

LOGAN COUNTY PLANNING ELEMENT



Logan County Planning Subcommittee

The following entities participated in the DMA planning process through the Logan County Planning Subcommittee (CPS) both in 2004 and in 2009. More details on the planning process followed and how the County, municipalities and stakeholders participated can be referenced in Chapter 3 of the base plan. Additional details on what local government departments participated and who represented them are listed in Appendix C.

Participating Jurisdictions	Stakeholders
Logan County Emergency Management (Lead) Sheriff's office	Highline Electric Association* North Sterling and Prewitt Reservoirs* LifeCare Ambulance Service*
City of Sterling Fire Department Police Department Building Department	Centennial Chapter of the American Red Cross* Northeast Colorado Health Department* Colorado Department of Public Safety* Bravo Ditch Company
Town of Peetz	Farmer's Pawnee Canal Company
Town of Crook	Spring Dale Ditch Company
Town of Fleming	Sterling Irrigation Company
Town of Iliff	Colorado State Forest Service
Town of Merino	Colorado Division of Emergency Management
Sterling Rural Fire Protection District	
Crook Fire Protection District	
Buffalo School District	
RE-1 Valley School District	
RE-4J Merino Schools	
RE-5 Plateau School District	
Fleming School District	
Iliff Platte Valley Drainage District	
Logan County Water Conservancy District	

* Stakeholders that attended planning meetings.

County Profile

Logan County is located in the northern region of the State in the Great Plains. Municipalities in the County include Sterling, Peetz, Crook, Fleming, Iliff, and Merino, with Sterling being the population base. The land area of Logan County is 1,839 square miles. According to the 2000 U.S. Census, the population for Logan County was 20,504. The 2008 population estimate from the Census is 20,780. The estimated population density for the County is 11.3 people per square mile. Logan County grew at a rate of 16.7%

between 1990 and 2000. The County grew 1.3% between 2000 and 2008, indicating the population growth trend is slowing. There are 8,737 housing units in the County, for an average housing density of 4.75 housing units per square miles.¹ As of the 2005-2007 American Community Survey 3-Year Estimates, the average age in the County is 37.7 years. 5.9% of the population is under the age of 5 and 14.2% of the population is over the age of 65. The average household size is 2.33, and the average family size is 2.90. 84.0% of the population over the age of 25 holds at least a high school degree and 27.0% hold a bachelors level degree or higher. 16.4% of the population (over age 5) holds disability status, and there are not measurable demographics to determine the population (over age 5) speaks a language other than English in the home. 4.3% of all families live below the poverty level, and 8.7% of individuals live below poverty level.² The County is home to the major community of Sterling, while the remainder is predominantly agricultural. The 2007 Census of Agriculture reports 1,035 farms, with 1,132,299 acres of total farmland. This accounts for 96% of the total County area. The average farm size is 1,094 acres. A base map of the County can be referenced in Figure 1.

Hazard Identification and Summary

Logan County's planning team identified the hazards that affect the County and summarized their frequency of occurrence, special extent, potential magnitude, and significance specific to Logan County. This information is presented in Table 1. A detailed description of each hazard can be found in Section 4.2 Hazard Profiles.

¹ U.S. Census Bureau: State and County QuickFacts, as documented on the Logan County Emergency Management Webpage at <http://readynortheast.org/Logan.html>

² U.S. Census Bureau: Cheyenne County, Colorado – Fact Sheet 0 American FactFinder. www.factfinder.census.gov

Table 1. Logan County Hazard Summary

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance
Biological Hazards				
Pestilence	Extensive	Occasional	Limited	Medium
Plague*	Limited	Likely	Limited	Medium
Blizzards & Severe Winter Storms	Extensive	Likely	Critical	High
Dam Failures & Levee Failures	Limited	Likely	Limited	Medium
Drought	Extensive	Likely	Critical	High
Earthquake	Limited	Occasional	Limited	Low
Flooding	Significant	Likely	Critical	High
Fog	Significant	Likely	Negligible	Low
Hailstorms	Extensive	Highly Likely	Limited	Medium
Land Subsidence	Limited	Likely	Negligible	Low
Landslides	Limited	Occasional	Negligible	Low
Lightning	Extensive	Highly Likely	Limited	Medium
Noxious Weeds	Extensive	Highly Likely	Negligible	Low
Straight-Line Winds	Extensive	Highly Likely	Limited	High
Temperature Extremes	Extensive	Highly Likely	Limited	Low
Tornados	Extensive	Likely	Critical	High
Wildland & Grassland Fires	Extensive	Highly Likely	Limited	High

* Some zoonotic hazards have higher or lower ratings than those reflected here, based on individual datasets.

Geographic Extent

Limited: Less than 10% of planning area
 Significant: 10-50% of planning area
 Extensive: 50-100% of planning area

Probability of Future Occurrences

Highly Likely: Near 100% chance of occurrence in next year, or happens every year.
 Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
 Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
 Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity

Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
 Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
 Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability
 Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Significance

Low: minimal potential impact
 Medium: moderate potential impact
 High: widespread potential impact

Logan County History of Recorded Natural Hazard Losses

In the 2008 State Hazard Mitigation Plan, the County identified flooding, winter storms and drought as the most frequent hazards experienced in the County.³ In 1997, Sterling and Atwood were struck by a flood along Pawnee Creek that resulted in over \$19 million dollars in damages and a Federal Disaster Declaration. A summary of the past hazard events are captured in Table 2 and in the text that follows.

Table 2. Historic Hazard Events

Date	Event	Location	Damages	Other Info	Data Source
1844	Flood			"Bluff to Bluff"	USACE
1864	3 Floods			May & June	USACE
May, 1876	Flood				USACE
June 2, 1894	Flood	S. Platte		"Two Miles Wide"	USACE
1921	Flood	S. Platte			USACE
1935	Flood	Crook, Pawnee Cr.		Up to UPRR grade	USACE
Sept. 1938	Flood	Tributaries to S. Platte			USACE
May 1942	Flood	S. Platte			USACE
May 1949	Flood	S. Platte			USACE
12/31/1949	Blizzard			2-3 day storm	Planning Team
May 31, 1965	Flood	S. Platte, Pawnee Cr.			USACE
Aug. 13, 1968	Flood			11" rain	NCDC
May 8, 1969	Flood	S. Platte		Fed. Dec. 15 cty	USACE
April, 1973	Flood	S. Platte			USACE
3/17.1977	Blizzard		HEA lost 250 poles, ice damage	Power out 2 weeks	
1980	Grasshoppers			State Dec	CO-OEM
1980	Flood			State Dec	CWCB/CO-OEM
1981	Grasshoppers			State Dec	CO-OEM

³ 2008 State Hazard Mitigation Plan

Date	Event	Location	Damages	Other Info	Data Source
June, 1995	Flood		\$261,200	Road damage	CWCB
June 6, 1997 - July, 1997	Flood (Fed. # 1186)	Atwood, Pawnee Creek	1,300 hms/St. @ \$8.931M 100 hms/At @ \$872.5K 200 Bus/St @ \$1.374M Ag. Damage @ \$6.850M Roads \$1M, RR - \$100K	Total of \$19.090M 13 homes destroyed \$604.6K TH \$210K IFG (75%) \$3.215M berm/levees	FEMA CWCB CO-OEM Planning Team
1998	Hail/Tornado	Crook			NCDC
2000	Hail				NCDC
2000	Drought (USDA Dec)			Contiguous County	USDA
April 2001	Winter Storm Fed #1374		HEA lost 260 poles, ice damage = \$390,660	REA's damaged	REA
July 13-14, 2001	Severe Weather				Planning Team
2002	Drought		Over \$1B in NE Colorado		Planning Team/ FSA
6/9/2004	Tornado	Sterling	\$1.9M	The total economic impact to Sterling which also involved cleanup and repair was estimated to be between \$5 million and \$7 million.	NCDC
12/20/2004	T-Storm/High Wind	Entire County	\$400K	60 mph winds	NCDC
4/19/2005	Hail	Padroni	N/A	2.75" hail	NCDC
7/16/2008	Flood	Fleming	\$15K	Heavy rain damaged corn crops and washed out several county roads; spotters measured up to 4 inches of rainfall.	NCDC

(NCDC Filters Applied: Tornadoes ≥ F1; Hail ≥ 2"; Wind ≥ 75 MPH)

Hazard History in Logan County from 1950-2008 (58 years):

Dams:

- 3 Class I (High Hazard) Dam (N. Sterling-"Point of Rocks reservoir"),
- 0 Class II (Significant Hazard) Dams;

Julesburg (Jumbo) Reservoir is on the eastern County border and is owned by Julesburg Irrigation.

