LANGLADE COUNTY
ALL HAZARDS MITIGATION PLAN

Langlade County Emergency Management

Prepared by: North Central Wisconsin Regional Planning Commission

LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

prepared for:

Langlade County Emergency Management

by:

North Central Wisconsin Regional Planning Commission

adopted by Langlade County Board on:

June 17, 2008

This plan was prepared at the request and under the supervision of the Langlade County Public Safety Committee and its Emergency Management Director by the North Central Wisconsin Regional Planning Commission (NCWRPC). For more information, contact:

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Introduction

Part I of the Langlade County All Hazards Mitigation Plan describes and documents the process used to develop the plan. This includes how it was prepared and who (committee, organizations, departments, staff, consultants, etc.) was involved in the planning process. It also describes the local governments involvement, the time period in which the plan was prepared, and who to contact to answer questions and make recommendations for future amendments to the plan.

Disaster Mitigation Act of 2000

The development of the Langlade County All Hazards Mitigation Plan is a response to the passage of the Disaster Mitigation Act of 2000 (DMA2K). On October 30, 2000, DMA2K was signed into law by the U.S. Congress in an attempt to stem the losses from disasters, reduce future public and private expenditures, and to speed up response and recovery from disasters. This Act (Public Law 106-390) amended the Robert T. Stafford Relief and Emergency Assistance Act. The following is a summary of the parts of DMA2K that pertain to local governments and tribal organizations:

- The Act establishes a new requirement for local governments and tribal organizations to prepare an All Hazards Mitigation Plan in order to be eligible for funding from FEMA through the Pre-Disaster Mitigation Assistance Program and Hazard Mitigation Grant Program.

- The Act establishes a requirement that natural hazards such as tornados, floods, wildfires need to be addressed in the risk assessment and vulnerability analysis parts of the All Hazards Mitigation Plan. Manmade such as hazardous waste spills is encouraged but not required to be addressed.

- The Act authorizes up to seven percent of Hazard Mitigation Grant Program funds available to a state after a federal disaster to be used for development of state, local, and tribal organization All Hazards Mitigation Plans.

- The Act establishes November 1, 2004 as the date by which local governments and tribal organizations are to prepare and adopt their respective plans in order to be eligible for the FEMA Hazard Mitigation Grant Program and November 1, 2003 Pre-Disaster Mitigation Program.

- If a plan is not prepared by November 1, 2004, and a major disaster is declared, in order for a local government or tribal organization to

be eligible to receive funding through the Hazards Mitigation Grant Program, they must agree to prepare an All Hazards Mitigation Plan within one year.

- In addition, by not having an All Hazard Mitigation Plan, local governments and tribal organizations cannot utilize funding through the Pre-Disaster Mitigation Grant Program.

Development of All Hazards Mitigation Plan

The Langlade County Emergency Management Department received a Planning Grant in 2005 to develop an All Hazards Mitigation Plan through the Pre-Disaster Mitigation (PDM) Program.

In late 2005, the North Central Wisconsin Regional Planning Commission (NCWRPC) began preparation of the All Hazards Mitigation Plan at the request of the County Public Safety Committee.

The planning process included regular Committee meetings as well as extensive involvement from the local units of government within Langlade County and the counties surrounding Langlade. A variety of local and regional agencies were involved in the development of the plan at various stages, and extensive opportunity for public participation was provided including public informational meetings and hearings.

Five Parts of All Hazards Mitigation Plan

The Langlade County All Hazards Mitigation Plan was categorized into five parts in order to address FEMA's local mitigation plan requirements. The five parts are as followed:

Part	I:	Planning Process
Part	II:	Planning Area
Part	III:	Risk Assessment
Part	IV:	Mitigation Strategy
Part	V:	Plan Mitigation Process and Adoption

All Hazards Mitigation Plan Taskforce

The Langlade County All Hazard Mitigation Plan was prepared under the guidance of an advisory taskforce that consisted of the current members of the County Public Safety Committee. Periodic meetings were held with the NCWRPC staff, the County Emergency Management Coordinator, and the Committee Task Force to provide input on the types of hazards to be considered, appropriate mitigation strategies, and to review draft reports. Committee members are as follows:

Douglas Nonnenmacher, Chair
Lynn Arrowood
Jerrold Burns
Dale Dahms
Richard Hurlbert

Local Government Involvement

There were a number of opportunities for the local units of government to become involved in the planning process.

In March of 2006 a hazard mitigation issues survey was sent to each town chairperson and clerk, see APPENDIX A, requesting which hazards are a concern, input on past and future mitigation measures, and to document other information that could be incorporated into the All Hazards Mitigation Plan. Responses were received from 12 of 17 towns. A significant amount of information was gleaned from these questionnaires and incorporated into the planning document.

On June 21, 2006, the NCWRPC formally introduced the plan to the Langlade County Towns Association at a meeting at the Vilas Town Hall. A presentation was given describing the planning process followed by a general discussion of the hazards facing the towns. Approximately 30 town officials were present at this meeting, representing a majority of towns in the County. At the end of the presentation comments on potential mitigation strategies were solicited and each town was asked to assist in identification of critical facilities on a county base map provided.

The City of Antigo was formally introduced to the planning process at a separate meeting on January 17, 2007. Mayor Mike Matousek, City Administrator Dale Soumis, Fire Chief Robert Donahue and Public Works Director Charlie Brinkmeier were in attendance. The participants at this meeting also provided information on hazards that have significance to the area, discussed critical facilities and provided mitigation strategy ideas for the plan.

The Village of White Lake was formally introduced to the planning process at a separate meeting on February 13, 2007. Village President Joe Edelman, Village Trustees Dale Brown, George Campbell and Jerry Voight, Fire Chief Daniel Kennedy, and Public Works Director Scott Popelka were in attendance. The participants at this meeting also provided information on hazards that have significance to the area, discussed critical facilities and provided mitigation strategy ideas for the plan.

Neighboring Community Involvement

One of the requirements of the planning process was to include neighboring communities. In previous plans, the NCWRPC experienced low attendance in response to invitations to county emergency management staff from surrounding counties. As a result, NCWRPC staff teleconferenced with staff from Forest, Oneida, Lincoln, Marathon, Shawano, Menominee and Oconto counties. Ideas were exchanged about All Hazards Mitigation planning processes and strategies between the various counties.

Local and Regional Agency Involvement

Another requirement of the planning process was to involve local and regional agencies in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and non-private interests. To meet this objective, the NCWRPC invited a diverse group of stakeholders to discuss potential hazard mitigation strategies.

The meeting was held on May 14, 2007 at County Courthouse in Antigo. Agencies and organizations represented include the following:

Bill Brandt	-	Antigo Police Department
Mark Damrau	-	American Red Cross
Becky Frisch	-	County Land Records and Regulation
Katie Frisch	-	County Emergency Management
Dave Gregurich	-	Peck Volunteer Fire Department
Mary Greunke	-	Pickeral Fire & Rescue
Brad Henricks	-	County Sheriff's Department
Mick Macklem	-	Wisconsin Public Service
Jeff McKinney	-	Town of Elcho
Mike Winski	-	County LEPC Committee
Ron Zalewski	-	Wisconsin Dept. of Natural Resources
Jack Zimmerman	-	City Gas Company

A number of other agencies were invited but chose not to attend, including: County Aging and Social Services Departments, County Forestry, County Health Department, County Highway Department, County Land Conservation, Langlade Memorial Hospital, Northcentral Technical College, University of Wisconsin – Extension, and the various local fire departments and EMS units.

During the meeting, the Plan and its components were introduced to the attendees. A summary of proposed mitigation strategies was given to

each person present. Each mitigation measure was discussed in length with the group. Part IV of the Plan was revised based on the meeting.

During the meeting a number of issues relating to the preparedness and response phases of emergency management were discussed. Meeting attendees felt that an incident command post center should be identified and outfitted with communications and everything needed to be ready to go in Langlade County.

The communications issue itself was further discussed. In particular, the need for tower replacement and upgrade as well as additional towers to fill-in areas where coverage is weak was identified. Langlade County should continue to work with the North Eastern Wisconsin Communications (NEWCOM) group, a multi-county consortium formed to address public safety communications issues.

Public Review Process

Opportunities for public comment were provided to review the Plan during the drafting stage and prior to Plan approval. All meetings were properly posted and open to the public. A copy of the draft was made available on the Internet. Comments and questions about the Plan were directed to the Langlade County Emergency Management Department.

A public informational meeting on the draft plan was held in the Langlade County Courthouse on May 14, 2007. Notices were distributed to each local unit of government and posted in the local newspapers. A total of four (4) people (in addition to staff) attended these meetings.

A public hearing was held by the County Public Safety Committee on March 4, 2008. No one from the public attended and thus no public comments were received. In addition, no written comments were submitted. Following the public hearing, the County Board approved the plan at a subsequent meeting, see the resolution in Appendix B for details on this meeting. A brief overview of the planning process and resulting plan was provided by Staff, and there was some general discussion by the Board.

Each local unit was asked to adopt the plan for its jurisdiction at their own properly posted and open public meeting, see APPENDIX B for the County and other local units resolutions of adoption.

Incorporated Plans, Studies, Reports And Technical Data

Many plans, reports, and technical data were referenced and incorporated into the Langlade County All Hazards Mitigation Plan. The following is comprehensive list of the data was used:

- Langlade County Economic Develoment Strategy
- Langlade County Emergency Operations Plan
- Emergency Action Plans – various dams within county
- Flood Insurance Study...for Langlade County and Incorporated Areas
- Hazard Analysis for the State of Wisconsin
- Land and Water Resource Management Plan – Langlade County
- Zoning Ordinance – Langlade County
- State of Wisconsin Hazard Mitigation Plan

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INTRODUCTION

Part II of the Langlade County All Hazards Mitigation Plan provides political, geographical, and demographic information on Langlade County. This collection of data must be referenced in order to determine sound hazard mitigation strategies. The resulting information is an important element of the planning process, since sound alternative plans cannot be formulated and evaluated without an in-depth knowledge of the relevant conditions in the study area.

GENERAL GEOGRAPHY

Location

Langlade County is located in northern Wisconsin (See Map 1). The largest city and county seat is Antigo in the south-central portion of the county. The Village of White Lake is located near the eastern end of the county. The county is bounded on the north by Oneida and Forest Counties, on the east by Oconto County, on the south by Menominee, Shawano and Marathon Counties, and on the west by Lincoln County.

Langlade County lies approximately 81 miles northwest of Green Bay; 181 miles northwest of Milwaukee; and 170 miles north of Madison. Major metropolitan areas outside of Wisconsin are Chicago, 267 miles southeast; Minneapolis-St. Paul, 207 miles west; and Duluth, 229 miles northwest.

Civil Divisions

There are 19 municipalities (17 towns, 1 village and 1 City) in the Langlade County planning area. These units of government provide the basic structure of the decision-making framework. The County has a total surface area of about 888.55 square miles, of which 1.8% is water. The area and proportion of the County within each civil division are presented in Table 1.

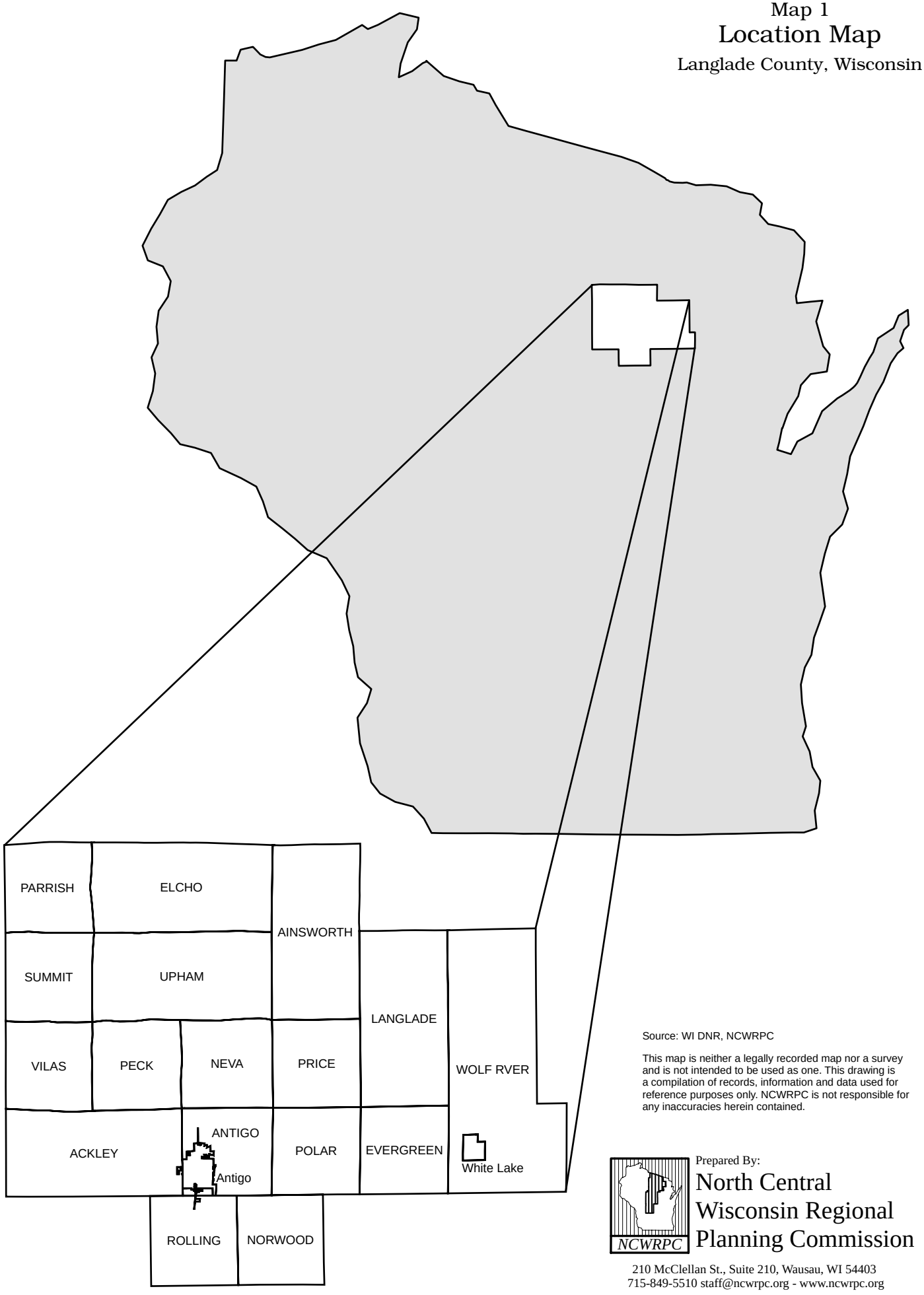
Topography

The relief of Langlade County is primarily the result of glaciation. The landscape is characterized mostly by moraines and outwash plains and partly by a variety of other glacial features. The moraines are mostly gently sloping to very steep. The outwash plains are smooth and level. The Antigo Flats, a major outwash plain, in the south-central part of the county was an area not covered by ice during the most recent glaciation. Elevations range from about 1,070 feet above sea level in the southeast corner (Wolf River) to 1,903 feet above sea level in the Town of Langlade.

Map 1

Location Map

Langlade County, Wisconsin



Source: WI DNR, NCWRPC

This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. NCWRPC is not responsible for any inaccuracies herein contained.

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Table 1	Geographical Size by Municipality			
	Area in square miles			
Municipality	Water area	Land area	Total area	Area as % of County
Ackley town	0.76	70.84	71.60	8.1%
Ainsworth town	2.46	69.48	71.94	8.1%
Antigo town	0.01	31.07	31.08	3.5%
Elcho town	3.88	71.37	75.25	8.5%
Evergreen town	0.41	35.84	36.25	4.1%
Langlade town	0.97	71.52	72.49	8.2%
Neva town	0.28	37.43	37.71	4.2%
Norwood town	0.38	35.75	36.13	4.1%
Parrish town	0.26	36.32	36.58	4.1%
Peck town	0.07	37.17	37.24	4.2%
Polar town	0.34	35.59	35.93	4.0%
Price town	0.15	36.19	36.34	4.1%
Rolling town	0.03	36.01	36.04	4.1%
Summit town	0.01	36.41	36.42	4.1%
Upham town	3.37	70.54	73.91	8.3%
Vilas town	0.00	35.89	35.89	4.0%
Wolf River town	2.18	116.60	118.78	13.4
White Lake village	0.28	2.20	2.48	0.3%
Antigo city	0.05	6.44	6.49	0.7%
Langlade County	15.89	872.66	888.55	100.0%

Source: U.S. Census

DEMOGRAPHIC AND ECONOMIC PROFILE

Population and Households

The current (2005) population estimate for Langlade County indicates a population of about 21,389 people for the County. The 2000 Census reported a population base of 20,740 people. This figure represents about 0.39% of the State's total population. In 2000, approximately 43% of the county's population lived in the urban settings of the City of Antigo and Village of White Lake and 57 percent lived in the surrounding rural area.

Since 1990, the population of Langlade County has increased by 6.3% or 1,235 people (Refer to Table 2). That rate of increase was the lowest compared with the adjacent counties and the state. If the growth rate continued at this same level, there will be approximately 21,616 people in Langlade County in 2010 and 22,244 people in 2020.

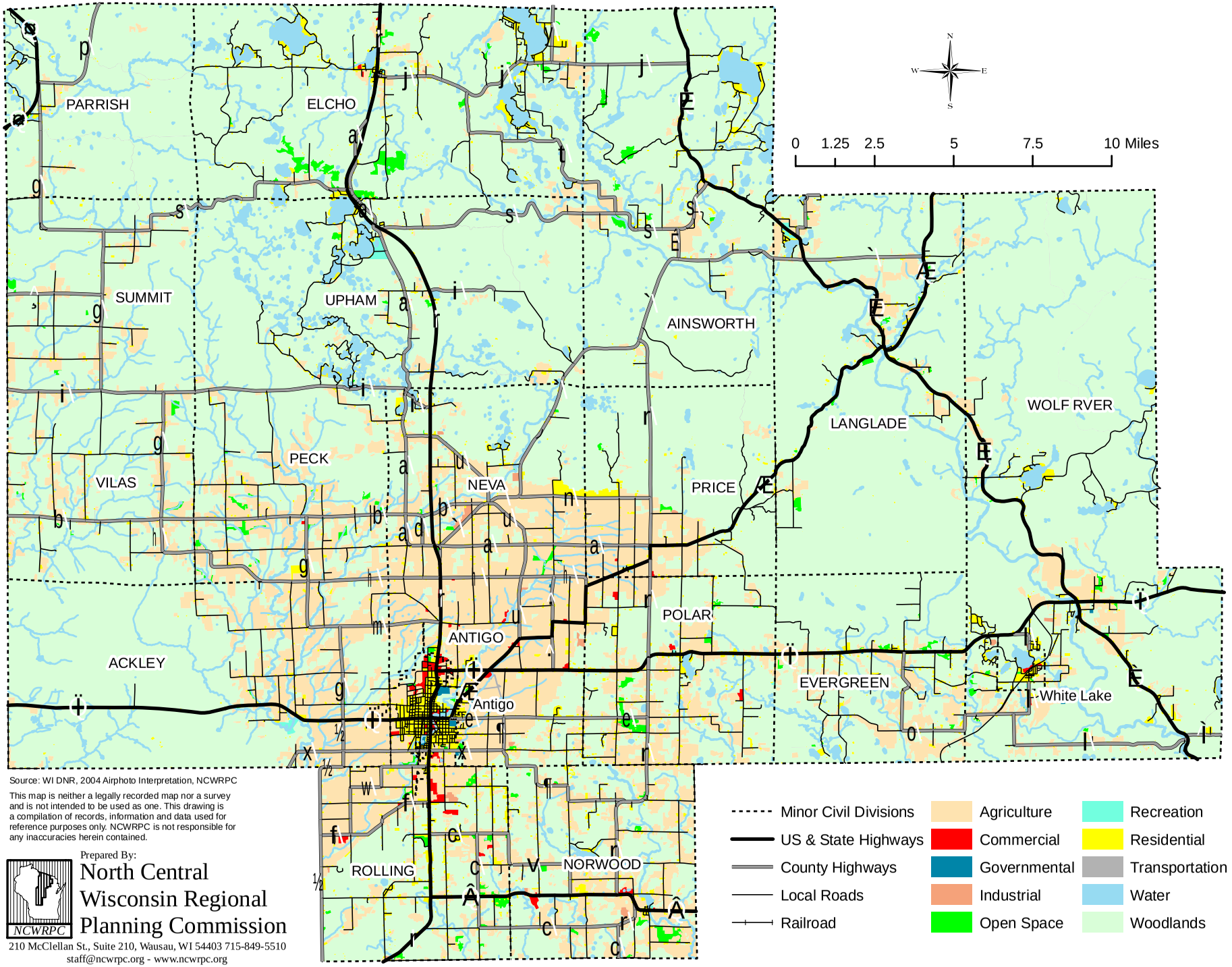
TABLE 2 **Population of Adjacent Counties**

County	1990	2000	Change	% Change
Langlade	19,505	20,740	1,235	6.3%
Forest	8,776	10,024	1,248	14.2%
Oconto	30,226	35,684	5,458	18.1%
Menominee	3,080	4,562	1,482	48.1%
Shawano	37,157	40,664	3,507	9.4%
Marathon	115,400	125,834	10,434	9.0%
Lincoln	26,993	29,641	2,648	9.8%
Oneida	31,679	36,776	5,097	16.1%
Wisconsin	4,891,769	5,363,690	471,921	9.6%

Source: U.S. Census

Population concentrations and trends are important when prioritizing hazard mitigation strategies. The City of Antigo is the most densely populated and developed area in the county. Other areas of population concentrations are the Village of White Lake, and 17 unincorporated hamlets including Bryant, Deerbrook, Elcho, Elmhurst, Elton, Holister, Kempster Langlade, Lily, Neva, Neva Corners, Parrish, Pearson, Phlox, Pickeral, Polar and Summit Lake. Map 2 (Land Use) shows areas of population concentrations in the County. Overall population density of the county is 23.8 persons per square mile which ranges from a high of 1,328.7 in the City of Antigo to a low of 3.0 in the Town of Parrish.

