PHILLIPS COUNTY PLANNING ELEMENT

Phillips County Planning Subcommittee and General Description

The following entities participated in the DMA planning process through the Phillips 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
Phillips County	Highline Electric
Emergency Management/Administration (Lead)	Y-W Electric
Board of Commissioners	Colorado State University - Golden Plains Area Extension
Road and Bridge	Northeast Colorado Health Department
Sheriffs Office	Colorado State Forest Service
City of Holyoke	Colorado Division of Emergency Management
Administration	
Town of Paoli**	
Town of Haxtun	
Holyoke Fire Protection District**	
Haxtun Fire Protection District**	
Haxtun Public Schools	
Holyoke Public Schools	

** New participant in 2009

County Profile

Phillips County is located in the northeastern region of the State and is adjacent to the Nebraska border. The land area of Phillips County is 688 square miles, which is the second smallest within the Planning Area. According to the 2000 U.S. Census, the population for Phillips County was 4,806. The 2008 population estimate from the Census is 4,601. The estimated average population density is 6.6 people per square mile. Phillips County grew at a rate of 6.9% between 1990 and 2000. Between 2000 and 2008, the County declined 4.3%. There are 2,059 housing units in the County, for an average housing density of 3.0 housing units per square mile. [1] As of the 2000 Census, the median age in the County is 39.8 years. 6.9% of the population is under the age of 5 and 19.4% of the population is age 65 or older. The average household size is 2.47 and the average family size is 3.01. 81.6% of the population over the age of 25 is a high school graduate or higher and 19.9% of the population holds a bachelor's degree or higher. 17.1% of the

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

population (over the age of 5) claims disability status and 10.9% of the population speaks a language other than English at home. 8.8% of families live below the poverty level, and 11.6% of individuals are below poverty level. .The County is predominantly rural. The 2007 Census of Agriculture reports 334 farms and 431,154 total acres of farmland, which is 97.8 % of the land in the County. The average farm size is 1,291 acres. A base map of the County can be referenced in Figure 1.

Hazard Identification and Summary

Phillips 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 Phillips County. This information is presented in Table 1. A detailed description of each hazard can be found in Section 4.2 Hazard Profiles.

Table 1. Phillips 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	Significant	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

Phillips County History of Recorded Natural Hazard Losses

In the 2008 State Hazard Mitigation Plan, the County identified windstorms, winterstorms, and lightning as the highest natural hazard risks to the County.[2] 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
1930's	Drought	Dust Bowl	Farms abandoned		Planning Team
6/6/40	Flood	Frenchman Creek		2.8" rain in 24 hours	FIS
9/23/41	Flood	Frenchman Creek		2.0" rain in 24 hours	FIS
4/15/1948	Prairie Fire		50,000 acres burned	4 lives lost	CO School of Mines
12/31/1949	Blizzard	Northeast Colorado	Isolation the towns	Power out 2-3 weeks	
6/28/1950	Hail		$3-5K in Holyoke	Golf ball size for 1 hour	NCDC
2/8/1951	Drought			Tried cloud seeding	Newspaper
5/15/51	Flood	Frenchman Creek		3.5" rain in 24 hours	FIS
6/8/1955	Tornado		$250K	F2, 1 injury	NCDC
5/24/1965	Tornado		$25K	F2	NCDC
7/3/1971	Tornado		$3K	F1	NCDC
8/15/1976	Tornado		$25K		NCDC
3/17/1977	Blizzard		5,500 poles lost- HEA ice damage	1,600 in Phillips power out up to 6wks	Newspaper REA
1980	Grasshoppers			State Dec	CO-OEM
1981	Grasshoppers			State Dec	CO-OEM
5/2/1991	Tornado		$250K	F1	NCDC
8/6/1993	Hail	Holyoke	$500K in crop damage		NCDC
6/12/1994	T-Storm/Wind	Haxtun	$50K		NCDC
8/1/1994	Tornado	Haxtun	$500?	Damage at airport	NCDC
August, 1994	Drought	Multi-County	$31M		NCDC
6/6/1995	T-Storm/Wind	Haxtun	$6K		NCDC

[2] 2008 State Hazard Mitigation Plan

Date	Event	Location	Damages	Other Info	Data Source
June, 1995	Flood		$68,881 road damage	CWCB-CO pd $35K	CWCB
6/15/1997	Flood Fed #1186		$264K to roads $400K total	31 homes affected 30,200 acres lost (wheat, corn, millet) Cars damaged Culvert washed out at Highway 23	FEMA CO-OEM CWCB
July, 1990	Drought	20 counties	$1 billion (USDA)		USDA
2000	Drought		(USDA Dec)	Contiguous County	USDA
2000	Ice Storm		Minor damage	$1K/pole	NCDC
April 2001	Winter Storms Fed #1374			REA's damaged	REA
6/23/2001	Hail	Amherst		2.25"	NCDC
2002 Drought	Drought (USDA)				CO-OEM USDA
8/3/03	T-Storm/Wind	Haxtun	$20K	Strong thunderstorm winds downed a tree which crashed on to a home.	NCDC
7/4/2006	T-Storm/Wind	Holyoke	$1 million	Winds ruptured 3 storage bins, spilling 200,000 bushels of popcorn	NCDC
7/12/2007	Flood	Amherst	$100K	Colorado Highway 23; east of Amherst, and U.S. Highway 6; east of Holyoke, were closed due to flooding. Spotter measured 10.3 inches of rain	NCDC

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

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

Dams:

- 0 Class I (High Hazard) Dams
- 0 Class II (Significant Hazard) Dams;
- 1 Dry dam: The "Means" Wildlife area (5 miles west of Holyoke) has an earthen dam that has no permanent pool. It failed once when retaining water, but caused little damage.