Levees: There are no official levees noted on FIRM maps. Railroad embankments and irrigation ditches sometimes behave like levees.

Drought Incidents: 6 (regional occurrence)

Dust Storm: 0

Earthquake: No risk according to CGS evaluation.⁴

Extreme Temperatures:

- Highest Recorded Temperature in County: 110°F
- Lowest Recorded Temperature in County: -35°F
- Severe Cold Events:

Floods and Flash Floods: 11

Hailstorms: 20

Landslide: Isolated areas of Suspected Moderate Risk (2008 State Hazard Mitigation Plan)

Lightning: Averages 8,500 strikes per year, 0 injuries and 1 death from 1980-2005

Severe Windstorms: 119

Severe Winter Weather: 17

Tornadoes: (F1 or greater) 25 (Any size) 76

Wildfires: (Crook Fire District: 420 incidents between 1971-2002; (approximately 14/per year)

NOTE: Grass Fires are only a small percentage of the total number of calls fielded and responded to.

West Nile: 111 human illnesses, 2 human deaths as of 2008

Total Reported Injuries: 30 + 111 West Nile Virus cases

Total Reported Fatalities: 4 + 2 West Nile Virus cases

Logan County Vulnerability Assessment

The intent of this section is to assess Logan County's vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 4.3 Vulnerability Assessment in the main plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the Region as a whole, see Chapter 4 Risk Assessment in the main plan.

⁴ CGS, Earthquake Evaluation Report. See Earthquake Section in Hazard Identification Chapter for further explanation of risk.

Assets at Risk

This section identifies Logan County's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends. Two data sources are used: assessed valuations, as available, and HAZUS-MR3 databases. The HAZUS building exposure (includes building counts, value of building structure and contents) is shown in Table 3.

Total Values at Risk from Hazards:

- **Crook:** 115 buildings valued @ \$3,361,948
- **Fleming:** 68 buildings valued @ \$2,234,019
- **Iliff:** \$8.1M in assessed property
- **Merino:** \$12.2M in assessed property
- **Sterling:** \$661.4M in assessed property
- **Unincorporated County:**
 - \$576.11M in Residential Property
 - \$111.31M in Commercial Property
 - \$ 15.66M in Industrial Property
 - \$ 98.21M in Agricultural Property
 - \$ 87.86M in Public Utilities

Table 3. Building Exposure

City	Population	Building Count	Building Exposure (\$)	Building Content	Total Exposure
Crook	128	146	10,207,000	6,737,000	16,944,000
Fleming	426	384	25,038,000	15,547,000	40,585,000
Iliff	213	130	12,811,000	7,934,000	20,745,000
Merino	246	138	13,818,000	8,609,000	22,427,000
Peetz	227	142	13,316,000	8,638,000	21,954,000
Sterling	11,267	6,535	870,044,000	641,088,000	1,511,132,000
Logan County	7,997	4,437	424,525,000	275,889,000	700,414,000
Total	20,504	11,912	1,369,759,000	964,442,000	2,334,201,000

Source: HAZUS MH MR3

Critical Facilities and Infrastructure

An inventory of critical facilities in Logan County is provided below in Table 4. The table includes data from available statewide GIS resources (locations are illustrated in Figure 1) supplemented with information from the Logan County CPS.

Table 4. Critical Facilities Inventory:

Facility Type	Number of Sites	Est. Replacement Value	Capacity or Enrollment	Additional Information
Essential Infrastructure				
Airports (paved)	1			
Communications Towers	4			
Correctional Facilities				
Electrical Generation/Distribution				
Media Outlets				
Natural Gas Facility	5			
Public Safety Communications Centers				
Public Safety Facilities				
Police Stations	3			
EMS/Ambulance Stations				
Fire Stations	1			
EOCs	1			
Town/City Halls				
Wastewater Treatment	1			
Water Utilities/Treatment				
Childcare Centers				
Schools	17			
Shelters				
Hospitals	1			

Facility Type	Number of Sites	Est. Replacement Value	Capacity or Enrollment	Additional Information
Clinics	25			
Nursing Homes/Assisted Living Centers				
Natural, Cultural and Historic Resources				
Community Centers				
Historic Properties				
Hazardous Materials	3			
Extremely Hazardous Substances				
Hazardous Chemicals storage				

Natural and Historic Assets

Historic Sites in Logan County:

Merino:

- Davis Barn, 13341 County Rd. 8 (wood-frame Round-Roof Barn)

Sterling:

- All Saints Episcopal Church
- German Congregational Zion Church
- First United Presbyterian Church
- Harris House, 102 Taylor St.
- I & M Building 223 Main St.
- Logan County Courthouse
- Luft House, 1429 Colo. Hwy 14
- Powell and Blair Stone Ranch (aka Spring Valley Ranch)
- St. Anthony's Roman Catholic Church, 329 3rd. St.
- Main Post Office, Federal Building & Courthouse, 3rd & Poplar
- Sterling Public Library, 210 S. 4th
- Union Pacific Railroad Depot 113 N. Front

Development Trends in Logan County:

There is slow, steady growth to the west of Sterling along Colo. Hwy 14. The County grew 1.3% between 2000 and 2008, indicating the population growth trend is slowing.

Flood Vulnerability Assessment

The best available flood data for Logan County was generated by HAZUS-MH MR3, FEMA's software program for estimating potential losses from disasters. See the base plan vulnerability assessment for a description of the HAZUS methodology. The 100-year floodplain generated with HAZUS-MH is shown countywide in Figure 1 and at municipal scales in Figure 2. Both maps indicate the location of critical facilities as well.