Between 1990 and 2000, most of the communities within Langlade County experienced an increase in their population base (refer to Table 3). The greatest amount of growth occurred in the Town of Ainsworth with a 38.59% increase between 1990 and 2000. In-migration and an increase in lakefront development likely fueled this growth. Also, in more isolated towns, the growth could have occurred due to more people purchasing private woodlots for residential and recreational use.



Generalized Land Use Map

Langlade County, Wisconsin

Map 2

Source: WI DNR, 2004 Airphoto Interpretation, NCWRPC

This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. NCWRPC is not responsible for any inaccuracies herein contained.

Minor Civil Divisions
US & State Highways
County Highways
Local Roads
Railroad

Agriculture
Commercial
Governmental
Industrial
Open Space

Recreation
Residential
Transportation
Water
Woodlands

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Table 3	Population and Households Size of Civil Divisions					
MINOR CIVIL DIVISION	1990 Population	1990 Households	2000 Population	2000 Households	1990 – 2000 % Change in Population	1990 – 2000 % Change in Households
Ackley town	540	199	510	202	-5.56%	1.51%
Ainsworth town	474	184	571	255	20.46%	38.59%
Antigo town	1,428	512	1,487	550	4.13%	7.42%
Elcho town	1,075	485	1,317	613	22.51%	26.39%
Evergreen town	483	165	468	181	-3.11%	9.70%
Langlade town	415	171	472	208	13.73%	21.64%
Neva town	910	332	994	360	9.23%	8.43%
Norwood town	842	276	918	332	9.03%	20.29%
Parrish town	81	37	108	41	33.33%	10.81%
Peck town	402	130	354	136	-11.94%	4.62%
Polar town	880	298	995	354	13.07%	18.79%
Price town	248	88	243	92	-2.02%	4.55%
Rolling town	1,316	434	1,452	512	10.33%	17.97%
Summit town	190	69	168	66	-11.58%	-4.35%
Upham town	626	262	689	319	10.06%	21.76%
Vilas town	257	90	249	97	-3.11%	7.78%
Wolf River town	750	302	856	368	14.13%	21.85%
White Lk village	304	124	329	136	8.22%	9.68%
Antigo city	8,284	3,405	8,560	3,630	3.33%	6.61%
Langlade County Total	**19,505**	**7,563**	**20,740**	**8,452**	**6.33%**	**11.75%**

Source: U.S. Census

Employment

The trade, transportation and utilities sector actually employs more people than the manufacturing sector in Langlade County, but total wages are higher in manufacturing. This places a premium on manufacturing employment for its overall economic benefit to the county and the region. There are direct and indirect employment linkages from manufacturing to employment in natural resources, business services, transportation and wholesale trade. Wood products and machinery are the larger manufacturing sectors in the county. Retail trade makes up the majority of employment in the county's trade, transportation and utilities sector employment.

Table 4 identifies the top employers and the their general location in the county. Identifying locations of large employment is important when prioritizing hazard mitigation strategies.

Table 4 Top Employers in Langlade County			
Company	**Product or Service**	**Size**	**Location**
Antigo School District	Elementary & Secondary Schools	500-999	Various locations
Langlade Memorial Hospital	General Medical/ Surgical Hospitals	250-499	City of Antigo
Wal-Mart	Discount Dept. Stores	250-499	City of Antigo
County of Langlade	County Public Employment	100-249	Various locations
Eastview Rehab. Center	Nursing Care Facilities	100-249	Various locations
Amron LLC.	Ammunition Mfg.	100-249	City of Antigo
Kretz Lumber Co.	Sawmills	100-249	Town of Rolling
Fleet Wholesale Supply Co.	Warehouse Club	100-249	City of Antigo
Waukesha Bearings Corp.	Mechanical Equip. Mfg.	100-249	City of Antigo
Antigo Cheese Co.	Cheese Product Mfg.	100-249	City of Antigo

Source: Wisconsin DWD, 2004 and NCWRPC

Property Value

The value of the real estate and personal property in a community reflects the upper end of the potential for property damages in each community. The annual equalized value of each municipality represents the Department of Revenue estimate of market value (Agricultural land is included at Use Value) of all taxable property. Property tax levies of jurisdictions are apportioned to each municipality on the basis of equalized value. Table 5 lists each municipality's total equalized values for real estate, personal property, and all property and the percent each municipality represents of the county total.

As stated above, the valuation of property in a community reflects the potential for property damages across the community. However, only taxable properties are included in this valuation. Tax exempt government properties are not included. With Langlade County owning many critical facilities that are needed in times of disaster, the potential for damages to these structures could be devastating for the county. In Table 6a, the county owned critical facilities are listed with the general location they are in and the value of the facilities. Estimates for local government facilities are given in Table 6b, c and d.

Table 5 Equalized Value by Municipality				
Municipality	**Real Estate**	**Personal Property**	**Total**	**% of Total**
Ackley town	$33,829,600	$173,600	$34,003,200	2.2%
Ainsworth town	$67,400,800	$1,161,900	$68,562,700	4.4%
Antigo town	$91,023,100	$1,464,000	$92,487,100	5.9%
Elcho town	$230,505,000	$4,748,100	$235,253,100	15.1%
Evergreen town	$32,393,400	$96,600	$32,490,000	2.1%
Langlade town	$56,684,500	$734,000	$57,418,500	3.7%
Neva town	$64,124,000	$259,000	$64,383,000	4.1%
Norwood town	$60,331,700	$591,100	$60,922,800	3.9%
Parrish town	$12,595,400	$14,600	$12,610,000	0.8%
Peck town	$27,912,600	$66,300	$27,978,900	1.8%
Polar town	$65,281,700	$131,600	$65,413,300	4.2%
Price town	$18,260,500	$174,900	$18,435,400	1.2%
Rolling town	$92,741,800	$1,397,400	$94,139,200	6.0%
Summit town	$19,901,900	$465,100	$20,367,000	1.3%
Upham town	$191,879,600	$1,795,300	$193,674,900	12.4%
Vilas town	$23,809,800	$315,800	$24,125,600	1.6%
Wolf River town	$108,104,500	$448,200	$108,552,700	6.8%
White Lake village	$14,356,800	$234,900	$14,591,700	0.9%
Antigo city	$319,516,100	$12,042,500	$331,558,600	21.3%
Langlade County	$1,530,652,800	$26,314,900	$1,556,967,700	100.0%

Source: WI Department of Revenue, 2006

Table 6a Value of County Owned Properties		
Name	**Value***	**Location**
Airport	$2,208,033	Antigo town
Camp Susan	$470,300	Deerbrook
Community Center	$1,367,179	Antigo city
Courthouse/Safety Bldg	$16,047,030	Antigo city
Fairgounds	$5,676,514	Antigo city
Health Services Center	$4,414,505	Antigo city
Highway Department	$4,979,098	Antigo city
Highway Department	$134,037	Lily
Parks & Recreation	$1,973,466	Various locations
Resource Center	$1,713,034	Antigo city
Transmitter	$195,609	Langlade town
Transmitter	$214,075	Rolling town
Total	$39,392,880	Above locations

***=Includes insured buildings, contents, and property in the open.
Source: Statement of Values State of Wisconsin Local Government Property Insurance Fund.

Table 6b: Value of Town Owned Properties		
Municipality	**Property**	**Value***
Ackley town	Town Hall	$189,000
Ainsworth town	Town Hall	$189,000
Antigo town	Town Hall / Fire Dept.	$259,000
Elcho town	Town Hall & Misc. Facilities	$1,704,000
Evergreen town	Town Hall	$155,000
Langlade town	Town Hall	$136,000
Neva town	Town Hall & Storage Bldg	$113,000
	School Building	$24,000
Norwood town	Town Hall/Shop & Fire Dept.	$364,000
Parrish town	Town Hall	$189,000
Peck town	Town Hall	$189,000
Polar town	Town Hall	$189,000
Price town	Town Hall	$189,000
Rolling town	Town Hall	$108,000
Summit town	Town Hall	$189,000
Upham town	Town Hall	$189,000
Vilas town	Town Hall	$189,000
Wolf River town	Town Hall	$189,000
*=Rounded / Includes insured buildings, contents, and property in the open		
Source: Statement of Values State of Wisconsin Local Government Property Insurance Fund		

Table 6c Value of Village Owned Properties	
Property	**Value***
Municipal Building / Shop	$981,735
Fire Station	$334,251
Well Locations	$281,558
Ball Park	$84,288
Pavillion Lake Park	$425,264
Lift Stations	$262,849
Total	$2,369,945
*= includes insured buildings, contents and property in the open Source: Statement of Values WI Local Government Property Insurance Fund	

Table 6d:	Value of City Owned Properties
Property	**Value***
Cemetery	$21,374
City Hall / Fire Dept.	$2,556,998
Landfill	$1,082,501
Library	$3,695,210
Library Branches**	$64,421
Lift Stations	$316,308
Parks & Recreation	$2,382,269
Police Department	$109,050
Public Works Shop	$2,421,054
Sewage Treatment Plant	$21,084,219
Water Works	$59,854,440
Well Locations	$214,235
Total	$91,381,025
*=Includes insured buildings, contents, and property in the open ** = Locations: Elton, White Lake, Elcho	
Source: Statement of Values State of Wisconsin Local Government Property Insurance Fund	

LAND USE / COVER AND DEVELOPMENT PATTERNS

Land use is an important determinant in the potential impact a particular hazard may have, and in actions which may be taken to mitigate the hazard impacts. An understanding of the amount, type, and spatial distribution of urban and rural land uses within the County is an important consideration in the development of a sound hazard mitigation plan.

The North Central Wisconsin Regional Planning Commission (NCWRPC) has categorized land use in Langlade County into general classifications. Aerial photos were used to digitize a land use Geographic Information System (GIS) coverage. Map 2 shows the land use and surface water in Langlade County. Table 7 shows the acreage and percent of each classification.

Agriculture and Forestry

The dominant land-use/cover in Langlade County is forestry. Land area in the county is approximately 77 percent forested, comprised of approximately 435,000 acres of woodland. Forest products are a significant element of the county's economy from saw logs to veneer to cordwood and pulp to Christmas trees and boughs and even maple

syrup. Agricultural land covers another 16.4 percent of the county's land area, which is mostly located on previously forested tracts that were cleared by early settlers. Agriculture is an important part of the county's economy. Langlade County is one Wisconsin's leading producers of both Potatoes and oats. Wheat, barley, snap beans and forage hay are also significant crops in the county. Dairy and beef production continue to be significant but have been declining historically. A short growing season, irregular topography, and relatively poor soil productivity, limits agricultural production in the county.

Commercial, Industrial and Institutional Development

Commercial, industrial and institutional development makes up only about 0.3 percent of the total area of the County. Land use for commercial and industrial development is mostly located in the City of Antigo, but pockets are scattered around the county. Most industry is related to processing forest and agricultural products. There are three serviced industrial parks in Langlade County including a 146 acre site in the City of Antigo, a 20 acre site in the Town of Elcho and a 10 acre site in the Village of White Lake. Government and other institutional facilities are concentrated in the City of Antigo, however a variety of facilities are scattered throughout, such as rural schools, town halls and the Langlade County airport just east of the city.

Residential Development

Land in residential development makes up approximately 3.0 percent of the total county area. Residential concentrations are scattered throughout the county (see "Population and Households" above). Much of the scattered rural development is related to direct recreational demand as various types of housing have clustered along streams and lakes.

There are a number of mobile home parks in the county. According to the U.S. Census, there were 954 mobile homes in 2000. This is about 9 percent of housing units for the County compared to about 4 percent for the entire state. This is significant due to their vulnerability in natural hazards especially tornadoes. Map 13

Table 7 Land Use in Langlade County

Description	Acres	Percent
Agriculture	93,090	16.4%
Commercial, Industrial, Institutional	1,781	0.3%
Forest/Woodland	434,586	76.5%
Recreation	406	0.1%
Residential	17,195	3.0%
Open Space / Other	4,112	0.7%
Surface Waters	10,915	1.9%
Transportation	5,793	1.0%
Total	567,879	100.0%

Source: NCWRPC

(Tornado Vulnerability) displays the mobile home concentrations within the County.

Surface Water

Langlade County is part of three major river basins partially containing fourteen watersheds. The Wolf River and Upper Wisconsin River basins each have six watersheds within the county, while the Upper Greenbay Basin has two.

The county has 843 lakes and 225 streams within the watersheds (see Map 3 and 4). Most of the lakes are spring or seepage lakes with some drainage or drained lakes. The majority of the lakes are small. Only 13 lakes are 100 acres or larger, but these make-up about half of the surface area of lakes. White Lake is the largest spring lake. Sawyer Lake and the other spring lakes are landlocked. Upper Post Lake, an impoundment and drainage lake, is the largest in the county. The deepest lake is Jack Lake, which is up to 85 feet deep. All the streams, like the lakes, are important in the hydrological and ecological regime and should be protected by shoreland zoning and physical protective measures.

Floodplains and wetlands are important subsidiary components to the surface water system as described below.

Floodplains

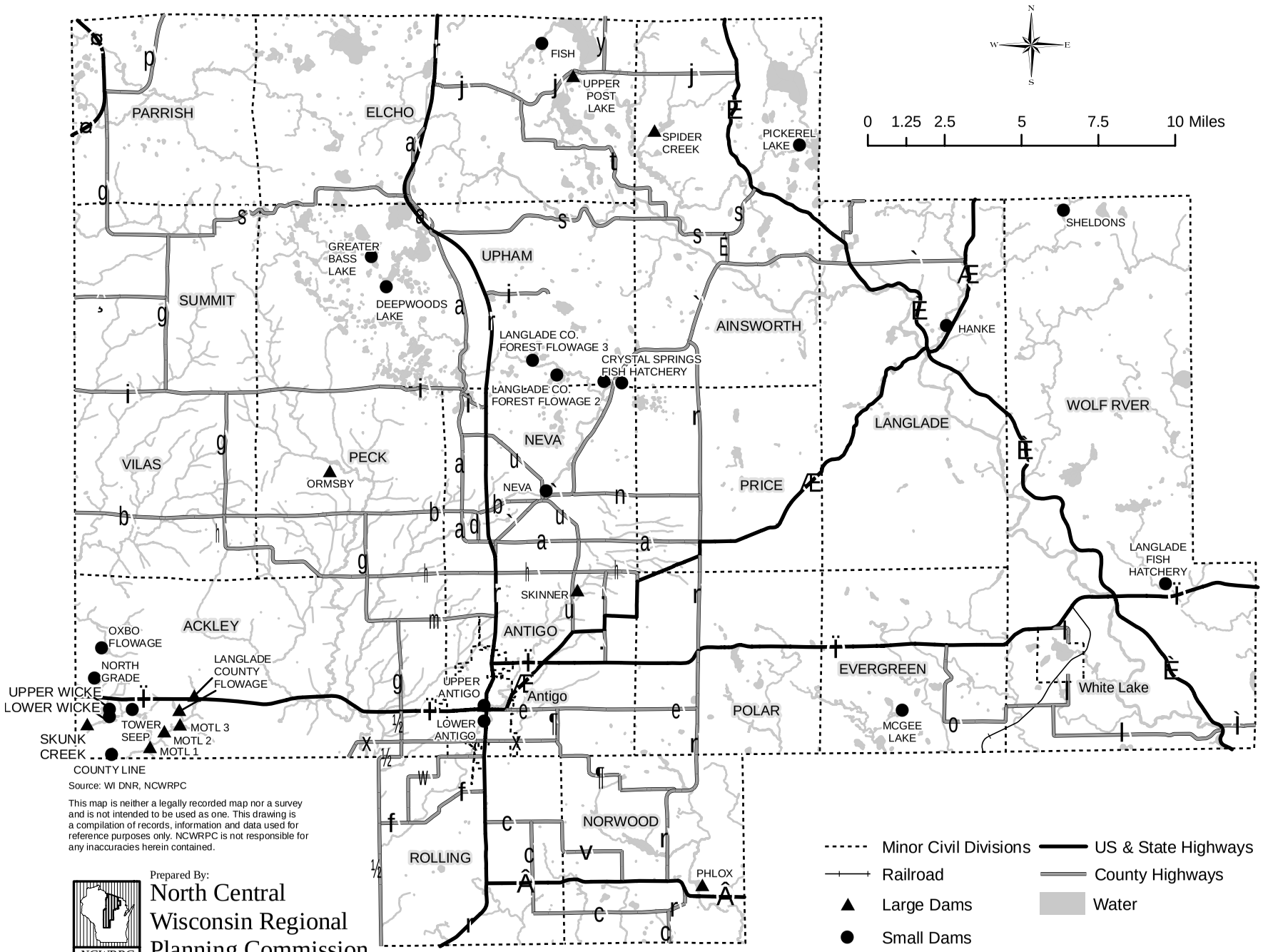
The primary value of floodplains is their role in natural flood control. Flood plains represent areas where excess water can be accommodated whether through drainage by streams or through storage by wetlands and other natural detention/retention areas. Specific areas that will be inundated will depend upon the amount of water, the distance and speed that water travels, and the topography of the area. If uninterrupted by development, the areas shown on a map as floodplains should be able to handle the severest (regional) flood, i.e. those that have a probability of occurring once every one hundred years.

