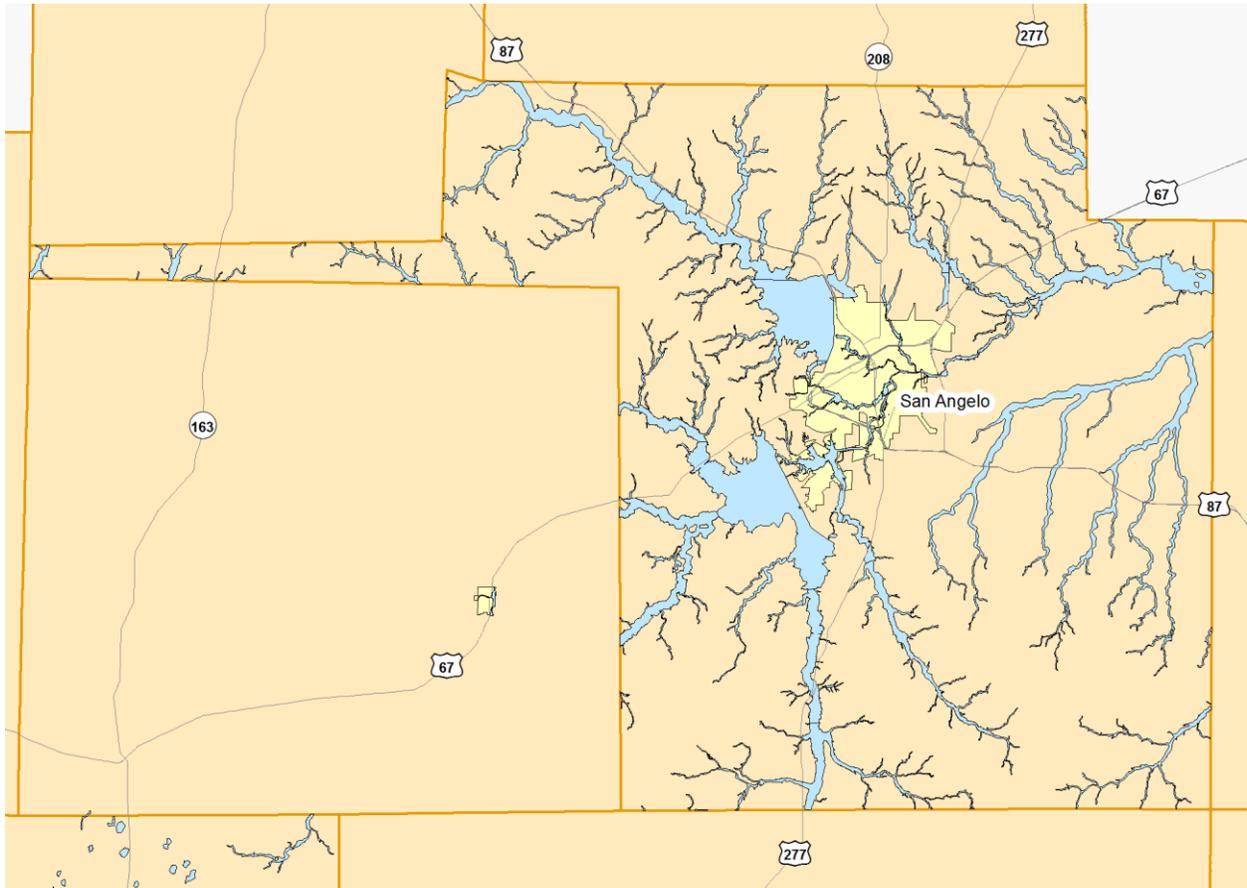


Figure 5-17. Estimated Flood Zones in the City of San Angelo (Tom Green County)



Extent

The severity of a flood event is typically determined by a combination of several factors including: stream and river basin topography and physiography; precipitation and weather patterns; recent soil moisture conditions; and degree of vegetative clearing and impervious surface. Generally floods are long-term events that may last for several days.

Determining the intensity and magnitude of a flood event is dependent upon the flood zone and location of the flood hazard area. Extent of flood damages can be expected to be more damaging in the areas that will convey a base flood. FEMA categorizes areas on the terrain according to how the area will convey flood water. Flood zones are the categories that are mapped on Flood Insurance Rate Maps. Table 5-1 provides a description of FEMA flood zones, though Flood Zone A is the only hazard area mapped in the region.

Table 5-1. Flood Zones

INTENSITY	ZONE	DESCRIPTION
HIGH	ZONE A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.
	ZONE A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
	ZONE AE	The base floodplain where base flood elevations are provided. AE Zones are now used on the new format FIRMs instead of A1-A30 Zones.
	ZONE AO	River or stream flood hazard areas and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
	ZONE AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
	ZONE A99	Areas with a 1% annual chance of flooding that will be protected by a federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
	ZONE AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
MODERATE to LOW	ZONE X 500	An area inundated by 500-year flooding; an area inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 100-year flooding.

Flood

Zone A is interchangeably referred to as the 100-year flood, the one-percent-annual chance flood, or the Special Flood Hazard Area (SFHA), or more commonly, the base flood. By any name, it is the area that will convey the base flood. This area constitutes a threat to the planning area and it is the only threat; no other flood zones have been mapped in the CVCOG Region according to available flood maps.

Structures built in the SFHA are subject to damage by rising waters and floating debris. Moving flood water exerts pressure on everything in its path and causes erosion of soil and solid objects. Utility systems, such as heating, ventilation, air conditioning, fuel, electrical systems, sewage maintenance systems and water systems, if not elevated above base flood elevation, may also be damaged.

Many people do not understand the risk of living in a floodplain. There is a 26 percent chance that a home in the floodplain at or below the base flood elevation will be damaged during a 30-year mortgage. The chance that a major fire will occur during the same period is only one percent. Table 5-2 below, provides samples of the extent of flood events within the region, as well as associated damage definitions where available, and damages and estimates of structures destroyed are included. Detailed descriptions are found in the section on historical occurrences that follows.

Table 5-2. Extent of Large-Scale Flood Events in the CVCOG Region

DATE	JURISDICTION	EXTENT
June 21, 1997	Kimble County (near Segovia)	A major flood event due to 4-10 inches of rainfall in a 32 hour period. Roads and highways were closed; water was 5 feet deep in certain areas. No fatalities but damages to roads and bridges were estimated at \$5 million and crop damages were \$2 million from this one event.
October 7, 2002	Sutton County	A stalled cold front produced a major flood event from 4-7 inches of rain overnight. Streams overflowed their banks and 3 people were rescued by helicopter before their vehicle was swept away on a flooded road. Property damage was estimated at \$5 million.

DATE	JURISDICTION	EXTENT
November 3-5, 2000	Menard County	Heavy rain across McCulloch, Menard, and San Saba (not in the CVCOG) counties caused a major flood event with the San Saba river cresting at 5.7 feet above flood stage. Damage to infrastructure, homes, businesses, and agriculture in Menard County was considered substantial. Property damages totaled \$160,000. No crop loss was reported.
August 14, 2005	Coke, Fisher, Haskell, Jones, Shackelford, Sterling, Throckmorton, Tom Green counties	A major flood event resulted from rainfall amounts up to 10 inches in less than 48 hours, resulted in up to 5 feet of standing water in many places. Nearly 200 homes were substantially damaged. No fatalities were reported but property loss was estimated at \$930,000.

Historical Occurrences

Historical evidence shows that areas within the region are susceptible to flooding, especially in the form of flash flooding. It is important to note that only flood events that have been reported have been factored into this risk assessment, and in most cases NCDC data is limited to flood events that have occurred since 1994. It is likely that additional flood occurrences have gone unreported before and during this recording period. In some instances, historical flood information, as provided by NCDC, shows flood activity across a multi-county forecast area for a particular event. In such instances, an appropriate percentage of the total property and crop damage reported for the entire forecast area has been allocated to each participating county impacted by the event. Table 5-3 shows historical incident information by county.

Table 5-3. Historical Flood Events by County, 1994-2011¹

COUNTY	EVENTS	DEATHS	INJURIES
Coke	16	0	0
Concho	9	0	0
Crockett	26	0	0
Irion	16	0	1
Kimble	32	0	0

¹ Source: NCDC

COUNTY	EVENTS	DEATHS	INJURIES
McCulloch	36	0	0
Menard	20	0	0
Reagan	26	0	0
Schleicher	14	0	0
Sterling	12	0	0
Schleicher	29	0	0
Tom Green	60	0	3
TOTALS	296	0	4

Probability of Future Events

Based on historical occurrences and extent, flooding is highly likely meaning an event is probable within the next year.

Vulnerability and Impact

The building vulnerability assessment was conducted using a GIS mapping analysis process in which the available flood maps were overlaid with local parcel data to determine the number of parcels that intersect these hazard zones. In order to determine vulnerable population counts, buildings, and values, 2010 Census population, 2000 Census building data and 2006 building value data was used.

In making vulnerability determinations, it was decided that if any portion of a structure was confirmed to be located within the flood zone, then it was considered to be at risk to that flood hazard. While the GIS-based assessment does use specific attribute data tied to each individual property (i.e., year built and building value), it does not take into account certain unknown site-specific factors that may mitigate future flood losses on a building-by-building basis (such as finished floor elevations, surrounding topography, flood proofing measures, drainage, etc.). No further analysis on the potential vulnerability of structures to flooding was completed as part of this assessment.

Table 5-4 summarizes the vulnerability assessment which is an estimate of potential for exposure to the base flood. The results of the analysis place the following percentages at risk to flood: 5.21 percent of the population, 8.78 percent of housing units, and 5.28 percent of building value.

Table 5-4. Vulnerability to Flooding²

JURISDICTION	2010 POPULATION		BUILDING VALUE*		HOUSING UNITS	
	By Jurisdiction	Vulnerable to flood	By Jurisdiction	Vulnerable to flood	By Jurisdiction	Vulnerable to flood
Coke County	3,320		\$291.4		2,667	
Bronte	999	82	\$54.9	\$6.6	473	44
Robert Lee	1,049	35	\$70.8	\$2.6	636	19
Concho County	4,087		\$187.2		1,637	
Eden	2,766	53	\$92.5	\$3.3	581	25
Paint Rock	273	26	\$11.3	\$1.0	128	12
Crockett County	3,719	1,139	\$263.7	\$58.4	1,866	559
(No Incorporated Cities)						
Irion County	1,599		\$112.3		856	
Mertzon	781	62	\$38.6	\$3.3	358	39
Kimble County	4,607	652	\$345.1	\$51.9	3,371	506
Junction	2,574	212	\$152.9	\$14.9	1,270	118
McCulloch County	8,283		\$459.6		4,302	
Melvin	178	24	\$8.9	\$1.4	113	20
Menard County	2,242		\$148.4		1,702	
Menard	1,471	580	\$69.4	\$31.7	828	302
Reagan County	3,367		\$178.8		1,372	
Big Lake	2,936				1,089	
Schleicher County	3,461		\$163.7		1,489	
Eldorado	1,951	27	\$95.8	\$1.3	838	10
Sterling County	1,143		\$89.1		615	
Sterling	888	58	\$65.8	\$6.0	419	27
Sutton County	4,128	886	\$259.0	\$40.4	2,031	366
Sonora	3,027	735	\$157.0	\$34.0	1,323	299
Tom Green County	110,224	5,145	\$6,423.0	\$320.2	46,571	2,360
San Angelo	93,200	2,707	\$5,600.0	\$195.8	39,548	1,304
COUNTY TOTALS	150,180	7,822	\$8,921	\$471	68,479	6,010

² N/A is listed for dollar amounts less than \$5,000 and populations less than 50.

* values are in millions of dollars

Based on the vulnerability assessment, a flooding event will have a limited impact on the area, which could result in the shutdown of critical facilities and services for 24 hours or less, with less than 10 percent of property destroyed or with major damage.

NFIP Participation

Flood insurance offered through the National Flood Insurance Program (NFIP) is the best way for home and business owners to protect themselves financially against the flood hazard. Of the 25 jurisdictions in the CVCOG Region, all participate in the NFIP with the exception of the Towns of Paint Rock (Concho County) and Melvin (McCulloch County). Table 5-5 below lists the communities that are not participating and provides a reason for non-participation.

Table 5-5. Communities Not Participating in the NFIP

COUNTY	JURISDICTION	REASON FOR NON-PARTICIPATION
Concho	Town of Paint Rock	Lack of funds
McCulloch	Town of Melvin	Lack of funds

As an additional indicator of floodplain management responsibility, communities may choose to participate in FEMA’s Community Rating System (CRS). This is an incentive-based program that allows communities to undertake flood mitigation activities that go beyond NFIP requirements. Currently, no participating CVCOG communities participate in CRS.

NFIP Compliance and Maintenance

Jurisdictions in the CVCOG Region have also developed mitigation actions or analyzed previous actions that relate to either NFIP maintenance or compliance. Compliance and maintenance actions can be found in Section 17.

Flooding was identified by the majority of the counties as a moderate risk hazard during hazard ranking activities at the Risk Assessment Workshop. However, many of the mitigation actions, both for communities that participated in the 2005 Plan and those participating in the Plan Update, were developed with flood mitigation in mind. A majority of these flood actions address compliance with the NFIP and implementing flood awareness programs. Region-wide, communities recognize the need and are adopting higher NFIP regulatory standards to further minimize flood risk in their community. Smaller no-growth communities that typically do not have personnel or funds to implement more stringent NFIP compliance measures are focusing on NFIP public awareness activities. This includes

promoting the availability of flood insurance by placing NFIP brochures and flyers in public libraries or public meeting places.

The prioritization method for implementing actions was based on FEMA's STAPLE+E criteria and included social, technical, administrative, political, legal, economic and environmental considerations. As a result of this exercise, an overall priority was assigned to each mitigation action by each Team member. The overall priority of each action is reflected in the mitigation actions found in Section 17 for the local jurisdictions. In prioritizing actions a community must consider many factors. Of primary consideration is targeting specific mitigation actions for implementation following a major disaster. Other factors that determine prioritization are, in part, ease of implementation by the community, cost of the project vs. perceived benefit, timeframe for implementing the action, and available personnel to oversee and implement the project.

FEMA's Community Rating System (CRS) is an incentive-based program that allows communities to undertake flood mitigation activities that go beyond NFIP requirements. Currently, no participating CVCOG communities participate in CRS.

Repetitive Loss

The Severe Repetitive Loss (SRL) Grant Program under FEMA 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 NFIP. The Texas Water Development Board (TWDB) administers the SRL grant program for the State of Texas.

Severe Repetitive Loss properties are defined as residential properties that are:

- covered under the NFIP and have at least four flood related damage claim payments (building and contents) over \$5,000.00 each, and the cumulative amount of such claims payments exceed \$20,000; or
- at least two separate claim payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

In either scenario, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than 10 days apart.³ Table 5-6 shows repetitive loss and severe repetitive loss properties for the Counties.

³ Source: Texas Water Development Board

Table 5-6. Repetitive Loss and Severe Repetitive Loss Properties

COUNTY	JURISDICTION	PROPERTY #	INSURED?	BUILDING TYPE	LOSSES	TOTAL PAID	SRL INDICATOR ⁴
Menard	Menard	0005599	No	Single family residence	2	\$20,425.06	-
	Menard	0044991	No			\$21,443.75	-
	Menard	0056784	No			\$14,182.95	PU
	Ft. McKavett	0050177	Yes			\$14,132.06	-
Tom Green	San Angelo	0123241	Yes			\$4,585.53	-
	San Angelo	0118558	Yes			\$17,191.72	-
	San Angelo	0043376	No			\$30,413.84	-

⁴ In this column: “V” stands for “Validated”; “VN” stands for “Validated Nonresidential”; “VU” stand for “Validated Uninsured”; “VNU” stands for “Validated Nonresidential Uninsured”; “P” stands for “Pending”; “PU” stands for “Pending Uninsured”; and “PN” stands for “Pending Nonresidential”.

THUNDERSTORM

HAZARD DESCRIPTION	1
LOCATION	1
EXTENT	1
HISTORICAL OCCURRENCES	3
SIGNIFICANT PAST EVENTS.....	4
PROBABILITY OF FUTURE EVENTS	5
VULNERABILITY AND IMPACT	5

Hazard Description

Thunderstorms are generally considered a common occurrence in the CVCOG Region. Typical thunderstorms are 15 miles in diameter and last an average of 30 minutes. Despite the short time span, thunderstorms can be extremely dangerous, as they are often strong and fast in their approach and can be accompanied by flash flooding, lightning, hail, tornadoes, and high winds.

Location

Thunderstorms are geographically random, making it impossible to predict where they will strike. Thus, it is assumed that the CVCOG Region is uniformly exposed to the threat of thunderstorms.

Extent

A thunderstorm is measured in terms of intensity based on the strength of the wind speeds or significant winds associated with the thunderstorm event. Table 6-1 depicts intensity for thunderstorms according to wind magnitude published by the World Meteorological Organization (WMO).

Table 6-1. Beaufort Wind Scale¹

FORCE	WIND (KNOTS)	WMO CLASSIFICATION	APPEARANCE OF WIND EFFECTS
0	Less than 1	Calm	Calm, smoke rises vertically
1	1-3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4-7	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	8-12	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	13-18	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	19-24	Fresh Breeze	Small trees in leaf begin to sway
6	25-31	Strong Breeze	Larger tree branches moving, whistling in wires
7	32-38	Near Gale	Whole trees moving, resistance felt walking against wind
8	39-46	Gale	Whole trees in motion, resistance felt walking against wind
9	47-54	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	55-63	Storm	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	64-72	Violent Storm	If experienced on land, widespread damage
12	73+	Hurricane	Violence and destruction

A thunderstorm event is typically defined by the National Climatic Data Center (NCDC) based on the intensity and magnitude of wind events associated with the thunderstorm, which can affect the planning area randomly. Because the magnitude of a thunderstorm does not take into account wind speeds from a tornado (for specific information on tornado, see Section 8), but specifically significant winds, the extent to which it can affect the planning area is a range from a Force 10 to a Force 12. On average, an intense wind event to be mitigated for each of the jurisdictions could have wind speeds over 50 miles per hour, a Force 9 from the Beaufort Wind Scale. Since the greatest wind speed recorded for the area is 87 knots (See Table 6-2), in preparation for a thunderstorm, the extent to be mitigated is a Force 12.

¹ Source: World Meteorological Organization

Historical Occurrences

Table 6-2 lists previous thunderstorm events as compiled by the NCDC. It is important to note that only thunderstorm events that have been reported have been factored into this risk assessment, and in most cases NCDC data is limited to severe thunderstorm events that are noteworthy for specific reasons (high winds, deaths, injuries, property or crop damages, lightning strikes). It is likely that a high number of thunderstorm occurrences have gone unreported over the past 50 years. Records retrieved from NCDC are reported for the jurisdiction named in Table 6-2. Remaining NCDC records for a county were considered in the total for county events and maximum recorded wind speed.

Table 6-2. Historical Thunderstorm Events by Jurisdiction, 1950-2010

JURISDICTION	NUMBER OF REPORTED EVENTS	MAXIMUM WIND SPEED (KNOTS)
Coke County	47	76
Bronte	8	52
Robert Lee	23	76
Uninc. Coke County	16	-
Concho County	36	65
Eden	10	61
Paint Rock	7	61
Uninc. Concho County	19	-
Crockett County	23	70
(No Incorporated Cities)	23	70
Irion County	21	80
Mertzon	11	80
Uninc. Irion County	10	-
Kimble County	26	84
Junction	10	61
Uninc. Kimble County	16	-
McCulloch County	55	70
Melvin	3	61
Uninc. McCulloch County	52	-
Menard County	22	87
Menard	0	0
Uninc. Menard County	22	-
Reagan County	19	70

Thunderstorm

JURISDICTION	NUMBER OF REPORTED EVENTS	MAXIMUM WIND SPEED (KNOTS)
Big Lake	4	52
Uninc. Reagan County	15	-
Schleicher County	25	65
Eldorado	20	65
Uninc. Schleicher County	5	-
Sterling County	18	61
Sterling City	11	61
Uninc. Sterling County	7	-
Sutton County	11	80
Sonora	4	55
Uninc. Sutton County	7	-
Tom Green County	195	81
San Angelo	55	75
Uninc. Tom Green County	140	-
TOTALS FOR STUDY AREA	498	87

Significant Past Events

29 May 1996 – Irion County

The storm brought wind, hail and a small tornado to the Town of Mertzon. Nearly every building was battered; 50 percent of all homes and 25 businesses were damaged in this 778-person town. Two homes were completely destroyed. There were no serious injuries other than people being cut by glass.

20 February 1997 – Tom Green County

Strong winds occurred in the San Angelo area during a heavy rain and flash flood event. A wind gust of 56 knots (65 mph) was recorded at Mathis Field and a gust of 69 mph was reported at Highland Range near O.C. Fisher Lake. The damaging winds then spread north from the City of San Angelo to the rural communities of Quail Valley and Grape Creek, where a gust of 65 mph was reported at Quail Valley. Storm damage in and around the City of San Angelo included downed fences, signs, and tree limbs. The drive-through section of a bank was severely damaged, and ATM machines destroyed, when the ceiling of the carport fell. Several other businesses suffered roof damage. There were also some power outages in the area.

27 May 2002- Coke County

The second severe thunderstorm of the day that moved across Robert Lee produced winds up to 80 mph causing damage to numerous houses and carports. Numerous severe thunderstorms formed over the Big Country, Concho Valley and the Heartland. Especially hard hit was the City of Robert Lee. Two severe thunderstorms moved through Robert Lee causing damage to homes and vehicles. The city, as well as other portions of Coke County, was without power for much of the night. There were several reports of high winds accompanied by hail to the size of tennis balls over eastern portions of the Concho Valley. There was also a tornado near the upper end of E.V. Spence reservoir. The tornado remained over open country and produced no damage.

Probability of Future Events

Available data was evaluated in order to provide an expected frequency of thunderstorms, potential loss estimates, a description of vulnerability, and a statement of impact of thunderstorm events.

The probability of occurrence for future thunderstorms in the CVCOG Region is highly likely, meaning it is likely of a storm event occurring within the next year. According to the NCDC reported historical occurrences, counties within the CVCOG Region experience a severe storm eight times a year. Given this regular frequency of occurrence, it can be expected that future thunderstorms will continue to threaten life and property throughout the planning area.

Vulnerability and Impact

Vulnerability is difficult to evaluate since thunderstorms can occur at different strength levels, in random locations, and can create relatively narrow paths of destruction. Due to the randomness of this event, all existing and future structures and facilities in the planning region could potentially be impacted and remain vulnerable to possible injury and/or property loss from lightning, hail and strong winds associated with thunderstorms.

Lightning damage can result in electrocution of humans and animals; vaporization of materials along the path of the strike; fire caused by the high temperature produced by the strike; and sudden power surges that can damage electrical and electronic equipment. Millions of dollars of direct and indirect damages result from lightning strikes on electric utility substations and distribution lines. While property damage is the major hazard associated with lightning, it should be noted that



Thunderstorm

lightning strikes kill nearly 100 people each year in the United States².

Impact quantified by reported thunderstorm events were estimated as described in Section 4, Risk Overview. Table 6-3 below summarizes the total reported property and crop losses by jurisdiction. Total losses reported when considered over the 60 year recording period provides an expected annual loss ranging from zero to over \$1.6 million in damages sustained annually by one jurisdiction.

Table 6-3. Potential Annualized Losses by Jurisdiction³

JURISDICTION	TOTAL EXPOSURE	ANNUALIZED LOSS (AL)
Coke County	\$291,393,000	\$21,838
Bronte	\$54,912,000	\$372
Robert Lee	\$70,672,000	\$1,898
Uninc. Coke County	\$165,809,000	\$19,567
Concho County	\$187,173,000	\$4,575
Eden	\$92,364,000	\$3,048
Paint Rock	\$11,315,000	\$99
Uninc. Concho County	\$73,494,000	\$1,428
Crockett County	\$264,006,000	\$1,634
(No Incorporated Cities)		
Irion County	\$112,315,000	\$253,255
Mertzon	\$38,576,000	\$253,255
Uninc. Irion County	\$73,739,000	\$0
Kimble County	\$345,134,000	\$5,560
Junction	\$152,827,000	\$2,452
Uninc. Kimble County	\$195,307,000	\$3,108
McCulloch County	\$459,543,000	\$15,597
Melvin	\$8,875,000	\$176
Uninc. McCulloch County	\$450,668,000	\$15,421
Menard County	\$148,418,000	\$9,948
Menard	\$75,051,000	\$0
Uninc. Menard County	\$73,397,000	\$9,948
Reagan County	\$178,789,000	\$83
Big Lake	\$146,223,000	\$42

² National Weather Service

³ Source: HAZUS-MH MR4 (exposure values) and NCDC (property and crop losses), values are in 2009 dollars

Thunderstorm

JURISDICTION	TOTAL EXPOSURE	ANNUALIZED LOSS (AL)
Uninc. Reagan County	\$27,827,743	\$40
Schleicher County	\$163,684,000	\$17,401
Eldorado	\$95,802,000	\$17,401
Uninc. Schleicher County	\$66,277,606	\$0
Sterling County	\$89,092,000	\$1,564
Sterling City	\$66,795,000	\$1,564
Uninc. Sterling County	\$18,645,655	\$0
Sutton County	\$259,042,000	\$1,706
Sonora	\$158,154,000	\$1,706
Uninc. Sutton County	\$19,012,957	\$0
Tom Green County	\$6,412,709,000	\$1,600,319
San Angelo	\$5,615,423,000	\$1,589,801
Uninc. Tom Green County	\$701,041,341	\$10,518
TOTALS FOR STUDY AREA	\$8,903,862,000	\$1,933,479

According to the available data for previous occurrences, high winds are common to the CVCOG area when accompanied by thunderstorms. Impact of thunderstorms in the region can be major; leaving more than 25 percent of property destroyed and the shutdown of critical facilities for two weeks. If another Beaufort event of Force 12 or higher were to occur, the area would be susceptible to widespread violence and destruction, that would include structural damage to structural facilities, especially roofs and windows. Injuries may also occur as a result of debris that is carried by strong gusts or twigs and branches that are broken off from the force of the wind. Traffic disruptions may also occur as traffic lights could be damaged or flying debris could cause accidents on the road. This would hinder the ability of critical services staff to travel to and from work.

HAIL

HAZARD DESCRIPTION	1
LOCATION	1
EXTENT	2
HISTORICAL OCCURRENCES	3
SIGNIFICANT PAST EVENTS.....	18
PROBABILITY OF FUTURE EVENTS	19
VULNERABILITY AND IMPACT	19

Hazard Description

Hailstorms are a potentially damaging outgrowth of severe thunderstorms. Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to



the rapid rising of warm air into the upper atmosphere and subsequent cooling of the air mass. Frozen droplets gradually accumulate into ice crystals until they fall as precipitation that is round or irregularly shaped masses of ice greater than 0.75 inches in diameter. The size of hailstones is a direct result of the size and severity of the storm. High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a byproduct

of heating on the Earth’s surface. Higher temperature gradients above the Earth’s surface result in increased suspension time and hailstone size.

Location

Hailstorms vary tremendously in terms of size, location, intensity and duration but are considered frequent occurrences throughout the CVCOG Region. It is assumed that all of the jurisdictions are uniformly exposed to hail events just as they are exposed to the thunderstorms that produce the hail events.

Extent

Most hailstorms occur during the spring (March, April and May) and in the fall during the month of September. Warning time for a hailstorm is generally minimal or there is no warning. The National Weather Service classifies a storm as severe if hail of three-quarters of an inch in diameter (approximately the size of a penny) or greater is imminent based on radar intensity or seen by observers.

The severity of hail events range based on the size of hail, winds, and structures in the path of a hailstorm. Storms that produce high winds in addition to hail are most damaging and can result in numerous broken windows and damaged siding. Hailstorms can cause extensive property damage affecting both urban and rural landscapes. Fortunately, most hailstorms produce marble-size or smaller hailstones. These can cause damage to crops, but they normally do not damage buildings or automobiles. Larger hailstones can destroy crops, livestock and wildlife and can cause extensive damage to buildings, including roofs, windows and outside walls. Vehicles can be total losses. When hail breaks windows, water damage from accompanying rains can also be significant. A major hailstorm can easily cause damage amounting into the millions of dollars. Nationwide hail is responsible for over one billion dollars in property and crop damages per year. A scale showing intensity categories was developed by the National Climatic Data Center (NCDC) and is included in Table 7-1.

Table 7-1. Hail Intensity and Magnitude

SIZE CODE	INTENSITY CATEGORY	SIZE (DIAMETER INCHES)	DESCRIPTIVE TERM	TYPICAL DAMAGE
H0	Hard Hail	Up to 0.33	Pea	No damage
H1	Potentially Damaging	0.33 – 0.60	Marble	Slight damage to plants and crops
H2	Potentially Damaging	0.60 – 0.80	Dime	Significant damage to plants and crops
H3	Severe	0.80 – 1.20	Nickel	Severe damage to plants and crops
H4	Severe	1.2 – 1.6	Quarter	Widespread glass and auto damage
H5	Destructive	1.6 – 2.0	Half Dollar	Widespread destruction of glass, roofs, and risk of injuries
H6	Destructive	2.0 – 2.4	Ping Pong Ball	Aircraft bodywork dented and brick walls pitted

Hail

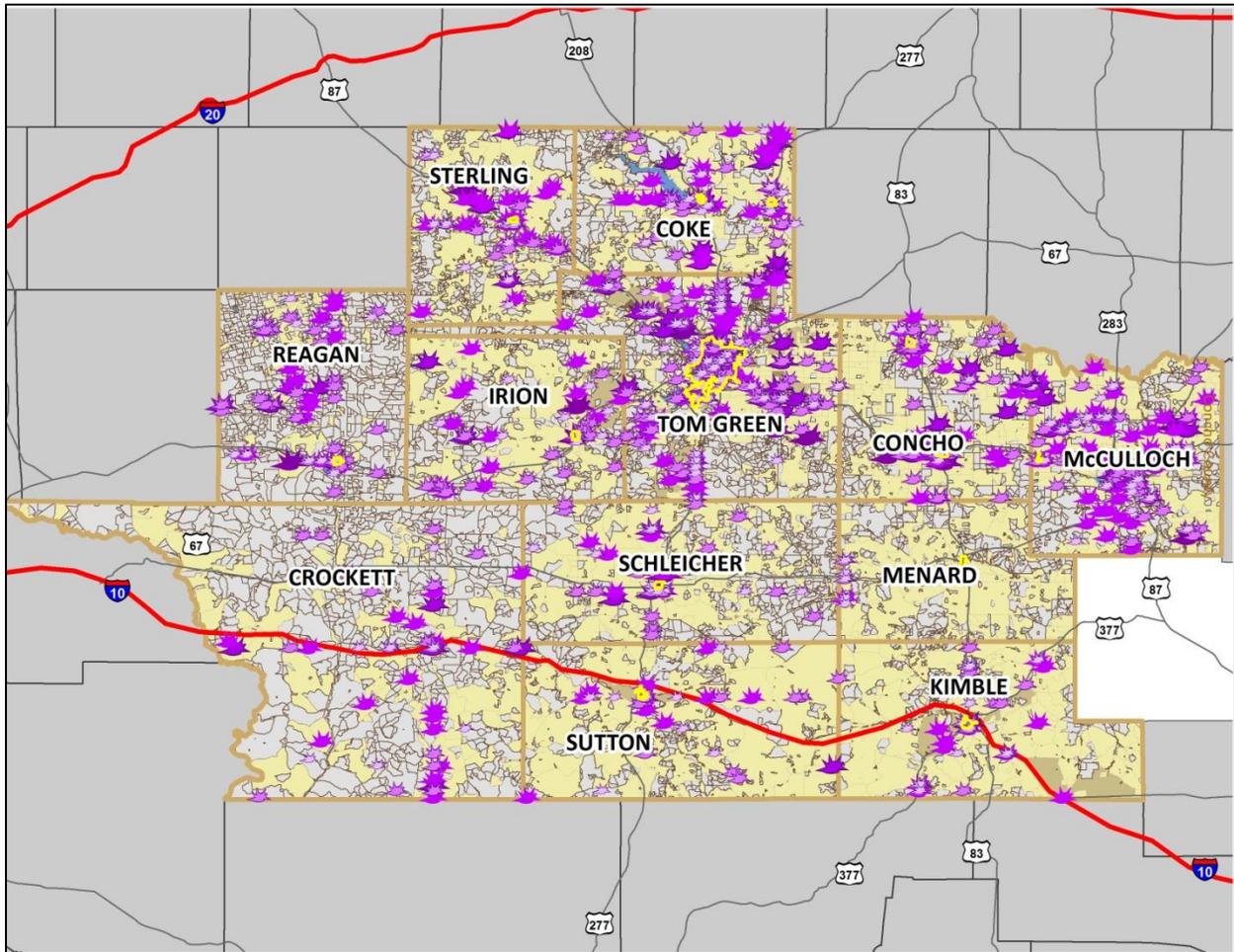
SIZE CODE	INTENSITY CATEGORY	SIZE (DIAMETER INCHES)	DESCRIPTIVE TERM	TYPICAL DAMAGE
H7	Very Destructive	2.4 – 3.0	Golf Ball	Severe roof damage and risk of serious injuries
H8	Very Destructive	3.0 – 3.5	Hen Egg	Severe damage to all structures
H9	Super Hailstorms	3.5 – 4.0	Tennis Ball	Extensive structural damage, could cause fatal injuries
H10	Super Hailstorms	4.0 +	Baseball	Extensive structural damage, could cause fatal injuries

The range of intensity for a hailstorm event for CVCOG jurisdictions is anywhere from an H0 to an H10 on the Hail Intensity Scale. Based on the historical occurrences, the area has experienced an H10 event; hailstorms in the region have produced hail larger than 5.0 inches in diameter. All communities in the planning area are equally susceptible to hail events and should mitigate to an extent of an H10 hail event as many jurisdictions have experienced hail larger than 4.0 inches in diameter.

Historical Occurrences

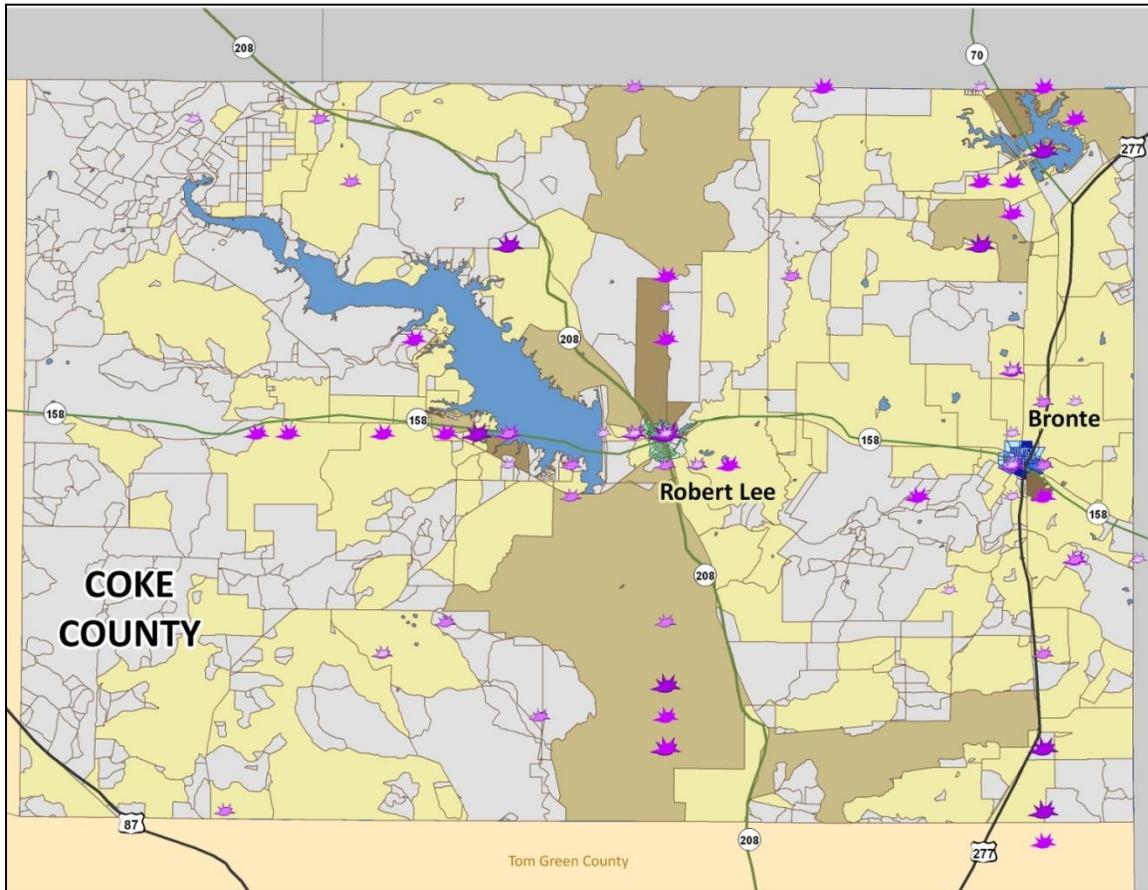
Figure 7-1 shows the historical hail events that have impacted the CVCOG study area from 1950 to 2010, and Figures 7-2 through 7-13 show the historical hail events at the county level that have impacted each jurisdiction. There are no clear distinctive patterns indicating some areas have higher frequencies or magnitudes than others. This is in part due to this reporting system, and the general distribution of hail events as seen on the maps.

Figure 7-1. Spatial Historical Hail Events in CVCOG, 1950–2010¹



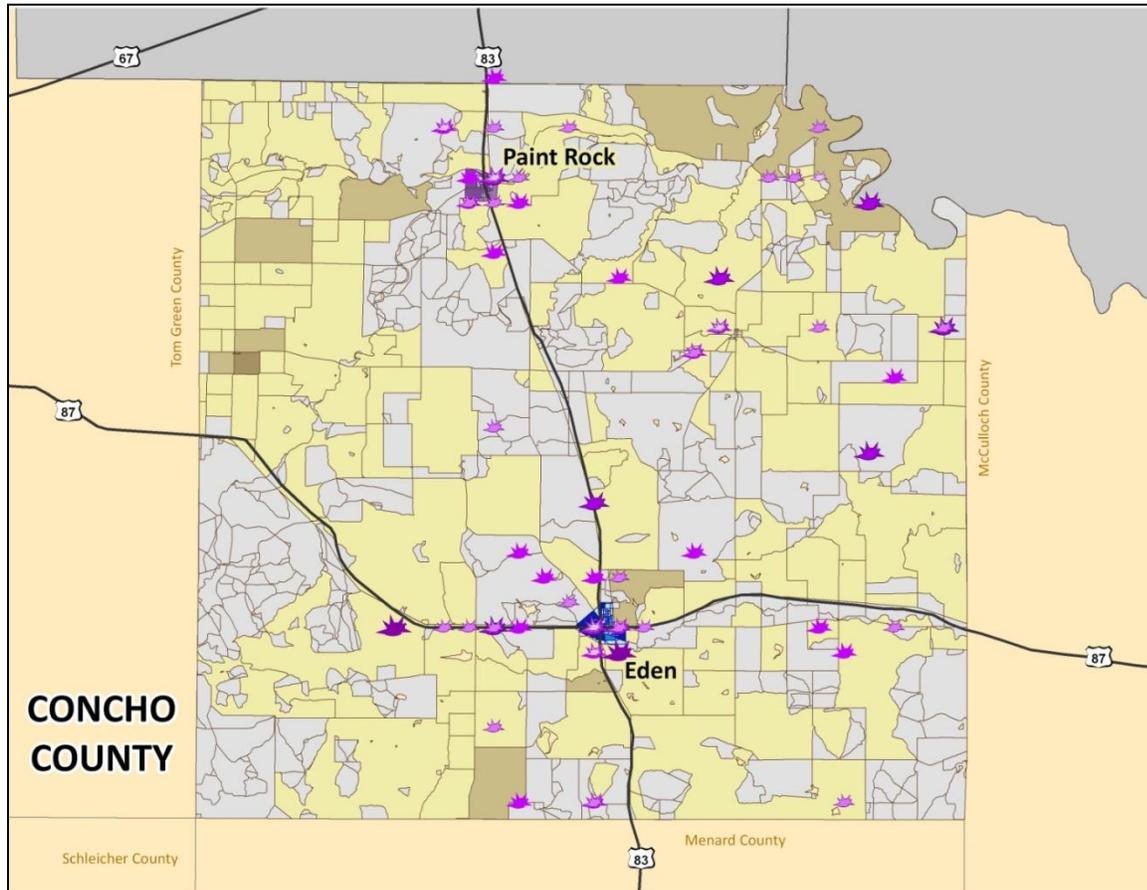
¹ Source: NOAA/NCDC Records

Figure 7-2. Historical Hail Events in Coke County²



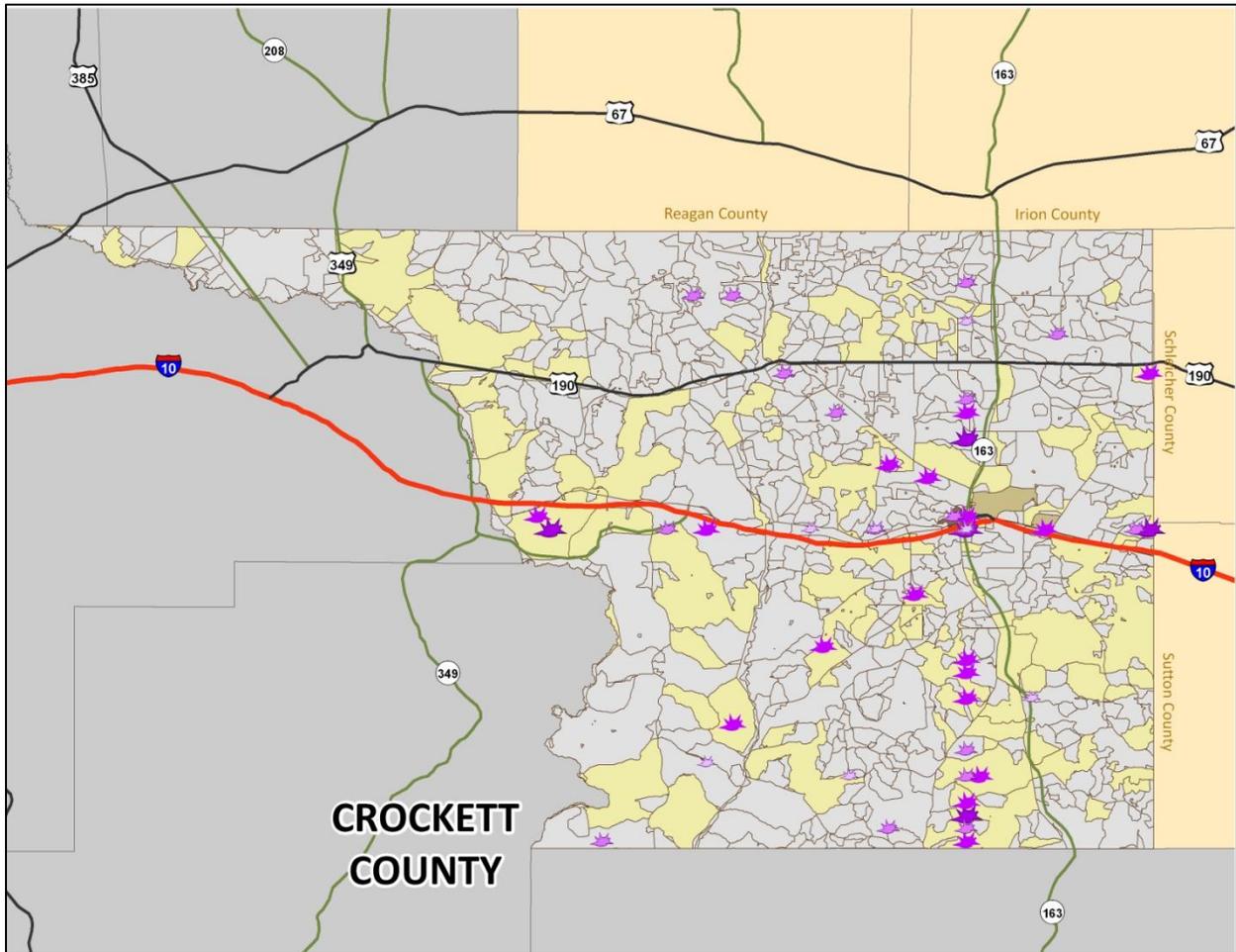
² Source: NOAA/NCDC Records

Figure 7-3. Historical Hail Events in Concho County³



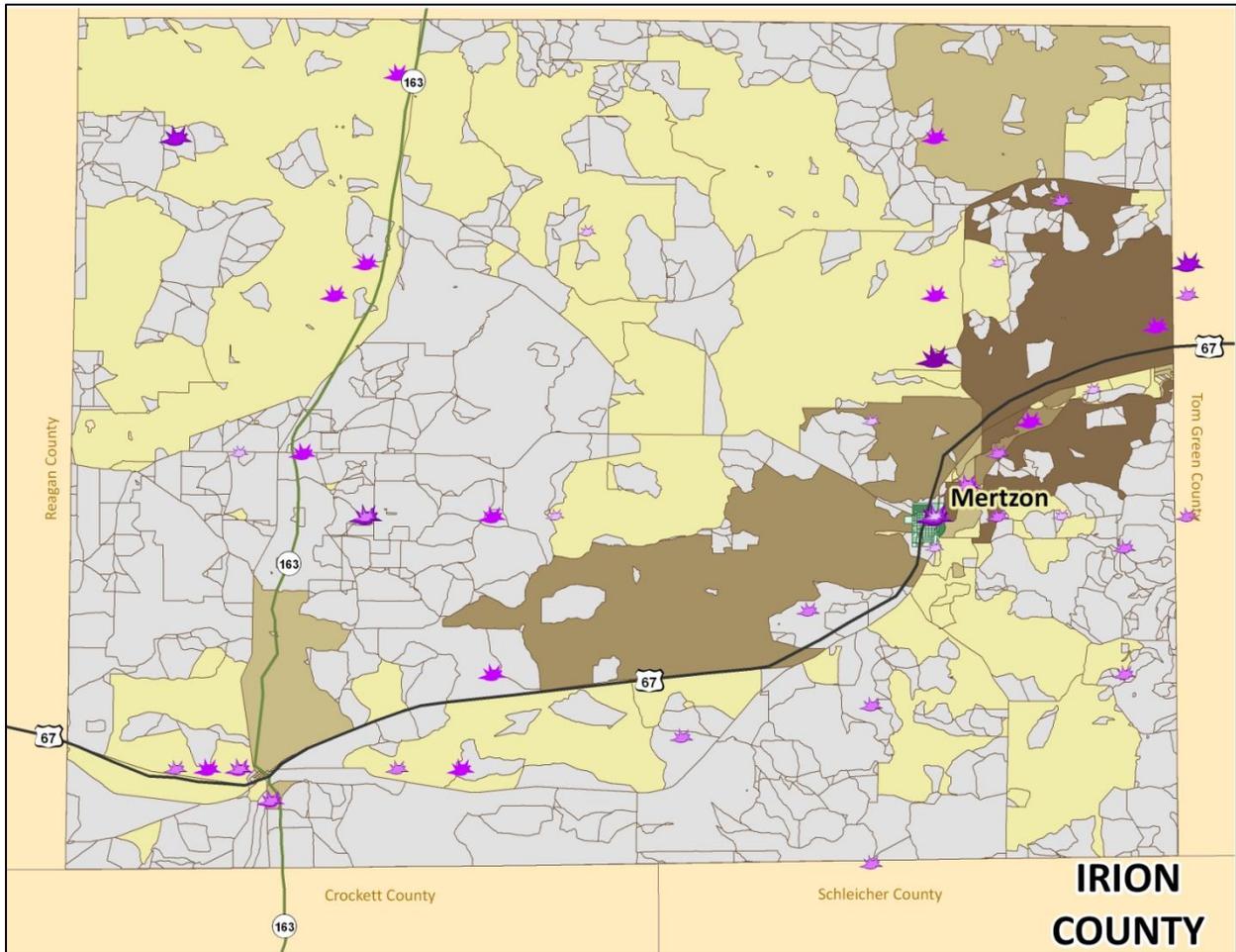
³ Source: NOAA/NCDC Records

Figure 7-4. Historical Hail Events in Crockett County⁴



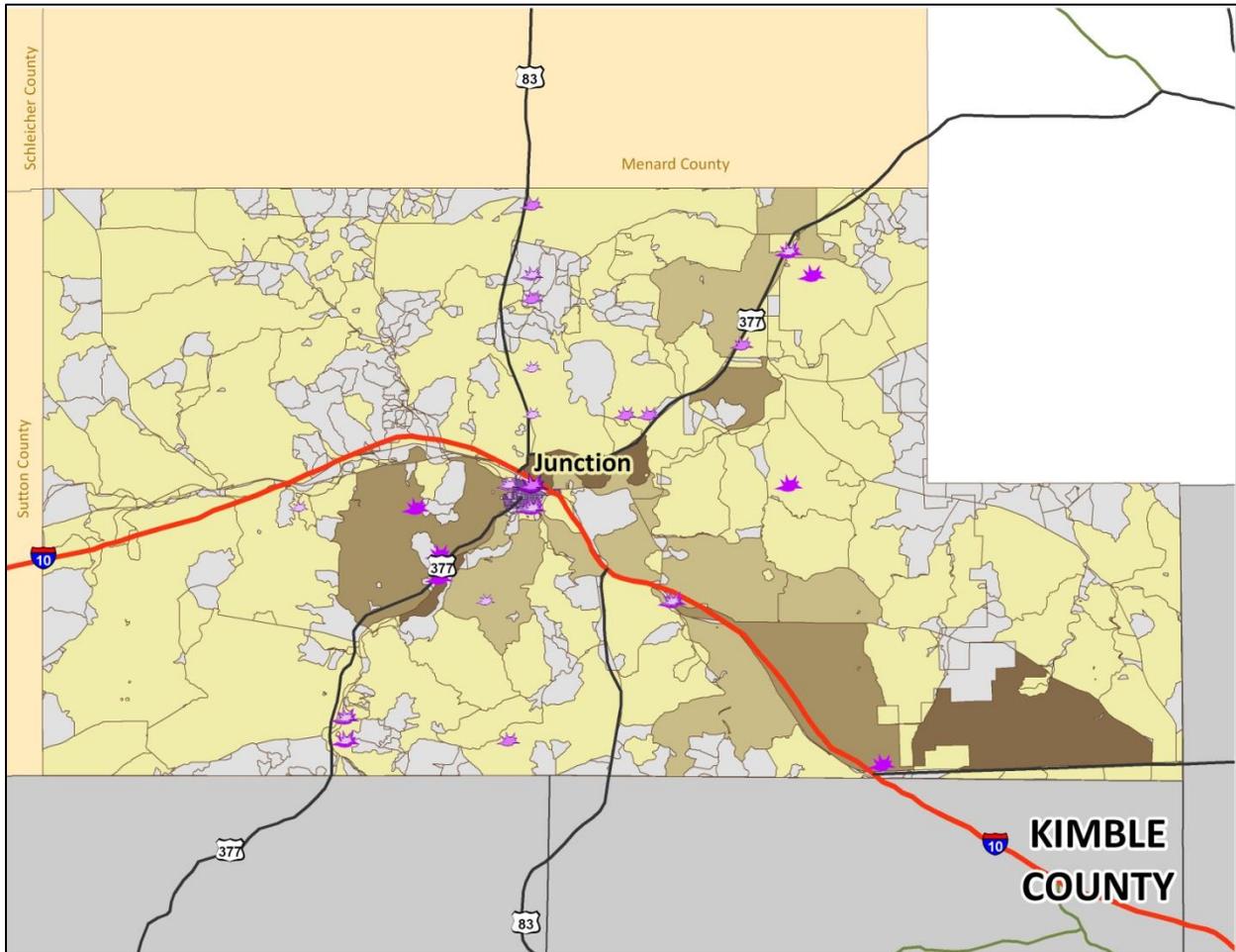
⁴ Source: NOAA/NCDC Records

Figure 7-5. Historical Hail Events in Irion County⁵



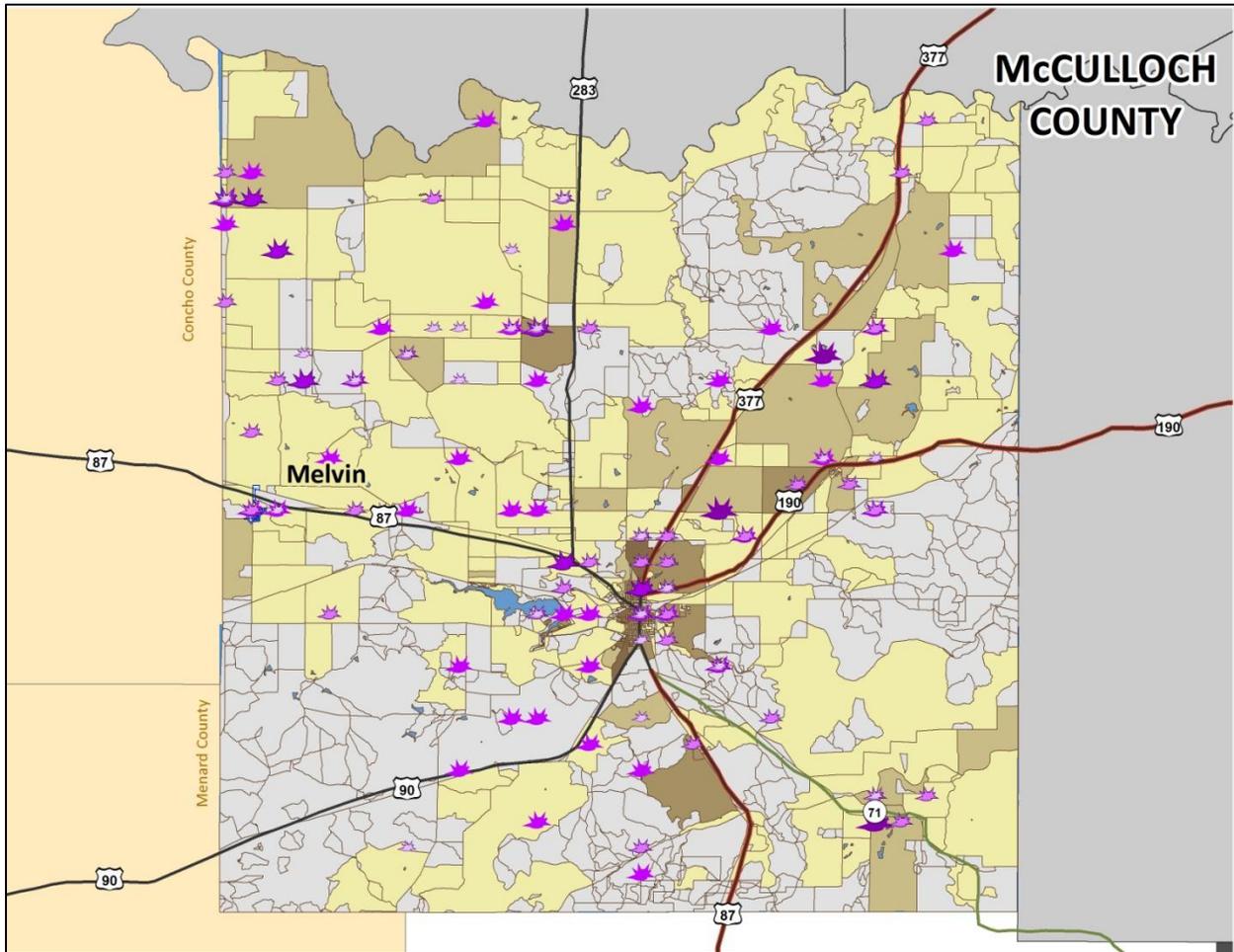
⁵ Source: NOAA/NCDC Records

Figure 7-6. Historical Hail Events in Kimble County⁶



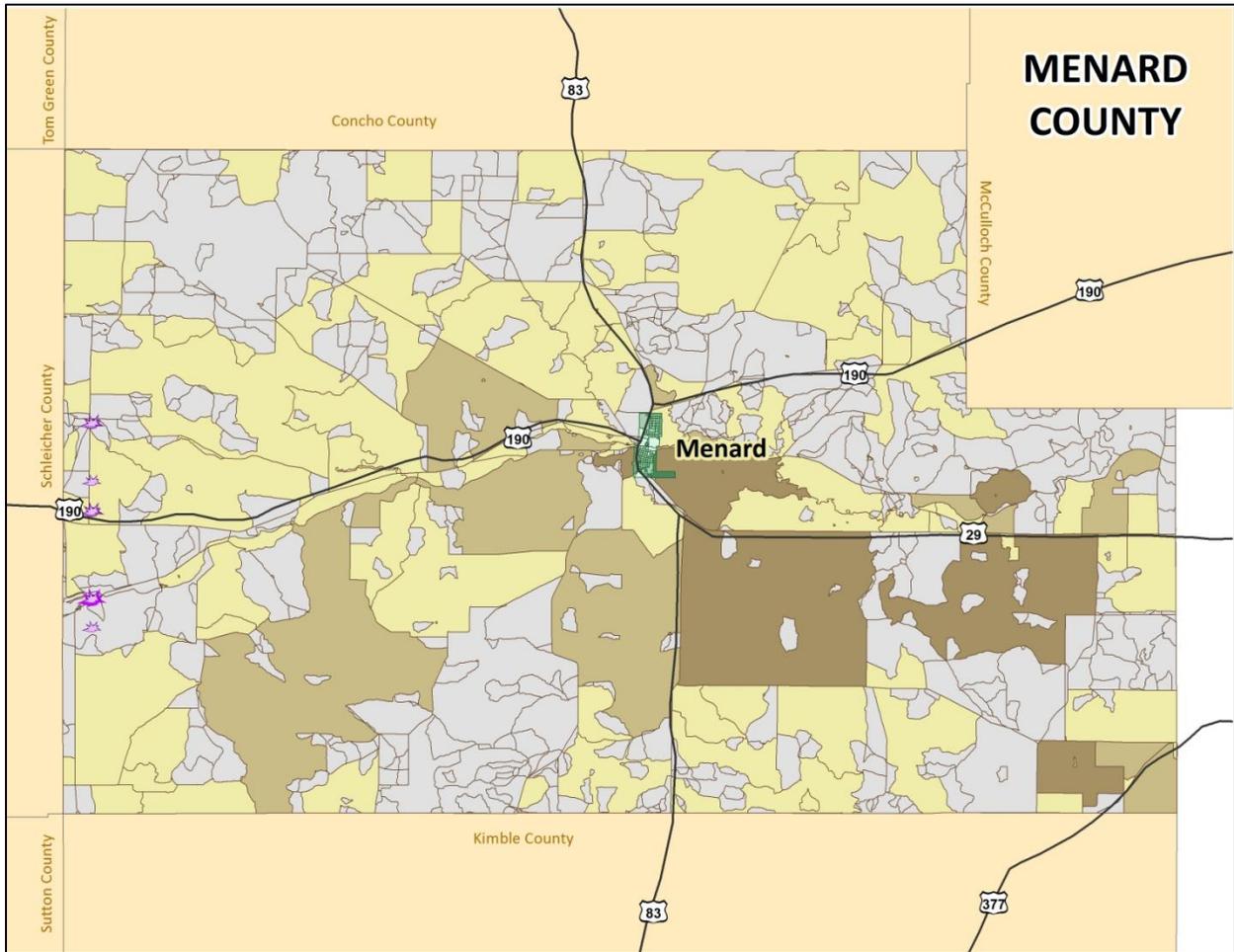
⁶ Source: NOAA/NCDC Records

Figure 7-7. Historical Hail Events in McCulloch County⁷



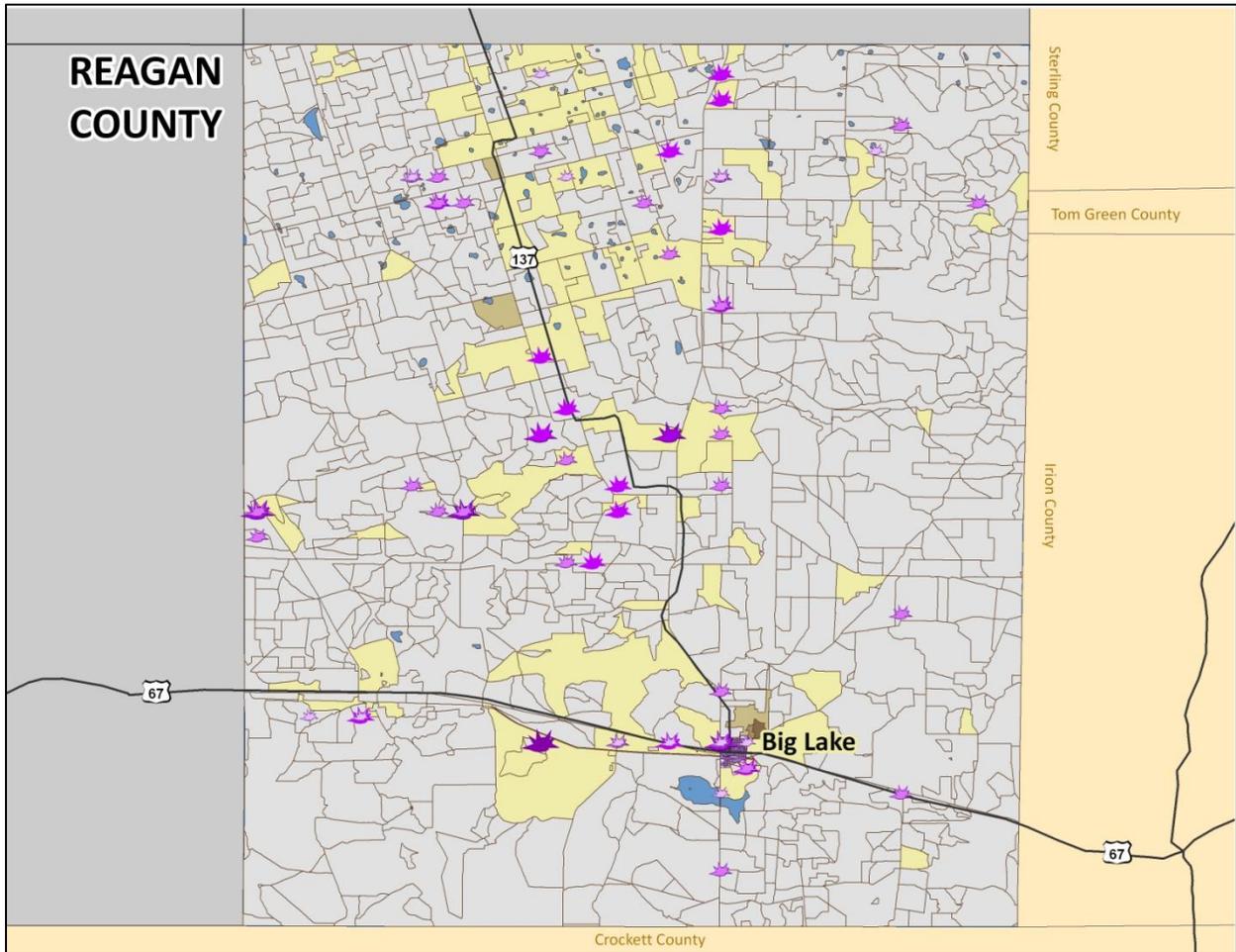
⁷ Source: NOAA/NCDC Records

Figure 7-8. Historical Hail Events in Menard County⁸



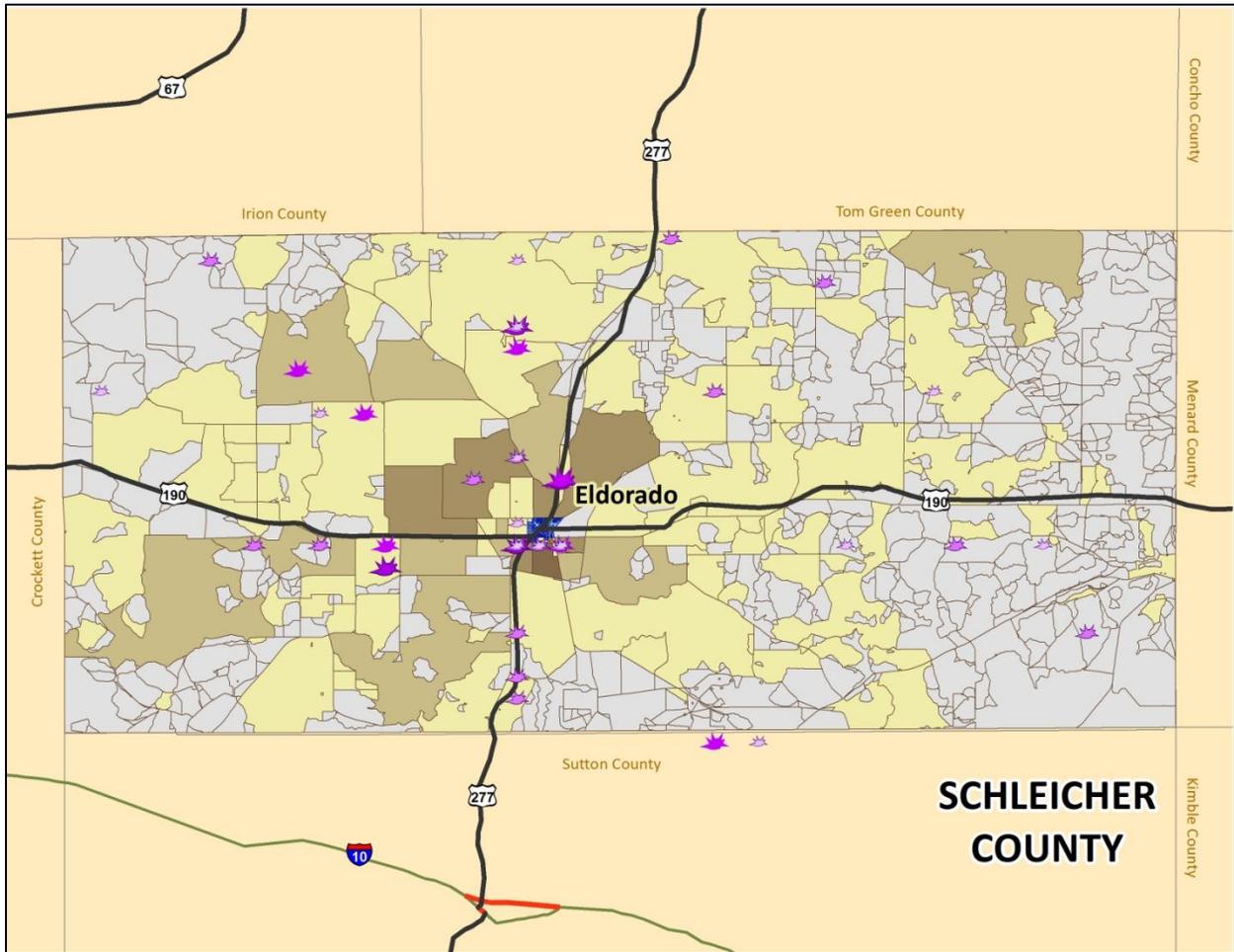
⁸ Source: NOAA/NCDC Records

Figure 7-9. Historical Hail Events in Reagan County⁹



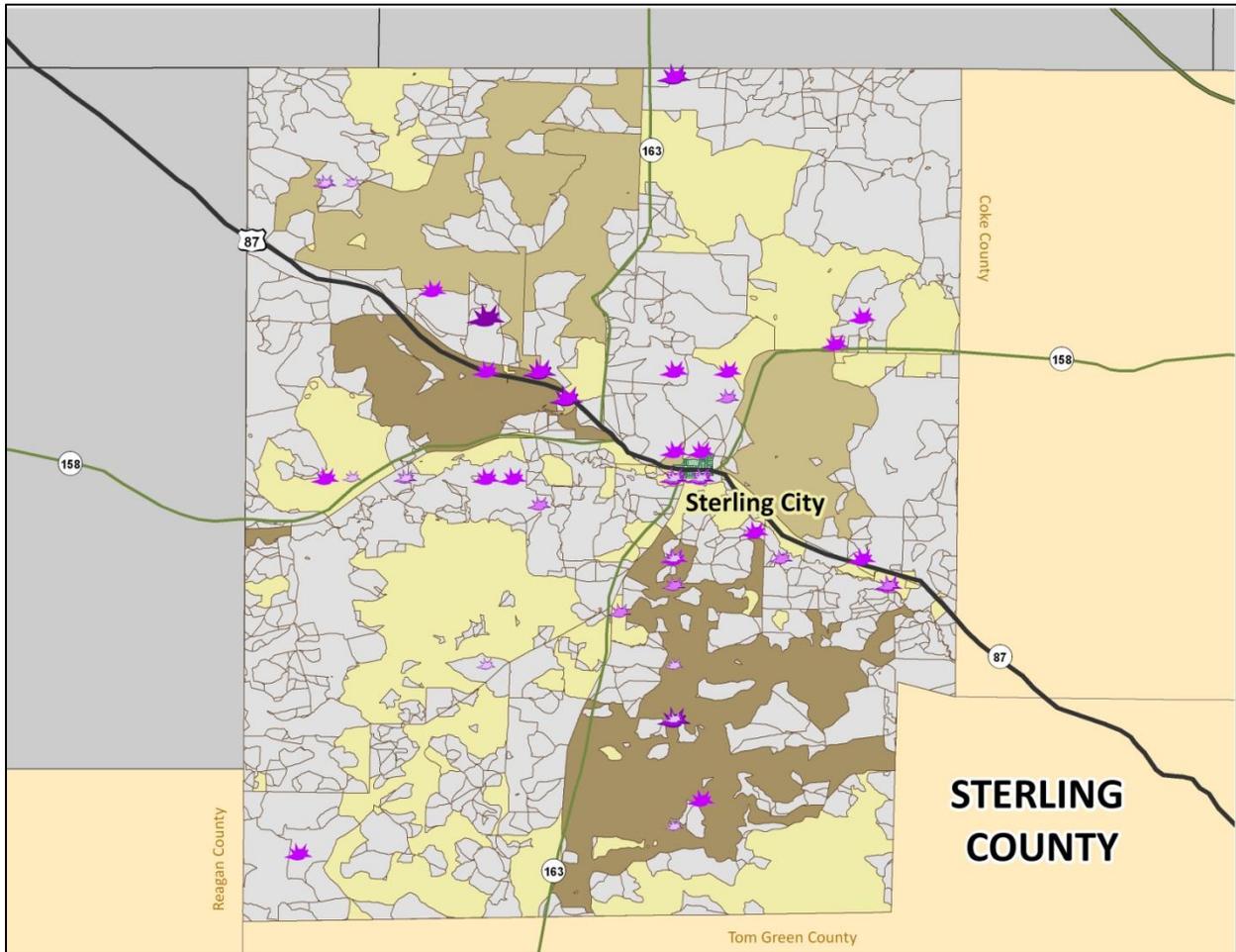
⁹ Source: NOAA/NCDC Records

Figure 7-10. Historical Hail Events in Schleicher County¹⁰



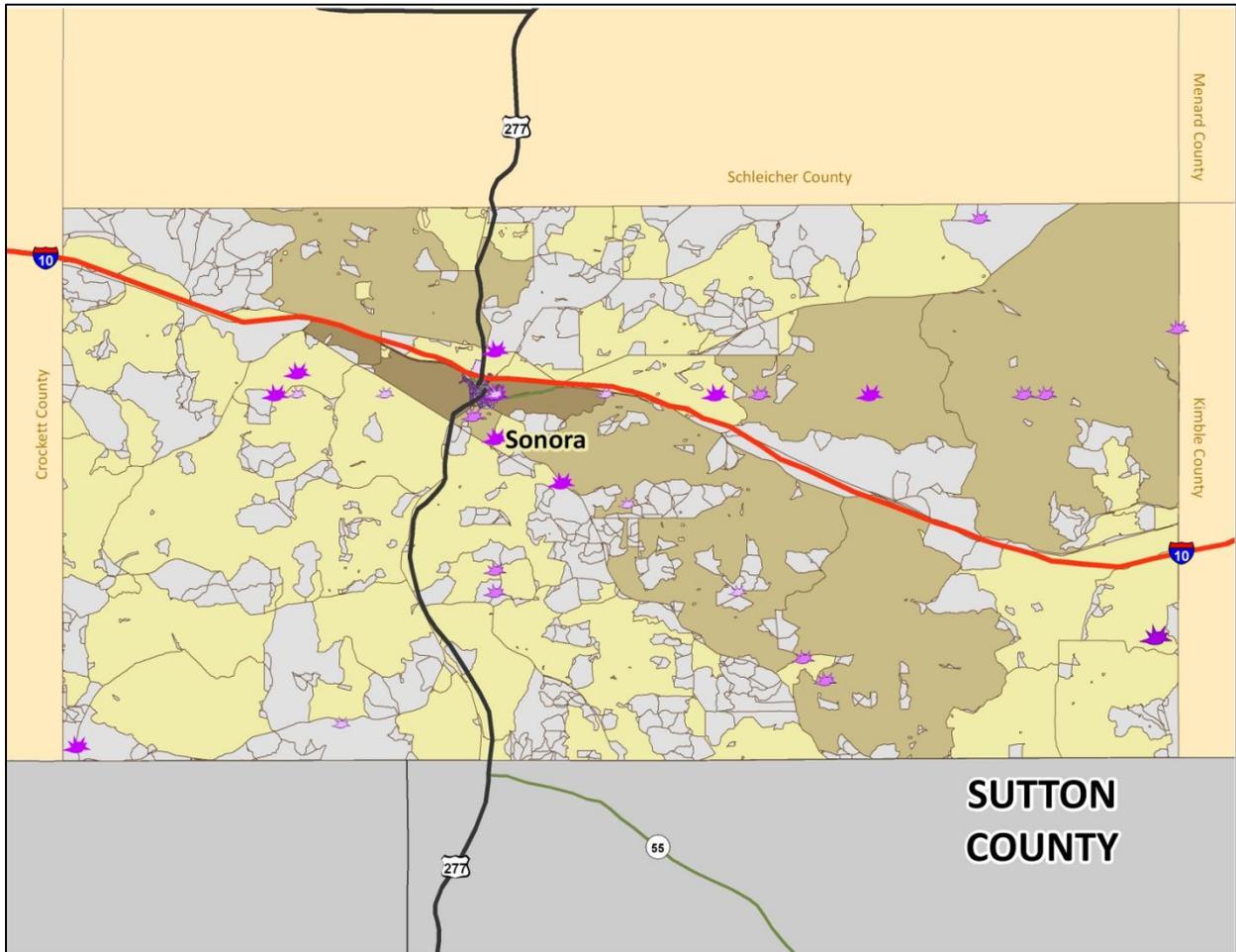
¹⁰ Source: NOAA/NCDC Records

Figure 7-11. Historical Hail Events in Sterling County¹¹



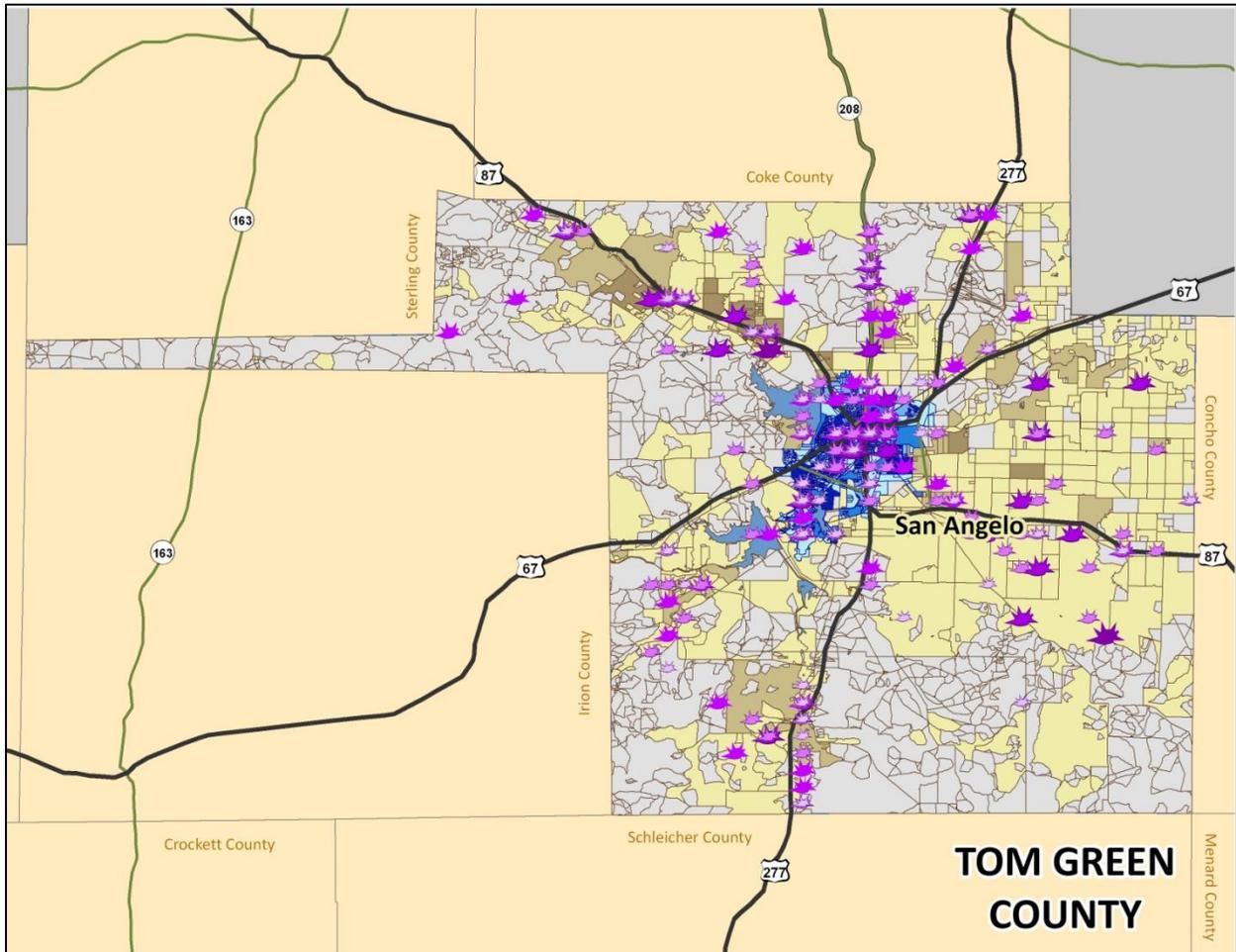
¹¹ Source: NOAA/NCDC Records

Figure 7-12. Historical Hail Events in Sutton County¹²



¹² Source: NOAA/NCDC Records

Figure 7-13. Historical Hail Events in Tom Green County¹³



¹³ Source: NOAA/NCDC Records

Hail

Table 7-2 below, provides a breakdown of the historical hail impacts by jurisdiction consisting of the number of events reported to the NCDC and the maximum recorded size of the hail in each area. It is important to note that only hail occurrences that have been reported have been factored into this risk assessment. However, it is likely that a high number of instances have gone unreported.