Figure 1 Logan County HAZUS 100-year Floodplain and Critical Facilities Map

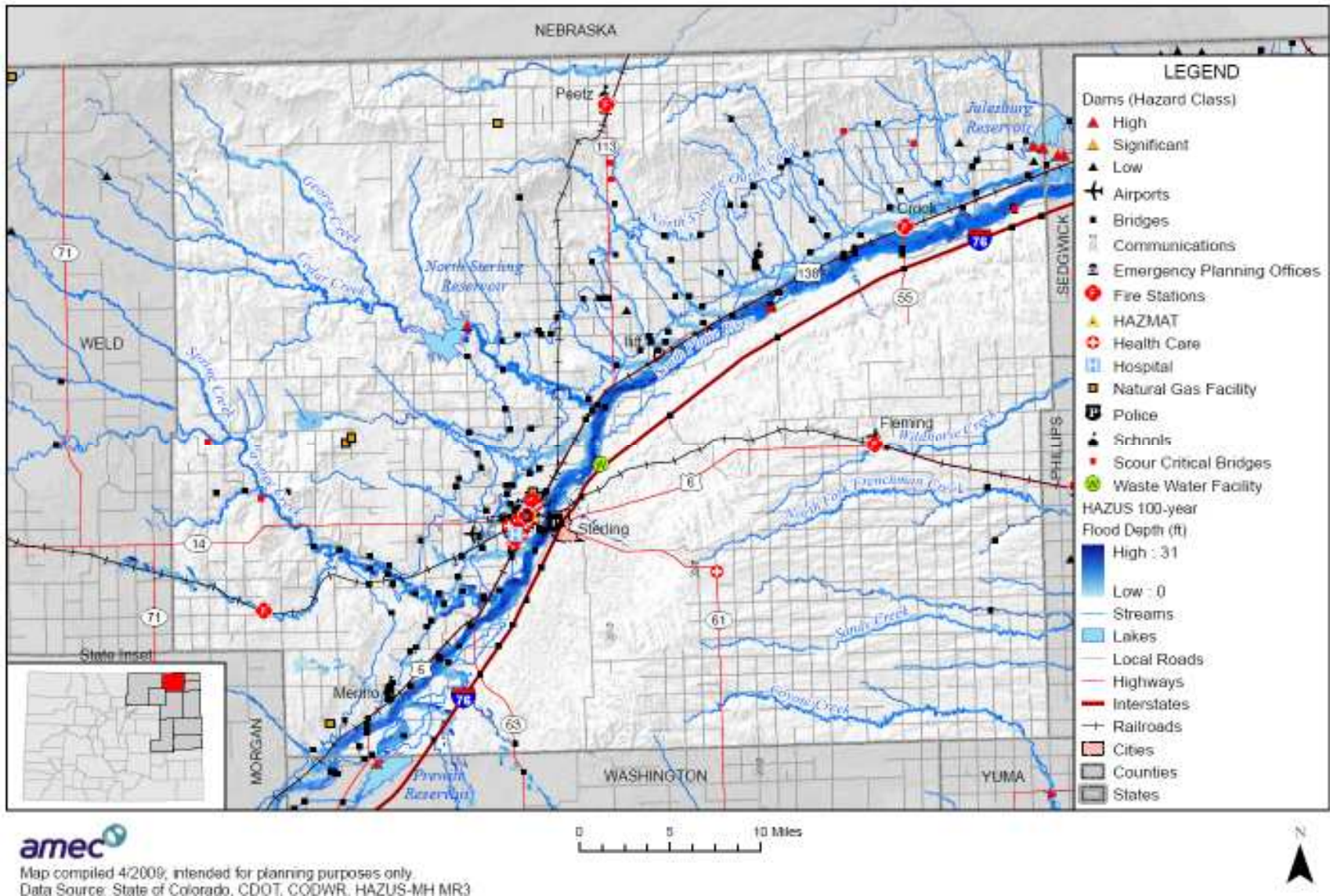
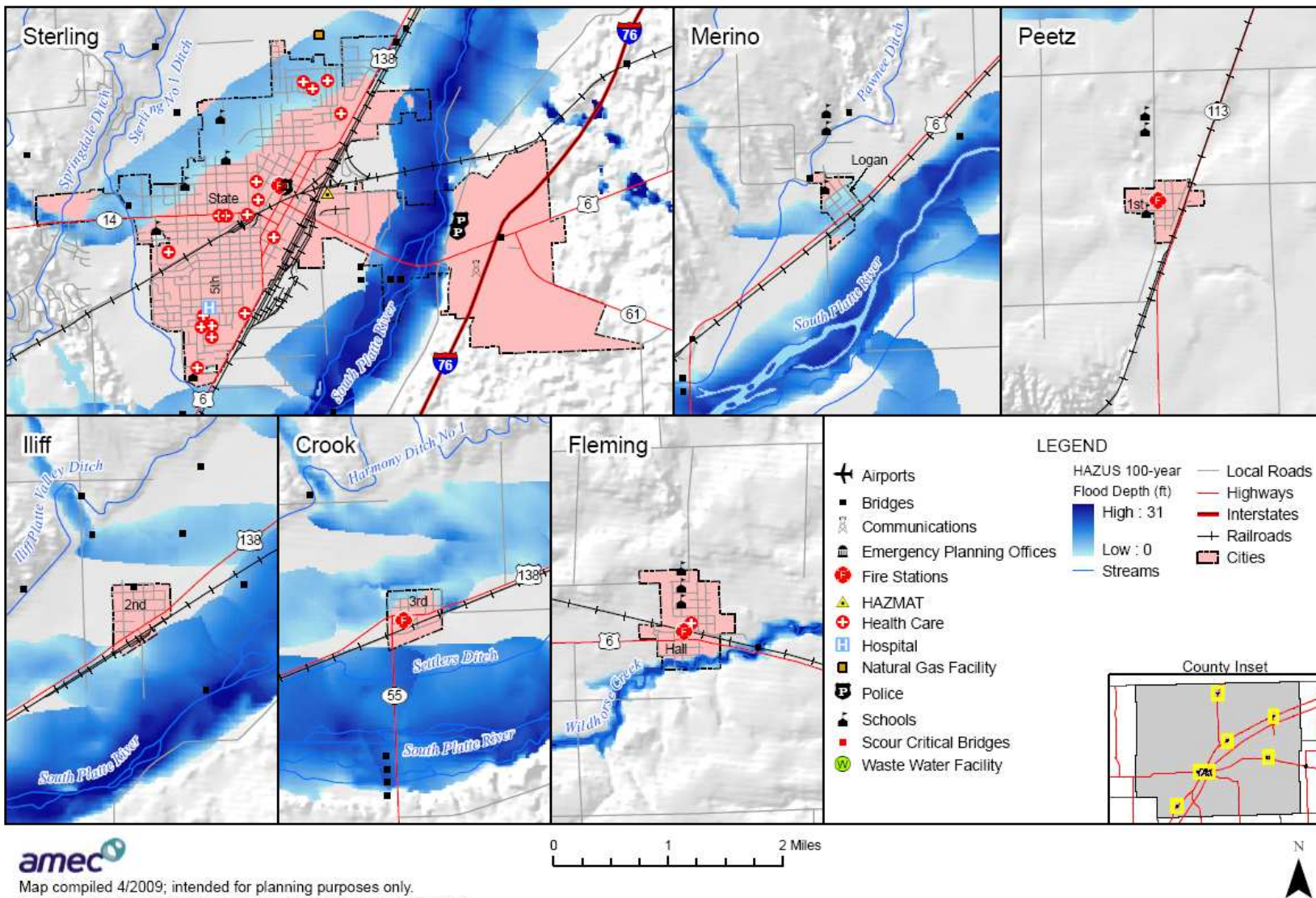


Figure 2 Logan County Cities HAZUS 100-year Floodplain and Critical Facilities Map



HAZUS-MH estimates the potential for over \$52 million in flood losses from a 100-year flood in the County. To estimate the monetary loss for each city, the flooded Census Blocks were extracted, and the damage costs were totaled using GIS. This was done for each city and unincorporated area to illustrate how the risk varies across the planning area, with the results summarized in Table 5. According to HAZUS-MH, the City of Sterling has the greatest flood risk with a damage potential exceeding \$30M, followed by the unincorporated areas. The map in Figure 3 displays the distribution of the flood loss by Census Block across the County. According to the map in Figure 3 the majority of flood impacts in the unincorporated County are located on South Platte River which goes through the Cities of Crook, Iliff, Merino and Sterling. The HAZUS model does not account for levee protection that may exist. According to the current FEMA FIRMs there are not any levees in Logan County.