There is a value in preserving and protecting these natural flood control areas from encroachment. First, by preventing development in the floodplain, the cost of building dikes, levies, or other man-made flood control devices will be saved. Second, for each structure that is constructed in a flood-prone area, that flood-prone area expands, potentially subjecting other structures originally built outside the delineated flood hazard area to the risk of flooding. Each new structure (or modification to existing) placed in the flood plain puts more life and property in danger.

Surface Water & Dams

Langlade County, Wisconsin

Map 3



Source: WI DNR, NCWRPC

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Counties, cities, and villages are required to adopt reasonable and effective floodplain zoning ordinances. The requirement is found in section 87.30 of the Wisconsin Statutes and Chapter NR 116 of the Wisconsin Administrative Code. Floodplain zoning is designed to protect individuals, private property, and public investments from flood damage.

Floodplain zoning maps identify areas where major floods occur. Regulations prohibit development in the floodway, the most dangerous flood area. In other flood areas, the flood fringe, development that is built above flood levels and otherwise flood-protected is allowed if it is in accordance with local ordinances. For regulatory purposes, a floodplain is generally defined as land where there is a one percent chance of flooding in any year (also known as the 100-year floodplain).

In order to participate in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program, the County and City of Antigo, and have each completed a Flood Insurance Study and a Flood Insurance Rate Map (FIRM) that encompasses most of Langlade County. The FIRMs delineate the "A" Zones including the floodway and flood fringe which are those areas inundated by the 100-year flood within the County. The NCWRPC digitized these FIRMs for use in this plan. Although unofficial, the digital files indicate there are 25,495 acres of floodplain in Langlade County, or 4.5 percent of the land area. Map 4 shows these approximate floodplains in Langlade County. Floodplains in Langlade are small and floods occur only during periods of exceptionally heavy rainfall. The Village of White Lake had flood hazard areas identified within in boundaries but never participated in the program. Currently, there are no repetitive loss structures, those with multiple flood insurance claims, in Langlade County.

Wetlands

Wetlands perform many indispensable roles in the proper function of the hydrologic cycle and local ecological systems. In terms of hazard mitigation, they act as water storage devices in times of high water. Like sponges, wetlands are able to absorb excess water and release it back into the watershed slowly, preventing flooding and minimizing flood damage. As more impermeable surfaces are developed, this excess capacity for water runoff storage becomes increasingly important.

The DNR has identified the location of wetlands on their WISCLAND database. According to this, Langlade County has 104,930 acres, or 18.5 percent of its total area.

Eradication of wetlands can occur through the use of fill material. This can destroy the hydrological function of the site and open the area to improper development. The Wisconsin Department of Natural Resources (DNR) has promulgated minimum standards for managing wetlands.

Other Land Cover/Uses

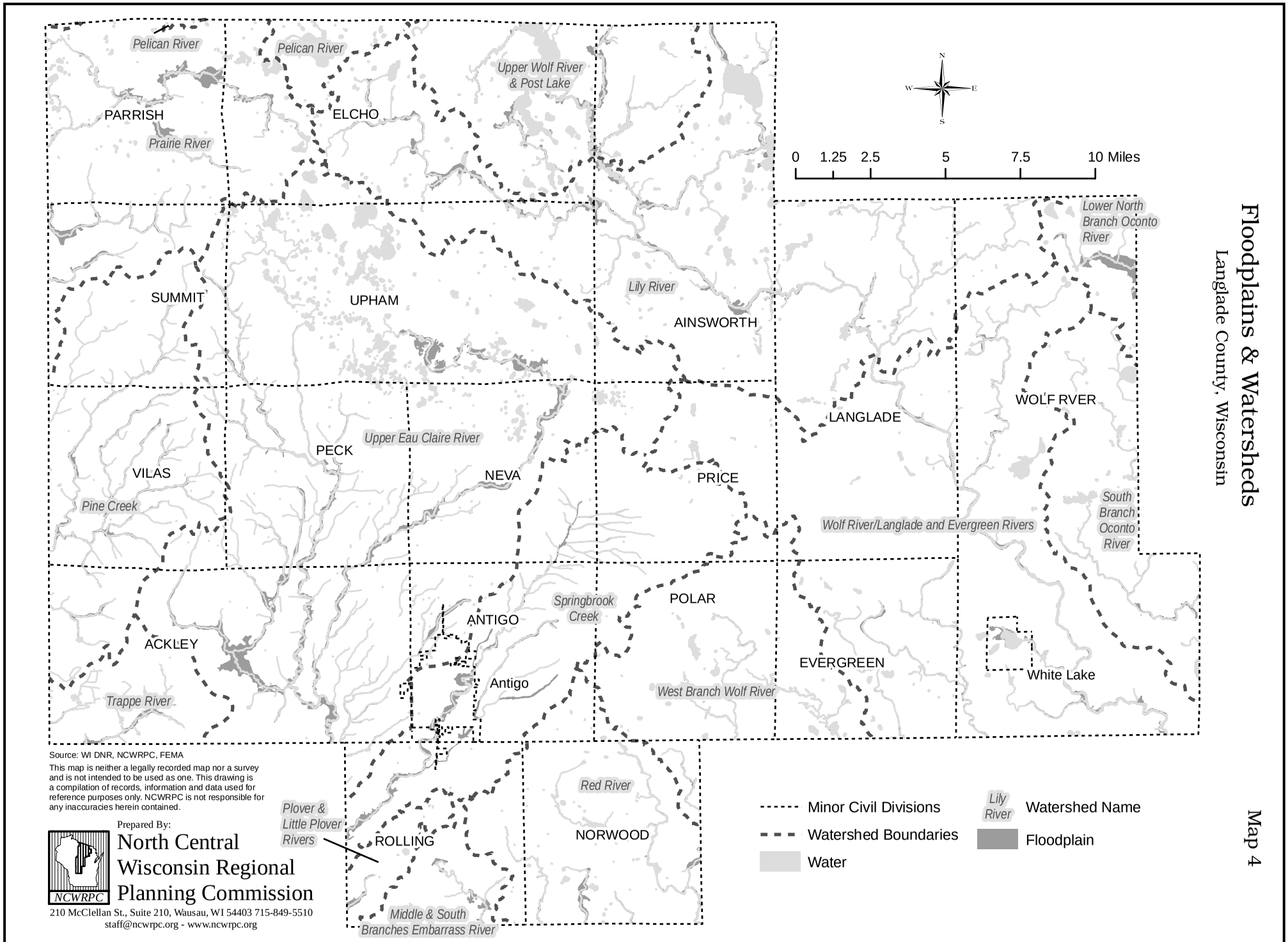
Recreational lands including parks and outdoor sports facilities total about 415 acres or 1/10th of 1 percent of the county land area. Other lands may have recreational aspects, particularly woodlands. Open space and other lands are a catch all for open undeveloped land not wooded or part of a farm such as grassland. The transportation category is primarily the roadway travel corridors for federal, state, county and local highways and roads. Sometimes overlooked, transportation land use can be significant. In Langlade County, surface transportation facilities consume about 5,793 acres of land or about 1.0 percent of total land area. Note that this is three times as much land area as is used for commercial, industrial and institutional uses in the County.

Future Growth and Development in Langlade County

Langlade County's population has increased 3.1 % over the last five years for a net gain of 649 residents. This is in line with the growth rate of 6.33 % seen during the 1990's. Overall, the County's rate of growth has been slower than state and national averages. For example going back to 1970, the County's population has increased 11 % compared to the state's growth of 26 % over this same period. Langlade's highest census population was 23,227 in 1940. While the County's population has been relatively stagnant, it is now accelerating due to a relatively significant residential in-migration.

From a net growth perspective, residential migration into Langlade County has been solely responsible for all of its population growth because natural growth has been negative (more deaths than births). This growth pattern is reflective of an aging population and booming seasonal-to-permanent housing markets typical of most northern, rural counties.

The Towns of Ainsworth, Elcho and Upham in the north central portion of the county should continue to see this seasonal-to-growth as the primary lakeshore development areas of the county. The Town of Wolf River will likely see further development due to the attraction of recreational amenities including the National Forest and some small lakes. The City of Antigo will continue to see slow but steady growth with the surrounding Towns of Antigo, Neva, Norwood, Polar and Rolling will continuing to grow in part as "bedroom communities" to the City.



Floodplains & Watersheds

Langlade County, Wisconsin

Map 4

Source: WI DNR, NCWRPC, FEMA

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Official state population projections weight past trends more heavily resulting in a curtailed growth rate figure. These figures could be looked at as a conservative estimate of future population in Langlade County, with the understanding that current trends will likely push the numbers higher. By 2025, Langlade County will have grown to a population of about 22,277, a gain of 888 residents.

The County's population is generally older with a median age of 40.5 years, versus statewide median age of 36 years. Over the next few decades, the residential base will become even older, aging much more quickly than the state as a whole. In fact, the number of persons 65 and older will exceed the population under 20 by 2020. This will have implications affecting the demand for emergency services.

Total disabled population in Langlade County was 3,714 in 2000. This figure includes about 8.6 % of the total (noninstitutionalized) population between 5 and 20 years, 17 % of those between 21 and 64 years, and 38.5 % of those 65 and older. These percentages are all slightly higher than the statewide averages. Only about 43 % of the disabled population resides within the City of Antigo, indicating a dispersal of key target group for emergency services across the county.

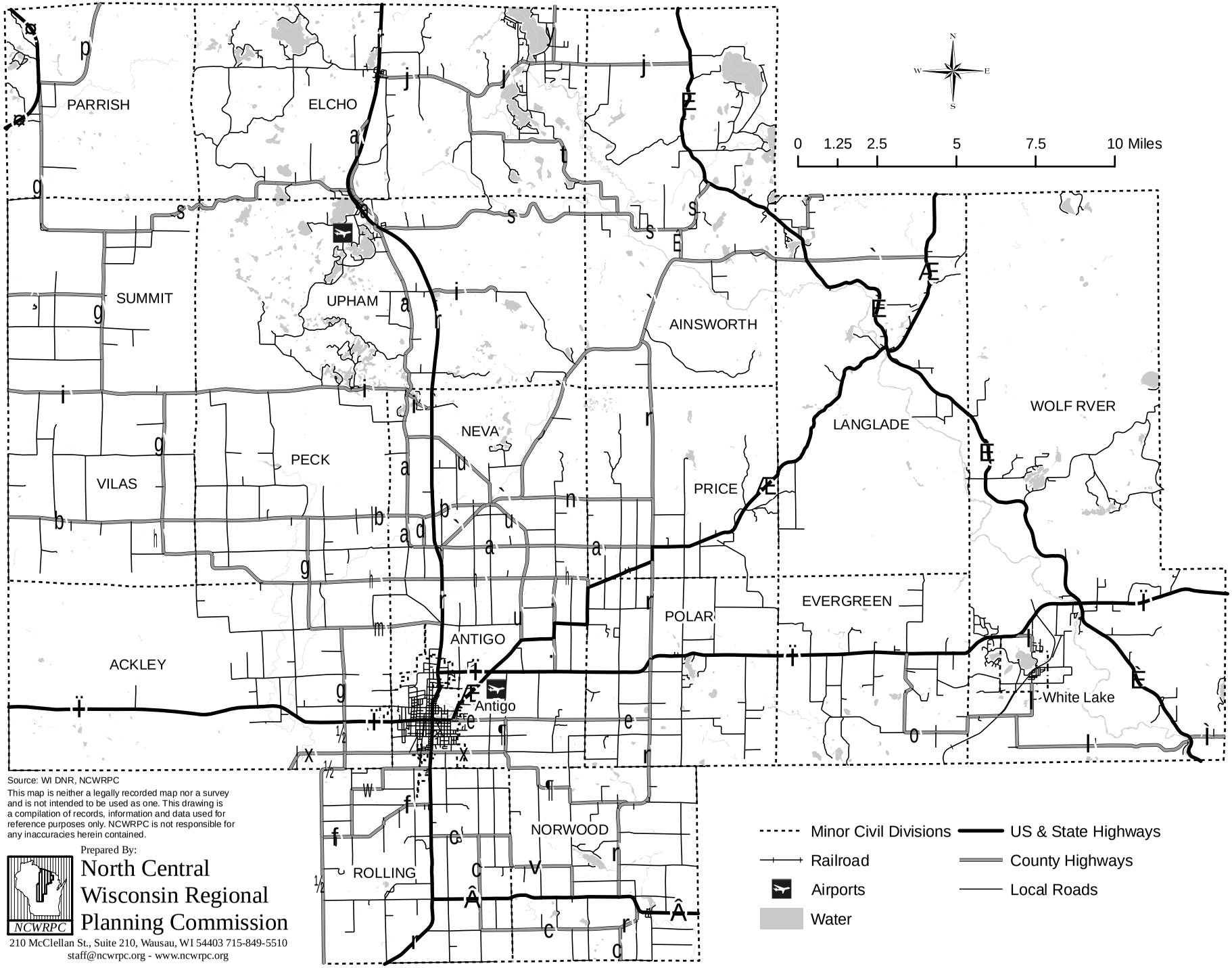
PUBLIC FACILITIES AND SERVICES

Transportation

The transportation system of Langlade County provides the basis for movement of goods and people into, out of, through, and within the County. An efficient system is essential to the sound social and economic development of the County and Region. The analysis of transportation routes is important in the possible event of a disaster (See Map 5).

The principle highway serving Langlade is the north-south U.S. Highway 45 which bisects the county through the City of Antigo. State Highway 64 provides the main east-west route across the southern part of the county through both the City and Village of White Lake. State highways 47, 52 and 55 also serve the county. These highways link the county with neighboring communities and are vital to the county's tourism and recreation-based economy.

Networks of county trunk highways collect traffic from rural land uses. These county highways serve an important role in linking the area's agricultural and timber resources to the county's population centers and major highways. Local roads provide access to local development, farming and forest areas, as well as the county's lake areas.



Transportation Map

Langlade County, Wisconsin

Map 5

Source: WI DNR, NCWRPC

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The Wisconsin Department of Transportation maintains 13 bridges on U.S./State highways within the county. Langlade County itself owns another 26 bridges on various county highways. Local roads have 40 bridges with 10 being the City of Antigo and 30 belonging to various towns.

Langlade County Commission on Aging coordinates transit services for the elderly and disabled in the county. The service is also open to the general public including service to the Northcentral Technical College. Within the City of Antigo, a "flexible" fixed route runs four times daily. Rural routes provide service to towns on Tuesdays, Thursdays and 2nd & 3rd Fridays. Other transportation is coordinated on an as needed basis for groups such as children and veterans.

The Langlade County Municipal Airport located just east of the City of Antigo serves the area. The airport provides general aviation service for private airplanes and daily airfreight. The airport is classified a general utility airport, which is designed to accommodate aircraft of less than 12,500 pounds gross weight, with approach speeds below 121 knots and wingspans of less than 79 feet. These aircraft are typically used for business and charter flying and for personal reasons. There are private landing strips located in the Towns of Norwood and Upham, as well as a heliport at the hospital in the city. The nearest commercial passenger service is located in Rhinelander or Wausau.

Utilities

Utility systems are important in hazard mitigation planning because of the dependency on water, wastewater treatment, gas service, electricity, and communications. Because of this reliance and vulnerability to hazards, utility systems must be identified for this Plan, see Map 6.

The protection of the public water supply facilities from potential contamination from hazards such as flooding is a consideration for hazard mitigation planning. The City of Antigo, Village of White Lake and the Town of Elcho provide municipal water supplies for domestic and commercial use.

The protection of the wastewater facilities is an important consideration for hazard mitigation planning because of its potential to contaminate nearby waterbodies in the event of high water. Also of concern during periods of flooding is the threat of damage to infrastructure of associated facilities. Three municipal wastewater treatment facilities serve Langlade County. The City of Antigo, Village of White Lake and the Town of Elcho are provided with service.

The infrastructure of electric and telephone lines should be considered in the events of high wind, ice storms, tornadoes, flooding, and fire. Wisconsin Public Service provides Langlade County with electric service throughout the County. As of 2001, an independent company, American Transmission Company LLC (ATC), owns, maintains, and operates the major transmission facilities located in the State of Wisconsin, including Langlade County. The general locations of the major electrical transmission facilities, owned by ATC are shown on Map 6. Four providers: Headwaters, Verizon, and Century North, WI supply telephone service in the County.

The ANR pipeline is the main source of natural gas in the County. A segment of the pipeline traverses the County north-south between Merrill and Tomahawk. A spur line to serve the City of Antigo in Langlade County branches off the main north-south line near the Marathon County line and lies just inside Langlade County. From this main pipeline, City Gas Company provides residential and commercial gas service throughout the City and surrounding area.

Nationwide, cellular radiotelephone systems account for about half of all 911 calls. The two types of systems provided are cellular and PCS. Cellular providers have digital networks that also must provide analog service through 2008. PCS providers have no analog service requirement; therefore service coverage in Langlade County may be limited. Service coverage is based upon the handset receiving a direct line-of-sight signal from a system provider's antenna on a tower. Limitations for receiving a signal include topography and the thickness & type of building materials. Signals generally cannot travel well in dense forest cover, over tall hills, or through thick or multiple cement walls.

Emergency Services and Facilities

The type and location of public emergency services are an important consideration in hazard mitigation planning, because of the potential direct involvement of such facilities in certain hazard situations.

There are ten fire departments stations that serve the local units of governments in Langlade County, see Map 7 for fire service areas. Certain areas of the county are served by fire departments stationed outside the county. These include the Towns of Parrish and Summit that are served by the Town of Russell Fire Department located in Lincoln County, and remote parts of the Town of Wolf River that receive service from the Doty Fire Department (Oconto County), Wabeno Fire Control (Forest County) or the Townsend Fire Department. The Pickerel Fire

Department covers the Town of Ainsworth within Langlade County and part of the Town of Nashville in Forest County. The Town of Antigo Fire Department has two stations to cover the area of Antigo, Polar and Price. The City of Antigo Fire Department is the only one in the county that provides full-time, paid service, while the remainder of the departments rely on volunteers for this service.

There are four EMS providers based in the County. City of Antigo EMS provides service to the City and 10 towns. Elcho EMS covers only the Town of Elcho. Pickerel EMS serves the Towns of Ainsworth and Langlade. Troutland EMS is based in White Lake and serves the village and the Towns of Evergreen and Wolf River. From outside the county, the Town of Parrish is served by Rhinelander EMS, and Town of Norwood is serviced by Birnamwood EMS. Map 8 shows the locations of EMS service areas.

The Langlade County Sheriff's Department provides service to all the towns and the village for law enforcement. The County has sixteen officers, seven dispatchers and seventeen jail employees. The City of Antigo has its own police department. The locations of police service areas are on Map 9. The main correctional facility within the county is the Langlade County Jail in Antigo.

The American Red Cross maintains agreements with the owner/operators of various facilities around the County to act as shelters in the event of an emergency. Schools, churches and armories are the most common shelter facilities. Langlade is part of a larger chapter of the American Red Cross with seven other counties. The chapter's administrative office is located in Steven Point, but a volunteer disaster action team is maintained locally.

To coordinate these services, Langlade County has created an *Emergency Operations Plan (EOP).* This provides a general overview for county and municipal emergency response personnel during response to a number of disasters. This document serves to coordinate the County and local units of government during times of response and recovery. It also provides a link between the county and municipal plans.

Warning Siren System

There was a siren system in place for many years in Langlade County. Due to the growth of some areas, and the removal of sirens from buildings that were removed or remodeled, the siren system was re-evaluated. It was learned that most people got their weather information from television and/or radio. The media does a good job of issuing severe

weather watches and warnings, keeping the public aware of the strength and location of severe weather.

In 1997, the Langlade County Board voted to discontinue the use of the siren system. The determination was made that the sirens are designed only to be heard by those who are outdoors, and the cost of replacing the sirens with adequate coverage would be extremely expensive. In 2003, the City of Antigo purchased its own outdoor warning sirens.