According to NCDC records, nearly 1,200 events were reported in the 60 year reporting period resulting in a frequency of return at over 20 events annually in the 12-county region. Each county averages a return period of one to two hail events per year.

Table 7-2. Historical Hail Impact by Jurisdiction

JURISDICTION	NUMBER OF REPORTED EVENTS	MAXIMUM HAIL SIZE (INCHES)
Coke County	110	4.25
Bronte	7	1.75
Robert Lee	19	4.25
Uninc. Coke County	84	4.25
Concho County	123	4.50
Eden	18	3.00
Paint Rock	17	2.75
Uninc. Concho County	88	4.50
Crockett County	64	3.00
(No Incorporated Cities)	64	3.00
Irion County	65	4.25
Mertzon	0	0
Uninc. Irion County	65	4.25
Kimble County	52	2.75
Junction	13	1.75
Uninc. Kimble County	39	2.75
McCulloch County	175	4.50
Melvin	5	1.75
Uninc. McCulloch County	170	4.50
Menard County	53	3.00
Menard	0	0
Uninc. Menard County	53	3.00
Reagan County	86	4.00
Big Lake	15	3.00

Hail

JURISDICTION	NUMBER OF REPORTED EVENTS	MAXIMUM HAIL SIZE (INCHES)
Uninc. Reagan County	71	4.00
Schleicher County	59	5.00
Eldorado	47	2.75
Uninc. Schleicher County	12	5.00
Sterling County	72	4.00
Sterling City	5	1.75
Uninc. Sterling County	67	4.00
Sutton County	45	2.50
Sonora	35	2.00
Uninc. Sutton County	10	2.50
Tom Green County	353	5.00
San Angelo	136	4.50
Uninc. Tom Green County	217	5.00
TOTALS FOR STUDY AREA¹⁴	1,192	5.00

Significant Past Events

5 May 1993 – Tom Green County

A severe thunderstorm moved over San Angelo and pounded the city with hail larger than baseball-size. There were numerous reports of damage of vehicles, roofs, windows, and aircraft at Mathis Field. The storm damaged over 800 vehicles and nearly 1,000 roofs, mainly in the southwestern part of the city. Insurance adjusters estimated the total damage at around \$10 million. Fortunately, no injuries resulted from the storm.

4 May 2006 – Irion County

A hail swath with hail sizes ranging from golf ball to softball size hail formed and tracked across the Town of Mertzon and produced considerable damage to roofs and vehicles. Some of the larger hailstones penetrated roofs and severely damaged vehicles. A Mertzon resident was driving home when the hailstones hit her car as big as baseballs just outside of town. The large hail smashed a hole in her back windshield, punched holes in the hood, ripped the license plate off one of its screws and destroyed both side-view mirrors. At least 250 homes had roof damage.

¹⁴ Totals for the study area may include values less than \$5,000 for dollar amounts that are classified as “Negligible” in the table.

Hail

14 May 2008 – Concho County

A frontal boundary draped across West Central Texas, combined with an upper level storm system approaching from the west and a surface dry line triggered thunderstorms across the western Concho Valley and Big Country. As one supercell tracked east into Nolan County, storm spotters reported brief tornadoes. This storm continued east dropping hail the size of golf balls. Baseball size hail was reported just southeast of Abilene near the Town of Potosi. This storm continued to produce baseball size hail as it continued east into Callahan County. Another supercell developed just west of San Angelo dropping quarter size hail in Knickerbocker and at San Angelo Mathis Field. As this storm moved east, hail increased to golf ball size across Concho County. Wind gusts to 69 mph were recorded at the Brady Airport before equipment lost power. There was widespread tree and power line damage in Brady. A National Weather Service Storm Survey revealed an EF0 tornado caused damage to storage buildings, trees, and vegetation on the southeast side of Brady Lake.

Probability of Future Events

Based on the reported past history for the CVCOG Region, hail events are highly likely, meaning that an event is probable within the next year.

Vulnerability and Impact

Much of the damage inflicted by hail is to crops. Even relatively small hail can shred plants to ribbons in a matter of minutes. Vehicles, roofs of buildings and homes, and landscaping can also be damaged by hail.

On average, each county in the planning area can expect annual damages from hail events to total \$4,000 or more. Loss estimates reported over the 60 year period were adjusted for inflation to 2009 dollars, and summarized in Table 7-3.

Table 7-3. Historic Loss Estimates, 1950-2010¹⁵

JURISDICTION	NUMBER OF REPORTED EVENTS	REPORTED LOSSES	ANNUALIZED LOSS (AL)
Coke County	110	\$291,393,000	\$4,918 (negligible)
Bronte	7	\$54,912,000	\$0
Robert Lee	19	\$70,672,000	\$1,008 (negligible)
Uninc. Coke County	84	\$165,809,000	\$3,910(negligible)

¹⁵ Source: HAZUS-MH MR4 (exposure values) and NCDC (property and crop losses)

Hail

JURISDICTION	NUMBER OF REPORTED EVENTS	REPORTED LOSSES	ANNUALIZED LOSS (AL)
Concho County	123	\$187,173,000	\$2,435(negligible)
Eden	18	\$92,364,000	\$0
Paint Rock	17	\$11,315,000	\$914 (negligible)
Uninc. Concho County	88	\$73,494,000	\$1,521 (negligible)
Crockett County	64	\$264,006,000	\$601 (negligible)
(No Incorporated Cities)			
Irion County	65	\$112,315,000	\$658 (negligible)
Mertzton	0	\$38,576,000	\$0
Uninc. Irion County	65	\$73,739,000	\$658 (negligible)
Kimble County	52	\$345,134,000	\$30 (negligible)
Junction	13	\$152,827,000	\$0
Uninc. Kimble County	39	\$195,307,000	\$30 (negligible)
McCulloch County	175	\$459,543,000	\$2,399 (negligible)
Melvin	5	\$8,875,000	\$0
Uninc. McCulloch County	170	\$450,68,000	\$2,399 (negligible)
Menard County	53	\$148,418,000	\$1,423 (negligible)
Menard	0	\$75,051,000	\$0
Uninc. Menard County	53	\$73,397,000	\$1,423 (negligible)
Reagan County	86	\$178,789,000	\$582 (negligible)
Big Lake	15	\$146,223,000	\$0
Uninc. Reagan County	71	\$27,827,743	\$582 (negligible)
Schleicher County	59	\$163,684,000	\$244 (negligible)
Eldorado	47	\$95,802,000	\$244 (negligible)
Uninc. Schleicher County	12	\$66,277,606	\$0
Sterling County	72	\$89,092,000	\$119 (negligible)
Sterling City	5	\$66,795,000	\$0
Uninc. Sterling County	67	\$18,645,655	\$119 (negligible)
Sutton County	45	\$259,042,000	\$2,485 (negligible)
Sonora	35	\$158,154,000	\$2,485 (negligible)
Uninc. Sutton County	10	\$19,012,957	\$0
Tom Green County	353	\$6,412,709,000	\$36,624
San Angelo	136	\$5,615,423,000	\$31,105
Uninc. Tom Green County	217	\$701,041,341	\$5,519

Hail

JURISDICTION	NUMBER OF REPORTED EVENTS	REPORTED LOSSES	ANNUALIZED LOSS (AL)
TOTALS FOR STUDY AREA¹⁶	1,192	\$8,903,862,000	\$52,488

The severity of a hailstorms' impact is considered to be limited since these storms generally result in injuries treatable with first aid, critical facilities and services shut down for 24 hours or less, and less than ten percent of affected properties are destroyed or suffer major damage. Importantly, while the impact for hail may be considered limited, the entire region and assets are equally vulnerable. All existing and future buildings, facilities and populations are considered to be exposed to this hazard and could potentially be impacted.

¹⁶ Totals for the study area may include values less than \$5,000 for dollar amounts that are classified as "Negligible" in the table.

TORNADO

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PROBABILITY OF FUTURE EVENTS	20
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Hazard Description

Tornadoes are among the most violent storms on the planet. A tornado is a violently rotating column of air extending between, and in contact with, a cloud and the surface of the earth. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 miles per hour or more. In extreme cases, winds may approach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long.

Seasonal patterns are relevant to tornadoes. Thunderstorms form when warm, moist air collides with cooler, drier air. Since these masses tend to come together during the transition from summer to winter, most thunderstorms and resulting tornadoes occur during the spring (April through June) and fall (October through December). Warning time for tornadoes is minimal and ranges from no warning time to 30 minutes.



The most powerful tornadoes are produced by “super-cell thunderstorms.” These storms are affected by horizontal wind shears (winds moving in different directions at different altitudes) that begin to rotate the storm. This horizontal rotation can be tilted vertically by violent updrafts, and the rotation radius can shrink, forming a vertical column of very quickly swirling air. This rotating air can eventually reach the ground, forming a tornado.

Severe thunderstorms can produce tornadoes, high winds, and hail—any of which can cause extensive property damage and loss of life. Tornadoes occasionally accompany tropical storms and hurricanes that move over land. They are the most common to the right and front of the storm center path as it

Tornado

comes ashore. Tornadoes vary in terms of duration, wind speed and the toll that they take, as shown in Table 8-1.

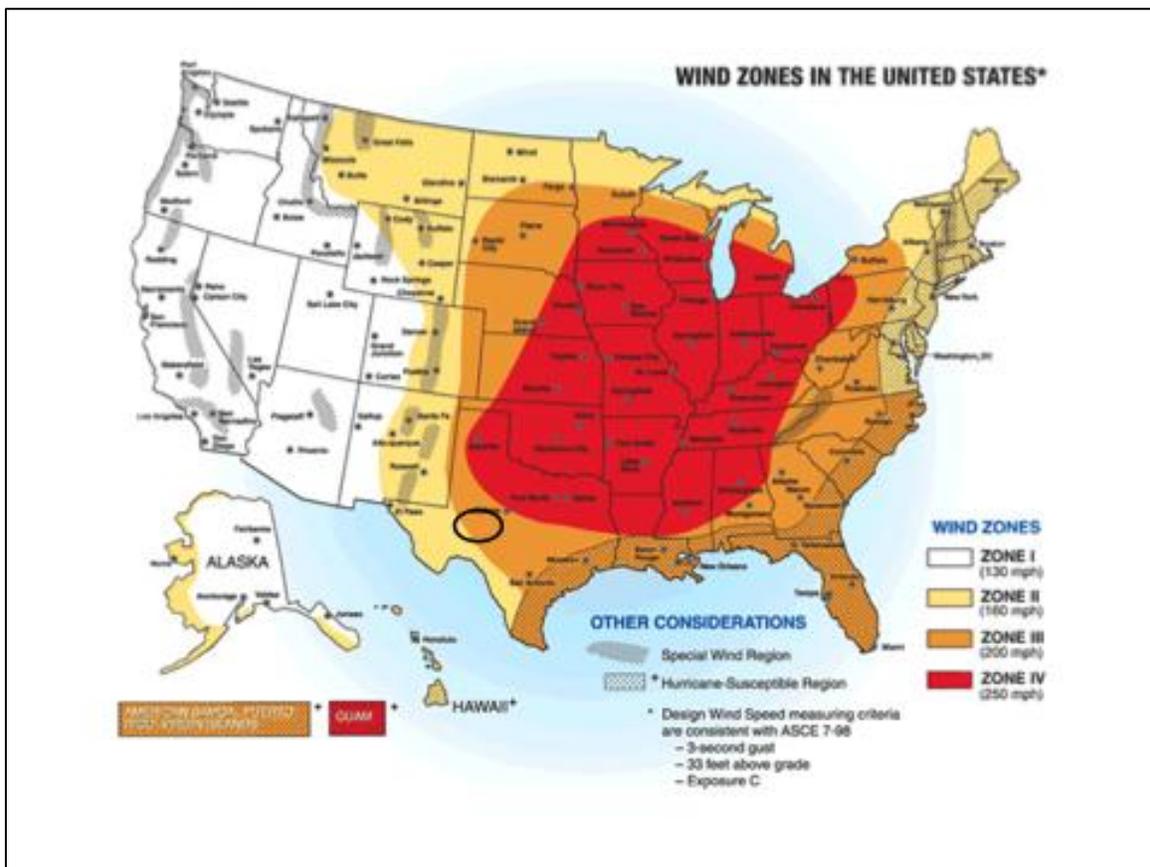
Table 8-1. Variations Among Tornadoes

WEAK TORNADOES	STRONG TORNADOES	VIOLENT TORNADOES
<ul style="list-style-type: none">• 69% of all tornadoes• Less than 5% of tornado deaths• Lifetime 1-10+ minutes• Winds less than 110 mph	<ul style="list-style-type: none">• 29% of all tornadoes• Nearly 30% of all tornado deaths• May last 20 minutes or longer• Winds 110 – 205 mph	<ul style="list-style-type: none">• 2% of all tornadoes• 70% of all tornado deaths• Lifetime can exceed one hour• Winds greater than 205 mph

Location

While historical tornado events in the planning area total 141 during the 60 year reporting period (1950 to 2010), locations of these incidents are completely random and unpredictable. The planning region is located in FEMA Wind Zones II and III; most of the region is located in Zone III, one of the most severe (Figure 8-1). The jurisdictions in the planning area experience a uniform range of intensity for a tornado as evidenced by the location and historical occurrences.

Figure 8-1. FEMA Wind Zones in the United States



Extent

A tornado is given a Fujita rating of 0-5, based on the most intense damage along its path. Wind velocities necessary to produce center damage are often associated with the Fujita category, but that practice is often misleading. The Fujita wind estimates are intended to be based upon the expected damage to a well-built residential structure. Poorly built structures can suffer significant structural damage under lesser winds than the Fujita Scale might suggest. Commercial properties may or may not experience the same failures under high wind speeds as residential property. Thus, the Fujita scale is largely a residential scale, with much more care required in assessment after wind damage to a commercial structure. A wider range of construction techniques and materials can be found in a building section classified as commercial. For example, a concrete/steel reinforced building is much more durable than a typical community convenience store, yet both may be considered commercial in city land use/appraisal data sets.

Table 8-2. The Fujita Tornado Scale¹

F-SCALE NUMBER	INTENSITY	WIND SPEED (MPH)	TYPE OF DAMAGE DONE	PERCENT OF APPRAISED STRUCTURE VALUE LOST DUE TO DAMAGE
F0	Gale Tornado	40 – 72	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.	None Estimated
F1	Moderate Tornado	73 – 112	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off roads; attached garages may be destroyed.	0% – 20%
F2	Significant Tornado	113 – 157	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.	50% – 100%
F3	Severe Tornado	158 – 206	Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted.	100%
F4	Devastating Tornado	207 – 260	Well-constructed homes leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.	100%
F5	Incredible Tornado	261 – 318	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles flying through the air in excess of 330 yards; trees debarked; steel reinforced concrete badly damaged.	100%

Since February 2007, the Fujita Scale (above) has been replaced by the Enhanced Fujita Scale (Table 8-3 below), which retains the same basic design as its predecessor with six strength categories. The newer scale reflects more refined assessments of tornado damage surveys, standardization, and damage consideration to a wider range of structures.

¹ Source: <http://www.tornadoproject.com/fscale/fscale.htm>

Table 8-3. Enhanced Fujita Scale for Tornadoes

STORM CATEGORY	DAMAGE LEVEL	3 SECOND GUST (MPH)	DESCRIPTION OF DAMAGES	PHOTO EXAMPLE
EF0	Gale	65 – 85	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.	
EF1	Weak	86 – 110	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off roads; attached garages may be destroyed.	
EF2	Strong	111 – 135	Considerable damage; roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.	
EF3	Severe	136 – 165	Roof and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted.	
EF4	Devastating	166 – 200	Well-constructed homes leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.	
EF5	Incredible	200+	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles flying through the air in excess of 330 yards; trees debarked; steel reinforced concrete badly damaged.	

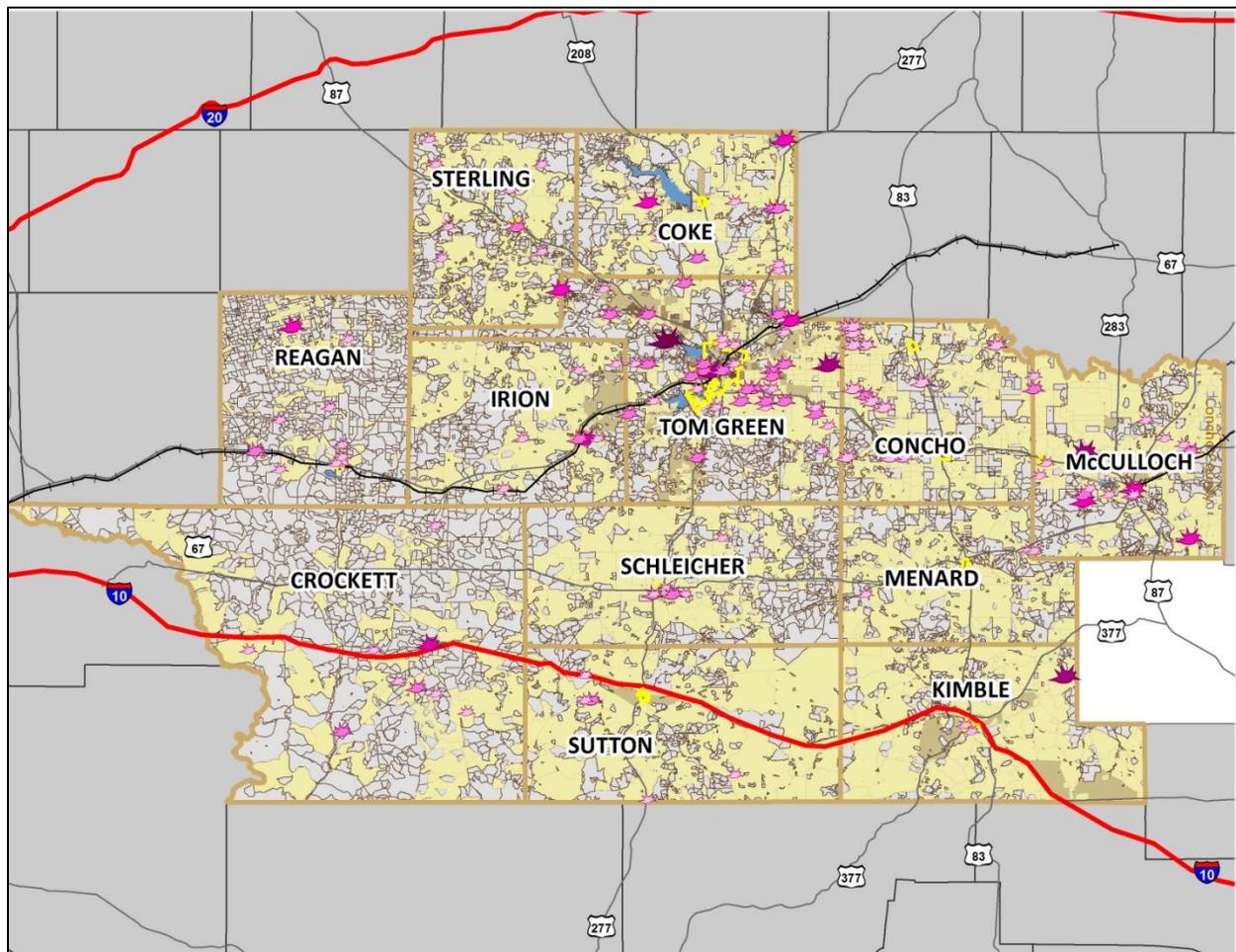
Both the Fujita Scale and Enhanced Fujita Scale should be referenced in reviewing previous occurrences as tornado events prior to 2007 will follow the original Fujita Scale.

Based on the geographic location of the Concho Valley planning area on the US Wind Speed Map, the range of intensity that the planning area can expect from a tornado can range from as low as an EF0, with gusts up to 85 miles per hour, to an EF5, which is an incredible storm with winds over 200 miles per hour. On average, a tornado to be mitigated for each jurisdiction could have winds up to 165 miles per hour, an EF3 from the Enhanced Fujita Scale.

Historical Occurrences

Historical evidence shows that most of the area is vulnerable to tornadic activity. This hazard can result from severe thunderstorm activity basin wide. Figure 8-2 presents a map of historical tornadoes that hit the study region based on information obtained from NOAA and Figures 8-3 to 8-14 provide an illustration of occurrences per county. Table 8-4 following the maps summarizes aggregated historical information by jurisdiction from the National Climatic Data Center (NCDC).

Figure 8-2. Spatial Historical Tornado Events, 1950–2010²



² Source: NOAA Records

Figure 8-3. Historical Tornado Events in Coke County

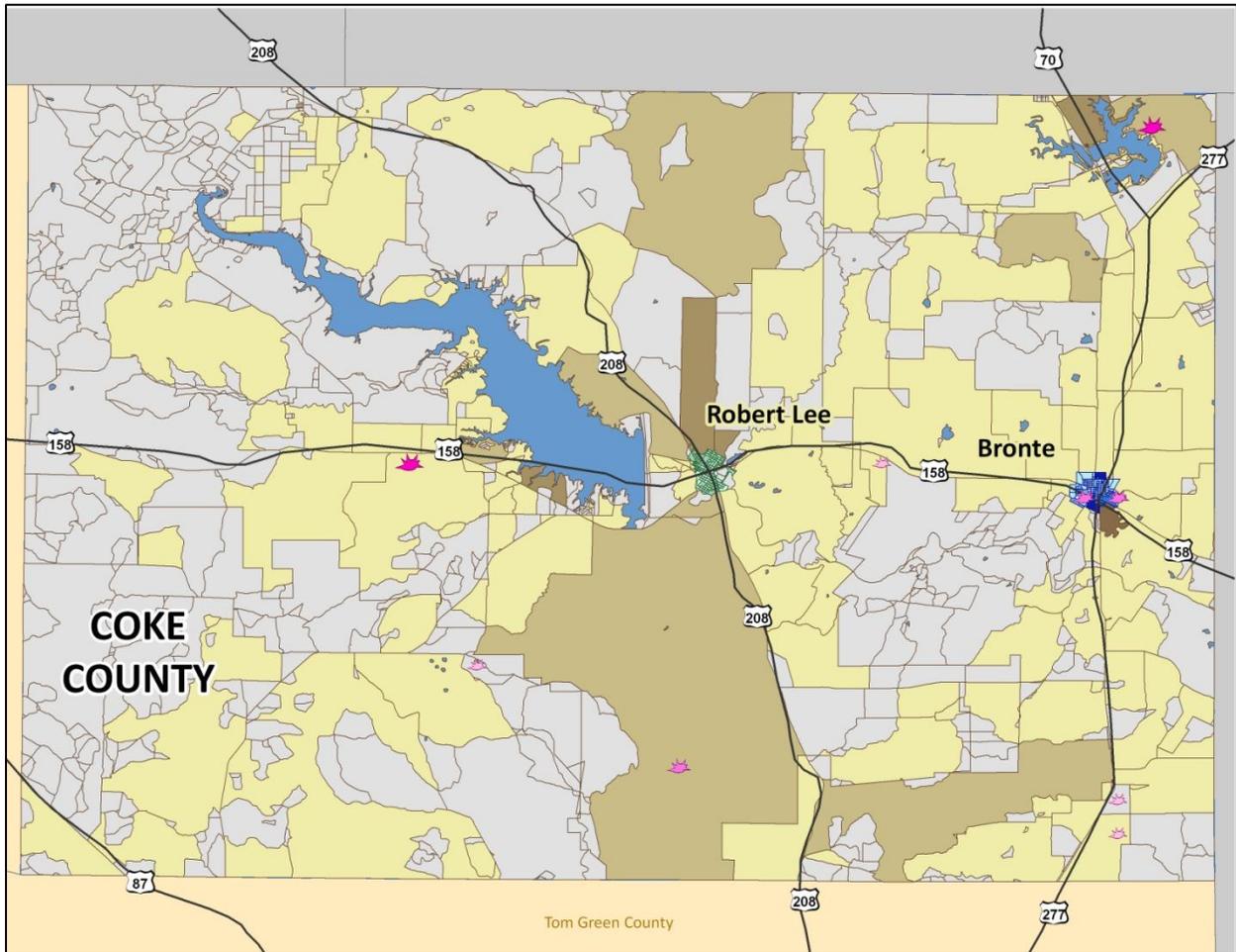


Figure 8-4. Historical Tornado Events in Concho County

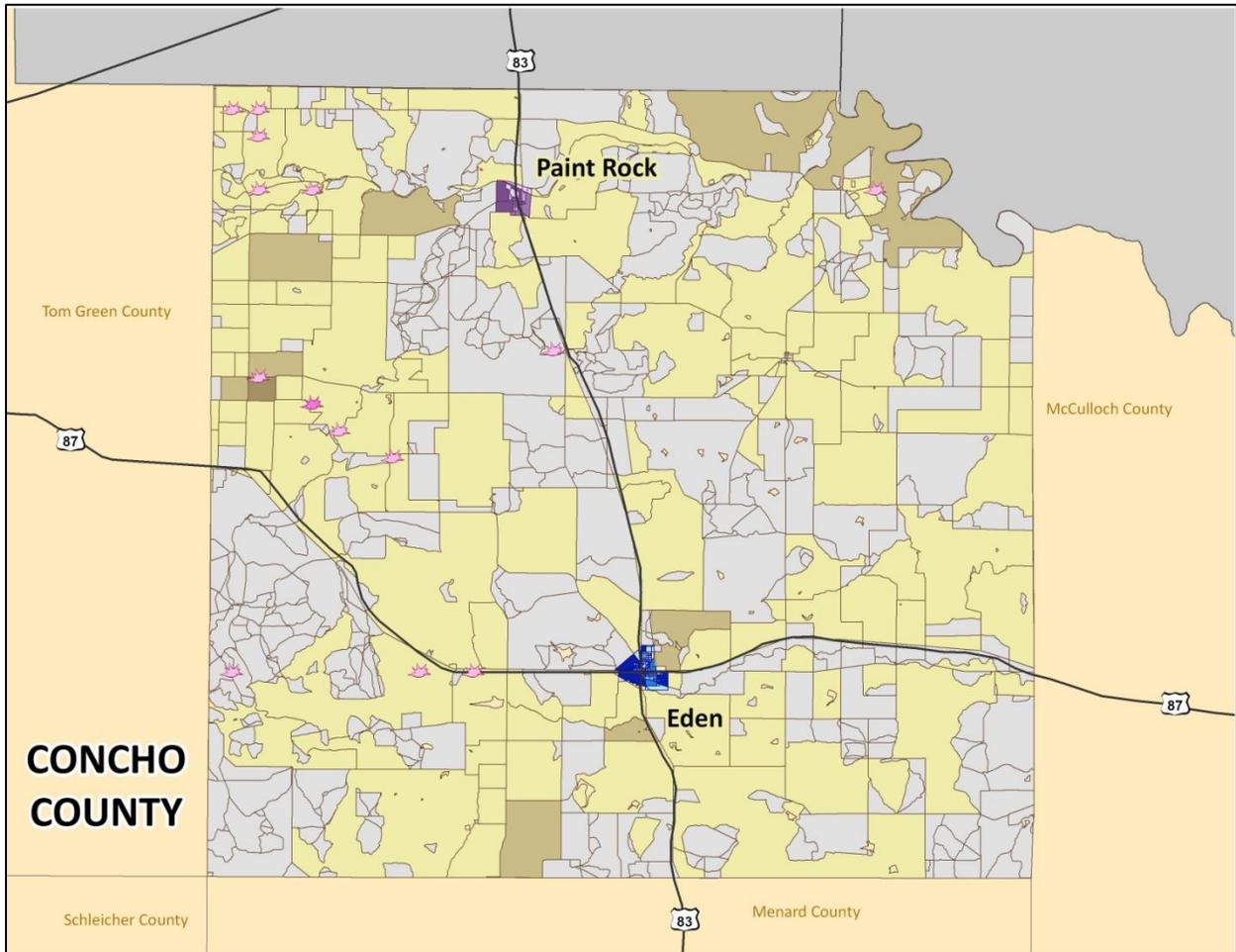


Figure 8-5. Historical Tornado Events in Crockett County

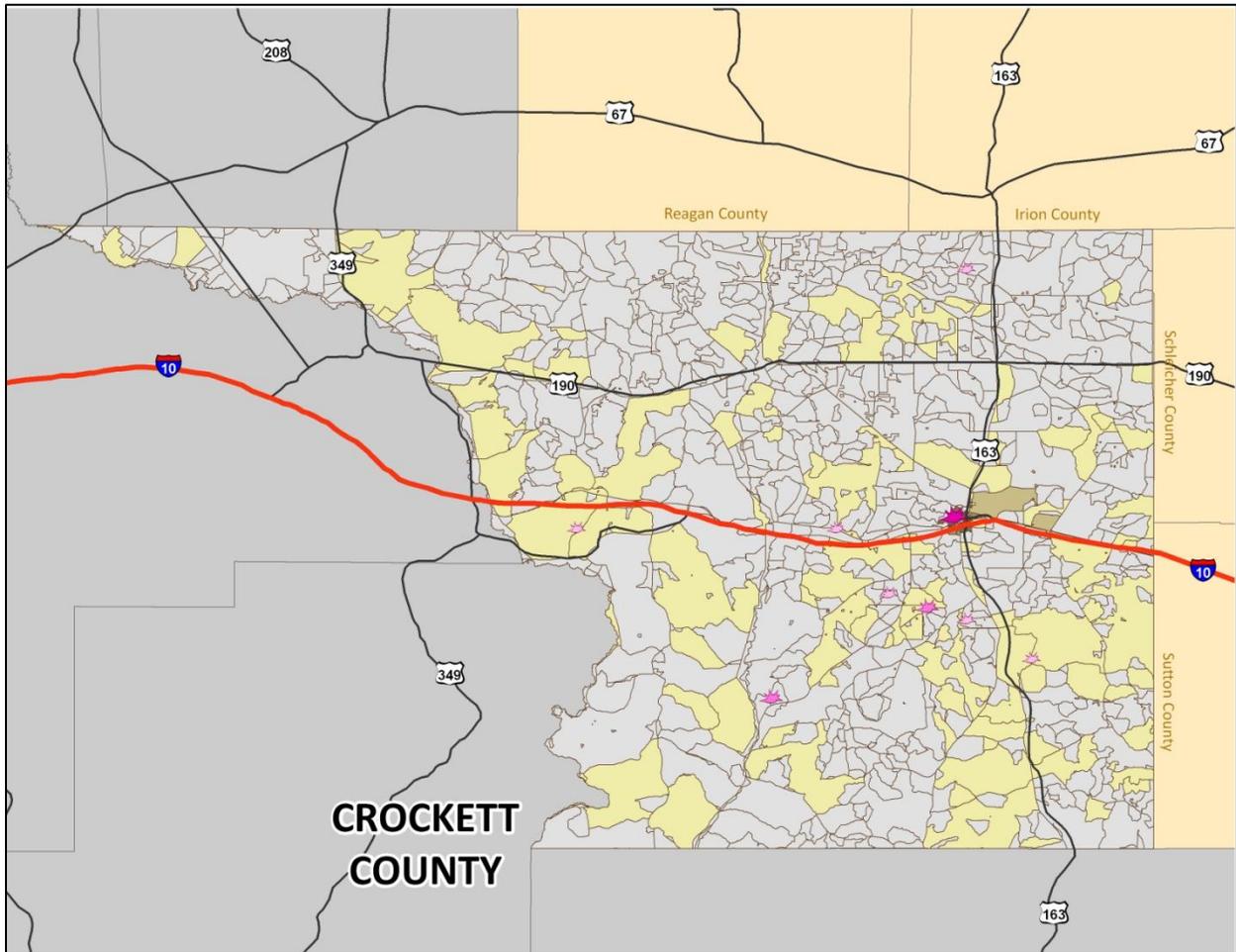


Figure 8-6. Historical Tornado Events in Irion County

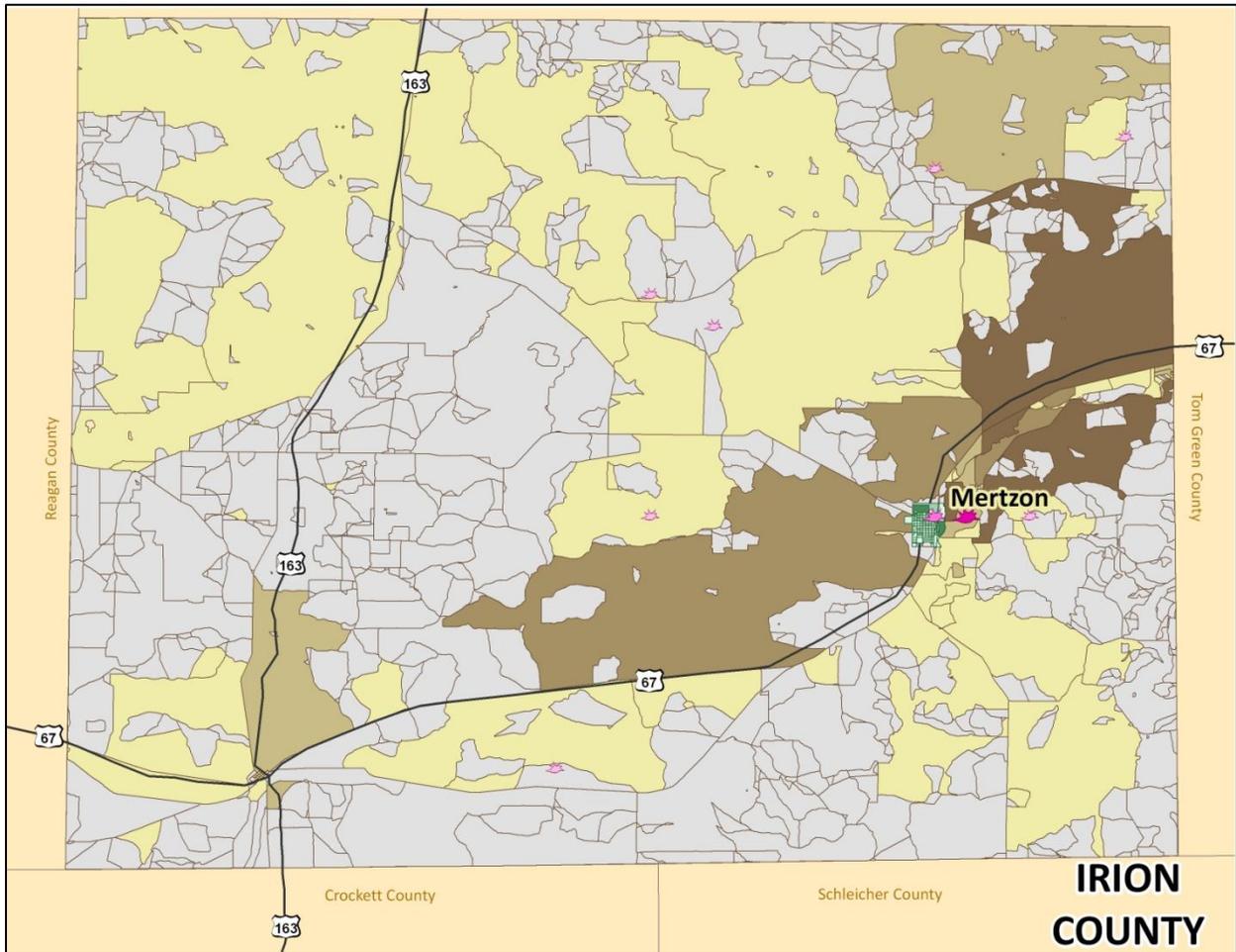


Figure 8-7. Historical Tornado Events in Kimble County

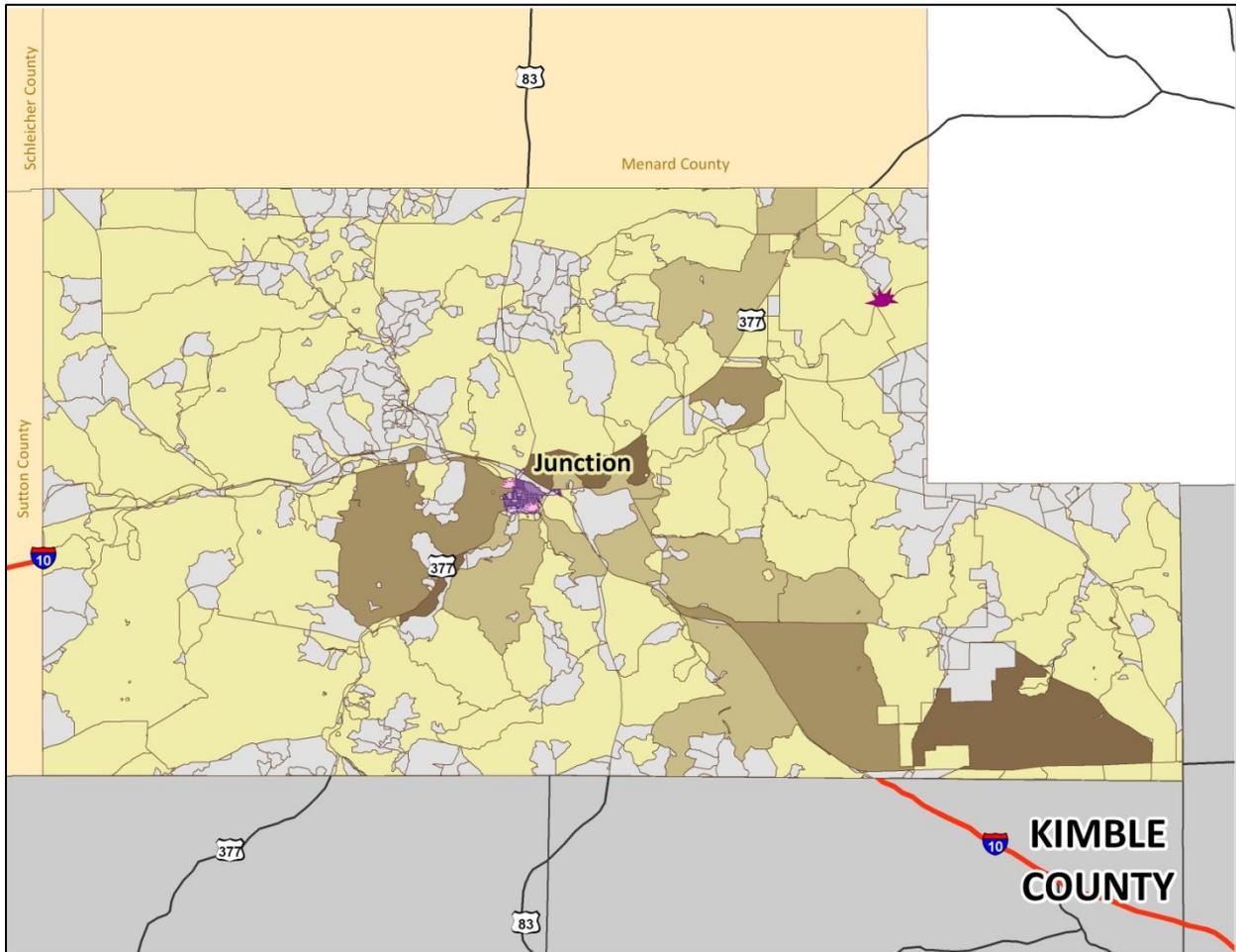


Figure 8-8. Historical Tornado Events in McCulloch County

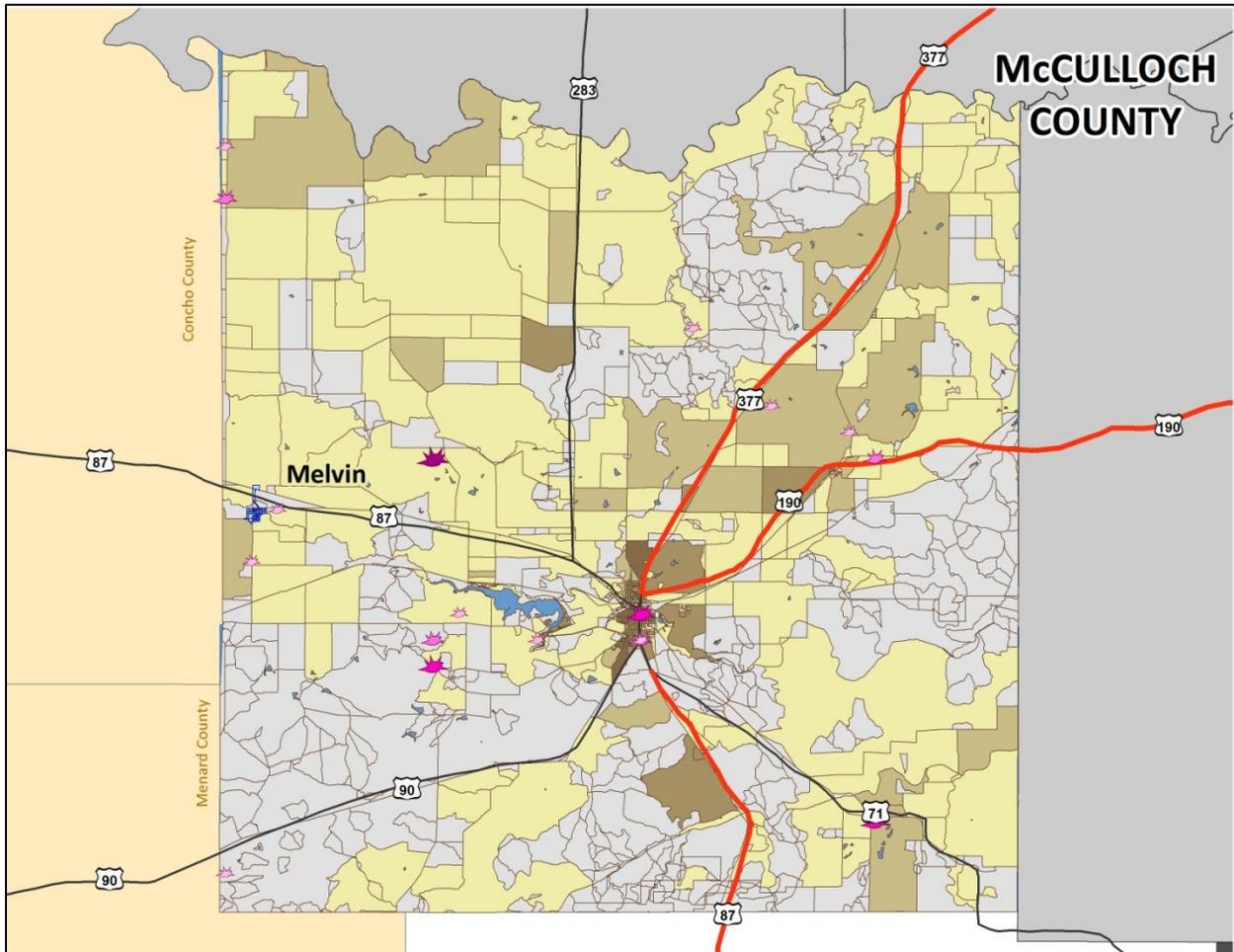


Figure 8-9. Historical Tornado Events in Menard County

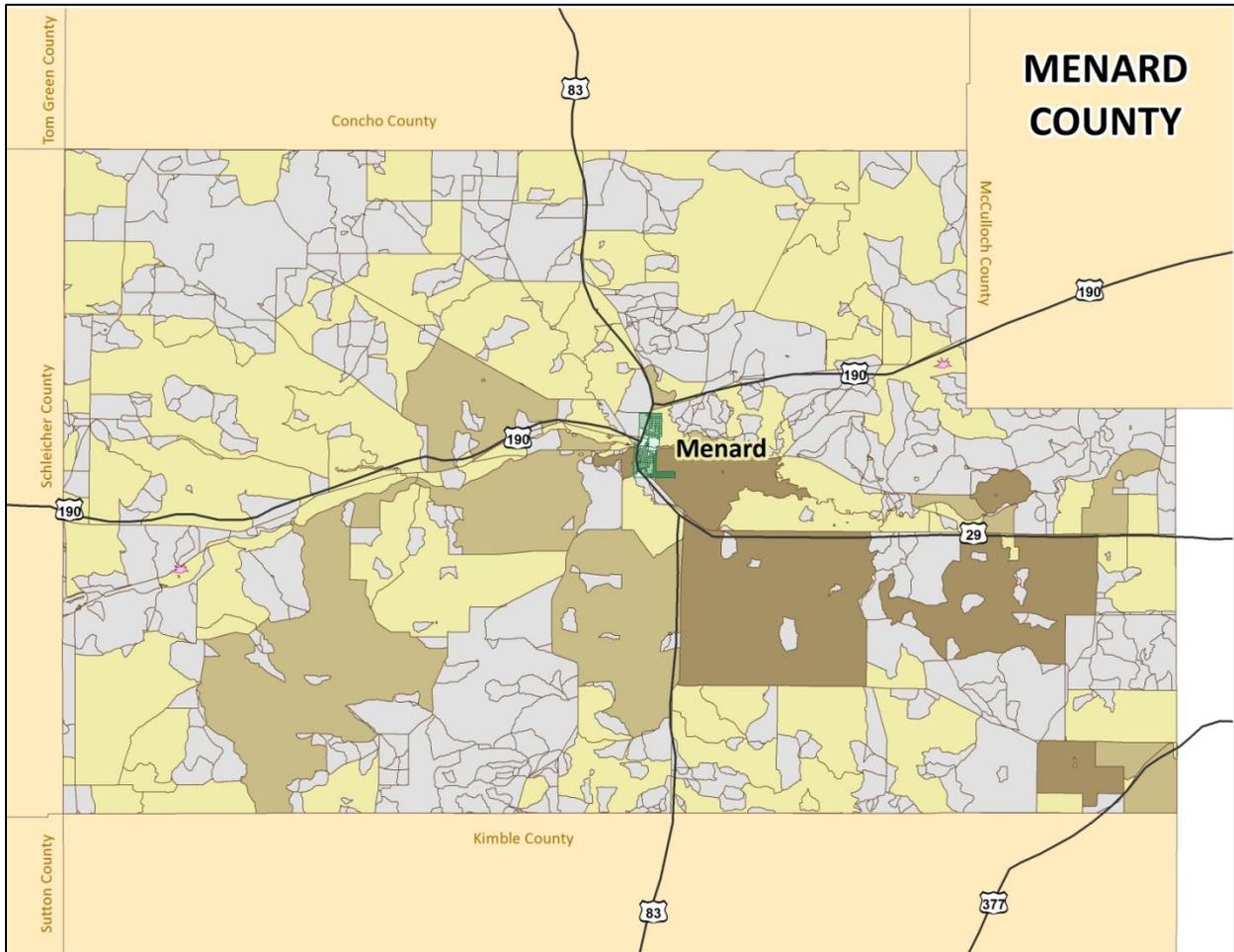


Figure 8-10. Historical Tornado Events in Reagan County

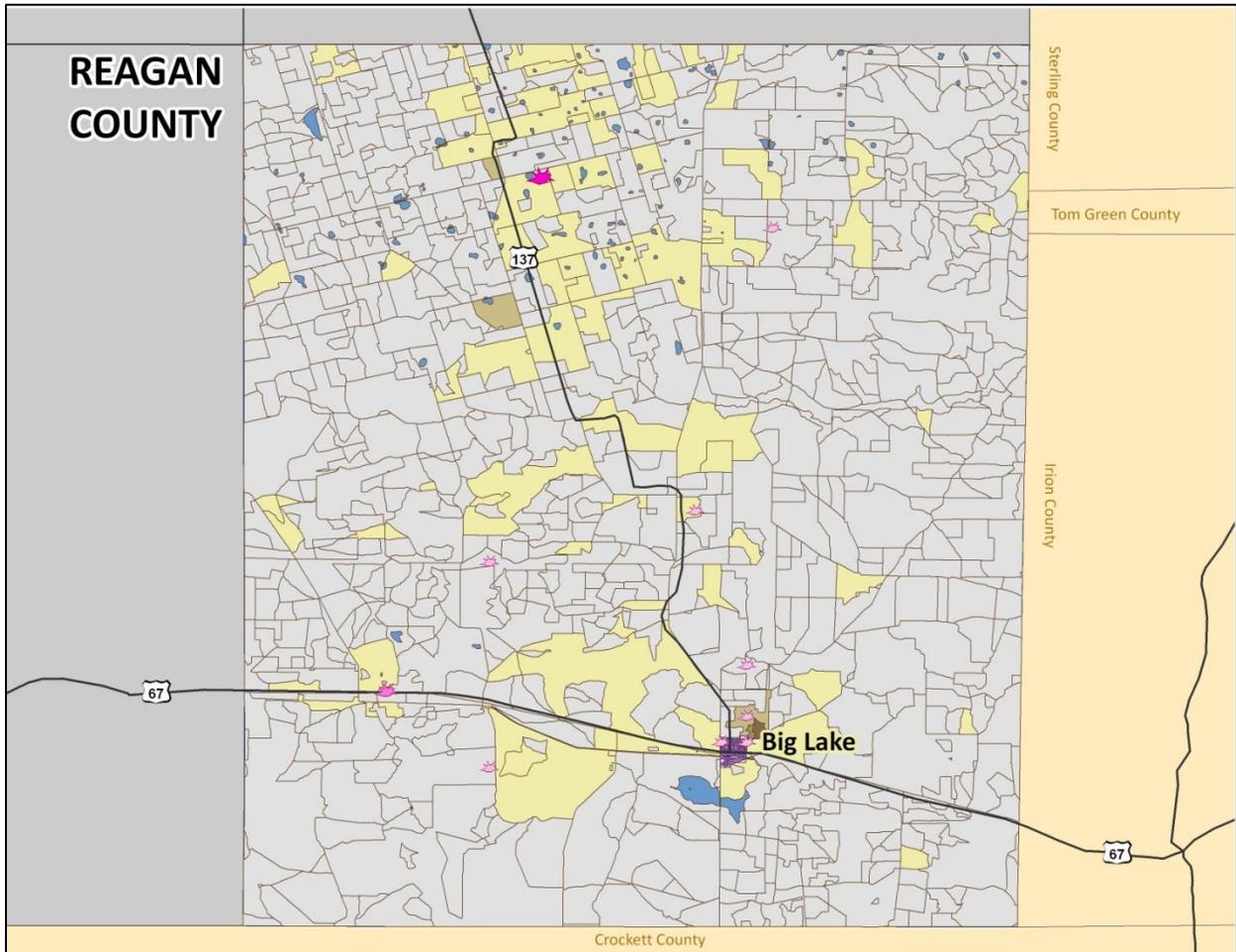


Figure 8-11. Historical Tornado Events in Schleicher County

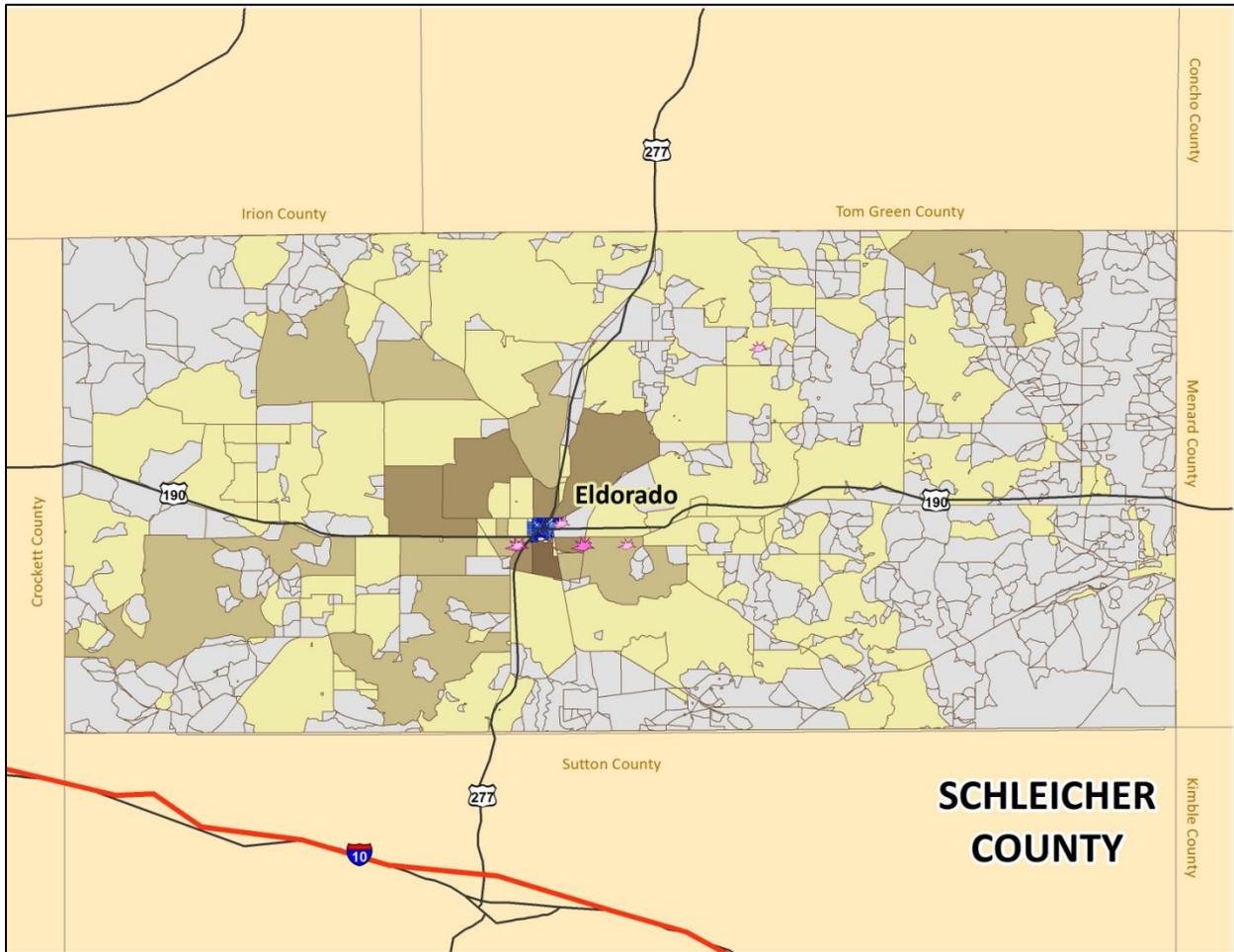


Figure 8-12. Historical Tornado Events in Sterling County

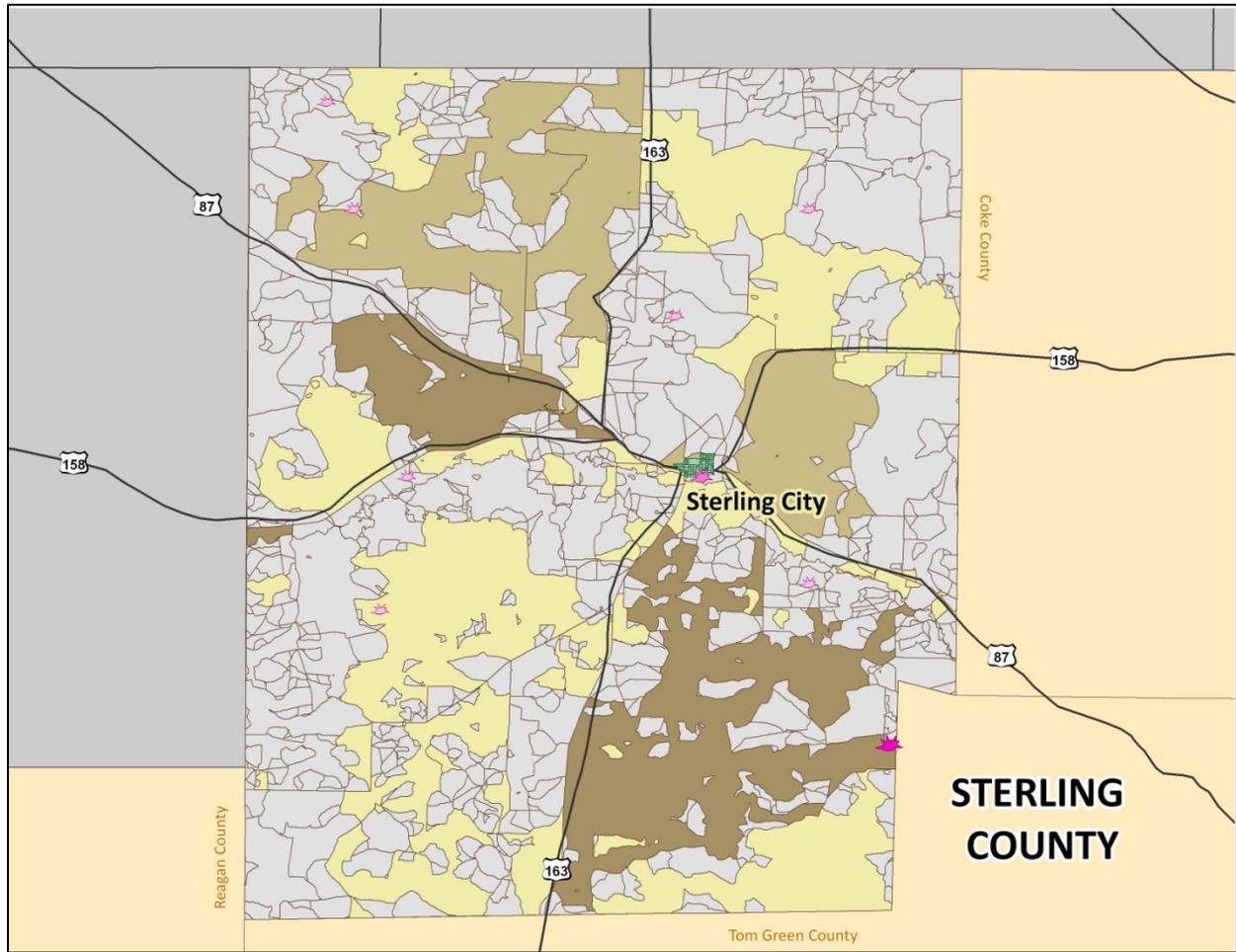


Figure 8-13. Historical Tornado Events in Sutton County

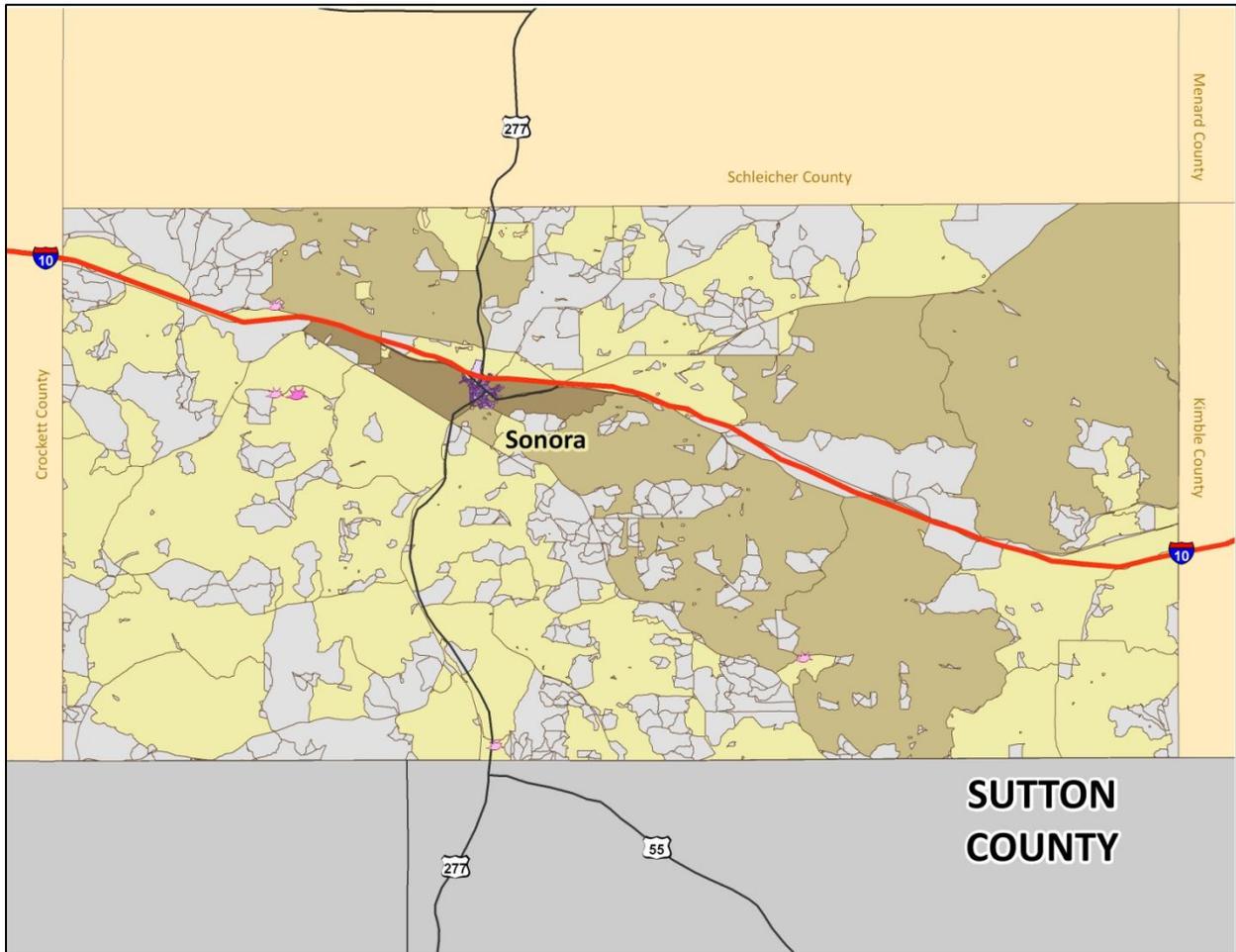
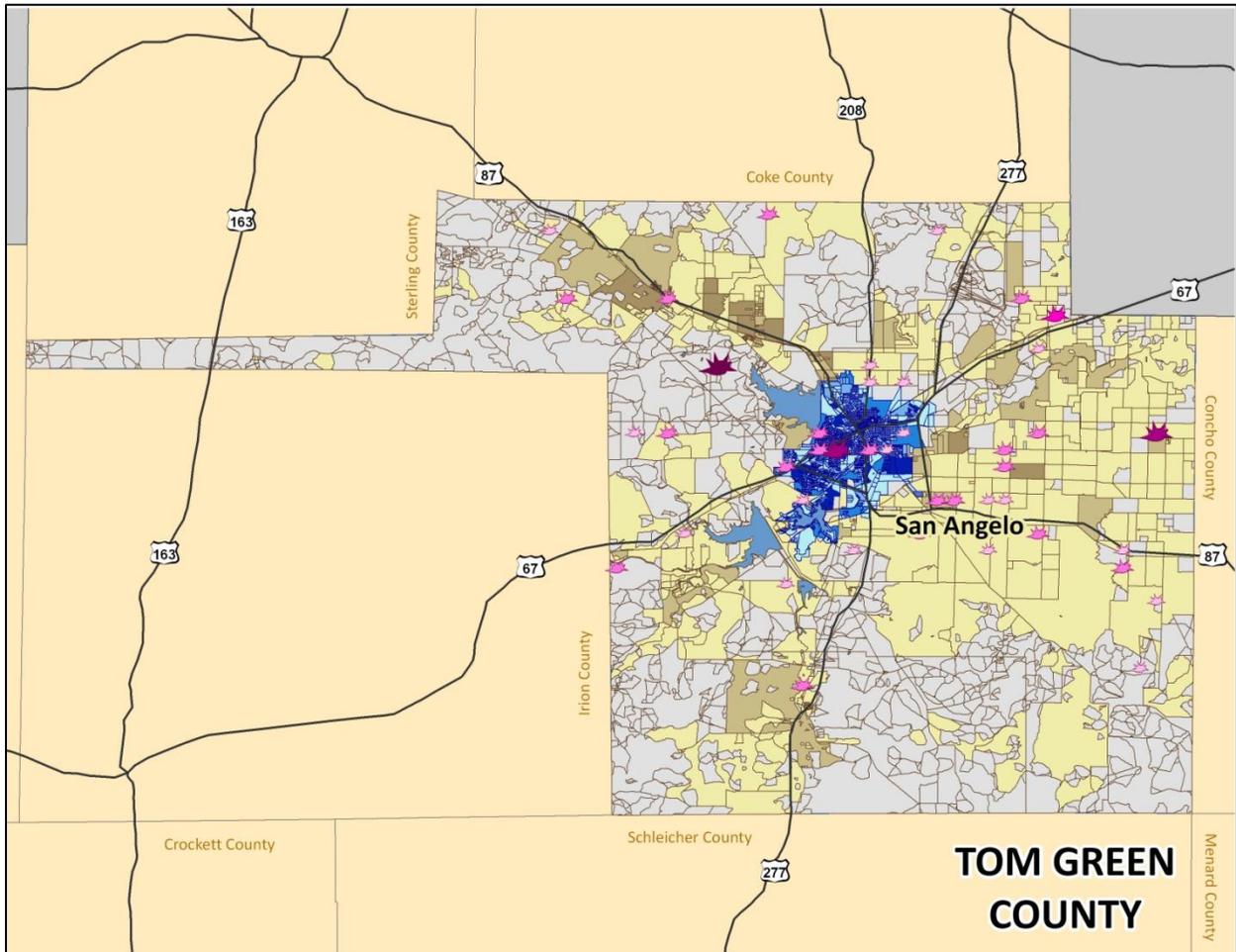


Figure 8-14. Historical Tornado Events in Tom Green County



Tornado

Historical occurrences provide a basis from which a frequency of return can be determined. Based on reported historical occurrences, the planning area can expect a tornado event to occur anywhere in the region as frequently as 2 tornado events per year within the 12-county planning area.

Table 8-4. Overall Historical Tornado Impact by Jurisdiction

JURISDICTION	NUMBER OF EVENTS	MAGNITUDE (FUJITA SCALE)						MAXIMUM F SCALE
		F0	F1	F2	F3	F4	F5	
Coke County	9	4	3	2				F2
Bronte	1		1					F1
Robert Lee	2	2						F0
Uninc. Coke County	6	2	2	2				F2
Concho County	18	16	2					F1
Eden	4	4						F0
Paint Rock	1	1						F0
Uninc. Concho County	13	11	2					F1
Crockett County	9	6	2	1				F2
(No Incorporated Cities)	9	6	2	1				F2
Irion County	9	7	1	1				F2
Mertzton	6	5	1					F1
Uninc. Irion County	3	2		1				F2
Kimble County	3	2			1			F3
Junction	1	1						F0
Uninc. Kimble County	2	1			1			F3
McCulloch County	20	12	4	3	1			F3
Melvin	1	1						F0
Uninc. McCulloch County	19	11	4	3	1			F3
Menard County	2	2						F0
Menard	0							
Uninc. Menard County	2	2						F0
Reagan County	10	8	1	1				F2
Big Lake	0							
Uninc. Reagan County	10	8	1	1				F2
Schleicher County	7	3	4					F2
Eldorado	6	2	4					F1
Uninc. Schleicher County	1	1						F0
Sterling County	11	7	3	1				F2

JURISDICTION	NUMBER OF EVENTS	MAGNITUDE (FUJITA SCALE)						MAXIMUM F SCALE
		F0	F1	F2	F3	F4	F5	
Sterling City	6	6						F0
Uninc. Sterling County	5	1	3	1				F2
Sutton County	5	4	1					F1
Sonora	4	4						F0
Uninc. Sutton County	1		1					F1
Tom Green County	38	14	20	1	2	1		F4
San Angelo	8	5	3					F1
Uninc. Tom Green County	30	9	17	1	2	1		F4
TOTALS FOR STUDY AREA	141	85	41	10	4	1	0	F4

Significant Past Events

20 February 1997 – Schleicher County

A tornado that was embedded in very heavy rains destroyed four hangars and overturned an airplane at the Eldorado airport. The tornadic winds also toppled a grain silo on a farm ten miles north of Eldorado.

9 April 2008 – Tom Green County

The NSW storm survey team found a tornado track across the Houston Harte Expressway that caused severe damage to a large distribution warehouse. Also, the tornado overturned two trailers, knocked down a communication tower, utility poles, and power lines, flipped cars, damaged roofs, and road signs along the expressway. A couple of truck drivers who rode out the storm reported their tractor trailers were lifted at times during the tornado. One motorist in a smaller truck took shelter at the nearby gas station and reported being lifted up while he was in his small truck and seeing a small tornado.

Probability of Future Events

With over 140 events in the region over the reporting period, it can be expected that a frequency of return may be as high as two to three tornadoes in the CVCOG Region in any given year. It is highly likely that the planning area can expect a tornado event at least once annually.

Vulnerability and Impact

The CVCOG participating jurisdictions are uniformly exposed to wind speeds up to 160 to 200 miles per hour (EF3 tornado). All assets and population in the region are equally

Tornado

vulnerable to the tornado hazard; however more vulnerable areas may be in unincorporated areas of counties where construction codes are not enforceable.

The potential severity of damages is partially defined by historic loss and loss estimates total over \$8.9 billion for the region over the 60-year incident reporting period as shown in Table 8-5.

Table 8-5. Potential Annualized Losses by Jurisdiction³

JURISDICTION	NUMBER OF EVENTS	TOTAL ESTIMATED EXPOSURE	ANNUALIZED LOSS (AL)
Coke County	9	\$291,393,000	\$18,881
Bronte	1	\$54,912,000	\$0
Robert Lee	2	\$70,672,000	\$0
Uninc. Coke County	6	\$165,809,000	\$18,881
Concho County	18	\$187,173,000	\$2,374
Eden	4	\$92,364,000	\$371
Paint Rock	1	\$11,315,000	\$0
Uninc. Concho County	13	\$73,494,000	\$2,003
Crockett County	9	\$264,006,000	\$15,212
(No Incorporated Cities)			
Irion County	9	\$112,315,000	\$0
Mertzton	6	\$38,576,000	\$0
Uninc. Irion County	3	\$73,739,000	\$0
Kimble County	3	\$345,134,000	\$16,205
Junction	1	\$152,827,000	\$0
Uninc. Kimble County	2	\$195,307,000	\$16,205
McCulloch County	20	\$459,543,000	\$127,524
Melvin	1	\$8,875,000	\$0
Uninc. McCulloch County	19	\$450,668,000	\$127,524
Menard County	2	\$148,418,000	\$1,144
Menard	0	\$75,051,000	\$0
Uninc. Menard County	2	\$73,397,000	\$1,144
Reagan County	10	\$178,789,000	\$30,144
Big Lake	0	\$146,223,000	\$0
Uninc. Reagan County	10	\$27,827,743	\$30,144
Schleicher County	7	\$163,684,000	\$131,841

³ Source: HAZUS-MH MR4 (total exposure) and NCDC (annualized losses)

Tornado

JURISDICTION	NUMBER OF EVENTS	TOTAL ESTIMATED EXPOSURE	ANNUALIZED LOSS (AL)
Eldorado	6	\$95,802,000	\$131,841
Uninc. Schleicher County	1	\$66,277,606	\$0
Sterling County	11	\$89,092,000	\$0
Sterling City	6	\$66,795,000	\$0
Uninc. Sterling County	5	\$18,645,655	\$0
Sutton County	5	\$259,042,000	\$692
Sonora	4	\$158,154,000	\$692
Uninc. Sutton County	1	\$19,012,957	\$0
Tom Green County	38	\$6,412,709,000	\$3,204,683
San Angelo	8	\$5,615,423,000	\$46,706
Uninc. Tom Green County	30	\$701,041,341	\$3,157,977
TOTALS FOR STUDY AREA	141	\$8,903,862,000	\$3,548,700

While 141 tornado events of magnitudes F0 through F4 have impacted the planning area from 1950 to 2010; less than one tenth of one percent of assets have been destroyed or suffered major damage. Therefore, potential severity of tornado impact is limited, meaning injuries and illnesses are treatable with first aid, critical facilities would only be shut down for 24 hours or less, and less than 10 percent of property would be destroyed or suffer major damage.