Table 5. Estimated Economic Losses from Flooding

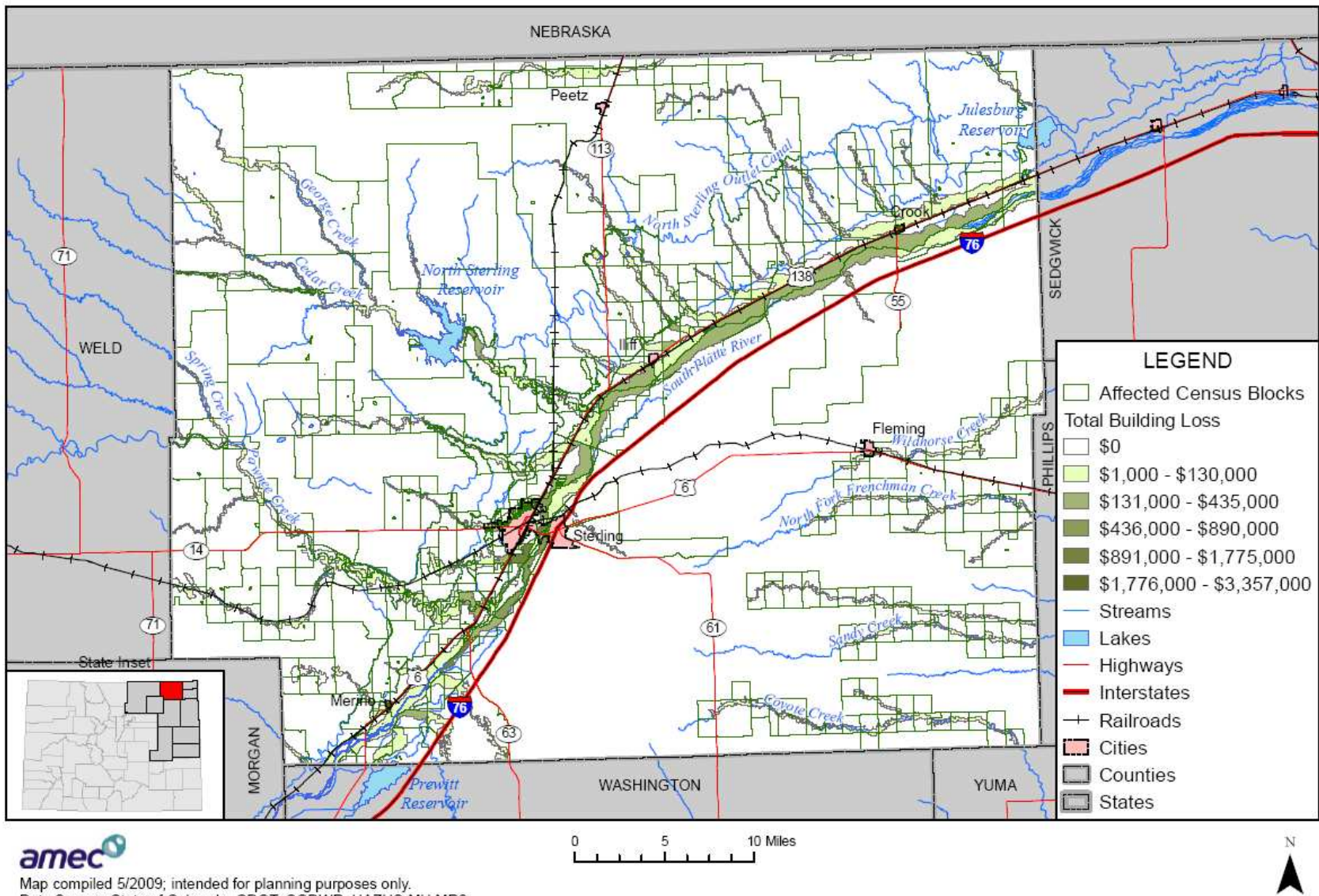
Jurisdiction	Cost Building Damage (\$)	Cost Contents Damage (\$)	Inventory Loss (\$)	Relocation Loss (\$)	Capital Related Loss (\$)	Rental Income Loss (\$)	Wage Loss (\$)	Total Loss (\$)	Percent of Total Loss	Loss Ratio
Crook	104,000	106,000	-	-	-	-	2,000	212,000	0.4%	1%
Fleming	381,000	258,000	4,000	1,000	-	-	-	644,000	1%	1.5%
Iliff	-	-	-	-	-	-	-	-	-	-
Merino	403,000	379,000	37,000	1,000	2,000	-	43,000	865,000	2%	2.9%
Peetz	-	-	-	-	-	-	-	-	-	-
Sterling	11,612,000	17,840,000	462,000	102,000	78,000	27,000	462,000	30,583,000	58%	1.3%
Unincorporated	9,557,000	10,544,000	439,000	18,000	18,000	9,000	77,000	20,662,000	39%	2.3%
Total	22,057,000	29,127,000	942,000	122,000	98,000	36,000	584,000	52,966,000	100%	2%

Source: HAZUS-MH MR3

The building damage loss ratio shown in Table 5 is an indication of the community's ability to recover after an event. Building Damage Loss Ratio percent is calculated by taking the Building Structural Damage divided by Building Structural Value and then multiplying by 100. Loss ratio exceeding 10% are considered significant by FEMA. The city with the highest building damage loss ratio is Merino. Merino has the highest loss ratio of 2.9% with a potential building damage loss of \$403,000. Fleming has the second highest loss ratio of 1.5% with a potential building damage loss of \$381,000. Sterling is next with a loss ratio of 1.3% and a potential building damage loss of \$11,612,000. Last is Crook with a loss ratio of 1% and a potential building damage loss of \$104,000.

When comparing the HAZUS model results with the current FEMA FIRMs, it was observed that HAZUS does not represent flooding for Pawnee Creek overflow in the City of Sterling. The reason these streams were not analyzed within the model is due to the fact that these streams have a drainage area smaller than 10 square miles, which was set as a parameter during the HAZUS procedure. If the model did account for Pawnee Creek Overflow there could be even more damage as it goes straight through the middle of town. Another town that the HAZUS model did not match the FIRM was Crook. The FIRM indicates that the whole town is inundated by the South Platte River's 100 year floodplain and HAZUS only indicates a small portion of flooding on the north and south city limits. For the town of Iliff, the FIRM shows more flooding in the southern portion of town and HAZUS shows little flooding at all. The other communities of Fleming and Merino could not be compared since there are not any effective flood maps for them. The unincorporated floodplains within the HAZUS model match up closely to the ones on the effective FIRMs.

Figure 3 Logan County Building Loss in the 100-year Floodplain



Floodplain Population Information:

The 2008 State Hazard Mitigation Plan estimates that there are 4,273 people, 3,143 1-4 family structures, and 1,445 other types of structures in the County floodplains. The displaced population and shelter needs estimated by HAZUS are shown in Table 6.

Table 6. Population Displaced by Flooding

Jurisdiction	Displaced Population	Population Needing Shelter
Crook	27	2
Fleming	36	20
Iliff	-	-
Merino	131	19
Peetz	-	-
Sterling	2,670	2,319
Logan County	954	285
Total	3,818	2,645

Source: HAZUS MH MR3

Critical Facilities

Critical facilities in the floodplain were determined using GIS, by selecting all critical facilities that fell within the floodplain. These are listed in Table 7 and shown on the maps in Figures 2 and 3. The Logan CPS indicated that many of these facilities may now be protected by the Sand Creek Mitigation Project.

Table 7. Critical Facilities in the Floodplain

Flooded Critical Facility	Name	Near City
Health Care	Adams Circle	Sterling
Health Care	Eastern Colorado Home Care	Sterling
Health Care	Devonshire Acres	Sterling
Health Care	Devonshire Acres	Sterling
Natural Gas Facility	KN Energy Incorporated Springdale Compressors	Sterling
Schools	Caliche Elementary School	Iliff/Crook
Schools	Campbell Elementary School	Sterling
Schools	Sterling Middle School	Sterling
Schools	Sterling High School	Sterling

Logan County Scour Critical Bridges

Included with HAZUS-MH is a database of bridges called the National Bridge Inventory developed by the Federal Highway Administration. One of the database items is a “scour index,” which is used to quantify the vulnerability of a bridge to scour during a flood. Bridges with scour index between 1 and 3 are considered “scour critical,” or a bridge with a foundation element determined to be unstable for the observed or evaluated scour condition.

There are 8 scour critical bridges in Logan County. They are all located on the major roads and highways that travel through Logan County. One scour critical bridge is located east of Crook on County Road 993 at the intersection of the South Platte River. Two are located north of Crook, one on County Road 75 at North Sterling Outlet Canal and the other on County Road 93 at the South Platte River. One is located between Crook and Iliff on County Road 67 on the South Platte River. Two are located south of Peetz on State Highway 113 at the intersections of Unnamed Tributaries to Lewis Creek.

Two are located west of Sterling, one is on County Road 7.4 on Pawnee Creek and the other is located on County Road 11.1 on an Unnamed Tributary to Pawnee Creek. The location of these bridges is shown in Figure 1, and described in detail in Table 8.

Table 8. Logan County Bridges Subject to Scour

Name	Road Type	Stream	Near City
County Road 68	Local Road	Duck Creek	Crook
County Road 75	Local Road	North Sterling Outlet Canal	Crook
County Road 7.4	Local Road	Pawnee Creek	Sterling
County Road 67	Rural Highway	South Platte River	Between Crook and Iliif
County Road 93	Rural Highway	South Platte River	Crook
State Highway 113	Rural Highway	Unnamed Tributary to Lewis Creek	Peetz
State Highway 113	Rural Highway	Unnamed Tributary to Lewis Creek	Peetz
County Road 11.1	Local Road	Unnamed Tributary to Pawnee Creek	Sterling

NFIP Claims Analysis

There are 405 policies in force in Logan County. This is a decrease from 408 noted in the 2004 plan. Detail is shown in Table 9. The majority of policy holders are in the 100-year floodplain (A-Zone).