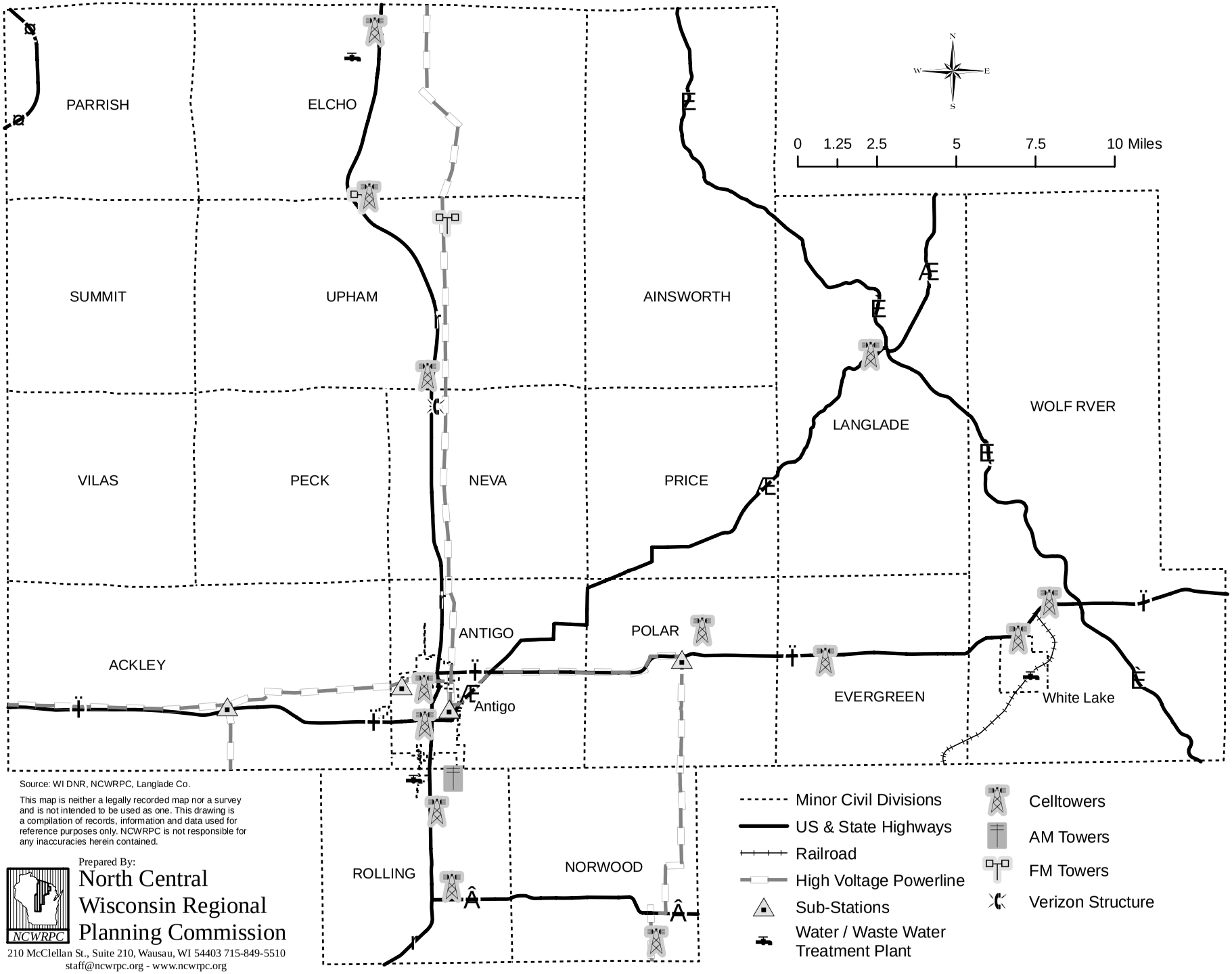
Critical Community Facilities

City Hall, Antigo.

In addition to emergency service facilities, other community facilities are also important in hazard mitigation planning. Government administration buildings serve as the headquarters that link to resources in helping solve potential problems. Hospitals are very important for knowing where injured residents have to be transported and as to how many people each hospital can handle if a hazard would breakout.

Langlade Memorial Hospital in the City of Antigo is a 25-bed acute care facility with 32 active medical staff members. There two clinics also in the city as well as one located in Elcho. The are three nursing homes and four retirement centers within the city and six other nursing homes around the county. Nursing homes are vulnerable, because of the high level of assistance with the residents that live there. The schools are another facility that are important, since hundreds of the county's children are there for most of the year. Map 10 shows the location of selected types of critical community facilities within Langlade County.

County Courthouse, Antigo.



Utilities Map

Langlade County, Wisconsin

Map 6

Source: WI DNR, NCWRPC, Langlade Co.

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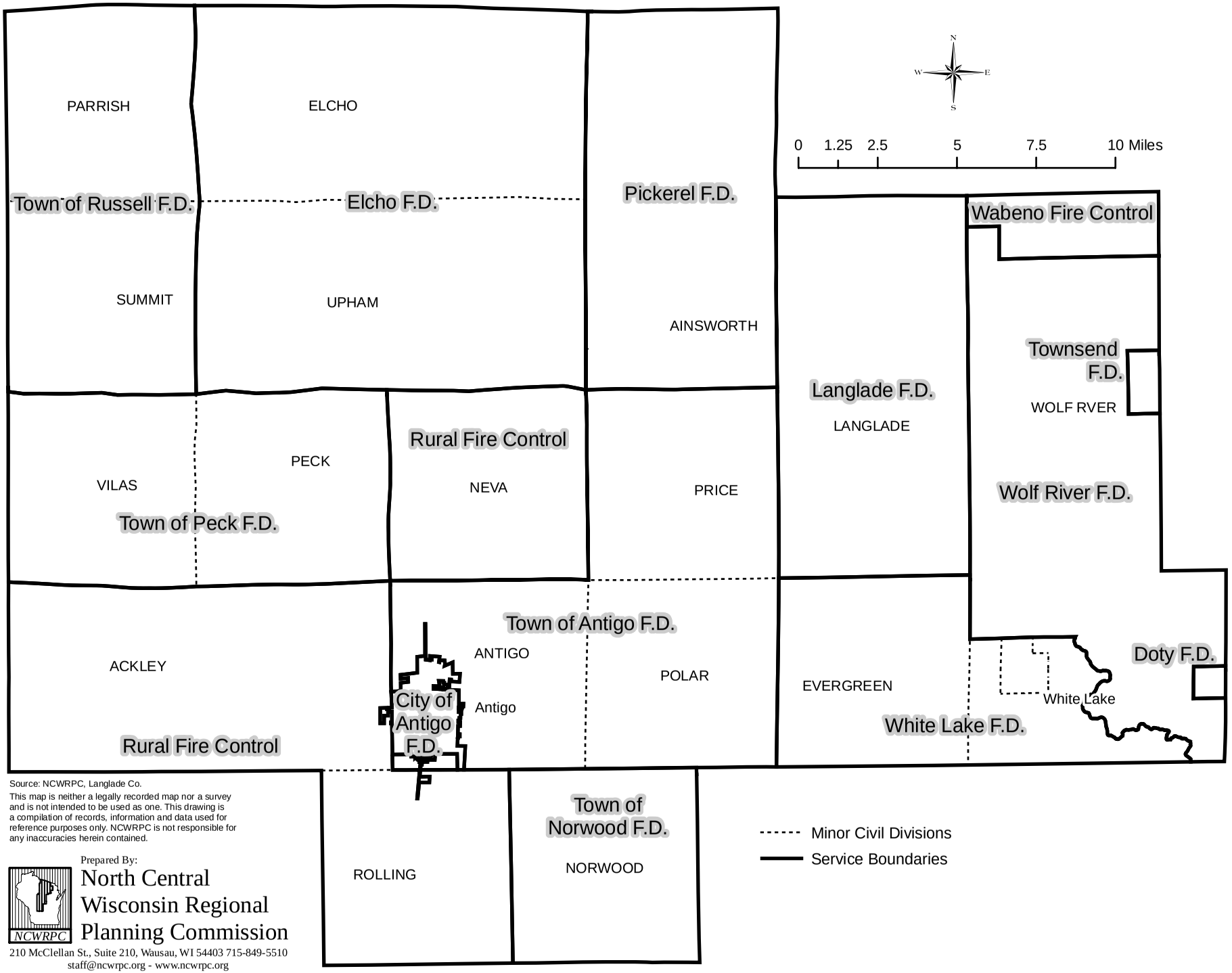
Fire Service Map

Langlade County, Wisconsin



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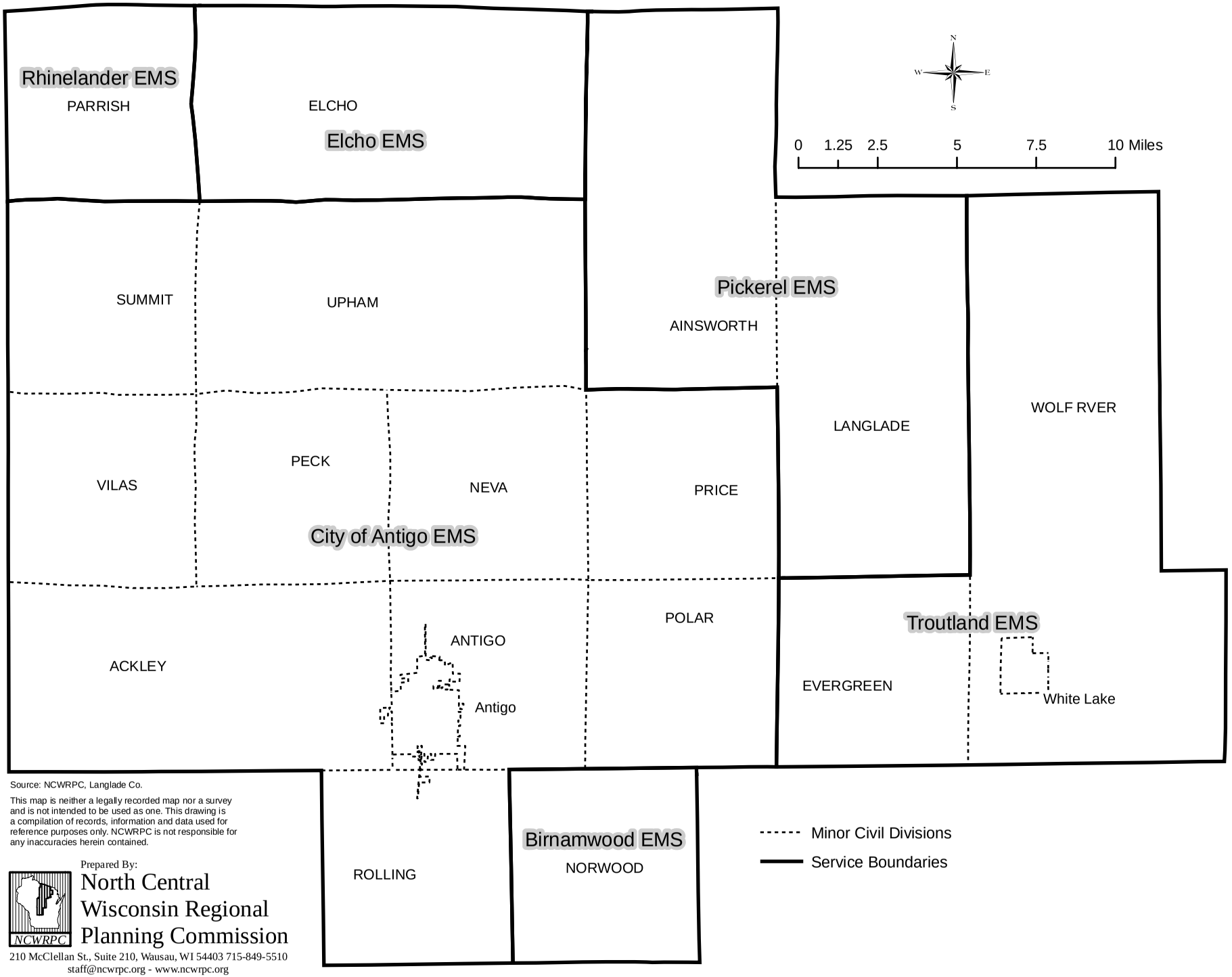
Map 7



EMS Service Map

Langlade County, Wisconsin

Map 8

Source: NCWRPC, Langlade Co.

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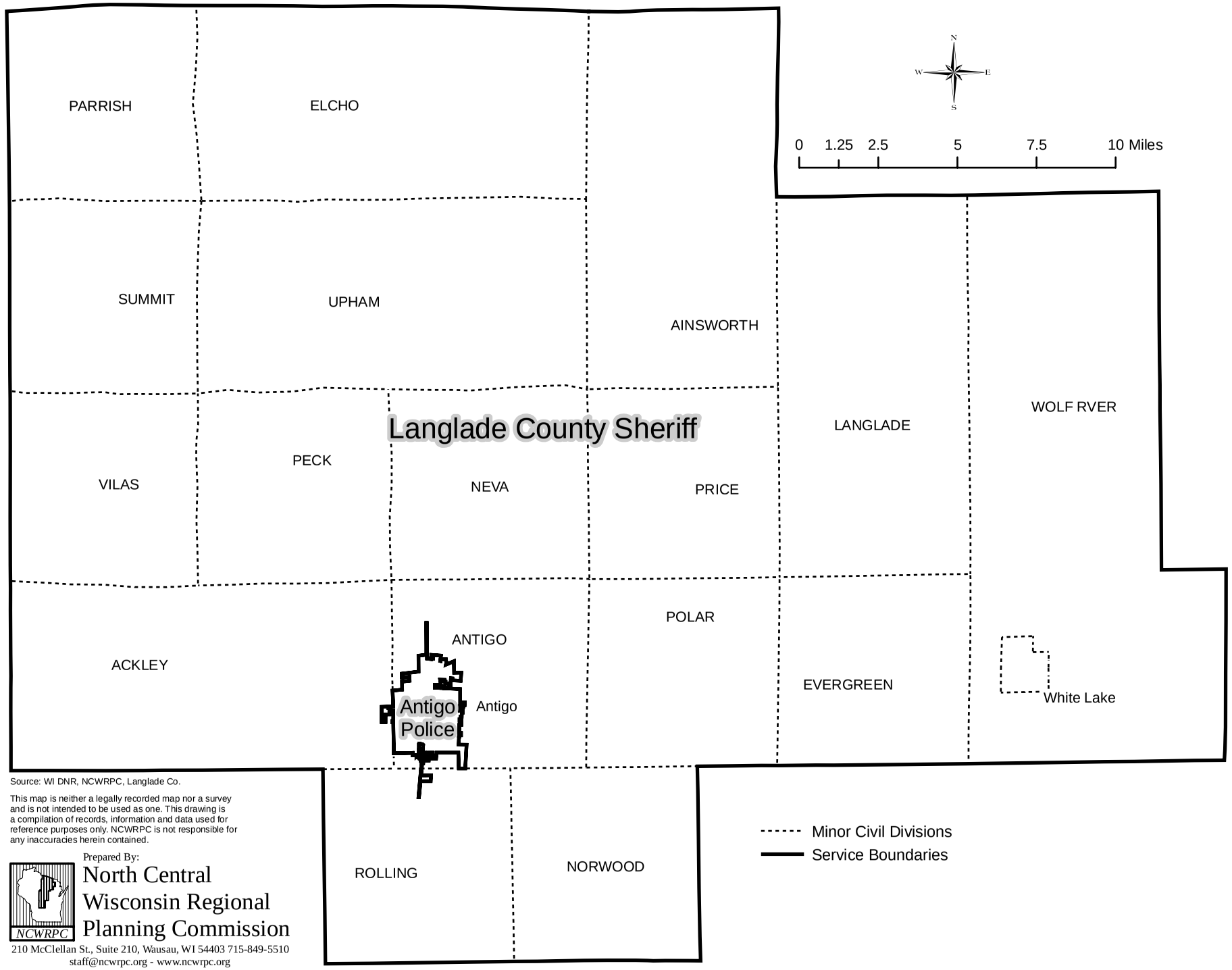
Police Service Map

Langlade County, Wisconsin



Map 9

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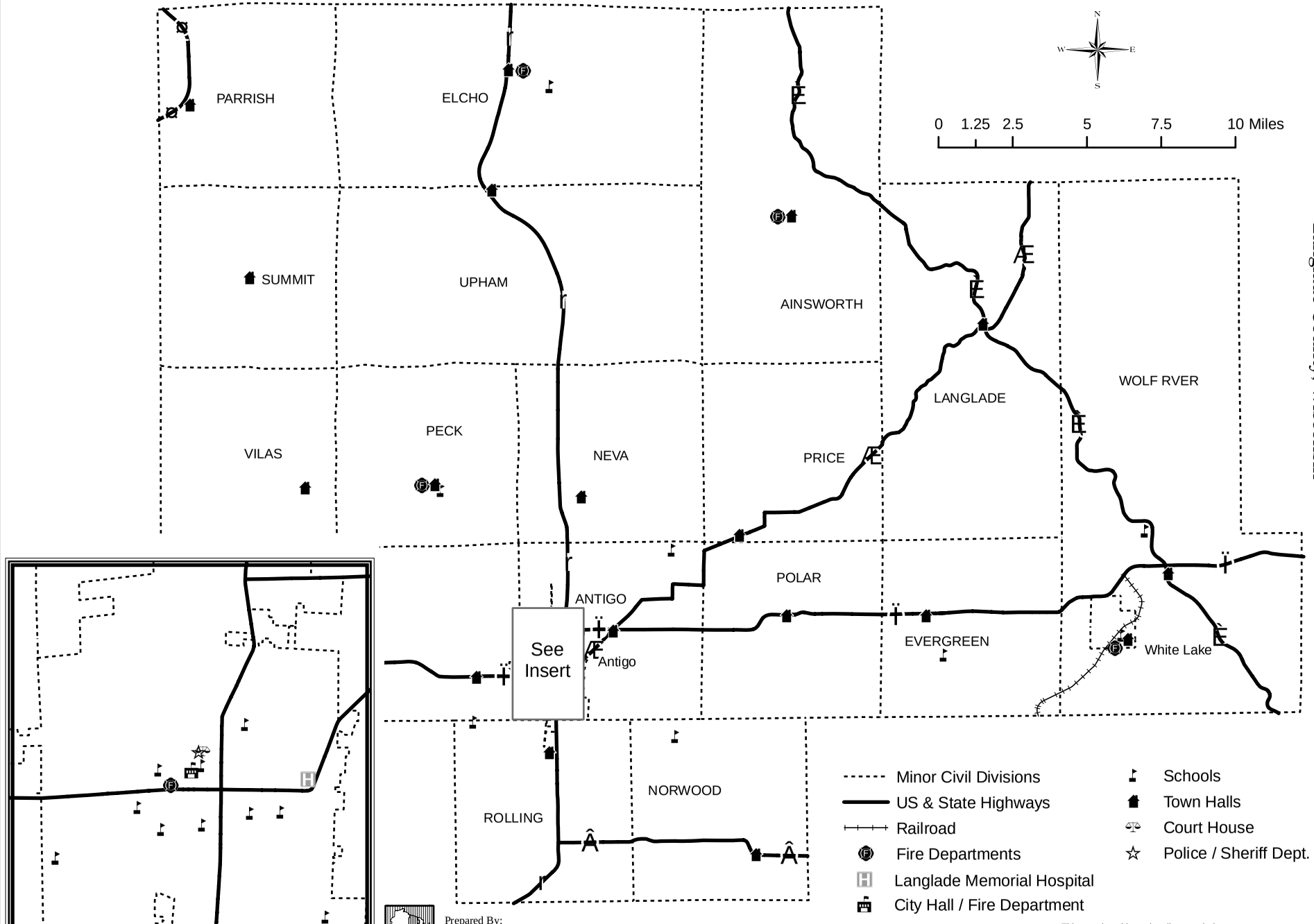
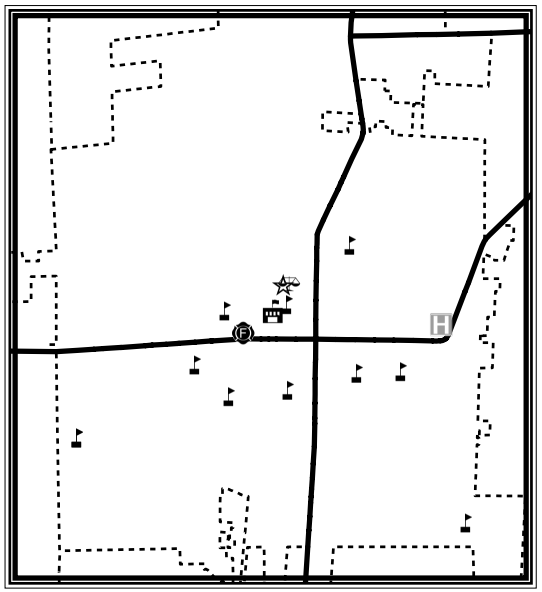
Critical Community Facilities Map

Langlade County, Wisconsin





Minor Civil Divisions
US & State Highways
Railroad
Fire Departments
Langlade Memorial Hospital
City Hall / Fire Department
Schools
Town Halls
Court House
Police / Sheriff Dept.