WILDFIRE

HAZARD DESCRIPTION 1
LOCATION AND HISTORICAL OCCURRENCES..... 1
 SIGNIFICANT PAST EVENTS.....15
EXTENT..... 16
PROBABILITY OF FUTURE EVENTS 18
VULNERABILITY AND IMPACT 29

Hazard Description

A wildfire is an uncontrolled fire burning in an area of vegetative fuels such as grasslands, brush, or woodlands. Heavier fuels with high continuity, steep slopes, high temperatures, low humidity, low rainfall, and high winds all work to increase the risk for people and property located within wildfire hazard areas or along the urban/wildland interface. Wildfires are part of the natural management of forest ecosystems, but most are caused by human factors. Texas has seen a huge increase in the number of wildfires in the past 30 years. Years of fire suppression have significantly disturbed natural fire occurrences—nature’s renewal process. The result has been the gradual accumulation of understory and canopy fuels to levels of density that can feed high-energy, intense wildfires and further increase the hazards from and exposure to interface problems.

Location, historical occurrences and probability were determined for wildfires using data products from the Southern Wildfire Risk Assessment (SWRA) project from the Texas Forest Service (TFS). Three datasets were utilized for this section: Historic Fire Locations and Fire Occurrence Area (FOA) data were used to show location and previous occurrences; Communities at Risk to show probability; and Level of Concern (LOC) to show vulnerability.

Location and Historical Occurrences

The FOA is an area where the probability of each acre igniting is the same. The FOA data layer was developed based on historic wildfire ignition data. A FOA is defined as a fire ignition rate measured in Number of Fires divided by 1000 acres over each year.

The Texas Forest Service used Historic Fire Locations (a.k.a. Ignition Locations; Fire Events) for the years 2005 to 2006 to determine fire occurrence areas. In many situations wildfires often occur at the same location (particularly for man-caused fires). The frequency of wildfires per year is modeled to create the FOA data.

Wildfire

Figures 9-1 through 9-12 graphically illustrate the location and historical wildfire occurrence in the CVCOG Region.

Figure 9-1. Location and Historic Wildfire Events for Coke County

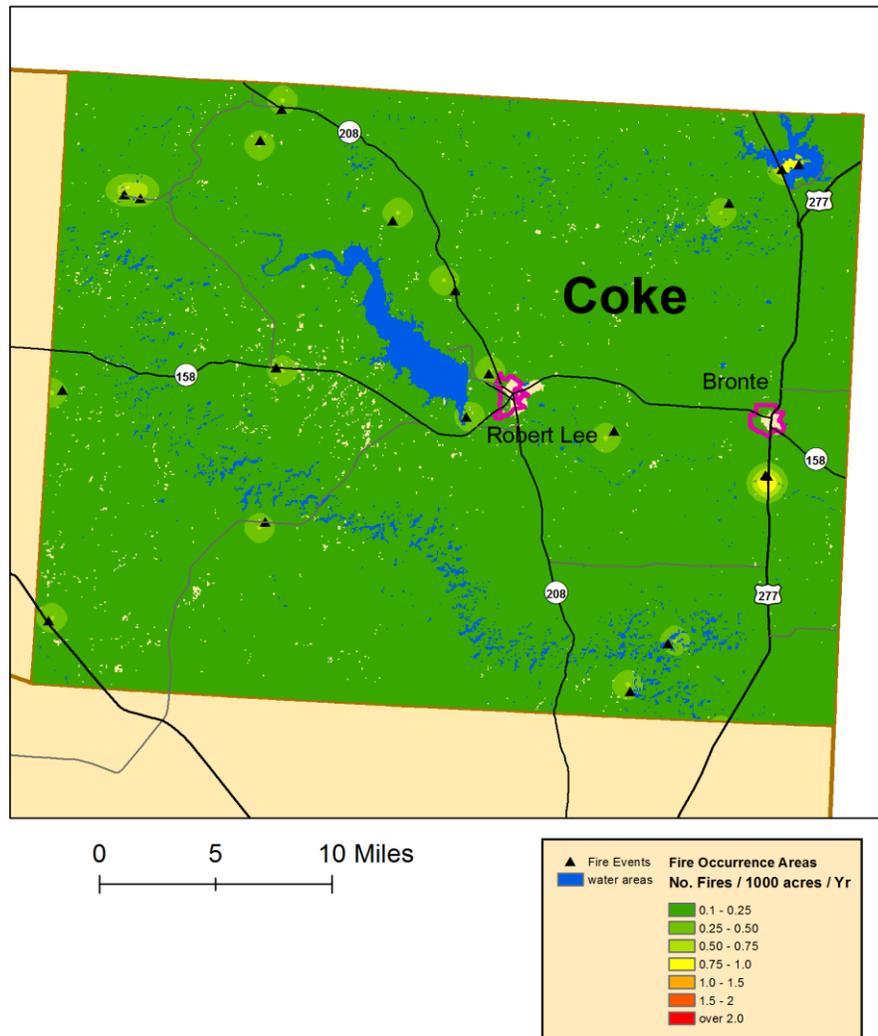


Figure 9-2. Location and Historic Wildfire Events for Concho County

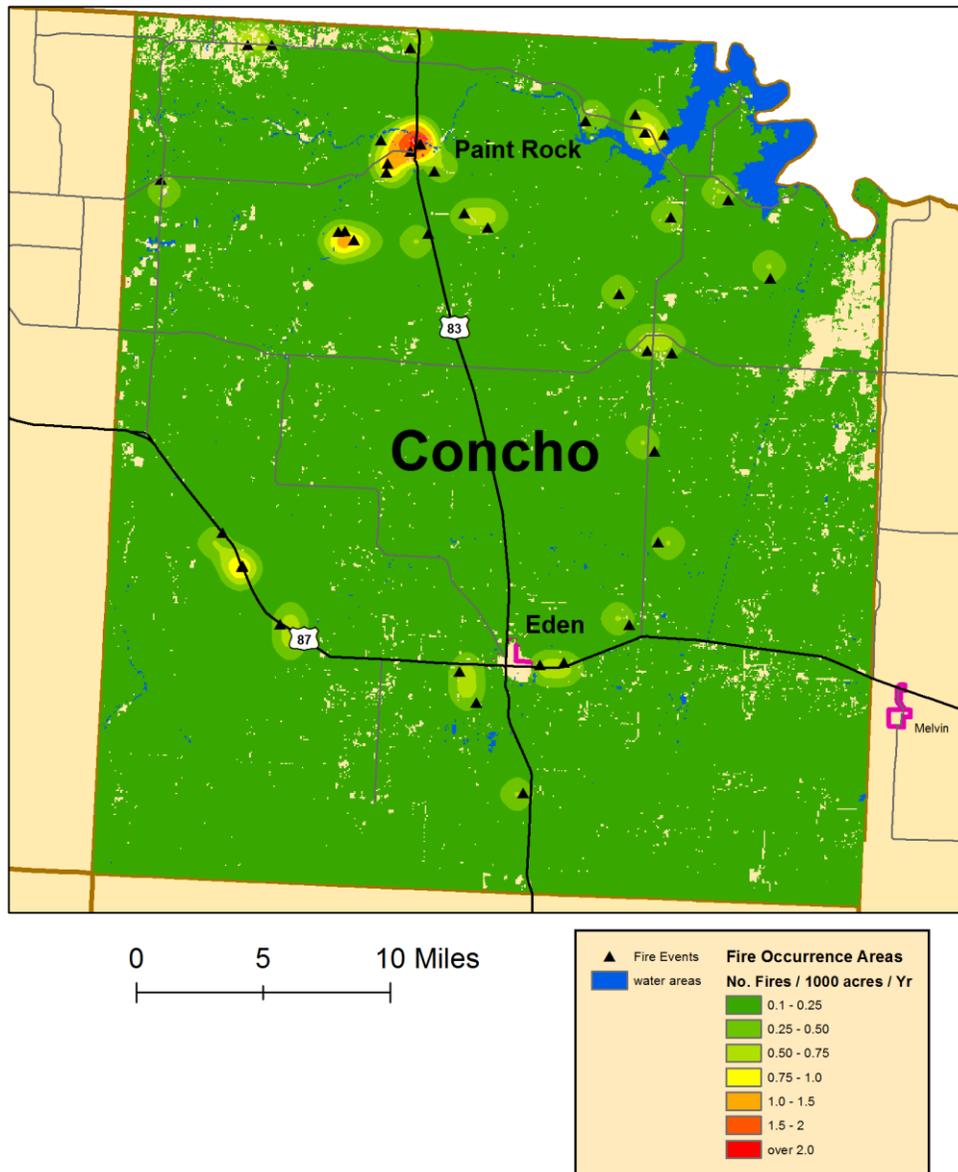


Figure 9-3. Location and Historic Wildfire Events for Crockett County

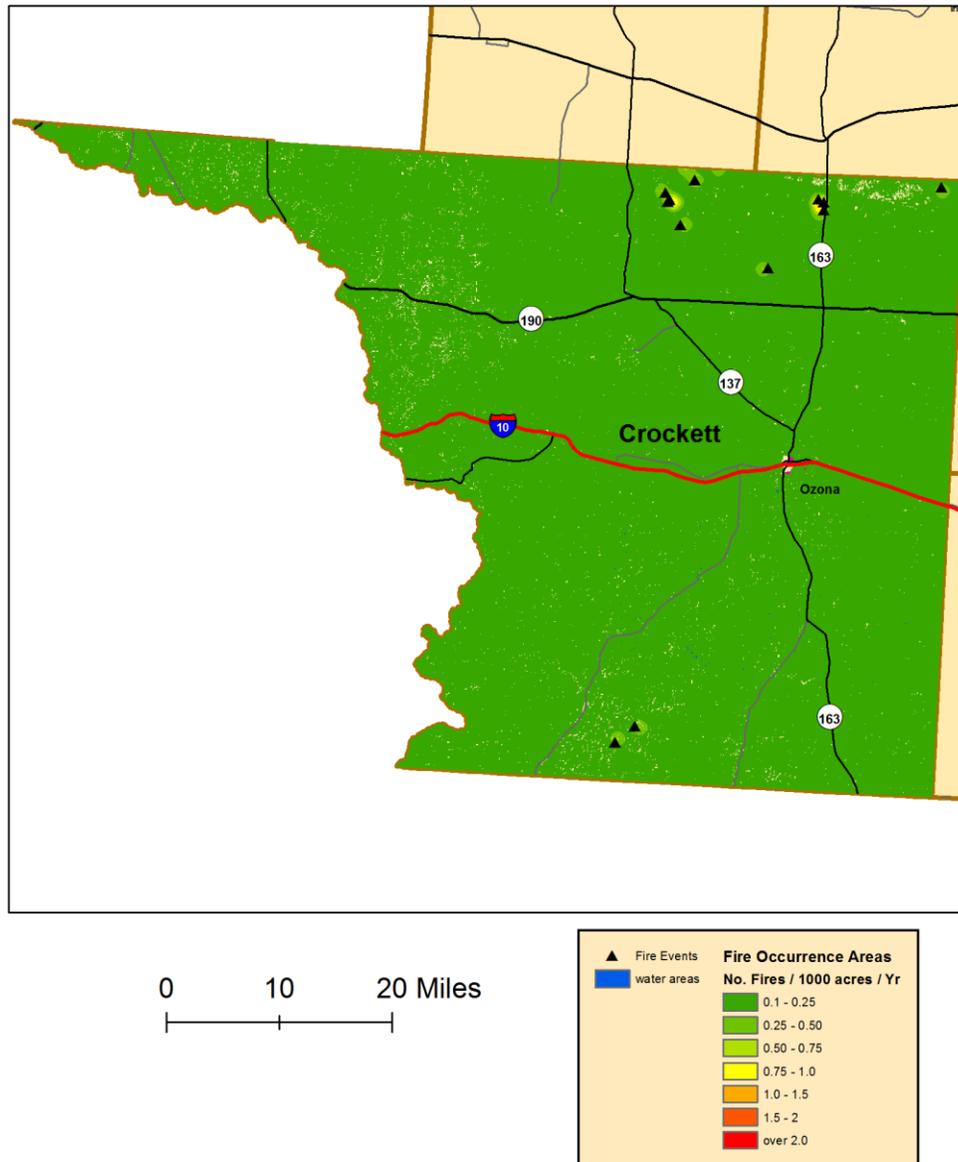


Figure 9-4. Location and Historic Wildfire Events for Irion County

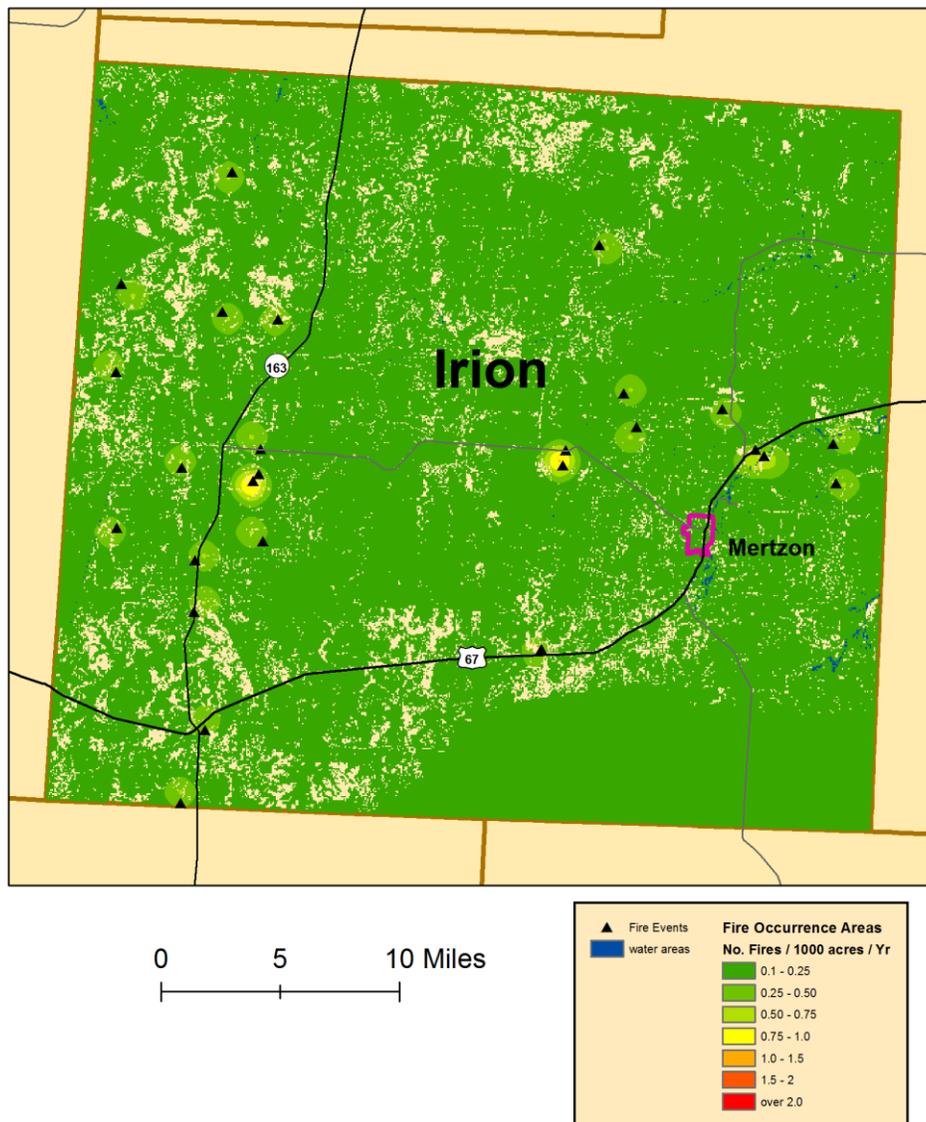


Figure 9-5. Location and Historic Wildfire Events for Kimble County

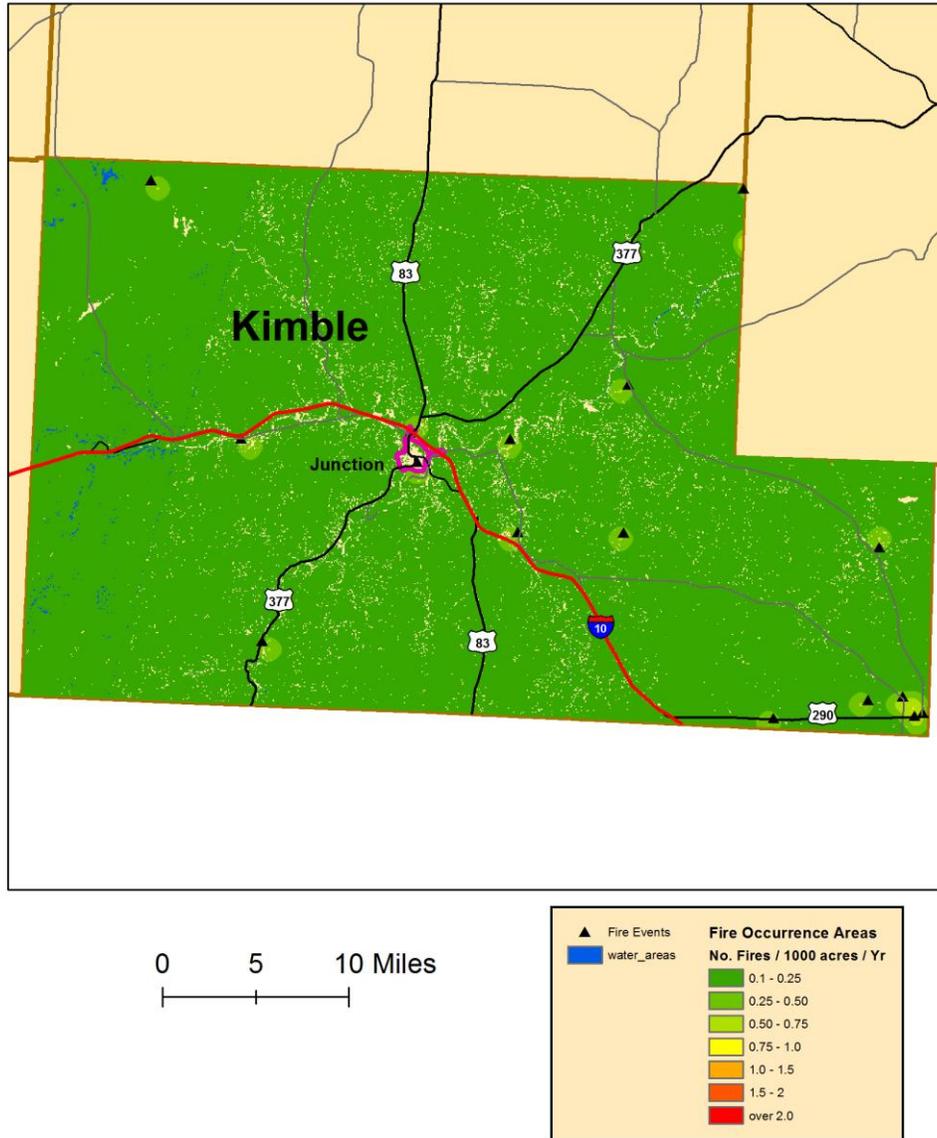


Figure 9-6. Location and Historic Wildfire Events for McCulloch County

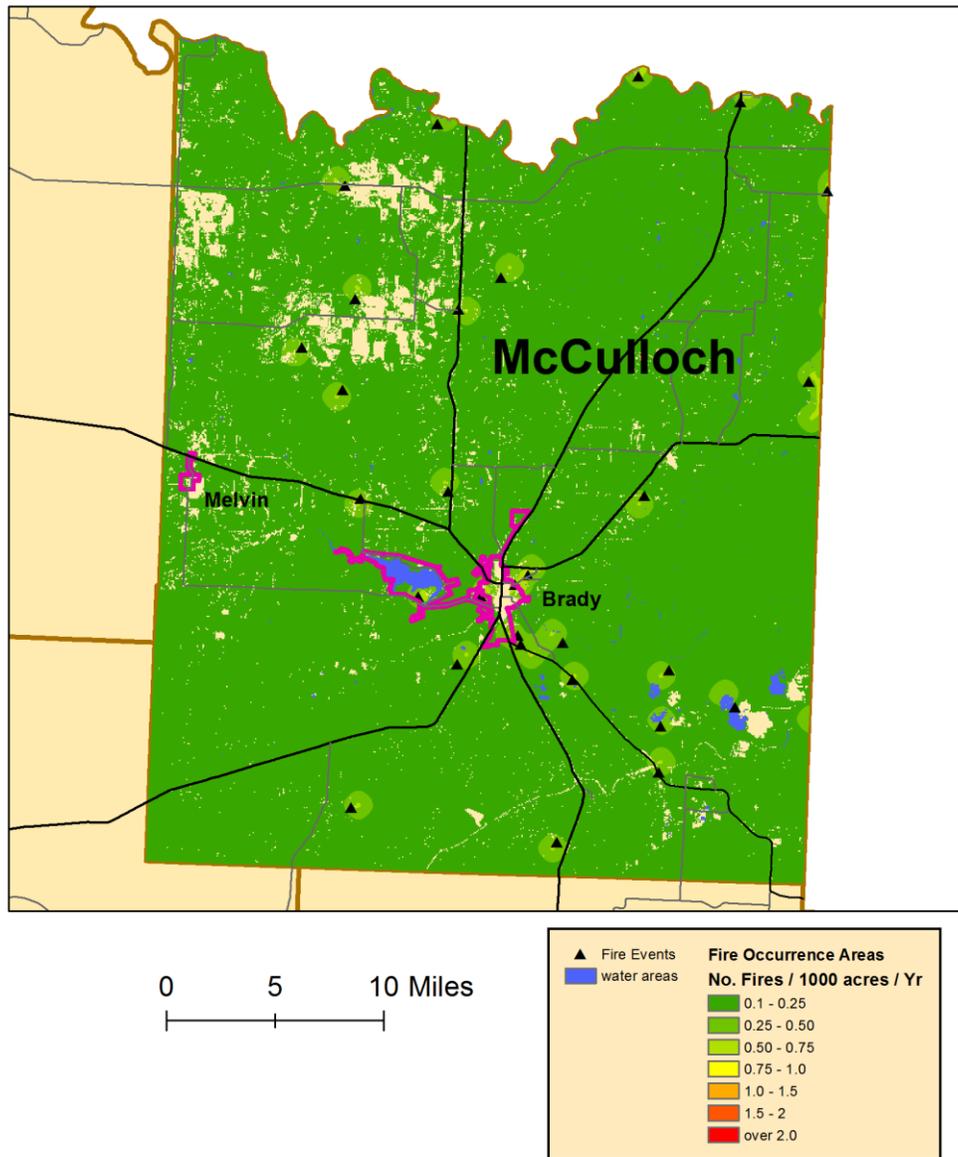


Figure 9-7. Location and Historic Wildfire Events for Menard County

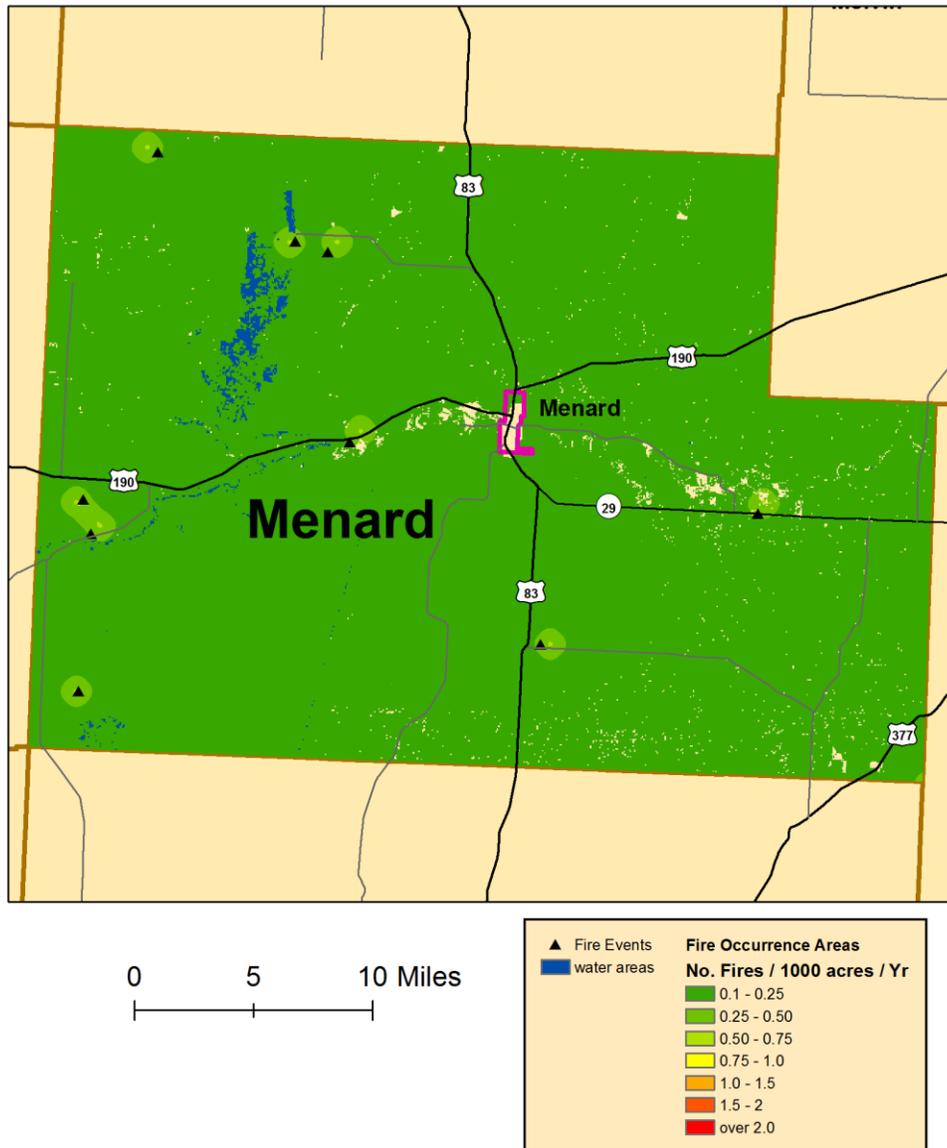


Figure 9-8. Location and Historic Wildfire Events for Reagan County

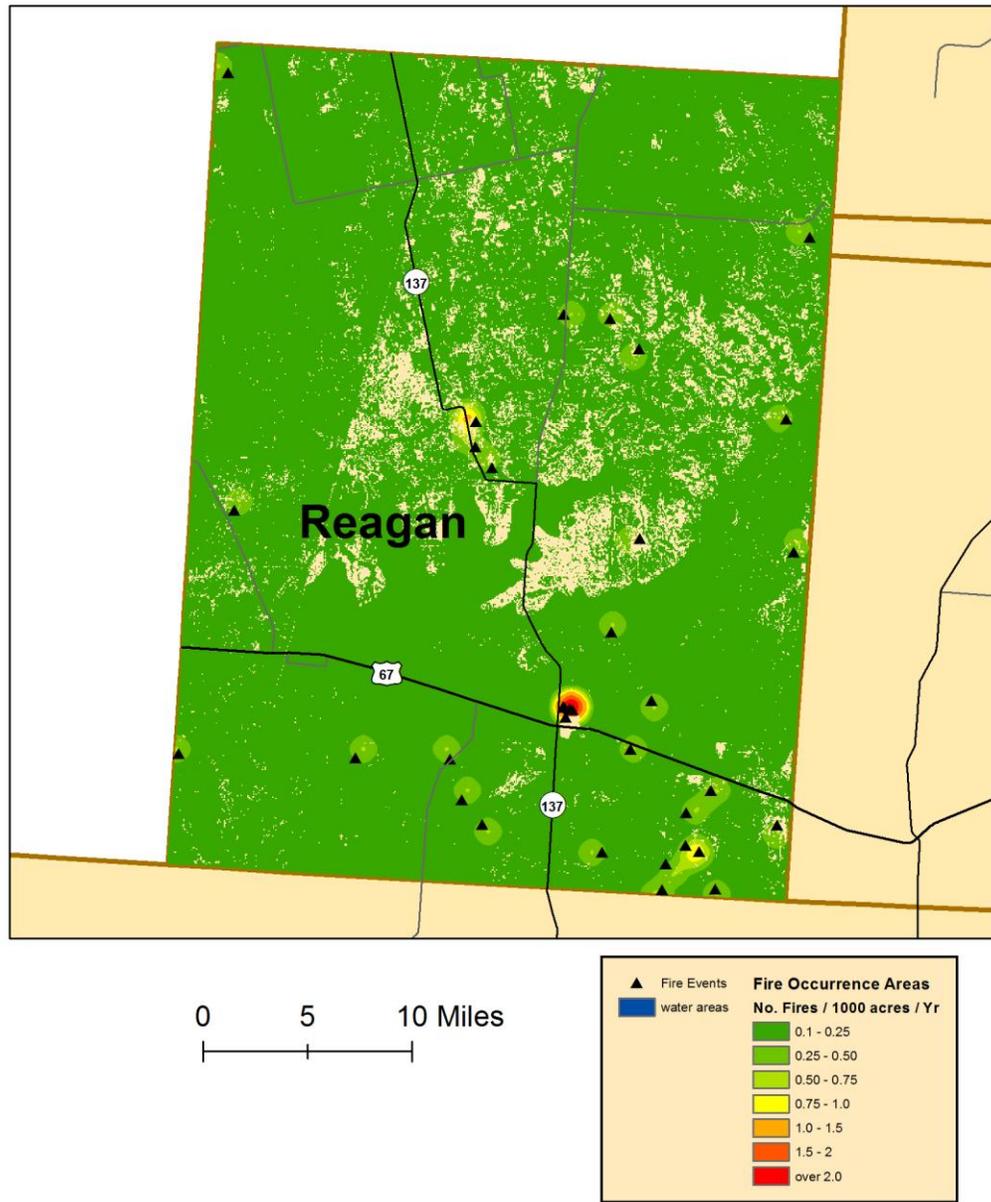


Figure 9-9. Location and Historic Wildfire Events for Schleicher County

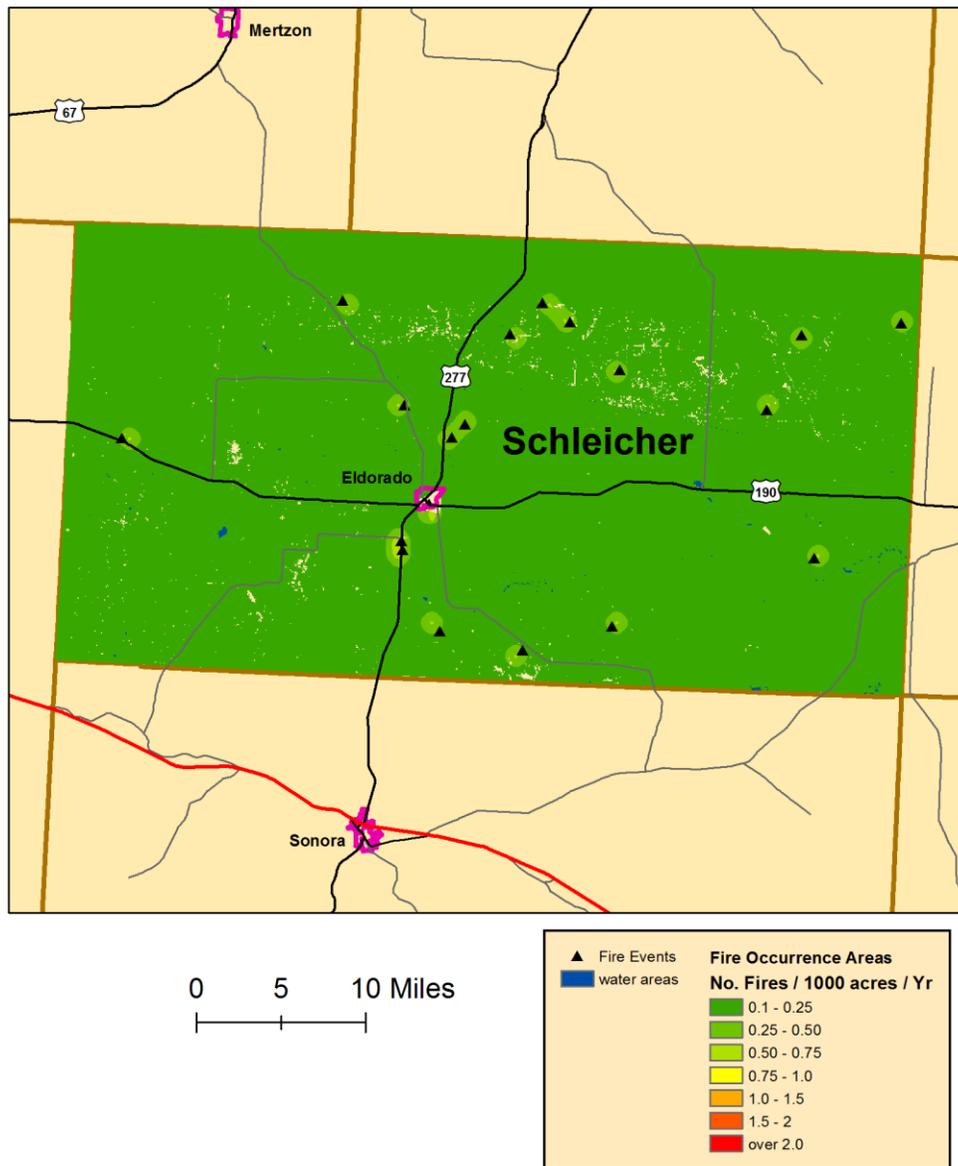


Figure 9-10. Location and Historic Wildfire Events for Sterling County

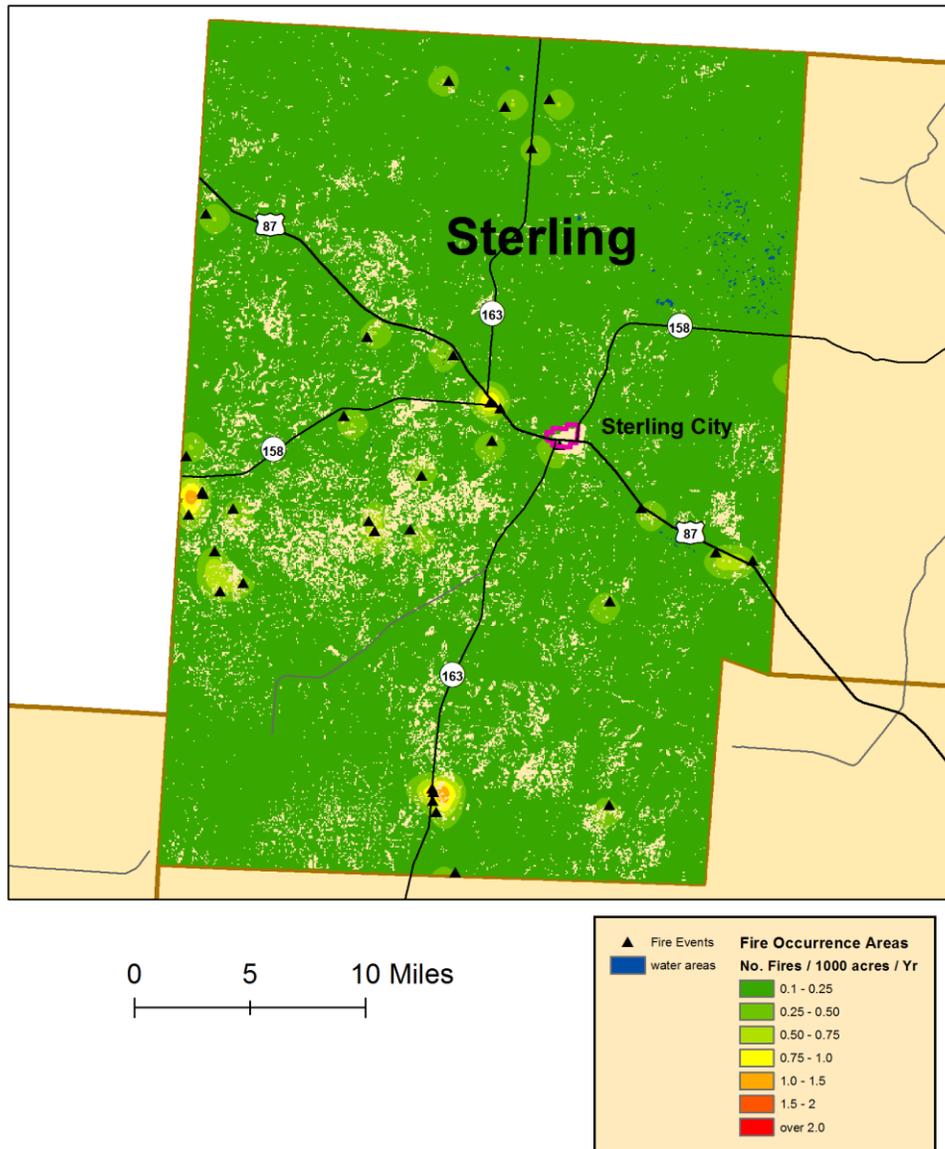


Figure 9-11. Location and Historic Wildfire Events for Sutton County

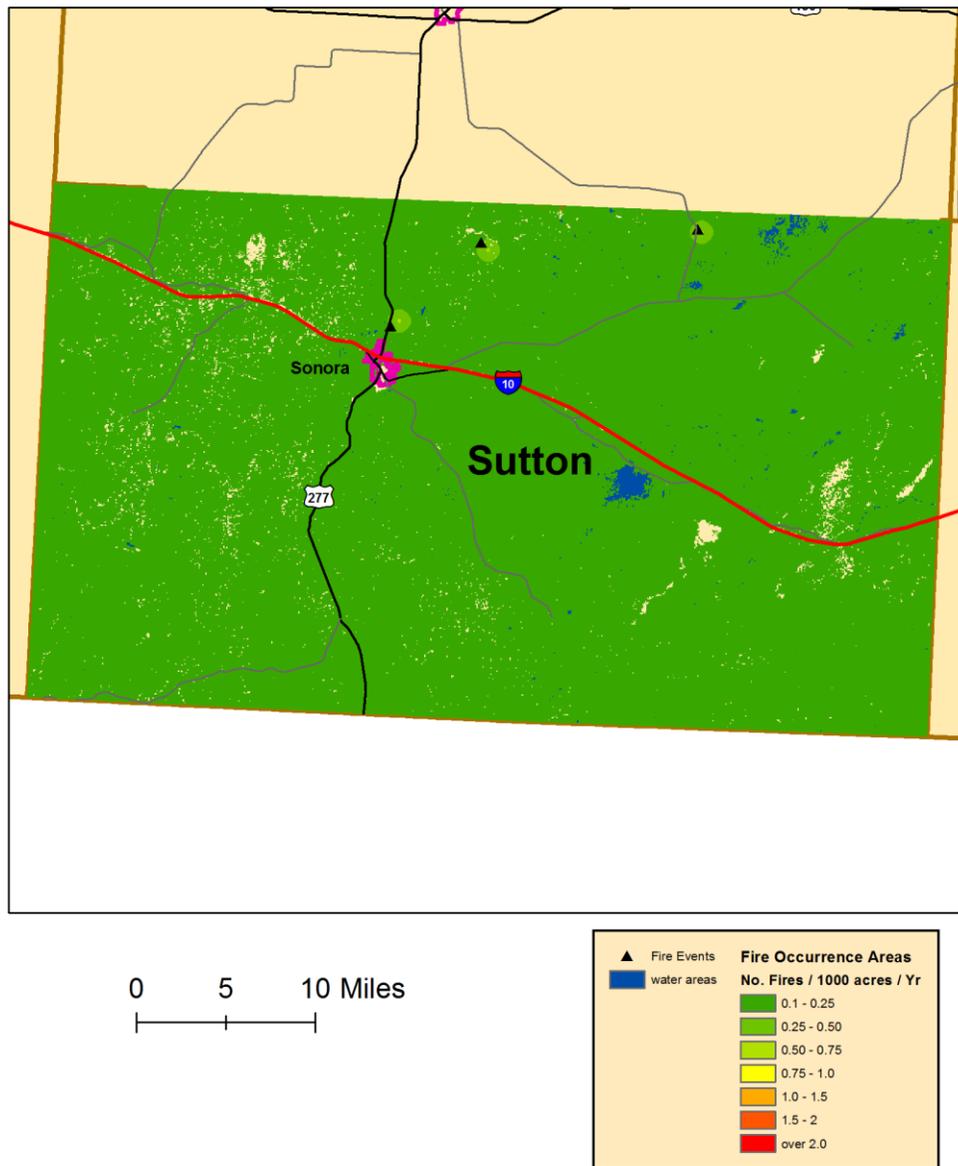
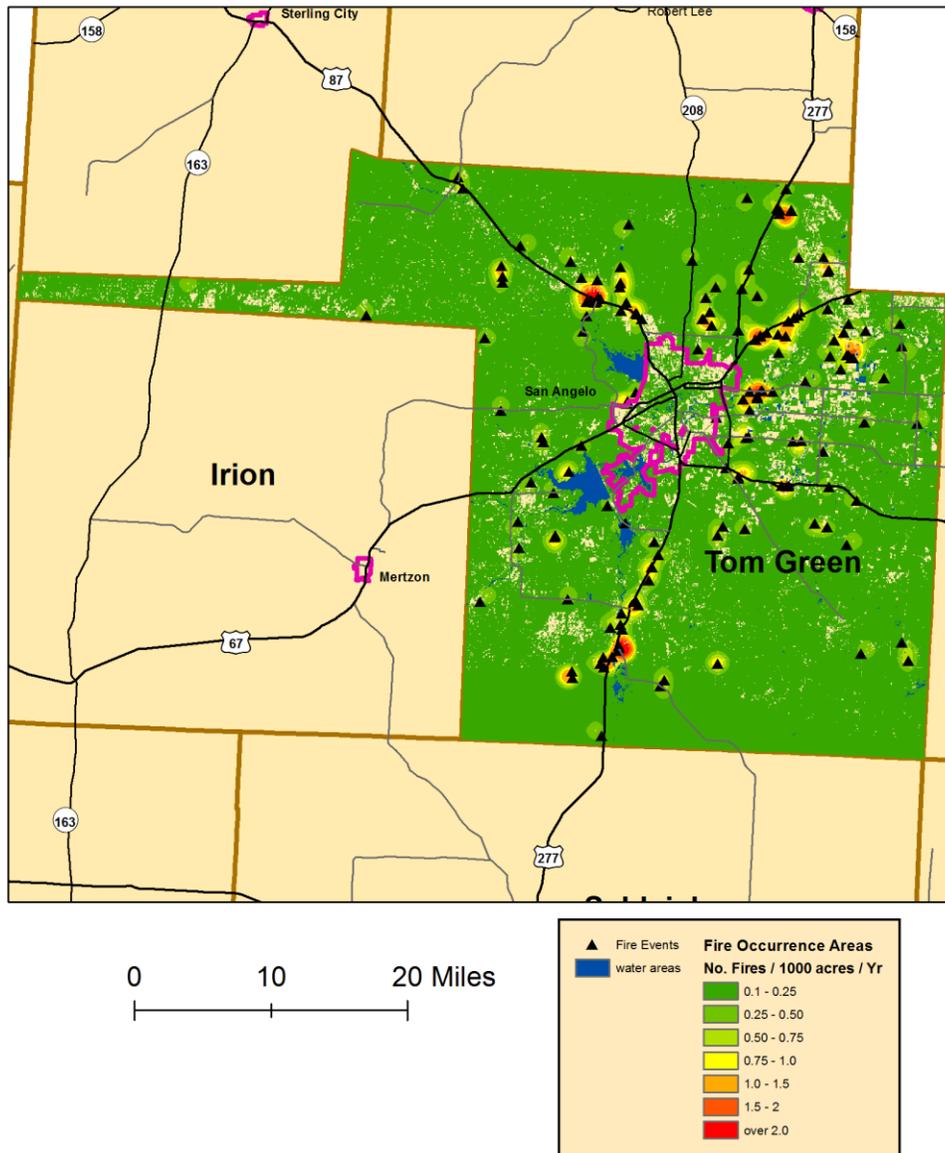


Figure 9-12. Location and Historic Wildfire Events for Tom Green County



Wildfire

The incident records that were included in the SWRA risk assessment were given to the TFS by volunteer fire departments. The reporting of wildfires or other responses to the Forest Service is not required and therefore not all wildfires are represented.

Historical Fire Ignition Locations (Wildfire Events) for all counties are sparse and, in some cases, very sparse. However, this wildfire modeling is in its infancy, and is expected to be updated through a maintenance program, improve over time, and become more reliable.

While modeling provided by TFS is based on incidents reporting in 2005 and 2006, more recent records have been reported to the National Climatic Data Center (NCDC). A total of 44 wildfire incident records at the county level were available from NCDC as shown in Table 9-1 below. Dates range from 1994 to 2011, based on submission by volunteer fire departments.

Table 9-1. Reported Wildfires in the CVCOG Region, 1994-2011

COUNTY	DATE
Coke	6/29/1994
	8/28/1999
	2/25/2008
	4/10/2011
	6/08/2011
Concho	4/25/2011
Crockett	1/29/2008
	2/25/2008
	2/27/2011
	4/11/2011
	4/29/2011
	6/16/2011
	6/20/2011
Irion	1/01/2006
	2/25/2008
	3/26/2009
	2/27/2011
	4/04/2011
	4/26/2011
Kimble	4/26/2011
McCulloch	8/28/1999
	9/05/2000

COUNTY	DATE
	2/24/2007
Menard	8/28/1999
	4/10/2011
Reagan	1/01/2006
Schleicher	8/28/1999
	4/01/2011
Sterling	1/06/2006
	2/24/2007
	2/25/2008
	6/18/2011
Sutton	1/18/2006
	2/24/2007
	3/26/2011
	4/14/2011
Tom Green	12/03/2005
	1/19/2006
	2/17/2011
	4/08/2011
	4/10/2011
	4/10/2011
	6/20/2011
6/20/2011	
Total Incidents Reported	44

Significant Past Events

29 June 1994 – Coke County

Lightning started a wildfire which burned over 3,500 acres and destroyed a hunting camp and a number of fences. Damage was estimated at \$300,000.

1 January 2006 – Reagan County

Record high temperatures (in the mid to upper 70s), very low relative humidity, high winds, and two and a half months without measurable precipitation combined to produce a very active fire weather day. SPC issued a critical fire weather area for West Texas and Southeastern New Mexico in their Day 1 Fire Weather Outlook issued early on January 1st. A grassfire spread to over 40,000 acres in Reagan and Irion Counties on New Year’s Day. Newspapers original reported the cause as sparks from a transformer. Later, a fire

department official in Big Lake reported that a hawk landed on power lines and burst into flames, starting the fire. Because of high winds, recorded high temperatures, and very low relative humidity, it took firefighters three days to contain the wildfire. It was extinguished a couple of days later. One firefighter sustained second degree burns to his face while fighting the fire but was treated and released from a regional burn center. The fire was in mostly open country and thus only a hunting cabin was destroyed. In addition to the major fire in Reagan and Irion Counties, several other small fires scorched West Texas. Both Ector and Midland Counties had fire and fireworks bans in effect for the period between New Year's Eve and January 6, 2006. Several other counties also had fireworks bans in effect for the New Year's holiday. January was a dry month overall. Several other minor fires occurred throughout West Texas, including two along Interstate 20 in Stanton. Smoke from one of these fires reduced visibility on Interstate 20, causing a five car pile-up that resulted in two injuries.

26 April 2011 – Kimble County

The Oasis Pipeline Fire 11 miles south of Junction burned approximately 9,445 acres and it was 80 percent contained. There were 11 structures destroyed, including one home. Also, three vehicles and one bulldozer were destroyed, along with numerous power poles and fence lines. In addition, 20 head of cattle were lost. Commercial air tankers and four MAFFs tankers helped slow the spread of the fire that came within four miles south of Junction. This fire was started by lightning on April 26.

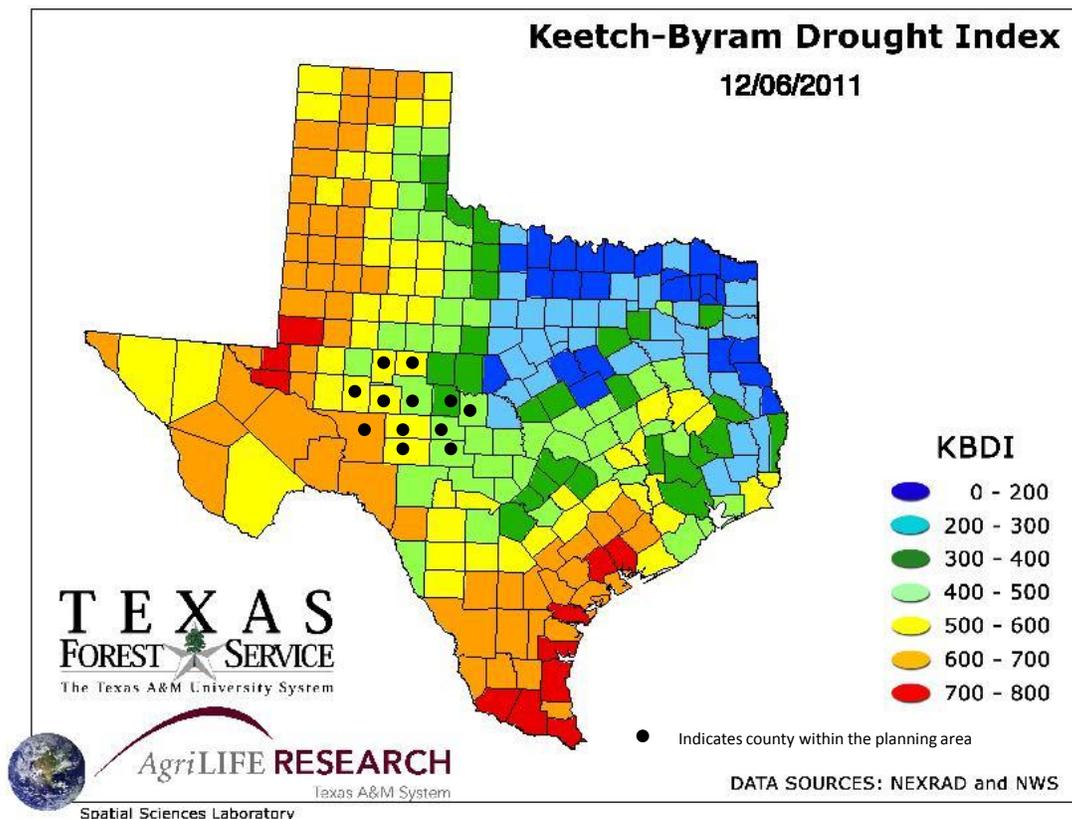
Extent

Wildfire risk is measured in terms of magnitude and intensity using the Keetch-Byram Drought Index (KBDI), a mathematical system for relating current and recent weather conditions to potential or expected wildfire behavior.

The KBDI determines forest fire potential and is based on a daily water balance, where a drought factor is balanced with precipitation and soil moisture (assumed to have a maximum storage capacity of eight inches) and is expressed in hundredths of an inch of soil moisture depletion. Figure 9-13 displays the KBDI for Texas 2011. Counties within the CVCOG Region are denoted by location with a black dot inside the map of Texas in Figure 9-13.



Figure 9-13. KBDI for the State of Texas, 2011



Each color on the map represents the drought index at that location. The drought index ranges from 0 to 800, where a drought index of 0 represents no moisture depletion, and an index of 800 represents absolutely dry conditions.

These numbers correlate with potential fire behavior as follows:

- **0 - 200** Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.
- **200 - 400** Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Expect smoldering and the resulting smoke to carry into and possibly through the night.
- **400 - 600** Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.

- **600 - 800** Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn thorough the night and heavier fuels will actively burn and contribute to fire intensity.

From the illustration in Figure 9-13, the counties within the CVCOG Region currently fall within a scale of 300-700, with the majority at a KBDI of 500 to 600. In a period of extreme heat or drought, the KBDI could be over 500 for the area. Table 9-2 provides information on the average, maximum and minimum KBDI for each county participating in the CVCOG Plan Update. This table should be read in conjunction with the current KBDI index in determining the potential magnitude of a wildfire event. Because the KBDI is a measure of the current readiness of fuels for wildfire, caution should be exercised in dryer, hotter conditions, and the KBDI should be referenced as the area experiences changes in precipitation and soil moisture.

Table 9-2. Extent for Wildfire by County¹

COUNTY	AVERAGE KBDI	MAXIMUM KBDI	MINIMUM KBDI
Coke	533	635	391
Concho	316	495	179
Crockett	644	756	343
Irion	593	664	492
Kimble	415	572	264
McCulloch	422	504	307
Menard	430	520	273
Reagan	523	653	275
Schleicher	511	699	282
Sterling	588	706	424
Sutton	501	658	269
Tom Green	484	660	315

Probability of Future Events

Wildfires can occur at any time of the year. Climatic conditions, such as severe freezes and drought can significantly increase the intensity of wildfires since these conditions kill vegetation, creating a prime fuel source for these types of fires. The intensity of fires and the rate at which they spread are directly related to wind speed, temperature and relative humidity.

¹ Source: Texas Forest Service

Wildfire

Based on the 44 incident records that occurred within the 17 year period (1994 to 2011), the probability of future wildfire events is highly likely, with an event probable within the next year.

The Communities at Risk (CAR) maps produced by the SWRA project are shown in Figures 9-14 to 9-22 to follow. A map was created for each participating county in the CVCOG Region except for Crockett, Menard, and Reagan Counties where no data was produced by SWRA. These risk scores give indication of probability of future wildfire events and they were derived by averaging the Wildland Fire Susceptibility Index (WFSI) value for each community, including a buffer zone around the community. This tool is useful in two ways. First, communities can be categorized based on their level of risk, which can aid in identifying the location where more detailed fire planning may be needed. Second, users are able to identify and prioritize those areas (not communities necessarily) where tactical analyses, mitigation activities, and community interaction may be necessary to reduce risk from wildfire.

The WFSI is also a product of the SWRA project. It is a value between 0 and 1, and was developed consistent with the mathematical calculation process for determining the probability of an acre burning. The WFSI integrates the probability of an acre igniting and the expected final fire size based on the rate of spread in four weather percentile categories into a single measure of wildland fire susceptibility.

Figure 9-14. Communities at Risk from Wildfire: Coke County



Figure 9-15. Communities at Risk from Wildfire: Concho County



Figure 9-16. Communities at Risk from Wildfire: Irion County

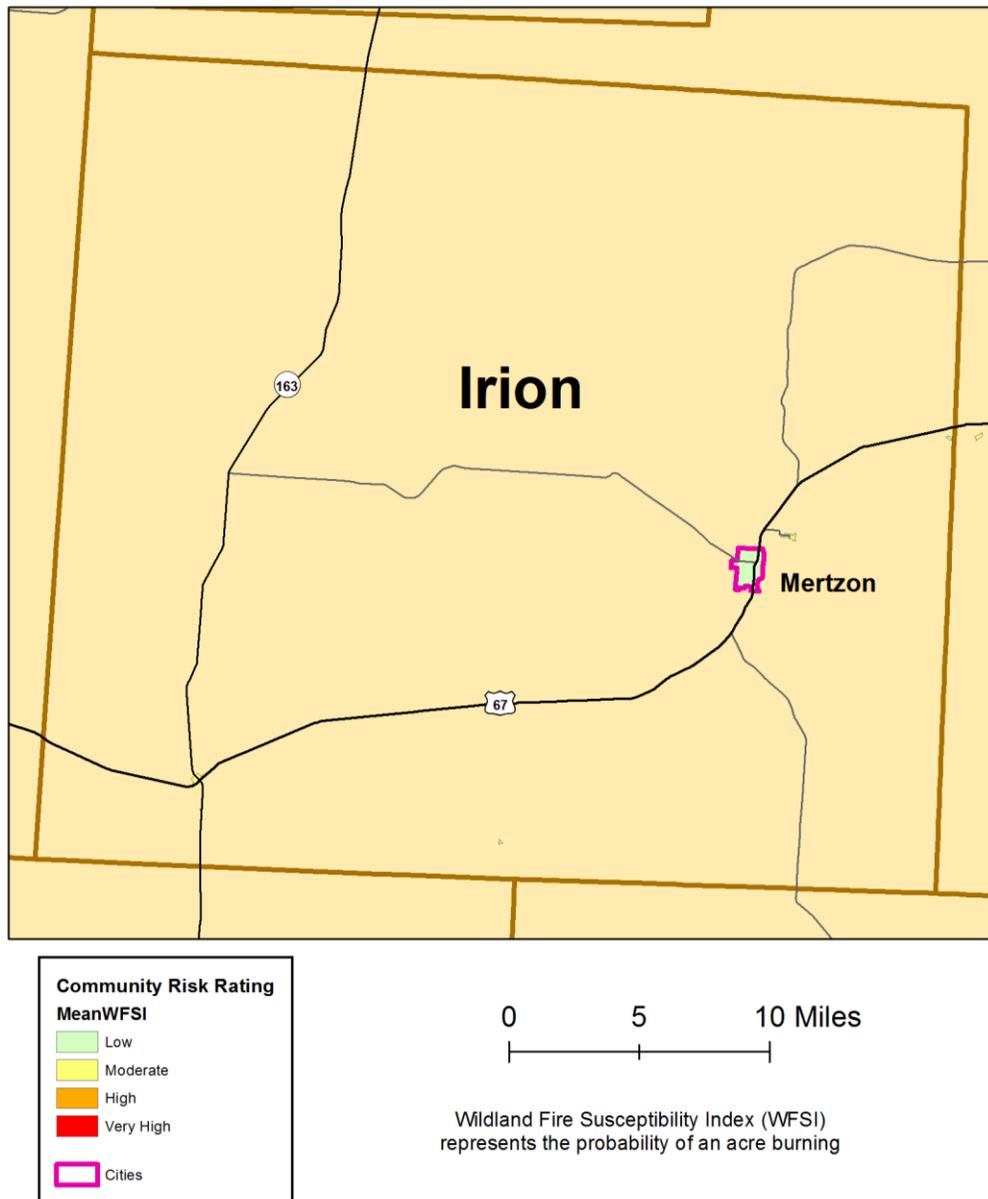
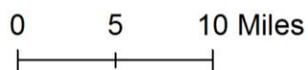
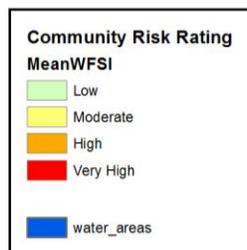
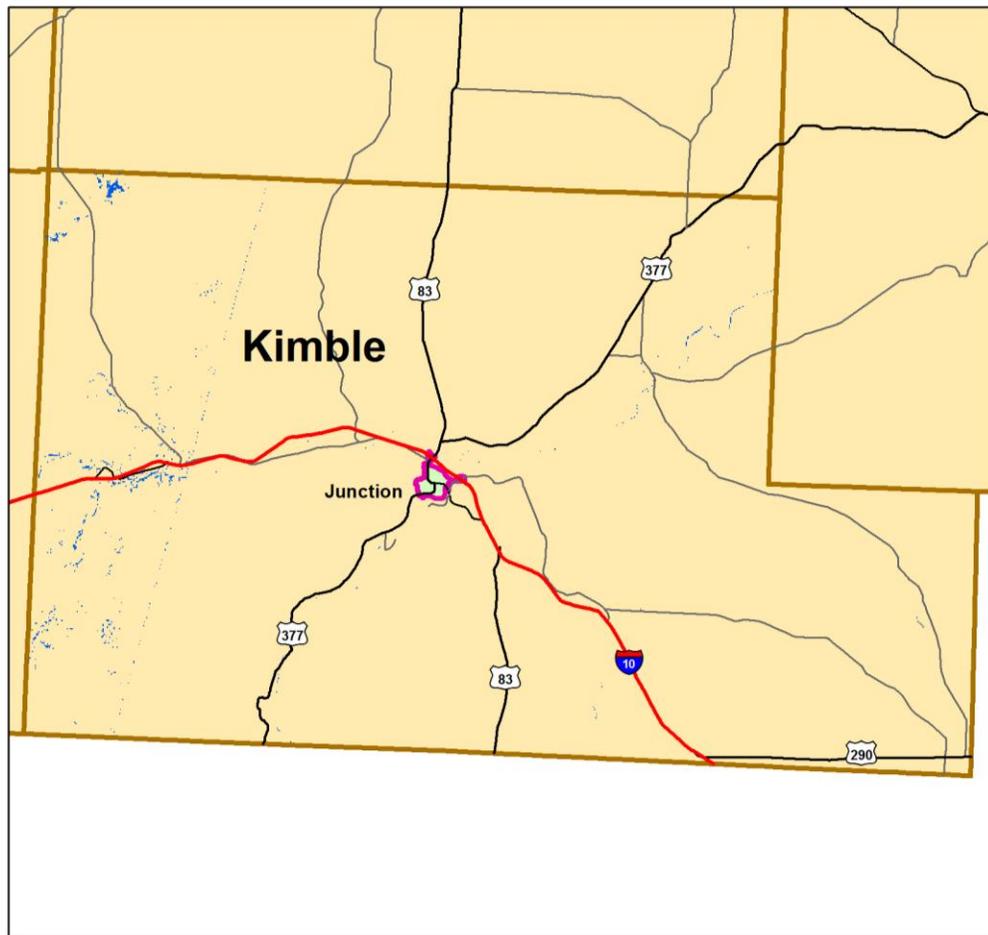


Figure 9-17. Communities at Risk from Wildfire: Kimble County



Wildland Fire Susceptibility Index (WFSI) represents the probability of an acre burning

Figure 9-18. Communities at Risk from Wildfire: McCulloch County

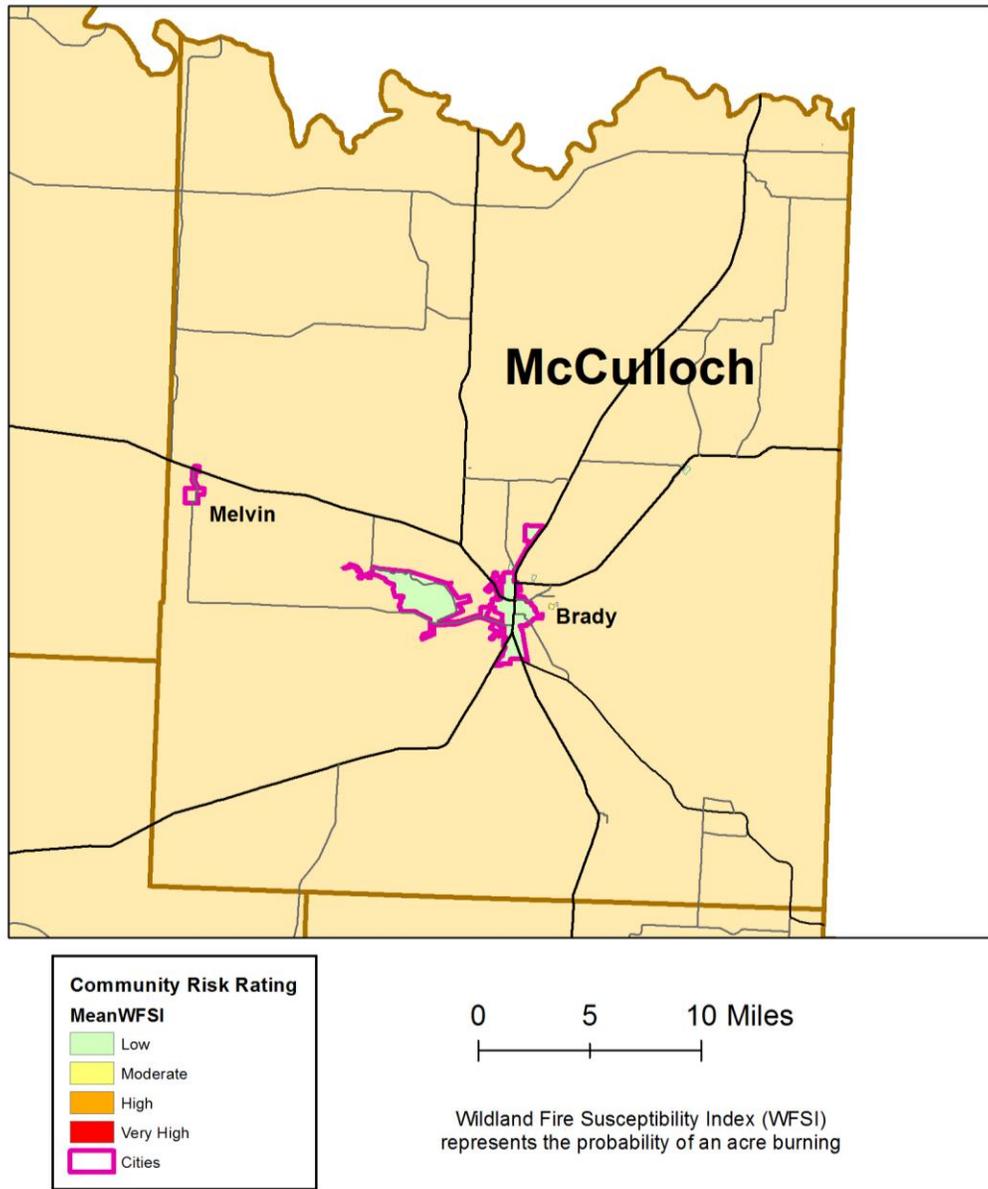


Figure 9-19. Communities at Risk from Wildfire: Schleicher County



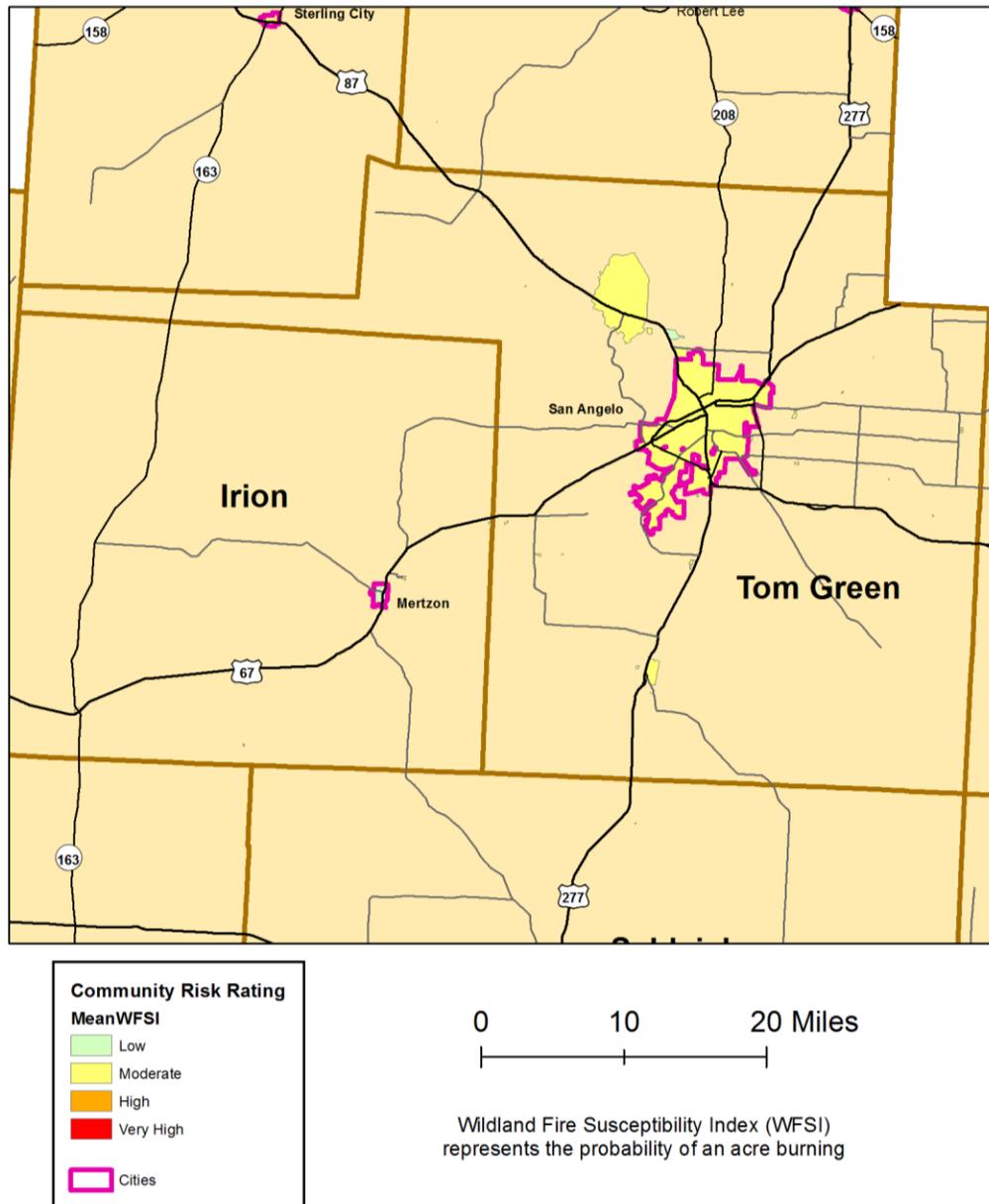
Figure 9-20. Communities at Risk from Wildfire: Sterling County



Figure 9-21. Communities at Risk from Wildfire: Sutton County



Figure 9-22. Communities at Risk from Wildfire: Tom Green County



Vulnerability and Impact

Wildfire hazard areas mapped by SWRA are shown in Figures 9-23 to 9-34. These maps provide a qualitative idea of vulnerability. The Level of Concern (LOC) is a value between 0 and 100. It is calculated as the Wildland Fire Susceptibility Index (WFSI) times the Fire Effects Index (FEI). The overall level of concern for wildfire is located mostly along the perimeter of the jurisdiction where wildland and urban areas interface. It is one of the two primary outputs and is a measure of wildfire risk. The LOC can be used to: identify areas where mitigation options may be of value; allow agencies to work together and better define priorities; develop a refined analysis of a complex landscape and fire situations using GIS; and increase communication with local residents to address community priorities and needs.

Approximate annualized losses were derived by dividing the adjusted total dollar amount reported by each county by the number of years (17) that the NCDC database was recording wildfire events and associated damages. The annualized estimates included in this risk assessment are intended to provide an understanding of relative risk. Table 9-3 below summarizes NCDC reported losses and associated annual loss estimates based on historic reported damages.

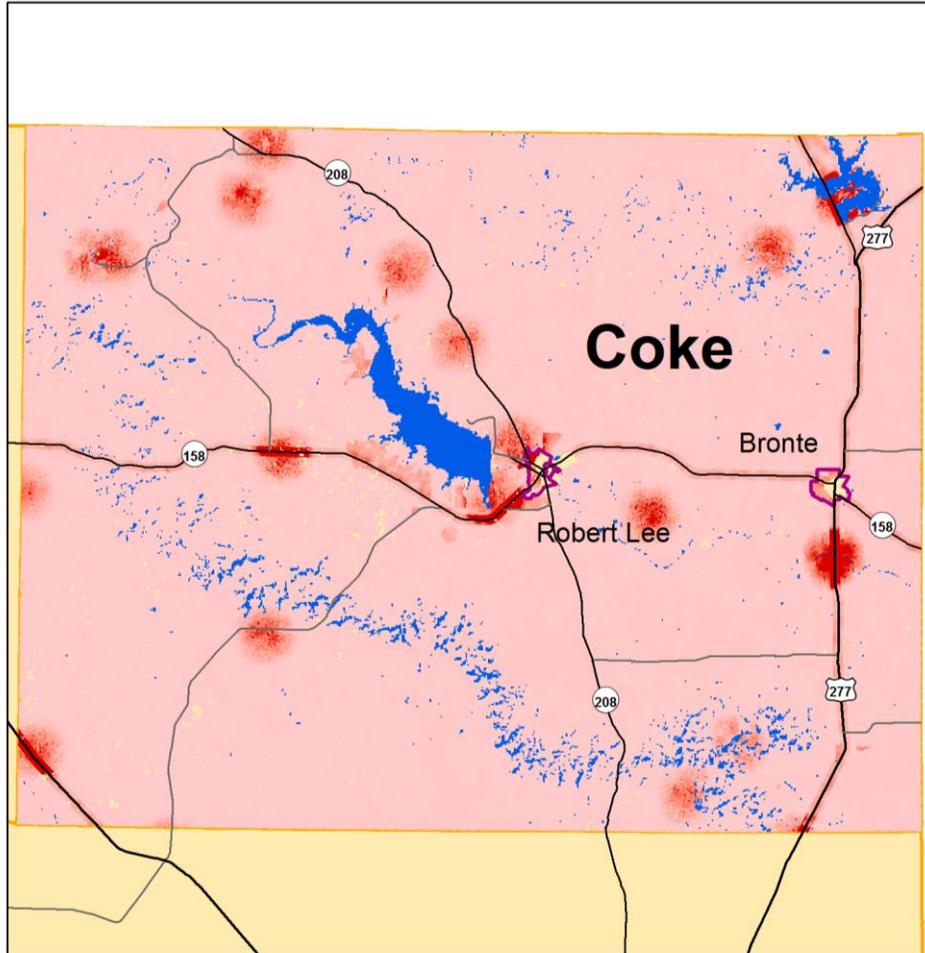
The risk of wildfire varies by month, depending on the climate, and warning time for wildfire events is often minimal or none. The severity of impact of major wildfire events can be major. Such events can cause serious injury and shut down facilities for at least two weeks.