Table 9. Policies and Claims Information:

CID	Community Name	Total Premium	No. Policies	A-Zone	Total Coverage	Total Claims since 1978	Total Paid since 1978
080111	Crook, City of	\$3,240	8	8	\$325,100	0	0
080207	Iliif, Town of	\$754	2	1	\$91,800	0	0
080294	Sterling, City of	\$264,368	347	330	\$41,080,400	34	\$67,815
080110	Logan County	\$29,908	48	41	\$4,624,900	18	\$131,814
	County Total:	\$298,270	405	380	\$46,122,200	52	\$199,629

Source: NFIP Insurance report 3-23-2009

Repetitive Loss Properties: According to the FEMA NFIP Insurance report there have been two repetitive loss claims in the County, both residential properties located in the City of Sterling. The total payment amount for these properties is \$6,184.62, with \$4,314.62 associated with a building loss and \$1,870.00 associated with contents payments.

Dam Failure Vulnerability Assessment

According to HAZUS MR3, there are 3 high hazard dams in Logan County. Table 10 indicates how dam failure risk varies among communities in Logan County. The locations of these dams are shown in Figure 1. The Julesburg dams would primarily have impacts in Sedgwick County if they failed. There is one high hazard dam just outside the County in Washington County on Prewitt Reservoir. The impacts would mainly affect areas of unincorporated Logan County along the South Platter River if it failed, and potentially the Town of Merino.

Table 10. Hazardous Dams in Logan County

Dam Name	County	Max Storage (acre ft)	Dam Hazard	Downstream Community	Miles to Community	Relative Downstream Impacts
Julesburg #1	Logan	38,600	High	Dorsey	-	Limited
Julesburg #1A	Logan	38,600	High	Dorsey	-	Limited
Point Of Rocks (North Sterling Reservoir)	Logan	113,600	High	Illiff	9	Critical

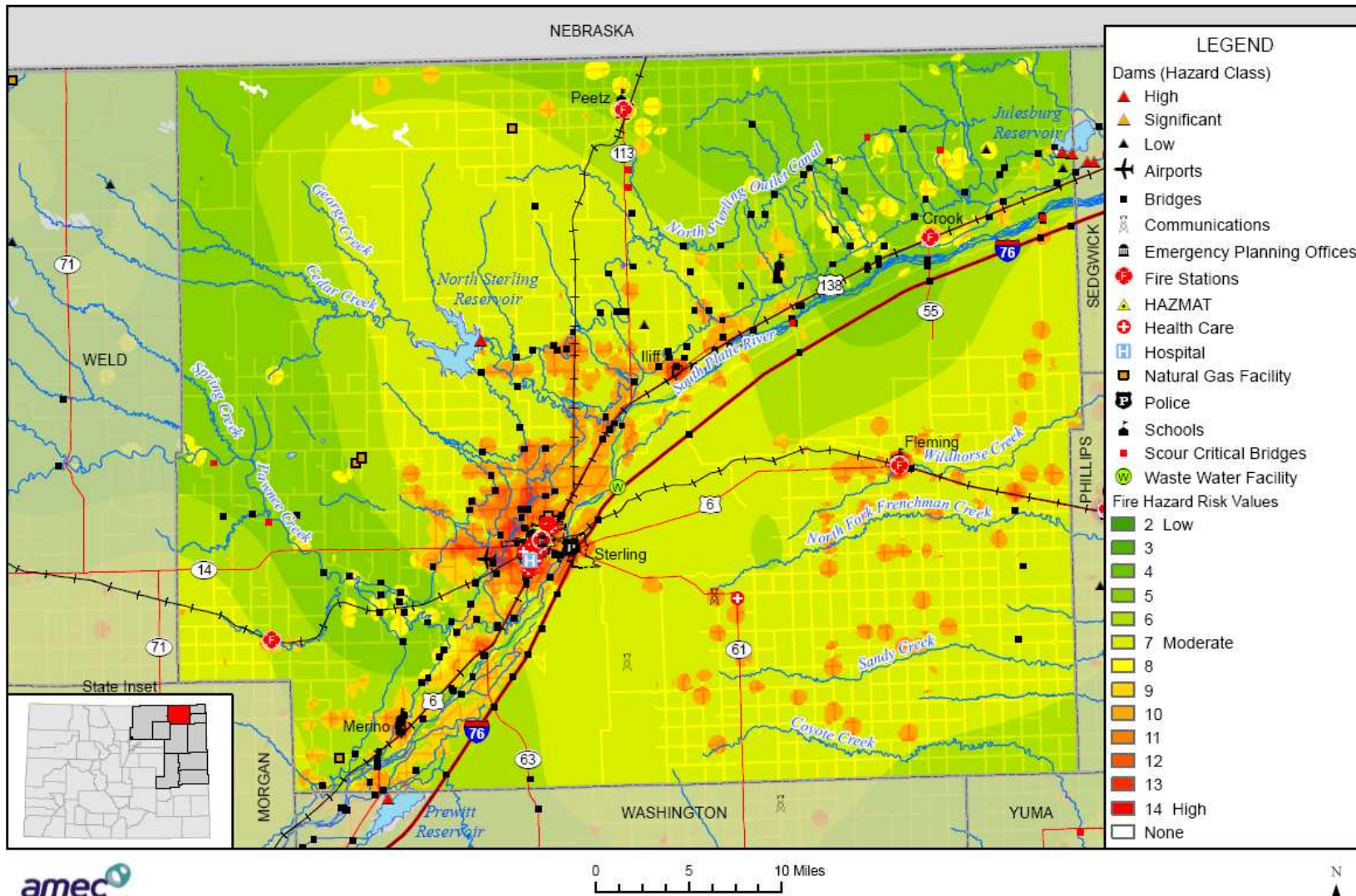
Source: HAZUS MR3

Wildfire Vulnerability Assessment

Logan County Wildland Urban Interface

The Wildland Urban Interface map in Figure 4 for Logan County shows low to high fire hazard risk values. The majority of the County has low values with the higher values around the communities of Crook, Fleming, Illiff, Merino, Peetz and Sterling. Fleming and Illiff have the highest fire risk in the County with values between moderate and high with the higher values within the city limits. Crook, Merino, and Peetz have moderate risk values and the City of Sterling has a mixture of low to high fire values. Half of the city has a lower risk value where the majority of commercial and residential areas are located. The higher values are on the outskirts and surrounding unincorporated county.

Figure 4 Logan County Wildland Urban Interface



Map compiled 4/2009; intended for planning purposes only.
 Data Source: State of Colorado, CDOT, CODWR, CSFS,
 Colorado Wildfire Risk Assessment 5/16/2002

Critical Facilities

A GIS overlay was used to identify certain facilities in the moderate to high fire risk areas. The facilities identified within a moderate to high wildfire risk area are summarized in Table 11. The following narrative describes each community and potentially at risk critical facilities.

Logan County has the second highest number of facilities in the region in a moderate to high fire hazard with 216. Crook has one fire station in the fire hazard. Fleming has three facilities in the fire hazard: one fire station, one health care and two schools. Iliff has one bridge in the fire hazard. Merino has one school in the fire hazard. Peetz has two facilities in the fire hazard: one fire station and one school. Sterling has forty five facilities in the moderate to high fire hazard: seven bridges, one communication tower, one emergency planning office, one HAZMAT facility, twenty three health care, one hospital, three police stations and five schools. The unincorporated county has 162 critical facilities in the fire hazard: one airport, 144 bridges, one scour critical bridge, three communication towers, two dams, one fire station, one health care, three natural gas facilities, six schools and one waste water facility.

Table 11. Critical Facilities Subject to Fire Hazard (by type)

Facility Type	Facility Count
Airports	1
Bridges	151
Communications	4
Dams	2
Emergency Planning Offices	1
Fire Stations	5
HAZMAT	3
Health Care	25
Hospital	1
Natural Gas Facility	3
Police	3
Schools	15

Facility Type	Facility Count
Scour Critical Bridges	1
Waste Water Facility	1
Total	216

Agricultural Vulnerability Assessment

Agriculture is an important aspect of the County's economy. The following discussion analyzes the potential losses from floods using HAZUS and multiple hazards from federal crop insurance records.