- Levees: None

Drought Incidents: 6 (regional occurrence)
Dust Storm: None noted
Earthquake: Minimal risk according to CGS survey.[3]
Extreme Temperatures:

- Highest Recorded Temperature in County 109ºF
- Lowest Recorded Temperature in County -33ºF
- Significant Cold Events: 4

Floods and Flash Floods: 10
Hailstorms: 12
Landslides: Sporadic, isolated areas of suspected moderate risk.
Lightning: Averages 2,700 strikes per year with 0 reported injuries and 0 reported deaths from 1980-2005.
Severe Windstorms: 104
Severe Winter Weather: 11
Tornadoes: (F1 or greater) 10 (Any size) 38
Wildfires: 60/year, minor (<30 acres) – "stubble" fires, drain fires, lightning
West Nile Virus: 33 human illnesses, 0 human fatalities
Total Reported Injuries: 26 +33 West Nile cases
Total Reported Fatalities: 4 + 0 West Nile cases

Phillips County Vulnerability Assessment

The intent of this section is to assess Phillips 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.

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

Assets at Risk

This section identifies Phillips 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:

- ***Haxtun:*** $4.585M in Assessed Value
- ***Holyoke:*** $9.703M in Assessed Value
- ***Paoli:*** $670K in Assessed Value
- ***Unincorporated County:***
    - $118.329M in Residential/Actual Value
    - $ 31.367M in Commercial/Actual Value
    - $ 70.266M in Agricultural Property/Actual Value
    - $ 580K in Industrial/Actual Value

Table 3. Building Exposure

City	Population	Building Count	Building Exposure ($)	Building Content ($)	Total Exposure ($)
Haxtun	988	934	66,636,000	43,340,000	109,976,000
Holyoke	2,261	1,696	145,754,000	107,304,000	253,058,000
Paoli	39	52	2,523,000	1,577,000	4,100,000
Unincorporated	1,192	1,314	80,644,000	55,928,000	136,572,000
Total	4,480	3,996	295,557,000	208,149,000	503,706,000

Source: HAZUS MH-MR3

Critical Facilities and Infrastructure

For purposes of this plan, a critical facility is defined as: "Those services and facilities necessary during a major emergency." This definition was refined by separating out three categories of critical facilities as further described in Section 4.3.1 of the base plan. An inventory of critical facilities in Phillips 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 Phillips County CPS.

Table 4. Critical Facilities Inventory

Facility Type	Number of Sites	Est. Replacement Value	Capacity or Enrollment	Additional Information
Essential Infrastructure				
Airports (paved)	2			
Communications Towers				
Correctional Facilities				
Electrical Generation/Distribution				
Media Outlets				
National Guard				
Public Safety Communications Centers	1			
Public Safety Facilities				
Police Stations	3			
EMS/Ambulance Stations				
Fire Stations	3			
EOCs	1			
Town/City Halls	3			
Wastewater Treatment	2			
Water Utilities/Treatment				
Childcare Centers				
Schools	6			
Shelters				
Hospitals	2			
Clinics	5			
Nursing Homes/Assisted Living Centers				
Natural, Cultural and Historic Resources				
Community Centers	2			
Historic Properties				
Hazardous Materials				
Extremely Hazardous Substances				
Hazardous Chemicals storage				

Natural and Historic Assets

Historic Sites in Phillips County

- St. Paul's Lutheran Church, Amherst
- First National Bank of Haxtun (Town Hall)
- Shirley Hotel (Haxtun Inn)
- Heginbotham House (Holyoke Public Library)
- Phillips County Courthouse
- Reimer-Smith Oil Station, Holyoke
- Sawyer House, Sears Hotel (Burge Hotel), Holyoke