Table 9-3. Loss Estimates in the CVCOG Region

COUNTY	NUMBER OF EVENTS	DEATHS	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	TOTAL DAMAGES	ANNUAL LOSSES
Coke	4	0	0	\$502,000	\$0	\$502,000	\$29,529
Concho	1	0	0	\$0	\$5,000	\$5,000	\$294
Crockett	5	0	0	\$200,000	\$0	\$200,000	\$11,765
Irion	6	0	1	\$0	\$0	\$0	\$0
Kimble	1	0	0	\$350,000	\$0	\$350,000	\$20,588
McCulloch	3	0	0	\$11,000	\$0	\$11,000	\$647
Menard	2	0	0	\$2,000	\$0	\$2,000	\$118
Reagan	1	0	1	\$15,000	\$1,300,000	\$1,315,000	\$77,353
Schleicher	2	0	0	\$10,000	\$0	\$10,000	\$588
Sterling	3	0	1	\$0	\$0	\$0	\$0
Sutton	4	0	0	\$0	\$0	\$0	\$0
Tom Green	6	0	0	\$210,000	\$0	\$210,000	\$12,

COUNTY	NUMBER OF EVENTS	DEATHS	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	TOTAL DAMAGES	ANNUAL LOSSES
TOTALS	38	0	3	\$1,300,000	\$1,305,000	\$2,605,000	\$3,910,000

Figure 9-23. Overall Wildfire Risk (Level of Concern): Coke County



0 5 10 Miles

Level of Concern (LOC) represents the overall wildfire risk. It is calculated by Wildland Fire Susceptibility Index (WFSI) * Fire Effects Index (FEI)

Level of Concern
WFSI * FEI

High

Low

water areas

Figure 9-24. Overall Wildfire Risk (Level of Concern): Concho County

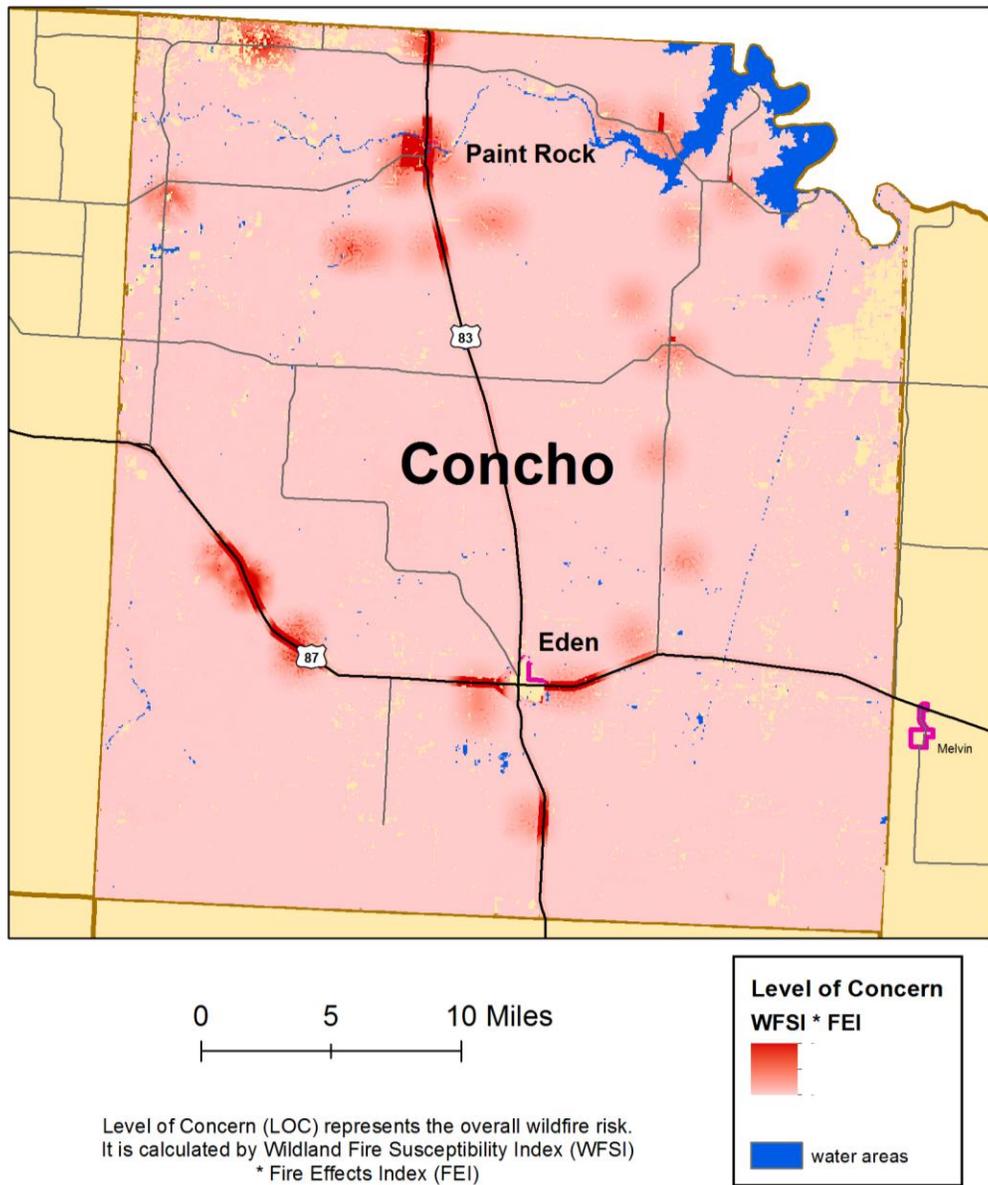
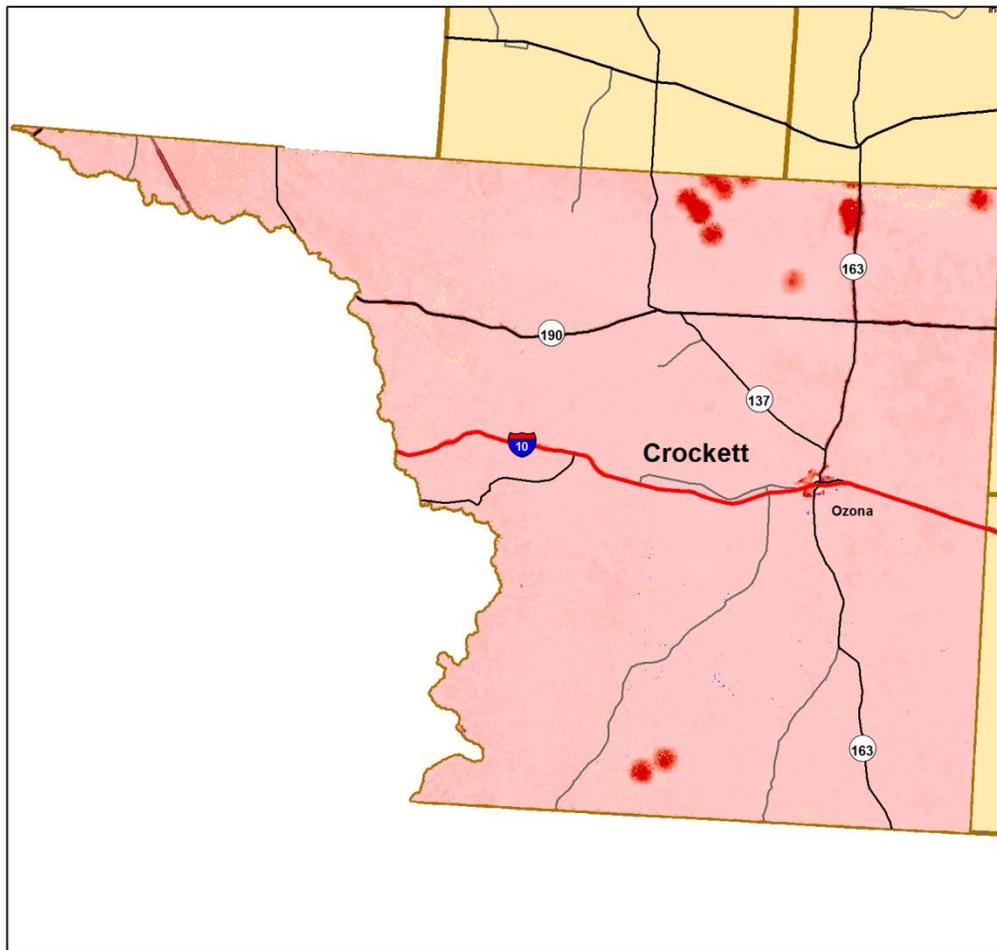


Figure 9-25. Overall Wildfire Risk (Level of Concern): Crockett County



0 10 20 Miles

Level of Concern (LOC) represents the overall wildfire risk. It is calculated by Wildland Fire Susceptibility Index (WFSI) * Fire Effects Index (FEI)

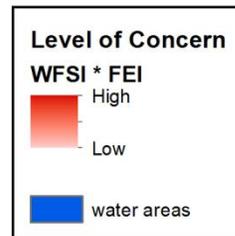


Figure 9-26. Overall Wildfire Risk (Level of Concern): Irion County

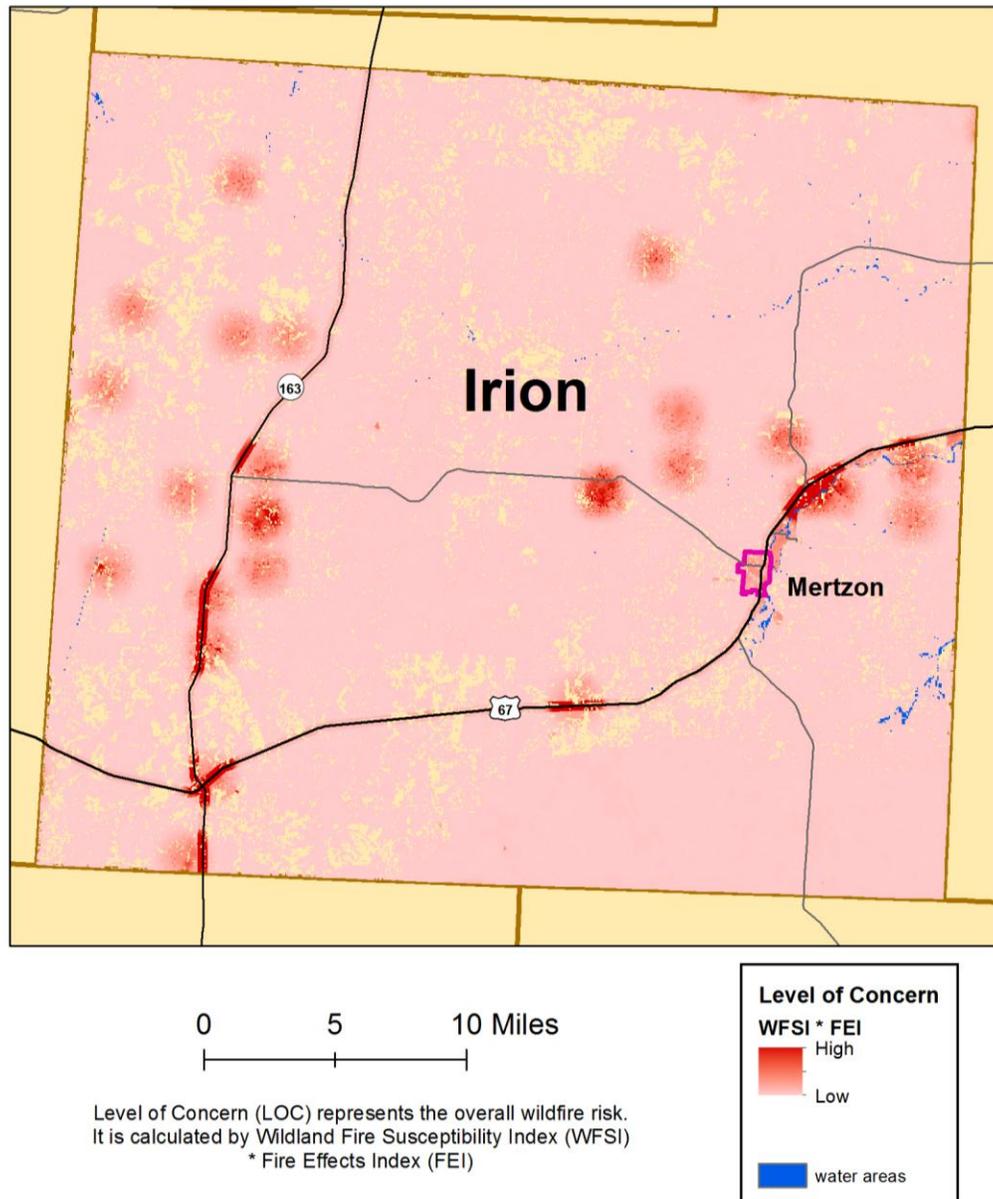
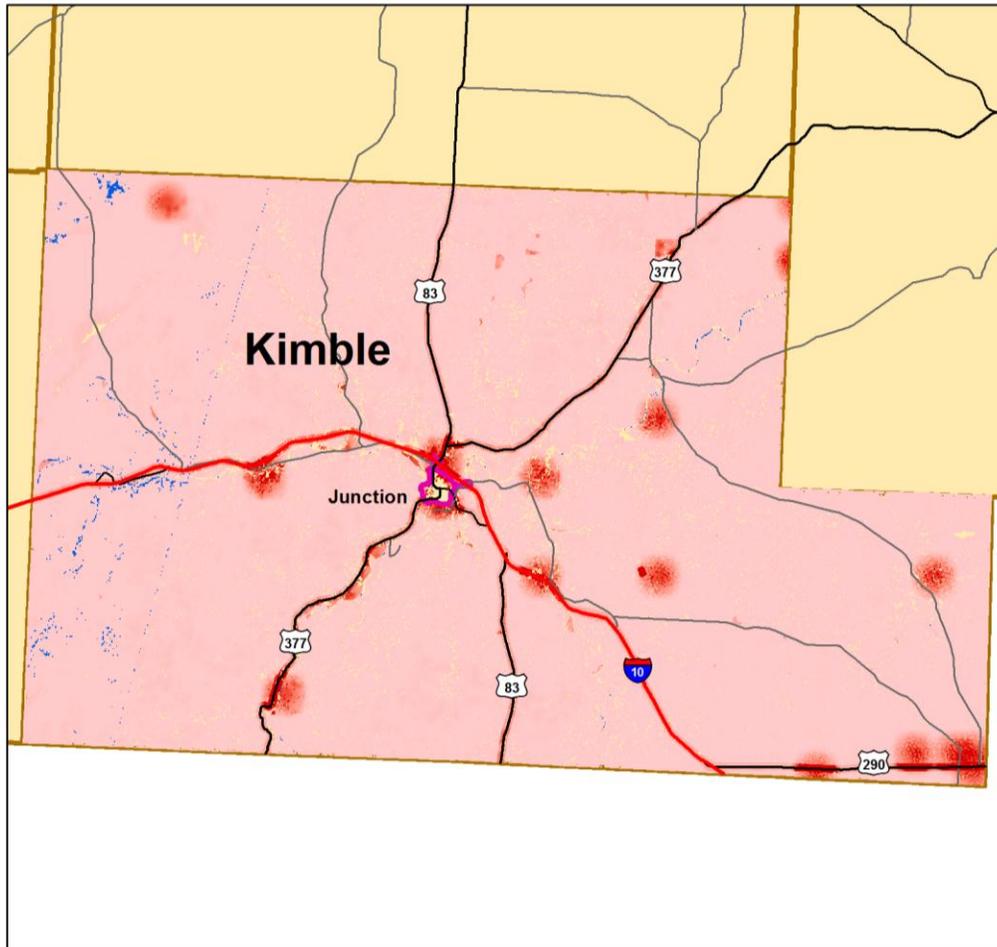


Figure 9-27. Overall Wildfire Risk (Level of Concern): Kimble County



0 5 10 Miles

Level of Concern (LOC) represents the overall wildfire risk.
It is calculated by Wildland Fire Susceptibility Index (WFSI)
* Fire Effects Index (FEI)

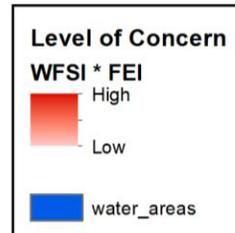


Figure 9-28. Overall Wildfire Risk (Level of Concern): McCulloch County

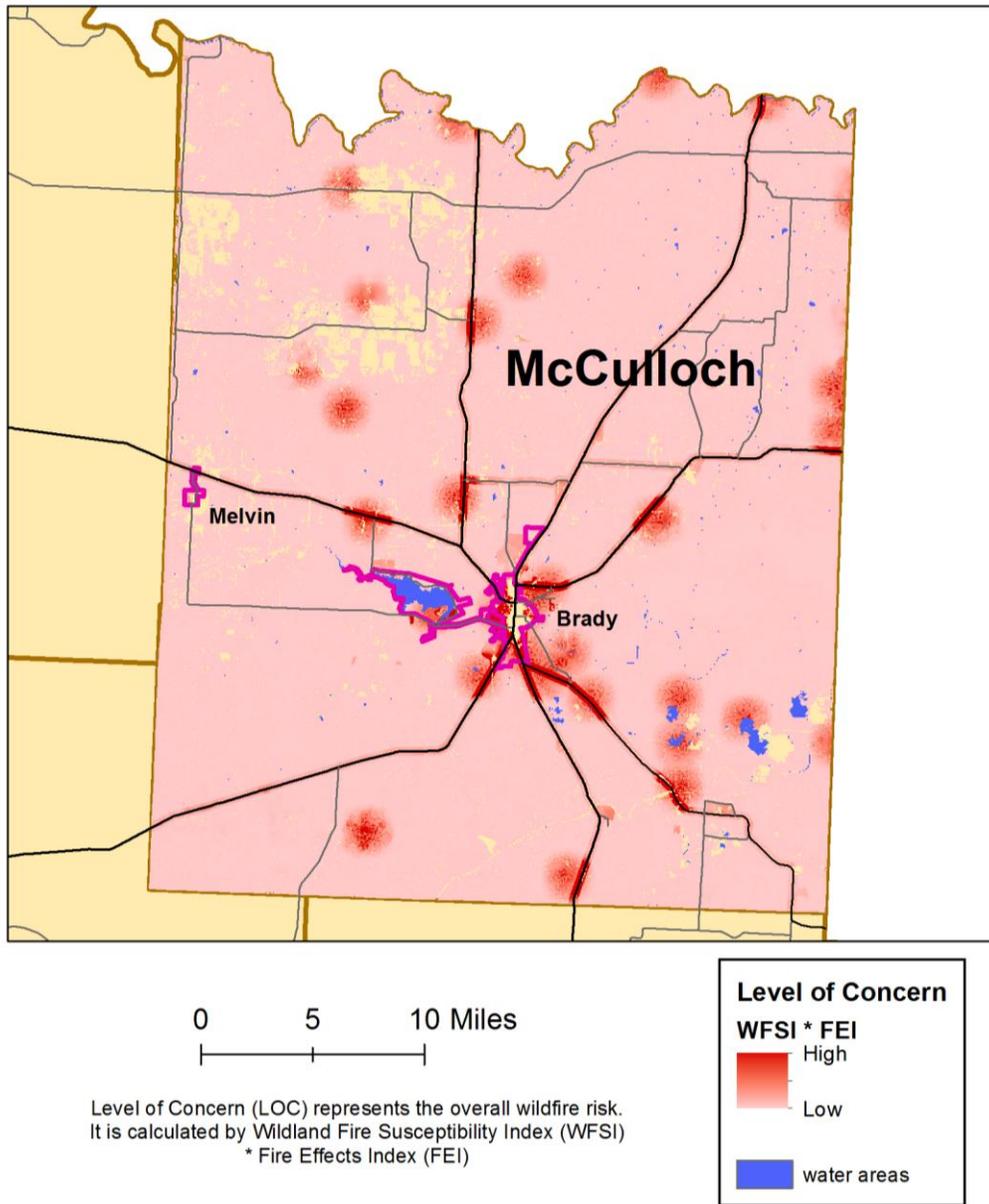


Figure 9-29. Overall Wildfire Risk (Level of Concern): Menard County

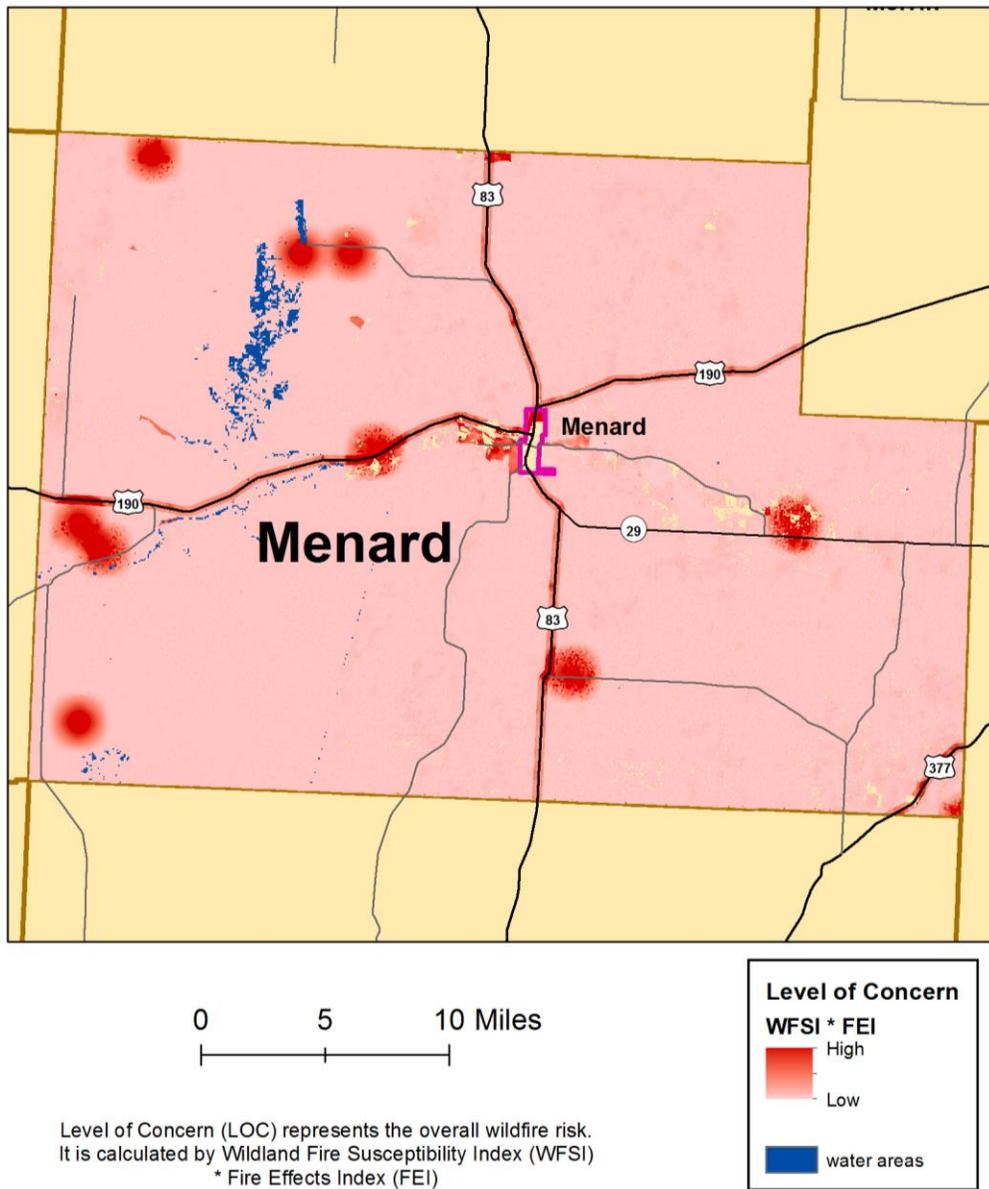


Figure 9-30. Overall Wildfire Risk (Level of Concern): Reagan County

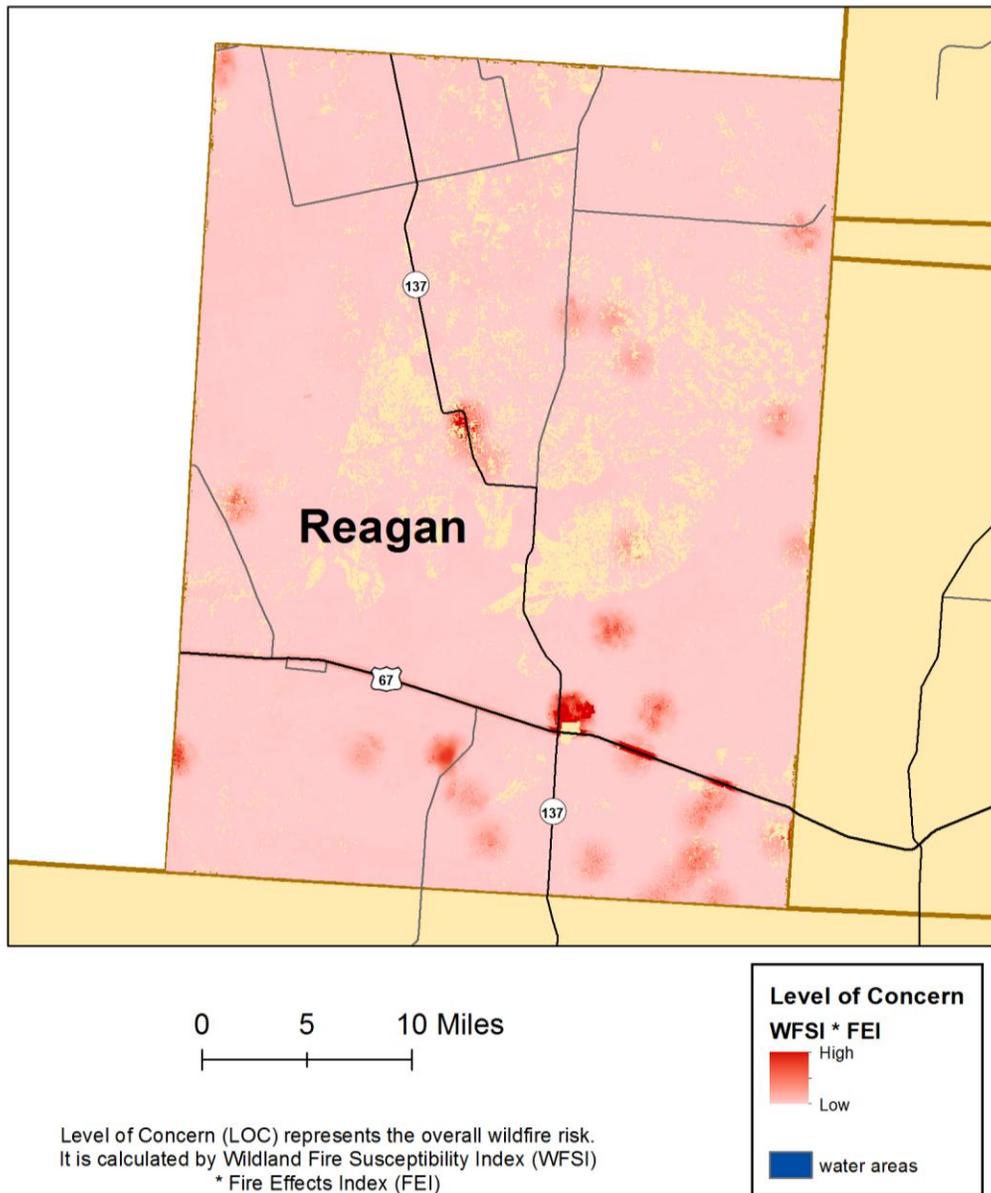


Figure 9-31. Overall Wildfire Risk (Level of Concern): Schleicher County

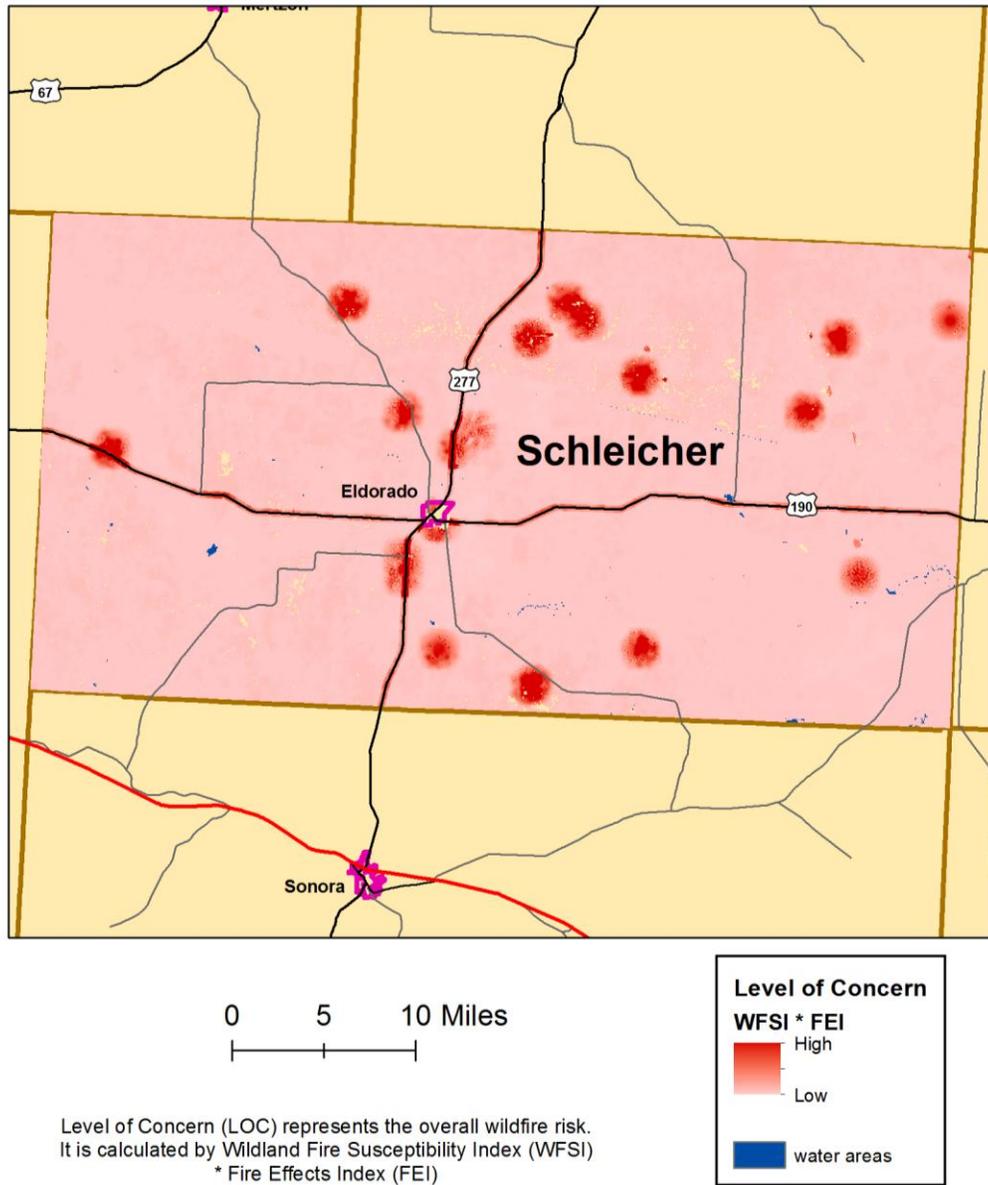


Figure 9-32. Overall Wildfire Risk (Level of Concern): Sterling County

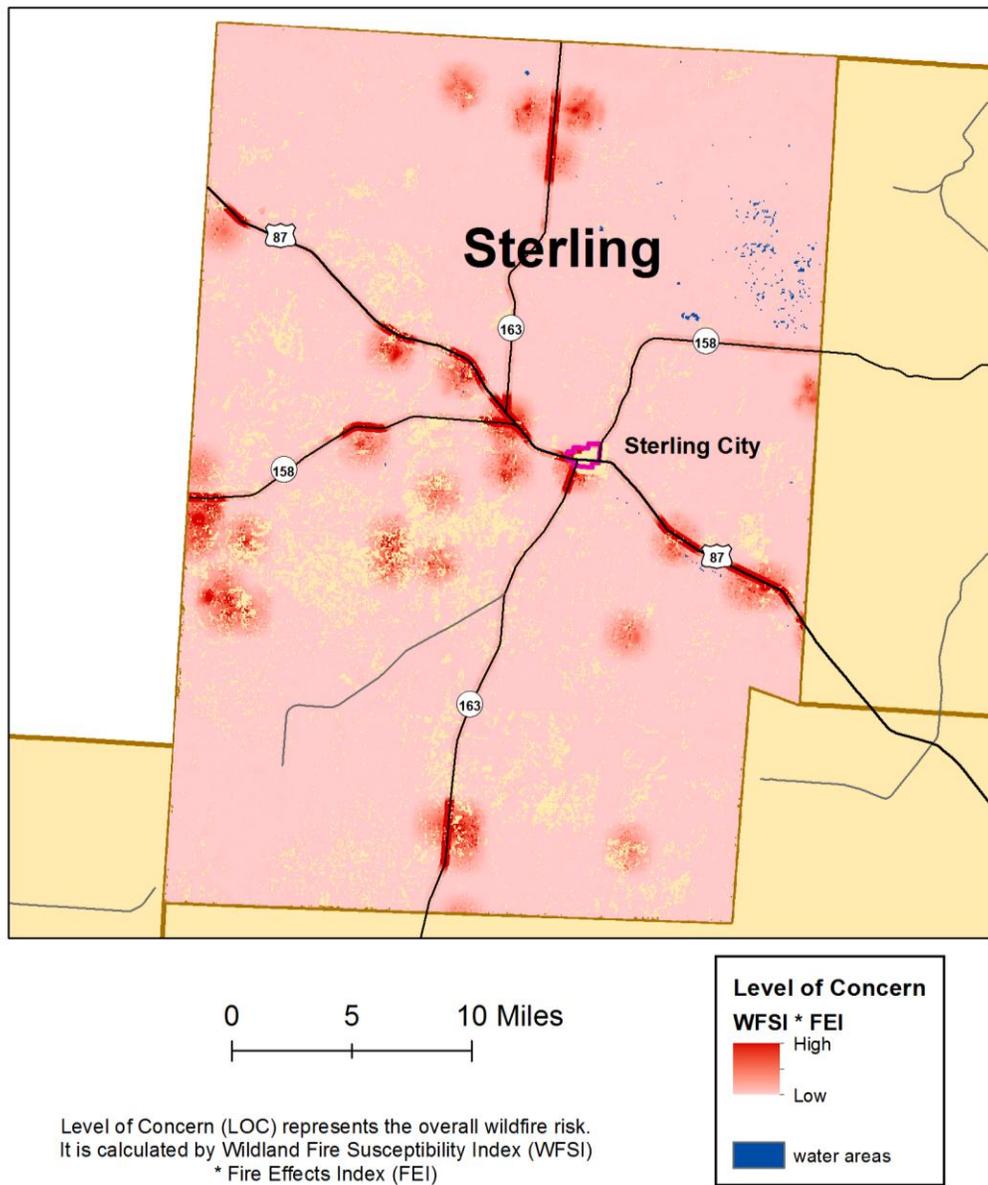
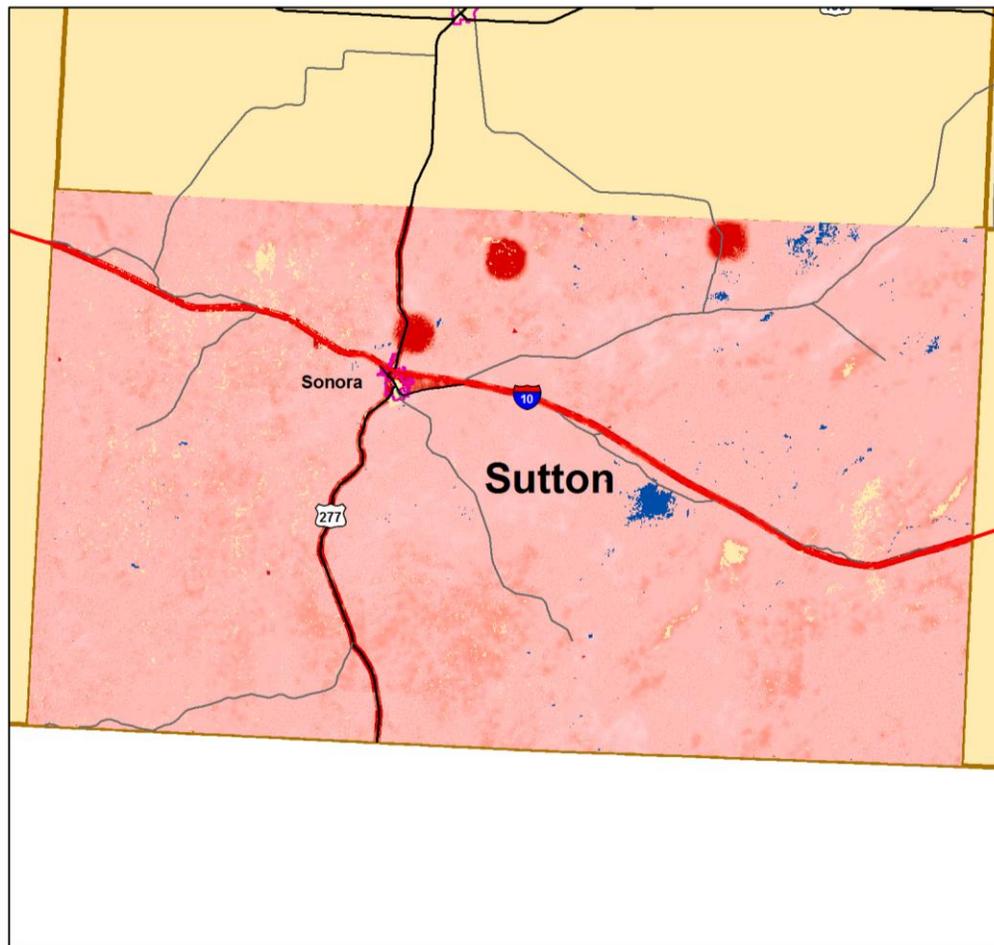


Figure 9-33. Overall Wildfire Risk (Level of Concern): Sutton County

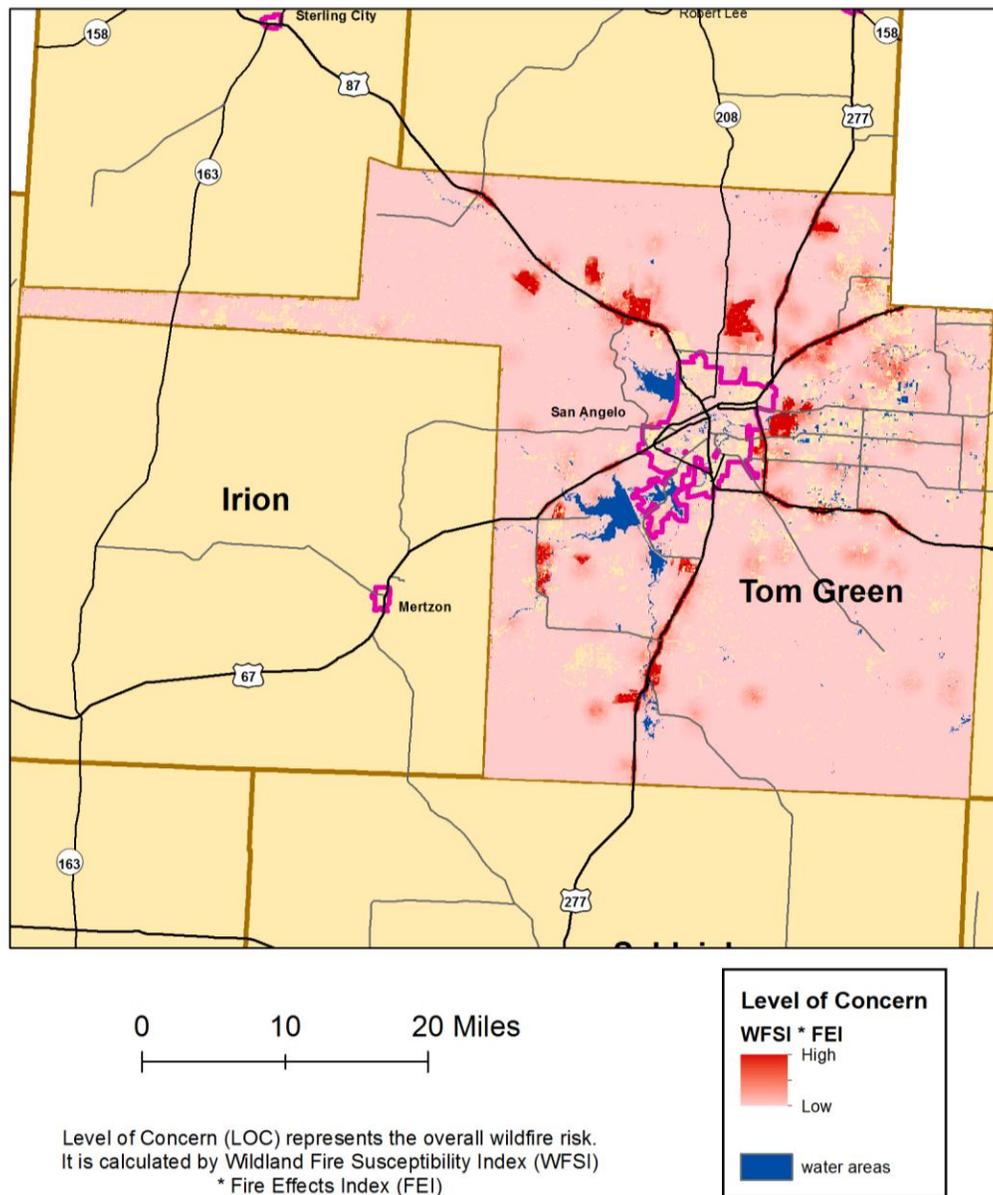


0 5 10 Miles

Level of Concern (LOC) represents the overall wildfire risk. It is calculated by Wildland Fire Susceptibility Index (WFSI) * Fire Effects Index (FEI)

Level of Concern	
WFSI * FEI	High
	Low
	water areas

Figure 9-34. Overall Wildfire Risk (Level of Concern): Tom Green County



DAM FAILURE

HAZARD DESCRIPTION 1
LOCATION..... 2
EXTENT..... 9
HISTORICAL OCCURRENCES 11
PROBABILITY OF FUTURE EVENTS 11
VULNERABILITY AND IMPACT 12

Hazard Description

Dams are water storage, control or diversion structures that impound water upstream in reservoirs. Dam failure can take several forms, including a collapse of, or breach in, the structure. While most dams have storage volumes small enough that failures have few or no repercussions, dams storing large amounts can cause significant flooding downstream. Dam failures can result from any one, or a combination, of the following causes:

- Prolonged periods of rainfall and flooding, which cause most failures;
- Inadequate spillway capacity, resulting in excess overtopping of the embankment;
- Internal erosion caused by embankment or foundation leakage or piping;
- Improper maintenance, including failure to remove trees, repair internal seepage problems, or maintain gates, valves, and other operational components;
- Improper design or use of improper construction materials;
- Failure of upstream dams in the same drainage basin;
- Landslides into reservoirs, which cause surges that result in overtopping;
- High winds, which can cause significant wave action and result in substantial erosion;
- Destructive acts of terrorists; and
- Earthquakes, which typically cause longitudinal cracks at the tops of the embankments, leading to structural failure.

Benefits provided by dams include water supplies for drinking, irrigation and industrial uses; flood control; hydroelectric power; recreation; and navigation. At the same time, dams also represent a risk to public safety. Dams require ongoing maintenance, monitoring, safety inspections, and sometimes even rehabilitation to continue safe service.

In the event of a dam failure, the energy of the water stored behind the dam is capable of causing rapid and unexpected flooding downstream, resulting in loss of life and great

Dam Failure

property damage. A devastating effect on water supply and power generation could be expected as well. The terrorist attacks of September 11, 2001 generated increased focus on protecting the country's infrastructure, including ensuring the safety of dams.

One major issue with the safety of dams is their age and the average age of America's 80,000 dams is 51 years. More than 2,000 dams near population centers are in need of repair, according to statistics released in 2009 by the Association of State Dam Safety Officials¹. In addition to the continual aging of dams, there have not been significant increases in the number of safety inspectors resulting in haphazard maintenance and inspection.



The Association of State Dam Safety Officials estimate that \$16 billion will be needed to fix all high-hazard dams, but the total for all state dam-safety budgets is less than \$60 million². The current maintenance budget does not match the scale of America's long-term modifications of its watersheds. Worse still, more people are moving into risky areas. As the American population grows, dams that once could have failed without major repercussions are now upstream of cities and development.

Location

The State of Texas has 7,413 dams, all regulated by the Texas Commission on Environmental Quality (TCEQ). Of these, 854 are considered "high-hazard," 779 are considered "significant-hazard," and 5,780 are considered "low-hazard." According to the American Society of Civil Engineers' "Report Card," the Association of State Dam Safety Officials reports that there are 403 unsafe dams in Texas.³ Although classifications for specific dams in the CVCOG area were not provided by TCEQ, location and volume, elevation, and condition information was factored into the risk ranking. Currently, there are 162 dams within the 12 participating counties in the CVCOG Region. All dams are listed in Table 10-1 with latitude and longitude information.

¹ Association of State Dam Safety Officials, Journal of Dam Safety

² Ibid

³ <http://www.asce.org/reportcard/pdf/tx.pdf>

Figure 10-1. Dam Locations in the CVCOG Region

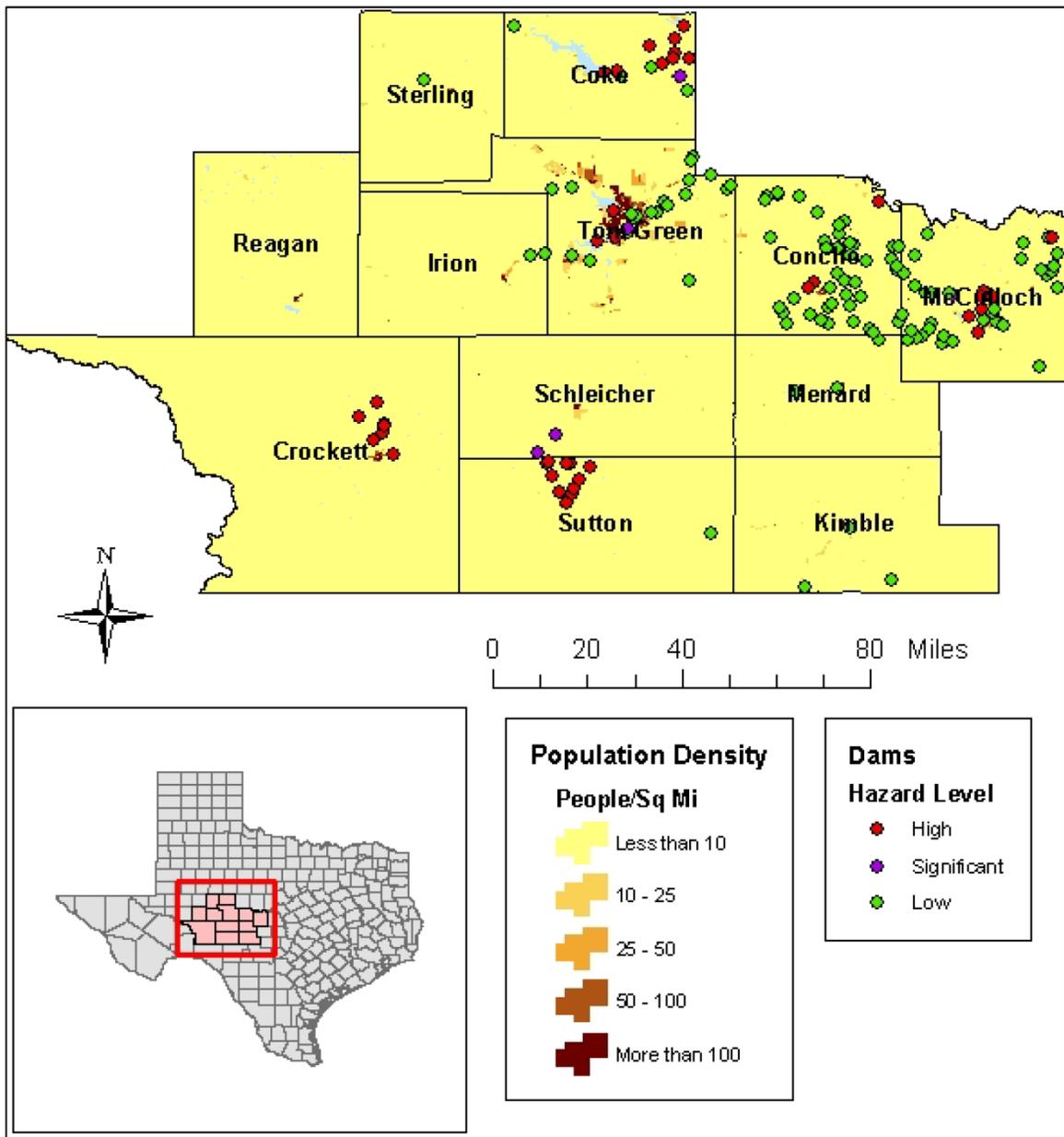


Table 10-1 details the location information in terms of latitude and longitude, in addition to height, storage, and condition of each dam by county.

Table 10-1. Dam Location and Storage Capacity

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
Coke	32.003063	-100.296485	35	2,606	Good
Coke	32.040179	-100.268299	87	79,336	Fair
Coke	31.896285	-100.516128	139	810,000	Good
Coke	31.842693	-100.256448	25	170	
Coke	31.977266	-100.376486	47	1,002	Good
Coke	31.899122	-100.476718	42.6	2,150	Fair
Coke	31.887412	-100.463259	22	285	
Coke	31.915701	-100.32961	46	4,472	Good
Coke	31.942097	-100.302791	31	1,485	Good
Coke	31.959091	-100.29841	41	4,386	Good
Coke	31.945888	-100.253127	30	1,478	Good
Coke	31.911211	-100.367758	25	600	
Coke	31.91452	-100.367205	20	390	
Coke	32.041667	-100.791667	20	228	
Coke	31.882773	-100.282121	23	228	Poor
Concho	31.123157	-99.606553	37	1,572	
Concho	31.106116	-99.700562	26	562	
Concho	31.092052	-99.686176	35	4,680	
Concho	31.125706	-99.749288	43	9,494	
Concho	31.247656	-99.741331	26	3,021	
Concho	31.203607	-99.725976	30	5,742	
Concho	31.12024	-99.827238	27	1,658	
Concho	31.120225	-99.953718	29	1,628	
Concho	31.15346	-99.966869	25	1,730	
Concho	31.229137	-99.888987	26	3,247	Good
Concho	31.197182	-99.931325	32	7,053	
Concho	31.168123	-99.974977	50	11,155	
Concho	31.148283	-99.881266	42	13,042	
Concho	31.247467	-99.871927	28	2,568	Good
Concho	31.228865	-99.82069	34	1,696	

⁴ Condition provided if available

Dam Failure

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
Concho	31.134065	-99.846886	37	3,128	
Concho	31.171274	-99.827555	31	4,493	
Concho	31.179447	-99.817261	31	1,681	
Concho	31.207246	-99.768258	29	2,893	
Concho	31.173129	-99.760355	27	992	
Concho	31.352985	-99.829519	21	1,172	Good
Concho	31.35376	-99.807647	26	2,121	Good
Concho	31.351147	-99.79249	35	4,376	Good
Concho	31.370677	-99.760436	29	1,881	Good
Concho	31.328616	-99.760723	40	3,147	
Concho	31.273095	-99.79533	33	5,352	
Concho	31.252478	-99.775395	28	1,308	
Concho	31.435181	-99.777549	22	499	
Concho	31.423479	-99.790567	26	1,822	
Concho	31.399	-99.79051	29	2,845	
Concho	31.375534	-99.835971	24	669	
Concho	31.463906	-99.8572	18	130	
Concho	31.361415	-99.746385	32	2,789	
Concho	31.311976	-99.709126	30	2,659	
Concho	31.387833	-100.003961	24	380	
Concho	31.514671	-100.013443	16	310	
Concho	31.513669	-99.91619	10	50	
Concho	31.526212	-99.98014	20	312	
Concho	31.517174	-99.978365	10	450	Good
Concho	31.361362	-99.629808	28	2,472	
Concho	31.360083	-99.607383	26	813	
Concho	31.318112	-99.63481	32	2,732	
Concho	31.3015	-99.618513	24	620	
Concho	31.283333	-99.616667	18	399	
Concho	31.301253	-99.612002	28	740	
Crockett	30.71667	-101.16	40	6,548	Good
Crockett	30.83333	-101.26833	36	11,641	Fair

Dam Failure

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
Crockett	30.873745	-101.212214	40	11,550	Good
Crockett	30.807108	-101.187967	42	7,080	Good
Crockett	30.80167	-101.18667	45	8,091	Good
Crockett	30.78	-101.19667	34	3,574	Good
Crockett	30.75667	-101.22333	44	6,145	Good
Irion	31.336667	-100.696667	9	180	
Irion	31.324629	-100.734757	8	82	
Kimble	30.48983	-99.759146	17	300	Good
Kimble	30.302911	-99.900465	15	197	
Kimble	30.489163	-99.759488	13	312	
Kimble	30.328565	-99.629236	18	116	
McCulloch	31.228901	-99.120553	26	856	Good
McCulloch	31.071264	-99.472917	25	2,032	
McCulloch	31.056767	-99.478769	28	1,673	
McCulloch	31.066583	-99.44595	26	1,738	
McCulloch	31.112973	-99.286382	24	624	
McCulloch	31.092531	-99.365022	38	3,732	Fair
McCulloch	31.141359	-99.387145	104	212,400	Good
McCulloch	31.215505	-99.453139	29	1,224	Good
McCulloch	31.208468	-99.44153	29	2,667	Good
McCulloch	31.200524	-99.355492	28	1,607	Good
McCulloch	31.130011	-99.351024	11	50	
McCulloch	31.221077	-99.348281	30	1,977	Fair
McCulloch	31.20216	-99.32437	28	2,119	Good
McCulloch	31.16316	-99.31384	12	235	
McCulloch	31.154941	-99.324869	13	192	
McCulloch	31.163348	-99.352111	19	144	Good
McCulloch	31.097255	-99.56989	30	2,008	
McCulloch	31.071625	-99.580541	43	7,732	
McCulloch	31.081925	-99.554044	29	1,823	
McCulloch	31.083928	-99.536482	30	1,287	
McCulloch	31.104359	-99.517232	24	741	

Dam Failure

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
McCulloch	31.117901	-99.511716	28	612	
McCulloch	31.215356	-99.518658	29	671	Good
McCulloch	31.214047	-99.510251	40	3,724	Good
McCulloch	31.146667	-99.596667	50	13,511	
McCulloch	31.237429	-99.560217	29	2,045	
McCulloch	31.39831	-99.52125	17	231	
McCulloch	31.335394	-99.12158	43	1,995	Fair
McCulloch	31.305734	-99.131613	36	644	Fair
McCulloch	31.383209	-99.141451	31	2,170	Fair
McCulloch	31.29057	-99.156707	30	1,939	Fair
McCulloch	31.281786	-99.137732	26	524	Fair
McCulloch	31.267704	-99.158707	43	4,556	Fair
McCulloch	31.336991	-99.558137	22	1,598	
McCulloch	31.370752	-99.225153	16	210	
McCulloch	31.318211	-99.233959	18	226	
McCulloch	31.390106	-99.160576	25	79	
McCulloch	31.278768	-99.585285	39	1,980	
McCulloch	31.12795	-99.307432	11	60	Fair
McCulloch	31.127362	-99.308918	30	34	Fair
McCulloch	31.127331	-99.307942	10	24	Fair
McCulloch	31.1378	-99.361402	8	0	Breached
Menard	31.068796	-99.672842	24	3,332	
Menard	30.906187	-99.928037	14	280	Good
Menard	30.919809	-99.794874	10	185	
Menard	30.915908	-99.811474	8	35	
Schleicher	30.72	-100.72	48	9,232	Good
Schleicher	30.77667	-100.66333	48	9,466	Good
Sterling	31.871667	-101.07	14	80	
Sutton	30.695	-100.68333	38	10,643	Good
Sutton	30.68833	-100.69167	40	2,755	Good
Sutton	30.685	-100.62833	43	2,187	Good
Sutton	30.64833	-100.675	35	5,560	Good

Dam Failure

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
Sutton	30.685	-100.62	52	9,610	Good
Sutton	30.675	-100.55833	34	1,289	Good
Sutton	30.63667	-100.58833	47	4,020	Fair
Sutton	30.60833	-100.605	47	9,756	Good
Sutton	30.59333	-100.61333	35	2,076	Good
Sutton	30.565	-100.63	32	659	Good
Sutton	30.6	-100.65	34	3,981	Good
Sutton	30.47	-100.18333	10	62	
Tom Green	31.484283	-100.481859	122	696,300	Good
Tom Green	31.382385	-100.538418	134	1,088,000	Good
Tom Green	31.186111	-100.495	8	47	Good
Tom Green	31.328333	-100.615	8	89	
Tom Green	31.313333	-100.558333	20	240	
Tom Green	31.463333	-100.366667	12	106	
Tom Green	31.485	-100.318333	7	75	
Tom Green	31.495	-100.33	8	348	
Tom Green	31.251667	-100.251667	18	158	
Tom Green	31.446667	-100.425	14	448	Fair
Tom Green	31.458333	-100.431667	20	150	
Tom Green	31.4	-100.44333	8	250	Good
Tom Green	31.38833	-100.47833	47	32,981	Good
Tom Green	31.453333	-100.413333	14	291	Good
Tom Green	31.533333	-100.136667	9	70	
Tom Green	31.52	-100.263333	9	210	
Tom Green	31.565	-100.255	10	50	
Tom Green	31.543333	-100.615	22	78	
Tom Green	31.41333	-100.44167	18	316	Good
Tom Green	31.635	-100.24333	38	1,784	Good
Tom Green	31.62167	-100.24667	36	1,562	Good
Tom Green	31.58	-100.186667	20	55	
Tom Green	31.533333	-100.673333	20	102	
Tom Green	31.548333	-100.126667	20	151	

Dam Failure

COUNTY	LATITUDE	LONGITUDE	HEIGHT (Ft.)	STORAGE (Acre Feet)	CONDITION ⁴
Tom Green	31.4	-100.44333	12	250	Good
Tom Green	31.45	-100.378333	21	375	
Tom Green	31.46556	-100.35028	10	110	
Tom Green	31.32281	-100.606801	5.8	65	Good

Extent

The extent or magnitude of a dam failure event is described in terms of the classification of the damages that could result from a dam’s failure; not the probability of failure. The National Interagency Committee on Dam Safety defines high hazard dams as those where failure or mis-operation will cause loss of human life. Prior to 2009, high hazard dams were defined as those at which failure or mis-operation would probably cause loss of human life. Dams classified as “significant” were those at which failure or mis-operation probably would not result in loss of human life but could cause economic loss, environmental damage, disruption of lifeline facilities, or other significant damage. Low hazard potential dams are those at which failure or mis-operation probably would not result in loss of human life but would cause limited economic and/or environmental losses. Losses would be limited mainly to the owner’s property. Classifications for extent after 2009 are found in Table 10-2 below.

Table 10-2. Extent Classifications

HAZARD POTENTIAL CLASSIFICATION	LOSS OF HUMAN LIFE	DAM STORAGE CAPACITY
Low	None Expected	Less than 10,000 acre-feet
Significant	Probable (1 to 6)	Between 10,000 and 100,000 acre-feet
High	Loss of Life Expected (7 or More)	100,000 acre-feet or more

The extent or average magnitude of a dam failure event that could be expected for each county is shown in Table 10-3 based on location data found in Table 10-1 and the extent classifications in Table 10-2 above.

Table 10-3. Extent by Jurisdiction

COUNTY	EXTENT CLASSIFICATION	LEVEL OF INTENSITY TO MITIGATE
Coke	Significant	Dam failure presents a significant threat as the County has at least one high hazard dam and one significant hazard dam, which is in fair condition. Loss of life is probable and economic impact appreciable in the event of a failure.
Concho	Low	The County only has two significant hazard dams and multiple low hazard dams located in less densely populated areas. Economic losses would be negligible and loss of life is not anticipated in the event of a dam failure.
Crockett	Low	The County has two significant hazard dams and a couple of low hazard dams, therefore loss of life is not probable.
Irion	Low	All dams located inside the County are considered low hazard dams.
Kimble	Low	The County only has low hazard dams. Loss of life is not expected and any economic loss would be negligible.
McCulloch	Significant	The County has at least one high hazard dam, one significant hazard dam, and multiple low hazard dams. Loss of life is probable and economic impact appreciable in the event of a failure. According to Table 10-1 one of the county's dams is breached; however this dam is only eight feet with no storage capacity.
Menard	Low	The county only has low hazard dams, therefore loss of life is not expected in a breach and any economic loss would be negligible.
Schleicher	Low	The County only has low hazard dams, both located in the unincorporated areas. Loss of life is not expected and economic impact appreciable in the event of a failure.
Sterling	Low	The County only has one dam and it is a low hazard dam, therefore loss of life is not expected in the event of a failure.

COUNTY	EXTENT CLASSIFICATION	LEVEL OF INTENSITY TO MITIGATE
Sutton	Low	Although the County has one significant hazard dam, this dam is not located in a populated area and is listed as being in good condition.
Tom Green	Significant	Dam failure presents a significant threat as the County has two high hazard dams, one significant hazard dam, and multiple low hazard dams that are located throughout the County. In the event of a dam failure, loss of life is probable and economic loss is appreciable.

Historical Occurrences

There are about 80,000 dams in the United States today.⁵ Catastrophic dam failures have occurred frequently throughout the past century. Between 1918 and 1958, 33 major U.S. dam failures caused 1,680 deaths. From 1959 to 1965, nine major dams failed worldwide. Some of the largest disasters in the U.S. have resulted from dam failures. More than 520 dam incidents, including 21 dam failures, were reported in the past two years to the National Performance of Dams Program, which collects and archives information on dam performance from state and federal regulatory agencies and dam owners.

The State of Texas has not experienced loss of life or extensive economic damage due to a dam failure since the first half of the twentieth century. However, due to limited state staff, many incidents are not reported and, therefore, the actual number of incidents is likely to be greater.

There has not been a recorded dam failure event for any of the participating jurisdictions in the planning area.

Probability of Future Events

No historical events of dam failure have been recorded in the CVCOG Region, though the risk of dam failure is monitored closely. Due the lack of historical occurrences, the probability of a future event is unlikely, meaning an event is possible within the next ten years.

⁵ Federal Emergency Management Agency, Dam Safety Program, <http://www.fema.gov/hazards/damsafety/>

Vulnerability and Impact

Significant and high hazard dams are located in both rural and populated areas in the CVCOG planning area. Although low hazard dams are those at which failure or mis-operation probably would not result in loss of human life and would cause limited economic and/or environmental losses, damage to agriculture and housing is possible due to the amount of low hazard dams in each county.

Flooding is the most prominent effect of dam failure. If the dam failure is severe, a large amount of water would enter the downstream waterways forcing them out of their banks. There may be significant environmental effects, resulting in flooding that could disperse debris and hazardous materials downstream that can damage local ecosystems. In addition debris carried downstream can block traffic flow, cause power outages, and disrupt local utilities such as water and wastewater. Surge waves resulting from dam breaks have the potential to create major losses.

Annualized loss-estimates for dam failure are not available; neither is a breakdown of potential dollar losses of critical facilities, infrastructure and lifelines, or hazardous-materials facilities. If a major dam should fail, however, the severity of impact could be substantial.

A dam breach could result in multiple deaths with facilities being shut down for 30 days or more, and more than 50 percent of property destroyed or damaged. For these reasons, creating mitigations actions to remove or protect people and structures from the path of destruction is necessary in order to minimize impact from dam failure.

WINTER STORM

HAZARD DESCRIPTION 1
LOCATION..... 1
EXTENT..... 1
HISTORICAL OCCURRENCES 3
 SIGNIFICANT PAST EVENTS..... 4
PROBABILITY OF FUTURE EVENTS 5
VULNERABILITY AND IMPACT 5

Hazard Description

A severe winter storm event is identified as a storm with snow, ice, or freezing rain—all of



which can cause significant problems for area residents. Winter storms are associated with freezing or frozen precipitation such as freezing rain, sleet, snow and the combined effects of winter precipitation and strong winds. Wind chill is a function of temperature and wind. Low wind chill is a product of high winds and freezing temperatures. January is the month when snow, sleet or freezing rain is most likely to be observed; yet, winter weather conditions can occur at any time during the winter and early spring months.

Location

Winter storms vary in location, intensity and duration but are considered rare occurrences in CVCOG communities. It is assumed that all of the jurisdictions are uniformly exposed to winter storm events; therefore, all areas of the counties are equally exposed.

Extent

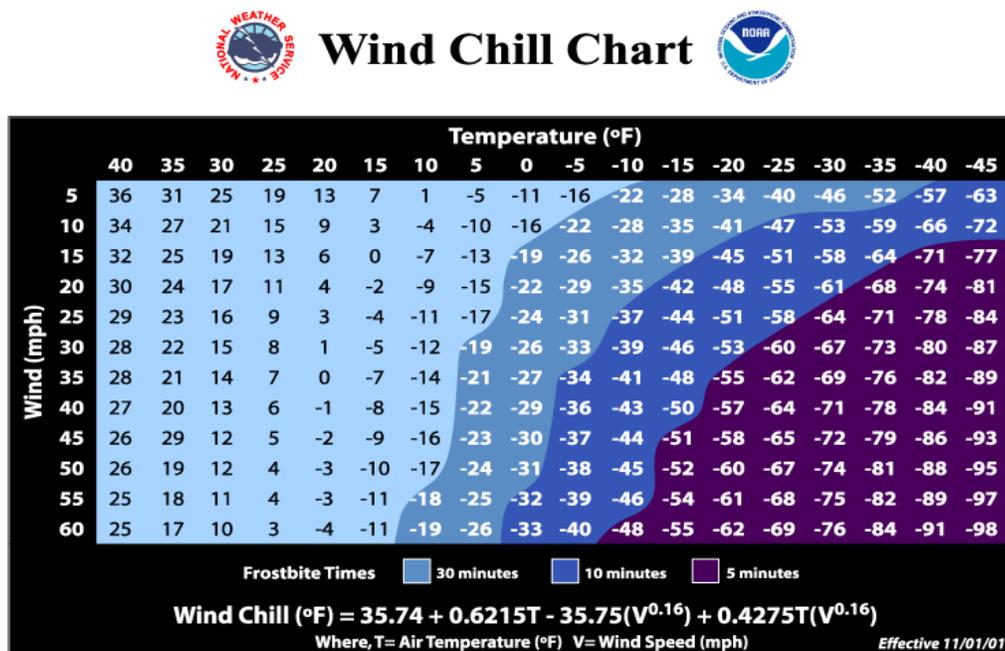
Table 11-1 below displays the magnitude of severe winter storms. The wind-chill factor is further described in Figure 11-1. This is an index developed by the National Weather Service, although the chart is not applicable when temperatures are over 50° or winds are calm.

Table 11-1. Extent Scale - Winter Weather Alerts

WINTER WEATHER ADVISORY	This alert may be issued for a variety of severe conditions. Weather advisories may be announced for snow, blowing or drifting snow, freezing drizzle, freezing rain, or a combination of weather events.
WINTER STORM WATCH	Severe winter weather conditions may affect your area (freezing rain, sleet or heavy snow may occur separately or in combination).
WINTER STORM WARNING	Severe winter weather conditions are imminent.
FREEZING RAIN OR FREEZING DRIZZLE	Rain or drizzle is likely to freeze upon impact, resulting in a coating of ice glaze on roads and all other exposed objects.
SLEET	Small particles of ice usually mixed with rain. If enough sleet accumulates on the ground, it makes travel hazardous.
BLIZZARD WARNING	Sustained wind speeds of at least 35 mph are accompanied by considerable falling or blowing snow. This alert is the most perilous winter storm with visibility dangerously restricted.
FROST/FREEZE WARNING	Below freezing temperatures are expected and may cause significant damage to plants, crops and fruit trees.
WIND CHILL	A strong wind combined with a temperature slightly below freezing can have the same chilling effect as a temperature nearly 50 degrees lower in a calm atmosphere. The combined cooling power of the wind and temperature on exposed flesh is called the wind-chill factor.

Wind chill temperature is a measure of how cold the wind makes real air temperature feel to the human body, similar to the heat index for extreme heat (Figure 12-1). Since wind can dramatically accelerate heat loss from the body, a blustery 30°F day would feel just as cold as a calm day with 0°F temperatures. The CVCOG Region has been subject to winter storm watches, warnings, freezing rain, sleet, snow and wind chill.

Figure 11-1. Wind Chill Chart



The Concho Valley Region is part of the Panhandle Plains in Texas for the northern half of the region and the Hill Country for the southern counties. As a whole this region experiences similar winter events. Winter nights for the area commonly see temperatures fall below the freezing mark, or 32 °F. From the past occurrence data, all counties have experienced ice storms, heavy snow, winter storms and winter weather. The average number of cold days are similar for each county. Therefore the intensity of a winter storm event to be mitigated for the area is an ice storm and heavy snow.

Historical Occurrences

Table 11-2 shows historical occurrences for the area since 1950, as well as the type of event provided by the National Climatic Data Center (NCDC). Although there have been relatively few storms, it is likely that a high number of occurrences have gone unreported. Additionally, historical winter storm information, as provided by the NCDC, shows winter storm activity across a multi-county forecast area for each event. In some instances within the study area, a single record could consist of up to 27 counties including some or all of the ones participating in this risk assessment. Therefore, an appropriate percentage of the total property and crop damage reported for the entire forecast area has been allocated to each participating county impacted by each event.

Table 11-2. Historical Winter Storm Events by Jurisdiction, 1950-2010)

COUNTY	NUMBER OF REPORTED EVENTS	TYPES OF EVENTS
Coke	13	Ice Storm, Heavy Snow, Winter weather/mix, and Winter Storm
Concho	9	Ice Storm, Heavy Snow, Winter weather/mix, and Winter Storm
Crockett	15	Ice, Ice Storm, Heavy Snow, and Winter Storm
Irion	10	Ice Storm, Heavy Snow, Winter weather/mix, and Winter Storm
Kimble	12	Ice Storm, Heavy Snow, and Winter Storm
McCulloch	10	Ice Storm, Heavy Snow, Winter weather, and Winter Storm
Menard	13	Ice Storm, Heavy Snow, Winter weather, and Winter Storm
Reagan	8	Ice Storm, Heavy Snow, Winter weather, and Winter Storm
Schleicher	13	Ice, Ice Storm, Heavy Snow, Winter Storm, and Winter weather
Sterling	12	Ice Storm, Heavy Snow, Winter weather/mix, and Winter Storm
Sutton	14	Ice Storm, Heavy Snow, and Winter Storm
Tom Green	10	Ice Storm, Heavy Snow, Winter weather/mix, and Winter Storm
TOTAL	139	

Significant Past Events

24 November 1996

This event affected eight of the twelve counties in the planning area. A vigorous upper level storm system interacted with a cold Canadian air mass to produce snow, sleet, and freezing rain on the Nov 24. Total sleet and snowfall amounts were generally between two and six

inches over the Concho Valley, northern Edwards Plateau, and northwest Hill Country. The highest amounts were generally in the northwest Hill Country, where eight inches of snow fell at Junction. Icy roads proved hazardous to drivers and numerous accidents occurred throughout the area. There were a few fatalities and several injuries. The cold moisture damaged the unharvested cotton in Tom Green County.

24 February 2003 – McCulloch County

An arctic cold front barreled through West Central Texas on the Feb. 23, dropping temperatures into the teens and 20s across all of the area. Strong overrunning began during the morning of the Feb. 24; producing thunderstorms that dropped large amounts of sleet and even hail to one half inch in diameter. The Big Country saw one to three inches of sleet during the afternoon and early evening of the 24th, with the activity slipping to the southeast into the Heartland during the evening of the 24th. One-half to one inch of sleet was reported across the Heartland. With temperatures remaining below freezing until the morning of the 26th, the accumulated ice remained on area roadways, with numerous accidents reported. There were also some minor injuries reported in the Abilene area, due to people slipping and falling down on the ice.

Probability of Future Events

A total of 24 unique events have impacted the CVCOG Region from 1950 to 2010. Although the counties reported a total of 139 incidents over the 60-year period, indicating that storms can impact the 12-county planning region as frequently as two winter storm events per year. Hence it is likely that the region will experience a winter storm event; an event is probable within the region within the next three years.

Vulnerability and Impact

All buildings and facilities are considered to be equally exposed and vulnerable to this hazard and could potentially be impacted because winter storm events are widespread within the planning area. Although a winter storm is a slow onset hazard with generally six to twelve hours of warning time, utility disruptions from winter storms can severely impact people and critical infrastructure. Ice and cold temperatures can lead to frozen water pipes and broken power lines due to a buildup of ice or downed trees, all of which can disrupt services. If the disruption continues it can lead to energy shortages and higher prices.

While all populations and infrastructure are uniformly exposed in the CVCOG Region, the elderly and those with weakened immune systems are at a greater risk to death from hypothermia in extreme events. Homes with a poor foundation may have cracks or water damage from broken pipes in extreme events and residences with insufficient insulation will see an increased cost for heating. Hospitals and emergency facilities without back-up or emergency generators will also be significantly impacted in a severe winter storm event. In

Winter Storm

addition fires during winter storms present a greater danger because water supplies may freeze and impede firefighting efforts.

Historical evidence shows that most of the area is susceptible to winter storm activity; however, past reported property damages indicate that, while winter events (typically consisting of snow and ice) do occur, their economic impacts are typically not severe across the entire study area.

Loss estimates consider an appropriate percentage of the total property and crop damage reported for the entire forecast area since damages are reported as a sum of all impacted counties' damages. Table 11-3 below summarizes the reported damages by county. Historic loss estimates (in 2009 dollars) total \$19.7 million over the 12 county region during the 60-year reporting period from the NCDC, providing a regional annual loss estimate of \$330,000.

Table 11-3. Historic Damage Estimates by County

COUNTY	NUMBER OF REPORTED EVENTS	REPORTED DAMAGES	ANNUALIZED LOSS (AL)
Coke	13	\$2,644,904	\$44,081.73
Concho	9	\$1,593,254	\$26,554.23
Crockett	15	\$1,575,575	\$26,259.58
Irion	10	\$1,382,757	\$23,045.95
Kimble	12	\$1,618,060	\$26,967.67
McCulloch	10	\$1,648,691	\$27,478.18
Menard	13	\$1,618,282	\$26,971.37
Reagan	8	\$1,378,728	\$22,978.80
Schleicher	13	\$1,599,724	\$26,662.07
Sterling	12	\$1,382,757	\$23,045.95
Sutton	14	\$1,672,868	\$27,881.13
Tom Green	10	\$1,594,393	\$26,573.22
TOTALS FOR STUDY AREA	139	\$19,709,993	\$328,499.88

The potential severity of impact for any one county in the planning area can be considered limited; critical facilities and services would not be expected to be shut down for more than 24 hours and less than 10 percent of property would be destroyed.

EXTREME HEAT

HAZARD DESCRIPTION	1
LOCATION.....	1
EXTENT.....	1
HISTORICAL OCCURRENCES.....	4
SIGNIFICANT PAST EVENT	4
PROBABILITY OF FUTURE EVENTS	5
VULNERABILITY AND IMPACT	5

Hazard Description

Severe, excessive summer heat is characterized by a combination of exceptionally high temperatures and humidity. When these conditions persist over a period of time, it is called a heat wave. Higher than normal humidity and temperatures can cause an extreme heat event or heat wave to occur. A heat wave is a prolonged period of excessive heat, most often in very humid conditions. The National Center for Environmental Health reports from 1979 to 1999, excessive heat exposure caused 8,015 deaths in the United States.