Map 10

Prepared By:

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INTRODUCTION

Analyzing the hazards facing a community is an important and vital step in the mitigation planning process. Before mitigation strategies can be determined, a risk assessment must be made. Part III of the Langlade County All-Hazards Mitigation Plan will focus on the following:

- Identification of all types of natural hazards that can affect Langlade County
- An analysis of each hazard identified as pertinent to Langlade County

The hazard analysis will consist of:

- Background information
- History of previous occurrences of hazard events
- An analysis of the County's vulnerability to future events
- An estimate of future probability and potential losses from the hazard

HAZARD IDENTIFICATION

The process of identifying those hazards that should be specifically addressed in the Langlade County All-Hazards Mitigation Plan was based on consideration of a number of factors. The process included a review of past hazard events to determine the probability of future occurrences and threat to human safety and property damage.

The most accessible tool in identifying hazards in Langlade County was from reports that already existed. In November 2002, Wisconsin Emergency Management (WEM) created the *Hazard Analysis for the State of Wisconsin*. It details the hazards that have caused or are likely to cause disasters in Wisconsin. This report also discusses hazards that threaten public health and safety, but may not be likely to cause a disaster. The descriptions of disasters, hazards and threats include information on frequency of occurrence, significant occurrences, potential and actual impacts and related programs.

A listing of possible hazards was generated to help identify which hazards should be included in the Plan. The identification also included input from the Langlade County Emergency Management Director. The Mitigation Planning Committee reviewed the preliminary list and concurred with the ordering.

Flooding garnered the top spot due to the significance within the County (ie 4 of 7 events warranting presidential declaration involve flooding). Winter storms were higher on the list based on their severity including the potential for extreme cold and ice hazards in northern Wisconsin. Forest/Wild Fire was lower since most events are typically isolated from development and are small with relatively low per incident costs.

Based on these factors, hazards listed in this chapter are ranked by threat to human safety and possible damage to property. The priority ranking of hazards accepted by the Mitigation Planning Committee is as follows:

1. Flooding/Dam Failure
2. Tornado/High Wind
3. Winter Storm/Extreme Cold
4. Drought/Extreme Heat
5. Thunderstorm/Lightning/Hail
6. Wildfire

This plan focuses on natural hazards that have or could cause disasters that can be mitigated on a local level. Technological or manmade hazards include things like transportation incidents, civil disturbances, hazardous material incidents, mass casualty events, war, and terrorism. Langlade County already has action plans for these types of events, so they are not included in this planning process. Low magnitude earthquakes occur in Wisconsin every few years, but none have exceeded a magnitude of 3.9, which would have vibrations similar to the passing of a semi-truck, therefore, earthquakes are not covered in this plan. Langlade County does not have coastal hazard issues and conditions for landslide or subsidence problems are not significant in the County.

Although a significant concern, human communicable diseases are not addressed in the plan. The Langlade County Health Department and area hospitals work with the Wisconsin Department of Health and Family Services – Division of Public Health (WDHFS) and the CDC to monitor and plan for these situations.

HAZARD ANALYSIS

The hazard analysis for each hazard included in this plan is broken down into four components, as follows:

1. Background on Hazard - The next step after identifying a hazard is to define the hazard and give some general background behind it. This can include occurrence of hazard within the County or State. This section may also give some indication of the risk to public health and safety and to personal and public property.

2. History of Hazards - Past experiences of disasters is an indication of the potential for future disasters for which Langlade County would be vulnerable. A review of past occurrences for each identified hazard in Langlade County was completed.

Some disasters have had damages that exceeded the capabilities of local communities and state agencies. Federal assistance is then requested. Federal assistance may be offered through a variety of programs. Assistance may be directed to agricultural producers, individuals and families, businesses, or local governments. There have been seven natural disasters in Langlade County, where a Presidential Declaration was requested from 1971-2005. They include the following:

- 1971 Flooding
- 1971 Tornado
- 1973 Flooding – Presidential Disaster Declaration
- 1975 Army Worm Infestation
- 1976 Drought – Presidential Emergency Declaration
- 2002 Severe Storms/Flooding/ – Presidential Disaster Declaration
- 2004 Flooding

It should be noted that this significantly underestimates the number of hazards that have occurred in Langlade County. Almost every year there are significant weather events or disasters that cause millions of dollars in damage for which no Federal disaster assistance is requested. Major indicators of hazard severity are the deaths, injuries, and economic losses resulting from natural hazards and disasters.

The National Oceanic and Atmospheric Administration (NOAA) and National Climatic Data Center (NCDC) publish the National Weather Service (NWS) data describing recorded weather events and resulting deaths, injuries, and damages. From May 4, 1959 to December 31, 2005, NCDC reported 190 severe weather events for Langlade County.

Table 8 summarizes this NCDC data by event. Although this data does give a good indication of the severity of each event, it is not completely indicative of the extent of deaths, injuries, and damage for Langlade County, specifically. In many of the cases cited, Langlade County is one of a larger number of counties that were all hit by the same event. For instance, 57 of the 63 deaths reported by the NCDC for temperature extremes under Langlade County were actually from one event between 68 other counties. The actual number, if any, of deaths or injuries occurring in Langlade County during that event is unknown at this time.

Table 8	National Climatic Data Center Weather Hazard Events Recorded for Langlade Co.* 1959 - 2005				
Event	Number of Events	Deaths	Injuries	Property Damage	Crop Damage
Temperature Extreme	8	63	21	$0	$0
High Wind	16	4	3	$1,201,000	$0
Tornado**	6	0	2	$2,756,000	$0
Flood	5	0	0	$1,400,000	$0
Thunderstorm/Wind	62	0	0	$39,000	$10,000
Lightning	4	0	0	$25,000	$0
Hail	21	0	0	$1,000	$0
Winter Storm/Heavy Snow	40	0	0	$0	$0
Freezing Rain/Glaze	13	0	0	$0	$0
Ice Storm	5	0	0	$0	$0
Drought	2	0	0	$0	$0
Fog	8	0	0	$0	$0
Total	190	67	26	$5,422,000	$10,000

Source: National Climatic Data Center
**Some events encompass area outside Langlade Co. ** Includes a funnel cloud.*

Note that since the earlier NCDC data is somewhat incomplete, this report focuses on the 12-year period from 1994 to 2005 for hazard analysis purposes. Other sources of data are used to supplement the NCDC data. These sources include Wisconsin Emergency Management, Wisconsin Department of Natural Resources, Langlade County Emergency Management and local news reports.

3. Vulnerability Assessment For Hazards - For each hazard identified, a summary of the impact that may be caused to the community is given. When possible, existing buildings, infrastructures, and critical facilities located in the hazard areas are identified. Critical facilities are community buildings that are especially important to the health and welfare of the population following hazard events. Examples of such facilities include hospitals, police & fire stations, town halls, and shelters.

Where possible, an estimate of the potential dollar losses to vulnerable structures is given. Values are identified by tax assessments, equalized values, or statement of values from insurance companies.

Because this is a multi-jurisdictional plan, FEMA requires that the plan access each jurisdiction's risks where they vary from the risks facing the entire planning

area. This section of the plan will identify variations in vulnerability for specific municipalities where they occur.

4. Future Probability and Potential Dollar Losses for Hazard - The historic data and vulnerability assessment for each hazard is used to project the potential future probability of that hazard occurring in the County and the potential damages in dollars that might be reasonably expected. This section sets the benchmark to mitigate for each hazard.

HAZARD ANALYSIS: FLOODING/DAM FAILURE

Background on Flood Hazard:

There are a variety of classifications for flooding including flash, riverine, urban/small stream, lake, stormwater, dam failure and coastal. Langlade County has the potential for all these types except coastal. General "flood" and urban/small stream appear most often.

Flooding problems in Langlade County tend to occur in the spring when melting snow adds to normal runoff and in summer or early fall after intense rainfalls. Flooding occurs in the spring due to snowmelt and frozen soil. This build up continues until the river or stream overflows its banks, for as long as a week or two and then slowly recedes inch by inch. The timing and location of this type of flooding is fairly predictable and allows ample time for evacuation of people and protection of property.

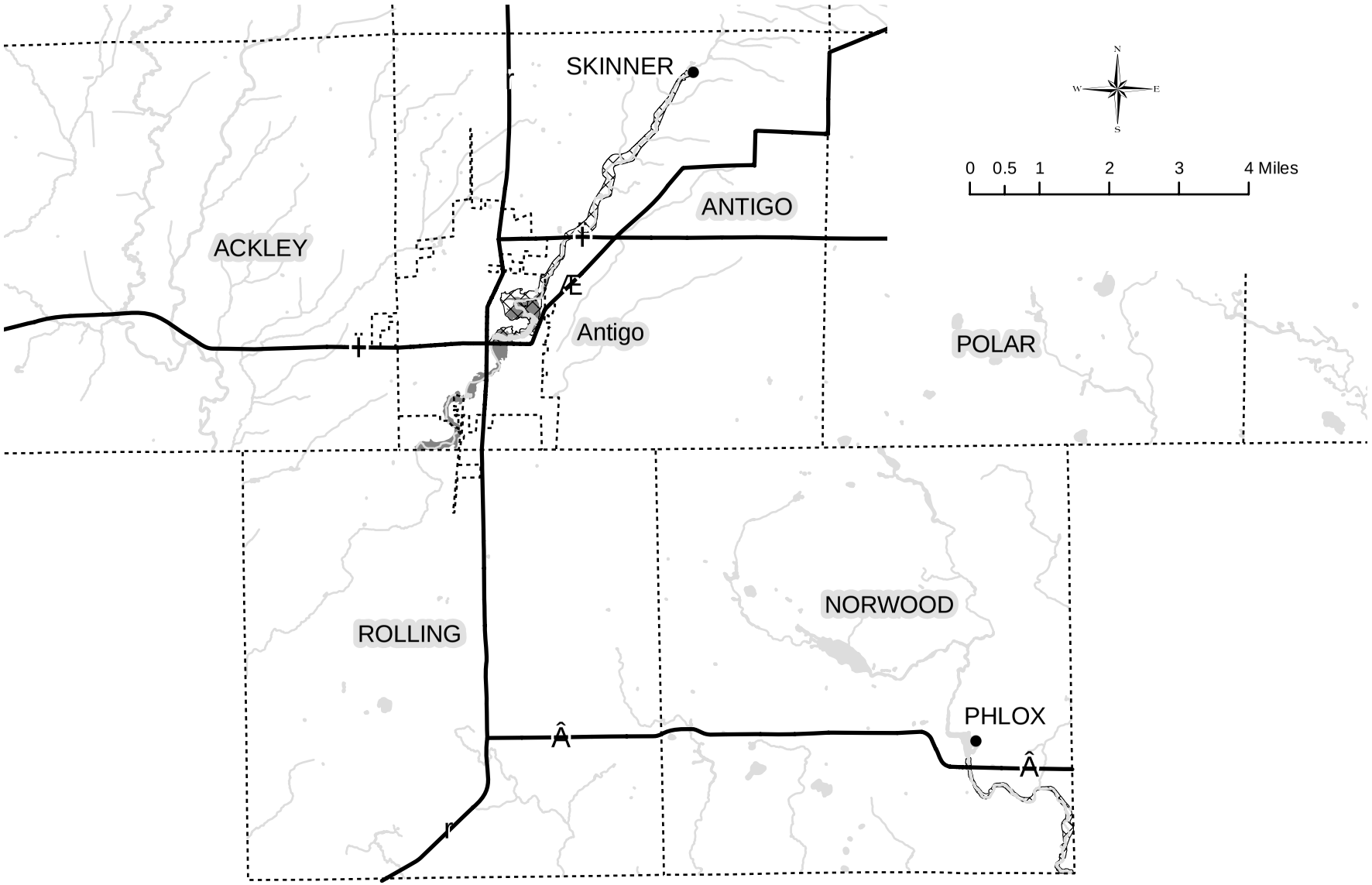
Flooding is a significant hazard in Langlade County, particularly because the Springbrook runs right through the middle of the county's principle city. As described in Part II, there are approximately 225 rivers and streams in Langlade County within 14 main watersheds and 3 major river basins.

These floodplains are narrow along tributaries and lakes but extensive throughout the County. Floodplains are described in Part II and shown on Map 4. The North Central Wisconsin Regional Planning Commission digitized these floodplains from FEMA Flood Insurance Rate Maps (FIRMs). While not official, these digital floodplains are useful planning tools.

There are 37 dams in Langlade County (see Map 3 / Table 9), but most do not pose a significant hazard if they would fail. According to the DNR, Langlade County has 12 large dams, 21 small dams and the other 4 were not classified. Available dam failure analysis is shown on Map 11, which identifies the areas of inundation in the event of failure of either the Spring Brook or Phlox dams. The Wisconsin DNR regulates all dams on waterways to some degree, however the small dams are not stringently regulated for safety purposes.

Dam Failure - Inundated Areas

Langlade County, Wisconsin



Source: WI DNR, NCWRPC

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- Minor Civil Divisions
- US & State Highways
- Railroad
- Dams
- Inundated Areas
- 2004 Flood Affected Area
- Water

Map 11

Table 9 Dams in Langlade County				
Dam Name	Size	Ownership	Hydraulic Ht.	Stream
Phlox Pond	Large	Town	22	Red
Skinner	Large	County	20	Spring Brook
Spider Creek	Large	DNR	2	Spider Creek
Lower Trappe	Large	DNR	8	Trappe River
Middle Trappe	Large	DNR	8	Trappe
Upper Trappe	Large	DNR	10	Trappe
Fourth Avenue	Large	City	8	Spring Brook
Ormsby Pond	Large	Private	8	West Branch Eau Claire
Upper Post Lake	Large	Private	3	Wolf River
Pot Flowage	Large	DNR	7	Trappe River Tributary
Section 27 Dike	Large	DNR	7	Trappe River Tributary
Skunk Creek	Large	County	7	Skunk Creek
Sheldons	Small	Private	2	East Branch Lily
Greater Bass Lake	Small	Private	1	Outlet
Pickerel Lake	Small	Private	2	Pickerel Creek
Fish (Schuett)	Small	Private	3	Pollock Creek
Langlade Fish Hatchery	Small	DNR	4	Dalton Creek
Lower Antigo	Small	City	3	Spring Brook
Upper Antigo	Small	City	0	Spring Brook
Crystal Springs Fish Hatchery A	Small	DNR	4	E. Branch Eau Clare Trib.
Crystal Springs Fish Hatchery B	Small	DNR	3	E. Branch Eau Claire Trib.
Hanke	Small	Private	3	Lily
Deepwoods Lake	Small	Private	2	East Branch Eau Claire
McGee Lake	Small	DNR	2	Outlet of McGee Lake
Upper Wicke	Small	DNR	0	Skunk Creek Tributary
County Line	Small	DNR	0	Trappe River Tributary
Lower Wicke	Small	DNR	0	Skunk Creek Tributary
Tower Seep	Small	DNR	0	Trappe River
North Grade	Small	DNR	0	Pine River Tributary
Middle Eau Claire Flowage	Small	DNR	4	East Branch Eau Claire
Upper Eau Claire Flowage	Small	DNR	4	East Branch Eau Claire
Oxbo Flowage	Small	DNR	0	Oxbo Creek
Gleason	na	DNR	0	Skunk Creek
White Lake	na	Village	0	White Lake Outlet
Mikkelson	na	Private	4	Drew Creek
Neva Dam	Small	Town	3.5	East Branch Eau Claire
Ackley Wildlife Area Dam	na	DNR	0	na

Source: WisDNR

History of Flooding in Langlade County:

Flooding was a principal cause of damage in four of seven Presidential Disaster Declaration requests in Langlade County from 1971 to 2005. One of the worst flood events experienced by Langlade County was the recent flooding of 2004. News reports identified this flooding in the City of Antigo as the worst flooding in

four decades in the community. Rapid snowmelt and a heavy weekend rainfall caused the Springbrook Dam to overflow. The Governor declared a state of emergency in Langlade County and sent in the National Guard. About 99 homes and 39 businesses were evacuated and schools were closed. Parts of US Highway 45 were flooded and closed. The local street network was extensively damaged including several bridges. Overall damages exceeded $1 million. Presidential Disaster Declaration was not awarded.

Flooding in Antigo, 2004

In 1971, Langlade was one of 24 counties included in a request for Presidential declaration for flooding. That request was denied. Then in 1973, significant flooding affected a total of 35 counties, including Langlade, and a request for Presidential Disaster Declaration was awarded. One person drowned. Total private and public damage losses were set at $24 million across the 35 counties. Again in 2002, severe storms and flooding combined to include Langlade and 19 other counties in a Presidential Disaster Declaration.

In addition to the 2004 flood, NCDC data shows flood events in Langlade County in 1999 and 2000. In 1999, urban and small stream flooding affected Antigo on July 8 and again on July 16. Over topping of Spring Brook Dam was a major factor. Streets were flooded and home experienced basement flooding. In July of 2000, Antigo had significant flooding and Deerbrook experienced urban and small stream flooding. Surrounding rural areas experienced some crop damage.

Additional information from the County shows that flood damage has been recorded in the City in 1961, 1965, 1967 and 1988. These events were all a result of rapid snowmelt and heavy rain exceeding Springbrook Dam's storage capacity and overtopping.

Flood Vulnerability Assessment:
Flood events in the County have caused substantial property and infrastructure damage in the past and have the potential to cause future damage, since a significant number of structures still exist in the floodplain. Looking at past events, the following have been significantly impacted by flooding:

- Infrastructure – flooded public facilities, and schools
- Utilities - down electric lines/poles/transformers, telephone lines, and radio communication
- Roadways – washouts, inundated roadways, debris clean-up

- Residential structures – flooded basements, damaged septic systems
- Businesses – loss of commerce
- Agriculture - inundated cropland

To assess the vulnerability of Langlade County to flooding hazards, basic inventory data in Part II must be analyzed. For this purpose, consideration should be given to structures (specifically critical facilities), infrastructure, and cropland.

One of the first reports to reference in assessing vulnerability to structures during flooding is the Wisconsin Repetitive Loss Report. This Report provides the status of repetitive loss structures by community. FEMA, through the Federal Insurance Administration, classifies a repetitive loss structure "when more than one flood insurance claim of at least $1,000 is made within a ten-year period." The information is used as a floodplain management tool and to supplement information provided by communities for flood mitigation grants administrated WEM. According to the report, there are no repetitive loss structures in Langlade County. Since no structures are listed in the Repetitive Loss Report, structures within floodplains were analyzed. The floodplain boundaries within Langlade County are shown on Map 4.