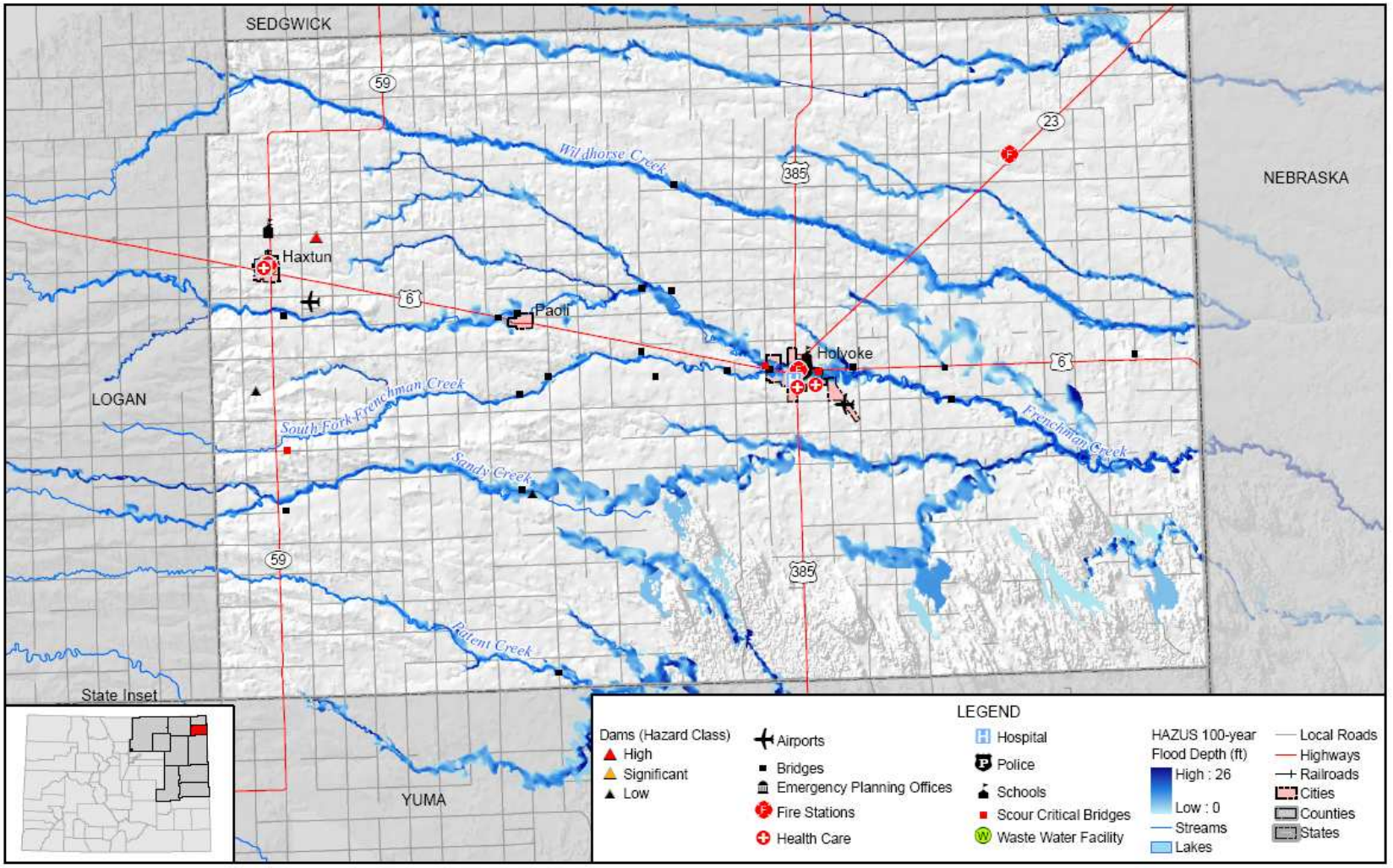
Development Trends

None. While the County has experienced limited growth, there is no distinguishable pattern as to where it occurs.

Floodplain Vulnerability Assessment

The best available flood data for Phillips 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 Phillips County HAZUS 100-year Floodplain and Critical Facilities Map



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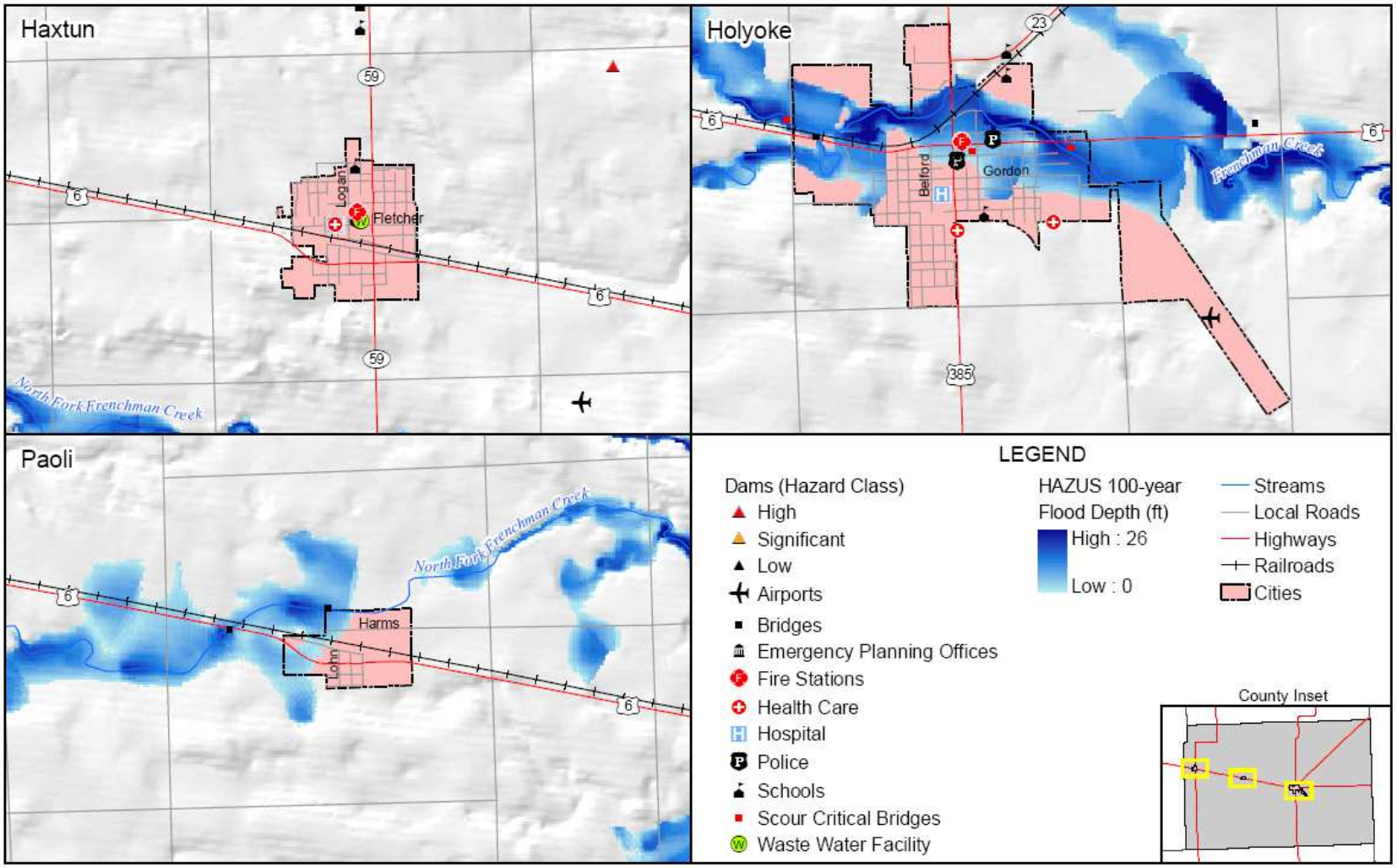
Map compiled 4/2009; intended for planning purposes only.
Data Source: State of Colorado, CDOT, CODWR,
HAZUS-MH MR3