Location

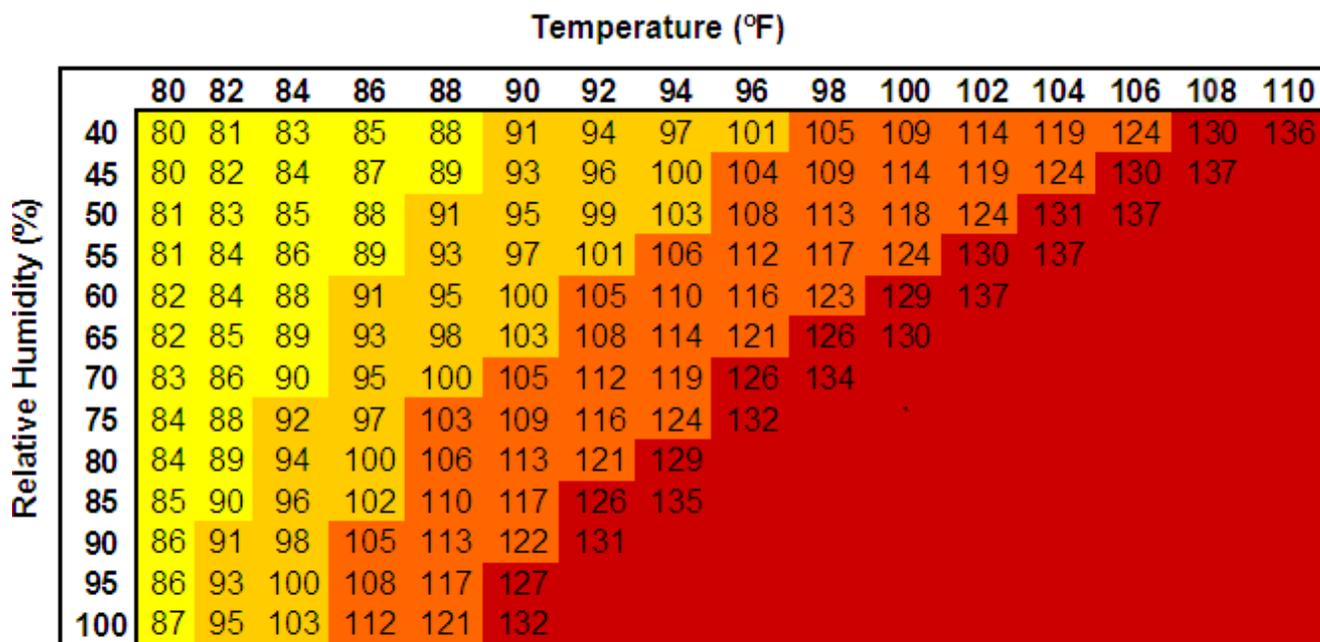
Though different temperatures for extreme heat have been recorded at various locations throughout the CVCOG Region, there is no specific geographic scope to the extreme heat hazard. Extreme heat could occur anywhere in the planning area.



Extent

The magnitude or intensity of an extreme heat event is measured according to temperature in relation to the percentage of humidity. According to the National Oceanic Atmospheric Administration (NOAA), this relationship is referred to as the “Heat Index,” and is depicted in Figure 12-1. This index measures how hot it feels outside when humidity is combined with high temperatures.

Figure 12-1. Extent Scales for Extreme Summer Heat¹



The extent scale in Figure 12-1 displays varying degrees of caution depending on the relative humidity combined with the temperature. For example, when the temperature is at 90°F or lower, caution should be exercised if the humidity level is at or above 40 percent.

The shaded zones on the chart indicate varying symptoms or disorders that could occur depending on the magnitude or intensity of the event. “Caution” is the first level of intensity where fatigue due to heat exposure is possible. “Extreme Caution” indicates that sunstroke, muscle cramps or heat exhaustion are possible, whereas a “Danger” level means that these symptoms are likely. “Extreme Danger” indicates that heat stroke is likely.

Based on the extent scale in Figure 12-1, an extreme summer heat event could occur with an air temperature as low as 80°F if the percentage of humidity was equal to or greater than 40 percent. Even though this temperature seems relatively low, given the high humidity, fatigue is possible. Citizens, especially children and the elderly should exercise caution by staying out of the heat for prolonged periods at this temperature and relative humidity. As the chart indicates fatigue is only possible, but can occur with prolonged exposure or physical activity. Citizens who work outdoors should exercise caution even at

¹ Source: NOAA

Extreme Heat

the lower temperature if the humidity is at a high degree. With prolonged exposure or physical activity fatigue could set in, causing dizziness, headaches or nausea.

Figure 12-2. Average Daily Maximum Heat Index²

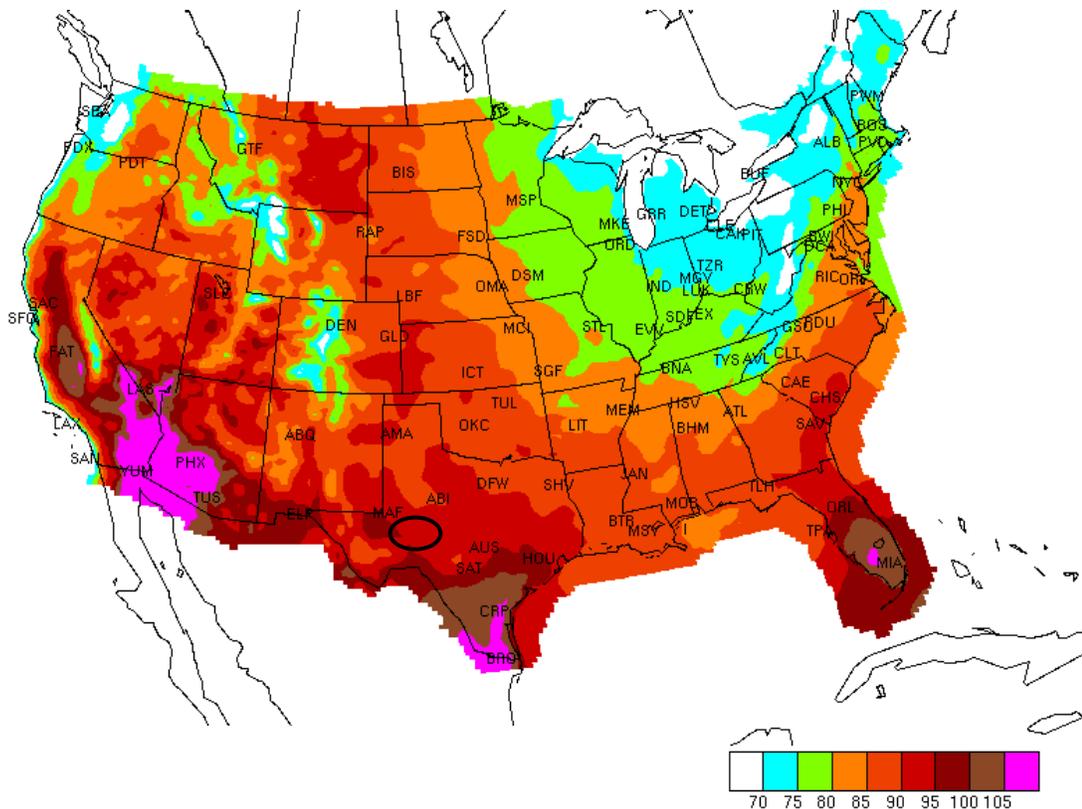


Figure 12-2 displays the daily maximum heat index as derived from NOAA based on data compiled from 1849 to 2009. Although the CVCOG Region spans 13 counties, the communities therein experience similar temperatures due to their location within the Panhandle Plains and Hill Country Regions of Texas. The dark circle on the map in Figure 12-2 shows the approximate location of the CVCOG Region. On average the daily maximum heat average is between 95-100 degrees Fahrenheit.

Based on this information the average extent for the communities in the CVCOG Region is “Danger”, which indicates that sunstroke, muscle cramps and heat exhaustion are likely. Because the CVCOG Region is affected seasonally by extreme summer heat, the extent scales provide a means for better targeting mitigation actions to protect lives. Using the extent scale in Figure 12-1 to combine heat and humidity allows officials to better predict events and more accurately warn citizens of danger.

² Source: NOAA

Historical Occurrences

According to the National Climatic Data Center (NCDC), from 1950 to 2010 one extreme heat event affected counties in the planning area. Table 12-1 below summarizes heat event related deaths in Texas for the period of 1994 to 2011. While it is difficult to discern impacts by County for a hazard whose damages are regional in scale, general characterization of extreme heat impacts can be determined and the significant historic event is profiled in this section.

Table 12-1. Extreme Heat Related Deaths in Texas

YEAR	DEATHS
1994	1
1995	12
1996	10
1997	2
1998	66
1999	22
2000	71
2001	20
2002	1
2003	0
2004	3
2005	49
2006	2
2007	2
2008	7
2009	6
2010	4
2011	20

Significant Past Event

June 1994

It impacted 7 of the 12 counties in the study area. In June of 1994, an area of strong high pressure caused a record heat wave across West Texas. This event allowed temperatures to hold between 110 and 120 degrees through the last week in June. As a result, a 40 year-old male construction worker was killed by heat stroke and an elderly female was injured by heat stroke; both occurred in El Paso, which is adjacent to the planning area but not within

the Concho Valley COG. Unfortunately, fatalities due to extreme heat are not uncommon in the State of Texas as the table below presents.

Probability of Future Events

Based on reports of events, the planning area can expect a frequency of return that is probable within the ten years. The likelihood of occurrence of excessive summer heat event in the CVCOG Region is unlikely. Extreme drought conditions and above-average temperatures for 2009 and 2010 have affected all of the participating jurisdictions' probability of experiencing an extreme heat event. In the past, multiple counties throughout the region have issued burn bans to prevent the occurrence of wildfires due to extreme heat and dry conditions.

Vulnerability and Impact

There is no defined geographic boundary for excessive summer heat events. While all of the planning area is exposed to extreme temperatures, existing buildings, infrastructure and critical facilities are not considered vulnerable to significant damage caused by extreme heat events. Therefore, any estimated property losses associated with these hazards are anticipated to be minimal across the area. However, extreme temperatures do present significant life and safety threats to the population and to agriculture in the CVCOG Region. As a result, excessive summer heat deserves mitigation consideration by the participating jurisdictions.

Due to the limited variance in terms of average days of heat for jurisdiction, it is difficult to state with accuracy detailed variables among participating communities in terms of vulnerability. However, the major human risks associated with severe summer heat include: heat cramps; sunburn; dehydration; fatigue; heat exhaustion; and even heat stroke. The most vulnerable population to heat casualties are children and the elderly or infirmed, who frequently live on low fixed incomes and cannot afford to run air-conditioning on a regular basis. This population is sometimes isolated, with no immediate family or friends to look out for their well-being. Another segment of the population at risk is those whose jobs consist of strenuous labor outdoors. Livestock and crops can also become stressed, decreasing in quality or in production, during times of extreme heat.

Loss estimates due to extreme heat total \$350,000 for the planning area, which may include damages from other counties that are in the impact area but not in the planning area. Similarly, deaths from extreme heat cannot be specified.

The potential impact of excessive summer heat for the CVCOG Region is limited, resulting in few, if any, injuries. Injuries and illness are expected to be treatable with first aid, critical facilities and emergency services would not be expected to be shut down though no

Extreme Heat

more than 24 hours in the worst case. No property damage is expected though crop damages are more commonly the results of prolonged extreme heat events.

DROUGHT

HAZARD DESCRIPTION 1
LOCATION..... 2
EXTENT..... 2
HISTORICAL OCCURRENCES 4
 SIGNIFICANT PAST EVENTS..... 4
PROBABILITY OF FUTURE EVENTS 5
VULNERABILITY AND IMPACT 5

Hazard Description

Drought is a period of time without substantial rainfall that persists from one year to the next. Drought is a normal part of virtually all climatic regions, including areas with high and low average rainfall. Drought is the consequence of anticipated natural precipitation reduction over an extended period of time, usually a season or more in length. Droughts can be classified as meteorological, hydrologic, agricultural, and socioeconomic. Table 13-1 presents definitions for these different types of drought.

Droughts are one of the most complex of all natural hazards, as it is difficult to determine their precise beginning or end. In addition, droughts can lead to other hazards, such as extreme heat and wildfires. Their impact on wildlife and area farming is enormous, often killing crops, grazing land, edible plants and even in severe cases, trees. A secondary hazard to drought is wildfire because dying vegetation serves as a prime ignition source. Therefore, a heat wave combined with a drought is a very dangerous situation.

Table 13-1. Drought Classification Definitions¹

METEOROLOGICAL DROUGHT	The degree of dryness or departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
HYDROLOGIC DROUGHT	The effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
AGRICULTURAL DROUGHT	Soil moisture deficiencies relative to water demands of plant life, usually crops.

¹ Source: Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy, FEMA

SOCIOECONOMIC DROUGHT

The effect of demands for water exceeding the supply as a result of a weather-related supply shortfall.

Location

Droughts occur regularly throughout Texas and the CVCOG Region and are a normal condition. However, droughts can vary greatly in their intensity and duration. There is no distinct geographic boundary to drought; therefore, the CVCOG Region is equally at risk.

Extent

The Palmer Drought Index is used to measure the extent of drought by measuring the duration and intensity of long-term drought-inducing circulation patterns. Long-term drought is cumulative, with the intensity of drought during the current month dependent upon the current weather patterns plus the cumulative patterns of previous months. The hydrological impacts of drought (e.g., reservoir levels, groundwater levels, etc.) take longer to develop. Table 13-2 depicts magnitude of drought while Table 13-3 describes the classification descriptions.

Table 13-2. Palmer Drought Index

DROUGHT INDEX	DROUGHT CONDITION CLASSIFICATIONS						
	Extreme	Severe	Moderate	Normal	Moderately moist	Very moist	Extremely moist
Z Index	-2.75 and below	-2.00 to -2.74	-1.25 to -1.99	-1.24 to +.99	+1.00 to +2.49	+2.50 to +3.49	n/a
Meteorological	-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.99	+3.00 to +3.99	+4.00 and above
Hydrological	-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.99	+3.00 to +3.99	+4.00 and above

Table 13-3. Palmer Drought Category Descriptions²

CATEGORY	DESCRIPTION	POSSIBLE IMPACTS	PALMER DROUGHT INDEX
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.	-1.0 to -1.9
D1	Moderate Drought	Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-2.0 to -2.9
D2	Severe Drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-3.0 to -3.9
D3	Extreme Drought	Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions.	-4.0 to -4.9
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.	-5.0 or less

Drought is monitored nationwide by the National Drought Mitigation Center (NDMC). Indicators are used to describe broad scale drought conditions across the U.S. Indicators correspond to the intensity of drought.

Based on the historical occurrences for drought, the area can anticipate a range of drought from abnormally dry to exceptional or D0 to D4 based on the Palmer Drought Category. Data from the NDMC gathered from 1985³ to the present indicates that the CVCOG Region experiences drought uniformly, with the planning area experiencing a D2 or Severe Drought on average. Therefore, the communities in the planning area are equally susceptible to drought events and should mitigate to an extent of severe drought.

² Source: National Drought Mitigation Center

³ Historical maps of the Palmer Drought Index are available at:
<http://www.drought.unl.edu/Planning/Monitoring/HistoricalPDSIMaps.aspx>

Historical Occurrences

Due to the seasonal, long term, and widespread nature of the drought hazard, events occur over the course of one year and the same drought event will be reported by multiple counties in a region. One drought event will not occur repeatedly in a single year.

Based on this data, all twelve counties were reporting impacts from seven unique (separate) drought events. Table 13-4 below shows the drought event year and number of events each county reported during the period 1996 – 2010. According to reports from the National Climatic Data Center (NCDC) seven unique events were reported for the area.

Table 13-4. Historical Drought Events by Jurisdiction, 1996-2010

COUNTY	YEAR OF EVENT	TOTAL
Coke	1998, 2000, 2006, 2009	4
Concho	1998, 2000, 2006, 2009	4
Crockett	1998, 2000, 2006, 2009	4
Irion	1998, 2000, 2006, 2009	4
Kimble	1998, 2000, 2008, 2009	4
McCulloch	1998, 2000, 2006, 2009	4
Menard	1998, 2000, 2005, 2006, 2009	5
Reagan	1996, 1998, 2006	3
Schleicher	1998, 2000, 2006, 2009	4
Sterling	1998, 2000, 2006, 2009	4
Sutton	1998, 2000, 2006, 2008	4
Tom Green	1998, 2000, 2006, 2009	4
UNIQUE EVENTS:	1996, 1998, 2000, 2005, 2006, 2008, 2009	7

Significant Past Events

August 1998

A devastating drought began in 1998 and continued through the end of summer with little or no rain falling, affecting 11 of the 12 counties in the study area. The two main crops across the area, wheat and cotton, were both near total losses, with additional losses to the cattle, sheep and goat industries. Preliminary loss figures top \$150 million.

May 2000

This event affected 11 of the 12 counties in the planning region. A devastating drought continued across West Central Texas through the month of May. Information from the

USDA indicate that crop losses total in excess of \$85 million for this spring alone, not including losses to the cattle and sheep ranching industries.

Probability of Future Events

Based on occurrence and frequency of past events, it can be expected that a drought event will impact somewhere in the region approximately every other year. Hence, the probability of a future drought occurrence is likely, with an event is probable within three years.

Vulnerability and Impact

Droughts impact large areas and cross jurisdictional boundaries, hence all existing and future buildings, facilities and populations are exposed to this hazard and could potentially be impacted. Since all jurisdictions are considered to be equally affected by drought, each jurisdiction will not be assessed independently.

Droughts may cause a shortage of water for human and industrial consumption, hydroelectric power, recreation and navigation. Water quality may also decline and the number and severity of wildfires may increase. Severe droughts may result in the loss of agricultural crops and forest products, undernourished wildlife and livestock, lower land values, and higher unemployment. Therefore, not only are agricultural businesses vulnerable to drought, but also hydro-electric power and other water-dependent industries, such as forestry and tourism.

Secondary hazards associated with drought are wildfire and expansive soils, but the most direct impact of drought is economic rather than loss of life or immediate destruction of property. This can be significant as it spans many sectors of the economy and reaches well beyond the area experiencing physical drought as water is integral to our ability to produce goods and provide services.

Annual historic losses were estimated based on the recent 15 years of event data (NCDC). Potential loss is simply a projection of historic loss, as are all loss estimates in this risk assessment; however, drought is only based on 15 years of available data where all other hazards were based on 60 years of recording events. Property and crop damages are presented by county and year in Table 13-5 below.

Table 13-5. Drought Event Damage Totals (1996-2010)

COUNTY	PROPERTY DAMAGES (2009 \$\$)	CROP DAMAGES (2009 \$\$)	ANNUAL LOSS (AL) ESTIMATE
Coke	\$0	\$12,498,993	\$833,266
Concho	\$0	\$12,498,993	\$833,266
Crockett	\$25,254	\$12,751,539	\$851,786
Irion	\$0	\$12,498,993	\$833,266
Kimble	\$25,254	\$12,759,549	\$852,320
McCulloch	\$0	\$12,498,993	\$833,266
Menard	\$7,927,956	\$12,759,549	\$1,379,167
Reagan	\$1,572,435	\$24,999,483	\$1,771,461
Schleicher	\$25,254	\$12,751,539	\$851,786
Sterling	\$0	\$12,498,993	\$833,266
Sutton	\$25,254	\$12,751,539	\$851,786
Tom Green	\$0	\$12,498,993	\$833,266
SUBTOTALS:	\$9,601,407	\$163,767,156	N/A
AVERAGES:	\$800,117	\$13,647,263	\$963,159
TOTAL DAMAGES:		\$173,368,563	

Based on the previous occurrences and potential exposure for the hazard, the potential severity of impact of droughts is limited; critical facilities and services would not be expected to be shut down for more than 24 hours and less than 10 percent of property would be destroyed.

HURRICANE

HAZARD DESCRIPTION	1
LOCATION	1
EXTENT	2
HISTORICAL OCCURRENCES	2
SIGNIFICANT PAST EVENT	4
PROBABILITY OF FUTURE EVENTS	4
VULNERABILITY AND IMPACT	4

Hazard Description

According to the National Oceanic and Atmospheric Administration (NOAA), a hurricane is an intense tropical weather system of strong thunderstorms with well-defined surface circulation and maximum sustained winds of 74 mph or higher. In the Northern Hemisphere circulation of winds near the Earth’s surface is counterclockwise.

Hurricanes often begin as tropical depressions that intensify into tropical storms when maximum sustained winds increase to between 35-64 knots (39 – 73 mph). At these wind speeds, the storm becomes more organized and circular in shape and begins to resemble a hurricane. Tropical storms can be equally problematic without ever becoming a hurricane, resulting in high winds and heavy rainfall, as Tropical Storm Erin did for Crockett County in August 2007. Once sustained winds reach or exceed 74 mph, the storm becomes a hurricane. The intensity of a land falling hurricane is expressed in categories relating wind speeds and potential damage. Tropical storm-force winds are strong enough to be dangerous to those caught in them.

Location

Although all of the counties in the CVCOG Region are located inland from the coast, they are still susceptible to the indirect threats of a hurricane, including high winds and flooding. The planning area is outside of the hurricane wind speed hazard areas and is approximately 100 miles northwest of San Antonio, which is the inland extremity of hurricane wind hazard zones. Due to the location outside of the hazard areas, the CVCOG has played host to coastal area residents who evacuate during hurricane events. Location of previous hurricane tracks is shown in Figure 14-1.

Extent

Hurricanes are categorized according to the strength and intensity of their winds using the Saffir-Simpson Hurricane Scale (See Table 14-1). A Category 1 storm has the lowest wind speeds, while a Category 5 hurricane has the highest. This scale only ranks wind speed, but lower category storms can inflict greater damage than higher category storms depending on where they strike, the amount of storm surge, other weather they interact with and how slow they move.

Table 14-1. Extent Scale for Hurricanes¹

CATEGORY	MAXIMUM SUSTAINED WIND SPEED (Mph)	MINIMUM SURFACE PRESSURE (Millibars)	STORM SURGE (Feet)
1	74-95	Greater than 980	3-5
2	96-110	979-965	6-8
3	111-130	964-945	9-12
4	131-155	944-920	13-18
5	155+	Less than 920	19+

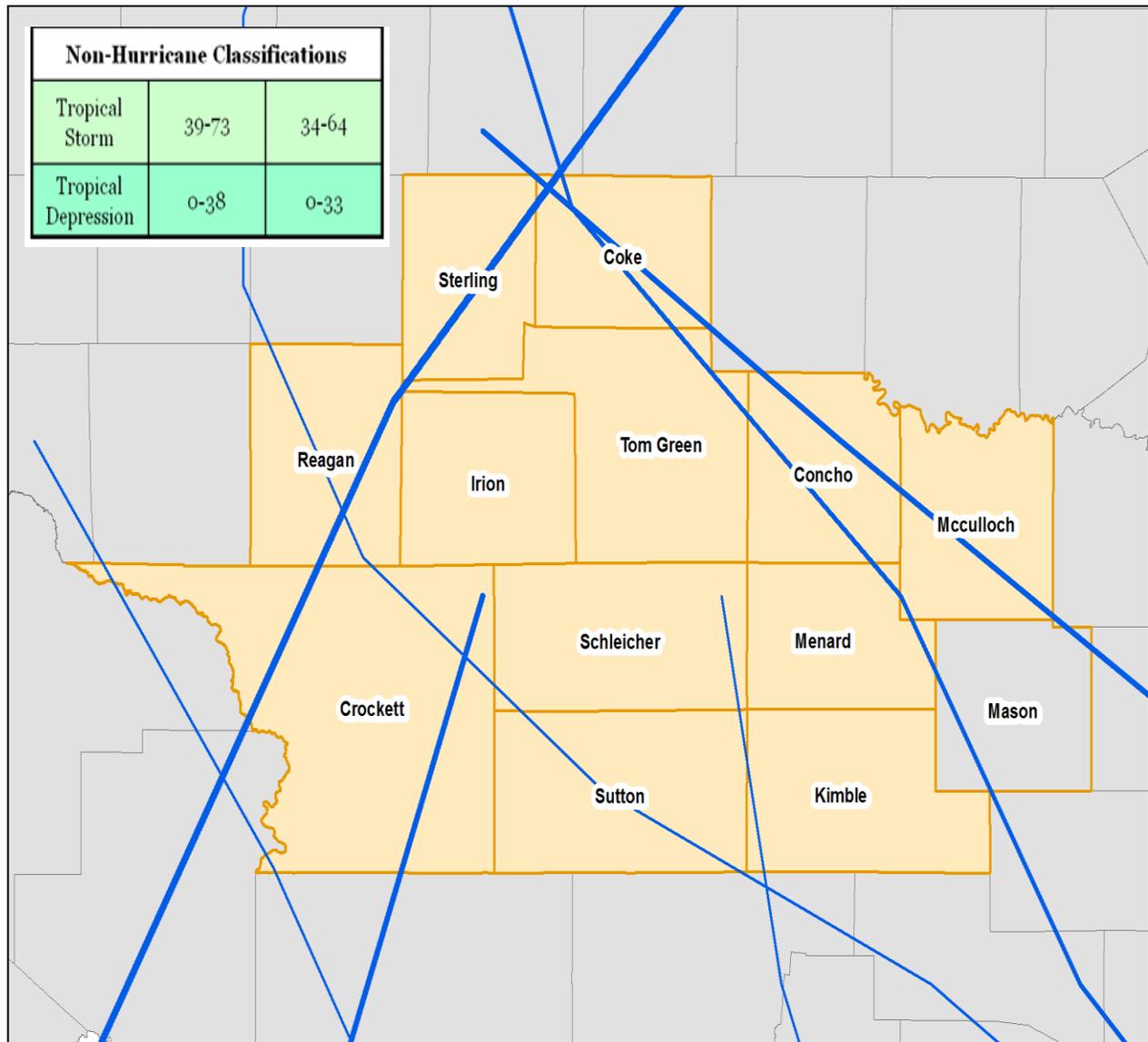
Based on the historical storm tracks for hurricanes and the location of the CVCOG Region outside of the hurricane wind hazard area, the average extent to be mitigated for is a Category 1 storm for the communities in the planning area.

Historical Occurrences

Although hurricanes and tropical storms have made landfall at various magnitudes (categories) in the Concho Valley area, the storms have usually weakened to tropical storms or depressions by that time, being near the end of their life cycle. With the storms having reduced winds, extreme rainfall is the hazard of concern. In Figure 14-1 below, hurricane track widths are reflective of their strength at their strongest magnitude at any location. Table 14-2 lists the storms shown to have a track through the planning area in Figure 14-1.

¹ Source: National Hurricane Center

Figure 14-1. Location of Historic Storm Tracks²



² Source: NOAA/National Hurricane Center

Table 14-2. Historic Storms

YEAR	STORM NAME	CATEGORY
1851	Not Named	Tropical Storm
1880	Not Named	Category 4
1893	Not Named	Category 2
1942	Not Named	Category 3
1958	Alma	Tropical Storm
1988	Gilbert	Category 5
2007	Erin	Tropical Storm

Significant Past Event

16 August 2007

This event affected 10 of the 12 counties in the planning region. The remnants of Tropical Depression Erin slowly moved through the Concho Valley Region, dropping around three to seven inches of rain across a large portion of the area. Over nine inches of rain fell near the rural areas of southeastern Crockett County. Wind gusts up to 42 knots (48 mph) and a minimum seal-level pressure of 1007 mb were reported at Junction. Flash flooding closed many roads and caused one fatality. River and creek flooding damaged hundreds of homes.

Probability of Future Events

Based on historical occurrences and the infrequency of significant hurricane wind events, the probability of future events is unlikely, with an event no more frequent than every 10 years.

Vulnerability and Impact

Hurricane-force winds can cause major damage to large areas; hence all existing buildings, facilities and populations are equally exposed and vulnerable to this hazard and could potentially be impacted. Warning time for hurricanes has lengthened due to modern and early warning technology. Hurricane-force winds can easily destroy poorly constructed buildings and mobile homes, as well as debris such as signs, roofing materials, and small items left outside become extremely hazardous in hurricanes and tropical storms. Extensive damage to trees, towers, and underground utility lines (from uprooted trees) and fallen poles cause considerable civic disruption.

Storm track data was available for the past 150 years; however, property and crop loss data is only available from 1950 to the present. Annual loss estimates were based on the 60 year reporting period for such damages. The average annual loss estimate for counties in the planning region is approximately \$278,000.

Table 14-3. Historic Loss Estimates

COUNTY	NUMBER OF EVENTS	PROPERTY DAMAGE (2009 \$\$)	CROP DAMAGE (2009 \$\$)
Coke	0	-	-
Concho	0	-	-
Crockett	4	\$25,825,193	\$5,968,759
Irion	1	\$3,601,153	\$369,848
Kimble	3	\$22,224,040	\$5,598,911
McCulloch	0	-	-
Menard	3	\$22,224,040	\$5,598,911
Reagan	1	\$3,601,153	\$369,848
Schleicher	4	\$25,825,193	\$5,968,759
Sterling	1	\$3,601,153	\$369,848
Sutton	4	\$25,825,193	\$5,968,759
Tom Green	1	\$3,601,153	\$369,848
TOTALS FOR STUDY AREA	(4 unique)	\$166,911,762	

The potential severity of impact from a hurricane for the CVCOG Region is classified as limited; injuries would be treatable with first aid, critical facilities would not be shut down for more than 24 hours, and less than 10 percent of property would be destroyed.

MITIGATION STRATEGY

MITIGATION GOALS	1
GOAL 1	2
<i>Objective 1.1</i>	2
<i>Objective 1.2</i>	2
<i>Objective 1.3</i>	2
<i>Objective 1.4</i>	2
GOAL 2	2
<i>Objective 2.1</i>	2
<i>Objective 2.2</i>	2
<i>Objective 2.3</i>	2
GOAL 3	2
<i>Objective 3.1</i>	2
<i>Objective 3.2</i>	3
<i>Objective 3.3</i>	3
GOAL 4	3
<i>Objective 4.1</i>	3
<i>Objective 4.2</i>	3
<i>Objective 4.3</i>	3
<i>Objective 4.4</i>	3
GOAL 5	3
<i>Objective 5.1</i>	3
<i>Objective 5.2</i>	3
<i>Objective 5.3</i>	3

Mitigation Goals

Based on the results of the risk and capability assessments, the Planning Team was able to develop and prioritize the mitigation strategy. At the Mitigation Workshops held July 27-28, 2011, Planning Team members refined the mitigation strategy for the Plan Update, choosing to maintain the overall goal of reducing and eliminating the long-term risk of loss of life and property damage from the full range of disasters.

Goal 1

Protect public health and safety in the region.



Objective 1.1

Maintain critical facilities.

Objective 1.2

Maximize the utilization of the latest technology to provide adequate warning, communication, and mitigation of hazard events.

Objective 1.3

Reduce the danger to, and enhance protection of, high risk areas during hazard events.

Objective 1.4

Protect critical facilities and services.

Goal 2

Protect new and existing properties.

Objective 2.1

Reduce repetitive losses to the National Flood Insurance Program (NFIP).

Objective 2.2

Use the most cost-effective approach to protect existing buildings and public infrastructure from hazards.

Objective 2.3

Enact and enforce regulatory measures to ensure that development will not put people in harm's way or increase threats to existing properties.

Goal 3

Build and support partnerships to enhance mitigation to continuously become less vulnerable to hazards.

Objective 3.1

Build and support local partnerships to continuously become less vulnerable to hazards.

Objective 3.2

Build a cadre of committed volunteers to safeguard the community before, during and after a disaster.

Objective 3.3

Build hazard mitigation concerns into City planning and budgeting processes.

Goal 4

Leverage outside funds for investment in hazard mitigation.

Objective 4.1

Maximize the use of outside sources of funding.

Objective 4.2

Maximize participation of property owners in protecting their properties.

Objective 4.3

Maximize insurance coverage to provide financial protection against hazard event.

Objective 4.4

Prioritize mitigation projects based on cost-effectiveness, and starting with those sites facing the greatest threat to life, health and property.

Goal 5

Increase the understanding of residents for the need for mitigation, and steps they can take to protect people and properties.

Objective 5.1

Heighten public awareness of the full range of natural and man-made hazards they face.

Objective 5.2

Educate the public on actions they can take to prevent or reduce the loss of life or property from all hazards.

Objective 5.3

Publicize and encourage the adoption of appropriate hazard mitigation measures.

PREVIOUS ACTIONS

CVCOG REGION 2

COKE COUNTY..... 5

 TOWN OF BRONTE 14

 CITY OF ROBERT LEE 25

CONCHO COUNTY 41

 CITY OF EDEN 48

 TOWN OF PAINT ROCK..... 52

CROCKETT COUNTY..... 61

IRION COUNTY 71

 CITY OF MERTZON..... 81

KIMBLE COUNTY 87

 CITY OF JUNCTION 92

MCCULLOCH COUNTY 101

 TOWN OF MELVIN 107

MENARD COUNTY 110

 CITY OF MENARD 132

REAGAN COUNTY..... 157

 CITY OF BIG LAKE 164

SCHLEICHER COUNTY 169

 CITY OF ELDORADO 172

STERLING COUNTY 176

 CITY OF STERLING CITY 182

SUTTON COUNTY..... 197

 CITY OF SONORA 203

TOM GREEN COUNTY..... 209

 CITY OF SAN ANGELO..... 212

Previous Actions

Planning team members were given copies of the mitigation actions submitted in the 2005 Plan at the mitigation workshops during the planning process. Each jurisdiction reviewed the previous action and provided an analysis as to whether the action had been completed, should be deferred as an ongoing activity, or should be deleted from the plan. The actions from the 2005 Plan are included in this section as they were written in 2005, with the exception of the “2011 Analysis” section. Sometimes hazards addressed are listed as “multiple hazards” or “all hazards” as this was allowed per the state and FEMA regulations at the time the actions were developed.

CVCOG Region

Concho Valley Council of Governments (Past Action) – 1	
Proposed Action:	Mobile Command Center.
BACKGROUND INFORMATION	
Site and Location:	CVCOG
History of Damages:	The Concho Valley Region is susceptible to a wide variety of natural hazards. Many of these natural disasters are beyond any control, the best option is to try and mitigate the loss of property and life. A good way of doing this is through responding quickly and efficiently with an adequate amount of communication equipment.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	All Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$150,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	CVCOG
Target Completion Date:	2010

2011 Analysis:
Completed – San Angelo has the Mobile Command Center.

Concho Valley Council of Governments (Past Action) – 2	
Proposed Action:	Automated notification technology (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	CVCOG
History of Damages:	The Concho Valley Region is susceptible to a wide variety of natural hazards. Many of these natural disasters are beyond any control, the best option is to try and mitigate the loss of property and life. The best way to accomplish this is an early warning system.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	All Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	CVCOG
Target Completion Date:	2010

2011 Analysis:
Completed in 2007.

Concho Valley Council of Governments (Past Action) – 3	
Proposed Action:	Educate the public about pipelines: safety risks, detecting an accident, responding to accidents (Smalley Foundation training).
BACKGROUND INFORMATION	
Site and Location:	CVCOG
History of Damages:	The Concho Valley Region is crisscrossed with pipelines. Many of the elected officials and most of the general population are not aware of this and the potential hazards that accompany such a pipeline system.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	CVCOG
Target Completion Date:	2006

2011 Analysis:
Keep as proposed action for 2014.

Coke County

Coke County (Past Action) – 1	
Proposed Action:	Charge a premium price for excavator usage.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	Drought conditions last for years at a time.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	High
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	City of Robert Lee, Town of Bronte, Coke County
Target Completion Date:	4 months

2011 Analysis:
"Excavator" should be "equipment" An update is necessary, and this is a continued process, defer.

Coke County (Past Action) – 2

Proposed Action:	Implement a tree trimming project that routinely clears tree timber hanging in right-of-way.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional tornado/wind storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Robert Lee, Town of Bronte, Coke County
Target Completion Date:	1 year

2011 Analysis:
This is an annual project and needs to rollover into the new plan.

Coke County (Past Action) – 3

Proposed Action:	Cut fire breaks along county roads and county property.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional fire hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Coke County
Target Completion Date:	1 year

2011 Analysis:
This is an ongoing project yearly, and because of the fire, the County has spent over \$100,000 for just one fire that occurred. Rollover into new plan.

Coke County (Past Action) – 4

Proposed Action:	Advertise and promote the availability of crop insurance.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional severe storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Coke County
Target Completion Date:	1 month

2011 Analysis:
Advertising annually with the extension service. This is important to the County and they would like to roll it over into the new plan.

Previous Actions

Coke County (Past Action) – 5

Proposed Action:	Develop burn restrictions.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional fire hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Coke County
Target Completion Date:	1 year

2011 Analysis:
Completed.

Coke County (Past Action) – 6

Proposed Action:	Coordinate wildfire hazard plan with other agencies.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional wildfire hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	City of Robert Lee, Town of Bronte, Coke County
Target Completion Date:	To be determined

2011 Analysis:
Completed and currently in place.

Coke County (Past Action) – 7

Proposed Action:	Expand rainfall observer program, utilize volunteers.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Weather Bureau
Target Completion Date:	1 year

2011 Analysis:
Have a volunteer fire department, but would like to rollover this action because it is done annually.

Coke County (Past Action) – 8

Proposed Action:	Provide safety procedures to builders for building and operating near hazard pipelines.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	There is a history of occasional hazmat/pipeline hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	N/A
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Hazmat operator
Target Completion Date:	1 year

2011 Analysis:
The emergency management currently in place is already covering this. This action is currently in place, completed.

Coke County (Past Action) – 9

Proposed Action:	Develop Mutual Aid Agreements with neighboring communities.
BACKGROUND INFORMATION	
Site and Location:	Coke County
History of Damages:	N/A

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	Low
Estimated Cost:	Minimal
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Robert Lee, Town of Bronte, Coke County
Target Completion Date:	1 year

2011 Analysis:
This action is currently in place, completed.

Town of Bronte

Town of Bronte (Past Action) – 1	
Proposed Action:	Develop a soil conservation plan for wind and water erosion of soil, especially near city streams, rivers and lakes. Spray or control salt cedar. Provide incentives for farms and ranch diversifications strategies.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has had several droughts in recent history and a heat wave in 1994.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$3.5 million
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Rollover into new plan.

Town of Bronte (Past Action) – 2

Proposed Action:	Develop a soil conservation plan for wind and water erosion of soil, especially near city streams, rivers and lakes. Spray or control salt cedar. Provide incentives for farms and ranch diversifications strategies.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has had several droughts in recent history and a heat wave in 1994.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1.6 million
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Ongoing action.

Town of Bronte (Past Action) – 3

Proposed Action:	Build water reservoirs or wells for use in times of water outage and/or drought.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has had several droughts in recent history and a heat wave in 1994.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2 million
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Ongoing action, rollover into new plan.

Previous Actions

Town of Bronte (Past Action) – 4

Proposed Action:	Maintain sewer manholes with watertight covers and inflow guards.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte experienced a major flash flood in 1998.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Ongoing project.

Town of Bronte (Past Action) – 5

Proposed Action:	Flood-proof sewage treatment plants in flood hazard/low-lying areas.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte experienced a major flood in 1998.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$100,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Currently working on a sewer plant now, ongoing action.

Town of Bronte (Past Action) – 6

Proposed Action:	Obtain emergency generator for water treatment plant.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	Power outages ranging from 1 to 6 hours due to downed power lines from thunderstorms and wind storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	High
Estimated Cost:	\$75,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Rollover into new plan.

Town of Bronte (Past Action) – 7

Proposed Action:	Prepare brochure for residents explaining warning signals for severe weather and wildfires.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has a history of severe weather and winter storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	December 31, 2004

2011 Analysis:
Rollover action.

Town of Bronte (Past Action) – 8

Proposed Action:	Distribute brochures regarding water conservation.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has had several droughts in recent history and a heat wave in 1994.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	December 31, 2004

2011 Analysis:
This action has been completed.

Town of Bronte (Past Action) – 9

Proposed Action:	Purchase NOAA (all weather) radio.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte has a history of severe weather and winter storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Winter Storm, Hail
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
This action has been completed.

Previous Actions

Town of Bronte (Past Action) – 10	
Proposed Action:	Clean out creeks and erosion control.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	The Town of Bronte experienced a major flood in 1998.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$150,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	5 years

2011 Analysis:
Ongoing activity.

Previous Actions

Town of Bronte (Past Action) – 11

Proposed Action:	Distribute to citizens information regarding flood insurance program.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
History of Damages:	Flooding as a result of heavy rains northwest of the Town of Bronte. Water trying to get to the Kickapoo Creeks, floods several locations.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	Less than \$50
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Town of Bronte
Target Completion Date:	December 31, 2004

2011 Analysis:
This action has been completed.

City of Robert Lee

City of Robert Lee (Past Action) – 1	
Proposed Action:	Undertake remediation of Mountain Creek Dam and/or spillway. Upgrade spillway structure capability to discharge 100% of the probable maximum flood based on the presence of residences and the city’s water treatment plant, located downstream of the dam, which would be adversely affected in the event of a break of the dam.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Mountain Creek Dam is classified by the Texas Commission on Environmental Quality (TCEQ) as a high hazard structure. Owner is the Upper Colorado River and the operator is the City of Robert Lee. Mountain Creek is a drinking water source for the City of Robert Lee.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$750,000 or greater
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee, Upper Colorado River Authority
Target Completion Date:	6-12 months

2011 Analysis:
A preventive maintenance/remediation plan is in effect and includes annual maintenance of dam and spillway. Sections of the spillway will be removed or repaired each year. Target completion of spillway is 3 years.

Previous Actions

City of Robert Lee (Past Action) – 2

Proposed Action:	Undertake remediation of Mountain Creek Dam and/or spillway. Initiate a hydrologic and hydraulic study, if not already prepared, for the study of the area in preparation of taking necessary corrective action measures for Mountain Creek Dam.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Mountain Creek Dam is classified by the TCEQ as a high hazard structure. Owner is the Upper Colorado River and the operator is the City of Robert Lee. Mountain Creek is a drinking water source for the City of Robert Lee.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$15,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee, Upper Colorado River Authority
Target Completion Date:	6-12 months

2011 Analysis:
Study has been completed by UCRA.

City of Robert Lee (Past Action) – 3

Proposed Action:	Undertake remediation of Mountain Creek Dam and/or spillway. Initiate a preliminary engineering study concerning the watershed for Mountain Creek Reservoir to determine if a hydrologic and hydraulic study is warranted.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Mountain Creek Dam is classified by the TCEQ as a high hazard structure. Owner is the Upper Colorado River and the operator is the City of Robert Lee. Mountain Creek is a drinking water source for the City of Robert Lee.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$10,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee, Upper Colorado River Authority
Target Completion Date:	6-12 months

2011 Analysis:
Annual inspections are performed by SKG Engineering.

Previous Actions

City of Robert Lee (Past Action) – 4

Proposed Action:	Replace inadequate drainage structure on Austin Street between 15th Street between Childress and 12th Streets. Replace 18-inch corrugated metal pipe by a 4' x 3' multiple box culvert with four spans. This will involve removing and replacing metal pipe and pavement in the area adjacent to the culvert locations.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Inadequate drainage structure on 15th Street between Childress and 12th Streets. The existing 18-inch corrugated metal pipe should be replaced. This problem directly affects adjacent homes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$35,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6 months

2011 Analysis:
Defer 24 months due to drought/lack of rain.

Previous Actions

City of Robert Lee (Past Action) – 5

Proposed Action:	Install lift station and force main at water treatment plant to lift from the city’s existing collection system on Austin Street to route water from the treatment holding ponds to the wastewater plant as needed.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The holding ponds at the water treatment plant holding backwash water periodically floods with significant rainfall and discharge into the Colorado River. This is a potential violation of the TCEQ.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	3 months

2011 Analysis:
Project completed.

City of Robert Lee (Past Action) – 6

Proposed Action:	Purchase a backup generator to restore power to pump stations at the water and wastewater treatment plants during power outages.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Severe storms periodically cause power outages putting the water and wastewater treatment systems at risk.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$15,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	3 months

2011 Analysis:
Defer/Target 36 months.

Previous Actions

City of Robert Lee (Past Action) – 7

Proposed Action:	Adopt routine fire hydrant maintenance. Each valve should be periodically operated and maintained in proper working condition, in conjunction with line flushing. Any inoperative unit shall be replaced at first opportunity. Fire hydrants should be located within 500’ of every building.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	There appears to be areas where fire hydrants are not located within 500’ of all structures and improvements. Fire hydrants are not flushed and checked on a routine basis and should be.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$12,000
Potential Funding Sources:	General revenues, assistance would be required in the form of low interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee, VFD
Target Completion Date:	6-12 months

2011 Analysis:
Defer 36 months.

City of Robert Lee (Past Action) – 8

Proposed Action:	Purchase additional early warning systems for hazard events.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The city currently has two locations where warning sirens are installed. However, at times these do not adequately cover the response area needed.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	All Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	3 months

2011 Analysis:
Remove.

Previous Actions

City of Robert Lee (Past Action) – 9

Proposed Action:	Replace inadequate drainage structure on Austin Street between 15th and 12th Streets. Replace existing 18-inch corrugated metal pipe with two 36-inch corrugated metal pipes. This will involve removing and replacing metal pipe and pavement along Austin Street.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The existing 18-inch corrugated metal pipe does not have the required capacity to carry the 5-year design flow and will become inundated and cause unacceptable headwater elevations. This problem will directly affect adjacent homes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$7,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6 months

2011 Analysis:
Defer 24 months due to drought/lack of rain.

Previous Actions

City of Robert Lee (Past Action) – 10

Proposed Action:	Add/increase dimensions of drainage culverts in troublesome areas of the City. This may involve removing and replacing pavement in the area adjacent to the culvert locations.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Add new drainage system to address flooding of adjacent homes on Washington and Hamilton Streets between 10th and 15th Streets. This problem directly affects adjacent homes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$7,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6 months

2011 Analysis:
Defer 24 months. Project low priority due to drought/lack of rain.

Previous Actions

City of Robert Lee (Past Action) – 11	
Proposed Action:	Provide water conservation education, and promote water and energy conservation on the local government level.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The City has watering restriction and drought contingency plans in place.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	General revenues, assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	Year round, focusing on summer months

2011 Analysis:
Critical water supply. High outdoor restrictions in place. Investigating alternate water supply/ground water.

Previous Actions

City of Robert Lee (Past Action) – 12	
Proposed Action:	Prepare a brochure detailing warning signals and meaning for wildfire or severe weather conditions.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	City Hall has two sirens located around the City that are used to signal residents for fire response and/or severe weather conditions.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	3-6 months

2011 Analysis:
Completed.

Previous Actions

City of Robert Lee (Past Action) – 13

Proposed Action:	Purchase a NOAA “All Hazards” radio for City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	City Hall has no radio communication to alert for potential weather conditions.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	3-6 months

2011 Analysis:
Completed.

Previous Actions

City of Robert Lee (Past Action) – 14

Proposed Action:	Evaluate water quantity and quality from new sources.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The City is always looking for alternate water sources that may be available for improved water quality and improved drinking standards; also alternate water source in the event of severe drought.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	High
Estimated Cost:	Unknown
Potential Funding Sources:	General revenues, assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6-12 months

2011 Analysis:
A comprehensive engineer study performed on the availability of alternate water sources that cost \$6,000. Presently drilling & testing underground well fields for potential alternate water sources. Cost still unknown.

Previous Actions

City of Robert Lee (Past Action) – 15

Proposed Action:	Clear an overgrown waterway. Clear and straighten the channel to the tributary of the Colorado River which runs through the western part of the City. Remove excess debris and growth within waterways.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	Channel improvements to the tributary of the Colorado River which runs through the western part of the City to promote better drainage characteristics and minimize backwater conditions caused by excess debris and growth within the waterways.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$14,000
Potential Funding Sources:	Assistance would be required in the form of low-interest, long-term loans or grants. Texas Community Development Block Grants, Texas Capital Fund, Rural Development, bonds or other avenues would be considered.
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6-12 months

2011 Analysis:
Remove; very low hazard due to drought.

City of Robert Lee (Past Action) – 16

Proposed Action:	Join the National Flood Insurance Program.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
History of Damages:	The City has not joined the National Flood Insurance Program.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	Very little
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Robert Lee
Target Completion Date:	6 months

2011 Analysis:
Completed.

Concho County

Concho County (Past Action) – 1	
Proposed Action:	Implement and enhance an area-wide telephone emergency notification system (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	Need for better communications is always there.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Commissioner’s Court
Target Completion Date:	5 years

2011 Analysis:
Completed.

Concho County (Past Action) – 2

Proposed Action:	Develop emergency response plans for farms: stockpile pumps, pipes, water filters and other equipment; establish water hauling for livestock and drinking water for people; establish hay hot line emergency shipments.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	Concho County has a history of dry weather.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$100,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Local fire departments, Concho County Commissioners
Target Completion Date:	2 years

2011 Analysis:
Ongoing, it hasn't been fully completed. Rollover into new plan, estimated completion 2014.

Concho County (Past Action) – 3

Proposed Action:	Develop a soil conservation plan for wind and water erosions of soils, reduced soil quality.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	Concho County has a history of bad droughts and heat.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Local Soil and Water Conservation Board
Target Completion Date:	3 years

2011 Analysis:
Ongoing, estimated completion in 2014.

Concho County (Past Action) – 4	
Proposed Action:	Install fire danger rating/burn ban signs.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	Wildfire danger is always present.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Local fire departments, Concho county Commissioners
Target Completion Date:	5 years

2011 Analysis:
Completed.

Concho County (Past Action) – 5

Proposed Action:	Prepare and advertise the local emergency evacuation plan, such as escape routes.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	The area is susceptible to storm-related winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm, Hail
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Country Extension Service
Target Completion Date:	1 year

2011 Analysis:
Completed.

Concho County (Past Action) – 6

Proposed Action:	Advertise and promote the availability of crop insurance.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	Agriculture based community – hail will damage entire year’s production in just a few minutes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Hail
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Concho County Commissioners
Target Completion Date:	1 year

2011 Analysis:
Completed.

Previous Actions

Concho County (Past Action) – 7	
Proposed Action:	Educate the public on extreme heat/drought safety and health issues.
BACKGROUND INFORMATION	
Site and Location:	Concho County
History of Damages:	This is West Texas and we expect droughts and heat.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Concho County Extension Service
Target Completion Date:	3 months

2011 Analysis:
Completed.

City of Eden

City of Eden (Past Action) – 1	
Proposed Action:	Improve Emergency Management radio coverage and reception.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
History of Damages:	The City of Eden is susceptible to many hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$25,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	2007

2011 Analysis:
Completed.

Previous Actions

City of Eden (Past Action) – 2	
Proposed Action:	Build water wells for use in times of water outage/drought.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
History of Damages:	The City of Eden depends only on well water. Radiation has affected some wells and the City of Eden could be in danger of water outage.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$100,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	2007

2011 Analysis:
Not completed, ongoing project.

City of Eden (Past Action) – 3

Proposed Action:	Provide proper design criteria for tornado/storm safe rooms.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
History of Damages:	Frequency of tornadoes and dangerous high winds in the City of Eden.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$2,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	2007

2011 Analysis:
Ongoing.

City of Eden (Past Action) – 4	
Proposed Action:	Educate residents about xeriscaping.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
History of Damages:	The City of Eden has been in a lengthy drought for years.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$200
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	2007

2011 Analysis:
Completed.

Town of Paint Rock

Town of Paint Rock (Past Action) – 1	
Proposed Action:	Implement and enhance an area-wide telephone emergency notification system (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	Due to the different hazards (hail, wind, tornado, and wildfires) that have affected the Town of Paint Rock.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Paint Rock, Commissioner’s Court
Target Completion Date:	June 2009

2011 Analysis:
Completed.

Previous Actions

Town of Paint Rock (Past Action) – 2

Proposed Action:	Install fire danger ratings/burn ban signs.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has had numerous fires within the town.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Paint Rock, Forest Service
Target Completion Date:	To be determined

2011 Analysis:
Completed.

Town of Paint Rock (Past Action) – 3

Proposed Action:	Purchase NOAA “All Hazards” radios for emergency warning and post-event information and place in schools, businesses, and critical facilities.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	Severe storms and hail have caused damage in the Town of Paint Rock.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Hail
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council, School Board
Target Completion Date:	June 2005

2011 Analysis:
Ongoing.

Town of Paint Rock (Past Action) – 4

Proposed Action:	Develop water/power supplies crisis response plan.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has a history of heat/drought.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$100,000
Potential Funding Sources:	Grants, donations
Lead Agency/Department Responsible:	Town of Paint Rock
Target Completion Date:	June 2007

2011 Analysis:
Estimated completion date 2014, rollover.

Town of Paint Rock (Past Action) – 5

Proposed Action:	Develop emergency response plans for farms: stockpile pumps, water filters and other equipment; establish water hauling programs for livestock; establish hay hot line emergency shipments.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	Concho County/ Town of Paint Rock have a history of heat and drought.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants, donations
Lead Agency/Department Responsible:	Volunteer fire department, Concho County Commissioners
Target Completion Date:	June 2007

2011 Analysis:
Estimated completion date is 2014, rollover.

Previous Actions

Town of Paint Rock (Past Action) – 6

Proposed Action:	Evaluate water quality and quantity from new sources.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has a history of heat and droughts.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000 per incident
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Town of Paint Rock, TCEQ
Target Completion Date:	June 2006

2011 Analysis:
Rollover.

Previous Actions

Town of Paint Rock (Past Action) – 7

Proposed Action:	Survey and remove hazardous trees from drainage systems.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has a history of both tornadoes and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$20,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	June 2007

2011 Analysis:
Rollover.

Town of Paint Rock (Past Action) – 8

Proposed Action:	Prepare and advertise the local evacuation plans, such as escape routes in coordination with the Department of Transportation.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has a history of high winds and tornadoes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	City Council
Target Completion Date:	June 2007

2011 Analysis:
Completed.

Town of Paint Rock (Past Action) – 9

Proposed Action:	Provide the public with water conservation education and incentives for low-flowing plumbing and toilets, efficient washers, and rain harvesting.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
History of Damages:	The Town of Paint Rock has had times when water was limited.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Paint Rock, TCEQ
Target Completion Date:	June 2006

2011 Analysis:
Completed.

Crockett County

Crockett County (Past Action) – 1	
Proposed Action:	Post warning signs during season. Coordinate with emergency responders and surrounding jurisdictions. Make the public aware during high risk situations. Maintain adequate firefighting equipment and training.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Due to frequent droughts, wildfires are a constant danger to life and property. Oil and gas wells and facilities pose a high risk of explosion and extreme heat damage. Lightning strikes and man-made actions are the usual cause for wildfires.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
This action has been completed. Posted burn ban signs in the County.

Crockett County (Past Action) – 2

Proposed Action:	Educate and inform producers about disaster loan programs available through various government and private sources. Educate public about xeriscaping.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Between 1994 and 2003, periods of low rainfall resulted in losses in hunting, livestock production, and revenue. Residential landscape also suffers stress and some loss. Public parks and landscape also deteriorate.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000 - \$5,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Ongoing project, yearly project.

Crockett County (Past Action) – 3

Proposed Action:	Provide training for emergency responders. Coordinate with state and surrounding jurisdictions. Maintain Emergency Management plan. Provide public education and awareness. Encourage private companies and individuals to comply with required safety regulations. Identify sites.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Crockett Country has four large facilities and numerous small installations.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$4,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Completed action but are ongoing projects, rollover into new plan.

Crockett County (Past Action) – 4

Proposed Action:	Provide training for emergency responders. Coordinate with state and surrounding jurisdictions. Maintain Emergency Management plan. Provide for the public education and awareness; Encourage private companies and individuals to comply with all required safety regulations.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	There are 6,000 oil and gas wells and several thousand miles of pipelines. Some are high-pressure; some are over 60 years old.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Fuel Pipeline Failure, Hazardous Material Incident
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Completed but ongoing project, rollover into new plan.

Crockett County (Past Action) – 5

Proposed Action:	Provide training for emergency responders. Coordinate with state and surrounding jurisdictions. Maintain Emergency Management plan. Provide public education and awareness. Encourage private companies and individuals to comply with all required safety regulations.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Due to presence of oil and gas wells (6,000+), pipelines (several thousand miles) and 55 miles of Interstate Highway 10, there is a constant danger of spills.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Ongoing.

Crockett County (Past Action) – 6

Proposed Action:	Educate the public about possible dangers. Provide training for emergency responders. Develop and maintain Emergency Management plan.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Over 4,400 natural gas wells and 2,100 oil wells are connected to pipelines, tanks and processing facilities.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Completed, placed articles in the newspaper to educate the public.

Crockett County (Past Action) – 7

Proposed Action:	Enhance early warning system. Assist water district with rainfall observer. Educate community on dangers of low water crossings.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Periodic flash flooding occurs from sudden violent thunderstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Enhanced new warning system, rollover.

Crockett County (Past Action) – 8

Proposed Action:	Purchase NOAA “All Hazards” radios for critical facilities. Inform public of roof and structure improvements.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Occasional losses due to intense thunderstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Rollover action.

Crockett County (Past Action) – 9

Proposed Action:	Inform public about early warning and shelter. Maintain warning system.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Small tornadoes associated with thunderstorms have occasionally been sighted.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Warning system has been improved; however, need to develop a program to inform the public about the early warning system and shelters.

Previous Actions

Crockett County (Past Action) – 10	
Proposed Action:	Provide information through news releases.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
History of Damages:	Increased possibility due to world unrest.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Crockett County
Target Completion Date:	2006

2011 Analysis:
Completed, post articles in newspapers.

Irion County

Irion County (Past Action) – 1	
Proposed Action:	Educate the public on extreme heat/drought safety and health issues.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	There is a history of droughts/heat waves that were costly and caused significant crop damage. In 2004, Irion County was determined to be eligible for crop and small business loans from the federal government.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Rollover.

Irion County (Past Action) – 2

Proposed Action:	Coordinate wildfire hazard plan with other agencies/jurisdictions; ensure area firefighters are properly trained in wildfire fighting; educate residents of wildfire hazard areas about fire protection necessities; and purchase better firefighting equipment.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	No major wildfire has occurred, but the long droughts have made conditions prime for a wildfire.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$100,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Ongoing project. Upgrading equipment and improved all trucks with GPS for more accurate reporting.

Irion County (Past Action) – 3

	Proposed Action:	Implement a flood early warning system and response plan; prohibit fill in floodplain areas; prohibit granting of variances for development in the SFHA; provide and/or implement model floodplain management information requirement and inspection standards; tie-down of propane tanks; educate public on the dangers of low water crossings.
BACKGROUND INFORMATION		
	Site and Location:	Irion County
	History of Damages:	There is a history of floods/flash floods that were costly and caused significant property damage.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$20,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Action has been completed. Use Blackboard System to inform public by calling, texting, and sirens.

Irion County (Past Action) – 4

Proposed Action:	Implement warning plan to notify community.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	Irion County has a history of hailstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Action has been completed, use Blackboard System.

Irion County (Past Action) – 5

Proposed Action:	Assess needs for the County’s emergency response services; improve emergency management radio coverage and reception; implement area-wide telephone emergency notification system; install quick-connect emergency generator hook-ups for critical facilities; and establish a debris management plan for post-disaster.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	Emergency in poor conditions; lack of continued education.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$100,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Completed actions. Purchased generators for community centers and main building that are the shelters during emergencies. All radio equipment is now converted to narrowband. New radio tower.

Irion County (Past Action) – 6

Proposed Action:	Implement an early warning system and educate public on hazards.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	Irion County has a history of severe winter storms, including ice and heavy snow.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Winter Storm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Completed.

Irion County (Past Action) – 7

Proposed Action:	Advertise and promote the availability of crop damage and low interest government loans; improve warning system.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	Irion County has a history of severe thunderstorms and high wind.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Not very agricultural, however may begin, rollover.

Irion County (Past Action) – 8

Proposed Action:	Require manufactured housing to be securely anchored; advertise the local emergency evacuation plan.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	Irion County has a history of tornadoes.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Rollover into new plan.

Irion County (Past Action) – 9

Proposed Action:	Develop local hazmat team; develop Mutual Aid Agreement between local emergency responders for other jurisdictions; educate the public about hazardous materials traveling through the County; educate the public about hazmat.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	In 2003, there was a well that had a blowout that caused US Highway 67 to be shut down for 72 hours.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Energy Pipeline Failure
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$20,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
They don't have HazMat training, but they joined Tom Green County for mutual aid agreements.

Previous Actions

Irion County (Past Action) – 10

Proposed Action:	Make available specialized training for public safety personnel and other local government employees.
BACKGROUND INFORMATION	
Site and Location:	Irion County
History of Damages:	For public protection in Irion County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Irion County
Target Completion Date:	December 2005

2011 Analysis:
Ongoing project.

City of Mertzon

City of Mertzon (Past Action) – 1	
Proposed Action:	Conservation; public awareness; and new water sources.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	The City has experienced drought conditions several times. A Drought Contingency Plan has been initiated. The plan is working well. Conservation and new water sources are a constant part of dealing with drought conditions.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	Very High
Estimated Cost:	Annual loss of water revenue - \$9,000 Cost of new water supply - \$255,000
Potential Funding Sources:	Grants, water revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	To be determined

2011 Analysis:
Rollover.

City of Mertzon (Past Action) – 2

Proposed Action:	Assist in clean-up of public property; notify Red Cross.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	Hail has damaged city property and worked with other entities to provide relief for citizens.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,800 (equipment, fuel, labor)
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing.

Previous Actions

City of Mertzon (Past Action) – 3

Proposed Action:	Support local volunteer fire department.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	Range fires could impact the City because of the rural nature of the City.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	10% of Irion County allocation
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing.

Previous Actions

City of Mertzon (Past Action) – 4	
Proposed Action:	Public awareness; relief for victims by notifying Red Cross.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	The City has experienced flooding in low lying areas several times in the City’s history. People in these areas have been told of historical events and water levels.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing.

Previous Actions

City of Mertzon (Past Action) – 5

Proposed Action:	Notify Red Cross; clear roads of debris.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	The City has cleared debris from roads.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$800 (equipment, fuel, labor for 2 days)
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	Continuous

2011 Analysis:
Ongoing.

City of Mertzon (Past Action) – 6

Proposed Action:	Inform citizens to be aware of their surroundings.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
History of Damages:	Reduce risk of a terrorist event.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$0
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Mertzon
Target Completion Date:	Ongoing

2011 Analysis:
The City has a monthly newsletter that is emailed through the Blackboard System-especially during disasters.

Kimble County

Kimble County (Past Action) – 1	
Proposed Action:	Implement a flood early warning system and response plan (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	Kimble County
History of Damages:	Kimble County is located in the Texas Hill Country. The County has more linear miles of running water than any other county in Texas. History of flooding is repeated on an annual basis somewhere in the County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood, Tornado, Other Disasters
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Kimble County Commissioner’s Court
Target Completion Date:	January 1, 2009

2011 Analysis:
Ongoing action.

Kimble County (Past Action) – 2

Proposed Action:	Track and record high water marks after a flood.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
History of Damages:	Flooding has happened and will happen in the future. Flooding data is vital to take precautionary measures.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very high
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Kimble County Commissioner’s Court
Target Completion Date:	January 1, 2005

2011 Analysis:
Ongoing action.

Kimble County (Past Action) – 3

Proposed Action:	Implement and expand rainfall observer program utilizing volunteers.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
History of Damages:	Historically, residents of Kimble County have observed and reported rainfall and flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Kimble County Commissioner’s Court
Target Completion Date:	January 1, 2005

2011 Analysis:
Ongoing.

Previous Actions

Kimble County (Past Action) – 4

Proposed Action:	Implement warning system on IH-10.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
History of Damages:	Ice storms occur routinely during winter months; floods occur throughout the year. A need to inform the motoring public is a constant.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Kimble County Commissioner’s Court
Target Completion Date:	January 1, 2006

2011 Analysis:
Ongoing.

Kimble County (Past Action) – 5

Proposed Action:	Distribute flood insurance handouts with all permit applications.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
History of Damages:	Kimble County has a high potential for flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Kimble County Commissioner’s Court
Target Completion Date:	January 1, 2005

2011 Analysis:
Rollover.

City of Junction

City of Junction (Past Action) – 1	
Proposed Action:	Implement a flood early warning system and response plan (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	The City of Junction is located at the confluence of the North Llano and South Llano Rivers. Flooding is an ongoing problem.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2009

2011 Analysis:
Completed.

City of Junction (Past Action) – 2

Proposed Action:	Track and record high water marks following a flood.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	Flooding is an ongoing problem.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Completed.

City of Junction (Past Action) – 3

Proposed Action:	Implement or expand rainfall observer program utilizing volunteers.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	County residents observe rainfall amounts and rises in flood waters and report them to the City/County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Completed.

Previous Actions

City of Junction (Past Action) – 4

Proposed Action:	Dredge lake.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	Gravel bar may block intake of the City water supply due to flood. Over the years flooding has caused gravel to flow towards intake.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3 – 5 million
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	January 1, 2006

2011 Analysis:
Not completed, rollover.

City of Junction (Past Action) – 5

Proposed Action:	Organize a command center.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	Need a command center equipped with multiple phones, radios, white boards, computer connections, maps, desks, generator power, copier, computer with PowerPoint to be able to conduct emergency operations in the event of a major disaster.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	All Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	January 1, 2006

2011 Analysis:
Completed. The County has a command center that they use.

City of Junction (Past Action) – 6

Proposed Action:	Educate the public on use of the emergency sirens.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	We have sirens located strategically within the community, but most residents are not aware of the meaning of the different signals the sirens make.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm, Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Ongoing.

City of Junction (Past Action) – 7

Proposed Action:	Educate residents about xeriscaping.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	Landscaping that requires less water will ease our burden on our water treatment plant and conserve our supply.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Ongoing.

City of Junction (Past Action) – 8

Proposed Action:	Distribute flood insurance handouts with all permit applications.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	Flooding is an ongoing problem. Often people are unaware of the actions and procedures they need to consider.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Junction, City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Completed.

City of Junction (Past Action) – 9

Proposed Action:	Backup generator for water plant.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
History of Damages:	In the past, had a tree fall across an electric line that supplies electricity to river pumps. The only way we knew about this is after we ran out of water. By the time we got enough water back in the tanks to pump, we had been down for approximately 12 hours. With a standby generator, probably would have had water back in 3 hours.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$7,500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City Council
Target Completion Date:	January 1, 2005

2011 Analysis:
Ongoing.

McCulloch County

McCulloch County (Past Action) – 1	
Proposed Action:	Establish and implement burning standards in McCulloch County that includes instruction in proper technique, notification and planning.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	Improper use of the agricultural controlled burn often results in wildfire.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	Unknown
Potential Funding Sources:	Private funds
Lead Agency/Department Responsible:	McCulloch County Burn Association
Target Completion Date:	December 2004

2011 Analysis:
Completed.

Previous Actions

McCulloch County (Past Action) – 2

Proposed Action:	Develop a program to distribute NOAA “All Hazards” radios for early warning of rural residents.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	Currently, there is no formal warning system for many residents of the rural areas of the County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Hail, Tornado, Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$7,500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County Emergency Management Team
Target Completion Date:	2006

2011 Analysis:
Not completed, rollover.

Previous Actions

McCulloch County (Past Action) – 3

Proposed Action:	Document and map road locations that are likely to result in flooded road crossings in flash flood events.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	In rural areas, flash floods cause hazards because of the lack of marked and measured road crossings. Crews mark or block those crossings after they are reported.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County Emergency Response Team
Target Completion Date:	2006

2011 Analysis:
Currently in development, rollover.

Previous Actions

McCulloch County (Past Action) – 4

Proposed Action:	Develop drought contingency plans outlining actions to take at varying levels of drought. These plans will include public education, appropriate crisis response, wildlife and disease management, recovery plans for economic losses and emergency water resource development.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	Drought is a fairly common occurrence in McCulloch County. While the primary public water source relies on a stable aquifer; one of the primary industries, agriculture, relies heavily on water availability for stock, farm uses, crops, and fire protection.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,500
Potential Funding Sources:	To be determined
Lead Agency/Department Responsible:	McCulloch County Agricultural Extension Service
Target Completion Date:	2005

2011 Analysis:
Completed. The County reviews it periodically.

McCulloch County (Past Action) – 5

Proposed Action:	Create a hazmat education team that provides educational opportunities for responders and educational materials and resources for the public.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	McCulloch County incurs an inordinate amount of hazardous material traffic for its population and proper reporting and response procedures are critical to effective response with limited resources.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County Emergency Management Team
Target Completion Date:	December 2005

2011 Analysis:
Partially completed, currently have a hazmat team with the local fire department.

McCulloch County (Past Action) – 6

Proposed Action:	Provide public education for preparing for extended power outages and create a “hot sheet” of rural citizens that have critical health or other issues that will be adversely affected by an extended power outage for use by emergency dispatch services.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
History of Damages:	In rural areas of the County, extended power outages are fairly rare, but those who rely on electricity for critical health care equipment could be put in peril before crews could be notified and dispatched.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	Minimal
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch Country Emergency Response Team
Target Completion Date:	2006

2011 Analysis:
This action is in the development stages, rollover.

Town of Melvin

Town of Melvin (Past Action) – 1	
Proposed Action:	Acquire a centrally located, properly designed and hazard-resistant public shelter.
BACKGROUND INFORMATION	
Site and Location:	Town of Melvin
History of Damages:	The Town of Melvin, being located in west central Texas, is susceptible to high winds and tornadoes. Additionally, a large portion of the community is elderly, with limited incomes; many cannot afford any form of adequate shelter against these harsh storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$750,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Melvin, City Council
Target Completion Date:	2010

2011 Analysis:
Ongoing, rollover.

Town of Melvin (Past Action) – 2

Proposed Action:	Build a water filtration system.
BACKGROUND INFORMATION	
Site and Location:	Town of Melvin
History of Damages:	The Town of Melvin, being located in West Central Texas, experiences many days and months of extreme heat and drought. The city’s current water source is slightly high in dangerous particles such as radon. This problem reaches extreme conditions during times of drought.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$125,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Melvin, City Council
Target Completion Date:	2010

2011 Analysis:
Completed a year ago. Built a reverse osmosis plant.

Town of Melvin (Past Action) – 3

Proposed Action:	Educate the public on extreme heat/drought safety and health issues.
BACKGROUND INFORMATION	
Site and Location:	Town of Melvin
History of Damages:	The Town of Melvin, being located in West Central Texas, experiences many days and months of extreme heat. Additionally, a large portion of the community is elderly, and more susceptible to the dangers of these extreme temperatures.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Town of Melvin, City Council
Target Completion Date:	2005

2011 Analysis:
Completed.

Menard County

Menard County (Past Action) – 1	
Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of winter storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Winter Storm
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This is partially completed, with funding resources being researched to expand.

Previous Actions

Menard County (Past Action) – 2

Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County experienced a severe wildfire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
See Above, this is partially completed, with funding resources being researched to expand.

Menard County (Past Action) – 3

Proposed Action:	Implement early warning system and response plan for thunderstorms, wind, hail and tornadoes.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of severe thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Wind, Hail, Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This should be deferred and included in the Plan Update. Due to funding it has not been completed.

Menard County (Past Action) – 4

Proposed Action:	Implement a flood early warning system and response plan.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of flash floods.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This should be deferred and included in the Plan Update. Due to funding it has not been completed.

Previous Actions

Menard County (Past Action) – 5

Proposed Action:	Implement maintenance program for clearing debris from drains and culverts.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of flash floods.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	August 1, 2004

2011 Analysis:
Completed and is ongoing in current plans and policies, could be expanded.

Menard County (Past Action) – 6

Proposed Action:	Implement maintenance program for clearing debris from bridges.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of flash floods.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	August 1, 2004

2011 Analysis:
Is completed and ongoing through current plans and policies, could be expanded.

Menard County (Past Action) – 7

Proposed Action:	Utilize NOAA “All Hazards” radios for early warning and post-event information.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of hailstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	January 1, 2007

2011 Analysis:
Defer to Plan Update, due to funding has not been started. Research has been conducted for placement. This needs to first include the NOAA “All Hazards” radio repeater and installing, which should cost \$25,000.

Previous Actions

Menard County (Past Action) – 8

Proposed Action:	Research alternative sources of feed, water and shelter for livestock.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of winter storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Winter Storm
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Extension Service
Target Completion Date:	January 10, 2004

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 9

Proposed Action:	Implement burn bans and fireworks bans as indicated by forestry service.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County experienced a severe wildfire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Completed and ongoing through current plans and policies.

Menard County (Past Action) – 10

Proposed Action:	Train volunteer weather watchers.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	This would prevent loss of human life or human injury and livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, City of Menard, VFD
Target Completion Date:	To be determined

2011 Analysis:
Has been completed and is ongoing every year through current plans, can be removed.

Menard County (Past Action) – 11	
Proposed Action:	Designate public tornado shelters.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	This would prevent loss of human life or injury.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management
Target Completion Date:	January 1, 2006

2011 Analysis:
Rollover.

Previous Actions

Menard County (Past Action) – 12	
Proposed Action:	Encourage land owners to construct fire lanes around property.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County experienced a severe wildfire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Extension Services
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Ongoing.

Menard County (Past Action) – 13

Proposed Action:	Promote the availability of crop insurance.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of hailstorms which have caused damage to property.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Extension Services
Target Completion Date:	January 8, 2004

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 14

Proposed Action:	Provide water conservation education and incentives for low-flow plumbing and toilets, efficient washers, and rain harvesting.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Numerous drought events have occurred in recent years causing damage to property.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Menard Water District
Target Completion Date:	June 1, 2005

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 15

Proposed Action:	Provide water conservation education for farmers' improved irrigation and tillage practices.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Numerous drought events have occurred in recent years causing damage to property.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Extension Service, Soil and Water Conservation Service
Target Completion Date:	June, 1, 2005

2011 Analysis:
Ongoing.

Menard County (Past Action) – 16

Proposed Action:	Promote water and energy conservation on a local government level.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Numerous drought events have occurred in recent years causing damage to property.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Menard Water District, City of Menard
Target Completion Date:	June 1, 2005

2011 Analysis:
Ongoing.

Menard County (Past Action) – 17

Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	This would prevent human life loss or injury and livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This is partially completed, with funding resources being researched to expand.

Menard County (Past Action) – 18

Proposed Action:	Maintain natural environmental features as wind buffers.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 19	
Proposed Action:	Keep debris that can be wind-blown removed from county road right-of-ways.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 20	
Proposed Action:	Implement a tree trimming program that routinely clears limbs hanging in right-of-ways.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	Menard County has a history of winter storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Winter Storm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$4,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Ongoing.

Previous Actions

Menard County (Past Action) – 21	
Proposed Action:	Educate public about household hazardous materials and other hazardous materials.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	This action would prevent human injury or loss of life or livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, Extension Service
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Has been completed and is ongoing based on policy.

Menard County (Past Action) – 22

Proposed Action:	Train personnel to handle emergencies.
BACKGROUND INFORMATION	
Site and Location:	Menard County
History of Damages:	This action would prevent human injury or loss of life or livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, VFD
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Ongoing.