Table 10 shows the number of structures in each municipality identified as "vulnerable to flooding" according to proximity to floodplains. There were a total of 618 structures identified in the designated floodplain boundaries, see Map 12.

Methodology – Structures within Floodplains:

1. NCWRPC digitized (electronically traced) the individual FEMA FIRM floodplain maps into a GIS coverage for the County.

2. A building point cover was digitized from digital aerial photos along the floodplain areas.

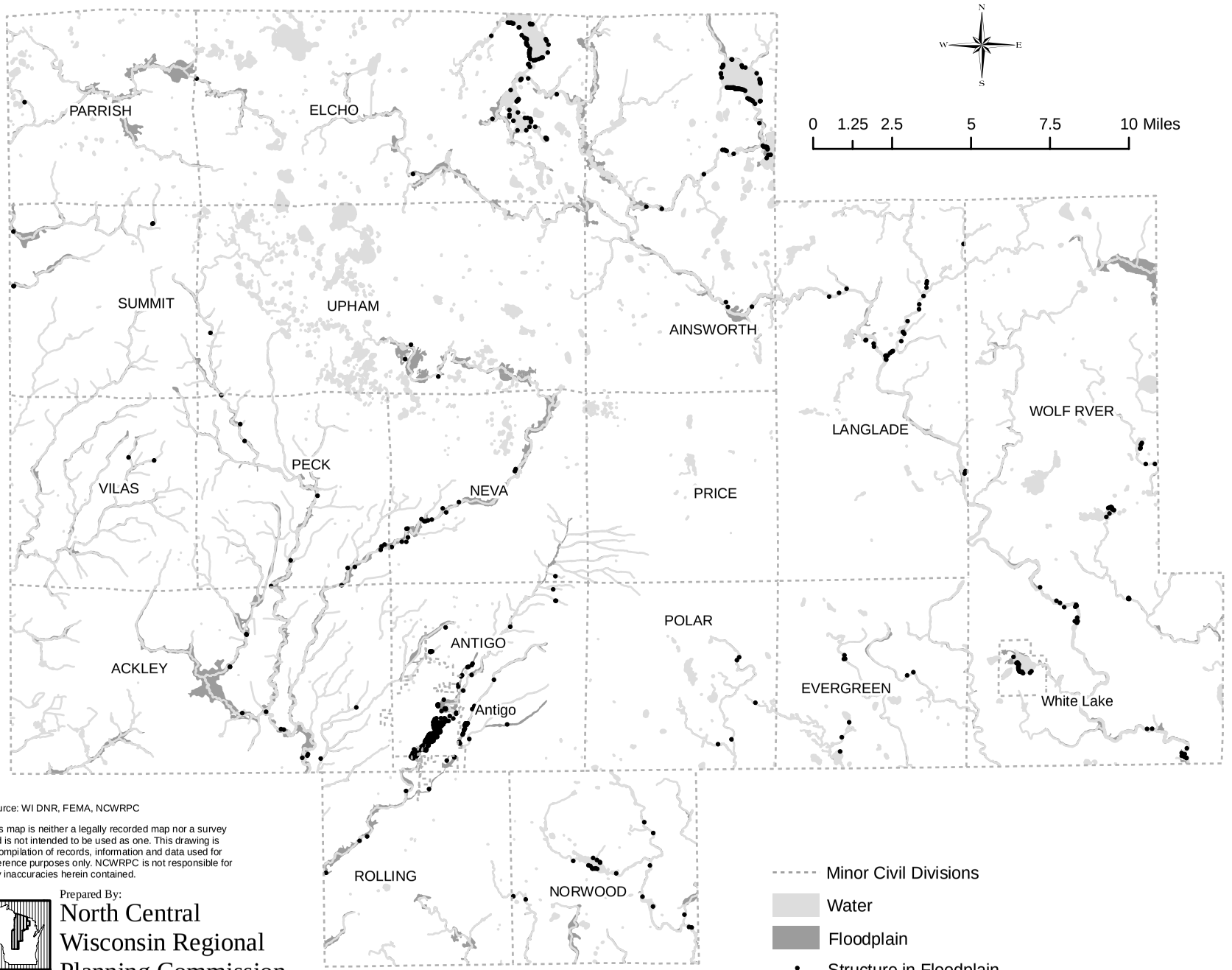
Table 10
Approximate Values of Structures in Floodplains in Langlade County

Municipality	Number	Total Value	Average Value
Ackley town	13	$985,400	$75,800
Ainsworth town	87	$6,194,400	$71,200
Antigo town	48	$4,113,600	$85,700
Elcho town	80	$7,624,000	$95,300
Evergreen town	8	$453,600	$56,700
Langlade town	30	$2,367,000	$78,900
Neva town	17	$1,378,700	$81,100
Norwood town	23	$1,780,200	$77,400
Parrish town	1	$85,000	$85,000
Peck town	12	$682,200	$56,900
Polar town	5	$439,500	$87,900
Price town	0	$	$
Rolling town	5	$455,000	$91,000
Summit town	5	$425,000	$85,000
Upham town	4	$432,000	$108,000
Vilas town	2	$175,000	$87,500
Wolf River town	40	$3,416,000	$85,400
White Lake Village	23	$1,078,700	$46,900
Antigo city	215	$12,190,500	$56,700
Langlade County	618	$42,394,800	$68,600

Source: U.S. Census and NCWRPC

Flood Vulnerability

Langlade County, Wisconsin



Source: WI DNR, FEMA, NCWRPC

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Map 12

3. The floodplain coverage was then combined with the building point coverage to identify those structures within the floodplain boundary.

4. Total structures within the floodplain were then tabulated by municipality.

5. Average values from U.S. Census data were used to determine the total value for the identified vulnerable structures.

In addition to structural damage from flooding, there would be significant damage to public roadways, particularly to roadway surfaces, culverts, and bridges. Flooding would inundate or close roadways due to washouts from a period of a few days up to as much as several months. Such interruptions in the County transportation network would cause travel delays through detours.

The agriculture industry is a sector that faces substantial losses, during floods, cool, rainy/wet, sunshine deficient climatic conditions of the spring and summer create a general condition of high water and saturated soils throughout the County.

Flood conditions can leave farmers with the following economic setbacks:

- Delayed planting (reduced growing season)
- Seed and agricultural chemicals washing out of fields
- Rotting of plants due to excess moisture
- Areas where planted crops are left in the fields due to excessive moisture
- Crops not reaching full maturity or stunted growth
- Requirements by farmers to expend higher amounts of money on additional soil amendments
- Lower quality (nutritional value) of harvestable crops as a feed source.

Reductions in quantity can result in loss of revenues from cash crops and increased expenses for purchasing the needed livestock feed from outside sources. Additionally, reductions in crop quality result in lower prices received for cash crops and increased amounts spent for nutritional supplements to animal feed, which need to be added even in much of the purchased feed.

Economic losses to farmers can generate a ripple affect to the local community as well. Reduction in farm income will curtail the farmers' ability to purchase new equipment and make other improvements. Farmers will have less money to spend at farm dealers, farm supplies, building/hardware suppliers, fertilizer, feed and seed dealers, and other agribusiness and retail establishments. The State itself will have reduced tax revenues. Farmers will have less money to save and invest, and suffer still more increases in debt load.

The forest products industry is affected similarly to agriculture. Forestlands become too wet for logging operations and many water logged tree plantations suffer high mortality rates. Mill inventories become very low, resulting in increased prices for consumers.

Future Probability and Potential Dollar Losses – Flood:
The NCDC data reported that Langlade County had 5 floods from 1994-2005, however, this data did not include the 1973 or 2002 flooding, which received Presidential Disaster Declaration, nor the 1961, 1965, 1967, or 1988 flooding. Based on this combination of historic data (frequency of past events), Langlade County can expect a significant flood event about every 2 years on average. This equates to a probability of 0.50 or about a 50 percent chance in a given year.

Historic data is again used to estimate potential future dollar losses due to flood. Based on the past flood events for which we have loss figures, Langlade County can anticipate property and crop losses of approximately $1 million, on average, between the public and private sector for each significant flood occurrence. Over the next ten-year period, flood losses in Langlade County could approach $5 million.

The methodology used to arrive at the average loss per event figure is extrapolated from NCDC event summary data for flood events affecting multiple counties. Except for the 2004 event, more detailed individual county level data is not available at this time. This plan recommends improved local data collection for use in future updates.

Potential losses for structures by jurisdiction are reflected in Table 10. While structures outside mapped floodplains may also be lost or damaged in a flood, structures within flood plains represent the greatest risk for flood damages.

HAZARD ANALYSIS: TORNADOS/HIGH WIND

Background on Tornado / High Wind Hazard:
U.S. tornados are classified into six intensity categories, named F0-F5. These categories are based upon the estimated maximum winds occurring within the funnel. The Fujita Tornado Scale (or the "F Scale") has subsequently become the definitive scale for estimating wind speeds within tornados based upon the damage done to structures and vegetation, see Table 11. It is used extensively by the National Weather Service in investigating tornados (all tornados are now assigned an F scale), and by engineers in correlating damage to structures.

Although the Fujita scale actually ranges up to F12, the strongest tornados max out in the F5 range.

Wisconsin lies along the northern edge of the nation's maximum frequency belt for tornados, known as "Tornado Alley". Tornado Alley extends northeast from Oklahoma into Iowa and then across to Michigan and Ohio. Winter, spring and fall tornados are more likely to occur in southern Wisconsin than in northern counties. Tornados have occurred in Wisconsin every month except February.

Table 11 Tornado Wind and Damage Scale

Tornado Scale	Wind Speeds	Damage	Frequency of Occurrence
F0	40 to 72 MPH	Some damage to chimneys, TV antennas, roof shingles, trees, and windows.	29%
F1	73 to 112 MPH	Automobiles overturned, carports destroyed, trees uprooted	40%
F2	113 to 157 MPH	Roofs blown off homes, sheds and outbuildings demolished, mobile homes overturned.	24%
F3	158 to 206 MPH	Exterior walls and roofs blown off homes. Metal buildings collapsed or are severely damaged. Forests and farmland flattened.	6%
F4	207 to 260 MPH	Few walls, if any, standing in well-built homes. Large steel and concrete missiles thrown far distances.	2%
F5	261 to 318 MPH	Homes leveled with all debris removed. Schools, motels, and other larger structures have considerable damage with exterior walls and roofs gone. Top stories demolished	Less than 1%

Source: National Weather Service

High wind events, although technically not tornados, are included here due to the similarity of damages. Measured wind speeds are typically in the range of a F0 tornado and may even approach F1 speeds. High or strong wind events can be associated with tornadic episodes, thunderstorms or even winter storms. The effects are often widespread, impacting areas hundreds of miles from the actual areas of thunderstorms or snow. Trees, signs and power poles are the most commonly impacted by high wind events, but significant damage and bodily injury/death can occur.

History of Tornados / High Wind in Langlade County:

Langlade County has had 6 reported tornados from 1959 to 2005, with 5 occurring prior to 1985, see Table 12. A reported funnel cloud in 1994 formed over White Lake, but did not touch down until reaching Marathon County. Thunderstorm winds associated with this funnel cloud damaged trees and power lines. The most recent of the five tornado incidents in Langlade County was on April 27, 1984, when a F2 tornado touched down for 8 miles causing $2.5

million in damages and injuring one person. Three barns, several cattle and two houses were destroyed along with extensive tracts of timber.

In September of 1971, the County experienced a powerful F3 tornado that cut a 30-mile long 200-yard wide path injuring 1 and causing $250,000 in damages. Two of the County's six tornados actually occurred on the same day in 1976 as two different F1 tornados. No one was injured in these events and property damage was relatively light at about $6,000. Little information is available on the 1959 tornado.

Table 12 Reported Tornados in Langlade County

DATE	TIME	LOCATION	LENGTH (miles)	WIDTH (yards)	DEATHS	INJURIES	F-SCALE
7/8/1994	2:50 PM	V. White Lake	N/A	N/A	0	0	N/A
4/27/1984	2:50 PM	Ackley, Vilas, Peck	8	70	0	1	F2
6/13/1976	9:00 AM	Ackley, Peck, Neva	5	33	0	0	F1
6/13/1976	8:10 AM	Rolling, Norwood, Polar, Evergreen	17	50	0	0	F1
9/28/1971	4:10 PM	Rolling, Antigo, C. Antigo, Polar, Evergreen, V. White Lake, Wolf River	30	200	0	1	F3
5/4/1959	11:45 AM	Neva	1	100	0	0	F0

Source: National Climatic Data Center

The National Climatic Data Center database shows 16 high or strong wind events from 1959 to 2005. Each included an area much larger than Langlade County alone. On November 10, 1998, winds were measured at 71 mph near Antigo. Trees, signs and power poles were damaged. Major damages including an injury and a death occurred in areas outside Langlade. In a November 12, 2003 high wind episode, a tree caught fire near Antigo after falling on a power line in 45 to 55 mph winds. Two deaths resulted from this event, but again outside Langlade County.

Tornado Vulnerability Assessment:

Though Langlade County is mostly a rural county, there are concentrations of population scattered throughout the County. Subdivisions, rural unincorporated communities, the City of Antigo and Village of White Lake can be regarded as more vulnerable because tornados pose more of a threat to human safety and property damage in more concentrated areas, see Map 13.

Mobile homes are of significant concern in assessing the hazard risks from tornados. In general, it is much easier for a tornado to damage and destroy a mobile home than a site-built home. Mobile Homes comprise 9 percent of Langlade County's housing units. Research by the NWS shows that between 1985 and 1998, 40 percent of all deaths in the nation from tornados were in

mobile homes, compared to 29 % in permanent homes, and 11 % in vehicles.

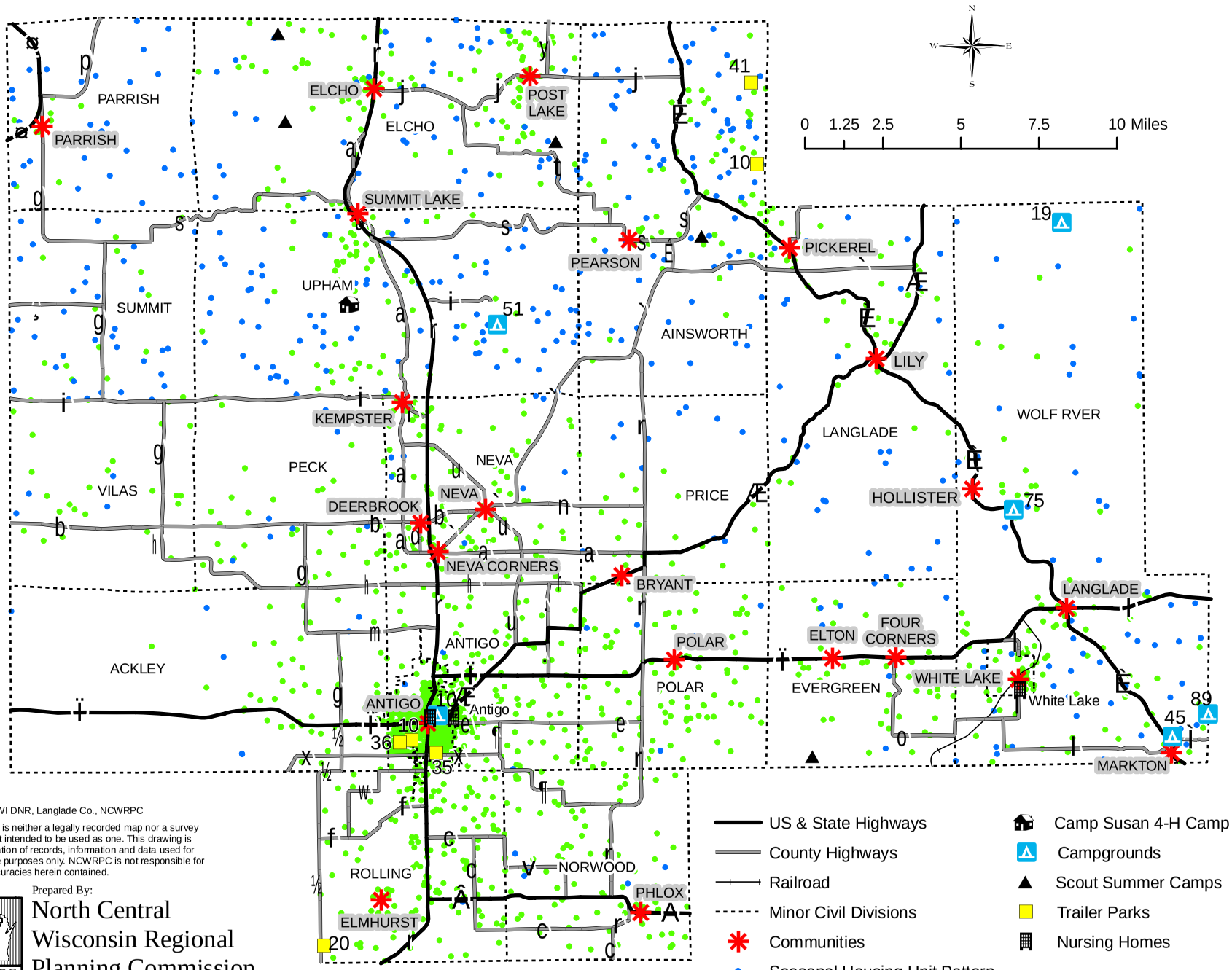
The 2000 U.S. Census reported 954 mobile homes in Langlade County. While mobile homes are scattered throughout the County, many are concentrated in mobile home parks. Map 13 also displays the location of the mobile home parks with approximate number of units. Table 13 lists the number, and personal property valuations of mobile homes reported by the Census for each municipality in the County. To get the average value of mobile homes per municipality, take the total value of mobile homes then divide by the number of mobile homes in the municipality. The County average for the mobile homes was $35,700.

Besides mobile homes, campground patrons are vulnerable to tornados because there usually is little shelter provided. Camp Susan 4-H Camp is a summer youth camp that hold day programs for area youth. Dormitories are located on site for extended stays. Emergency shelter is built into these facilities. There are a number of other public and private recreational campgrounds as well Boy/Girl Scout camps around the County. Refer to Map 13.

Table 13
Mobile Home Values in Langlade County, 2000

Municipality	Mobile Homes	Total Value	Average Value
Ackley town	12	$750,000	$62,500
Ainsworth town	138	$5,175,000	$37,500
Antigo town	25	$1,375,600	$55,000
Elcho town	104	$3,941,600	$37,900
Evergreen town	63	$1,732,500	$27,500
Langlade town	48	$2,318,400	$48,300
Neva town	25	$952,500	$38,100
Norwood town	33	$1,881,000	$57,000
Parrish town	12	$541,200	$45,100
Peck town	29	$1,232,500	$42,500
Polar town	30	$1,125,000	$37,500
Price town	4	$120,000	$30,000
Rolling town	81	$3,345,300	$41,300
Summit town	37	$2,220,000	$60,000
Upham town	40	$2,200,000	$55,000
Vilas town	31	$1,317,500	$42,500
Wolf River town	131	$5,240,000	$40,000
White Lake village	20	$460,000	$23,000
Antigo city	91	$1,765,400	$19,400
Langlade County	954	$37,693,500	$35,700

Source: U.S. Census and NCWRPC



Source: WI DNR, Langlade Co., NCWRPC

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- US & State Highways
- County Highways
- Railroad
- Minor Civil Divisions
- Communities
- Seasonal Housing Unit Pattern
- Resident Population Pattern
- Camp Susan 4-H Camp
- Campgrounds
- Scout Summer Camps
- Trailer Parks
- Nursing Homes

Tornado Vulnerability

Langlade County, Wisconsin

Map 13

The following is a list of things that may be affected by a tornado. Much of this list can be referenced in Part II.