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



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Map compiled 4/2009; intended for planning purposes only.
Data Source: State of Colorado, CDOT, CODWR,
HAZUS-MH MR3

HAZUS-MH estimates the potential for over $27 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 Town of Holyoke has the greatest flood risk and majority of the damage with $23,829,000 followed by the Town of Paoli with damage of $142,000. The map in Figure 3 displays the distribution of the flood loss by Census Block across the County. According to the map in Figure 1 the majority of flood impacts in the unincorporated County are located on Frenchman Creek which goes through the Town of Holyoke. According to a 2004 assessment the Town of Holyoke has 70 properties in the mapped floodplain: 3 commercial properties in floodplain valued $984,124 (2001 actual values); 15 residential properties in floodplain valued at $1,572,271; and 52 manufactured homes in floodplain valued at $437,975 (Frenchman's and Bahler's Mobile Home Park).

Table 5. Estimated Economic Losses from Flooding

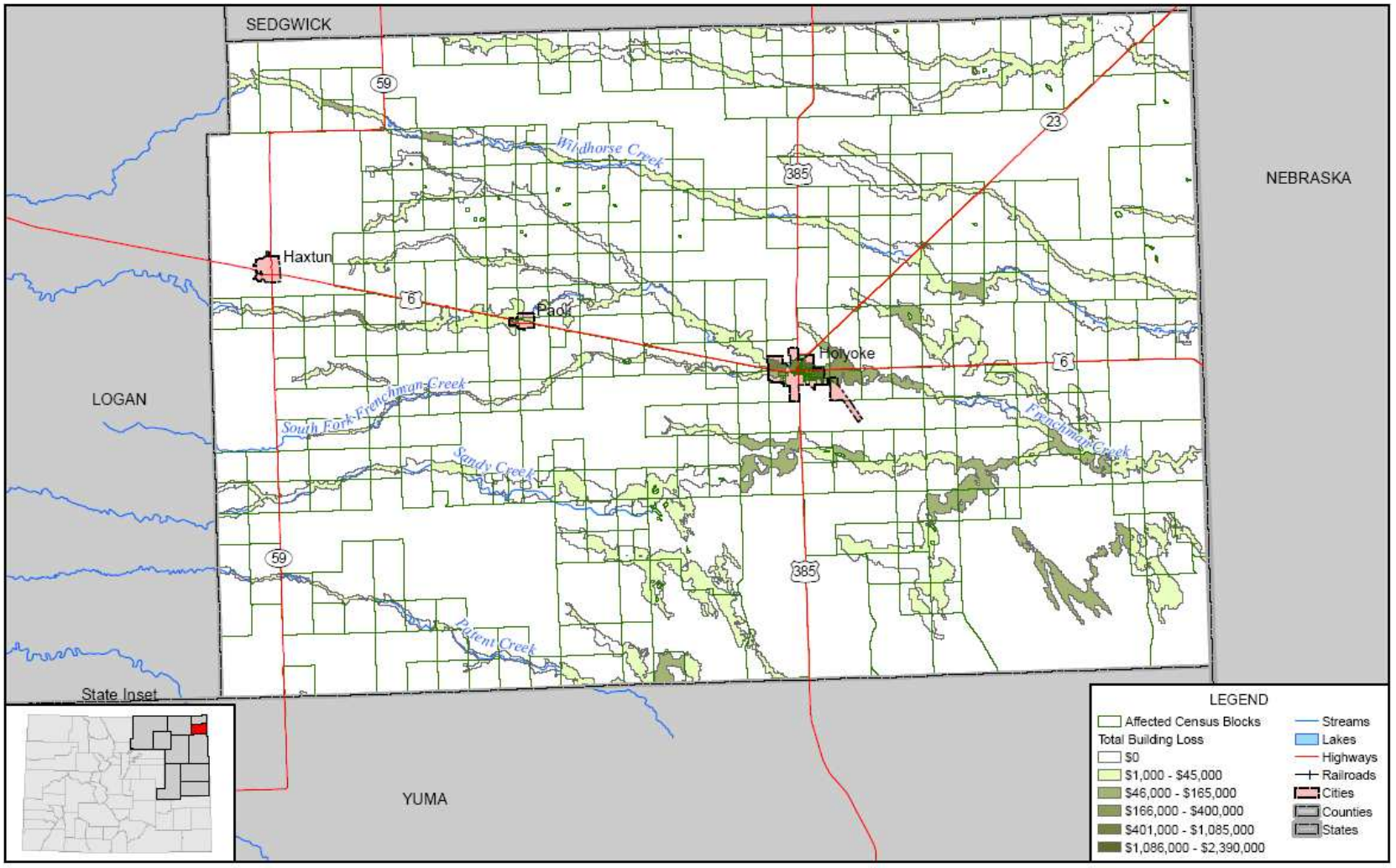
Jurisdiction	Cost Building Damage ($)	Cost Contents Damage ($)	Inventory Loss ($)	Relocation Loss ($)	Capital Related Loss ($)	Rental Income Loss ($)	Wage Loss ($)	Total Loss ($)	Percent of Total Loss	Loss Ratio
Haxtun	-	-	-	-	-	-	-	-	-	-
Holyoke	7,918,000	14,656,000	749,000	38,000	84,000	17,000	367,000	23,829,000	86%	5%
Paoli	24,000	92,000	9,000	-	-	-	17,000	142,000	1%	1%
Unincorporated	1,671,000	1,954,000	178,000	-	1,000	-	8,000	3,812,000	14%	2%
Total	**9,613,000**	**16,702,000**	**936,000**	**38,000**	**85,000**	**17,000**	**392,000**	**27,783,000**	**100%**	**3%**

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 town with the highest building damage loss ratio is Holyoke. Holyoke has the highest loss ratio of 5% with a potential building damage loss of $7,918,000. Paoli has the second highest loss ratio of 1% with a potential building damage loss of $24,000. Haxtun does not have any damage.