HAZUS Flood Methodology for Agriculture Economic Losses

The agriculture component of the HAZUS Flood Model estimated a range of losses to barley, corn, corn silage, oats and wheat. These crops were the only crops identified by the HAZUS model to have loss within the region of study. The model assumes a short duration and slow rise flood when estimating losses and does not account for high velocity flash floods. Loss estimates are based on United States Army Corp of Engineers (USACE) damage modifiers. The HAZUS-MH impact analysis predicts a loss estimate value by crop for flow time intervals. The first is a loss estimate for the day of the fixed event; the remaining three are for 3, 7 and 14 days following the event.

The agricultural products in Logan County that show economic loss are corn, corn silage and wheat. Corn's total loss is \$29,188,429, corn silage's total loss is \$72,039,739 and wheat's total loss is \$21,935,514. The total loss of all of these products is \$123,163,681. More detail is given in Table 12.

Table 12. Logan County Direct Economic Loss for Agriculture Products

Agriculture Product	Crop Loss Day 0 (\$)	Crop Loss Day 3 (\$)	Crop Loss Day 7 (\$)	Crop Loss Day 14 (\$)	Total Loss (\$)
Corn	0	7,960,481	10,613,974	10,613,974	29,188,429
Corn Silage	0	19,647,202	26,196,269	26,196,269	72,039,739
Wheat	0	5,982,413	7,976,550	7,976,550	21,935,514
Total	0	33,590,095	44,786,793	44,786,793	123,163,681

Source: HAZUS-MH MR3

Crop Insurance Analysis

Federal Crop Insurance Data represents losses from multiple hazards that could include: biological hazards, flooding, drought, hailstorms, noxious weeds, temperature extremes, tornados, wildfires and straight-line winds. Average annual claims payout amount to \$1.6 million in the County. More details are provided in Table 13 and 14.

Table 13. Logan County Premium and Loss Data for Federal Crop Insurance from 1980 through 2007

Liability(Amount of Coverage)	Total Premium	Federal Premium Subsidy	Farmer-paid Premium	Amount Paid in Claims	Average Amt. Paid Annually in Claims
434,713,354	47,897,730	23,354,361	24,543,369	45,072,380	1,609,728

Source: Federal Crop Insurance Services

Table 14. 2008 Logan County Provisional Data (claim data unavailable as 2008 claims are not fully reported)

Liability(Amount of Coverage)	Total Premium	Federal Premium Subsidy	Farmer-paid Premium
52,596,223	5,824,403	4,937,994	3,586,409

Source: Federal Crop Insurance Services

Logan County Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities assessment is divided two sections: regulatory mitigation capabilities and additional mitigation projects and capabilities. The regulatory mitigation capabilities for the County and its municipalities are summarized in Table 15. Refer to the Introduction to the County Elements for an explanation of the capability assessment matrix.

Table 15. Regulatory Mitigation Capabilities

	LOGAN	Crook	Fleming	Iliff	Merino	Sterling
Comp Plan	Y	N	N	N	N	Y
Land Use Plan	Y	N	N	N	Y	Y

	LOGAN	Crook	Fleming	Iliff	Merino	Sterling
Subdivision Ord	Y	N	N	N	Y	Y
Zoning Ord	Y	N	N	N	Y	Y
NFIP/FPM Ord	Y	Y	N	Y	N	Y
- Map Date	9/89 (FIRM)	2/86(M) – FIRM	11/74-NSFHA	8/87 - FIRM	Not Mapped	09-89 - FIRM
- Sub.Damage?	N	N	N	N	N/A	N
- Administrator?	Y	N	N	N	N/A	Y
- # of FP Bldgs?	1,660	0	0	0	N/A	1,660
- # of policies	37	6	0	1	N/A	364
- # of RL's?	0	0	0	0	N/A	0
CRS Rating	N/A	N/A	N/A	N/A	N/A	N/A
Stormwater Prgm	N	N	N	N	N	N
Building Code	Y, 2006	N	N	N	N	Y, 2006
Building Official.	Y	N	N	N	N	Y
- Inspections?	Y	N	N	N	Y	Y
BCEGS Rating	Y-9	N	N	N	N	Y-6
LEOP	Y					Y
HM Plan	Y	C	C	C	C	C
Warning	Y	Y	Y	Y	Y	Y
Storm Ready?	Y	C	C	C	C	C
Weather Radio?	Y	C	C	C	C	C
Sirens?	Y	Y	Y	Y	Y	Y
Emergency Warning Notification?	Y - Cable Override System	C	C	C	C	C
Other?	County-wide R911 phone systems - cell phones and VOIP.	C	C	C	C	C
GIS System	Y	C	C	C	C	C
Structural Projects	Y	N	N	N	Y	N
Property Protection	Y	N	N	N	N	N

	LOGAN	Crook	Fleming	Iliff	Merino	Sterling
Crit.Fac.Protection	Y	N	N	N	N	Y
Natural Res. Inv.	N	N	N	N	N	N
Cultural Res. Inv.	N	N	N	N	N	N
Erosion Control	N	N	N	N	N	N
Sediment Control	N	N	N	N	N	Y
Pub. Info Prgrm	Website	C	C	C	C	C
Env. Ed Prgrm	N	N	N	N	N	N

Additional Existing Mitigation Projects and Capabilities

Sterling Irrigation Company

- February 1998; Watershed Protection constructed at main diversion at a cost of \$65,247
- March 1999; Riprap rollover dam at bladder gates constructed at Pawnee Creek diversion at a cost of \$32,481
- April 2000, Installed 100' of bladder gates along with 2 radial gates at a cost of \$360,317

The Company also previously has installed the following:

- Pawnee Cr. Diversion gate
- Pawnee Cr. Radial gate
- Headwater measuring weir
- Ditch end radial gate

The minimum replacement value of these structures is \$165,000. These structures work in smaller floods, but do not eliminate damage from huge floods.

A special district was founded after the 1997 floods to collect taxes for flood control projects. There is approximately \$1 million in that fund.

Logan County passed an ordinance in March of 2009 establishing open fire restrictions on “red flag” warning days.

Farmer's Pawnee Canal Company has 14 augmentation ponds and is constructing new ponds and new wellheads to lessen drought impacts.

Highline Electric Association has established a new substation on E. side of Platte River to power City sewage plant, which flooded in 1965 and 1967.

Sterling Correctional Facility can shelter and feed an additional 2,000 in an emergency, such as a prolonged closure of I-76

Peetz School is a designated shelter (with a keypad lock), and has 5 school buses and food available, if necessary

Logan County Mitigation Goals & Recommendations

Goal: Improve Logan County Capability to Reduce Disaster Losses

Action Item #1: *County should work to become certified as “Storm Ready” by National Weather Service.*

Issue Statement: A primary goal of the Northeast Colorado Emergency Managers Association multi-jurisdictional DMA Hazard Mitigation Plan is for each County to become “Storm Ready” certified within the next three years. “Storm Ready” certification is an indication that the community has prepared for adverse weather conditions, trained officials and citizens to recognize and report adverse weather conditions, and has established and regularly tested a system for receiving and disseminating severe weather information and warnings to the public.

Implementation Manager and strategy: Sterling City/Logan County Emergency Manager will contact the National Weather Service to determine what Logan County needs to accomplish, and then seek funding through grants to make the necessary improvements. Among the known deficiencies are the lack of a County Emergency Operations Center (EOC) and a set of hazardous weather Emergency Operating Procedures (EOP)

Priority: High

Cost Estimate: \$60,000 for Emergency Warning Notification system, additional sirens (e.g., Merino, Fleming and Peetz needs an all-hazards siren), NOAA “Weather Radio” “repeaters,” and NOAA “Weather Radios” and scanners for all government buildings, plus any necessary training, and public education. (EOC is a separate recommendation).

Cost-Effectiveness Explanation: The potential for saving just one life, and providing time for individuals and businesses to take effective actions to protect property, far outweighs the potential cost of the warning system and equipment. This goal and recommended action was selected by the MCPC due to its return on investment and relative ease in achieving. It may be the single most effective action the County and the entire Planning Area can undertake to reduce future disaster losses. Cost-effectiveness of EOC addressed separately.

2009 Update: County is now Storm Ready Certified. Work continues on updating and maintaining the requirements to remain certified. The County is recertified for the next 3 years.