- Community facilities – hospitals, schools
- Public Service – police and fire departments
- Utilities – power lines, & telephone lines
- Transportation – debris clean-up
- Residential – nursing homes, garages, trees and limbs, siding, & windows
- Businesses – signs, windows, siding, & billboards
- Agricultural – buildings, crops, & livestock

Based on review of the historic events of tornados, there are no specific areas in the county that have unusual risks. The events are a countywide concern.

Future Probability and Potential Dollar Losses – Tornados:
Based on the historic data presented here, between 1959 and 1994 Langlade County experienced a tornado event about every 10 years. More recently, the gap has been somewhat larger, but not out of line with normal fluctuation in historic patterns. So, Langlade County can likely expect a tornado about once every 10 years on average. This equates to a probability of 0.1 or about a 10 percent chance in a given year. There is not enough data to indicate the probability of tornados of a specific magnitude.

High wind events are much more common in Langlade County with 16 occurring in the last 12 year period from 1994 to 2005. Thus, the County can expect 1.3 high wind events per year. In other words, the probability is 1.0 or about a 100 percent chance in a given year.

Historic data is again used to estimate potential future dollar losses due to a tornado. Estimated damages resulting from various tornados in Langlade County range from $0 to $2.5 million. On average, Langlade County might expect damages of $459,333 per tornado, however, only one of the 6 historic tornados resulted in damages exceeding $500,000, one other had $250,000, and the rest were $3,000 or less. High wind damages are typically spread over a wide area making it difficult to single out a specific county. Damage estimates range between $0 and $1.0 million per incident between 2 to 72 counties.

HAZARD ANALYSIS: WINTER STORMS / EXTREME COLD

Background on Winter Storms/Extreme Cold Hazard:

A variety of weather phenomena and conditions can occur during winter storms. For clarification, the following are National Weather Service approved descriptions of winter storm elements:

Heavy snowfall – the accumulation of six or more inches of snow in a 12-hour period or eight or more inches in a 24-hour period.

Blizzard – the occurrence of sustained wind speeds in excess of 35 miles per hour accompanied by heavy snowfall or large amounts of blowing or drifting snow.

Ice Storm – an occurrence where rain falls from warmer upper layers of the atmosphere to the colder ground, freezing upon contact with the ground and exposed objects near the ground.

Freezing drizzle/freezing rain – the effect of drizzle or rain freezing upon impact on objects that have a temperature of 32 degrees Fahrenheit or below.

Sleet – solid grains or pellets of ice formed by the freezing of raindrops or the refreezing of largely melted snowflakes. This ice does not cling to surfaces.

Wind chill – an apparent temperature that describes the combined effect of wind and low air temperatures on exposed skin.

Winter storms can vary in size and strength and include heavy snowfall, blizzards, ice storms, freezing drizzle/freezing rain, sleet, wind chill, and blowing and drifting snow conditions. Extremely cold temperatures accompanied by strong winds can result in wind chills that cause bodily injury such as frostbite and death.

True blizzards are rare in Wisconsin. They are more likely to occur in the northwestern part of the state than in south-central Wisconsin, even though heavy snowfalls are more frequent in the southeast. However, blizzard-like conditions often exist during heavy snowstorms when gusty winds cause the severe blowing and drifting of snow. Heavy snow and ice storms have been part of nearly every winter in Langlade County.

History of Winter Storms/Extreme Cold in Langlade County:

The NCDC has reported 56 major winter storm events for Langlade County since 1994. These storms typically contain some form of heavy snow, blowing snow, ice, freezing rain or drizzle, or glaze.

Most recently, the winter of 2005 saw several heavy snow episodes including November 11, December 16 and December 30.

In April of 2003, a high-pressure system moved into Wisconsin from southern Canada, bringing unseasonable cold air into northern Wisconsin and at the same time, a low-pressure system was moving east in northern Illinois. This frontal boundary caused a mixture of freezing rain and sleet to develop north of the front, which caused ice to form on trees, power lines, and roads. Central and Northern Wisconsin became hazardous and numerous accidents were reported, with four fatal accidents happening in central Wisconsin. Downed electrical lines caused power outages to roughly 21,000 customers in east-central Wisconsin. One day later, another storm moved in, bringing strong winds and 8 to 10 inches of snow in northeast Wisconsin.

In January of 1996 a full blizzard hit north central and eastern Wisconsin, including Langlade County. A powerful arctic cold front crossed central and northeast Wisconsin, creating ground blizzard conditions. Strong west winds gusting as high as 45 mph whipped-up fresh snowfall resulting in zero visibility and icy roads. School was cancelled or let out early in many districts. The combination of cold temperatures and wind created wind chill readings in the 30 to 50 below zero range.

From the NCDC, 5 extreme cold temperature events have affected Langlade County from 1994 to 2005. In February 1996, an arctic air mass stalled over Wisconsin bringing extreme cold for an extended period (5+ days) wind chills reached 70 degrees below zero in some areas. There was significant damages and disruption including cancellation of all outdoor events at the Badger State Games. At least one person died from hypothermia, but this was outside Langlade County.

Winter Storms/Extreme Cold Vulnerability Assessment:
Winter storms present a serious threat to the health and safety of affected citizens and can result in significant damage to property. Heavy snow or accumulated ice can cause the structural collapse of buildings, down power lines, motor vehicle accidents, or isolate people from assistance or services.

The following is a list of things that may be adversely affected by a winter storm. Much of these community assets can be referenced in Part II.

- Infrastructure – operation of emergency services, operation of public facilities and schools
- Utilities – down power and telephone lines
- Transportation – automobile accidents, roadway plowing, salting/sanding
- Residential – roofs

- Businesses –commerce
- Agricultural – livestock

There are no specific areas in the county that have an unusually high risk. Winter storms cover a broad area and are a region-wide concern.

The extreme cold weather can affect the entire county. The risk to public health includes the chance of getting frostbite and hypothermia, and motor vehicle accidents. Everyone is at risk for becoming injured in extreme cold weather, either because of a frail body or because of travel in a motor vehicle.

Future Probability and Potential Dollar Losses – Winter Storms/Extreme Cold:
Based on historical frequency, Langlade County can expect 4.6 major winter storms per year on average. In other words the probability is 1.0 or a 100% chance of multiple storms in a given year.

Estimating potential future losses for winter storms is difficult. Damages and losses are typically widespread. Auto accidents and additional snow removal time are typical impacts of winter storms, and such claims are not aggregated or tracked for monetary damage. About 189 annual motor vehicle accidents occur with snow/ice/slush road conditions, and produce about 71 injuries and 1.4 deaths annually. Winter storms do have the potential to be extremely destructive, particularly in the case of ice storms. Potential future losses per incident might range from $5,000 to $2 million based on experiences from other counties.

For extreme cold temperatures, based on historical frequency, Langlade County can expect an occurrence about every 2.4 years. Although, extreme cold temperatures may also accompany winter storms, so a probability of 100% chance in a given year cannot be ruled out.

HAZARD ANALYSIS: DROUGHT/EXTREME HEAT

Background on Drought/Extreme Heat Hazard:
A drought is an extended period of unusually dry weather, which may be accompanied by extreme heat (temperatures which are 10 or more degrees above the normal high temperature for the period). There are basically two types of drought in Wisconsin: agricultural and hydrologic. Agricultural drought is a dry period of sufficient length and intensity that markedly reduces crop yields. Hydrologic drought is a dry period of sufficient length and intensity to affect lake and stream levels and the height of the groundwater table. These two types of drought may, but do not necessarily, occur at the same time.

Droughts, both agricultural and hydrologic, are relatively common in the state. Small droughts of shortened duration have occurred at an interval of about every ten years since the 1930's.

History of Drought/Extreme Heat in Langlade County:
The NCDC data has two drought periods recorded for Langlade County: 1976-1977 and 2005. Another drought period occurred from 1987-1988. NCDC also shows an extended dry spell for the month of March 1999.

The drought of 1976-1977, affected an area stretching from north to south across the state. Stream flow measuring stations recorded recurrence intervals from 10 to 30 years. Numerous private and municipal wells went dry due to the lowered groundwater tables and agricultural losses during this drought were set at $624 million. Langlade County was one of 64 counties that were declared federal drought areas and deemed eligible for assistance under the Disaster Relief Act.

The county has experienced 3 extreme heat waves from 1994 to 2005. The first one recorded was in July 1995 when a heat wave came across Wisconsin for three days. Temperatures across the state reached highs of 100 to 109 degrees. During this heat wave, 141 lives were claimed with 70 directly related and 71 in-directly related in the state of Wisconsin. Most deaths occurred in the major urban centers.

The last recorded heat wave was on July 23, 1999 when over a week of extreme temperatures and humid weather swept across the state. In some places it was so hot that concrete roads began to buckle. There was widespread heat related illness, and three deaths resulted outside Langlade County.

Drought/Extreme Heat Vulnerability Assessment:
Droughts can have a dramatic effect on Langlade County. The County has 93,000 acres of farmland. With agriculture being a critical sector of the County's economy, droughts have disastrous effects. Even small droughts of limited duration can significantly reduce crop growth and yields, adversely affecting farm income. More substantial events can decimate croplands and result in total loss, hurting the local economy.

Irrigation can negatively impact the environment by drawing water that naturally goes to aquifers and surface water. Drought can exacerbate the problem when high withdrawal rates versus little precipitation deplete water bodies and aquifer supplies, thereby decreasing drinking water supplies, drying streams, and hindering aquatic and terrestrial wildlife. During severe droughts, some wells - mainly private wells - will go dry.

Droughts can trigger other natural and man-made hazards as well. They greatly increase the risk of forest fires and wildfires because of extreme dryness. In addition, the loss of vegetation in the absence of sufficient water can result in flooding, even from average rainfall, following drought conditions.

The following is a list of things that may be adversely affected by a drought. Much of these community assets can be referenced in Part II.

- Infrastructure – municipal water supplies
- Surface water –groundwater reserves, recreation, and wildlife
- Forests
- Agricultural – crops, livestock

The areas most susceptible to drought conditions would be agricultural communities. Agricultural land is scattered throughout the south and southeast parts of the County.

According to the Wisconsin Emergency Management, excessive heat has become the most deadly hazard in Wisconsin in recent times. Extreme heat can happen anywhere within Langlade County affecting everyone, however the elderly and young are the ones with the highest risk of getting heat related injuries, which can lead to death. Ways to prevent injuries include wearing light-colored clothing, drink plenty of water, slow down, and do not stay in the sun for too long.

Future Probability and Potential Dollar Losses – Drought/Extreme Heat:
Based on the historic data presented here (frequency of past events), Langlade County can expect a drought every ten years on average, which is a probability of 0.10 or a 10 percent chance in a given year. Significant severe drought is somewhat less common, affecting Wisconsin once about every 15 years.

Drought is another hazard lacking good loss figures at the county level. However, a look at aggregate data for the last two major droughts can give some indication of potential impact. The last two major droughts in Wisconsin resulted in losses of $9.6 million (1976-77) to $18 million (1987-88) per county on average.

Normally, northern Wisconsin is known for its cold winters, however, extreme heat waves will affect Langlade County in the future. Langlade County can expect a heat wave once every 4 years or a 25 percent chance in a given year based on the historic data presented.

HAZARD ANALYSIS: SEVERE THUNDERSTORMS/LIGHTNING/HAIL

Background on Severe Thunderstorm Hazard:

The National Weather Service definition of a *severe thunderstorm* is a thunderstorm event that produces any of the following: downbursts with winds of 58 miles per hour or greater (often with gusts of 74 miles per hour or greater), hail ¾ of an inch in diameter or greater, or a tornado. Hail and lightning will be addressed in this section, and tornadoes are referenced as a separate hazard.

Thunderstorm frequency is measured in terms of incidence days or days on which thunderstorms are observed. Wisconsin averages between 30 and 50 incidence days per year depending on location. A given county may experience ten or more incidence days per year. The southwestern area of the state normally has more thunderstorms than the rest of the state.

History of Severe Thunderstorms in Langlade County:

The NCDC has reported 67 severe storm events for Langlade County since 1994. These storms typically contain some form of heavy rain, strong winds, lightning or hail.

Most recently, on August 9, 2005, thunderstorms developed in unstable air as a cold front passed through northern Wisconsin. In addition to torrential rain, the storms produced large hail and numerous trees and power lines throughout central and northern Wisconsin, including Lily, Hollister, Deerbrook and Antigo and surrounding areas.

On August 4, 2005, thunderstorms that developed ahead of a cold front moving across central Wisconsin downed a ¾-mile area of trees near Lily, knocking out power and phone service. On June 10, 2005 a thunderstorm knocked a tree onto a house in Pickerel. On July 31, 2003, thunderstorm downed trees and power lines in eastern Langlade County.

That 2003 storm also produced golf ball sized hail near Bryant and White Lake. In April 2002, 1-inch diameter hail was reported in the Pearson area. An isolated severe storm produced dime size hail in June 2000. In June 1997, 1.75-inch hail was reported around Deerbrook.

On June 26, 1998, lightning hit a home in Antigo, leaving burn marks across the exterior and melting wires. A barn was set on fire by lightning in Neva on September 16, 1997. In July 1996, lightning struck an Antigo area business, which started a fire that destroyed the building and its contents.

Severe Thunderstorm Vulnerability Assessment:
The National Weather Service can forecast and track a line of thunderstorms that may be likely to produce severe high winds, hail, and lightening, but where these related hazards strike and how powerful they might be remains unpredictable. The distribution of thunderstorms and related hazard events have been widely scattered throughout the County.

Many thunderstorm events (without tornadoes) have caused substantial property and infrastructure damage, and have the potential to cause future damage. In order to assess the vulnerability of the Langlade County area to thunderstorms and related storm hazards, a review of the past events indicate significant impacts to:

- Infrastructure – hospitals, schools, street signs, police and fire departments
- Utilities – electric lines/poles/transformers, telephone lines, radio communication
- Transportation – debris clean-up
- Residential – mobile homes, garages, trees and limbs, siding, & windows
- Businesses – signs, windows, siding, & billboards
- Agricultural – buildings, crops, & livestock
- Vehicles – campers, boats, windshields, body, & paint

Based on review of the historic patterns of thunderstorms associated with high wind, hail, or lightening, there are no specific municipalities that have unusual risks. The events are relatively uniform and a countywide concern.

Future Probability and Potential Dollar Losses – Severe Thunderstorms:
Based on historical frequency, Langlade County can expect 5.6 thunderstorm events per year on average. In other words, the probability is 1.0 or a 100% chance of multiple storms in a given year. The probability of a thunderstorm with damaging hail (0.75 inch diameter or greater) in Langlade County is also at 1.0 or 100% chance with about 1.5 incidents in a given year. There is not enough date available regarding lightning events to indicate probability.

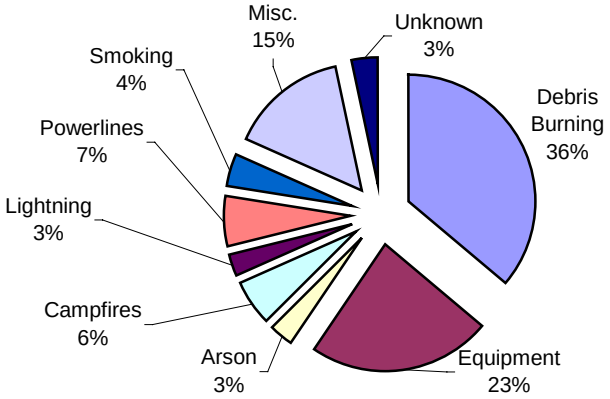
According to the NCDC, historic thunderstorm events with associated high wind and reported damages ranged from $1,000 to $10,000 in property damage per incident, and $5,000 in reported crop damage. Historic thunderstorm events with associated hail that reported property damage averaged $1,000. Historic thunderstorm events with associated lightening that reported property damage averaged $25,000. Losses in Langlade County associated with severe thunderstorms could approach $880,000 over the next ten-year period.

HAZARD ANALYSIS: FOREST FIRES/WILDFIRES

Background on Forest Fires/ Wildfires Hazard:

A forest fire is an uncontrolled fire occurring in a forest or in woodlands outside the limits of incorporated villages or cities. A wildfire is any instance of uncontrolled burning in brush, marshes, grasslands or field lands. For the purpose of this analysis, both of these kinds of fires are being considered together.

Fire Causes in Langlade Co. 1982-2005



Source: WDNR

Forest fires and wildfires can occur at any time whenever the ground is not completely snow covered. The season length and peak months may vary appreciably from year to year. Land use, vegetation, amount of combustible materials present and weather conditions such as wind, low humidity and lack of precipitation are the chief factors for fire season length.

History of Forest Fires/Wildfires in Langlade County:

The Wisconsin DNR maintains a database of forest fires for Langlade County. From 1982 to 2005, there have been about 30 fires annually. However, there is significant annual variability ranging from 1 fire in 2004 to 71 in 1988. The typical fire in Langlade County burns about one acre.

The drought period of 1987-1988 appears to have had an influence on wildfire activity in the County. In 1987, the highest total for acres burned in a year (between '82 and '05) was reached at 145.3 acres in 41 fires. Then in 1988, the highest number of individual fires in a year (again from '82 – '05), was reached at 71, however, only 31.4 acres burned. The 2005 drought, 1999 dry spell and various heat waves were not shown to produce more fire activity than at other times.

Forest Fires/Wildfires Vulnerability Assessment:

Langlade County has 434,586 acres of forestland, or 77 percent of the area, scattered throughout the County. The potential for property damage from fire increases each year as more recreational and retirement homes are developed on wooded land.

Rural buildings may be more vulnerable because of lack of access. Building driveways off main roads are sometimes long and narrow with minimal vertical clearance and no turn around areas large enough for emergency vehicles making it hard to save individual dwellings. These buildings also may not have adequate forest clearance between the structure and the forest.

Campgrounds are also a concern because campfires cause 6 percent of fires. Langlade County has 4 public (plus Camp Susan) and 13 private campgrounds with a total of more than 550 sites (see Map 13).

Some towns may be identified as more vulnerable than others based on the DNR data. Eight of the 19 total municipalities in the County had 50 or more wildfires between 1982 and 2005: Ainsworth (52), Antigo (51), Elcho (90), Langlade (52), Norwood (55), Polar (50), Rolling (61), and Wolf River (82). Elcho and Wolf River standout with 90 and 82, respectively.

Future Probability and Potential Dollar Losses – Forest Fires/Wildfires:
Forest and wild fires are relatively common occurrences in Langlade County. In recent years, an average of about 30 fires per year in the County have burned 31.9 acres on average each year. These fires are typically contained rapidly and remain small, so that each has a minimal impact.

Because of the relatively small impact of typical individual fires in the County, loss data is not tracked. This makes it difficult to develop an estimate of potential future dollar losses. However, with 30 fires per year, the County should expect some fires to "get out of hand". Annual losses would be maximized if a house was destroyed with each acre (ie “typical” residential parcel size) burned.

INTRODUCTION

Hazard mitigation is any action taken to reduce or eliminate the long-term risk to human life and property damage from natural hazards. This chapter describes the mitigation goals and actions by Langlade County and its local units of government for each of the hazards identified in Part III – Risk Assessment. The intention is to reduce or avoid long-term vulnerability to the identified hazards.

The mitigation strategies are organized by hazard beginning with some overall strategies that apply to a number of different hazards and are listed under the category, "all hazards". For each hazard, a goal was established as to what the County intends to achieve by implementing the specific action strategies and is based on the risk assessment findings. Each action strategy is then briefly described and followed by a discussion of the jurisdictions/agencies that will pursue the action including the proposed lead jurisdiction/agency. Where appropriate, a discussion of existing programs and on-going activities are described in order to facilitate coordination.