The HAZUS model grossly overestimates the flood risk for the Town of Holyoke when compared to the FIRM and mapping developed by the CWCB. The CPS also indicated that Paoli has greater flood risk than indicated by HAZUS, as floodwaters are diverted by the railroad tracks into town. The railroad bridge needs to be altered to fix the problem. The other communities and the unincorporated County can not be compared since there are not any effective flood maps for them.

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



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Map compiled 5/2009; intended for planning purposes only.
Data Source: State of Colorado, CDOT, CODWR, HAZUS-MH MR3

Floodplain Population Information:

The 2008 State Hazard Mitigation Plan estimates that there are 332 people, 120 1-4 family structures, and 15 other types of structures in the County floodplains. Phillips County was identified in the State flood risk assessment as **Low Risk**, based upon the floodplain population, the number of structures at risk, and the number of dams. HAZUS estimates more than 900 persons potentially at risk to flooding, as shown in Table 6.

Table 6. Population Displaced by Flooding

Jurisdiction	Displaced Population	Population Needing Shelter
Haxtun	-	-
Holyoke	802	373
Paoli	-	-
Phillips County	133	1
Total	**935**	**374**

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 **Error! Reference source not found.** and shown on the maps in Figures 2 and 3. While the map in Figure 2 indicates a fire and police station in the floodplain in Holyoke, further consultation with City administration revealed that this was not the case, as HAZUS exaggerated the floodplain in that section of the City. In Holyoke a sewage lift station moved. The original was ¼ mile north, but was moved in 1999 as part of sewer master plan update. The new sewer line is elevated above flood stage. The power substation is at the edge of the 500-year floodplain.

Table 7. Critical Facilities in the Floodplain Summary Table

Facility Type	Facility Count
Bridges	10
Scour Critical Bridges	3
Total	**68**

Phillips 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 4 scour critical bridges in Phillips County. They are all located on the highways that travel through Phillips County. One is located south of Haxtun on State Highway 59 at the intersection of South Fork Frenchman Creek. One is just west of the city limits of Holyoke on County Road 37 at North Fork Frenchman Creek. Two are located in the city limits of Holyoke, one on US 6 at Frenchman Creek and the other on US 385 at Frenchman Creek.

The location of these bridges is shown in Figure 1 and described in detail in Table 8.

Table 8. Phillips County Bridges Subject to Scour

Name	Road Type	Stream	Near City
US 6	Urban Regional Highway	Frenchman Creek	Holyoke
US 385	Urban Regional Highway	Frenchman Creek	Holyoke
County Road 37	Local Road	North Fork Frenchman Creek	Holyoke
State Highway 59	Rural Highway	South Fork Frenchman Creek	Haxtun

NFIP Claims Analysis

There are 5 policies in force in Phillips County. Detail is shown in Table 9.

Table 9. Policies and Claims Information

CID	Community Name	Total Premium	A-Zone	No. Policies	Total Coverage	Total Claims since 1978	Total Paid since 1978
80140	Holyoke, Town of	$3,089		3	$557,400	1	$2,244
286	Phillips County	$794		2	$90,000	1	$5,158
	County Total	$2,883		5	$647,400	2	$7,402

Repetitive Loss Properties:

There are no repetitive loss properties in the County.