Action Item #2: *County should work to increase weather alert speed.*

Issue Statement: The Sterling Emergency Communications Center currently uses sirens, cable TV override, the RUOK telephone system, and police/fire/ambulance radio frequencies to broadcast warnings. In addition, information is forwarded to two local radio stations. Establishing a dedicated local public frequency for alerts would allow dispatchers to warn the public directly, more quickly.

Implementation Manager and strategy: Sterling City/Logan County Emergency Manager and the Sterling Emergency Communications Center. Seek funding through grants to fund the necessary improvements.

Priority: High

Cost Estimate: \$15,000

Cost-Effectiveness Explanation: Again, the potential for saving just one life, and providing time for individuals and businesses to take effective actions to protect property, far outweighs the potential cost of the warning system and equipment.

2009 Update: Tornado sirens in Sterling are tested weekly during storm season. The City maintains and tests the cable-override notification system weekly. A new telephone emergency mass notification system for the entire County was implemented. This system now includes cell phones and VOIP lines.

Action Item #3: *County should establish a Local Emergency Planning Committee and complete the development of the multi-jurisdictional Local Emergency Operations Plan (LEOP).*

Issue Statement: Sterling City/Logan Office of Emergency Management is in the process of combining and updating the city and County LEOP. In the past, only a volunteer served as the Chairman of a one-person committee.

Implementation Manager and strategy: Sterling City/Logan County Emergency Manager. LEPC will be used as an all-hazard planning and mitigation committee. The LEPC will lead the development, exercise and maintenance of the LEOP, under the direction of the Emergency Manager. The LEPC will also serve as the local Citizen Corps council, and the mandated LEPC required under EPA's SARA Title III.

Priority: High

Cost Estimate: \$4,000 total: \$3K for the LEOP and \$1K for the LEPC.

Cost-Effectiveness Explanation: LEPC would coordinate planning and mitigation efforts County-wide. The LEPC and LEOP are requirements of EPA and FEMA, respectively

2009 Update: The Logan County LEPC meets with regular monthly meetings. Work continues on updating the LEOP. The LEPC maintains a SARA Title III-Tier II Report Chemical Storage Database.

Action Item #4: *County should pursue the development of a combined Emergency Operations Center/Communications Center for Logan County and Sterling.*

Issue Statement: Logan County has no dedicated EOC location. The City of Sterling only has the Council Chambers to use as an EOC in the event of an emergency or disaster. The Council Chambers has no communications, media or computer capabilities. An Ad Hoc EOC will significantly hinder emergency response, coordination, and management of any event. Co-locating with a Communications Center will improve the capabilities of both operations. This activity also provides a step forward towards Storm Ready certification by the NWS.

Implementation Manager and strategy: Elected Officials of City of Sterling and Logan County.

Priority: High

Cost Estimate: Approximately \$3 Million. Funding can be obtained through bonds, grants, and E-911 fees.

Cost-Effectiveness Explanation: This would provide a long-term solution to the crowded and inadequate Communications Center and establish an EOC facility.

2009 Update: The current location of the Logan County EOC is at the NE CO Health Department. There is a defined area for the EOC, and it's very well equipped with needed forms and electronic connections. The building is not a shelter or hardened. The large windows need storm shutters. An emergency back up power supply is needed. A new EOC building is under construction. The new building will be built to hard shelter specifications and have UPS with a back up power supply. The new EOC will share building space with the new Communications Center, making communication between the two much easier. The current EOC will continue to be used in health emergencies and as an overflow site for the sheltered EOC. The anticipated completion date for the EOC is 2010.

Goal: Reduce Losses of Life and Property from Floods, Droughts and Storms/Tornadoes

Action Item #5: *Implement the Pawnee Creek Flood Mitigation Project(s).*

Issue Statement: Pawnee Creek flooded in 1997 causing nearly \$20 million in losses. Engineering and cost/benefit studies have been completed. The project(s) consist of reconstructing bridges and widening channels that pass beneath; and constructing a channel to the Platte River. Some levees would also be required.

Implementation Manager and strategy: Logan County Water Conservancy District (LCWCD). The LCWCD is scheduled to begin discussion with the engineers that developed the designs and studies in the near future.

Priority: High

Cost Estimate: Estimates range between \$10 and \$20 million, depending upon the level of implementation. Funding can be obtained through a Mil Levy and Flood Mitigation grants.

Cost-Effectiveness Explanation: This would prevent waters from flooding property and allow water to flow to the South Platte.

2009 Update: Dikes, berming, and a substantial flow channel still need to be constructed southwest of Sterling. Funding remains an issue, which prolongs the timeframe.

Action Item #6: *Implement the Sand Creek Flood Mitigation Project for Sterling.*

Issue Statement: This project is currently under development through the NRCS and FSA. The project consists of a series of dams to contain flooding and remove North Sterling from the floodplain.

Implementation Manager and strategy: Logan County Water Conservancy District (LCWCD) with NRCS and FSA

Priority: High

Cost Estimate: \$2-5 million. Funding can be obtained through a Mil Levy for the local cost-share (35%). NRCS programs can provide 65% project funding.

Cost-Effectiveness Explanation: This would reduce future flood damages and eliminate the annual expense of mandatory flood insurance purchase by removing the entire portion of North Sterling from the identified floodplain.

2009 Update: Completed in June 2009 – Pioneer Ditch. Reclaimed historic ditch so that floodwaters are diverted and flow more efficiently. Funded by City and CWCB. This project may provide protection for many of the critical facilities identified at risk to flooding in Sterling.

Action Item #7: *Construct a multi-purpose flood control dam at Pawnee Pass.*

Issue Statement: In conjunction with the Pawnee Flood Mitigation Project, this structure would control flood waters at an upstream location. It is currently in the feasibility study stage. The facility would be multi-objective, allowing for water conservation, drought mitigation, and flood control.

Implementation Manager and strategy: Logan County Water Conservancy District (LCWCD).

Priority: Medium

Cost Estimate: \$5-8 million. Funding can be obtained through a Mil Levy, NRCS, grants, and NE Colorado Water District.

Cost-Effectiveness Explanation: This would reduce future flood damages and also serve as a water conservation and drought mitigation project.

2009 Update: Not completed due to funding. The concerns on payment and medium priority level also hinder the timeframe development.

Action Item #8: *Construct additional small retention ponds throughout the watershed.*

Issue Statement: This project has been requested by many individual landowners. The retention ponds are to serve as flood and drought mitigation facilities.

Implementation Manager and strategy: Logan County Water Conservancy District (LCWCD) and NRCS.

Priority: Low

Cost Estimate: Unknown at this time. Depend upon number of structures, size and location. Structures should be built on basis of availability of funds and the order in which they are requested.

Cost-Effectiveness Explanation: PROBLEMS: Public money for private property. Should be built for B/C not first come first served. All projects are built on basis of availability of funds.

2009 Update: Not completed due to funding. The concerns on payment and medium priority level also hinder the timeframe development.

Action Item #9: *Promote the construction of model and full-scale tornado shelters, “Safe-Rooms”, and winter shelters.*

Issue Statement: On average, over the past 47 years, Logan County has experienced at least one tornado each year. While damage has been minimal to date, it is merely a matter of time before a more serious event occurs. “Safe-Rooms” have been proven to be effective, have been “pre-designed,” and are relatively inexpensive. In 2009 it was noted that additional shelters are needed, particularly with considerations for pets, special needs populations and designated shelter monitors.

A need for a tornado shelter to protect staff at Logan County Health and Human Services and Logan County Extension Services has been identified at 508 South 10th Avenue, Sterling, Colorado. It would also be available for the mobile home residents within a 5 minute walk. Another area where a shelter is desired is near the WalMart shopping complex.

Implementation Manager and strategy: County Emergency Manager, Logan County Health and Human Services, in conjunction with local building materials suppliers and schools (Buffalo School District, RE-1 Valley School District, RE-4J Merino Schools, RE-5 Plateau School District, and Fleming School District) or Sterling Correctional facility and the City of Sterling and Towns of Fleming and Iliff.

Priority: Medium

Cost Estimate: \$5,000 in grants and/or private donations.

Cost-Effectiveness Explanation: Project will encourage people to construct private “Safe-Rooms.” Preventing one loss of life or serious injury from wind or other hazards would be worth the expense.