City of Menard

City of Menard (Past Action) – 1	
Proposed Action:	Flood proof sewage treatment plants in flood hazard-low lying area.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$2,000,000
Potential Funding Sources:	General revenues, grants or bonds
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	October 2009

2011 Analysis:
Partially completed with funding secured for second phase. Continue in Plan Update.

City of Menard (Past Action) – 2

Proposed Action:	Ensure capital improvement projects adhere to “no adverse impact” regulations.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$2,000,000
Potential Funding Sources:	General revenues, grants or bonds
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	October 2009

2011 Analysis:
Ongoing.

City of Menard (Past Action) – 3

Proposed Action:	Implement early warning system and plan.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	This would prevent loss of human life or injury and livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	City of Menard, Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
Partially completed through siren placement in city, trying to secure funding to expand and have added a Reverse 911 system. Keep in Plan Update.

City of Menard (Past Action) – 4

Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard experienced a severe wildfire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	City of Menard, Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This is partially completed, with funding resources being researched to expand.

City of Menard (Past Action) – 5

Proposed Action:	Implement early warning system and plan.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of damaging hailstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, City of Menard, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
Partially completed, see above early warning objective.

Previous Actions

City of Menard (Past Action) – 6

Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of severe thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, City of Menard, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
Partially completed, see above early warning objective.

City of Menard (Past Action) – 7

Proposed Action:	Implement a flood early warning system and response and plan.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flash flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$30,000 per year
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Menard County, Emergency Management, CVCOG, City of Menard
Target Completion Date:	January 1, 2007

2011 Analysis:
This should be deferred and included in the Plan Update. Due to funding it has not been completed.

City of Menard (Past Action) – 8

Proposed Action:	Have NOAA “All Hazards” radios for early warning and post-event information.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of hailstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hail
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	January 1, 2007

2011 Analysis:
Continue in Plan Update, due to funding has not been started. Research has been conducted for placement. This needs to first include the NOAA “All Hazards” radio repeater and installing, which should cost \$25,000.

City of Menard (Past Action) – 9

Proposed Action:	Designate public tornado shelters.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	This would prevent loss of human lives, human injury or loss of livestock.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, Menard County, Emergency Management
Target Completion Date:	January 1, 2006

2011 Analysis:
Completed through planning process and implemented. Can be removed.

Previous Actions

City of Menard (Past Action) – 10

Proposed Action:	Train volunteer weather watchers.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	Prevent loss of human life or human injury and livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, Menard County, VFD, Emergency Management
Target Completion Date:	January 1, 2006

2011 Analysis:
Has been completed and is ongoing every year through current plans, can be removed.

Previous Actions

City of Menard (Past Action) – 11

Proposed Action:	Implement maintenance program for clearing debris from drains and culverts.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flash flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Completed and is ongoing through current plans and policies. Potential for expansion.

Previous Actions

City of Menard (Past Action) – 12

Proposed Action:	Implement maintenance program for clearing debris from bridges.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flash flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Is completed and ongoing through current plans and policies. Could be expanded.

City of Menard (Past Action) – 13

Proposed Action:	Remove downed trees and fire fuels that increase fire risk.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard experienced a severe wildfire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Needs to be deferred to Plan Update due to funding, has been started at a response level but not mitigation level.

Previous Actions

City of Menard (Past Action) – 14

Proposed Action:	Implement burn bans and fireworks bans as indicated by forestry service.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	Implementation of this action will prevent property loss and loss of human life or injuries.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	Menard County, City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Completed and ongoing through current plans and policies.

City of Menard (Past Action) – 15

Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	Implementation of this action would prevent human life loss or injury and livestock loss.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	City of Menard, Menard County, Emergency Management, CVCOG
Target Completion Date:	January 1, 2007

2011 Analysis:
This is partially completed, with funding resources being researched to expand.

Previous Actions

City of Menard (Past Action) – 16

Proposed Action:	Maintain natural environmental features as wind buffers.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Tornado
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Is ongoing as needed per in plans SOP.

City of Menard (Past Action) – 17

Proposed Action:	Adopt routine fire hydrant maintenance.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard experienced a severe fire in 1999.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, VFD
Target Completion Date:	Ongoing

2011 Analysis:
Needs to be deferred to Plan Update, has been started due to water improvement project but ongoing maintenance of older hydrants needs to be addressed.

City of Menard (Past Action) – 18

Proposed Action:	Prohibit dumping in streams and ditches.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flooding/flash flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Completed and is ongoing through solid waste project/grants and enforcement.

City of Menard (Past Action) – 19

Proposed Action:	Educate public about household hazardous materials and other hazardous materials.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	Implementation would prevent human injury or loss of life.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, Extension Service
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Has been completed and is ongoing based on policy.

City of Menard (Past Action) – 20

Proposed Action:	Train personnel to handle emergencies.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	This would prevent human life loss or injury.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, VFD
Target Completion Date:	As needed (ongoing)

2011 Analysis:
Has been implemented and is ongoing on a limited basis. Needs to continue.

City of Menard (Past Action) – 21

Proposed Action:	Ensure public has access to local firm maps/flood map ordering information.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$300
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Needs to be deferred and addressed in Plan Update, is inadequate at this time.

City of Menard (Past Action) – 22

Proposed Action:	Place flood insurance materials/mortgage lending mandates in libraries.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	As needed

2011 Analysis:
See above, needs to be deferred into the Plan Update and continued.

Previous Actions

City of Menard (Past Action)-23	
Proposed Action:	Identify repetitive loss properties for future hazard mitigation grant program funding.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, EMC, Menard County
Target Completion Date:	Ongoing

2011 Analysis:
Has been started, not completed, is ongoing on a limited level, can be improved and needs to be continued in Plan Update.

City of Menard (Past Action) – 24

Proposed Action:	Maintain records of elevation certificates (E.C.) issued for all new/improved buildings in SFHA's; make readily available for public access.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of frequent flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard
Target Completion Date:	Ongoing

2011 Analysis:
Is inadequate at this time due to rain, funding, and resources based in that order of importance. Needs to be improved and deferred into Plan Update.

City of Menard (Past Action) – 25

Proposed Action:	Annually distribute flood protection/NFIP pamphlets to owners of flood prone property.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
History of Damages:	The City of Menard has a history of flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$700
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Menard, EMC
Target Completion Date:	Ongoing

2011 Analysis:
Needs to be conducted and deferred to Plan Update, has not occurred.

Reagan County

Reagan County (Past Action) – 1	
Proposed Action:	Improve Emergency Management radio coverage and reception; expand early warning systems for hazard events.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	Reagan County has a history of tornadoes, hailstorms, thunderstorms and high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards; Tornado, Hail, Thunderstorm, Wind
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$3,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Reagan County
Target Completion Date:	2005

2011 Analysis:
Completed.

Reagan County (Past Action) – 2

Proposed Action:	Implement maintenance program to clear and remove debris.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	Reagan County has a history of flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Reagan County
Target Completion Date:	2005

2011 Analysis:
Rollover.

Reagan County (Past Action) – 3	
Proposed Action:	Stay current on new technologies for fighting fires.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	To keep economic losses to a minimum.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$500
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Reagan County
Target Completion Date:	2005

2011 Analysis:
Rollover.

Previous Actions

Reagan County (Past Action) – 4	
Proposed Action:	Promote the availability of crop insurance.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	Reagan County experienced a heat wave in 1994 and numerous droughts since 1996.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$50
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	USDA
Target Completion Date:	Ongoing

2011 Analysis:
Rollover.

Reagan County (Past Action) – 5

Proposed Action:	Develop a local hazmat team; create and practice neighborhood and community plans with drills and exercises.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	There was an oil spill in 2003 and numerous tank fires since 1998.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Reagan County
Target Completion Date:	2005

2011 Analysis:
Rollover.

Reagan County (Past Action) – 6	
Proposed Action:	Conduct simulated disaster exercises; ensure that Emergency Management plan is in effect.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	This would help the County be ready for a disaster.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Reagan County, VFD
Target Completion Date:	Periodically, ongoing

2011 Analysis:
Ongoing action.

Reagan County (Past Action) – 7

Proposed Action:	Be in contact with TxDOT on road conditions.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
History of Damages:	This action would give the public notice of road closures.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Thunderstorm, Winter Storm
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	Grants, general revenues
Lead Agency/Department Responsible:	Reagan County
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing action.

City of Big Lake

City of Big Lake (Past Action) – 1	
Proposed Action:	Implement a flood early warning system and response plan. Implement maintenance program for clearing debris from drains/culverts.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
History of Damages:	Areas of the City flooded in each of the years from 1996-2003.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake
Target Completion Date:	2008

2011 Analysis:
Ongoing.

City of Big Lake (Past Action) – 2

Proposed Action:	Obtain certification of communities by the National Weather Station Storm Ready communities. Improve emergency management radio coverage and reception. Expand early warning system for hazard events.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
History of Damages:	Since 1996, the City has experienced a tornado, damaging high winds, hail and thunderstorms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$3,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake
Target Completion Date:	2005

2011 Analysis:
City has radio coverage and reception during disasters, local with Reagan County.

City of Big Lake (Past Action) – 3

Proposed Action:	Contingency plan for mandatory water rationing, impose excess use fees during water shortage; lawn watering rationing. Adopt an emergency water allocation plan. Public education of extreme heat and drought safety issues.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
History of Damages:	Since 1996, the city has experienced a heat wave and in most of those years has had less than average rainfall and high temperatures.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Big Lake
Target Completion Date:	2004

2011 Analysis:
Action was completed.

City of Big Lake (Past Action) – 4

Proposed Action:	Create and practice neighborhood plans with drills and exercises. Public education of hazmat risk, detection, and evacuation.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
History of Damages:	In 2002, there was a hazard spill.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake
Target Completion Date:	2005

2011 Analysis:
Ongoing project with the County.

City of Big Lake (Past Action) – 5

Proposed Action:	Conduct simulated disaster exercises periodically to test plans and improve capabilities. Update emergency management plan periodically.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
History of Damages:	Preparing for a “9-11” event.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	Low
Estimated Cost:	\$2,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake, VFD
Target Completion Date:	2005

2011 Analysis:
Ongoing, work with Reagan County to update plans.

Schleicher County

Schleicher County (Past Action) – 1	
Proposed Action:	Establish and/or acquire safe sites in public facilities (schools, police/fire) in the event evacuation of schools, residences, and businesses is necessary during severe weather or other hazards facing the region. Implement a public awareness campaign to ensure all citizens are familiar with evacuation routes and location of the nearest shelter.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
History of Damages:	Currently no system is in place to notify residents of area evacuation routes and safe shelters in the event of a disaster in the area.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards: Severe Weather, Drought, Wildfire, Hazardous Material Incident
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	County Sheriff Department, City of Eldorado fire/police
Target Completion Date:	2005

2011 Analysis:
Ongoing.

Schleicher County (Past Action) – 2	
Proposed Action:	Purchase NOAA “All-Hazards” radios for early warning and post-event information and place in area schools, businesses, and critical care facilities utilizing public and private partnership funding.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
History of Damages:	Newer NOAA radios are currently not found in all area public facilities, schools, nursing homes, and hospitals.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	Private businesses
Lead Agency/Department Responsible:	County Sheriff Department, City of Eldorado fire/police, private businesses as partners in the project
Target Completion Date:	2005

2011 Analysis:
Ongoing.

Previous Actions

Schleicher County (Past Action) – 3

Proposed Action:	Establish a hazard mitigation library or hazard information center for use by local residents and schools to educate the public about the top natural hazards affecting the CVCOG region.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
History of Damages:	Increase public awareness of the primary hazards facing the City of Eldorado and Schleicher County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	County Judge, City Secretary
Target Completion Date:	2005

2011 Analysis:
Ongoing.

City of Eldorado

City of Eldorado (Past Action) – 1	
Proposed Action:	Provide 1,000 gallon capacity brush truck (wild firefighting unit).
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
History of Damages:	All water used to fight fires in the County has to be trucked to the scene. Many times water is several miles from the scene. Many times the trucks used to transport water early in the fire must wait until they are emptied before they can leave, by the time they return, the firefighters have run out of water. Additionally, the extra capacity within the city limits would aid in structural fires.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$95,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Eldorado Fire Department
Target Completion Date:	2006

2011 Analysis:
Completed.

City of Eldorado (Past Action) – 2

Proposed Action:	Provide portable drop tanks with minimum 4,000 gallon capacity to the volunteer fire department to enhance their water resource capacities.
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
History of Damages:	All water used to fight fires in the County has to be trucked to the scene and many times water is several miles from the scene. Many times the trucks used to transport water early in the fire must wait until they are emptied before they can leave, by the time they return, the firefighters have run out of water. Additionally, the extra capacity within the city limits would aid in structural fires.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$6,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Eldorado Fire Department
Target Completion Date:	2008

2011 Analysis:
Completed.

City of Eldorado (Past Action) – 3

Proposed Action:	Expand the law enforcement center with an Incident Command Center with the space and equipment necessary to respond to a variety of multiple hazards.
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
History of Damages:	The City of Eldorado and Schleicher County are vulnerable to a wide range of disasters. The current command center is unsuitable for any type of adequate response to these disasters.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Eldorado Fire Department and Schleicher County Sheriff's Office
Target Completion Date:	2010

2011 Analysis:
Completed.

Previous Actions

City of Eldorado (Past Action) – 4

Proposed Action:	Establish a hazard mitigation library or hazard information center for use by local residents and schools to educate the public about the top natural hazards affecting the CVCOG region.
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
History of Damages:	Increase public awareness of the primary hazards facing the City of Eldorado and Schleicher County.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	County Judge, City Secretary
Target Completion Date:	2005

2011 Analysis:
Completed.

Sterling County

Sterling County (Past Action) – 1	
Proposed Action:	Coordinate wildfire hazard plan with other agencies/jurisdictions.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	Sterling County has a history of fires.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Target Completion Date:	2005

2011 Analysis:
Ongoing.

Sterling County (Past Action) – 2

Proposed Action:	Routinely clean and repair storm water drains.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	The City of Sterling City has some flash flooding.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling
Target Completion Date:	As needed

2011 Analysis:
Remove.

Sterling County (Past Action) – 3

Proposed Action:	Conduct public education program on fire risk and wildfire mitigation, with the assistance of the Texas Forest Service.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	Sterling County has a background of fires.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Target Completion Date:	As needed

2011 Analysis:
Rollover.

Sterling County (Past Action) – 4

Proposed Action:	Educate residents about xeriscaping.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	Sterling County has a background of drought and heat.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County - Extensive Service
Target Completion Date:	As needed

2011 Analysis:
Ongoing.

Sterling County (Past Action) – 5

Proposed Action:	Develop and maintain a basic emergency plan that complies with state planning standards.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	Sterling County has several miles of pipelines and several gas plants.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident, Fuel Pipeline Failure
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Target Completion Date:	Finished

2011 Analysis:
Completed, and updated regularly.

Sterling County (Past Action) – 6

Proposed Action:	Prepare and advertise the local emergency evacuation plan, such as escape routes, in coordination with the Department of Transportation.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
History of Damages:	A tornado and high winds could occur in the City of Sterling City at any time.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Target Completion Date:	Finished

2011 Analysis:
Ongoing.

City of Sterling City

City of Sterling City (Past Action) – 1	
Proposed Action:	Install quick-connect emergency generator hook-ups for critical facilities.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	We have had long periods of time with our power out due to storms.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$20,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Completed

2011 Analysis:
Completed.

Previous Actions

City of Sterling City (Past Action) – 2

Proposed Action:	Install early warning system for hazard events.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	In 2002, early warning system needed to be updated due to old age.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$8,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Has been completed

2011 Analysis:
A siren system has been installed.

Previous Actions

City of Sterling City (Past Action) – 3

Proposed Action:	Adopt routine fire hydrant maintenance.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	There have been times in the past that the hydrants have been had to operate.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000 annually
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing project.

Previous Actions

City of Sterling City (Past Action) – 4

Proposed Action:	Raise electrical components of sewage lift stations above BFE.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	In 2002, Concho River ran out of its banks and flooded river lift station.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Has been completed

2011 Analysis:
Completed.

Previous Actions

City of Sterling (Past Action) – 5

Proposed Action:	Use stream restoration/channelization to ensure adequate drainage/diversion of storm water.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	In past there was bad drainage of storm water.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000 per year
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Completed.

City of Sterling City (Past Action) – 6

Proposed Action:	Survey and remove hazardous trees from drainage systems.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	Trees and brush have grown up next to the drainage system through the city over the past years.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing project.

City of Sterling City (Past Action) – 7

Proposed Action:	Retain and maintain natural vegetation in storm water channels.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	Vegetation in draws causes storm water backage if not maintained.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing project.

City of Sterling City (Past Action) – 8

Proposed Action:	Allow no vegetation or fire-resistant landscaping in easements.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	In past years, we have fires started in easements due to high vegetation.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,000
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing project.

Previous Actions

City of Sterling City (Past Action) – 9

Proposed Action:	Implement a tree-trimming program that routinely clears tree limbs hanging in right-of-ways.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	Trees have grown over into the right-of-ways in the past and caused some damage.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Tornado, Thunderstorm
Priority (High, Moderate, Low):	High
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	

2011 Analysis:
Ongoing project.

Previous Actions

City of Sterling City (Past Action) – 10

Proposed Action:	Conduct public education program on fire risks and wildfire mitigation, with the assistance of the Texas Forest Service.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	We have had several structure fires and wildfires in the past that could have been avoided.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing project.

Previous Actions

City of Sterling City (Past Action) – 11	
Proposed Action:	Develop drought contingency plans outlining actions to take at varying levels of drought.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	There have been wells drying up, and lakes in the surrounding area drying up, or getting dangerously low.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$160
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Has been completed

2011 Analysis:
Completed, undergoing stage 2 now.

Previous Actions

City of Sterling City (Past Action) – 12	
Proposed Action:	Develop an enforcement plan for implementing mandatory water rationing; impose excess use charges during times of water shortage; lawn watering restrictions.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	We have had a past history of high heat and drought.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Drought, Excessive Heat
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Completed

2011 Analysis:
Completed, on the contingency plan.

City of Sterling City (Past Action) – 13

Proposed Action:	Assess local water supply and water treatment systems.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	In the past and present, everywhere in our country has been threatened by terrorist acts.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Terrorism
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Ongoing

2011 Analysis:
Ongoing.

Previous Actions

City of Sterling City (Past Action) – 14

Proposed Action:	Bury utility lines to prevent ice buildup.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	Water lines too close to the surface in the past have frozen due to low temperatures.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Winter Storm
Priority (High, Moderate, Low):	High
Estimated Cost:	N/A
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Completed

2011 Analysis:
Water lines are buried underground already, completed.

City of Sterling City (Past Action) – 15

Proposed Action:	Develop capital improvements plan.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
History of Damages:	We have not had a capital improvements plan in the past to see where we stand until last year.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Flood
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$30,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	City of Sterling City
Target Completion Date:	Completed

2011 Analysis:
Ongoing project.

Sutton County

Sutton County (Past Action) – 1	
Proposed Action:	Purchase 6 chemical suits for two teams of three.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people. The Sonora VFD needs chemical suits for two teams.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$12,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Not completed, rollover into Plan Update.

Sutton County (Past Action) – 2

Proposed Action:	Purchase site detox equipment (tents, etc.) for two teams of three.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Set up at hospital, this action has been completed.

Sutton County (Past Action) – 3

Proposed Action:	Purchase four hi-band digital capable radios for Sonora VFD.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	Sonora VFD is part of all hazard mitigation in this area, having a leading role in rescue, evacuation and the like. Their radios are extremely old and do not work county-wide.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Completed.

Previous Actions

Sutton County (Past Action) – 4

Proposed Action:	Develop extensive outside training program for all rescue personnel (law enforcement, fire department, EMS, hospital) for handling of hazards endemic to this area, particularly toxic situations, gas industry related explosions, and fires involving toxic material which require a higher level of training.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people. These situations have occurred before and will again. More knowledge and training would be beneficial.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$4,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2007

2011 Analysis:
Partially completed, rollover into Plan Update.

Sutton County (Past Action) – 5

Proposed Action:	Install a county-wide warning system (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	Sutton County has no functional county-wide warning system. A Reverse 911 system would enable warning of selected population segments for multiple hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	All Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Sutton County Commissioner’s Court
Target Completion Date:	2010

2011 Analysis:
Completed, automatic telephone warning system purchased in 2009.

Sutton County (Past Action) – 6

Proposed Action:	Develop and disseminate multi-hazard public awareness program, through newspaper inserts, distribution of printed leaflets, and other media exposure.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
History of Damages:	It has been a number of years since an extensive public information program has been done, warning residents what to do in the face of various hazards, including hailstorm, tornado, toxic emission, drought, flooding, lightning, etc.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Sutton County Commissioner’s Court
Target Completion Date:	2007

2011 Analysis:
Educational awareness programs about spills.

City of Sonora

City of Sonora (Past Action) – 1	
Proposed Action:	Purchase 6 chemical suits for two teams of three.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people. The Sonora VFD needs chemical suits for two teams.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$12,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Rollover.

Previous Actions

City of Sonora (Past Action) – 2

Proposed Action:	Purchase site detox equipment (tents, etc.) for two teams of three.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Rollover.

City of Sonora (Past Action) – 3

Proposed Action:	Purchase four hi-band digital capable radios for Sonora VFD.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	Sonora VFD is part of all hazard mitigation in this area, having a leading role in rescue, evacuation and the like. Their radios are extremely old and do not work county-wide.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora City Council, Sutton County Commissioner’s Court
Target Completion Date:	2008

2011 Analysis:
Purchases had been made for the police department, but not the fire department.

Previous Actions

City of Sonora (Past Action) – 4

Proposed Action:	Develop extensive outside training program for all rescue personnel (law enforcement, fire department, EMS, hospital) for handling of hazards endemic to this area, particularly toxic situations, gas industry related explosions, and fires involving toxic material which require a higher level of training.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	The City of Sonora and Sutton County have a number of chemical and gas field facilities that could create a hazardous material incident, which would endanger a large number of people. These situations have occurred before and will again. More knowledge and training would be beneficial.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Hazardous Material Incident
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$4,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	City of Sonora City council, Sutton County Commissioner’s Court
Target Completion Date:	2007

2011 Analysis:
Partially completed, rollover.

City of Sonora (Past Action) – 5

Proposed Action:	Install a county-wide warning system (Reverse 911).
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	Sutton County has no functional county-wide warning system. A Reverse 911 system would enable warning of selected population segments for multiple hazards.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Sutton County Commissioner’s Court
Target Completion Date:	2010

2011 Analysis:
Rollover.

City of Sonora (Past Action) – 6

Proposed Action:	Develop and disseminate multi-hazard public awareness program, through newspaper inserts, distribution of printed leaflets, and other media exposure.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
History of Damages:	It has been a number of years since an extensive public information program has been done, warning residents what to do in the face of various hazards, including hailstorm, tornado, toxic emission, drought, flooding, lightning, etc.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	General revenues, grants
Lead Agency/Department Responsible:	Sutton County Commissioner’s Court
Target Completion Date:	2007

2011 Analysis:
Rollover.

Tom Green County

Tom Green County (Past Action) – 1	
Proposed Action:	Purchase two repeaters for the fire communications system used by the VFDs, as well as six mobile radios per volunteer department.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
History of Damages:	The VFDs in Tom Green County respond to all emergency situations from vehicle accidents to fire to floods. There is currently no repeater system for the eleven VFDs within Tom Green County. All radio traffic from one department to the other, as well as from responding units to the requesting department must go through central dispatch. This has resulted in inadequate equipment being sent in mutual aid situations, or units traveling almost to the scene before being advised by dispatch that they are no longer needed, when they could have been advised considerably sooner, had adequate radio equipment been available. Additionally, most of the radios in the fire trucks are 20 years old or better, and were hand-me-downs when the departments got them.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	\$300,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Tom Green County commissioner’s Court
Target Completion Date:	FY 2006

2011 Analysis:
Completed.

Tom Green County (Past Action) – 2

Proposed Action:	Provide portable drop tanks with a minimum 3,000 gallon capacity to each volunteer fire department to enhance their water resource capacities.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
History of Damages:	Numerous residences and other structures have been lost, or have suffered substantial damage because of a lack of adequate water supply. All water used to fight fires in Tom Green County outside the incorporated city limits of San Angelo has to be trucked onto the scene. Many times the water source is several miles from the scene. Additionally, many times the trucks used to transport the water early in the fire must wait until they are emptied by the firefighting process before they can leave, and while they are gone to replenish their supplies, the firefighters run out of water.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Wildfire
Priority (High, Moderate, Low):	High
Estimated Cost:	\$16,500
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Tom Green County Commissioner’s Court
Target Completion Date:	FY 2005

2011 Analysis:
Partially completed, rollover to Plan Update.

Tom Green County (Past Action) – 3

Proposed Action:	Create a facility that will act as the alternate Emergency Operations Center (EOC) and will provide emergency backup technology systems allowing the city to continue operating should the primary EOC or the primary Information Management location be destroyed or rendered incapable of operation.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
History of Damages:	The City and County have an outdated ill-equipped facility as a primary EOC. The City has no backup facility for Information Management. A new modernized facility could serve several purposes before, during and after a disaster.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	To be determined
Potential Funding Sources:	General funds, grants, inter-jurisdictional assistance
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2006

2011 Analysis:
Completed, has written agreements to use the City Council building and the West Texas Training Center as backup.

City of San Angelo

City of San Angelo (Past Action) – 1	
Proposed Action:	Develop a program of public awareness of low water crossings, alternate travel routes, and the dangers associated with those locations during times of heavy rains. Implement an ordinance for retrieving the cost of water rescues involving motorists stranded in marked low water crossings.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
History of Damages:	The city fire rescue teams are called upon routinely immediately after heavy rains to rescue stranded motorists. Although the low water crossings are marked with signs, additional public awareness needs to be considered.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Very High
Estimated Cost:	
Potential Funding Sources:	General funds
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2006

2011 Analysis:
Not publicized, but some of the low lying areas are barricaded.

City of San Angelo (Past Action) – 2

Proposed Action:	Develop a program of public awareness to identify safe sheltering locations when pre-disaster imminent danger warnings, such as sirens, provide time to relocate and to identify temporary sheltering locations for those who have lost their homes or are unable to return to their homes due to a disaster. Ensure disaster relief provisions are available for those locations to include water, food, blankets, sanitary facilities, cots, etc.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
History of Damages:	The City does have some shelters located throughout the City, but they would not be adequate for a major disaster where large numbers of citizens had to be relocated.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	General funds, grants
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2006

2011 Analysis:
Ongoing project.

Previous Actions

City of San Angelo (Past Action) – 3

Proposed Action:	Annually, exercise the roles of city employees who are assigned specific tasks in the event of an emergency. Ensure appropriate personnel are properly trained and receive necessary continuing education including permit inspectors, EOC personnel, and EM personnel. Involve outlying communities, such as Grape Creek, Water Valley, Christoval, etc., in exercises.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
History of Damages:	Traditionally, the city exercises involve city resources and city personnel. Occasionally, multi-organizational exercises are conducted with GAFB.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	General funds, grants, inter-jurisdictional assistance
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2006

2011 Analysis:
Has an EOC and runs practice routes to prepare for an emergency.

Previous Actions

City of San Angelo (Past Action) – 4

Proposed Action:	Provide proper design criteria for private residence safe rooms and offer incentives for construction, such as waving permit fees and property value exclusions for safe room square footage.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
History of Damages:	There are a large number of older wood frame homes in the City of San Angelo which may not withstand the force of a tornado or extremely high winds.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	General funds, grants
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2007

2011 Analysis:
Not completed, rollover.

Previous Actions

City of San Angelo (Past Action)-5

Proposed Action:	Gain access to video and audio presentations used on the city channel and local television and radio stations to provide information on disaster planning, preparation, mitigation, and recovery to include prevention of wildfires and urban interface of fire dangers, debris management of dead or stress trees, and water conservation including the use of indigenous plants, erosion control, sprinkler systems, rain water capture, and alternative gardening techniques. Also consider developing a landscape ordinance limiting square footage for planting and requiring drainage from paved areas.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
History of Damages:	The city’s television channel is not being used to its fullest potential. Professional designed and developed video and audio presentations will be more effective.

MITIGATION ACTION DETAILS	
Primary Hazard Addressed:	Multiple Hazards
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	General funds, grants, permit fees
Lead Agency/Department Responsible:	City of San Angelo
Target Completion Date:	FY 2007

2011 Analysis:
Completed, the public information office has taken over this project.

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New Mitigation Actions

At the mitigation workshops for CVCOG, plan participants developed mitigation actions, prioritizing actions based on the STAPLE+E analysis, which includes considering the social, technical, administrative, political, legal, economic and environmental factors necessary for the implementation of each action. A STAPLE+E analysis follows each mitigation action in this section.

As part of the economic evaluation of the STAPLE+E analysis, jurisdictions analyzed each action in terms of the overall costs, measuring whether the potential benefit to be gained from the action outweighed all costs associated with it. As a result of this exercise, priority was assigned to each mitigation action by marking them as High (H), Moderate (M), or Low (L). An action that is ranked as “High” indicates that the action will be implemented as soon as funding is received. A “Moderate” action is one that may not be implemented right away depending on the cost and number of citizens served by the action. Actions ranked as “Low” indicate that they will not be implemented without first seeking grant funding and after “High” and “Moderate” actions have been completed.

CVCOG jurisdictions also developed and prioritized mitigation actions regarding the National Flood Insurance Program (NFIP) for continual compliance. These actions are denoted with “(NFIP)” next to each corresponding action number in the beginning row of each mitigation action.

CVCOG Region

Concho Valley Council of Governments Region – 1	
Proposed Action:	Post burn ban signs on all major highways.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Low
Estimated Cost:	To be determined
Potential Funding Sources:	Counties
Lead Agency/Department Responsible:	Counties
Implementation Schedule:	2012 and ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>

Concho Valley Council of Governments Region – 2

Proposed Action:	Implement a program to secure power lines in rural areas when transmission lines, due to thunderstorm, wind, ice, and other weather events spark a fire which may go unnoticed, resulting in urban and rural fire.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Winter Storm, Thunderstorm
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Counties, power companies
Lead Agency/Department Responsible:	Counties
Implementation Schedule:	2012 and ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------

Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------

Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------

Concho Valley Council of Governments Region – 3

Proposed Action:	Implement a public awareness program to promote “GO KIT” to residents throughout the CVCOG region. The kit provides residents information on pre-planning for keeping important papers, medications and other essential items together in the event of disaster and evacuation of their home.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Counties, donations, local funds
Lead Agency/Department Responsible:	CVCOG, counties, cities, individuals
Implementation Schedule:	2012 and ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	4 <input checked="" type="checkbox"/>

Concho Valley Council of Governments Region – 4

Proposed Action:	Develop local agreements with landowners to cut fences both for access to wildfires, and to free trapped livestock. Include landowners who will be willing to take control and move livestock to safe areas for care and feeding.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	USDA, grants
Lead Agency/Department Responsible:	CVCOG, USDA
Implementation Schedule:	2012 and ongoing

COMMENTS:
Pre-arranged agreements allow ranchers access to livestock in a wildfire situation to protect investment and reduce economic loss.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>

Concho Valley Council of Governments Region – 5

Proposed Action:	Initiate a program to locate and map all water resources (commercial, flush hydrants, stock ponds, lakes, and waterways) using GPS.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection, Natural Resource Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	CVCOG, Forest Service
Implementation Schedule:	2012 and ongoing

COMMENTS:
Pre-located water sources assist with wildfire for refilling helicopters; location of all water resources also aid in protecting them with barriers to keep debris and other materials associated with wildfire from contamination.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>

Concho Valley Council of Governments Region – 6

Proposed Action:	Develop a program for rural residences throughout the CVCOG region to ensure all structures have visible addresses that can be seen from county roads and highways both day and night in order to aid first responders during wildfire events.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	Increase response to minimize structural damage due to fire
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	9-1-1 Grants
Lead Agency/Department Responsible:	9-1-1
Implementation Schedule:	2012 and ongoing

COMMENTS:
Aid in quicker location of rural residential properties.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>

Concho Valley Council of Governments Region – 7

Proposed Action:	Designate area(s) and construct multi-purpose community shelter(s) to accommodate area residents during disasters and severe weather events in the CVCOG region.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region – Counties to be determined
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hail, Winter Storm, Tornado, Thunderstorm, Hurricane
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1.0 - \$1.3 million
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	CVCOG
Implementation Schedule:	Within two years of funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>

Concho Valley Council of Governments Region – 8

Proposed Action:	Develop a cloud-seeding program as an integral part of overall long-term water management strategy to maximize supply of fresh water and reduce economic agricultural impact of drought and hail damage in the region.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region – Specific counties within the region to be determined
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection, Natural Resource Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought, Hail
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$275,000 - \$450,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	CVCOG, along with participating jurisdictions
Implementation Schedule:	2012 and ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Concho Valley Council of Governments Region – 9

Proposed Action:	Improve wildfire fighting water delivery capabilities by the purchase of one large, mobile fifth-wheel water trailer to be strategically placed around the region.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Drought
Effect on New/Existing Buildings:	Minimize fire damage to all structures
Priority (High, Moderate, Low):	High
Estimated Cost:	\$150,000 - \$175,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	VFD and regular Fire Departments within CVCOG Region
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
4	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Concho Valley Council of Governments Region – 10 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	CVCOG Region
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Coke County

Coke County - 1	
Proposed Action:	Improve communication system.
BACKGROUND INFORMATION	
Site and Location:	Coke County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Wildfire, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$75,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Coke County
Implementation Schedule:	2012

COMMENTS:
The current communication system is outdated; improvements need to be made so that all thirteen COG communities will be able to communicate during disasters.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Implement a water conservation program to inform the public about the importance of water rationing.
BACKGROUND INFORMATION	
Site and Location:	Coke County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Coke County
Implementation Schedule:	2012

COMMENTS:
With the drought crisis in 2011, it's important to inform our communities about the importance of water rationing. Interested in making pamphlets and having them available at City Hall, schools, businesses, etc.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Coke County – 3 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Coke County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Town of Bronte

Town of Bronte – 1	
Proposed Action:	Expand the number of wells in the Town.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Structural Projects

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$75,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Coke County, Town of Bronte
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Town of Bronte – 2

Proposed Action:	Clear out debris from unused areas around town.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought, Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Coke County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Town of Bronte – 3 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Town of Bronte
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

City of Robert Lee

City of Robert Lee – 1	
Proposed Action:	Need to evaluate water quality from new sources and investigate expansion of existing water storage facilities.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Natural Resource Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Robert Lee
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

<p>Proposed Action:</p>	<p>Distribute pamphlets or have them readily available at City Hall concerning water shortage/conservation.</p>
<p>BACKGROUND INFORMATION</p>	
<p>Site and Location:</p>	<p>City of Robert Lee</p>
<p>Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):</p>	<p>Natural Resource Protection</p>

<p>MITIGATION ACTION DETAILS</p>	
<p>Hazard(s) Addressed:</p>	<p>Drought</p>
<p>Effect on New/Existing Buildings:</p>	<p>N/A</p>
<p>Priority (High, Moderate, Low):</p>	<p>Moderate</p>
<p>Estimated Cost:</p>	<p>\$3,000</p>
<p>Potential Funding Sources:</p>	<p>Grants</p>
<p>Lead Agency/Department Responsible:</p>	<p>City of Robert Lee</p>
<p>Implementation Schedule:</p>	<p>Contingent on funding</p>

<p>COMMENTS:</p>
<p> </p>

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

City of Robert Lee – 3	
Proposed Action:	Purchase multi-purpose equipment such as cones and lighted barricades to use during emergencies to block dangerous roads from being used during wildfire events.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Robert Lee
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

<p>Proposed Action:</p>	<p>Purchase a new warning system to adequately cover all areas of the City of Robert Lee.</p>
<p>BACKGROUND INFORMATION</p>	
<p>Site and Location:</p>	<p>City of Robert Lee</p>
<p>Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):</p>	<p>Prevention</p>

<p>MITIGATION ACTION DETAILS</p>	
<p>Hazard(s) Addressed:</p>	<p>Wildfire, Flood</p>
<p>Effect on New/Existing Buildings:</p>	<p>N/A</p>
<p>Priority (High, Moderate, Low):</p>	<p>High</p>
<p>Estimated Cost:</p>	<p>\$5,000</p>
<p>Potential Funding Sources:</p>	<p>Grants</p>
<p>Lead Agency/Department Responsible:</p>	<p>City of Robert Lee</p>
<p>Implementation Schedule:</p>	<p>Upon funding</p>

<p>COMMENTS:</p>
<p> </p>

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Robert Lee – 5 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Robert Lee
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Concho County

Concho County - 1	
Proposed Action:	Implement a public awareness program to inform the citizens about their safety during high temperatures and droughts.
BACKGROUND INFORMATION	
Site and Location:	Concho County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought, Extreme Heat
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Concho County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Concho County – 2 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	Concho County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

City of Eden

City of Eden – 1	
Proposed Action:	Implement a public awareness program to inform the citizens about their safety during high temperatures and droughts.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought, Extreme Heat
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Eden
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Strengthen or improve emergency notification system to cover the entire city.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$25,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Eden
Implementation Schedule:	2012

COMMENTS:
There is currently only one siren on one side of the town. In the event of a disaster, the entire town can't hear.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

<p>Proposed Action:</p>	<p>Expand pipeline in conjunction with water storage project to carry and utilize excess water to the Eden Football Field.</p>
<p>BACKGROUND INFORMATION</p>	
<p>Site and Location:</p>	<p>City of Eden</p>
<p>Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):</p>	<p>Structural Projects</p>

<p>MITIGATION ACTION DETAILS</p>	
<p>Hazard(s) Addressed:</p>	<p>Flood</p>
<p>Effect on New/Existing Buildings:</p>	<p>N/A</p>
<p>Priority (High, Moderate, Low):</p>	<p>High</p>
<p>Estimated Cost:</p>	<p>\$50,000</p>
<p>Potential Funding Sources:</p>	<p>Grants</p>
<p>Lead Agency/Department Responsible:</p>	<p>City of Eden</p>
<p>Implementation Schedule:</p>	<p>Upon funding</p>

<p>COMMENTS:</p>
<p>The current new water system reclaims water and waters the golf course only.</p>

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Eden – 4 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Eden
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Town of Paint Rock

Town of Paint Rock – 1	
Proposed Action:	Develop a Wildfire Protection Plan for the Town.
BACKGROUND INFORMATION	
Site and Location:	Town of Paint Rock
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Paint Rock
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Town of Paint Rock – 2 (NFIP)	
Proposed Action:	Promote public awareness of NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Town of Paint Rock	Town of Paint Rock
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Town of Paint Rock
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Crockett County

Crockett County - 1	
Proposed Action:	Conduct a public education program on fire risks and wildfire mitigation, with the assistance of the Texas Forest Service.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$8,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Crockett County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Crockett County – 2

Proposed Action:	Develop a Wildfire Recovery Plan, including soil erosion control and vegetative recovery.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	To be determined
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Crockett County
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Develop a Community Wildfire Protection Plan.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$8,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Crockett County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Crockett County – 4

Proposed Action:	Repairing spillways and concrete dams.
BACKGROUND INFORMATION	
Site and Location:	Crockett County – Sides #2, 7, Johnson Draw WCD
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam Failure
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$120,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	County Judge
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Crockett County – 5 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	Crockett County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Irion County

Irion County - 1	
Proposed Action:	To implement a Wildfire Protection Plan for the public to learn how to prevent a wildfire.
BACKGROUND INFORMATION	
Site and Location:	Irion County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Irion County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3 <input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>	

Proposed Action:		To use the newspapers and media to post information about ongoing burn bans in the area.
BACKGROUND INFORMATION		
Site and Location:		Irion County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):		Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Irion County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Irion County – 3 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Irion County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Irion County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

City of Mertzon

City of Mertzon – 1	
Proposed Action:	Implement a public education program to inform members of the community on water conservation.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzon
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$9,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Mertzon
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Mertzson – 2 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Mertzson
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Kimble County

Kimble County – 1	
Proposed Action:	Clear abandoned areas to prevent wildfires.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Kimble County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Kimble County – 2 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Kimble County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Kimble County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

City of Junction

City of Junction – 1	
Proposed Action:	Prevent erosion on the Llano River.
BACKGROUND INFORMATION	
Site and Location:	City of Junction – Llano River
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Natural Resource Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$200,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Junction
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Junction – 2 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Junction
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	high
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

McCulloch County

McCulloch County - 1	
Proposed Action:	Mapping roads for flood prone areas.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

McCulloch County – 2

Proposed Action:	Provide information on hazardous material incidents for the citizens of the County by providing pamphlets and having them available around the County.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hazardous Material Incident
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

McCulloch County – 3

Proposed Action:	Upgrade current communication system to a digitalized system for better coverage around the County.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

McCulloch County – 4

Proposed Action:	Expand current communication receptors to include two more tower sites for better coverage within the County divisions.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Wildfire, Drought
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	McCulloch County
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

McCulloch County – 5 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	McCulloch County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Town of Melvin

Town of Melvin – 1	
Proposed Action:	Purchase a new electrical system for the town offices.
BACKGROUND INFORMATION	
Site and Location:	Town of Melvin
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$50,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Town of Melvin
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

<p>Proposed Action:</p>	<p>Implement a public education awareness program to inform citizens about drought, water conservation, and emergency routes.</p>
<p>BACKGROUND INFORMATION</p>	
<p>Site and Location:</p>	<p>Town of Melvin</p>
<p>Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):</p>	<p>Public Education & Awareness</p>

<p>MITIGATION ACTION DETAILS</p>	
<p>Hazard(s) Addressed:</p>	<p>Drought, Wildfire, Flood</p>
<p>Effect on New/Existing Buildings:</p>	<p>N/A</p>
<p>Priority (High, Moderate, Low):</p>	<p>High</p>
<p>Estimated Cost:</p>	<p>\$50,000</p>
<p>Potential Funding Sources:</p>	<p>Grants</p>
<p>Lead Agency/Department Responsible:</p>	<p>Town of Melvin</p>
<p>Implementation Schedule:</p>	<p>Upon funding</p>

<p>COMMENTS:</p>
<p></p>

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Town of Melvin – 3 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Town of Melvin
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Menard County

Menard County - 1	
Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	Menard County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$25,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Menard County
Implementation Schedule:	2012

COMMENTS:
Partially completed project, but seeking funding to continue and complete it.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Menard County – 2

Proposed Action:	Implement early warning system and response plan for thunderstorms, hail and tornadoes.
BACKGROUND INFORMATION	
Site and Location:	Menard County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Thunderstorm, Hail, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Menard County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Menard County – 3 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Menard County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Menard County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

City of Menard

City of Menard – 1	
Proposed Action:	Implement early warning system.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$25,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Menard County
Implementation Schedule:	2012

COMMENTS:
Partially completed project, but seeking funding to continue and complete it.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

City of Menard – 2	
Proposed Action:	Implement early warning system and response plan for thunderstorms, hail and tornadoes.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Thunderstorm, Hail, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Menard County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

City of Menard – 3 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Menard
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City of Menard
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Reagan County

Reagan County - 1	
Proposed Action:	Expand communication system by improving city trucks to include radio systems to contact local regions during emergencies and disasters.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$75,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Reagan County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Reagan County – 2 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Reagan County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

City of Big Lake

City of Big Lake – 1	
Proposed Action:	Implement a program to inform and notify homeowners who may be in danger during disasters.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	Protects the homes/offices of people in the community
Priority (High, Moderate, Low):	High
Estimated Cost:	\$10,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake
Implementation Schedule:	2012

COMMENTS:
To notify public by purchasing newspaper ads and to send out letters to homeowners who may be in danger.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Clear abandoned areas from debris.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Big Lake
Implementation Schedule:	2012

COMMENTS:
With the wildfire disasters occurring in 2011, it's important to clear out areas that could trigger a devastating wildfire.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Big Lake – 3 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Big Lake
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City of Big Lake
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Schleicher County

Schleicher County – 1	
Proposed Action:	Purchase NOAA “All-Hazards” radios for early warning and post-event information and place in area schools, businesses, and critical care facilities utilizing public and private partnership funding.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Thunderstorm, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Schleicher County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Schleicher County – 2	
Proposed Action:	Establish a county-wide Wildfire Protection Plan for the public.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Schleicher County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Schleicher County – 3 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Schleicher County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Schleicher County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

City of Eldorado

City of Eldorado – 1	
Proposed Action:	Develop a Wildfire Protection Plan for the public.
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$5,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Eldorado
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Eldorado – 2 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Eldorado
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Sterling County

Sterling County - 1	
Proposed Action:	Coordinate a Wildfire Hazard Plan with other agencies/jurisdictions.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Implementation Schedule:	Ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Proposed Action:	Routinely clean and repair storm water drains.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$500
Potential Funding Sources:	General revenues
Lead Agency/Department Responsible:	City of Sterling
Implementation Schedule:	As needed

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Proposed Action:	Conduct public education program on fire risk and wildfire mitigation, with the assistance of the Texas Forest Service.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Implementation Schedule:	As needed

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Sterling County – 4

Proposed Action:	Educate residents about xeriscaping.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Drought, Extreme Heat
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County - Extensive Service
Implementation Schedule:	As needed

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Proposed Action:	Develop and maintain a basic emergency plan that complies with state planning standards.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness, Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Hazardous Material Incident, Pipeline Failure
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Implementation Schedule:	Ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Proposed Action:	Prepare and advertise the local emergency evacuation plan, such as escape routes, in coordination with the Department of Transportation.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Tornado, Thunderstorm
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$0
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	Sterling County
Implementation Schedule:	Ongoing

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
---	--------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	--------------------------

Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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New Mitigation Actions

Sterling County – 7 (NFIP)	
Proposed Action:	Promote public awareness of the NFIP Program by distributing flood insurance brochures at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Sterling County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Minimal
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Sterling County
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS

The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)

Socially Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------

Technically Feasible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
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Administratively Possible:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------

Politically Acceptable:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	-------------------------------------

Legal:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
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Economically Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
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Environmentally Sound:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
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City of Sterling City

City of Sterling City – 1	
Proposed Action:	Improvement to wastewater facility system.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$250,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sterling City
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

City of Sterling City – 2

Proposed Action:	Improve communications by installing radio systems in the city trucks.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire, Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$25,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sterling City
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Sterling City – 3 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Sterling City
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

Sutton County

Sutton County - 1	
Proposed Action:	Implement a public awareness program to notify the public on extreme heat safety and how to prevent wildfires.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Extreme Heat, Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$4,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Sutton County
Implementation Schedule:	2012

COMMENTS:
Purchasing newspaper ads and TV ads to inform the public.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Sutton County – 2 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	Sutton County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

City of Sonora

City of Sonora – 1	
Proposed Action:	To develop and organize a volunteer firefighting team.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$8,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	City of Sonora
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

<p>Proposed Action:</p>	<p>Implement a Wildfire Protection Plan for the public.</p>
<p>BACKGROUND INFORMATION</p>	
<p>Site and Location:</p>	<p>City of Sonora</p>
<p>Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):</p>	<p>Public Education & Awareness</p>

<p>MITIGATION ACTION DETAILS</p>	
<p>Hazard(s) Addressed:</p>	<p>Wildfire</p>
<p>Effect on New/Existing Buildings:</p>	<p>N/A</p>
<p>Priority (High, Moderate, Low):</p>	<p>High</p>
<p>Estimated Cost:</p>	<p>\$5,000</p>
<p>Potential Funding Sources:</p>	<p>Grants</p>
<p>Lead Agency/Department Responsible:</p>	<p>City of Sonora</p>
<p>Implementation Schedule:</p>	<p>2012</p>

<p>COMMENTS:</p>
<p></p>

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of Sonora – 3 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of Sonora
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS				
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)				
Socially Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Technically Feasible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Administratively Possible:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Politically Acceptable:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Legal:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Economically Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>
Environmentally Sound:				
1	<input type="checkbox"/>	2	<input type="checkbox"/>	5 <input checked="" type="checkbox"/>

Tom Green County

Tom Green County - 1	
Proposed Action:	Purchase two repeaters for the fire communications system used by the VFDs, as well as sic mobile radios per volunteer department.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	
Potential Funding Sources:	
Lead Agency/Department Responsible:	
Implementation Schedule:	

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Tom Green County – 2

Proposed Action:	Provide portable drop tanks with a minimum 3,000 gallon capacity to each volunteer fire department to enhance their water resource capacities.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Wildfire
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$30,000
Potential Funding Sources:	Grants
Lead Agency/Department Responsible:	Tom Green County
Implementation Schedule:	Upon funding

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

Tom Green County – 3 (NFIP)	
Proposed Action:	Develop flood insurance and awareness program; disseminate materials with new permits and place in the library at City Hall.
BACKGROUND INFORMATION	
Site and Location:	Tom Green County
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention, Public Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Local funding
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	City staff
Implementation Schedule:	2013

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS									
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)									
Socially Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Technically Feasible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Administratively Possible:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Politically Acceptable:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Legal:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Economically Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>
Environmentally Sound:									
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>

City of San Angelo

City of San Angelo – 1	
Proposed Action:	Raise Spaulding St. at East Angelo Draw by 5.4 feet and install (4) 9 x 8’ box culverts under Spaulding; raise Bell St. at East Angelo Draw by 2.4 feet and install (4) 9 x8’ culverts.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo – East Angelo Draw at its intersection with Spaulding St. and Bell St.
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$2,087,800
Potential Funding Sources:	Hazard Mitigation Grants, Capital Improvement Projects
Lead Agency/Department Responsible:	City of San Angelo
Implementation Schedule:	Upon funding

COMMENTS:
This is the number one project identified by the master drainage plan- COSA 2000.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Construct additional 8 x 8 box culverts downstream of Bryant Blvd., continuing along Avenue P downstream to Chadbourne St.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo – West Avenue P at Bryant Blvd.
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$1,489,500
Potential Funding Sources:	HMGP, CIP
Lead Agency/Department Responsible:	City of San Angelo
Implementation Schedule:	Upon funding

COMMENTS:
This is number 2 on the projects identified by the 2000 Master Drainage Plan.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of San Angelo – 3

Proposed Action:	Widen channel from just upstream of Loop 306 to just downstream of Southwest Blvd. Install a 300 flood bridge with high chord of 1888msl. Install storm drain line in Southwest Blvd.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo – Southwest Blvd. and South Fork, Red Arroyo
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	\$3,318,400
Potential Funding Sources:	HMGP, CIP
Lead Agency/Department Responsible:	City of San Angelo
Implementation Schedule:	Upon funding

COMMENTS:
This is ranked number 7 of the 2000 Master Drainage Plan.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of San Angelo – 4	
Proposed Action:	Acquisition of property and grading to prevent flooding.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo – 400 Block of E. 14 th St.
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	Demo existing building, convert to park area
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$1,200,000
Potential Funding Sources:	HMGP, CIP
Lead Agency/Department Responsible:	City of San Angelo
Implementation Schedule:	Upon funding

COMMENTS:
This area floods homes during heavy rainfall- also requested by Mayor Alvinnew.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Utilize grant funding to purchase NOAA “All Hazards” radios for early warning and post-event information and place in area businesses and critical facilities.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Thunderstorm, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$40 for 100 = \$4,000
Potential Funding Sources:	Grant/ in-kind funding
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Upon funding

COMMENTS:
100 Radios.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

Proposed Action:	Develop a SAFE Room program, implementing minimum of (10) homes within program, written San Angelo.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Prevention

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Thunderstorm, Tornado
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	High
Estimated Cost:	Approximately \$60,000
Potential Funding Sources:	Grant/ in-kind funding
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Upon funding

COMMENTS:
10 safe rooms per year.

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

New Mitigation Actions

City of San Angelo – 7 (NFIP)	
Proposed Action:	Establish public awareness program regarding availability of flood insurance by disseminating brochures in public places, such as City Hall.
BACKGROUND INFORMATION	
Site and Location:	City of San Angelo
Type of Action (<i>Prevention, Property Protection, Public Education & Awareness, Natural Resource Protection, or Structural Projects</i>):	Property Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Effect on New/Existing Buildings:	N/A
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	To be determined
Potential Funding Sources:	Local revenues
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	2012

COMMENTS:

New Mitigation Actions

ADDITIONAL CONSIDERATIONS					
The following STAPLEE criteria were evaluated on a scale of 1 to 5 indicating the extent to which this action satisfies each consideration. (1= Does Not Satisfy 3 = Moderately Satisfies 5 = Strongly Satisfies)					
Socially Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Technically Feasible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Administratively Possible:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Politically Acceptable:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Legal:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Economically Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		
Environmentally Sound:					
1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	5	<input type="checkbox"/>		

PLAN MAINTENANCE

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Plan Maintenance Procedures

The following is an explanation of how the participating jurisdictions and the CVCOG will implement the Plan Update, and continue to evaluate and enhance it over time. In order to ensure that the Plan remains current and relevant, the following plan maintenance procedures will be addressed:

- Monitoring and Evaluating the Plan
- Updating the Plan
- Incorporating the Plan into other Planning Mechanisms
- Continued Public Involvement

Monitoring and Evaluation

Periodic revisions of the Plan Update are required to ensure that the goals, objectives, and mitigation action plans are kept current. In addition, revisions may be necessary to ensure that the Plan Update remains in full compliance with state and federal standards.

Plan Monitoring

Monitoring the Plan Update will be the responsibility of all of the jurisdictions, CVCOG and additional planning team members. Each community has designated one person or department responsible for the development and implementation of the Plan. This team member's title is listed in Appendix B. The person that holds the title listed in Appendix B will be responsible for monitoring the Plan. The Plan will be monitored by each jurisdiction annually. The department responsible will review mitigation actions submitted and develop a brief report if any changes are needed, such as recommending an action for funding.

Plan Evaluation

As part of the evaluation process, team members from each jurisdiction will meet bi-annually. The first meeting will be held among those involved in the planning process for the specific jurisdiction. The second meeting will be held at the county level so that each county and the communities therein can assess any changes in risk, determine whether implementation of mitigation actions is on schedule or if there are any implementation problems (such as technical, political, legal or coordination issues), and reflect changes in land development or programs that affect mitigation priorities in their respective jurisdictions.

Updating

Plan Amendments

At any time, minor technical changes may be made to the Plan to keep it current. If additional entities would like to join in the planning effort by way of an amendment they may do so provided that the CVCOG approves of the addition and FEMA regulations for adding a jurisdiction are followed. Any changes by a participating jurisdiction to the mitigation actions or modifications in the overall direction of the Plan will be subject to approval by the governing body of that jurisdiction. Once the amendment is approved, it will be transmitted to the Texas Division of Emergency Management (TDEM).

The following factors will be considered in developing an amendment:

Plan Maintenance

- Errors or omissions made in the identification of issues or needs during the preparation of the Plan;
- New issues or needs that were not adequately addressed in the Plan; and
- Changes in information, data or assumptions from those on which the Plan was based.

Five (5) Year Review

The Plan will be thoroughly reviewed by each planning team member at the end of three years from the date of adoption by the local governing body to determine whether there have been any significant changes that necessitate changes in the types of mitigation actions proposed. New development in identified hazard areas, an increased exposure to hazards, disaster declarations, the increase or decrease in capability to address hazards, and changes to federal or state legislation are examples of factors that may affect the content of the Plan Update.

This plan review will provide the CVCOG and participating jurisdictions with an opportunity to evaluate successful actions and document potential losses avoided due to the implementation of specific mitigation measures. The plan review also provides the opportunity to address mitigation actions that may not have been successfully implemented as assigned. It is recommended that the planning team meet to review the Plan at the end of three years, as grant funds may be necessary for the development of a five-year update. Due to the timelines for grant cycles, it is wise planning to begin the review process in advance of the five-year deadline.

Following the review, any revisions deemed necessary will be summarized and utilized according to the reporting procedures and plan amendment process outlined herein. Upon completion of the review and update/amendment process and after being approved by the local governing body, the revised plan will be submitted to the TDEM for final review and approval in coordination with FEMA.

Incorporation

At the beginning of the planning process, each team member was given a capability assessment survey to complete for their jurisdiction. The purpose of this survey was to identify the plans available for the incorporation of the Plan Update by inventorying each jurisdiction's relevant plans, programs and ordinances; identify shortfalls or weaknesses that could hinder the incorporation or implementation of mitigation actions; identify opportunities for establishing or enhancing mitigation policies, programs or projects; and

establish goals based on an understanding of the organizational capacity and technical capability of each community.

Incorporation of the 2005 Plan

The capability survey distributed not only provided an assessment of current planning capabilities, but also served as a critical component in obtaining information on how the 2005 Plan had been incorporated into various planning mechanisms.

Some of the jurisdictions have incorporated the mitigation plan into response to natural disasters within their communities and realized how important it is to work closely with city officials, city law enforcement, and fire departments. During this Plan Update, the CVCOG Region, as in other parts of the state, was experiencing extreme drought conditions and wildfire conditions. Water shortage was and remains a critical issue. Many of the communities and counties developed mitigation actions to include Wildfire Protection Plans and public awareness activities focusing on wildfire danger.

On the whole, the 2005 Plan was not incorporated into other community planning mechanisms, but reviewed during annual budget meetings for grant determinations. Public awareness activities were also maintained; however the mitigation plan itself was not referenced or added as an appendix to other plans. It is the intention that with this Plan Update, revisions will be made and the Plan incorporated into other mechanisms as development continues throughout the CVCOG.

Incorporation of the Plan Update

Table 18-1 identifies planning mechanisms available for all jurisdictions in the CVCOG and provides examples of how the Plan Update will be incorporated into current efforts.

Table 18-1. Examples of Incorporation of the Plan Update

PLANNING MECHANISM	METHOD OF INCORPORATION
Grant Applications	<p>Jurisdictions will consult the Plan Update whenever there are yearly grant funding cycles available through FEMA, including the Pre-Disaster Mitigation (PDM) cycle and when there is a Disaster Declaration for Texas triggering Hazard Mitigation Grant Program (HMGP) funds. Mitigation actions for each jurisdiction will be reviewed by the planning team members and information will be updated for completing applications, such as maps and risk assessment data. If a project is not in the Update, an amendment may be developed.</p>
Annual Budget Review	<p>Each jurisdiction that participated in the planning process will review the Update and mitigation actions therein when conducting their annual budget review. When allocating funds for upcoming operating and construction budgets, high priority mitigation actions will be reviewed during City Council and Commissioner Court meetings. Each Planning Team member will be responsible for bringing mitigation actions to their respective county or city to discuss feasibility of the potential project in terms of the availability of funds, grant assistance and a preliminary cost benefit review.</p>
Emergency Planning	<p>Based on the results of the Capability Assessment Survey, each jurisdiction in the CVCOG has an Emergency Operations or Management Plan. The Plan Update will be consulted when during updates to each jurisdiction’s local emergency and/or disaster recovery plan. Risk assessment and vulnerability data will be pulled from the plan and reviewed in conjunction with the review, renewal or re-writing of an Emergency Operations or Management Plan. This data will either be included within the new emergency planning mechanism or included as an appendix. Mitigation projects that relate to prevention and protection will also be reviewed for relevance to determine if they should be included.</p>

PLANNING MECHANISM	METHOD OF INCORPORATION
Capital Improvements	<p>Before any updates to Capital Improvement Plans (CIP) are conducted, each jurisdiction will review the risk assessment and mitigation strategy sections of the Plan Update, as limiting public spending in hazardous zones is one of the most effective long-term mitigation actions available to local governments. Profile information and data regarding NFIP compliance and maintenance will be reviewed in conjunction with any CIP that is developed. If new census or land use data is available, this information should be added to the Plan Update.</p>
Floodplain Management and Fire Protection	<p>The Plan Update will be utilized in updating and maintaining floodplain management and fire protection plans, as the goals of both planning mechanisms are similar. In updating or maintaining these plans, the Plan Update will be consulted for NFIP compliance and flood risk (Section 5) and wildfire risk and extent (Section 9). Information from these sections will be reviewed for inclusion. In addition, mitigation actions that address wildfire and flood will be reviewed for inclusion by jurisdiction.</p>

Continued Public Involvement

Public Involvement over the Past Five Years

Throughout the past five years, the CVCOG has continued to solicit public comment and involvement. The 2005 Plan has been available on the CVCOG website in the Regional Services “Hazard Mitigation” section since FEMA approval.

In addition, participating jurisdictions have implemented several public education programs and campaigns since 2005 in order to maintain public involvement, such as:

- Promoting hazard awareness and mitigation activities through media outlets;
- Conducting public education activities through seminars and presentations at conferences and local school events;
- Developing pamphlets and hosting public forums, as well as going door to door ; and

- Posting public surveys.

Public Involvement Going Forward

Input from the public was an integral part of the preparation of the Plan Update and will continue to be essential as the Plan grows and changes. As noted above, a significant change to this plan will require opportunities for the public to make its views known.

This Plan will be posted on the CVCOG website, www.cvcog.org, and the websites of participating jurisdictions, where available, so that officials and the public will be able to provide ongoing feedback. A copy of the updated plan also will be kept for public review at CVCOG headquarters.

Further, if necessary, the CVCOG can designate voluntary citizens or willing members of the private sectors as members of the planning team, as well as utilize local media to notify the public of any maintenance or periodic review activities taking place.

APPENDIX A

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<i>Vulnerability and Impact</i>	10
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<i>Location</i>	14
<i>Extent</i>	16
<i>Previous Occurrences</i>	16
<i>Probability of Future Events</i>	17
<i>Vulnerability and Impact</i>	17

Overview

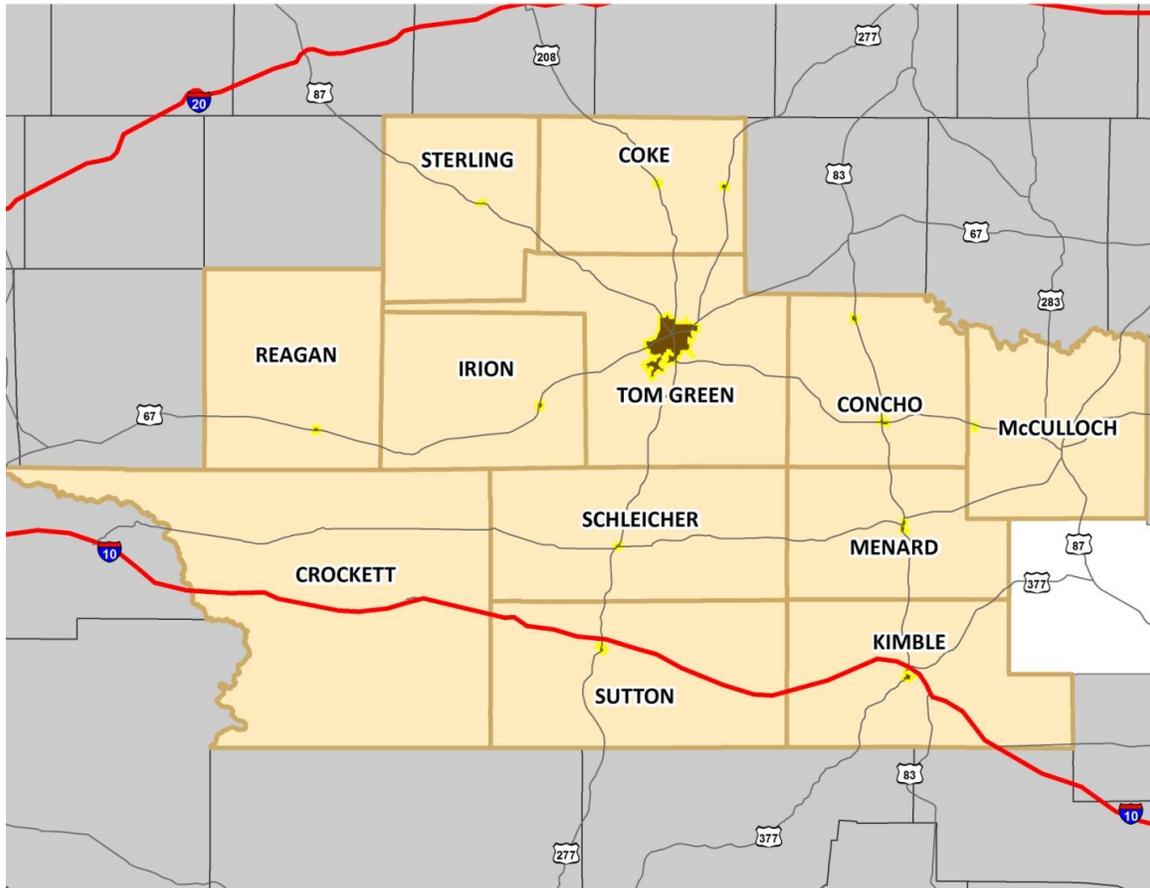
A risk assessment study was conducted to evaluate the probability of occurrence of a hazard event and the potential associated losses. This evaluation presents loss estimates to provide a foundation for evaluating mitigation measures in the event that a disaster occurs. The loss estimates are intended to support the decision making process for mitigation efforts.

Loss estimates calculated for this risk assessment are approximate, based upon available data and methodologies. These estimates should be used to understand relative risk from hazards and potential losses and are not intended to be predictive of precise results. Uncertainties are inherent in any loss estimation methodology arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary for a comprehensive analysis (e.g., incomplete or outdated inventory, or demographic or economic parameter data). These factors can result in a range of uncertainty in loss estimates produced by this analysis, possibly at a factor of two or more.

Study Area Definition

The study area for the risk assessment consists of 12 counties of the Concho Valley Council of Governments (Figure A-1).

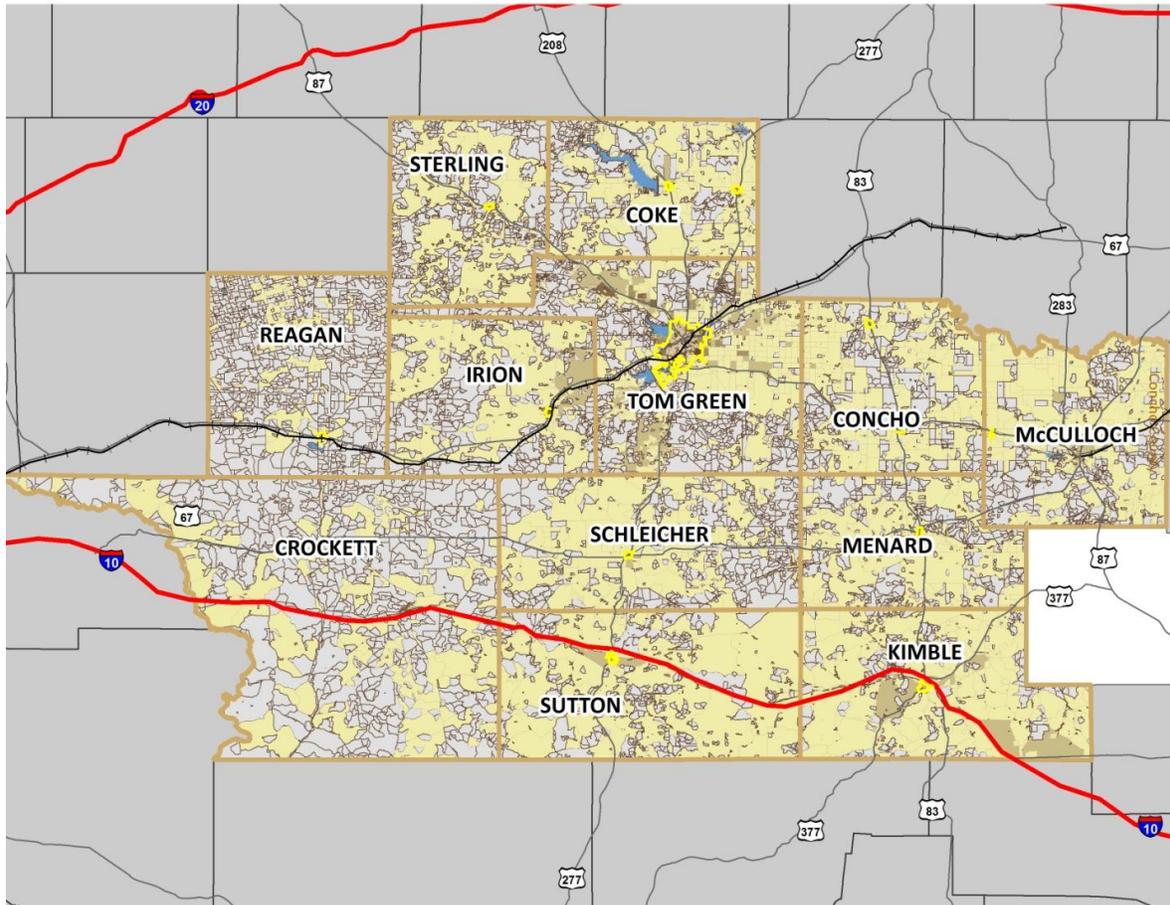
Figure A-1. CVCOG Study Area



Population Data

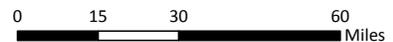
The population data for the study area was distributed at the census block level, which was generated from the 2000 Census population data. Figure A-2 below represents the population data used in this hazard analyses.

Figure A-2. Population Distribution by Census Block for CVCOG



LEGEND

- | | | |
|-----------------------------|----------------------------|---------------|
| Population Per Census Block | CVCOG County | Interstates |
| 0 | Participating Municipality | U.S. Highways |
| 1 - 42 | Non-Participating County | Rail |
| 43 - 97 | Surrounding Counties | |
| 98 - 202 | Major Water Areas | |
| 203 - 400 | | |
| 401 - 1303 | | |



According to the 2000 U.S. Census Bureau, the 12 county planning area has a total population of 148,212. The table below provides a numeric breakdown of population by jurisdiction.

Table A-1. Population Distribution by Jurisdiction¹

JURISDICTION	TOTAL 2000 POPULATION	ESTIMATED SPECIAL NEEDS POPULATION	
		Elderly (Over 65)	Low Income (< \$20,000)
Coke County	3,864	931	465
Bronte	1,076	264	161
Robert Lee	1,171	335	163
Uninc. Coke County	1,617	332	141
Concho County	3,966	547	310
Eden	2,561	282	186
Paint Rock	320	43	53
Uninc. Concho County	1,085	222	71
Crockett County	4,099	528	783
(No Incorporated Cities)			
Irion County	1,771	276	148
Mertzon	839	127	80
Uninc. Irion County	932	149	68
Kimble County	4,468	932	828
Junction	2,618	474	567
Uninc. Kimble County	1,850	458	261
McCulloch County	8,205	1,602	1,798
Melvin	155	35	80
Uninc. McCulloch County	8,050	1,567	1,718
Menard County	2,360	518	597
Menard	1,653	340	535
Uninc. Menard County	707	178	62
Reagan County	3,326	342	387
Big Lake	2,885	293	318
Uninc. Reagan County	441	49	69
Schleicher County	2,935	482	621
Eldorado	1,951	312	504
Uninc. Schleicher County	984	170	117
Sterling County	1,393	204	230
Sterling City	1,081	170	186
Uninc. Sterling County	312	34	44
Sutton County	4,077	508	726
Sonora	2,924	312	492
Uninc. Sutton County	1,153	196	234

¹ Source: HAZUS

Appendix A

JURISDICTION	TOTAL 2000 POPULATION	ESTIMATED SPECIAL NEEDS POPULATION	
		Elderly (Over 65)	Low Income (< \$20,000)
Tom Green County	104,010	13,969	15,193
San Angelo	88,439	12,211	13,275
Uninc. Tom Green County	15,571	1,758	1,918
TOTALS FOR STUDY AREA	148,212	21,718	22,574

Asset Inventory

The full data set that was used in the analysis contains location (street address and spatial coordinates) and improvement value. This data is further introduced and explained within the discussion of individual hazards. It is important to note that some discrepancies may exist in portions of the analyses in that some parcels may intersect two different jurisdictional boundaries or may intersect more than one hazard boundary.

Table A-2. Estimated Essential Facilities Distribution in CVCOG²

JURISDICTION	SCHOOLS		MEDICAL FACILITIES		FIRE		POLICE	
	Num.	Value	Num.	Value	Num.	Value	Num.	Value
Coke County	9	\$13,565,000	0	\$0	2	Not Reported	1	\$1,246,000
Bronte	3	\$5,959,000	0	\$0	1	-	0	\$0
Robert Lee	6	\$7,606,000	0	\$0	1	-	0	\$0
Uninc. Coke County	0	\$0	0	\$0	0	-	1	\$1,246,000
Concho County	8	\$9,582,000	1	\$3,915,000	2	Not Reported	3	\$3,738,000
Eden	5	\$6,271,000	1	\$3,915,000	1	-	2	\$2,492,000
Paint Rock	2	\$1,762,000	0	\$0	0	-	0	\$0
Uninc. Concho County	1	\$1,549,000	0	\$0	1	-	1	\$1,246,000
Crockett County	4	\$8,136,000	0	-	1	Not Reported	1	\$1,246,000
(No Incorporated Cities)								
Irion County	2	\$3,963,000	0	\$0	0	Not Reported	1	\$1,246,000
Mertzon	0	\$0	0	\$0	0	-	0	\$0
Uninc. Irion County	2	\$3,963,000	0	\$0	0	-	1	\$1,246,000
Kimble County	3	\$8,247,000	1	\$2,936,000	0	Not Reported	2	\$2,492,000
Junction	3	\$8,247,000	1	\$2,936,000	0	-	2	\$2,492,000

² Refer to **Appendix D** for a more complete and detailed listing of essential facilities in the CVCOG study area.

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JURISDICTION	SCHOOLS		MEDICAL FACILITIES		FIRE		POLICE	
	Num.	Value	Num.	Value	Num.	Value	Num.	Value
Uninc. Kimble County	0	\$0	0	\$0	0	-	0	\$0
McCulloch County	7	\$21,547,000	1	\$15,285,000	5	Not Reported	1	\$1,246,000
Melvin	0	\$0	0	\$0	0	-	0	\$0
Uninc. McCulloch County	7	\$21,547,000	1	\$15,285,000	5	-	1	\$1,246,000
Menard County	3	\$3,866,000	0	\$0	1	Not Reported	1	\$1,246,000
Menard	3	\$3,866,000	0	\$0	1	-	1	\$1,246,000
Uninc. Menard County	0	\$0	0	\$0	0	-	0	\$0
Reagan County	3	\$8,712,000	0	\$0	2	Not Reported	2	\$2,492,000
Big Lake	3	\$8,712,000	0	\$0	2	-	2	\$2,492,000
Uninc. Reagan County	0	\$0	0	\$0	0	-	0	\$0
Schleicher County	3	\$6,470,000	1	\$2,740,000	1	Not Reported	2	\$1,246
Eldorado	1	\$2,337,000	0	\$0	1	-	0	\$0
Uninc. Schleicher County	2	\$4,133,000	1	\$2,470,000	0	-	2	\$1,246,000
Sterling County	3	\$2,627,000	0	\$0	0	Not Reported	1	\$1,246,000
Sterling City	3	\$2,627,000	0	\$0	0	-	1	\$1,246,000
Uninc. Sterling County	0	\$0	0	\$0	0	-	0	\$0
Sutton County	3	\$12,255,000	1	\$2,545,000	1	Not Reported	2	\$2,492,000
Sonora	3	\$12,255,000	1	\$2,545,000	1	-	2	\$2,492,000
Uninc. Sutton County	0	\$0	0	\$0	0	-	0	\$0
Tom Green County	93	\$286,808,000	5	\$106,091,000	13	Not Reported	6	\$7,476,000
San Angelo	42	\$229,443,000	4	\$90,432,000	3	-	5	\$6,230,000
Uninc. Tom Green County	51	\$57,365,000	1	\$15,659,000	10	-	1	\$1,246,000
TOTALS FOR STUDY AREA	141	\$385,778,000	10	\$133,512,000	28	Not Reported	23	\$26,167,246

Transportation and utility lifeline inventories are broken into the estimated length (in kilometers) of oil and gas pipelines, roads, highways, and railroads. Hazardous materials, which include industrial chemicals, explosives, flammables, toxins and radioactive materials are broken into the estimated number of facilities (i.e., includes georeferenced Toxic Release Inventory [TRI] and Tier 2 sites) in the study area. The table below includes the amount (in kilometers) of oil and gas pipelines, highways and railways, and the number of hazardous materials sites in the study area. Analysis of impact of technological hazards was framed within this demography and infrastructure.