Dam Failure Vulnerability Assessment

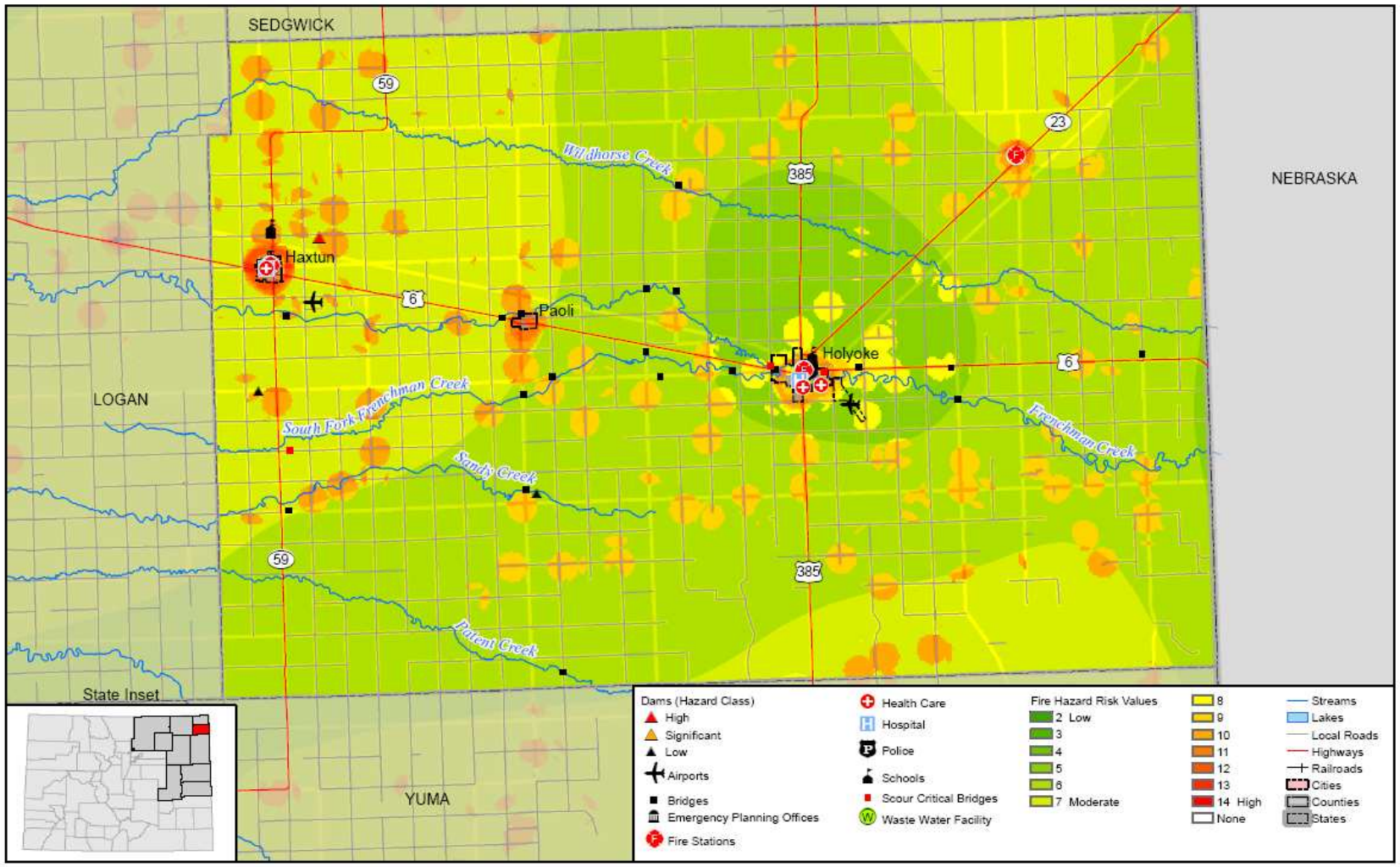
According to HAZUS MR3, there are no high or significant hazard dams in Phillips County.

Wildfire Vulnerability Assessment

Phillips County Wildland Urban Interface

The Wildland Urban Interface in Figure 4 for Phillips 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 Haxtun, Holyoke and Paoli. Haxtun and Paoli have the highest fire risk in the County with values between moderate and high with the higher values within the city limits. Holyoke is surrounded by moderate risk values along the city limits with low to moderate values within the city limits.

Figure 4 Phillips County Wildland Urban Interface



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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 10. The following narrative describes each community and potentially at risk critical facilities.

There are 35 Critical Facilities in a moderate to high fire hazard in Phillips County. Haxtun has six facilities in the fire hazard: one fire station, one health care, one hospital, one police station, one school and one waste water facility. Holyoke has three facilities in the fire hazard: one bridge, one school and one scour critical bridge. The unincorporated County has 26 critical facilities in the fire hazard: one airport, fifteen bridges, two scour critical bridges, two dams, one fire station, two health care and three schools.

Table 10. Critical Facilities Subject to Fire Hazard (by type)

Facility Type	Facility Count
Airports	1
Bridges	16
Dams	2
Fire Stations	2
Health Care	3
Hospital	1
Police	1
Schools	5
Scour Critical Bridges	3
Waste Water Facility	1
Total	**35**

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 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 Phillips County that show economic loss are corn, corn silage and wheat. Corn's total loss is $36,970,830, corn silage's total loss is $122,673,110, and wheat's total loss is $21,747,190. Phillips County has the third highest estimated economic total loss for agriculture products with $181,391,129. More detail is given in Table 11.

Table 11. Phillips County Direct Economic Flood 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	10,082,954	13,443,938	13,443,938	36,970,830
Corn Silage	0	33,456,303	44,608,404	44,608,404	122,673,110
Wheat	0	5,931,052	7,908,069	7,908,069	21,747,190
Total	**0**	**49,470,308**	**65,960,411**	**65,960,411**	**181,391,129**

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 $1.7 million in the County. More details are provided in Table 12 and 13.

Table 12. Phillips Count 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
495,217,761	50,137,832	24,608,422	25,529,210	49,149,258	1,755,331

Source: Federal Crop Insurance Services

Table 13. Phillips County 2008 Provisional Data: (Claim Data not available as 2008 claims are not fully reported)

Liability(Amount of Coverage)	Total Premium	Federal Premium Subsidy	Farmer-paid Premium
61,713,228	9,551,268	5,468,217	4,093,051

Source: Federal Crop Insurance Services

Phillips 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 14. Refer to the Introduction to the County Elements for an explanation of the capability assessment matrix.

Table 14. Regulatory Mitigation Capabilities

	PHILLIPS CO	Haxtun	Holyoke	Paoli
Comp Plan	Y	N	Y	Y
Land Use Plan	Y	N	Y	Y
Subdivision Ord	Y	Y	Y	
Zoning Ord	Y	Y	Y- being updated	Y
NFIP/FPM Ord	Y	Y	Y	N
- Map Date	7/98(E)	12/85-NSFHA	2/987-FIRM	Never Mapped
- Sub.Damage?	N	N/A	Y	N/A
- Administrator?	Y-Zoning Office	N/A	Y-Bldg. Inspector	N/A
- # of FP Bldgs?	0	0	70	0
- # of policies	1	N/A	3	N/A
- # of RL's?	0	N/A	0	N/A
CRS Rating	N/A	N/A	N/A	N/A
Stormwater Prgrm	N	N	Y	N
Building Code	N	Y-'98 UBC	Y-'98 UBC	N
Building Official.	Y-Zoning permits	Y-As to type/Land-Use	Y-Building Official	N