2009 Update: The County now has 7 shelters. 1 tornado shelter added in a church in 2009. Logan Courthouse added one in 2008 that is special needs and pet friendly. Shelter agreements and uniform signage have been developed for existing shelters. Winter Storm Shelters: Through work with the American Red Cross we have developed a new winter storm shelter that has a higher capacity and is much easier to find by travelers. Challenges are finding enough long term volunteer shelter monitors and finding food and water for long term sheltering.

Action Item #10: *Sterling should undertake a targeted Public Education program for the 1,324 uninsured floodprone property owners. Crook should undertake a targeted Public Education program for the 109 uninsured floodprone property owners.*

Issue Statement: Of the 1,660 properties identified within the mapped floodplain of Sterling, only 344 carry flood insurance policies issued through the NFIP. Of the 115 properties identified within the mapped floodplain of Crook, only 6 carry flood insurance policies issued through the NFIP. Sterling and Crook should undertake public information campaigns to ensure that floodprone property owners and occupants are aware of the availability of flood insurance through the NFIP, and the limitations of other insurance policies they might own.

Implementation Manager and strategy: The City of Sterling/Logan County Emergency Manager in conjunction with the local officials in Sterling and Crook responsible for enforcing the floodplain management ordinance. They should provide information describing the availability and benefits of flood insurance through the NFIP, as well as information of the likelihood of flooding and the consequences of flooding.

Priority: High

Cost Estimate: Existing budgets to develop and conduct survey by mail or telephone. Obtain existing public information brochures on flood insurance and flood damages and provide to floodprone property-owners. Monitor the number of insurance policies in force, and repeat as necessary.

Cost-Effectiveness Explanation: There is no increased cost to the Town. The benefits are to building owners who choose to insure against flood losses, and to taxpayers who no longer would have to subsidize those losses.

2009 Update: This action has not been completed but remains a priority.

Action Item #11: *The County and Iliff, Sterling and Crook will continue to comply with the National Flood Insurance Program in part by providing “Refresher Training” for local lenders and insurance agents regarding the NFIP, publicizing the NFIP, and promote the purchase of insurance for structures in the floodplain.*

Issue Statement: The enormous lack of flood insurance in Sterling and Crook raises the question whether or not elements of the NFIP are being properly implemented. Specifically, a requirement of any federally backed mortgage, including recent re-finances, within an identified floodplain is to purchase and maintain flood insurance throughout the life of the loan. A common area where this mandate is subject to error is through lenders and insurers. Specific training can be provided for these audiences free of charge. As part of continued compliance with the NFIP the County and towns will periodically update their ordinance and continue to enforce the ordinance regarding any proposed development in the floodplain.

As participants in the NFIP the County, Iliff, Sterling and Crook will continue to promote wise use of floodplains through ordinance administration and periodic update, and staff training, including encouragement of Certified Floodplain Manager status.

Implementation Manager and strategy: City/County Emergency Manager, in conjunction with the Sterling Floodplain Management Administrators should invite the CWCB to conduct “Refresher Training” for both lenders and insurance agents. CWCB and FEMA can also provide public information brochures describing the benefits of purchasing flood insurance. Each community should annually notify floodprone occupants of their location and of the availability of flood insurance.

Priority: High

Cost Estimate: Can be accomplished within existing budgets or with minimal expense.

Cost-Effectiveness Explanation: There is little or no increased cost to the Town. The benefits are to floodprone building owners who choose to insure against flood losses, and to taxpayers who no longer would be faced with subsidizing those potential losses.

2009 Update: This was modified during the 2009 update to include continued NFIP participation for the NFIP communities in the County.

Action Item #12: *Sterling and Crook should conduct the one-day flood recovery & mitigation exercise as an awareness tool for local officials*

Issue Statement: Significant portions of Sterling, and all of Crook, are built in and around the floodplain, and floods would cause considerable damage and hardship within these communities. Conducting this FEMA-developed, one-day flood exercise would allow local officials to identify and react to the many problems they would likely encounter, thus providing a pre-flood “to-do” list, as well as an increased awareness of what emergency actions to take in an actual post-flood situation.

Implementation Manager and strategy: City/County Emergency Manager, in conjunction with CWCB and FEMA.

Priority: Medium

Cost Estimate: Can be accomplished within existing budgets

Cost-Effectiveness Explanation: There is little cost associated with this project. The benefits are to the community in being more prepared to realistically address the emergency management concerns of a flood in their community.

2009 Update: This project has not been completed but the County is interested in hiring a consultant to implement the exercise.

Action Item #13: *Promote the benefits of the crop insurance to the County agricultural community*

Issue Statement: Agricultural losses are the #1 annual dollar loss in Logan County. Over the past 20-years, policyholders have, on average, received a 4-to-1 return on their investment in this loss protection mechanism.

Implementation Manager and strategy: City/ County Emergency Manager, in conjunction with USDA and NRCS.

Priority: Medium

Cost Estimate: Can be accomplished within existing budgets

Cost-Effectiveness Explanation: There is little cost associated with this project. The benefits are in receiving compensation for otherwise lost agricultural revenue, which in turn, contributes significantly to the County economy.

2009 Update: This is ongoing through federally backed crop loans.

Action Item #14: *Conduct a Public Education Campaign that addresses both Water Conservation and Tornado Safety.*

Issue Statement: For Water Conservation, create a display for use at the Logan County Fair. Develop Public Service Announcements. Issue “Conservation Awards” to homes, businesses, and industries with exemplary practices. For Tornado Safety, reach out to rural schools, businesses and groups. Many from the outlying communities are unable to travel to Sterling for classes such as Weather Spotting.”

Implementation Manager and strategy: City/County Emergency Manager, in conjunction with NRCS for Water Conservation and NWS for Tornado Safety.

Priority: Medium

Cost Estimate: \$6,000 for both programs.

Cost-Effectiveness Explanation: The benefits are in the potential for saving just one life, and providing time for individuals and businesses to take effective actions to protect property. Public education can be one of the most effective methods in reducing future property losses. The weather education efforts can bring severe weather education to 10,000 rural County residents. Providing awards creates public attention to “best management practices” and creates incentives for other private sector participation in similar efforts.

2009 Update: City of Sterling puts notes in water bills, water restrictions, rate increases, ongoing. OEM does several talks on tornado safety to Lions and Rotary club, city employees. Radio spots and PowerPoints have been developed.

Action Item #15: *Create and Train and Equip a Logan County Community Emergency Response Team (CERT)*

Issue Statement: CERTs are a growing and effective means to improve community readiness and response capabilities, particularly in the post “9/11” environment of Emergency Management. FEMA widely supports the development of CERTs

Implementation Manager and strategy: City/County Emergency Manager, in conjunction with ARC, CO-OEM and FEMA. CERT membership focuses on civic, school and other community leaders, including the local HAM radio operators.

Priority: High

Cost Estimate: \$5,000

Cost-Effectiveness Explanation: Creating CERTs provides civilians with education and training to help themselves and others, as well as providing training assistance to our professional community responders.

2009 Update: Active CERT team in place that meets monthly, with a membership drive upcoming. CERT members are identified as resources in EOPs and also help as shelter monitors.

2009 Wildfire Mitigation actions

The following actions are wildfire mitigation actions written for the 9 county region that the County, Sterling Rural Fire Department, and Crook Fire Protection District will undertake or participate in (See appendix C for details).

Update wildfire risk assessment

Develop Wildfire pre-attack plans
Develop County Annual Operating Plans for wildfire
Host Firewise presentations

Other potential projects identified during the 2009 update:

- Investigate the feasibility of installing both “dry hydrants” and dedicated irrigation wells to augment water supply for fire suppression. Dry hydrants allow for water to be drawn easily from existing water sources such as ponds and lakes. Irrigation wells could be used for water supply if there were proper couplings to hook-up equipment. The wells are usually turned off during the winter months.
- Continue to request FEMA to revise the floodplain maps in Sterling.
- Coordinate the collection of critical infrastructure and key assets (CI/KA) for the Sterling Fire Department to meet Homeland security needs.
- The County is developing a debris management plan that will include education of residents in all incorporated communities on where to collect debris in the event of a disaster.