Table A-3. Infrastructure, Lifelines, and Hazardous Materials by Jurisdiction³

JURISDICTION	INFRASTRUCTURE AND LIFELINES				HAZARDOUS MATERIALS FACILITIES
	Oil Pipe (km)	Gas pipe (km)	Highway ⁴ (km)	Railroad (km)	Number of Sites
Coke County	346.89	894.59	51.19	0	41
Bronte	0	0.68	1.97	0	1
Robert Lee	0	0	0.00	0	1
Uninc. Coke County	346.89	893.91	49.21	0	39
Concho County	30.56	357.16	113.59	0	26
Eden	0	0	5.35	0	0
Paint Rock	0	6.82	2.33	0	0
Uninc. Concho County	30.56	350.94	105.92	0	26
Crockett County	607.12	5,402.07	171.31	1.46	532
(No Incorporated Cities)					
Irion County	332.25	1987.22	65.55	68.54	426
Mertzon	0	0	2.56	1.29	0
Uninc. Irion County	332.25	1,987.22	62.99	67.26	426
Kimble County	141.52	195.20	195.23	0	3
Junction	0	0	2.60	0	0
Uninc. Kimble County	141.52	195.20	192.63	0	3
McCulloch County	53.71	119.10	183.43	26.45	2
Melvin	0	0	0.15	0.00	0
Uninc. McCulloch County	53.71	119.10	183.28	26.45	2
Menard County	13.29	149.31	100.36	0	4
Menard	0	0	4.41	0	2
Uninc. Menard County	13.29	149.31	95.95	0	2
Reagan County	1181.44	3872.96	47.25	48.21	451
Big Lake	0	2.03	1.57	1.53	0
Uninc. Reagan County	1,181.44	3,870.93	45.68	46.68	451
Schleicher County	451.54	1,892.37	127.00	0	245
Eldorado	0	0	3.75	0	1
Uninc. Schleicher County	451.54	1892.37	123.25	0	244
Sterling County	272.91	1563.94	50.49	0	91

³ Appendix D provides a more detailed listing of the hazardous materials facilities included in Table 3.

⁴ For the purposes of this risk assessment, highways include Interstates and U.S. highways.

JURISDICTION	INFRASTRUCTURE AND LIFELINES				HAZARDOUS MATERIALS FACILITIES
	Oil Pipe (km)	Gas pipe (km)	Highway ⁴ (km)	Railroad (km)	Number of Sites
Sterling City	0	0	2.04	0	0
Uninc. Sterling County	272.91	1,563.94	48.45	0	91
Sutton County	170.51	5538.15	135.46	0	122
Sonora	0	2.31	3.78	0	5
Uninc. Sutton County	170.51	5,535.84	131.68	0	116
Tom Green County	149.28	672.98	194.72	53.22	94
San Angelo	0	69.03	33.02	15.33	7
Uninc. Tom Green County	149.28	603.95	161.70	37.89	87
TOTALS FOR STUDY AREA	3,751.02	22,645.05	1,435.59	197.88	2,037

Methodology

The objective of the GIS-based analysis was to determine the estimated vulnerability of people, buildings, and critical facilities to the identified hazards using best available data. In so doing, local databases, such as local tax assessor records, parcel boundaries, building footprints, and critical facilities data, were used in combination with digital hazard data. The results of the analysis provided an estimated number of people, as well as the number and value of buildings and critical facilities determined to be potentially at risk to those hazards with delineable geographic hazard boundaries, i.e., the technological hazards. A more specific description of the GIS-based analysis for each particular hazard is provided in the discussion of each individual hazard.

Hazard Profiles, Vulnerability, and Impact

Pipeline Failure

Hazard Description

Fuel pipeline breach or pipeline failure addresses the rare, but serious hazard of an oil or natural gas pipeline. An estimated 2.2 million miles of pipelines in the United States carry hazardous materials. Natural gas pipelines transport natural gas. Oil or liquid petroleum pipelines transport crude oil and refined products from crude oils, such as gasoline, home heating oil, jet fuel and kerosene in addition to liquefied propane, ethylene, butane and some petrochemical



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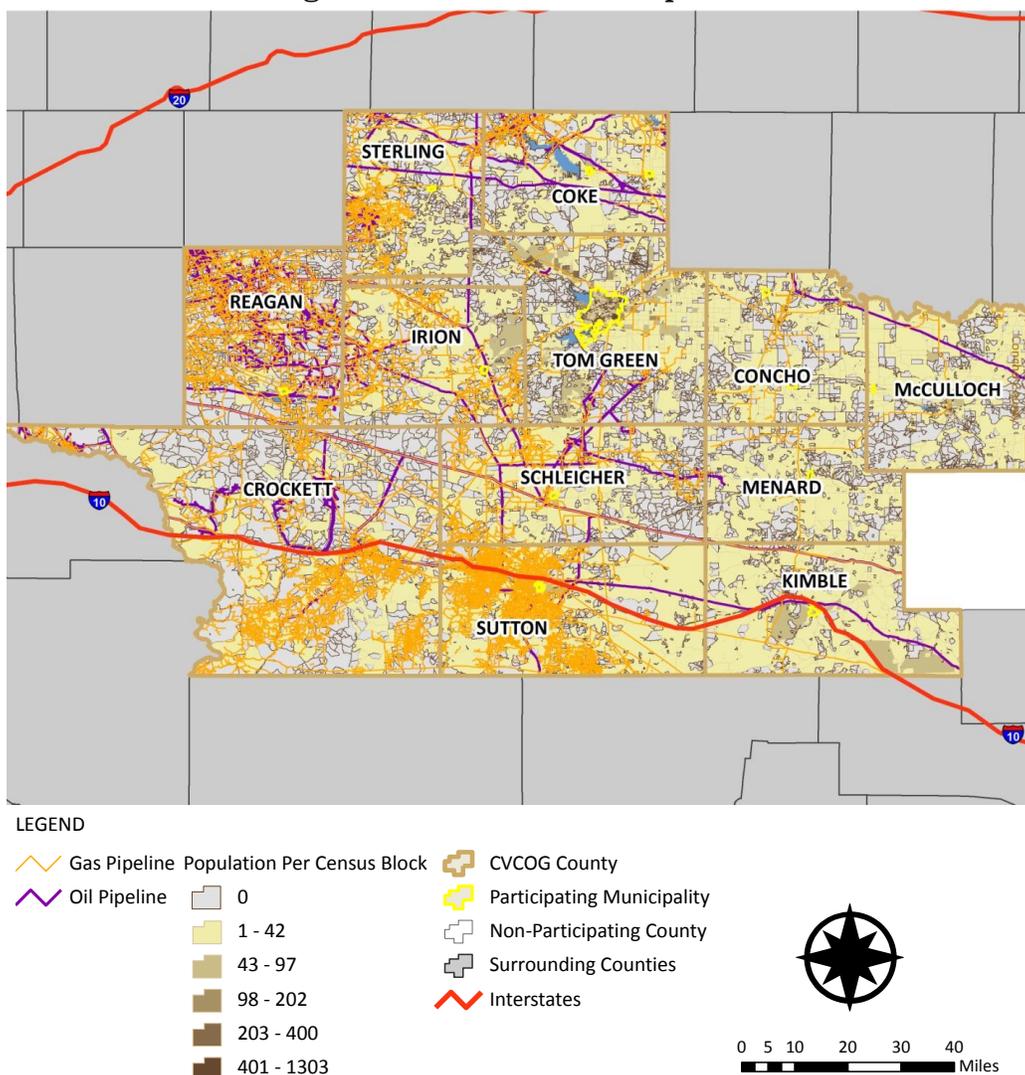
products. Occasionally oil pipelines are also used to transport liquefied gases, such as carbon dioxide.

Pipeline failure is a rare occurrence, but has the potential to cause extensive property damage and loss of life. Pipelines have caused fires and explosions that killed more than 200 people and injured more than 1,000 people nationwide and 50 people in Texas in the last decade.

Location and Extent

Figure A-3 shows the locations of gas and oil pipelines throughout the CVCOG Region. It is important to note that due to scale, some pipelines cannot be seen on maps where one pipeline runs directly over another or where pipelines appear too close together to be visible on the map.

Figure A-1. Gas and Oil Pipelines



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If any of these energy pipelines, gas or oil, were to rupture, such an event could endanger property and lives in the immediate area (up to 500 meters for immediate [primary] impact and up to 2,500 meters for secondary impact).

Previous Occurrences

Railroad Commission of Texas records indicate there were no pipeline incidents reported for the CVCOG Region between 1985 and 2010.

Probability of Future Events

Although approximately 26,396 kilometers of pipeline exist in the study area, no historic incidents have been recorded from 1985 to 2010. Based on historic incident records, a pipeline incident for the CVCOG is unlikely.

Vulnerability and Impact

The total number of population and parcels potentially at risk from gas and oil pipeline failures, respectively, are shown in Tables A-4 and A-5 below. The analysis for gas pipelines consists of natural gas and for oil pipelines, the analysis included natural gas liquids. The immediate (primary) area of impact for both types of pipeline accidents is a 500-meter buffer. The secondary area of impact for both types of pipeline accidents is a 2,500-meter buffer. Both types of impact can inflict substantial damage on the surrounding areas.

Table A-4. Potential Impact Due to Gas Pipeline Failure⁵

JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Coke County	274	368	\$25,741,000	3,323	2,952	\$244,666,000
Bronte	46	24	\$2,033,000	1,076	643	\$54,912,000
Robert Lee	0	0	\$0	1,147	980	\$70,672,000
Uninc. Coke County	228	344	\$23,708,000	1,100	1,329	\$119,082,000
Concho County	113	68	\$5,399,000	1,529	995	\$97,739,000
Eden	0	0	\$0	946	568	\$64,270,000
Paint Rock	33	16	\$994,000	320	177	\$11,315,000
Uninc. Concho County	80	52	\$4,405,000	263	250	\$22,154,000
Crockett County	2,913	1,782	\$156,973,000	3,927	2,646	\$253,192,000
(No Incorporated Cities)						

⁵ Source: GIS Analysis

This analysis assumes no climate impacts or changes in terrain.

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JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Irion County	91	97	\$7,488,000	1,289	847	\$71,771,000
Mertzon	9	7	\$442,000	839	483	\$38,576,000
Uninc. Irion County	82	90	\$7,046,000	450	364	\$33,195,000
Kimble County	36	71	\$6,035,000	355	526	\$47,200,000
Junction	0	0	\$0	0	0	\$0
Uninc. Kimble County	36	71	\$6,035,000	355	526	\$47,200,000
McCulloch County	926	604	\$32,408,000	6,054	3,986	\$317,814,000
Melvin	0	0	\$0	0	0	\$0
Uninc. McCulloch County	926	604	\$32,408,000	6,054	3,986	\$317,814,000
Menard County	33	27	\$2,596,000	209	197	\$17,976,000
Menard	0	0	\$0	31	25	\$1,867,000
Uninc. Menard County	33	27	\$2,596,000	178	172	\$16,109,000
Reagan County	771	671	\$48,021,000	3,326	2,145	\$178,789,000
Big Lake	395	221	\$22,414,000	2,849	1,516	\$146,223,000
Uninc. Reagan County	376	450	\$25,607,000	477	629	\$32,566,000
Schleicher County	738	589	\$37,305,000	2,793	1,966	\$147,462,000
Eldorado	303	283	\$10,131,000	1,951	1,403	\$95,802,000
Uninc. Schleicher County	435	306	\$27,174,000	842	563	\$51,660,000
Sterling County	270	169	\$12,205,000	1,285	885	\$84,985,000
Sterling City	180	99	\$7,625,000	1,063	690	\$66,795,000
Uninc. Sterling County	270	169	\$12,205,000	1,285	885	\$84,985,000
Sutton County	1,389	826	\$68,348,000	3,964	2,422	\$245,559,000
Sonora	650	310	\$27,815,000	2,891	1,613	\$158,154,000
Uninc. Sutton County	739	516	\$40,533,000	1,073	809	\$87,405,000
Tom Green County	4,472	2,180	\$249,650,000	38,037	16,105	\$2,210,164,000
San Angelo	1,536	692	\$106,881,000	26,891	10,492	\$1,631,713,000
Uninc. Tom Green County	2,936	1,488	\$142,769,000	11,146	5,613	\$578,451,000
TOTALS FOR STUDY AREA	12,026	7,452	\$652,169,000	66,091	35,672	\$3,917,317,000

Table A-5. Potential Impact Due to Oil Pipeline Failure⁶

JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Coke County	114	173	\$11,993,000	819	967	\$67,997,000
Bronte	0	0	\$0	0	0	\$0
Robert Lee	0	0	\$0	249	193	\$11,279,000
Uninc. Coke County	114	173	\$11,993,000	570	774	\$56,718,000
Concho County	3	5	\$272,000	25	34	\$2,221,000
Eden	0	0	\$0	0	0	\$0
Paint Rock	0	0	\$0	0	0	\$0
Uninc. Concho County	3	5	\$272,000	25	34	\$2,221,000
Crockett County	768	320	\$44,734,000	3,432	1,994	\$209,626,000
(No Incorporated Cities)						
Irion County	176	89	\$8,275,000	1,211	733	\$71,446,000
Mertzon	67	33	\$2,400,000	839	483	\$38,576,000
Uninc. Irion County	109	56	\$5,875,000	372	250	\$32,870,000
Kimble County	160	161	\$13,946,000	758	769	\$74,657,000
Junction	0	0	\$0	237	134	\$17,747,000
Uninc. Kimble County	160	161	\$13,946,000	521	635	\$56,910,000
McCulloch County	75	58	\$5,218,000	152	131	\$11,321,000
Melvin	0	0	\$0	0	0	\$0
Uninc. McCulloch County	75	58	\$5,218,000	152	131	\$11,321,000
Menard County	0	0	\$0	14	11	\$969,000
Menard	0	0	\$0	0	0	\$0
Uninc. Menard County	0	0	\$0	14	11	\$969,000
Reagan County	129	195	\$8,952,000	3,181	2,001	\$165,312,000
Big Lake	5	10	\$288,000	2,837	1,504	\$143,760,000
Uninc. Reagan County	124	185	\$8,664,000	344	497	\$21,552,000
Schleicher County	97	71	\$9,243,000	1,205	809	\$67,412,000
Eldorado	0	0	\$0	675	507	\$35,636,000

⁶ Source: GIS Analysis

This analysis assumes no climate impacts or changes in terrain.

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JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Uninc. Schleicher County	97	71	\$9,243,000	530	302	\$31,776,000
Sterling County	37	24	\$1,581,000	117	81	\$4,936,000
Sterling City	0	0	\$0	0	0	\$0
Uninc. Sterling County	37	24	\$1,581,000	117	81	\$4,936,000
Sutton County	5	9	\$533,000	582	358	\$44,290,000
Sonora	0	0	\$0	352	174	\$2,191,800
Uninc. Sutton County	5	9	\$533,000	230	184	\$42,098,200
Tom Green County	93	83	\$4,407,000	910	716	\$54,947,000
San Angelo	0	0	\$0	0	0	\$0
Uninc. Tom Green County	93	83	\$4,407,000	910	716	\$54,947,000
TOTALS FOR STUDY AREA	1,657	1,188	\$109,154,000	12,406	8,604	\$775,134,000

Oil and gas pipeline failure can have a substantial impact. Such events can cause multiple deaths, completely shut down facilities for thirty days or more, and cause more than fifty percent of affected properties to be destroyed or suffer major damage.

Hazardous Material Incident (Fixed and Mobile)

Hazard Description

In a hazardous material incident, solid, liquid and/or gaseous contaminants are released from fixed or mobile containers. Weather conditions will directly affect how the hazard develops.

The Toxics Release Inventory (TRI) is a publicly available database from the federal Environmental Protection Agency (EPA) that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups, as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990. Each year, facilities that meet certain activity thresholds must report their releases and other waste management activities for listed toxic chemicals to EPA and to their state or tribal entity.

A facility must report if it meets the following three criteria:

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- The facility falls within one of the following industrial categories: manufacturing; metal mining; coal mining; electric generating facilities that combust coal and/or oil; chemical wholesale distributors; petroleum terminals and bulk storage facilities; RCRA Subtitle C treatment, storage and disposal (TSD) facilities; and solvent recovery services.
- Have 10 or more full-time employee equivalents.
- Manufactures or processes more than 25,000 pounds or otherwise uses more than 10,000 pounds of any listed chemical during the calendar year. Persistent, bioaccumulative and toxic (PBT) chemicals are subject to different thresholds of 10 pounds, 100 pounds or 0.1 grams depending on the chemical.

Tier 2 data is a publicly available database from the Texas Department of State Health Services Tier 2 Chemical Reporting Program. Under the community right-to-know program laws upheld at the state and federal level, all facilities which store significant quantities of hazardous chemicals must share this information with state and local emergency responders and planners. Facilities in Texas share this information by filing annual hazardous chemical inventories with the state, with Local Emergency Planning Committees (LEPCs) and with local fire departments. The Texas Tier 2 Reports contain facility identification information and detailed chemical data about hazardous chemicals stored at the facility.

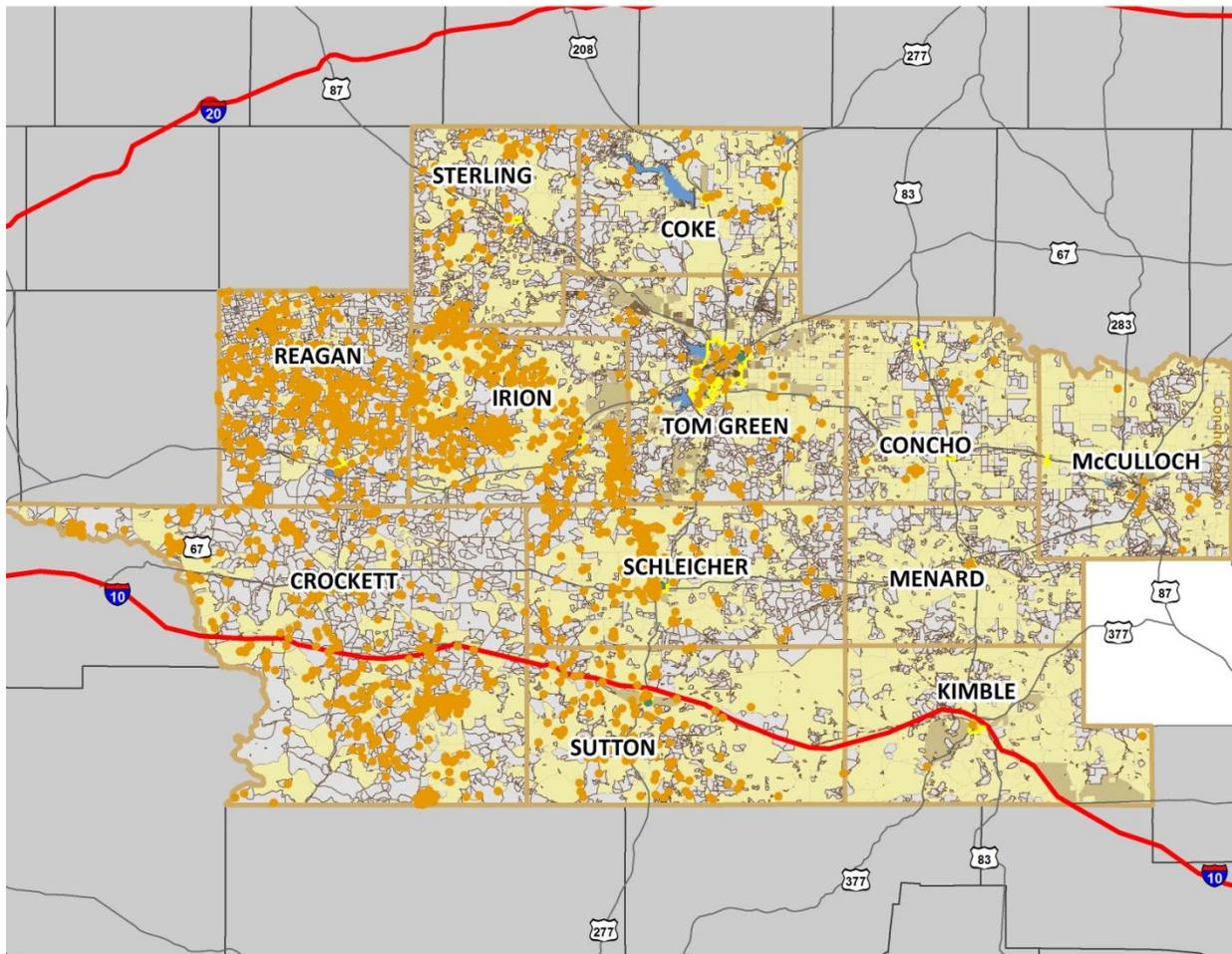
A facility must report if it meets the following criteria:

- Any company using chemicals that could present a physical or health hazard must report them, according to Tier 2 requirements.
- If an industry has an OSHA deemed hazardous chemical that exceeds the appropriate threshold at a certain point in time, then the chemical must be reported. These chemicals may be on the list of 356 Extremely Hazardous Substances (EHS) or could be one of the 650,000 reportable hazardous substances (not on the EHS list). This reporting format is for a "snapshot in time". EHS chemicals have to be reported if the quantity is either greater than 500 pounds, or if the Threshold Planning Quantity (TPQ) amount is less than 500 pounds.

Location

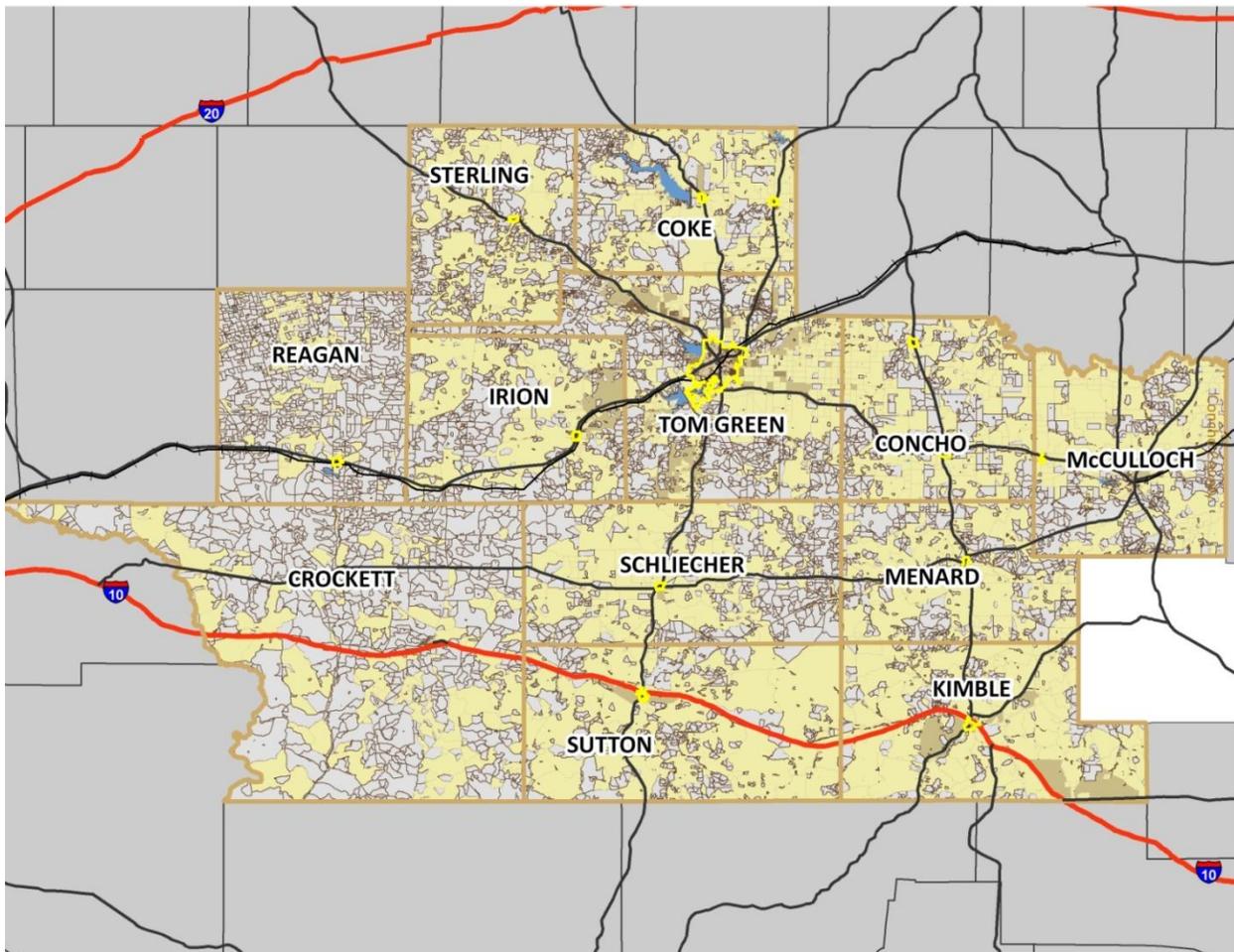
The locations of available georeferenced TRI and Tier 2 listed toxic sites in the CVCOG planning area are shown below in Figure A-4. For fixed site analysis, only toxic sites that have georeferenced data available were analyzed and the circle buffers, 500 and 2,500 meters are assumed in respect to the different levels of impact—immediate (primary) and secondary, are drawn around each hazardous material site.

Figure A-2. Fixed HAZMAT Analysis Locations and Buffers (CVCOG)



For the mobile toxic release analysis, major roads consisting of Interstates, U.S. highways and State highways, along with railroads were chosen as the routes where hazardous materials are most likely to be transported. The analysis buffer along these selected infrastructure elements is the same as that used for fixed site analysis (500 meters and 2,500 meters). The 500-meter and 2,500-meter buffers for the two infrastructure elements that comprise the mobile toxic release hazard: highway and rail are illustrated in Figure A-5. It is worth noting that all known city facilities fall within at least the 2,500-meter secondary impact buffer.

Figure A-5. Mobile HAZMAT Analysis Corridors and Buffers



Extent

From a hazardous material incident, the micro-meteorological effects of the buildings and terrain can alter travel and duration of agents. Shielding in the form of sheltering-in-place can protect people and property from harmful effects. Non-compliance with fire and building codes, as well as failure to maintain existing fire and containment features can substantially increase the damage from a hazardous material incident. The duration of a hazardous material incident can range from hours to days. Warning time for hazardous material incidents is minimal to none.

Previous Occurrences

No historic incidents have been reported within the past 20 years. Approximately 2,037 hazardous materials facilities are required to report threshold incidents to the Toxic Release Inventory.

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Probability of Future Events

Hazardous materials are transported through all counties within the CVCOG Region using major highways and thoroughfares. The risk of hazardous spills during transport exists and may increase in areas with continued industrial development and major highways. Based on historic event information, the probability of future occurrences is unlikely, with an event possible within the next ten years.

Vulnerability and Impact

The estimated toxic release exposure of people and parcels by jurisdiction for fixed sites using census block data is shown in Table A-6. Primary and secondary impact distances were selected based on guidance from FEMA 426, *Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings* and engineering judgment. Because many sites containing hazardous materials are located in densely populated areas, there are population and structures that could be susceptible to a release from more than one site.

Table A-6. Estimated Exposure of People and Parcels (Fixed Site Toxic Release)⁷

JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Coke County	728	567	\$48,844,000	2,821	2,176	\$186,989,000
Bronte	379	279	\$23,133,000	1,076	643	\$54,912,000
Robert Lee	304	225	\$20,294,000	1,147	980	\$70,672,000
Uninc. Coke County	45	63	\$5,417,000	598	553	\$61,405,000
Concho County	124	127	\$9,764,000	238	288	\$20,951,000
Eden	0	0	\$0	0	0	\$0
Paint Rock	0	0	\$0	0	0	\$0
Uninc. Concho County	124	127	\$9,764,000	238	288	\$20,951,000
Crockett County	925	405	\$30,176,000	3,827	2,322	\$228,355
(No Incorporated Cities)						
Irion County	70	48	\$4,265,000	1,387	872	\$84,552,000
Mertzon	9	7	\$442,000	839	483	\$38,576,000
Uninc. Irion County	61	41	\$3,823,000	548	389	\$45,976,000
Kimble County	190	116	\$14,384,000	2,559	1,864	\$143,665,000
Junction	190	116	\$14,384,000	2,494	1,790	\$137,304,000

⁷ Source: GIS Analysis

This analysis assumes no climate impacts or changes in terrain.

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JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Uninc. Kimble County	0	0	\$0	65	74	\$6,361,000
McCulloch County	35	20	\$1,923,000	7,952	5,062	\$430,908,000
Melvin	0	0	\$0	0	0	\$0
Uninc. McCulloch County	35	20	\$1,923,000	7,952	5,062	\$430,908,000
Menard County	585	459	\$28,850,000	1,742	1,236	\$80,869,000
Menard	580	444	\$28,538,000	1,653	1,150	\$75,051,000
Uninc. Menard County	5	15	\$312,000	89	86	\$5,818,000
Reagan County	373	230	\$22,241,000	3,216	1,995	\$172,679,000
Big Lake	331	167	\$18,502,000	2,849	1,516	\$146,223,000
Uninc. Reagan County	42	63	\$3,739,000	367	479	\$26,456,000
Schleicher County	546	343	\$33,288,000	2,780	1,961	\$148,472,000
Eldorado	77	34	\$2,782,000	1,951	1,403	\$95,802,000
Uninc. Schleicher County	469	309	\$30,506,000	829	558	\$52,670,000
Sterling County	122	94	\$12,020,000	790	588	\$58,505,000
Sterling City	0	0	\$0	561	405	\$40,764,000
Uninc. Sterling County	122	94	\$12,020,000	229	183	\$17,741,000
Sutton County	1,200	685	\$62,916,000	6,924	3,921	\$378,621,000
Sonora	1,195	681	\$62,740,000	5,663	3,161	\$308,062,000
Uninc. Sutton County	5	4	\$176,000	1,261	760	\$70,559,000
Tom Green County	4,085	2,093	\$375,152,000	101,436	44,010	\$6,191,104,000
San Angelo	4,034	2,067	\$372,436,000	99,407	42,879	\$6,080,118,000
Uninc. Tom Green County	51	26	\$2,716,000	2029	1,131	\$110,986,000
TOTALS FOR STUDY AREA	8,983	5,187	\$643,823,000	135672	66295	\$7,897,543,355

**Table A-7. Estimated Exposure of People and Parcels
(Mobile Toxic Release—Highway⁸ and Rail)⁹**

JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Coke County	736	455	\$43,644,000	1,482	940	\$95,932,000
Bronte	715	427	\$38,713,000	1,076	643	\$54,912,000
Robert Lee	0	0	\$0	0	0	\$0
Uninc. Coke County	21	28	\$4,931,000	406	297	\$41,020,000
Concho County	2,628	1,121	\$129,228,000	3,064	1,218	\$136,276,000
Eden	215	726	\$90,550,000	2,556	755	\$92,364,000
Paint Rock	2,370	177	\$11,315,000	320	177	\$11,315,000
Uninc. Concho County	43	218	\$27,363,000	188	\$286	\$32,597,000
Crockett County	4,998	1,298	\$140,543,000	3,384	1,395	\$147,591,000
(No Incorporated Cities)						
Irion County	629	376	\$29,368,000	1,423	861	\$168,355,000
Mertzson	536	297	\$22,489,000	839	483	\$38,576,000
Uninc. Irion County	93	79	\$6,879,000	584	378	\$129,779,000
Kimble County	1,715	1,158	\$100,397,000	3,248	2,462	\$199,534,000
Junction	1,530	983	\$88,057,000	2,574	1,822	\$141,899,000
Uninc. Kimble County	185	175	\$12,340,000	674	640	\$57,635,000
McCulloch County	3,594	2,407	\$207,992,000	7,050	4,540	\$372,037,000
Melvin	0	1	\$86,000	155	102	\$8,875,000
Uninc. McCulloch County	3,594	2,406	\$207,906,000	6,895	4,438	\$363,162,000
Menard County	728	651	\$38,702,000	1,894	1,390	\$95,392,000
Menard	689	611	\$36,749,000	1,653	1,150	\$75,051,000
Uninc. Menard County	39	40	\$1,953,000	241	240	\$20,341,000
Reagan County	918	597	\$45,953,000	3,001	1,642	\$157,629,000
Big Lake	907	566	\$44,510,000	2,849	1516	\$146,223,000
Uninc. Reagan County	11	31	\$1,443,000	152	126	\$11,406,000

⁸ Highways, for the purposes of this analysis, include U.S. Interstates, U.S. highways, State highways, and loops.

⁹ Source: GIS Analysis

* With improved values.

Appendix A

JURISDICTION	IMMEDIATE IMPACT (500 METERS)			SECONDARY IMPACT (2,500 METERS)		
	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)	Number People Exposed	Number Buildings Exposed	Value Of Buildings Exposed (\$)
Schleicher County	1,495	1,095	\$72,988,000	2,431	1,731	\$118,986,000
Eldorado	1,440	1,061	\$70,114,000	1,951	1,403	\$95,802,000
Uninc. Schleicher County	55	34	\$2,874,000	480	328	\$23,184,000
Sterling County	843	560	\$54,883,000	1,194	770	\$71,789,000
Sterling City	785	528	\$52,895,000	1,063	690	\$66,795,000
Uninc. Sterling County	58	32	\$1,988,000	131	80	\$4,994,000
Sutton County	2,047	1,165	\$118,516,000	3,546	2,003	\$199,398,000
Sonora	1,702	963	\$96,355,000	2,891	1,613	\$158,154,000
Uninc. Sutton County	345	202	\$22,161,000	655	390	\$41,244,000
Tom Green County	19,218	9,989	\$1,687,794,000	80,286	35,330	\$4,939,055,000
San Angelo	16,183	8,398	\$1,524,768,000	71,324	30,808	\$4,478,493,000
Uninc. Tom Green County	3,035	1,591	\$163,026,000	8,962	4,522	\$460,562,000
TOTALS FOR STUDY AREA	39,549	20,872	\$2,670,008,000	112,003	54,282	\$6,701,974,000

Hazardous materials or toxic releases can have a substantial impact. Such events can cause multiple deaths, completely shut down facilities for thirty days or more, and cause more than fifty percent of affected properties to be destroyed or suffer major damage.

APPENDIX B

PLANNING TEAM MEMBERS..... 1
 STAKEHOLDERS..... 2

Planning Team Members

The CVCOG Plan Update was organized using a direct representative model, as the Concho Valley Council of Governments (CVCOG) acted as direct representative or Advisory Committee for participating jurisdictions in this effort. At the beginning of the process CVCOG sent notices to jurisdictions asking for input and participation in the process. The following organizations¹ responded to the request and participated throughout the planning process.

Table B-1. Advisory Committee Planning Team Members – Organization and Title

ORGANIZATION	TITLE
Concho Valley Council of Governments Staff	Homeland Security/Regional Services
Concho Valley Council of Governments Staff	Homeland Security Planner
Concho Valley Council of Governments Staff	Assistant Emergency Preparedness Coordinator

Table B-2. Team Members – Organization and Title

ORGANIZATION	TITLE
Coke County	County Judge
Town of Bronte	City Secretary
City of Robert Lee	City Secretary
Concho County	County Judge
City of Eden	Police Chief
Town of Paint Rock	City Manager
Crockett County	County Judge
(No Incorporated Cities)	
Irion County	County Judge

¹ Titles are given rather than names as the person holding the title in the respective organization will be responsible for continual maintenance of the Update, regardless of whether that same person initially held that role in 2005.

Introduction

ORGANIZATION	TITLE
City of Mertzon	City Manager
Kimble County	County Judge
City of Junction	County Judge
McCulloch County	County Judge
Town of Melvin	City Council Member
Menard County	OEM
City of Menard	City Administrator
Reagan County	County Sheriff
City of Big Lake	City Manager
Schleicher County	County Judge
City of Eldorado	City Secretary
Sterling County	County Judge
City of Sterling City	Public Works Director
Sutton County	City Manager
City of Sonora	City Manager
Tom Green County	EMC
City of San Angelo	Stormwater Engineer

Stakeholders

The following groups listed in Table B-3 were invited to stakeholder meetings, public meetings and workshops throughout the planning process and include: non-profit organizations; private businesses; hospitals; and school districts. For a list of attendance at meetings, please see Appendix E².

Table B-3. Businesses and Organizations

American Red Cross
Angelo State University
Bronte ISD
Concho Valley Economic Development District, Inc
Eden Consolidated ISD
Eldorado Headstart
First National Bank – Mertzon

² Information contained in Appendix E is exempt from public release under the Freedom of Information Act (FOIA).

Introduction

Irion ISD
San Angelo ISD
Schleicher County Medical Center
Sonora ISD
TDEM RLO

APPENDIX C

OVERVIEW..... 1
PUBLIC SURVEY RESULTS..... 2

Overview

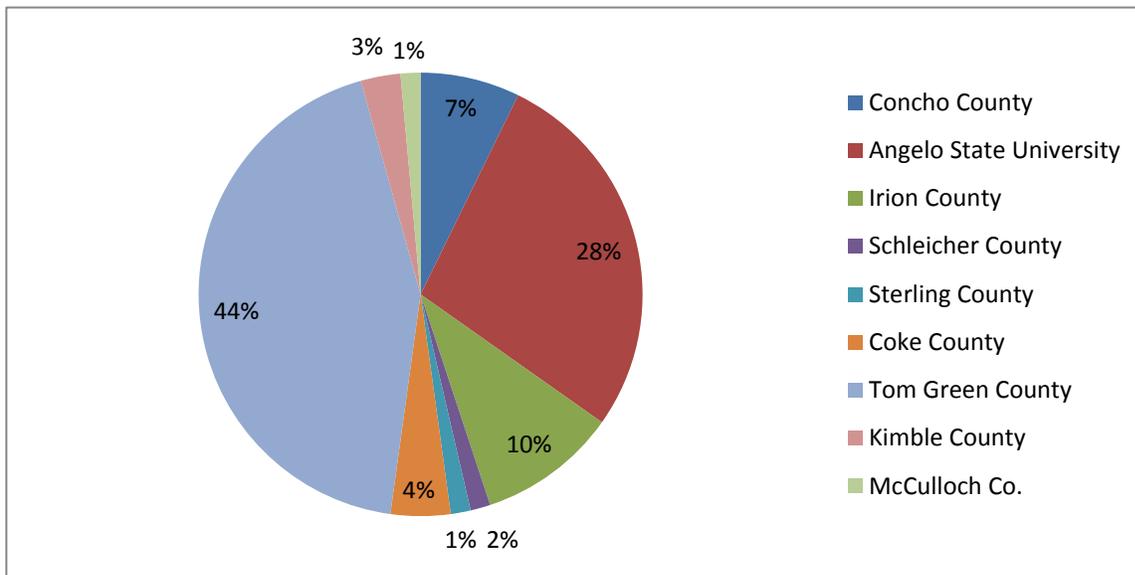
The Concho Valley Council of Governments (CVCOG) prepared public surveys that asked a wide range of questions concerning the opinions of the public regarding natural and man-caused hazards. This fifteen-question survey was made available on the CVCOG website and websites throughout the CVCOG County Region. This survey link was also distributed at public meetings and stakeholder events throughout the planning process.

A total of 72 surveys were collected, the results of which are analyzed in this Appendix. The purpose of the survey was twofold: 1) to solicit public input during the planning process and 2) to help the city to identify any potential actions or problem areas.

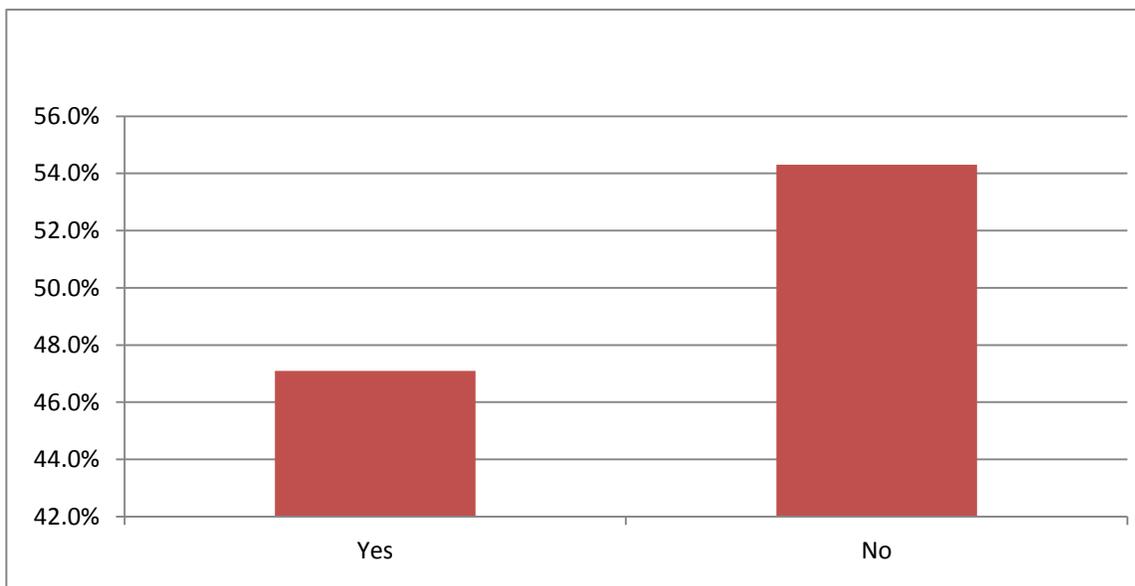
Survey results are depicted on the following pages, showing the percentage of responses for each answer. For questions that did not provide a multiple choice answer, or that required an explanation, comments are summarized where similar.

Public Survey Results

1. Please state the jurisdiction (city and county) where you reside.

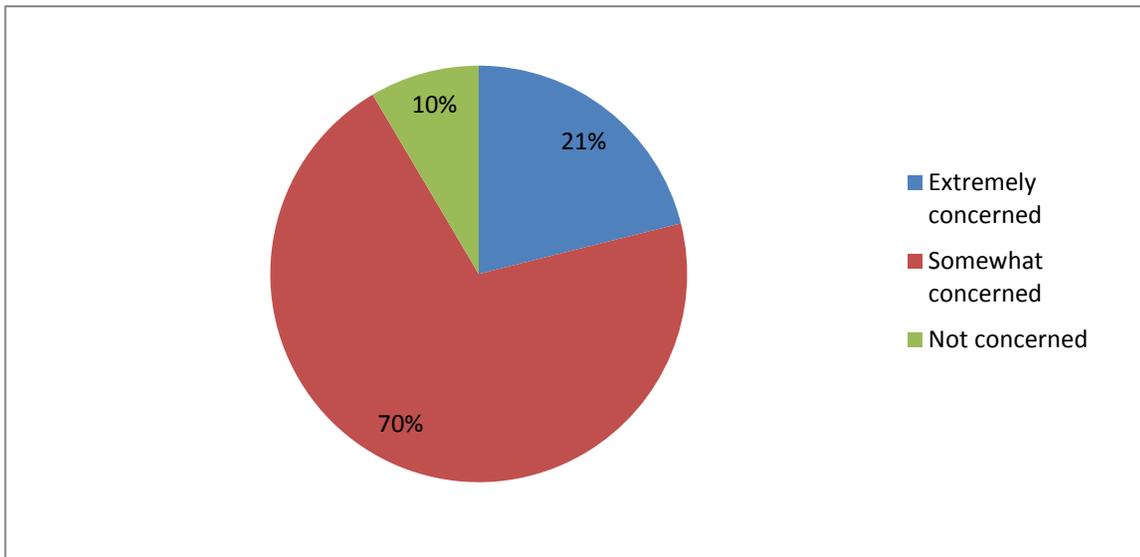


2. Have you ever experienced or been impacted by a disaster?

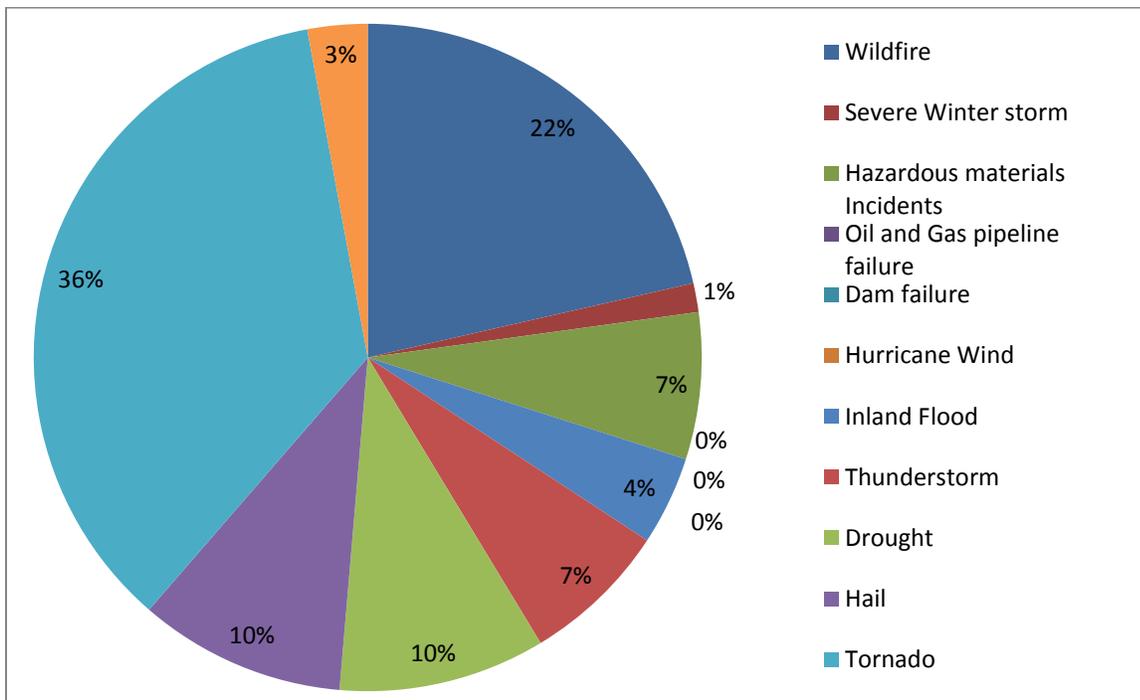


Appendix C

3. How concerned are you about the possibility of our community being impacted by a disaster?

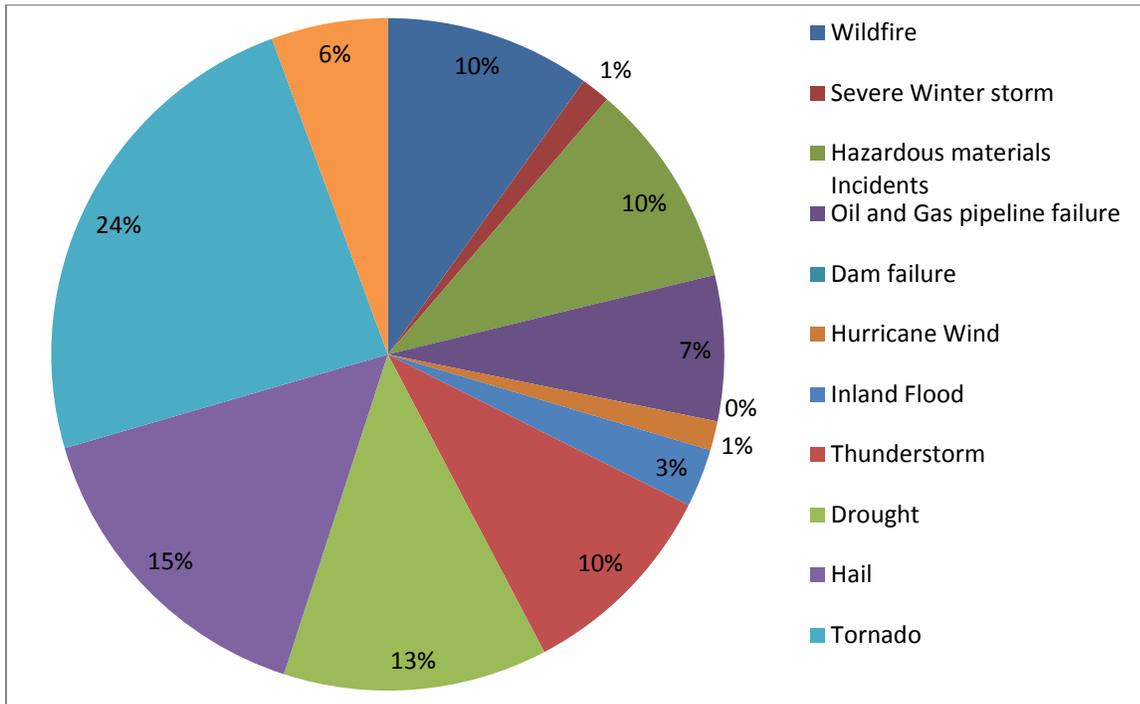


4. Please select the one hazard you think is the highest threat to your neighborhood:

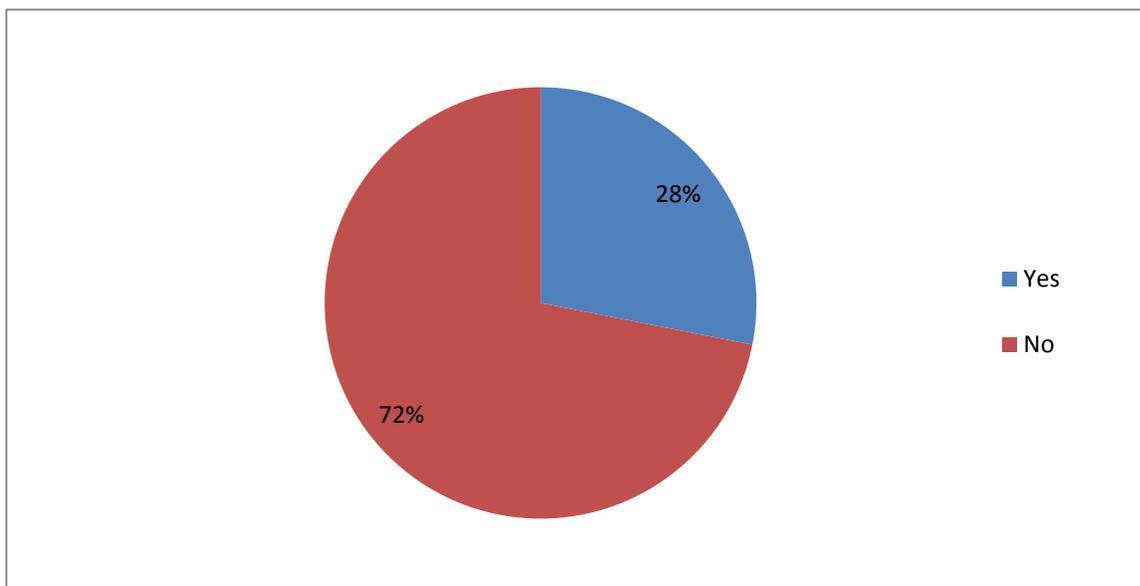


Appendix C

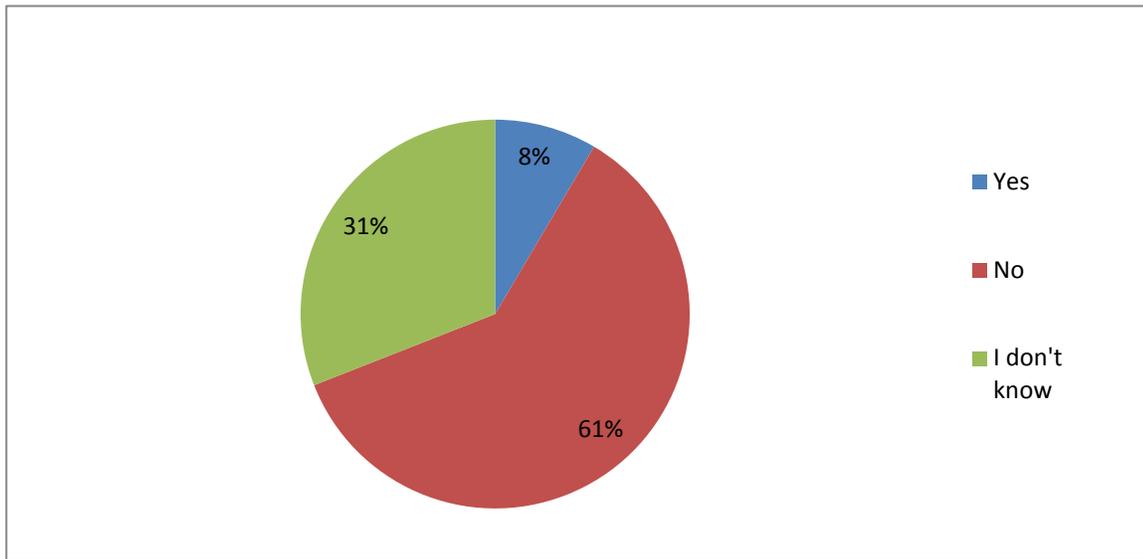
5. Please select the one hazard you think is the second highest threat to your neighborhood:



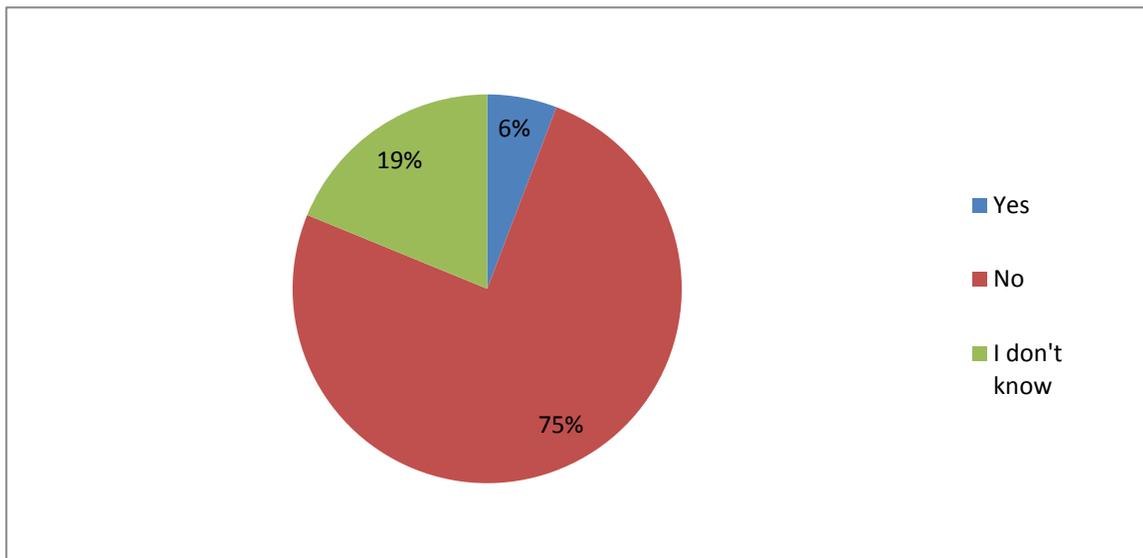
6. Is there another hazard not listed above that you think is a wide-scale threat to your neighborhood?



7. Is your home located in a floodplain?

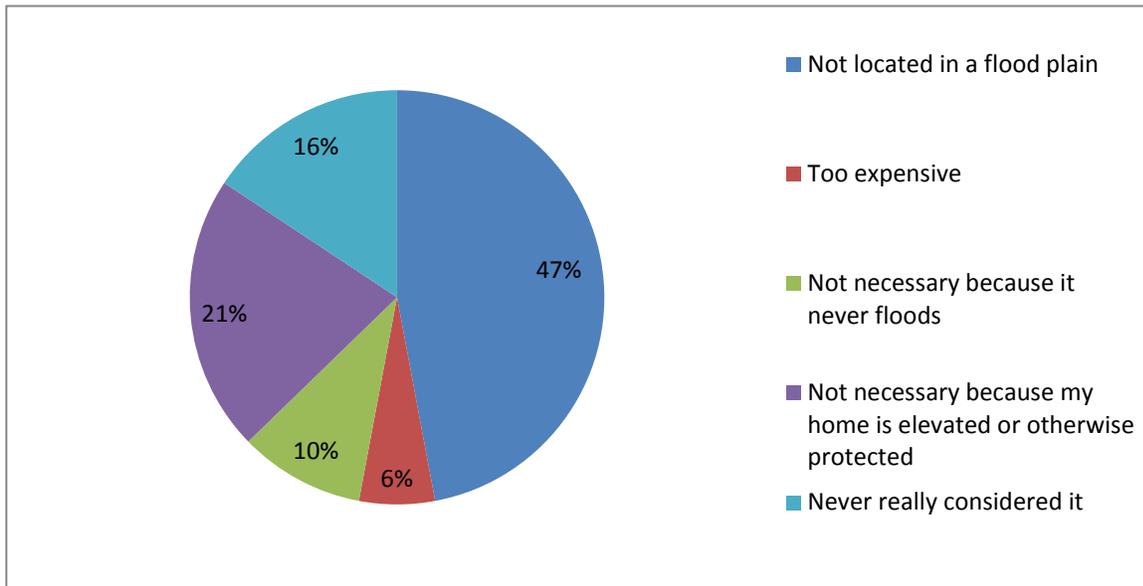


8. Do you have flood insurance?

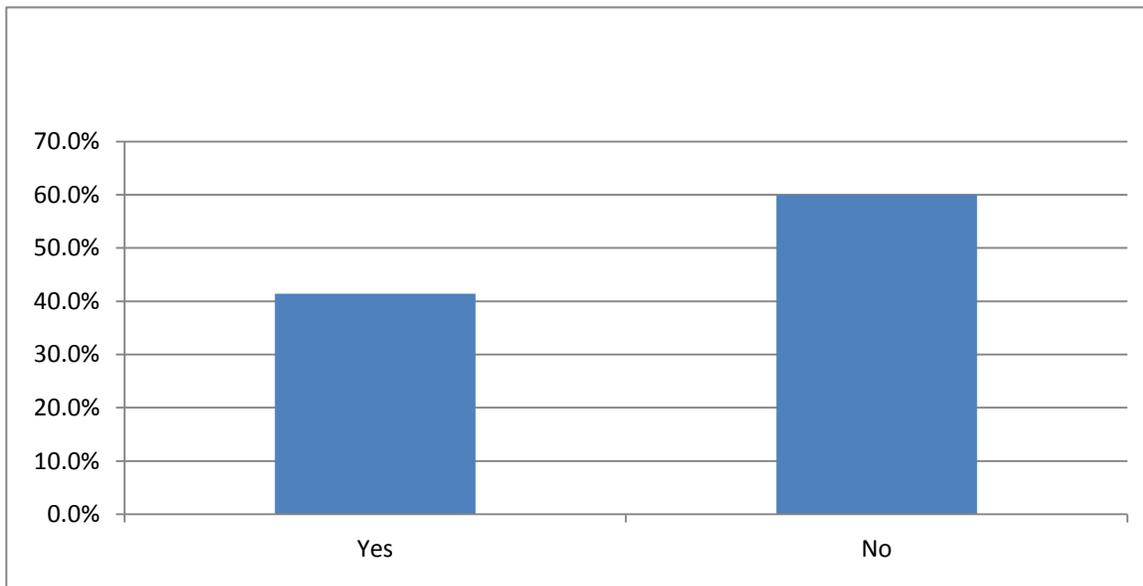


Appendix C

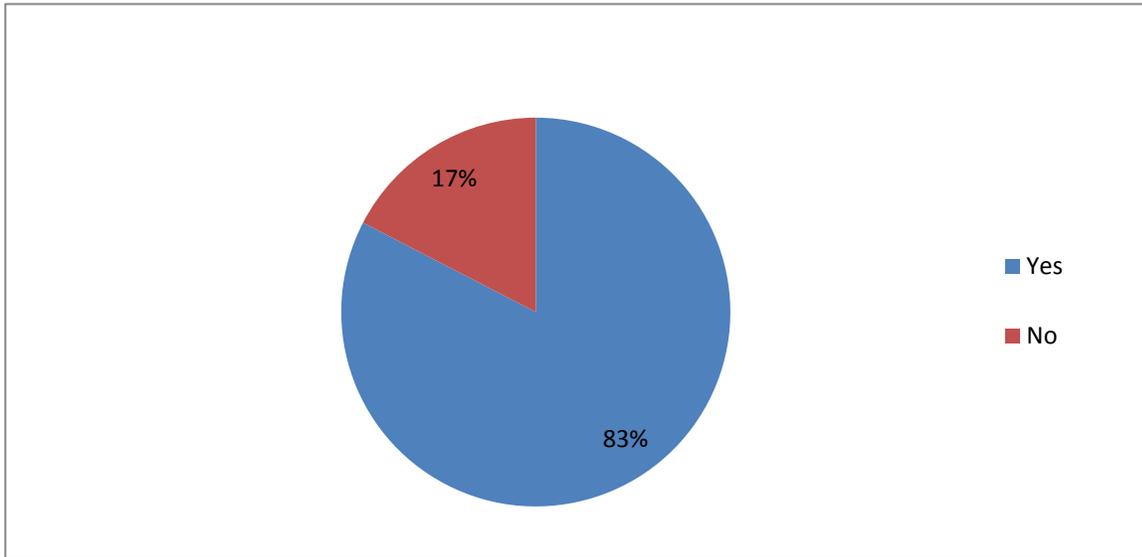
9. If you do not have flood insurance, why not?



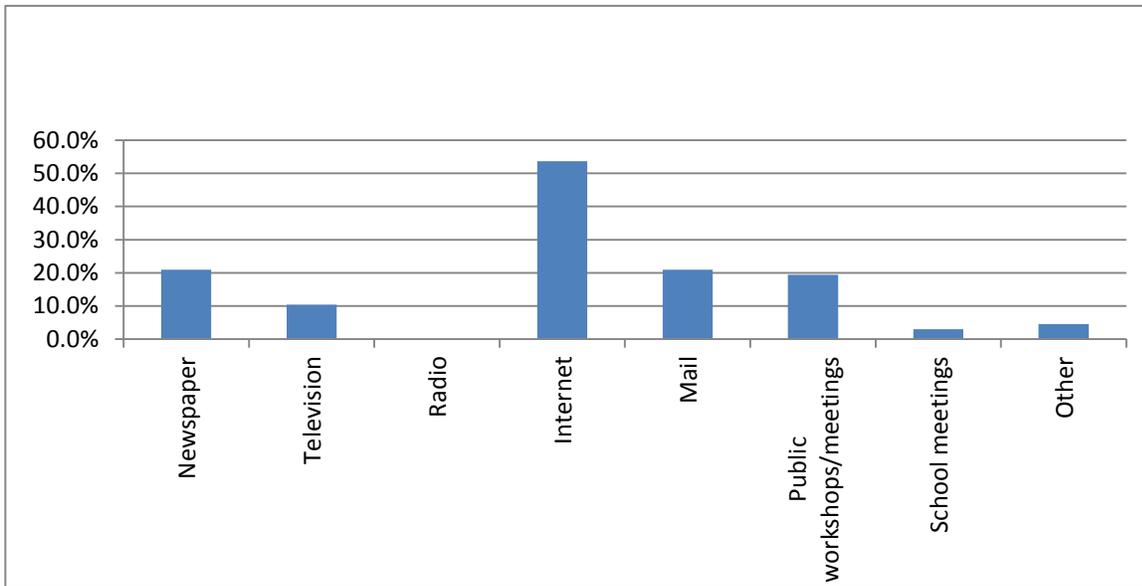
10. Have you taken any actions to make your home or neighborhood more resistant to hazards?



11. Are you interested in making your home or neighborhood more resistant to hazards?

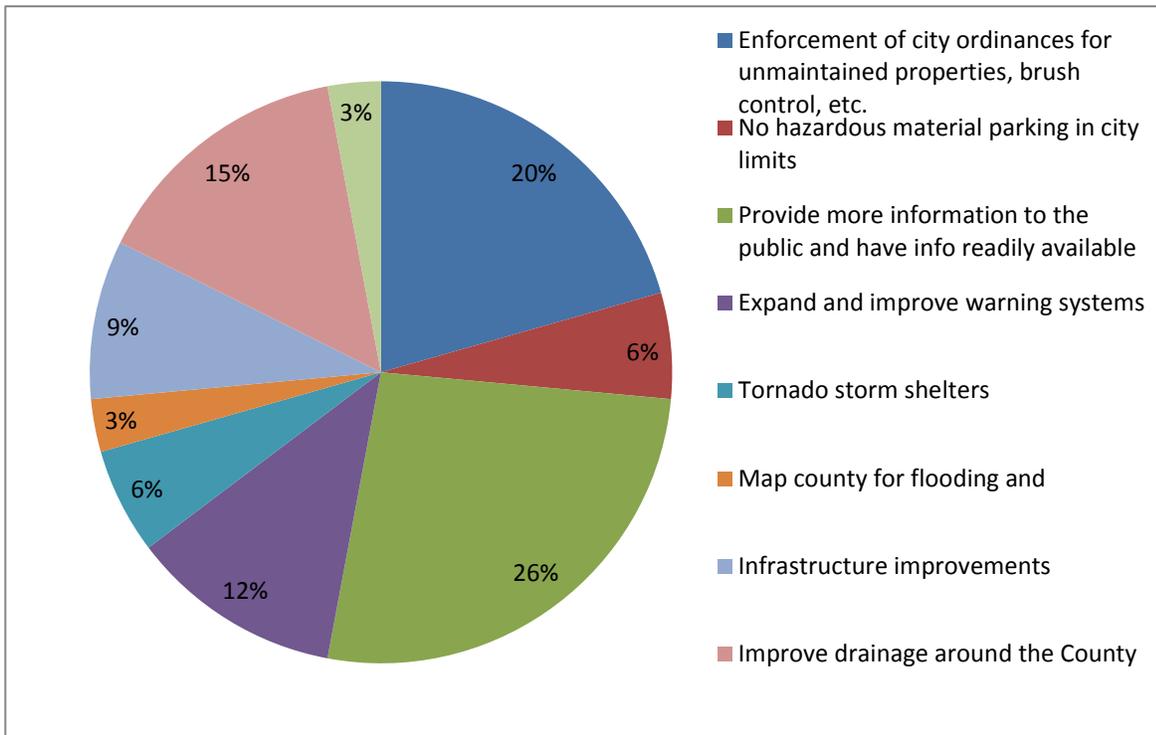


12. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?

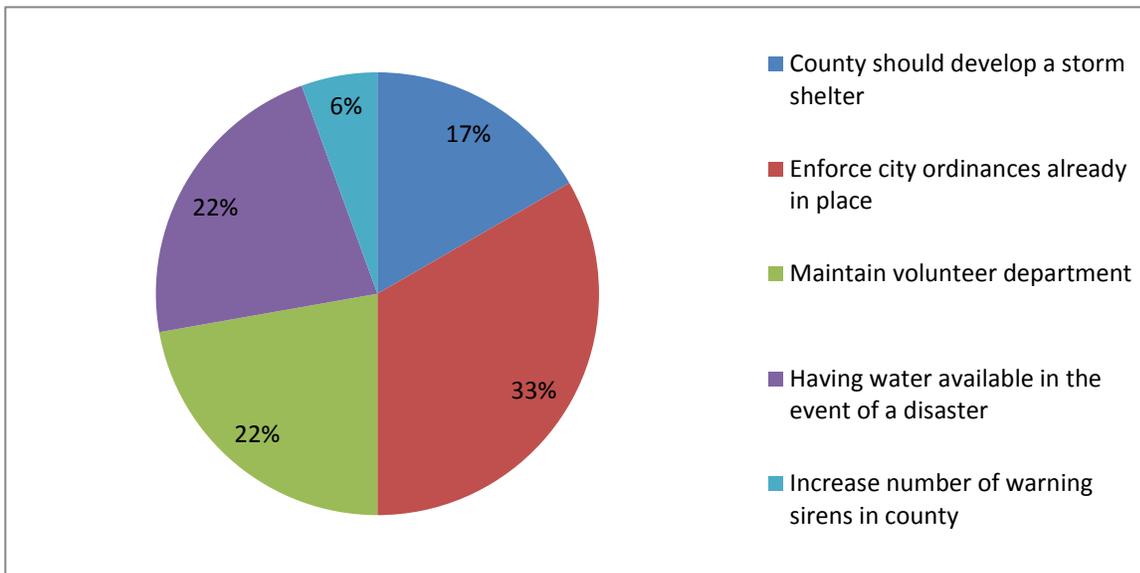


Appendix C

13. In your opinion, what are some steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

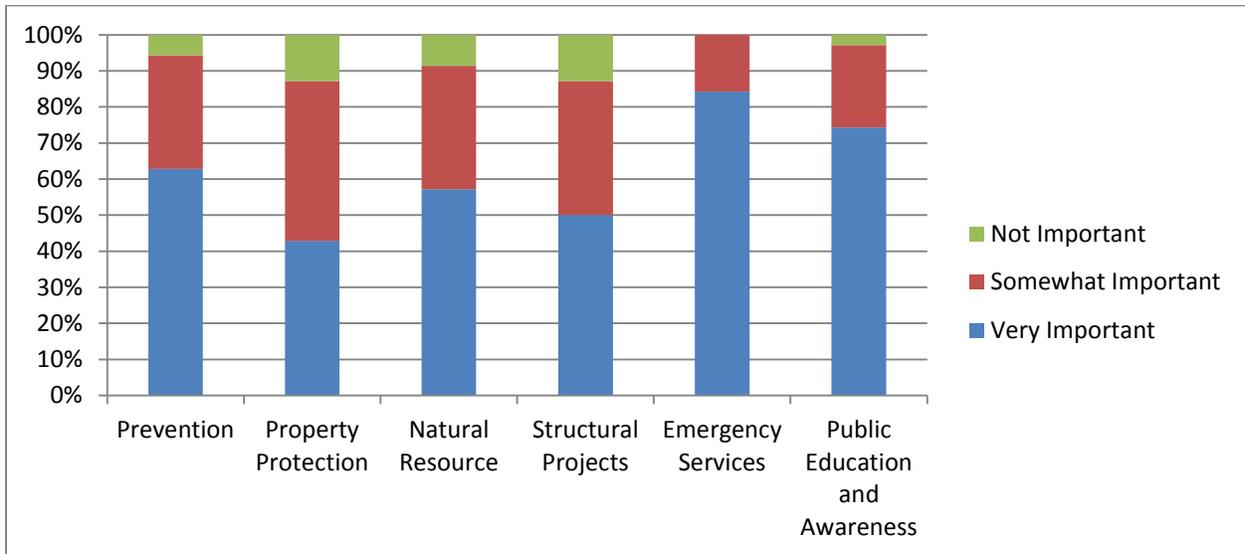


14. Are there any other issues regarding the reduction of risk and loss associated with hazards or disasters in the community that you think are important?



Appendix C

15. A number of community-wide activities can reduce our risk from hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for your community to consider pursuing.



Prevention - Administrative or regulatory actions that influence the way land is developed and buildings are built. Examples include planning and zoning, building codes, open space preservation, and floodplain regulations.

Property Protection - Actions that involve the modification of existing buildings to protect them from a hazard or removal from the hazard area. Examples include acquisition, relocation, elevation, structural retrofits, and storm shutters.

Natural Resource Protection - Actions that in addition to minimizing hazard losses also preserve or restore the functions of natural systems. Examples include: floodplain protection, habitat preservation, slope stabilization, riparian buffers, and forest management.

Structural Projects - Actions intended to lessen the impact of a hazard by modifying the natural progression of the hazard. Examples include dams, levees, seawalls detention / retention basins, channel modification, retaining walls and storm sewers.

Emergency Services - Actions that protect people and property during and immediately after a hazard event. Examples include warning systems, evacuation planning, emergency response training, and protection of critical facilities or systems.

Public Education and Awareness - Actions to inform citizens about hazards and techniques they can use to protect themselves and their property. Examples include outreach projects, school education programs, library materials and demonstration events.

APPENDIX D

TOXIC SITES..... 1
CRITICAL FACILITIES 27

This Appendix is **For Official Use Only (FOUO)** and may be exempt from public release under the Freedom of Information Act (FOIA).