	PHILLIPS CO	Haxtun	Holyoke	Paoli
- Inspections?	N	N	Y-Setbacks only	N
BCEGS Rating	N	N	N	N
LEOP	Y	C	C	C
HM Plan	N	N	N	N
Warning	Y	Y	Y	Y
Storm Ready?	N	N-But has Spotters	N	N
Weather Radio?	Partial reception	Y	Partial reception	Partial reception
Sirens?	N	Y-2	Y-5: public info exists	Y-1
Emergency Warning Notification?	N	N	N	N
Other? EAS	cable override, but 2/3 not on cable: mostly satellite	N	N	N
GIS System	CADD	N	Partial	N
Structural Projects	N	Inverse crown streets	N	N
Property Protection	N	Bought lots for inverted streets	N	N
Crit.Fac.Protection	N	N	N	N
Natural Res. Inv.	N	N	N	N
Cultural Res. Inv.	Y	N	N	N
Erosion Control	N	N	N	N
Sediment Control	N	N	N	N
Pub. Info Prgrm	Newspaper, website	N	N	N
Env. Ed Prgrm	N	N	N	N

Other Mitigation Capabilities (Programs/Projects in Place):

NFIP Mapping Information:

- ***Haxtun:*** NSFHA (no special flood hazard area = no mapped floodplain); mapped in 1974, rescinded later
- ***Holyoke:*** Panel #080141-FIRM, 2/19/1987

- ***Paoli:*** Never Mapped
- ***County:*** Never Mapped, but joined regular program in 1998, so insurance is available
- The Highline Electric Association has an ongoing Hazard Mitigation program – though they don't formally call it that. The program is implemented as an ongoing effort, and affects both new construction & rebuilding. Each year, 30-50 miles of power lines are replaced or built, at a cost of approximately $1,000 per pole, with 20 poles per mile. The old standard was 18 poles per mile, which equates to between-pole spans of 280-300 feet. Under the new program, spans do not exceed 250 feet, and the poles being utilized are larger in diameter.
- There is an on-site drainage pond built in 1997 at the Highline Electric Association building (1300 S. Interocean Avenue). It was increased in size in 2000.
- The County has a web site that is used predominantly for economic development, and each community within the County has access to 18 pages of space. This holds significant opportunities for supporting a loss-reduction public education program.
- In Haxtun the community has aboveground drainage system, using an inverse crowned road. In 1987, the floodplain map was rescinded for Haxtun, as all areas were determined to be in the "C" zone. The County has recently raised the roads, and they now act as a dam and actually lessen the drainage problem. The WAPA (Western Area Power Association) substation has had water before (~ 1 ft), though it would take four feet of water to interrupt the power.

Phillips County Mitigation Goals & Recommendations

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: Philips County Emergency Manager will contact the National Weather Service to determine what Phillips County needs to accomplish, and then seek funding through grants to make the necessary improvements. This project will also involve the school districts (Haxtun Public Schools and Holyoke Public Schools) including presentations to the faculty, staff, and students on severe weather hazards and methods to reduce their impacts.

Priority: High

Cost Estimate: $8,000. Cost could change depending upon need for additional sirens, NOAA "Weather Radio" "repeaters," and NOAA "Weather Radios" for all government buildings, plus any necessary, training, and public education.

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. 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.

2009 Update: Not complete. The biggest need is for a tower to get the NOAA weather radio signal into the east half of the County. Right now a majority of residents do not receive any signal. There is not an established timeframe for this project, but the high priority indicates an attempt should be made to resolve the project within the next 24 months. However, budget constraints may hinder this process.

Action Item #2: ***The County and towns of Haxtun and Holyoke will continue to comply with the National Flood Insurance Program. Holyoke should undertake a targeted Public Education program for the 67 uninsured flood prone property owners***

Issue Statement: Of the 70 properties identified within the mapped floodplain of Holyoke, only 3 carry flood insurance policies issued through the NFIP. The majority of these properties are manufactured housing – which is more susceptible to flood damages than other type of construction. The City of Holyoke should undertake a public information campaign to ensure that flood prone 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. However, it is important to recognize that some manufactured housing producers and sellers do offer other types of flood insurance, so the first effort should be to determine if any of the flood prone property owners own, or think they own, some type of flood insurance. As part of continued compliance with the NFIP the County and towns will periodically update their ordinance and continue to enforce the ordinance regarding proposed development in the floodplain.

Implementation Manager and strategy: The County Emergency Manager should conduct a survey of flood prone property-owners to determine if they own, or believe they own, some form of flood insurance. This should be followed up with 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 flood prone property-owners. Monitor the number of insurance policies I 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: We still need to pursue this goal of educating the uninsured property owners. This action was modified in 2009 to incorporate continued compliance with the NFIP.

Action Item #3: ***Replace Railroad Bridge ½ mile west of Paoli, north of U.S. Highway 6***

Issue Statement: Flooding occurs every few years in Paoli. Two projects have been completed in an attempt to alleviate the problem. Phillips County constructed a major drainage project on the North Fork of Frenchman Creek, and the Colorado Department of Transportation is currently replacing the highway bridge with a larger structure. One needed last step would be to replace the railroad bridge structure to allow a larger flow.

Implementation Manager and strategy: The County Emergency Manager should contact the NKC (Nebraska-Kansas-Colorado) railroad Operations Officer to initiate the conversation. The County Emergency Manager could also ask CDOT to provide NKC with the benefit-cost analysis they utilized to justify constructing their improved bridge. The County should also provide their justification and design work for the drainage project they constructed.

Priority: High

Cost Estimate: $300,000

Cost-Effectiveness Explanation: Major damage has occurred in Paoli due to water not being able to pass through the CDOT and NKC bridges. The water is diverted into town. This project will prevent those damages from recurring. There is not an established timeframe for this project, but the high priority indicates an attempt should be made to resolve the project within the next 24 months. However, budget constraints may hinder this process.

2009 Update: The County continues to correspond with the railroad about the need for the bridge replacement but no action has been taken.

Action Item #4: ***Improve the drainage system with the City of Holyoke by installing Storm Drains*****.**

Issue Statement: The drainage down Gordon and Hale streets in Holyoke is inadequate during heavy rainstorms**.**

Implementation Manager and strategy: Mark Brown, City Superintendent. City should document prior damages incurred as a result of inadequate drainage, and estimate future potential losses in a 100-year event, in order to justify installation of storm drains. Simultaneously, monitor funding availability through grants for public infrastructure improvements (EPA, CDBG, FEMA, CWCB, CDOT, DOLA)

Priority: High

Cost Estimate: $250,000. Grants should be explored.

Cost-Effectiveness Explanation: If drainage is not improved, substantial flood damage could occur.

2009 Update: Not completed. Trying to acquire property to conserve and channel. There is not an established timeframe for this project, but the high priority indicates an attempt should be made to resolve the project within the next 24 months. However, budget constraints may hinder this process.

Action Item #5: ***Integrate the concept of Mitigation into the Comprehensive Plans (County, Holyoke, Paoli) as scheduled review and updates are undertaken***

Issue Statement: One of the most successful and easiest ways to accomplish hazard mitigation is to integrate the concept into the day-to-day workings of the local government. As the existing Comprehensive Plans undergo their regular review and update, opportunities should be identified to include the acknowledgement of existing hazard threats in the plans. Community activities, such as land-use and development should then take this hazard information into account, thus minimizing any potential loss from hazards before they occur.

Implementation Manager and strategy: County Emergency Manager, Community Planners and Development Coordinators. These officials can provide explain the concept to the review committees and provide sample language that can be customized and adopted. A copy of a "model" natural hazards element for a local comprehensive plan is available through APA.

Priority: High, because updates are currently scheduled

Cost Estimate: Zero. Utilize existing budgets to pay for staff time required

Cost-Effectiveness Explanation: There is no increased cost to the Town. The benefits are decreased exposure of future development and community assets to losses from natural hazards.

2009 Update: No comprehensive plan updates have occurred since the last plan, but this will be something the County implement in the future. Timeframes are consistent with the revision dates for comprehensive plans, with a hopeful biennial review.

Action Item #6: ***Undertake a Public Education campaign to inform people about keeping grass/brush away from structures, animal pens and chemical storage areas*****.**

Issue Statement: Small Grass Fires are the most frequently occurring hazard within the County. This education effort would help reduce the losses that are caused by these fires.

Implementation Manager and strategy: County Emergency Manager and community Fire Departments

Priority: High

Cost Estimate: Minimal

Cost-Effectiveness Explanation: There is little cost associated with this project. The benefits are decreased exposure of future development and community assets to losses from natural hazards.

2009 Update: The County has not completed this but will arrange with the Colorado State Forest Service to host a Firewise Workshop in the winter of 2010.

Action Item #7: ***Installation of inverted streets (or lower street level, as stormwater system) in Haxtun***

Issue Statement: During heavy rainstorms, the drainage in Haxtun, from Town Hall down Fletcher, Logan and Grant Streets is not adequate.

Implementation Manager and strategy: George Michael, Haxtun Town Superintendent. Town should document prior damages incurred as a result of inadequate drainage, and estimate future potential losses in a 100-year event, in order to justify installation of inverse street crowns or lowering of street surface level (so graded curbs contain drainage flows). Simultaneously, monitor funding availability through grants for public infrastructure improvements (EPA, CDBG, FEMA, CWCB, CDOT, DOLA)

Priority: Medium

Cost Estimate: $750,000. Grants should be explored

Cost-Effectiveness Explanation: If drainage is not improved, substantial flood damage could occur, seeking stimulus funds.

2009 Update: The Town has not completed this due to lack of resources, but would still like to pursue this. Until funding is procured, an accurate timeframe cannot be developed for the project. By the next plan update, however, we hope to have progress on this project.

Action Item #8: ***Installation of an overflow channel east of City of Holyoke*****.**

Issue Statement: Flooding has occurred in Holyoke because water is unable to move quickly through the Town. It currently backs up and spreads out. If the ox-bows in Frenchman Reek could be straightened with an "overflow channel," it would allow flood flows to get pass through Town quickly. That would prevent the current backing up and spreading out of floodwaters.

Implementation Manager and strategy: Mark Brown, City Superintendent. City should document prior damages incurred as a result of water backing up and spreading out, and estimate future potential losses in a 100-year event, in order to justify installation of storm drains. Simultaneously, monitor funding availability through grants for public infrastructure improvements (EPA, CDBG, FEMA, CWCB, CDOT, DOLA)

Priority: Medium

Cost Estimate: $300,000. Grants should be explored

Cost-Effectiveness Explanation: If drainage is not improved, substantial flood damage could occur.

2009 Update: No action has been taken on this due to budget constraints and other priorities.

Action Item #9: ***Promote the benefits of crop insurance to the County agricultural community***

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

Implementation Manager and strategy: 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 being accomplished through crop loans which require crop insurance.

2009 Wildfire Mitigation actions

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

Update wildfire risk assessment
Develop Countywide CWPPs
Develop Wildfire pre-attack plans
Develop County Annual Operating Plans for wildfire
Host Firewise presentations (see action #6 above)