Toxic Sites

Listing of Toxic Release Inventory (TRI) Toxic Sites in CVCOG

COUNTY	JURISDICTION	OWNER NAME	FACILITY NAME	FACILITY ADDRESS
McCulloch	Brady	Hexion Specialty Chemicals Inc.	Hexion Specialty Chemicals	45 Acfrac Rd
Schleicher	Eldorado	N/A	G&G Fiberglass	250 County Rd 100
Sutton	Sonora	United Fuel & Energy Corp	United Fuel & Energy Corp	1505 W Crockett
Tom Green	San Angelo	Johnson & Johnson Inc.	Ethicon Inc.	3348 Pulliam St
Tom Green	San Angelo	N/A	Hirschfeld Steel Group LP	617 Art St

Listing of Tier-2 Toxic Sites in CVCOG

COUNTY	JURISDICTION	FACILITY NAME
Coke	Bronte	Butner
Coke	Bronte	Ingram – Sanco/ Bronte
Coke	Bronte	Jameson Gas Processing, LP – Ft. Chadbourne Booster
Coke	Bronte	Jameson Gas Processing, LP – Gina Booster
Coke	Bronte	TNC – Oak Creek Power Station Substation
Coke	Robert Lee	Ingram – Sanco/Robert Lee
Coke	Robert Lee	Jameson Gas Processing, LP – Foster Price Booster
Coke	Robert Lee	Jameson Gas Processing, LP – IAB Booster
Coke	Robert Lee	Robert Lee – Truck Station
Coke	Robert Lee	Schuch Gathering System – Byrd Operating Co.
Coke	Robert Lee	Willcockson # 1
Coke	Rural	Arledge Field
Concho	Eden	Agaritta Unit (Concho)
Concho	Eden	Concho Propane Company #3

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COUNTY	JURISDICTION	FACILITY NAME
Concho	Eden	Hoover Lease
Concho	Eden	Jacoby 'B' Comm Btty (Concho)
Concho	Eden	Leifester Lease
Concho	Eden	Lovelace Lease
Concho	Eden	Lubke Lease
Concho	Eden	TxDOT-San Angelo-Eden Maintenance Facility
Concho	Eden	Valentine & McMurtrey Lease
Concho	Eden	Willie Concho Lease
Concho	Millersview	Hartgrove #1 Lease
Concho	Paint Rock	Fritz Lease
Concho	Paint Rock	Vera "A" Lease
Concho	Paint Rock	Vera "A" #2 Lease
Concho	Paint Rock	Vera Lease
Crockett	Big Lake	University 2A, 2H, 2I, 2J
Crockett	Big Lake	University 2B
Crockett	Big Lake	University 2E, 2F, 2G
Crockett	Big Lake	University 2K, 2L, 2M
Crockett	Big Lake	University S
Crockett	Big Lake	Vanco Oil & Gas Corp – University "I"
Crockett	Bullard	Sheep Mountain
Crockett	Houston	Walter Oil & Gas Corporation – Elliott
Crockett	Houston	Walter Oil & Gas Corporation – Elliott M2H – 1
Crockett	Iraan	J.H. Tippett E Lease – Byrd Operating Co.
Crockett	Iraan	J.H. Tippett E NCT C Lease – Byrd Operating Co.
Crockett	Iraan	J.H. Tippett E NCT-B Lease – Byrd Operating Co.
Crockett	Iraan	Olsen Energy, Inc. – J.H. Tippett J NCT – B Lease
Crockett	Iraan	State School Board MF Lease – Byrd Operating Co.
Crockett	Iraan	Vanco Oil & Gas Corp – Chambers County School Lands #20
Crockett	Iraan	Vanco Oil & Gas Corp – Halff
Crockett	Iraan	Vanco Oil & Gas Corp – Owens
Crockett	Iraan	Vanco Oil & Gas Corp – Todd
Crockett	McCamey	TNC – Rio Pecos Plant Substation
Crockett	Midland	Childress Ranch Facility
Crockett	Midland	Devon Energy – Hunt – Baggett
Crockett	Midland	Devon Energy – Hunt – Baggett West
Crockett	Midland	Devon Energy – Ozona Field
Crockett	Midland	Devon Energy – Ozona Northeast
Crockett	Midland	Henderson Facility
Crockett	Midland	Nan D. Grimmer Facility
Crockett	Midland	Sealy Hutchins Facility

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COUNTY	JURISDICTION	FACILITY NAME
Crockett	Midland	SPGC Facility
Crockett	Midland	Tabasco 13 #1
Crockett	Midland	Todd 7 WX #1
Crockett	Midland	Wallen Helbing Facility
Crockett	Midland	Weatherly Pryor Facility
Crockett	Ozona	Block 38 Univ. Lands Prod. Facility (Acq.12-01-08)
Crockett	Ozona	Childress
Crockett	Ozona	Crockett 2
Crockett	Ozona	DGP Midway Lane Gas Plant
Crockett	Ozona	DGP Midway Lane Gas Plant – Station 36
Crockett	Ozona	DGP Midway Lane Gas Plant – Station 75
Crockett	Ozona	DGP Midway Lane Gas Plant – Station 81
Crockett	Ozona	DGP Midway Lane Gas Plant – Station 86
Crockett	Ozona	DGP Midway Lane Gas Plant – Station 88
Crockett	Ozona	DGP Midway Lane Gas Plant – Todd Compressor Station
Crockett	Ozona	Feagan Canon Ranch
Crockett	Ozona	H.E. Meadows & Ozona Gas Unit
Crockett	Ozona	Henderson Compressor Station
Crockett	Ozona	Howard A #1
Crockett	Ozona	Locin Oil Corporation – CC Montgomery 6D2
Crockett	Ozona	Miller Ranch C 1
Crockett	Ozona	Nabors Well Services Ltd.
Crockett	Ozona	Ozona Compressor Station-Energy Transfer Co.
Crockett	Ozona	Ozona Station 200
Crockett	Ozona	Ozona Station 300
Crockett	Ozona	Ozona Station 500
Crockett	Ozona	Ozona Station 600B
Crockett	Ozona	Ozona Station 800
Crockett	Ozona	Ozona Station 900
Crockett	Ozona	Ozona Station 1100
Crockett	Ozona	Ozona Station 1600
Crockett	Ozona	Ozona Station 2400
Crockett	Ozona	Ozona Station 2600
Crockett	Ozona	Pandale
Crockett	Ozona	Pierce 4B #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Crockett	Ozona	Range Production Company – Ozona (Canyon Sand) Field
Crockett	Ozona	Range Production Company – Refoil Field (7C)
Crockett	Ozona	SW Ozona Gas Plant
Crockett	Ozona	T D Williams
Crockett	Ozona	TNC-Friend Ranch Substation

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COUNTY	JURISDICTION	FACILITY NAME
Crockett	Ozona	Todd Ranch
Crockett	Ozona	Todd Ranch SA
Crockett	Ozona	Turkey Roost
Crockett	Ozona	Vanco Oil & Gas Corp – Meadows
Crockett	Ozona	Vanco Oil & Gas Corp – University
Crockett	Ozona	Vernon E. Faulconer, Inc. – Ozona Field
Crockett	Ozona	West Aldwell
Crockett	Ozona	Wilkins
Crockett	Ozona	Williams GU #2 (closest to CTB)
Crockett	Rankin	Double Take #1
Crockett	Rural	Ozona (Canyon Sand)
Crockett	Sonora	Whitehead Crocket
Irion	Barnharat	DGP – Irion County Gas Plant
Irion	Barnharat	DGP – Irion County Gas Plant – Barnhart Compressor Station
Irion	Barnharat	Linthicum 24
Irion	Barnharat	Linthicum 1223
Irion	Barnharat	University Lease
Irion	Big Lake	Tres Hombres #1
Irion	Mertzson	Brooks 10
Irion	Mertzson	Brooks 11
Irion	Mertzson	Brooks 17
Irion	Mertzson	Brooks A
Irion	Mertzson	Brooks A 3
Irion	Mertzson	Brooks A 5
Irion	Mertzson	Brooks E 1
Irion	Mertzson	Carter
Irion	Mertzson	Concho #1 & #2 Lease
Irion	Mertzson	Crawford 1230 #2
Irion	Mertzson	Crawford 1230 #3
Irion	Mertzson	Crawford 1230 #1 Lease & Crawford 1230 #4 Lease Comingled
Irion	Mertzson	DeLong
Irion	Mertzson	Hoyt 1 Battery
Irion	Mertzson	Hoyt 2 Battery
Irion	Mertzson	Magruder "37" #2
Irion	Mertzson	Nini #1 Lease
Irion	Mertzson	Parks #1 Lease
Irion	Mertzson	Patton 1
Irion	Mertzson	Pearl A. Williams "A"
Irion	Mertzson	Pearl Williams

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COUNTY	JURISDICTION	FACILITY NAME
Irion	Mertzon	Phillips Trans-Continental
Irion	Mertzon	Salt House #1 & #2 Lease
Irion	Mertzon	Salt House 3047 #1 Lease
Irion	Mertzon	Scottish Rite A-1
Irion	Mertzon	Sheen "8" #1
Irion	Mertzon	Sheen "8" #2
Irion	Mertzon	Sugg-Farmer & Sugg Farmer A1,2,3 Leases Comingled
Irion	Mertzon	Targa Texas Field Services LP – Booster 8 Compressor Station
Irion	Mertzon	Tweedy A 1
Irion	Mertzon	Tweedy A 2
Irion	Mertzon	Tweedy A 6
Irion	Mertzon	Tweedy B
Irion	Mertzon	Williams "1203"
Irion	Mertzon	Winterbotham
Irion	Mertzon	Winterbotham "3"
Irion	Mertzon	Winterbotham "A"
Irion	Mertzon	Winterbotham "B"
Irion	Mertzon	Winterbotham "D"
Irion	Mertzon	Winterbotham "E" #5
Irion	Mertzon	Winterbotham 2
Irion	Mertzon	Winterbotham 4A
Irion	Mertzon	Winterbotham 5
Irion	Mertzon	Winterbotham 6
Irion	Mertzon	Winterbotham A 2
Irion	Mertzon	Winterbotham B 1
Irion	Mertzon	Winterbotham B 3
Irion	Mertzon	Winterbotham B 6
Irion	Mertzon	Winterbotham C 2
Irion	Mertzon	Winterbotham D 2
Irion	Mertzon	Winterbotham F 1
Irion	Mertzon	Winterbotham F 2
Irion	Mertzon	Winterbotham F 3
Irion	Mertzon	Winterbotham I 2
Irion	Mertzon	Winterbotham J 1
Irion	Mertzon	Winterbotham J 4
Kimble	Harper	National Gypsum
Kimble	Junction	Clint Smith Distributors
Kimble	Junction	Grayden Industries, Inc.
Kimble	Junction	Junction Compressor Station – Energy Transfer Co.
Kimble	Junction	MB Propane, LLC dba MB Gas

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COUNTY	JURISDICTION	FACILITY NAME
Kimble	Junction	TxDOT – San Angelo – Junction Maintenance Facility
Kimble	Junction	Verizon Junction CO (TX5141001)
McCulloch	Brady	Brady Butane Co Inc. – Plant Storage
McCulloch	Brady	Brady Butane Co Inc. – Main Office
McCulloch	Brady	Carlson Lease (RRC #13535)
McCulloch	Brady	G&RG, Inc.
McCulloch	Brady	Hexion Specialty Chemicals, Inc.
McCulloch	Brady	Speck Lease (RRC #13649)
McCulloch	Brady	TxDOT – Brownwood – McCulloch County Maintenance Remote Stockpile #1
McCulloch	Brady	Unimin Brady Rail Loadout Facility
McCulloch	Brady	White Estate B Lease (13848)
McCulloch	Voca	Proppant Specialists LLC
Menard	Menard	City of Menard Wastewater Treatment Plant
Menard	Menard	City of Menard Water Plant
Menard	Menard	TNC – Yellowjacket Substation
Menard	Menard	TxDOT – San Angelo – Menard Maintenance Facility
Reagan	Big Lake	Albert Schultz
Reagan	Big Lake	Aldwell 37
Reagan	Big Lake	Balinese #1
Reagan	Big Lake	Ball PMTX
Reagan	Big Lake	Barkley #2
Reagan	Big Lake	Basic Energy Services Permian Region 1216 - University SWD
Reagan	Big Lake	Bird
Reagan	Big Lake	Bird 39/40
Reagan	Big Lake	Boyd 7
Reagan	Big Lake	Boyd A
Reagan	Big Lake	Cauble
Reagan	Big Lake	Coates A #5
Reagan	Big Lake	Coates B #2
Reagan	Big Lake	Coates B #6
Reagan	Big Lake	Coates Ranch PMTX
Reagan	Big Lake	Cook, P.W.
Reagan	Big Lake	Cope Lease
Reagan	Big Lake	Crews A #3
Reagan	Big Lake	DGP – Big Lake Gas Plant – Texon Compressor Station
Reagan	Big Lake	DGP – Stiles Gas Plant
Reagan	Big Lake	Douglas 22
Reagan	Big Lake	Douglas 27 – 34
Reagan	Big Lake	Douglas 27A

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COUNTY	JURISDICTION	FACILITY NAME
Reagan	Big Lake	Douglas 27AA
Reagan	Big Lake	Douglas 28
Reagan	Big Lake	Douglas PMTX
Reagan	Big Lake	Fandango #1
Reagan	Big Lake	Greer #1
Reagan	Big Lake	Greer 20
Reagan	Big Lake	Gunter Lease
Reagan	Big Lake	HABY 7
Reagan	Big Lake	HAM 3
Reagan	Big Lake	Ham Battery No. 2 Lease
Reagan	Big Lake	Hanley Station PMTX
Reagan	Big Lake	Haralson #3
Reagan	Big Lake	Haralson #4
Reagan	Big Lake	Harris, R.E.
Reagan	Big Lake	Highland Main Transfer
Reagan	Big Lake	Highland SWD #1
Reagan	Big Lake	Hughes "22" A
Reagan	Big Lake	Hughes Alpine West 18
Reagan	Big Lake	Hughes Alpine West 19
Reagan	Big Lake	Hughes Alpine West 22
Reagan	Big Lake	Hughes Alpine West 28
Reagan	Big Lake	Hughes E
Reagan	Big Lake	Hunt 13
Reagan	Big Lake	Hunt 15
Reagan	Big Lake	Hunt 17
Reagan	Big Lake	INCA – Carr Lease
Reagan	Big Lake	INCA – Parrish Lease
Reagan	Big Lake	J.L. Watkins Lease
Reagan	Big Lake	Jackson A #2
Reagan	Big Lake	Jackson B #2
Reagan	Big Lake	John O. Carr Lease
Reagan	Big Lake	Julie
Reagan	Big Lake	Kerr 4
Reagan	Big Lake	Kewanee #1
Reagan	Big Lake	Kile #5
Reagan	Big Lake	Lake B #2
Reagan	Big Lake	Leeson
Reagan	Big Lake	Lucy Lindsay
Reagan	Big Lake	Malone 43
Reagan	Big Lake	Malone 44
Reagan	Big Lake	Malone A #3

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COUNTY	JURISDICTION	FACILITY NAME
Reagan	Big Lake	Malone B #1
Reagan	Big Lake	Malone B #8
Reagan	Big Lake	Malone B #9
Reagan	Big Lake	Malone D #1
Reagan	Big Lake	Malone D #3
Reagan	Big Lake	Marathon #1
Reagan	Big Lake	Marathon #10
Reagan	Big Lake	Marathon #11
Reagan	Big Lake	Marathon #12
Reagan	Big Lake	Marathon #8
Reagan	Big Lake	Merchant 10
Reagan	Big Lake	Merchant 10-11-14
Reagan	Big Lake	Merchant C.W.
Reagan	Big Lake	Miguel
Reagan	Big Lake	Mobil – Carr Leasee
Reagan	Big Lake	Nabors Well Services Ltd.
Reagan	Big Lake	Nannie C. Parrish Lease
Reagan	Big Lake	Newmont 35
Reagan	Big Lake	Newmont C
Reagan	Big Lake	Noel #1
Reagan	Big Lake	Nordic A
Reagan	Big Lake	Nordic BK
Reagan	Big Lake	Nunn A
Reagan	Big Lake	Nunn B
Reagan	Big Lake	Nunn J.F. 2
Reagan	Big Lake	Owens PMTX
Reagan	Big Lake	Parish #3
Reagan	Big Lake	Parish #8
Reagan	Big Lake	Prime Kile
Reagan	Big Lake	Prime Kile A
Reagan	Big Lake	Prime Kile B
Reagan	Big Lake	Proctor B&C
Reagan	Big Lake	Rainbow 19A 1
Reagan	Big Lake	Ringo 1
Reagan	Big Lake	Ringo 9
Reagan	Big Lake	Ringo 10
Reagan	Big Lake	Rocker B #1
Reagan	Big Lake	Rocker B #27 SWD
Reagan	Big Lake	Rocker B 40/41
Reagan	Big Lake	Rocker B 89
Reagan	Big Lake	Rocker B Booster

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COUNTY	JURISDICTION	FACILITY NAME
Reagan	Big Lake	S&T Blk 3
Reagan	Big Lake	S&T Block 1 #1 Lease
Reagan	Big Lake	S&T Block 1 #2 Lease
Reagan	Big Lake	Santa Anna State #1
Reagan	Big Lake	Santa Rita 6 State #1
Reagan	Big Lake	Southland Scott Lease
Reagan	Big Lake	SSSU #9 – 58
Reagan	Big Lake	SSSU #9 – 60
Reagan	Big Lake	SSSU #9 – 61
Reagan	Big Lake	Stiles SWD
Reagan	Big Lake	Stout A
Reagan	Big Lake	Texaco #2 (SWD)
Reagan	Big Lake	Texaco #3
Reagan	Big Lake	Texon 28 #1
Reagan	Big Lake	Texon 83 #2
Reagan	Big Lake	Thunderbird #1
Reagan	Big Lake	Trigg "18" #2
Reagan	Big Lake	UL Reagan 2001
Reagan	Big Lake	UL Reagan Rework
Reagan	Big Lake	University 2 – 31
Reagan	Big Lake	University 33 #1Y
Reagan	Big Lake	University 48 – 15
Reagan	Big Lake	University 48 – 15 "A"
Reagan	Big Lake	University – BR – Lease
Reagan	Big Lake	University Cassandra CTB
Reagan	Big Lake	University Courtney CTB
Reagan	Big Lake	University Delbra
Reagan	Big Lake	University et All Leases
Reagan	Big Lake	University Leigh
Reagan	Big Lake	Wanda C. Doss 21
Reagan	Big Lake	Weatherby A&B
Reagan	Big Lake	Weatherby PMTX
Reagan	Big Lake	Weddell Haby "C"
Reagan	Big Lake	Zulette Hughes SWD
Reagan	Big Lake	Zulette – Jackson Hughes
Reagan	Midkiff	Midkiff Gas Plant
Reagan	Midkiff	Patterson Station PMTX
Reagan	Midland	Verlis
Reagan	Midland	Verlis A
Reagan	Reagan	Charles Hughes 21
Reagan	Reagan	GPS

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COUNTY	JURISDICTION	FACILITY NAME
Reagan	Reagan	North Stiles Sprayberry Unit
Reagan	Reagan	Thomas "3"
Reagan	Reagan	Weatherby 1216
Reagan	Reagan	Weatherby 1219
Reagan	Rural	Sprayberry Field
Reagan	Stiles	SSSU #10 – 31
Reagan	Stiles	SSSU #10 – 32
Reagan	Stiles	SSSU #10 – 33
Reagan	Stiles	SSSU #10 – 42
Reagan	Stiles	SSSU #10 – 48
Reagan	Stiles	SSSU #10 – 49
Reagan	Stiles	SSSU #10 – 57
Reagan	Stiles	SSSU #11 – 36
Reagan	Stiles	SSSU #11 – 37
Reagan	Stiles	SSSU #11 – 38
Reagan	Stiles	SSSU #11 – 40
Reagan	Stiles	SSSU #11 – 45
Reagan	Stiles	SSSU #11 – 50
Reagan	Stiles	SSSU #12 – 54
Reagan	Stiles	SSSU #13 – 55
Reagan	Stiles	SSSU #13 – 56
Reagan	Stiles	SSSU #18 (SWD)
Reagan	Stiles	SSSU #19
Reagan	Stiles	SSSU #20
Reagan	Stiles	SSSU #21
Reagan	Stiles	SSSU #23
Reagan	Stiles	SSSU #2 – 34
Reagan	Stiles	SSSU #2 – 35
Reagan	Stiles	SSSU #24
Reagan	Stiles	SSSU #2 – 41
Reagan	Stiles	SSSU #2 – 47
Reagan	Stiles	SSSU #25
Reagan	Stiles	SSSU #2 – 51
Reagan	Stiles	SSSU #2 – 52
Reagan	Stiles	SSSU #2 – 53
Reagan	Stiles	SSSU #29
Reagan	Stiles	SSSU #3
Reagan	Stiles	SSSU #4W
Reagan	Stiles	SSSU #6
Reagan	Stiles	SSSU #9 – 30
Reagan	Stiles	SSSU #9 – 39

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COUNTY	JURISDICTION	FACILITY NAME
Reagan	Stiles	SSSU #9 – 43
Reagan	Stiles	SSSU #9 – 44
Reagan	Stiles	SSSU #9 – 46
Reagan	Texon	S. Texon SWD Battery
Reagan	Texon	University "2" #4
Reagan	Texon	University "2M" #1
Reagan	Texon	University #2 – 1
Reagan	Texon	University #2 – A
Reagan	Texon	University #35
Reagan	Texon	University #36 & 36B
Reagan	Texon	University 11 #1
Reagan	Texon	Vaughn Acct. #25
Schleicher	Christoval	Arco Thomerson 5 #1
Schleicher	Christoval	Harris Lease
Schleicher	Christoval	McLaughlin Lease
Schleicher	Christoval	O'Harrow "69" #1
Schleicher	Christoval	O'Harrow 55 #1
Schleicher	Christoval	Reichert "36" #1
Schleicher	Christoval	Thomerson #1
Schleicher	Christoval	Thomerson 2M
Schleicher	Christoval	Womack
Schleicher	Eldorado	Annie Mae Murphy #2 Lease
Schleicher	Eldorado	Annie Mae Murphy #3 Lease
Schleicher	Eldorado	Annie Mae Murphy #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Barrow #10 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Barrow #6R Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Berger 3
Schleicher	Eldorado	Berger 7A
Schleicher	Eldorado	Brooks #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Brooks 11 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Brooks 11 #3 & #4 Commingled Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Brooks Lease
Schleicher	Eldorado	Bruton #2 Tank Battery
Schleicher	Eldorado	Bruton 27 #1 Tank Battery (COG Operating LLC)
Schleicher	Eldorado	Camar, SW Field

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Eldorado	Case #1 Lease
Schleicher	Eldorado	Central Velrex Compressor Station
Schleicher	Eldorado	Chaparral Energy, LLC – Baugh Spence #1001
Schleicher	Eldorado	Chaparral Energy, LLC – Baugh Spence #1501
Schleicher	Eldorado	Chaparral Energy, LLC – McElroy Estate 1C
Schleicher	Eldorado	Chaparral Energy, LLC – Page Ranch #5-1
Schleicher	Eldorado	Chaparral Energy, LLC – Spence Estate #2
Schleicher	Eldorado	Chaparral Energy, LLC – Spence Estate #3
Schleicher	Eldorado	Chaparral Energy, LLC – Spence Estate #4
Schleicher	Eldorado	Chaparral Energy, LLC – Taylor #3
Schleicher	Eldorado	Chaparral Energy, LLC – Taylor #5
Schleicher	Eldorado	Chaparral Energy, LLC – Tisdale #2
Schleicher	Eldorado	Chaparral Energy, LLC – Tisdale #3
Schleicher	Eldorado	Clark Tank Battery
Schleicher	Eldorado	Cody Bell 11 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Cody Bell 11 #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	D. W. Spence
Schleicher	Eldorado	Delhi-Jones #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Delhi-Jones #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Delhi-Jones #6 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Edmiston #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Edmiston #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	El Dorado Compressor Station
Schleicher	Eldorado	Ellen Sada Enochs #3 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Enochs-Sada Ellen #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	G.H. Neill #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Glass 50 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	H.J. Case "A" #1 Lease
Schleicher	Eldorado	H.J. Case "A" #2 Lease
Schleicher	Eldorado	H.J. Case "A" #3 Lease

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Eldorado	H.J. Case "A" #4 Lease
Schleicher	Eldorado	H.J. Case "A" #5 Lease
Schleicher	Eldorado	H.J. Case "B" #1 Lease
Schleicher	Eldorado	H.J. Case "B" #2 Lease
Schleicher	Eldorado	H.J. Case "B" #3 Lease
Schleicher	Eldorado	H.J. Case "B" #4 Lease
Schleicher	Eldorado	H.J. Case "B" #5 Lease
Schleicher	Eldorado	Jackson #10 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson #2 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson #5 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson #6 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson #8 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson 11 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson 12 Battery (OXY USA Inc.)
Schleicher	Eldorado	Jackson 13 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jackson 14 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jeffers 18A Tank Battery
Schleicher	Eldorado	Jeffers 28A Tank Battery
Schleicher	Eldorado	Jeffers Tank Battery
Schleicher	Eldorado	Jones "A" #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones "B" #6 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones "B" #7 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones #5 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones A – 10 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones A – 11 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Jones B #8 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)

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COUNTY	JURISDICTION	FACILITY NAME
		Business Unit)
Schleicher	Eldorado	Jones, T K Unit TG 1
Schleicher	Eldorado	Keeling 108 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney 77 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney 77 #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney 77 #4 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney 77 – 5 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney Neil Unit 77-2 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Keeney Neil Unit 77-3 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Koy (Canyon) Unit Tank Battery (Parallel Petroleum Corporation)
Schleicher	Eldorado	Lloyd Mora 42 West Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Lloyd Mora West #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Luedecke 6 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Luedecke "110" #4, Jacob Luedecke #2 & S.E. Luedecke #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Luedecke #1 Central Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Luedecke #5 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Mayer BIF Compressor Station
Schleicher	Eldorado	Mayer Biff Booster
Schleicher	Eldorado	Mayer Biff North Tank Battery
Schleicher	Eldorado	Mayer Tank Battery
Schleicher	Eldorado	Meador 178 #2 Tank Battery
Schleicher	Eldorado	Meador 178 #4 Tank Battery
Schleicher	Eldorado	Meador 178 – 8 Tank Battery
Schleicher	Eldorado	Meadors 11 – 1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Mora Lee West etal #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Eldorado	Mozelle #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Mrs. C.C. West (Mozelle) #1 & #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Murphy 18 #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Murphy 19 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Neva West Strawn Unit
Schleicher	Eldorado	Nixon #1 Tank Battery
Schleicher	Eldorado	Nixon 177 – 6
Schleicher	Eldorado	Nixon Meador Comp. Station
Schleicher	Eldorado	Northern Yard
Schleicher	Eldorado	Olsen – Cahill
Schleicher	Eldorado	Otto Williams "G" Tank Battery (Southwest Royalties, Inc.)
Schleicher	Eldorado	Page #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Page (Canyon) Unit Tank Battery (Parallel Petroleum Corporation)
Schleicher	Eldorado	Page Brothers #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Parker #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Parker #4 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Parker #5 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Powell #23 – 1
Schleicher	Eldorado	Powell 23 #3 Tank Battery
Schleicher	Eldorado	Powell B #1
Schleicher	Eldorado	Reichert #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Roach 50 #7 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Schrank 24 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Speck #2
Schleicher	Eldorado	Stockton #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	T.K. Jones Heirs "A" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Eldorado	Thad A. Thomson "C" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Thad A. Thomson "E" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Thomerson
Schleicher	Eldorado	Thomson "E" #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Thomson "F" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Thomson Tank Battery (WTG Exploration, Inc.)
Schleicher	Eldorado	TNC-Eldorado Live Oak Substation
Schleicher	Eldorado	Turnbull 56 – 1
Schleicher	Eldorado	University #1
Schleicher	Eldorado	University #2
Schleicher	Eldorado	University #11
Schleicher	Eldorado	University #14
Schleicher	Eldorado	University #14A – 1
Schleicher	Eldorado	University "6" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	University "9" #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	University "23" #5 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	University "23" #6 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	University 54 – 17 – 4 Tank Battery
Schleicher	Eldorado	University 54 – 21
Schleicher	Eldorado	University 57 – 17 – 2
Schleicher	Eldorado	Verdad Oil & Gas Corp – Case 1,2,3
Schleicher	Eldorado	Verdad Oil & Gas Corp – Eldorado 1
Schleicher	Eldorado	Verdad Oil & Gas Corp – Harper 1,2,4,5
Schleicher	Eldorado	Verdad Oil & Gas Corp – Lux 1,2
Schleicher	Eldorado	Wade
Schleicher	Eldorado	West "A" #7 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West "B" #8 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 19 #4 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 47 #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 48 #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)

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COUNTY	JURISDICTION	FACILITY NAME
		Business Unit)
Schleicher	Eldorado	West 78 #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 78 Unit 3 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 78 Unit 4 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 78 Unit 6 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 79 #1 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West 79 #2 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West Unit #10 & #11 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West Unit #3 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West Unit #6 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West Unit #9 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	West Unit 13 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Whitten "A" Common Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Whitten 35 "B" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Whitten A-8 Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Williams Oil Co. – HARRIS "C"
Schleicher	Eldorado	Williams Oil Co. – TUCKER
Schleicher	Eldorado	Williams Ranch #1 Lease
Schleicher	Eldorado	Wilson Pope
Schleicher	Eldorado	Wilton "A" #1028 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Schleicher	Eldorado	Zachry Oil & Gas Properties
Schleicher	Eldorado	Zachry Oil & Gas Properties
Schleicher	Eldorado	Zachry Oil & Gas Properties
Schleicher	Eldorado	Zachry Oil & Gas Properties
Schleicher	Midland	Powell Lease 101
Schleicher	Midland	Virgil J. Powell #105
Schleicher	Midland	Virgil J. Powell Tr. A #5 & #10

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Midland	Virgil J. Powell Tr. B #100 I
Schleicher	Midland	Virgil J. Powell Tr. B #104
Schleicher	Midland	Wilson Estate
Schleicher	Rural	Ballew #3
Schleicher	Rural	Barrow 2
Schleicher	Rural	Barrow 4
Schleicher	Rural	Barrow 5
Schleicher	Rural	Barrow 6
Schleicher	Rural	Barrow 7
Schleicher	Rural	Barrow 9
Schleicher	Rural	Barrow Estate #1
Schleicher	Rural	Barrow, George "A" #1
Schleicher	Rural	Barrow, George Jr. #1
Schleicher	Rural	Bell, CODY #1
Schleicher	Rural	Bush Thompson #2 – 140
Schleicher	Rural	Case #1, #2
Schleicher	Rural	Case #3
Schleicher	Rural	Case #4
Schleicher	Rural	Case, R.I. #1
Schleicher	Rural	Deal "A" #1
Schleicher	Rural	Deal "A" #3
Schleicher	Rural	Edmiston #3
Schleicher	Rural	Edmiston 172 – 1
Schleicher	Rural	Jones "C" #2
Schleicher	Rural	Jones "C" #3
Schleicher	Rural	Jones "C" #4
Schleicher	Rural	Keeney #2 – 80
Schleicher	Rural	Keeney 3 – 80
Schleicher	Rural	McAngus #2 – 107
Schleicher	Rural	McWhorter #2
Schleicher	Rural	McWhorter #3
Schleicher	Rural	Meador 34 – 1
Schleicher	Rural	Murphy #2
Schleicher	Rural	Neill 1
Schleicher	Rural	Roach #1
Schleicher	Rural	Roach #3
Schleicher	Rural	Tankersley #1 – 8
Schleicher	Rural	University "14" #3
Schleicher	Rural	University "17" #4
Schleicher	Rural	University "C" #2
Schleicher	Rural	University "C" #3

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COUNTY	JURISDICTION	FACILITY NAME
Schleicher	Rural	University "D" #3
Schleicher	Rural	University "D" #4
Schleicher	Rural	University "E" #1
Schleicher	Rural	University #1 – 5
Schleicher	Rural	University #2
Schleicher	Rural	University 15/16
Schleicher	Rural	University 53 – 17 #1
Schleicher	Rural	University 53 – 17 #2
Schleicher	Rural	Wales #1 – 8
Schleicher	Rural	Whitten "A" #1 – 26
Schleicher	Rural	Whitten "E" #1
Schleicher	Rural	Whitten "E" #3
Schleicher	Rural	Whitten #1
Schleicher	Rural	Whitten #1 – 31
Schleicher	Rural	Whitten 1 – 52
Schleicher	Rural	Williams/Pearl 1 – 102
Schleicher	Rural	Williams/Pearl 1203B #3
Sterling	Robert Lee	Gasconades Creek Substation
Sterling	Rural	Sterling County New Wells 09
Sterling	Rural	Sterling County Production Wells 09
Sterling	Rural	Sterling County Production Wells 09
Sterling	Sterling City	Ainsworth "10" (Rose Creek, North; Wolfcamp)
Sterling	Sterling City	Baco: 13 Miles #1, Ellwood (Mississippian) Field
Sterling	Sterling City	Baco: AMF 38 #1, Ace of Spades (Ellenburger) Field
Sterling	Sterling City	Baco: AMF 38 #2, Ace of Spades (Ellenburger) Field
Sterling	Sterling City	Baco: Apache 58 #1, Walter (Wolfcamp) Field
Sterling	Sterling City	Baco: Apache 58 #2, Walter (Wolfcamp) Field
Sterling	Sterling City	Baco: Ateca 72 #1, Triple C (Miss.) Field
Sterling	Sterling City	Baco: Ateca 72 #2, Triple C (Ellenburger) Field
Sterling	Sterling City	Baco: Blue 15 #1, Lonesome Dove (Miss) Field
Sterling	Sterling City	Baco: Blue 15 #2, Ace of Spades (Ellenburger) Field'
Sterling	Sterling City	Baco: Bunton 37 #1X, Ace of Spades (Ellenburger) Field
Sterling	Sterling City	Baco: Bunton 37 #2, Passout (Mississippian) Field
Sterling	Sterling City	Baco: Clark #1X, Rose Creek, N. (Wolfcamp D.S.) Field
Sterling	Sterling City	Baco: Collins #2, Triple C (Miss.) Field
Sterling	Sterling City	Baco: Collins #3, Walter (Wolfcamp) Field
Sterling	Sterling City	Baco: Double 7 #2, Passout (Strawn) Field
Sterling	Sterling City	Baco: Foster 14 #1, Lonesome Dove (Miss) Field
Sterling	Sterling City	Baco: Foster 73 #1, Seventy-Seven (Ellenburger) Field
Sterling	Sterling City	Baco: Glass 59 #1, Walter (Wolfcamp) Field
Sterling	Sterling City	Baco: Kohler Clark 1314L, Rose Creek, N. (Wolfcamp D.S.)

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COUNTY	JURISDICTION	FACILITY NAME
		Field
Sterling	Sterling City	Baco: Little Blue 58 #1, Passout (Mississippian) Field
Sterling	Sterling City	Baco: Reed Estate '13' #2, Sterling, N. (Canyon Sd) Field
Sterling	Sterling City	Bailey 10 Tank Battery
Sterling	Sterling City	Bailey 12 Tank Battery
Sterling	Sterling City	Bailey 12S Tank Battery
Sterling	Sterling City	Bailey 16 Tank Battery
Sterling	Sterling City	Bailey 32 Tank Battery 1
Sterling	Sterling City	Chaparral Energy, LLC – Horwood #1
Sterling	Sterling City	Chaparral Energy, LLC – Inter-American Oil Works #1
Sterling	Sterling City	Chaparral Energy, LLC – Sellers #66 – 4
Sterling	Sterling City	Chaparral Energy, LLC – Sellers #67 – 1
Sterling	Sterling City	China Draw Lease
Sterling	Sterling City	Conger (Canyon) PMTX
Sterling	Sterling City	Conger HP Booster
Sterling	Sterling City	Conger Sales Facility
Sterling	Sterling City	Conger Sales Facility Tank Battery 1
Sterling	Sterling City	Credo Booster
Sterling	Sterling City	Disotell Sulfa Treat
Sterling	Sterling City	Ferguson 30 Tank Battery 1
Sterling	Sterling City	Ferguson 34 Tank Battery 1
Sterling	Sterling City	Foster
Sterling	Sterling City	Foster 28
Sterling	Sterling City	Glass H Tank Battery
Sterling	Sterling City	H2O Tank Battery Conger Sales Facility
Sterling	Sterling City	Hoppe – S ellars 1 – X
Sterling	Sterling City	Horwood Battery (COG Operating LLC)
Sterling	Sterling City	JD Sugg A Tank Battery 1
Sterling	Sterling City	McEntire Lease
Sterling	Sterling City	Mesa Lease
Sterling	Sterling City	Middle University Compressor Station
Sterling	Sterling City	Nina
Sterling	Sterling City	Range Production Company – Conger (Leonard) Field
Sterling	Sterling City	Range Production Company – Conger Gathering Facility
Sterling	Sterling City	Range Production Company – Council Gathering Facility
Sterling	Sterling City	Range Production Company – Deck (Cisco) Field
Sterling	Sterling City	Range Production Company – Lower Half (Wolfcamp) Field
Sterling	Sterling City	Range Production Company – Sterling No. (Canyon Sand) Field
Sterling	Sterling City	Range Production Company – Sugg Ranch (Canyon Dist

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COUNTY	JURISDICTION	FACILITY NAME
		08) Field
Sterling	Sterling City	Range Production Company – W.A.M. (Wolfcamp)
Sterling	Sterling City	Range Production Company – William Fuller (Lo. Clearfork) Field
Sterling	Sterling City	Rose Creek North Unit/Inj Station (Rose Creek, North; Wolfcamp)
Sterling	Sterling City	Ross Foster
Sterling	Sterling City	Ross Foster B
Sterling	Sterling City	Sterling E Tank Battery 1
Sterling	Sterling City	Sugg A Tank Battery 1
Sterling	Sterling City	Sugg AA Tank Battery
Sterling	Sterling City	Sugg B Tank Battery
Sterling	Sterling City	Sugg B Tank Battery 2
Sterling	Sterling City	Sugg B Tank Battery 3
Sterling	Sterling City	Sugg BB Tank Battery
Sterling	Sterling City	Sugg C Tank Battery 1
Sterling	Sterling City	Sugg D Tank Battery 1
Sterling	Sterling City	Sugg D Tank Battery 2
Sterling	Sterling City	Stewart Lease
Sterling	Sterling City	Targa Texas Field Services LP – Caldwell Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – Conger Gas Plant
Sterling	Sterling City	Targa Texas Field Services LP – Disotell Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – IP South Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – Middle Conger Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – N Conger Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – South Conger Compressor Station
Sterling	Sterling City	Targa Texas Field Services LP – Sterling Gas Plant
Sterling	Sterling City	TxDOT – San Angelo-Sterling City Maintenance Facility
Sterling	Sterling City	V. Wilkinson (McEntire; Fusselman)
Sterling	Sterling City	W.L. Foster, Jr. – 27 – Tank Battery
Sterling	Sterling City	WAM Energy – China Draw Lease
Sterling	Sterling City	Wilkinson Lease
Sutton	Ft. McKavett	Wilson Lease
Sutton	Midland	Devon Energy – Sonora Field
Sutton	Sonora	Aldwell Ranch Field

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COUNTY	JURISDICTION	FACILITY NAME
Sutton	Sonora	Archer SWD
Sutton	Sonora	Askew & Glimp 42 # 1 SWD
Sutton	Sonora	Baker Petrolite – Sonora
Sutton	Sonora	Bart Booster
Sutton	Sonora	Basic Energy Services/Sonora
Sutton	Sonora	Bloodworth SWD
Sutton	Sonora	Bruce Babb Chemicals, Inc. (BB Chemicals)
Sutton	Sonora	Burns Compressor Station
Sutton	Sonora	Byrd/WTG Compressor-Byrd Operating Co.
Sutton	Sonora	Canyon Ranch 115 SWD
Sutton	Sonora	CEM Tank Battery
Sutton	Sonora	Center Point #2
Sutton	Sonora	Center Point #3
Sutton	Sonora	Center Point #4
Sutton	Sonora	Center Point #5
Sutton	Sonora	Center Point #6
Sutton	Sonora	Center Point #7
Sutton	Sonora	Center Point #8
Sutton	Sonora	Center Point #9
Sutton	Sonora	Center Point #11
Sutton	Sonora	Center Point #12
Sutton	Sonora	Center Point #13
Sutton	Sonora	Center Point #15
Sutton	Sonora	Center Point #16
Sutton	Sonora	Center Point #17
Sutton	Sonora	Center Point #20
Sutton	Sonora	Center Point #21
Sutton	Sonora	Center Point #23
Sutton	Sonora	Center Point #24
Sutton	Sonora	Center Point #28
Sutton	Sonora	Center Point #29
Sutton	Sonora	Center Point #30
Sutton	Sonora	Center Point #40
Sutton	Sonora	Center Point #41
Sutton	Sonora	Center Point #42
Sutton	Sonora	Center Point #50
Sutton	Sonora	Center Point #61
Sutton	Sonora	Center Point 46
Sutton	Sonora	Dannheim Compressor Station
Sutton	Sonora	Davis Compressor Station
Sutton	Sonora	Duke Wilson Compressor Station

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COUNTY	JURISDICTION	FACILITY NAME
Sutton	Sonora	Dunbar #79 Water Station
Sutton	Sonora	East Ward Compressor Station
Sutton	Sonora	Epps Tank Battery
Sutton	Sonora	Espy Compressor Station
Sutton	Sonora	Fawcett Compressor Station
Sutton	Sonora	Fields 55 – 5 SWD
Sutton	Sonora	Florence-Hamill 26 – 2 – Byrd Operating Co.
Sutton	Sonora	Genini 39 #1 Tank Battery
Sutton	Sonora	Glasscock Compressor Station
Sutton	Sonora	Hideout
Sutton	Sonora	Hudspeth Compressor
Sutton	Sonora	Hudspeth Stonewater
Sutton	Sonora	Ingram – Sonora Plant
Sutton	Sonora	Jones Center Point
Sutton	Sonora	Jones R.157 – 1
Sutton	Sonora	Jones SWD 118 – 16
Sutton	Sonora	Juno Compressor Station
Sutton	Sonora	Kiser #02 – 2
Sutton	Sonora	Lively Compressor Station
Sutton	Sonora	M & B Battery
Sutton	Sonora	Mayer
Sutton	Sonora	Mayer Ranch 38 – 39 Tank Battery
Sutton	Sonora	Mayer Biff South Tank Battery
Sutton	Sonora	Mayer CK 12
Sutton	Sonora	Mayer CK Compressor Station
Sutton	Sonora	Mayer DC Compressor Station
Sutton	Sonora	Mayer GL JR Compressor Station
Sutton	Sonora	Mayer GL SR Compressor Station
Sutton	Sonora	Mayer Ranch Comp. Station
Sutton	Sonora	Mayfield Compressor Station
Sutton	Sonora	McMillian – Cusenbary Tank Battery
Sutton	Sonora	McMillian Tank Battery
Sutton	Sonora	Mitchell Tank Battery
Sutton	Sonora	Morriss Truck Station
Sutton	Sonora	Nabors Well Services Ltd.
Sutton	Sonora	Nabors Well Services Ltd.
Sutton	Sonora	Nicks, Gerald #5
Sutton	Sonora	Nobles #04
Sutton	Sonora	Nobles #05
Sutton	Sonora	Nobles #06
Sutton	Sonora	Nobles #07

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COUNTY	JURISDICTION	FACILITY NAME
Sutton	Sonora	North Rich Compressor Station
Sutton	Sonora	Oasis Compressor Station
Sutton	Sonora	Pfluger 86 – 1 SWD
Sutton	Sonora	Richardson Center Point
Sutton	Sonora	Rip Ward Lease
Sutton	Sonora	Sawyer Canyon Area "Carta" -sold 10-30-09
Sutton	Sonora	Sawyer Canyon Area "E" -sold 10-30-09
Sutton	Sonora	Sawyer Canyon Area "F" -sold 10-30-09
Sutton	Sonora	Shurley South Compressor Station
Sutton	Sonora	Simmons Ranch 102
Sutton	Sonora	Simmons Ranch 103 Tank Battery
Sutton	Sonora	Simmons Ranch 28
Sutton	Sonora	Simons Petroleum – Sonora Bulk Plant
Sutton	Sonora	Sonora Area "B" -sold 10-30-09
Sutton	Sonora	Sonora Area "C"
Sutton	Sonora	Sonora Compressor Station
Sutton	Sonora	Sonora Compressor Station
Sutton	Sonora	Sonora Gas Plant
Sutton	Sonora	Sonora Plant 1
Sutton	Sonora	Sonora Yard Tank Battery
Sutton	Sonora	South Rich Compressor Station
Sutton	Sonora	Steen #58
Sutton	Sonora	Steen 47 Compressor Station
Sutton	Sonora	Stewart 2 – 4 SWD
Sutton	Sonora	Thompson
Sutton	Sonora	TxDOT – San Angelo – Sonora Maintenance Facility
Sutton	Sonora	United Fuel & Energy
Sutton	Sonora	Van Shoubrouck SWD Facility
Sutton	Sonora	VV Tank Battery
Sutton	Sonora	Ward 26 Compressor Station
Sutton	Sonora	West Fin Tex Yard
Sutton	Sonora	Whitehead Compressor Station
Sutton	Sonora	Wilson North Compressor Station
Sutton	Sonora	Wilson South Compressor Station
Sutton	Sonora	Canyon Ranch 82 – 8S SWD
Sutton	Sonora	Schlumberger Technology Corporation
Tom Green	Carlsbad	Targa Texas Field Services LP – Carlsbad Compressor Station
Tom Green	Carlsbad	Turner Ranch TD – 113 #1 & #2 Lease
Tom Green	Carlsbad	Turner Ranch TD – 116 #1 #2 & #3 Lease
Tom Green	Christoval	Anna Battery (COG Operating LLC)

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COUNTY	JURISDICTION	FACILITY NAME
Tom Green	Christoval	Charter Petroleum Company: Robertson Tank Battery
Tom Green	Christoval	Dan SWD Lease
Tom Green	Christoval	Edwin Lease
Tom Green	Christoval	G.S. Winterbotham "C" #1 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Tom Green	Christoval	Grandfield Consulting Joe Funk Lease
Tom Green	Christoval	Johnson, J.W. Lease
Tom Green	Christoval	Jones "A" #2 Tank Battery (OXY USA Inc. – Mid-Continent Business Unit)
Tom Green	Christoval	McGregor Battery (COG Operating LLC)
Tom Green	Goodfellow AFB	Goodfellow Air Force Base
Tom Green	Knickerbocker	Swartz Oil Co. Rathbone Lease
Tom Green	Knickerbocker	Swartz Oil Co. Tweedy Lease
Tom Green	Midland	Weddell 77 "A"
Tom Green	Rural	Crosby #1
Tom Green	Rural	Probandt #1
Tom Green	Rural	Winterbotham #2-26
Tom Green	San Angelo	Airgas Southwest, Inc. – San Angelo #53
Tom Green	San Angelo	Atkinson Unit
Tom Green	San Angelo	Conner Steel Products Inc.
Tom Green	San Angelo	CSA Materials, Inc.
Tom Green	San Angelo	Delek Marketing and Supply LP – San Angelo Products Terminal
Tom Green	San Angelo	Endura Products Corp.
Tom Green	San Angelo	Ethicon Inc.
Tom Green	San Angelo	Fort Concho Gas Storage, Inc.
Tom Green	San Angelo	Goodyear Proving Grounds
Tom Green	San Angelo	Green, J. Wiley "A" Lease
Tom Green	San Angelo	Green, J. Wiley "B" Lease
Tom Green	San Angelo	Guinn
Tom Green	San Angelo	Guinn ôAö
Tom Green	San Angelo	Hirschfeld Steel Group LP
Tom Green	San Angelo	Ingram – San Angelo Plant # 1 Plant
Tom Green	San Angelo	Ingram – San Angelo Plant # 2 Plant
Tom Green	San Angelo	Jones
Tom Green	San Angelo	Jones ôAö
Tom Green	San Angelo	Jones ôCö
Tom Green	San Angelo	Jones, E. D. ôAö
Tom Green	San Angelo	Lone Star Beef Processors LLC
Tom Green	San Angelo	McGill #5, 6, 8
Tom Green	San Angelo	MISS ELA

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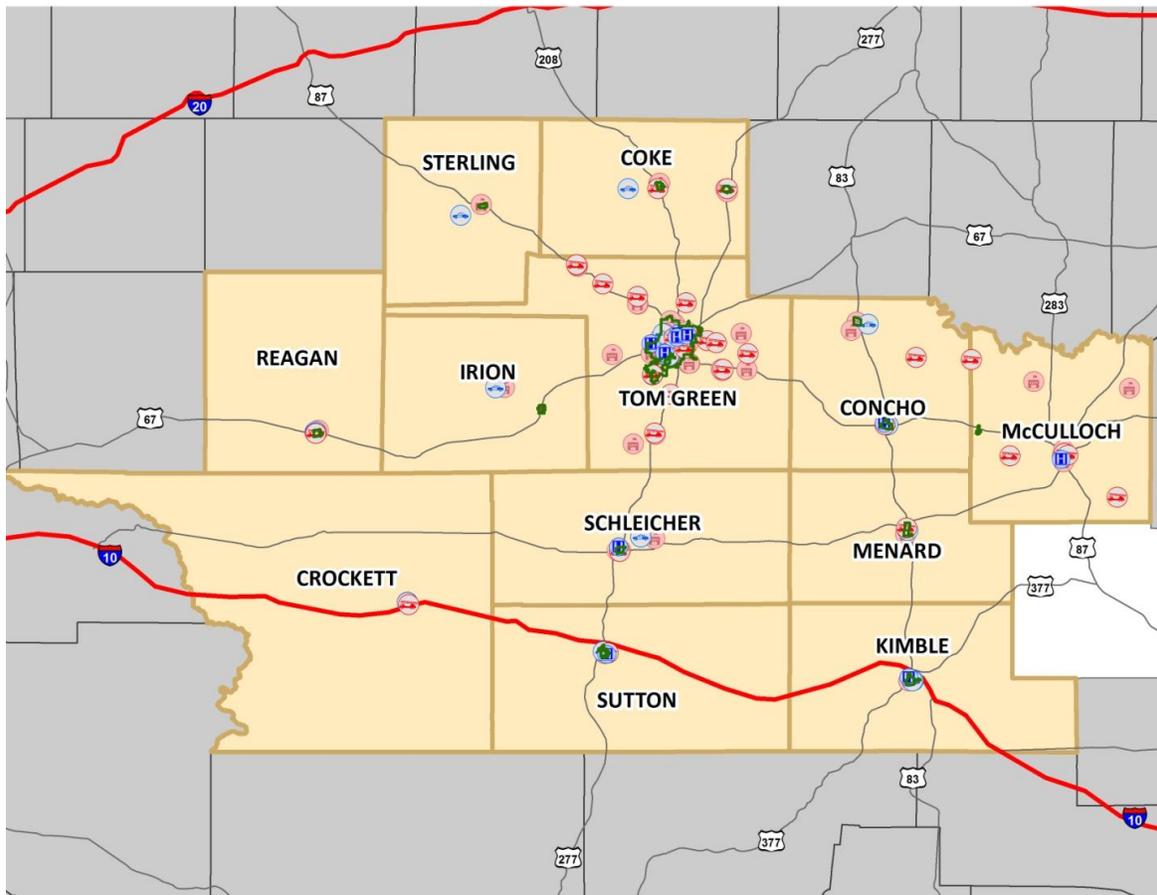
COUNTY	JURISDICTION	FACILITY NAME
Tom Green	San Angelo	Pflugler A Tank Battery 2
Tom Green	San Angelo	Pflugler A Tank Battery 3
Tom Green	San Angelo	Pflugler A Tank Battery 4
Tom Green	San Angelo	Pflugler B Tank Battery 1
Tom Green	San Angelo	Pflugler B Tank Battery 2
Tom Green	San Angelo	Pflugler D Tank Battery 1
Tom Green	San Angelo	Pflugler D Tank Battery 2
Tom Green	San Angelo	Pflugler N Tank Battery 1
Tom Green	San Angelo	Ralph Wilson A – Byrd Operating Co.
Tom Green	San Angelo	Ralph Wilson Lease – Byrd Operating Co.
Tom Green	San Angelo	Ranger Aviation FBO
Tom Green	San Angelo	Ranger Aviation Fuel Storage
Tom Green	San Angelo	Rape #1 Lease
Tom Green	San Angelo	Republic Waste Services, Trashaway San Angelo Landfill
Tom Green	San Angelo	Robertson, J.D. C #1 Lease
Tom Green	San Angelo	Robertson, J.D. C #3 Lease
Tom Green	San Angelo	Ruth Lease
Tom Green	San Angelo	Ryan
Tom Green	San Angelo	SamÆs Club #4948
Tom Green	San Angelo	San Angelo Coca-Cola
Tom Green	San Angelo	San Angelo Packing Co., Inc.
Tom Green	San Angelo	Sawyer
Tom Green	San Angelo	Schuch B Lease – Byrd Operating Co.
Tom Green	San Angelo	Simpson – Mann
Tom Green	San Angelo	Simpson – Mann ôAö
Tom Green	San Angelo	Simpson – Mann ôBö
Tom Green	San Angelo	Sugg E Tank Battery 1
Tom Green	San Angelo	Sugg E Tank Battery 2
Tom Green	San Angelo	Sugg H Tank Battery 1
Tom Green	San Angelo	TD
Tom Green	San Angelo	The Home Depot Store #6807
Tom Green	San Angelo	TNC – Bluffs Substation
Tom Green	San Angelo	TNC – San Angelo Distribution Service Center
Tom Green	San Angelo	TNC – San Angelo Power Station Substation
Tom Green	San Angelo	TNC – San Angelo Transmission Services
Tom Green	San Angelo	Twin Buttes Substation
Tom Green	San Angelo	TxDOT – San Angelo – San Angelo District Complex
Tom Green	San Angelo	TxDOT – San Angelo – San Angelo Maintenance Facility
Tom Green	San Angelo	United Services Automobile Association (USAA)
Tom Green	San Angelo	Verdad Oil & Gas Corp – Munn 1127 – 1
Tom Green	San Angelo	Verdad Oil & Gas Corp - Tweedy 3, 5

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COUNTY	JURISDICTION	FACILITY NAME
Tom Green	San Angelo	Verizon San Angelo Lake Nasworthy RSU (TX5178007)
Tom Green	San Angelo	Whitehead "A-1" Lease
Tom Green	Vancourt	Tom Green County Facilities
Tom Green	Wall	Crouch Dierschke/Schniers
Tom Green	Wall	Crouch Dierschke/Wall School
Tom Green	Wall	Schniers
Tom Green	Wall	Wall School – Pritz Unit
Tom Green	Wall	Wilde No. 1

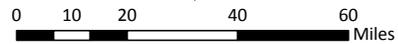
Critical Facilities

Estimated Critical Facilities Placement in CVCOG



LEGEND

- Health Care Facility
- Fire Station
- Police Station
- School
- CVCOG County
- Participating Municipality
- Non-Participating County
- Surrounding Counties
- Interstates
- U.S. Highways



Appendix D

Georeferenced Critical Facilities in Participating Jurisdictions¹

COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Coke	Bronte	Bronte Elementary	School	\$1,246
Coke	Bronte	Bronte High	School	\$1,246
Coke	Bronte	Bronte Volunteer Fire Station	Fire Station	N/A
Coke	Bronte	Juvenile Detention Center	School	\$6,338
Coke	County	Coke County Sheriff	Police Station	\$1,246
Coke	Robert Lee	Grape Creek Special Campus	School	\$16,889
Coke	Robert Lee	Miles VOC Training (MVT)	School	\$4,534
Coke	Robert Lee	Robert Lee Elementary	School	\$5,397
Coke	Robert Lee	Robert Lee High	School	\$4,753
Coke	Robert Lee	Robert Lee Volunteer Fire Station	Fire Station	N/A
Coke	Robert Lee	Trinity EC	School	\$14,470
Coke	Robert Lee	Water Valley VOC	School	\$699
Concho	County	Concho County Sheriff	Police Station	N/A
Concho	County	Concho County Sheriff Office	Police Station	\$1,246
Concho	County	Millersview Volunteer Fire Station	Fire Station	\$5,661
Concho	Eden	Concho County Hospital	Medical	N/A
Concho	Eden	Eden Elementary	School	\$6,097
Concho	Eden	Eden High	School	\$3,366
Concho	Eden	Eden Police Department	Police Station	N/A
Concho	Eden	Eden Volunteer Fire Station	Fire Station	\$5,397

¹ Source: HAZUS-MH MR3

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COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Concho	Eden	Fairview VOC Training	School	\$3,908
Concho	Eden	Wall Special Programs	School	\$2,150
Concho	Eden	Water Valley VOC	School	\$1,887
Concho	Paint Rock	Paint Rock School	School	N/A
Irion	Mertzon	Irion County Sheriff	Police Station	N/A
Irion	Mertzon	Irion Elementary	School	N/A
Irion	Mertzon	Irion High	School	\$2,693
Kimble	Junction	Junction Elementary	School	\$989
Kimble	Junction	Junction High	School	N/A
Kimble	Junction	Junction Middle	School	N/A
Kimble	Junction	Junction Police Department	Police Station	\$1,246
Kimble	Junction	Kimble County Sheriff	Police Station	\$330
Kimble	Junction	Kimble Hospital	Medical	N/A
McCulloch	County	Alternative Education Program	School	\$980
McCulloch	County	Brady Elementary	School	\$140
McCulloch	County	Brady Fire Department	Fire Station	\$20,458
McCulloch	County	Brady Fire Station	Fire Station	N/A
McCulloch	County	Brady High	School	\$127
McCulloch	County	Brady Middle	School	\$648
McCulloch	County	Doole Volunteer Fire Station	Fire Station	\$1,246
McCulloch	County	Heart of Texas Memorial Hospital	Medical	N/A
McCulloch	County	Lohn School	School	\$14,374
McCulloch	County	McCulloch County Sheriff	Police Station	\$11,820

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COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
McCulloch	County	North Ward Private	School	\$11,952
McCulloch	County	Rochelle School	School	\$305
McCulloch	County	Rochelle Volunteer Fire Station	Fire Station	\$10,961
McCulloch	County	Voca Volunteer Fire Station	Fire Station	\$1,246
McCulloch	Melvin	Melvin Fire Department	Fire Station	N/A
Menard	Menard	Menard County Sheriff	Police Station	\$3,647
Menard	Menard	Menard Elementary	School	N/A
Menard	Menard	Menard High	School	N/A
Menard	Menard	Menard Junior High	School	N/A
Menard	Menard	Menard Volunteer Fire Station	Fire Station	\$1,246
Reagan	Big Lake	Big Lake Volunteer Fire Station	Fire Station	\$925
Reagan	Big Lake	Reagan County Elementary	School	\$9,685
Reagan	Big Lake	Reagan County High	School	\$5,193
Reagan	Big Lake	Reagan County Middle	School	\$102
Reagan	Big Lake	Reagan County Sheriff	Police Station	\$1,246
Reagan	Big Lake	Reagan County Sheriff Dept	Police Station	\$1,246
Reagan	Big Lake	Reagan County Volunteer Fire Station	Fire Station	N/A
Schleicher	Eldorado	Eldorado Elementary	School	\$1,550
Schleicher	Eldorado	Eldorado High	School	\$1,550
Schleicher	Eldorado	Eldorado Middle	School	\$1,550
Schleicher	Eldorado	Eldorado Volunteer Fire Station	Fire Station	\$4,126
Schleicher	Eldorado	Schleicher County Medical Center	Medical	\$1,550

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COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Schleicher	Eldorado	Schleicher County Sheriff	Police Station	\$102
Schleicher	Eldorado	Schleicher County Sheriff	Police Station	\$38
Sterling	Sterling City	Sterling City Elementary	School	\$1,550
Sterling	Sterling City	Sterling City High	School	\$22
Sterling	Sterling City	Sterling City Junior High	School	\$9
Sterling	Sterling City	Sterling County Sheriff	Police Station	\$1,550
Sutton	Sonora	Lillian M Hudspeth Memorial Hospital	Medical	\$390
Sutton	Sonora	Sutton County Sheriff	Police Station	\$267
Sutton	Sonora	Sonora Police Department	Police Station	\$5,826
Tom Green	County	Carlsbad Volunteer Fire Station	Fire Station	\$5,149
Tom Green	County	Christoval Elementary	School	\$4,142
Tom Green	County	Christoval High	School	N/A
Tom Green	County	Christoval Volunteer Fire Station	Fire Station	\$2,743
Tom Green	County	East Concho Volunteer Fire Station	Fire Station	\$1,297
Tom Green	County	Eola Volunteer Fire Station	Fire Station	\$6,452
Tom Green	County	Grape Creek Volunteer Fire Station	Fire Station	\$3,516
Tom Green	County	Montgomery Drive Volunteer Fire Station	Fire Station	\$3,961
Tom Green	County	Pecan Creek Volunteer Fire Station	Fire Station	\$1,246

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COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Tom Green	County	Quail Valley Volunteer Fire Station	Fire Station	\$445
Tom Green	County	Special Ed Campus	School	\$3,019
Tom Green	County	Veribest Elementary	School	\$880
Tom Green	County	Veribest High	School	\$1,054
Tom Green	County	Veribest PPCD	School	N/A
Tom Green	County	Wall Elementary	School	\$1,969
Tom Green	County	Wall High	School	\$1,296
Tom Green	County	Wall Middle	School	N/A
Tom Green	County	Wall PPCD	School	N/A
Tom Green	County	Wall SP PROG	School	\$1,246
Tom Green	County	Wall Volunteer Fire Station	Fire Station	\$3,102
Tom Green	County	Water Valley Accelerated	School	N/A
Tom Green	County	Water Valley Elementary	School	N/A
Tom Green	County	Water Valley High	School	\$4,241
Tom Green	County	Water Valley PPCD	School	\$3,379
Tom Green	County	Water Valley VOC Train	School	\$1,568
Tom Green	County	Water Valley Volunteer Fire Station	Fire Station	\$1,655
Tom Green	County	Water Valley VT	School	\$1,633
Tom Green	San Angelo	Alta Loma Elementary	School	\$356
Tom Green	San Angelo	Angelo Catholic School	School	\$6,289
Tom Green	San Angelo	Angelo Christian School	School	\$7,411
Tom Green	San Angelo	Austin Elementary	School	\$10,252
Tom Green	San Angelo	Belaire Elementary	School	\$3,974
Tom Green	San Angelo	Blackshear Head Start	School	\$3,930
Tom Green	San Angelo	Bonham Elementary	School	N/A

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COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Tom Green	San Angelo	Bowie Elementary	School	\$11
Tom Green	San Angelo	Bradford Elementary	School	\$1,550
Tom Green	San Angelo	C B P	School	\$5,744
Tom Green	San Angelo	Carver Alter Learn Center	School	\$3,734
Tom Green	San Angelo	Central Freshman Campus	School	\$11
Tom Green	San Angelo	Central High	School	N/A
Tom Green	San Angelo	Cornerstone Christian School	School	N/A
Tom Green	San Angelo	Crockett Elementary	School	\$3,048
Tom Green	San Angelo	Day Head Start	School	\$980
Tom Green	San Angelo	Fairview Accelerated	Police Station	\$330
Tom Green	San Angelo	Fairview Accelerated	School	\$1,397
Tom Green	San Angelo	Fairview Accelerated DAEP	School	N/A
Tom Green	San Angelo	Fairview Behavior Adjustment	School	\$1,246
Tom Green	San Angelo	Fannin Elementary	School	\$1,246
Tom Green	San Angelo	Ft Concho Elementary	School	\$1,246
Tom Green	San Angelo	Glenmore Elementary	School	\$1,246
Tom Green	San Angelo	Glenn Middle School	School	\$1,550
Tom Green	San Angelo	Goliad Elementary	School	\$26,559
Tom Green	San Angelo	Goodfellow Air Force Base Fire Department	Fire Station	N/A
Tom Green	San Angelo	Grape Creek BAC	School	\$9,564
Tom Green	San Angelo	Grape Creek Elementary	School	\$13,396
Tom Green	San Angelo	Grape Creek High	School	\$12,679
Tom Green	San Angelo	Grape Creek Middle	School	\$9,013
Tom Green	San Angelo	Grape Creek Special Program	School	\$263
Tom Green	San Angelo	Harris Avenue Baptist Church	School	\$10,664

Appendix D

COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Tom Green	San Angelo	Holiman Elementary	School	\$1,550
Tom Green	San Angelo	Homebound	School	N/A
Tom Green	San Angelo	Juvenile Justice Center	School	N/A
Tom Green	San Angelo	Lake View High	School	N/A
Tom Green	San Angelo	Lee Middle School	School	N/A
Tom Green	San Angelo	Lincoln Middle School	School	\$7,940
Tom Green	San Angelo	McGill Elementary	School	\$4,331
Tom Green	San Angelo	Police Department – Crime Prevention	Police Station	\$1,246
Tom Green	San Angelo	Reagan Elementary	School	\$3,320
Tom Green	San Angelo	Rio Vista Head Start	School	N/A
Tom Green	San Angelo	River Crest Hospital	Medical	N/A
Tom Green	San Angelo	S A C	School	N/A
Tom Green	San Angelo	San Angelo Airport Police	Police Station	\$1,246
Tom Green	San Angelo	San Angelo City Marshall	Police Station	\$6,655
Tom Green	San Angelo	San Angelo Community Medical Center	Medical	N/A
Tom Green	San Angelo	San Angelo Fire Department	Fire Station	\$914
Tom Green	San Angelo	San Angelo Park Police	Police Station	N/A
Tom Green	San Angelo	San Angelo Regional Airport Fire Department	Fire Station	N/A
Tom Green	San Angelo	San Angelo Special Programs	School	\$5,481
Tom Green	San Angelo	San Angelo State School	School	\$1,246
Tom Green	San Angelo	San Jacinto Elementary	School	\$1,350
Tom Green	San Angelo	Santa Rita Elementary	School	N/A

Appendix D

COUNTY	JURISDICTION	NAME	TYPE	COST (In Thousands)
Tom Green	San Angelo	SCCI Hospital – San Angelo	Medical	\$2,264
Tom Green	San Angelo	Shannon Medical Center	Medical	\$853
Tom Green	San Angelo	St Thomas Episcopal School	School	\$4,255
Tom Green	San Angelo	Tom Green County Sheriff	Police Station	\$13,310
Tom Green	San Angelo	Trinity Early Childhood	School	\$3,915
Tom Green	San Angelo	Trinity Lutheran School	School	\$1,246
Tom Green	San Angelo	Veribest DAEP	School	\$1,246
Tom Green	San Angelo	Wall Special Program (FLC/BAC)	School	\$1,246

APPENDIX E

WORKSHOP DOCUMENTATION 1
 PLANNING TEAM AND PUBLIC MEETING DOCUMENTATION 4
 NOTICES..... 5

Workshop Documentation

This Appendix is **For Official Use Only (FOUO)** and may be exempt from public release under the Freedom of Information Act (FOIA).

The Concho Valley Council of Governments (CVCOG) held a series of planning team workshops: one Kickoff Workshop on October 20th; one Risk Assessment Workshop on April 19th; and two Mitigation Workshops on July 27th and 28th. At each of these workshops, stakeholders were informed of steps in the planning process and expressed opinions and volunteered information as necessary. The sign in sheets for each workshop are included below. Public meetings followed each series of workshops and sign in documentation is included in this section as well. For more details on the workshops and planning process, see Section 2.

Figure E-1. Kickoff Workshop, 10.20.10




Concho Valley Council of Governments
Hazard Mitigation Plan Update
Kickoff Workshop
October 20, 2010
SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Micah Gonzalez	CVCOG	325/944-9666	micah@cvcog.org
Roy Blair	Coke Co	325/762-0103	Roy.Blair@co.coke.tx.us
Bea Ramsey	CVCOG	325/234-2453	bea@cvcog.org
Teresa Covey	CASA/TCO adm	325-457-2289	teresa.covey@sanangelo.com
Danny Neal	McCallum Co	325-486-8500	judgenal@hotmail.com
Joe Rousler	McCallum Co	325-597-1461	CRISLER@co.mcallum.tx.us
Richard Lyden	Marathon Co	325 376 4989	
Albert Rodriguez	CVCOG	325-944-9666	albert@cvcog.org
David Denton	Crockett County	325-392-2965	David.Denton@co.crockett.tx.us
Sharon Key	City of Merid	325-396-4706	meridsharonkey@cityofmerid.com
Billy Thomas	City of Ector	325-965-2211	billthomas@cityofector.com
Zac Pope	ASU	325-942-2140	zpope@angelo.edu

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H₂O PARTNERS

Concho Valley Council of Governments
 Hazard Mitigation Plan Update
 Kickoff Workshop
 October 20, 2010

SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Judy Miller	City Mgr. City of Sonora	325-3512555, x315	jmiller@sonoratax.net
Tim Sacrett	Sonora Police Dept. Chief	325-397-3938	timjacrett@sonoratax.us
Steve Milled	Tam Green Co.	325-655-8111	steve.milled@tamgreencounty.us
Jim Johnson	Mulvin Twp. Councilmember	325-286-4361	jjohnson@mulvintwp.com
Leon Spender	Taylor County	325-835-9361	leon.spender@taylorcountytexas.us
Jeff Whitson	Menard O&M	325-346-5046	jwhit54@yahoo.com
Alfred Amos	Comanche Co JUDGE	325-732-4541	amosalfred@comanchecountytx.com
Hj Turner	S&S	325-374-6708	h.turner@stss.com
Ron Perry	OS&M/Menard Co. E&M	325-657-4230	ron.perry@menardcountytexas.us
Salbu Jones	Steele County	325-378-3481	rsalbu@steelecountytexas.us
Mike Amos	Smithson County	325-655-3312	mike.amos@smithsoncountytexas.us
Tim Luboff	CCSA, Stormwater Engineer	325-657-4202	tim.luboff@sanangelo.com



H₂O PARTNERS

Concho Valley Council of Governments
 Hazard Mitigation Plan Update
 Kickoff Workshop
 October 20, 2010

SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Pat Martindale	City of Bowie, City Secretary	325/773-2048	martindale@bowietexas.net
Ray Jones	City of Robert Lee, City Secretary	325/452-2331	robjones@robertleetexas.net
Quinn Walker	CCSA City Engineer	325-657-4203	quinn.walker@ccsa-texas.us
Ann Clark	Comanche County	325-732-4321	annclark@comanche.com
Charlie Bradley	Schleicher County	325-853-2766	charlie1982@gmail.com
T.J. Rodriguez	Schleicher County	853-3456	t.rodriguez@hotmail.com
Jerry Huffman	TDEM RLO	325-513-2618	jerry.huffman@txdps.state.tx.us

Figure E-2. Risk Assessment Workshop, 4.20.11



H₂O PARTNERS

Concho Valley Council of Governments
 Hazard Mitigation Plan Update
 Risk Assessment Workshop
 April 20, 2011

SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Tom Aiken	Organization & Title	325-835-4361	tom@kenzie.com
Ralph Sims	Sterling County Judge	325-378-3481	ralph@sterlingcountytx.us
Albert Rodriguez	COCOG	325-944-9666	albert@cvcoq.org
Teresa Carey	Coke Co	325-657-9289	teresa@cokecountytexas.us
Allison Amos	Comanche Co Judge	325-772-4132	amallison@comanche-county-texas.us
Craig Eissler	H2O Partners	512-465-9695	craig@h2opartners.com

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Figure E-3. Mitigation Workshop, 7.27.11



H₂O PARTNERS

CVCOG Hazard Mitigation Plan Update
 Mitigation Workshop
 July 27, 2011

SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Roger Loney	Robertson	325-453-2851	robert@robertson.com
James Kim	CVCOG	325-453-4531	Jim@cvcoq.org
David Hall	Schleicher County Judge	325-853-2776	dhall@schleichercountytx.us
Nicole Gonzalez	City of San Angelo	325-651-4434	nicole@sanangelo.texas.gov
Roy Blain	Coke Co	325-657-3264	roy.blain@cokecountytexas.us
Shirley Allen	City of Brown	325-287-2338	shirley@brown-texas.gov
Ron Perry	City of Stephens	325-657-9230	ron.perry@stephens-texas.gov
Teresa Carey	"	325-657-9289	teresa@cokecountytexas.us
Albert Rodriguez	COCOG	325-944-9666	albert@cvcoq.org
Jeff Whitson	Monroe Co	409-425-1251	jeff@monroecountytx.us

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Figure E-4. Mitigation Workshop, 7.28.11



H₂O PARTNERS

CVCOG Hazard Mitigation Plan Update
Mitigation Workshop
July 28, 2011
SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Tom Allen	Judge	325-835-4361	
Fred Deaton	Crockett County Judge	325-381-3945	
Ralph Sides	Steering Comm. Judge	(325) 373-1181	rsides@co.choctaw.tx.us
Allen Sims	Choche County Judge	(325) 732-4321	cochejudge@yahoo.com
Cap M... ..	1120 Ave		
M... ..	"		
Albert Red... ..	CVCOG		
Nichole G... ..	CVCOG		

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Planning Team and Public Meeting Documentation

As discussed in Section 2, a series of three public meetings were held following each of the workshops. Documentation in the form of sign in sheets for each of the meetings follows. However, there isn't any documentation for the October 20, 2010 public meeting because no one from the public attended the meeting.

Figure E-5. Public Meeting, 4.19.11



H₂O PARTNERS

Concho Valley Council of Governments
Hazard Mitigation Plan Update
Public Meeting
April 19, 2011
SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
Craig... ..	H2O Partners	512-328-4151	craig@h2opartnersusa.com
...	H2O Partners	512-469-9695	craig@h2opartnersusa.com
...	CVCOG	915-548-9666	albert@cvco.gov

Figure E-6. Public Meeting, 7.27.11



H₂O PARTNERS

CVCOG Hazard Mitigation Plan Update
 Hazard Mitigation, Public Meeting
 July 27, 2011

SIGN-IN SHEET

Name	Organization & Title	Phone/Fax	Email
<i>Robert Rodriguez</i>	<i>CVCOG</i>	<i>325-944-9666</i>	<i>grb@cvcoq.org</i>
<i>Nicole Gonzalez</i>	<i>CVCOG</i>	<i>325-944-9666</i>	<i>nicole@cvcoq.org</i>
<i>Rayman</i>	<i>H2O</i>	<i>818-324-4751</i>	<i>calvin.brown@h2opartners.com</i>
<i>Melissa Jones</i>	<i>H2O</i>	<i>"</i>	<i>melissa@h2opartners.com</i>

Notices

A public notice to announce CVCOG’s participation in the Hazard Mitigation Plan Update was posted for both public meetings.

Figure E-7. Public Notice, 4.19.11

The Concho Valley Council of Governments (CVCOG) will hold a public meeting as part of an ongoing effort to develop the 2010 Hazard Mitigation Plan Update, "*Hazard Mitigation Plan Update for the CVCOG Region*" The meeting will be held:

Where: Concho Valley Regional Training Center
2801 W. Loop 306, Ste A
San Angelo, TX 76904

When: April 19, 2011
Time: 6:00 p.m.

Driving Directions:

The purpose of the open meeting is to provide a project overview and solicit information from the community that can help the project team in identifying and analyzing hazards affecting residents, as well as recommending possible actions that can be taken to reduce the impact of those hazards. **The public is invited and encouraged to attend the meeting.** If you cannot attend the public meeting, information about the planning process and a public participation survey are available at <http://www.surveymonkey.com/s/5N7BC3J>.

The goal of the Hazard Mitigation Plan for CVCOG is to minimize or eliminate the long-term risk to human life and property from known hazards by identifying and implementing cost-effective mitigation actions. *Mitigation* is defined by FEMA as *sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects.*

Questions about the Hazard Mitigation Plan should be addressed to H2O Partners, planning consultants

Figure E-8. Public Notice, 7.27.11

The Concho Valley Council of Governments (CVCOG) will hold a public meeting as part of an ongoing effort to develop the 2010 Hazard Mitigation Plan Update, "*Hazard Mitigation Plan Update for the CVCOG Region*" The meeting will be held:

Where: Concho Valley Regional Training Center
2801 W. Loop 306, Ste A
San Angelo, TX 76904

When: July 27, 2011
Time: 6:00 p.m.

Driving Directions:

The purpose of the open meeting is to provide a project overview and solicit information from the community that can help the project team in identifying and analyzing hazards affecting residents, as well as recommending possible actions that can be taken to reduce the impact of those hazards. **The public is invited and encouraged to attend the meeting.** If you cannot attend the public meeting, information about the planning process and a public participation survey are available at <http://www.surveymonkey.com/s/5N7BC3J>.

The goal of the Hazard Mitigation Plan for CVCOG is to minimize or eliminate the long-term risk to human life and property from known hazards by identifying and implementing cost-effective mitigation actions. *Mitigation* is defined by FEMA as *sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects.*

Questions about the Hazard Mitigation Plan should be addressed to H2O Partners, planning consultants