Each section of this part is broken down as follows:

Goal:
Broad, long-term mitigation goals to reduce or avoid vulnerabilities to the identified hazard are stated.

Action:
Each action strategy proposed to aid in achieving the overall goal for the identified hazard is described. A given action strategy may be comprised of a number of related sub-actions.

Participating Jurisdictions:
The proposed lead agency or lead jurisdiction is identified along with a listing of the other agencies or jurisdictions that the recommended action applies to. This does not preclude other agencies or jurisdictions from participating in the action.

Existing Programs:
Describes continuing efforts by agencies outside of Langlade County to mitigate disaster losses. The National Weather Service, Wisconsin Department of Natural Resources, and Wisconsin Emergency Management are some of the agencies that produce and disseminate regional mitigation action strategies for specific natural hazards.

The chapter concludes with a summary of the recommended mitigation strategies shown in Table 14.

PRIORITIZATION OF STRATEGIES

The Mitigation Planning Committee considered a number of factors in identifying and ranking proposed mitigation strategies. The matrix, below, describes the factors incorporated into the prioritization process. The resulting priority of each strategy is shown in the summary Table 14.

Prioritization Factors for Langlade County Mitigation Strategies

Strategy Prioritization Factor	*Description of Factor Considerations*
Priority of Hazard Type	The ranking of hazard types, tornado, flooding, etc., accounts for threat to human safety and possible property damage and was carried over to groups of strategies by hazard type. Strategies believed to benefit multiple hazards (listed under "All Hazards") were valued higher.
Ease of Implementation	Strategies where existing staff and resources are adequate were valued higher than those where additional resources are necessary. Consideration was also given to strategies that meet other countywide goals or incorporated as part of another county project. Project timing was also a consideration as to when funding such as grant applications might be available and when various activities could be scheduled.
Perceived Cost versus Potential Benefit	Although a detailed cost-benefit analysis was deemed beyond the scope of this study, the Committee weighed the perceived costs of each strategy against the potential benefit anticipated. Proposals that seemed economically unfeasible were rejected.
Multi-jurisdictional Application	Strategies benefiting multiple jurisdictions were valued more than those pertaining to fewer jurisdictions.

ALL HAZARDS

Goal:

Prepare residents and visitors of Langlade County for natural hazard events and protect from the effects of such events to the extent possible.

Action 1:

The County should continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios. NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information from the nearest National Weather Service office. NWR broadcasts National Weather Service forecasts, watches, warnings, and other hazard information 24 hours a day. The NOAA weather radio is the primary trigger for activating the Emergency Alert System (EAS) on commercial radio, television and cable systems.

Participating Jurisdictions for Action 1:

Lead agency will be Langlade County Emergency Management. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Action 2:

The County should continue to add and update information on an Emergency Management web page link off the existing County website. The web page should contain information describing the types of hazards and how to respond to a hazard threat. The site should also contain information on ordinances pertaining to hazards (i.e. County floodplain zoning), locations of shelters, and links to other sites that provide valuable information on weather conditions, burning permits, etc.

Participating Jurisdictions for Action 2:

Lead agency will be Langlade County Emergency Management and IT Departments. The only directly participating jurisdiction will be Langlade County.

Action 3:

Often referred to as a fire zone atlas, these atlas books were originally conceived to help direct fire fighting and evacuation operations in rural areas at high risk for wildfire. A number of counties across the state have developed, or are developing these atlases, typically sponsored by WisDNR. In Adams County, the atlas was credited as being instrumental in fighting the Cottonville Fire. Recognizing their potential value in responding to a wide variety of hazard

events, many counties are utilizing them as a tool in responding to and managing other situations beyond fire.

Zones are drawn around groups of structures based on factors related to access and evacuation. The zones are named, colored-coded and indexed for ease of reference. Atlas books are distributed to police, fire and EMS units responsible for responding to emergency situations in rural areas of the county covered by the atlas.

Participating Jurisdictions for Action 3:
Lead agency will be Langlade County Emergency Management. Jurisdictions participating in this action will include Langlade County, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River. The Wisconsin Department of Natural Resources should also be consulted.

Action 4:
Maintenance and potential expansion of early warning and communication systems to include Emergency Alert System (EAS) capabilities and expanded use of emerging technologies. Currently, NOAA weather radio is the primary trigger for activating the EAS on commercial radio, television and cable systems. Local access to these types of warning systems could facilitate more timely notification of a hazard situation as well as the ability to tailor important information or instructions for the specific area.

Participating Jurisdictions for Action 4:
Lead agency will be Langlade County. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Action 5:
The countywide disaster shelter plan should be updated. Shelter related concerns were identified during the development of this All-Hazards Plan. To address these concerns, the County should work with American Red Cross to review and update the shelter plan as needed. One issue with shelters may stem from lack of knowledge regarding existence of shelters and procedures for use. Plan distribution and public informational efforts are recommended.

The plan should identify available shelters by function and determine where coverage is deficient. The function of a shelter is to protect people during a disaster event, to accommodate displaced people in the aftermath, or both. Existing facilities (schools, churches, public buildings, etc.) should be evaluated

for suitability or locations determined for new structures. Mobile home parks within the County lack shelters and are a particular concern.

Establish zones to help people to identify which shelter they should go to and procedures for notification. It is also important to evaluate shelters for suitability for various types of hazards. For example, a shelter located within a floodplain may not be the best place to send people during a storm that could result in flooding. Adequate heat (and back-up source of energy to run it) is an important consideration when seeking to shelter people during a winter weather power outage. Local sponsors should be identified to help maintain shelters and ensure they are open in time of need. Transportation options should also be considered especially for the elderly and those with disabilities.

Shelters are now eligible for funding under the Community Development Block Grant (CDBG) program.

Participating Jurisdictions for Action 5:
Lead agencies will be Langlade County Emergency Management and the City of Antigo and Village of White Lake. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River. The American Red Cross Chapter should also be consulted.

Action 6:
The County should work to improve its rural addressing system. Improving the identification of existing roads and addresses and issuing more accurate addressing will facilitate emergency response and is a critical element of Enhanced 911 development.

Participating Jurisdictions for Action 6:
Lead agency will be Langlade County Land Records Department. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Action 7:
Each Town should develop a local emergency response plan (ERP). All towns, except one, indicated that they did not have an emergency response plan in place for their town in the mitigation planning survey distributed at the beginning of this process. The Town of Elcho indicated that an ERP was in progress. An ERP helps the community determine the roles to be played by each emergency service, how communication channels will be utilized, lines of

authority, and strategies or "game plans" for responding to different kinds of hazard situations. Wisconsin Emergency Management has plan templates that towns can use to fill in the blanks and begin formulating their own local ERP.

ERP's should conform to the State and National Response Plans, which are organized by emergency support functions and incorporate the provisions of the National Incident Management System (NIMS). The NIMS is a comprehensive system that incorporates operations through the use of the Incident Command System (ICS) and application of standardized procedures and preparedness measures. It promotes development of cross-jurisdictional, statewide and interstate regional mechanisms for coordinating response and obtaining assistance during a large-scale or complex emergency incident.

Participating Jurisdictions for Action 7:
Lead agency will be each town. Jurisdictions participating in this action will include all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Existing Hazard Programs:
See individual hazard categories, below.

HAZARD: FLOODING/DAM FAILURE

Goal:
Lessen the impact floods have on people, property and the environment.

Goal:
Eliminate the loss of life and reduce the risk of property damage in downstream areas that result from a dam failure.

Action 8:
The County should acquire digital aerial photography/lidar with appropriate contour intervals (2ft) to facilitate update and modernization of FEMA Flood Insurance Rate Maps (FIRMs). The existing FIRMs are dated and much less accurate than can be achieved with current GIS technology. The aerial photography and the updated FIRMs could serve as an important planning tool for disaster response, mitigation, and land use. Flood zones could be more accurately depicted for insurance and zoning purposes. Risk assessment could also be improved for future updates of this plan.

FEMA has specific standards and criteria for aerial photography used to update FIRMs. FEMA should be consulted from the beginning stages of such a project.

The 2ft contour level is expensive at more than four times the estimate for standard photos. However, working with other counties such as the NCWRPC's Multi-Region / Multi-County ortho-photography consortium can reduce the overall cost per county. Additionally, FEMA and the Wisconsin Department of Natural Resources may cost share with the County to acquire photos as part of a firm update project.

Participating Jurisdictions for Action 8:
Lead agency will be the Langlade County Land Information Department. Langlade County would likely be the only directly participating jurisdiction for the aerial photo component, however, the City of Antigo and Village of White Lake would have significant roles in the update of FIRMs for their areas. FEMA and the WisDNR must be involved early in the process.

Action 9:
Local governments should require stormwater management plans for new development on the urban fringe. Areas adjacent to the City of Antigo will continue to see the most intensive land use in the County as rural lands are converted to subdivisions and a mixture of other uses. Without adequate design consideration, this development can lead to stormwater run-off issues. By requiring each new development to determine how it will handle its own stormwater, drainage problems are not allowed to build on one another, thereby minimize future flooding.

Participating Jurisdictions for Action 9:
Lead agency will be Langlade County Planning and Zoning Department. Jurisdictions participating in this action will include Langlade County, City of Antigo, and the Towns of Ackley, Antigo and Rolling. Other Towns, particularly those with drainage problems, should also consider this action.

Action 10:
Review and test dam failure Emergency Action Plan (EAP) for each significant and high hazard dam within Langlade County. FEMA guidelines for dam safety indicate that training and exercises are necessary to maintain operational readiness, timeliness and responsiveness. The status of training and levels of readiness should be evaluated in periodic simulated emergency exercises for response personnel and the dam owner.

Emergency situations and/or dam failures are not common events. The EAP can become outdated, lose its effectiveness and no longer be workable if the plan is not practiced. Those involved may become unfamiliar with their roles and responsibilities, especially with the turn over of local officials. If the plan is not updated, the information contained in it may become outdated and useless.

There are five types of exercises, including: orientation seminar, drill, tabletop exercise, functional exercise and full-scale exercise. They range in complexity from simple to more complex, but it is not required that every exercise program include all five types.

Participating Jurisdictions for Action 10:
Lead agency will be Langlade County Land Conservation and Emergency Management. Participating jurisdictions will include the City of Antigo, and those Towns that could be affected, including Ackley, Ainsworth, Antigo, Elcho, Norwood, Peck and Rolling. Federal and state officials should also be invited including DNR and State Patrol, as well as dam owners/operators.

Action 11:
The City of Antigo should complete and implement a drainage study for the urban area. The City has done some preliminary work in the aftermath of the 2004 flood including piecemeal infrastructure improvements, but more detailed study and an overall plan is needed. Earth Tech has mapped the original 1975 FEMA flood maps to the City's new 2-foot contour data and provided cost estimates for varying degrees of further analysis. The City has also surveyed high water marks and mapped the area of flooding from 2004. The City has done some property acquisition and relocations and is currently working to relocate an industry out of the floodplain. Relocation of this industry would open up additional options for the floodplain study.

The study will utilize this preliminary data to update the stream cross-sections. The data will be used to compute a new surface profile to FEMA standards, so the results can be used by the County for flood map modernization. A current profile will allow more accurate evaluation of floodplain alternatives.

The study will include alternatives for redefining the floodway and will likely include the following projects:

- modify waterway openings based on the new surface profiles
- bridge removal
- tie together piecemeal infrastructure improvements
- additional acquisition and relocation of residences and other buildings
- work with towns up and down stream with ways of mitigating flooding both within the City and in those Towns.

Participating Jurisdictions for Action 11:
Lead agency will be the City of Antigo. The only directly participating jurisdiction will be the City. Langlade County and towns in the Springbrook Watershed affected by flooding including the Towns of Antigo, Polar, Price and Rolling should cooperate with the City on these projects.

Action 12:
Communities within Langlade County currently participating in the National Flood Insurance Program (NFIP) should work to ensure continued compliance. Compliance primarily entails adopting and enforcing floodplain management regulations that meet minimum criteria. Langlade County and the City of Antigo are in the program. All towns are included under the umbrella of the County through the state mandated county shoreland zoning. The Village of White Lake is not currently participating in the NFIP.

The Village of White Lake should take the necessary steps to come into compliance for participation in the NFIP. By not participating in the program, residents of the Village are not eligible for flood insurance and certain types of disaster aid in the event of a flood event. To enter the program, the Village would have to adopt a compliant floodplain zoning ordinance and the floodplain boundary map from FEMA by resolution and file forms with the WisDNR. Sample documents are available.

Participating Jurisdictions for Action 12:
Lead agencies include Langlade County Zoning, the City of Antigo and the Village of White Lake. The only directly participating jurisdictions are Langlade County, City of Antigo and the Village of White Lake.

Action 13:
The Town of Antigo should investigate stormwater management options within the Town including the potential for installing coffer dams or other control structures in the northern part of the Town to assist in drainage and flood control.

Participating Jurisdictions for Action 13:
Lead agency will be the Town of Antigo. The only directly participating jurisdiction will be the Town, however, any such actions should be taken in consultation with Langlade County, the City of Antigo and any engineering consultants working on the City of Antigo drainage / floodplain study.

Action 14:
Due to potential for significant flooding from Spring Brook, the Town of Rolling should develop an evacuation plan for those areas affected by Spring Brook or other possible flooding. Particular attention should be paid to those areas of the Town where roadway and/or bridge washouts are most likely to isolate residences.

Participating Jurisdictions for Action 14:
Lead agency will be the Town of Rolling. The only directly participating jurisdiction will be the Town.

Action 15:
Affected towns should look at improving drainage around or elevating town roads at risk of washout or overtopping during flood conditions. In the Town of Polar, Rabe Lane washed out in 2003 and Gallenberg Lane was overtopped in 2004. In the Town of Antigo, East 8th Avenue was flooded. Ainsworth has also had reports of road(s) washing out. These areas may become isolated and inaccessible during or after a disaster event hampering access by law enforcement or rescue personnel.

Participating Jurisdictions for Action 15:
Lead agency will be the respective Towns such as Ainsworth, Antigo and Polar. The only directly participating jurisdictions will be the individual towns.

Action 16:
The Town of Price should work with the Wisconsin Department of Transportation to address culverts/drainage at State Highway 52 through Bryant. Flooding occurs in Bryant annually during the spring snowmelt. One residence has flooded each of the last three years. The Town has upgraded a number of culverts on local roads, but STH 52 has not yet been addressed.

Participating Jurisdictions for Action 16:
Lead agency will be the Town of Price. STH 52 is a State highway and requires WisDOT participation to effect this action.

Flooding/Dam Failure Hazard Programs:
The Wisconsin Department of Natural Resources works with local governments to identify special flood hazard areas in the state. Local government bodies are responsible for enacting floodplain zoning ordinances that comply with state and federal regulations. State floodplain management regulations are found in Chapters 30.27, 59.971, 61.351, 62,231, 87.30 and 144.26, Wisconsin Statutes and Chapters NR 115, 116, 117 and 118 of the Wisconsin Administrative code. Federal requirements for floodplain management are set forth in the National Flood Insurance Act as amended, EO 11988 and EO 11990.

The National Weather Service provides warning information concerning these hazards. When severe weather conditions occur that might result in flooding or flash flooding, flash flood watch, flash flood warning, or urban and small stream flood advisory weather bulletins are broadcast by the National Weather Service. These bulletins are disseminated over a number of telecommunication channels, including NOAA Weather Radio, the NOAA Weather Wire and the state law enforcement's TIME system. Local media routinely monitor these sources and rebroadcast the weather bulletins over public and private television and radio

stations. NOAA Weather Radio is available to any individual with a weather alert radio.

Wisconsin Emergency Management, in conjunction with the National Weather Service, other state agencies and local emergency government organizations provides both flood awareness and preparedness information to the citizens of Wisconsin. Just before spring the National Weather Service provides a spring flood outlook that predicts the likelihood of flooding in Wisconsin rivers. In the May-June timeframe, the Wisconsin Emergency Management has a Flood and Flash Flood Awareness campaign to highlight the dangers of floods and flash floods and increase public awareness of these hazards. This information is provided annually.

HAZARD: TORNADO/HIGH WINDS

Goal:

Protect health, safety, and general welfare of county residents and visitors, as well as property from tornados.

Action 17:

Establish emergency "tornado" shelters in the Towns of Ackley, Elcho and Parrish. These towns indicated the need for shelters in their area in response to the mitigation planning survey distributed at the beginning of this process. The town hall site was listed as a possible location in the survey response for Ackley, while Elcho indicated possible location near the Town Shop or ballfield, and Parrish did not specify a site.

Participating Jurisdictions for Action 17:

Lead agencies will be the Towns of Ackley, Elcho and Parrish. Jurisdictions participating in this action include the Towns of Ackley, Elcho and Parrish. The American Red Cross Chapter should also be consulted.

Tornado Hazard Programs

Wisconsin Emergency Management, in conjunction with the National Weather Service, Department of Public Instruction and local emergency government agencies, provides awareness and preparedness information to the citizens of Wisconsin. Each April, Tornado Awareness Week is conducted educating people on tornado safety and increasing their awareness of this significant weather hazard. This campaign also focuses on schools and their students. A statewide tornado drill is conducted with the National Weather Service commencing this exercise by broadcasting simulated weather bulletins. Many schools actually go to shelters as part of the exercise.

As part of these awareness efforts, state and local emergency managers are emphasizing the importance of hazard mitigation in reducing the impacts of these devastating storms. Local officials are urged to adopt and enforce building codes that make structures more resistant to wind damage. Special outreach is encouraged to those who live in mobile homes or manufactured housing, as such structures are particularly vulnerable to damage in storms that have wind speeds in excess of 80 mph, even when the structures are properly anchored. Residents of such structures are advised to leave them immediately and seek protection in a suitable shelter. Mobile home park owners are also urged to provide residents with such shelters or make arrangements with a nearby facility for that purpose.

In the event of a tornado threat, the National Weather Service posts weather bulletins. These consist of issuing tornado watches and tornado warnings for areas of the state. These bulletins are disseminated over a number of telecommunication channels including: NOAA Weather Radio, the NOAA Weather Wire, and the state law enforcement TIME system. These communications systems are routinely monitored by local media, which rebroadcast the weather bulletins over public and private television and radio stations.

HAZARD: WINTER STORMS/EXTREME COLD

Goal:
Protect health and safety of county residents and visitors during and after winter storm events.

Action 18:
Langlade County and local units of government should recognize and support the collapse rescue unit of the Antigo Fire Department as a regional resource. The City has begun acquiring the equipment and training for its fire department to provide this service. The snow load and potential for ice storms in northern Wisconsin warrant such a unit, however, other types of hazards may also cause collapse including tornado and high wind. The County, the Village of White Lake and all Towns should support the maintenance and training of this unit.

Participating Jurisdictions for Action 18:
Lead agency will be the City of Antigo. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Winter Storm/Extreme Cold Hazard Programs
Wisconsin Emergency Management, in conjunction with the National Weather Service, other state agencies and local emergency management organizations, provides awareness and preparedness information to the citizens of Wisconsin. This information is provided in three severe weather awareness campaigns conducted annually, each focusing on the prevalent weather hazard at that time. In November each year, Winter Awareness Week focuses on informing and educating people concerning the hazards presented by severe winter weather and information on preparedness for extreme weather conditions during winter.

In the event of severe winter weather, the National Weather Service posts winter weather bulletins. These bulletins consist of advisories, watches and warnings that are issued concerning expected winter weather conditions. Some are used to alert the public of situations such as snow, winter weather, freezing rain or freezing drizzle and blowing snow advisories. Others bulletins are used to warn the public of more serious weather situations that could pose a threat to life and property: winter storm watch, winter storm warning, heavy snow, blizzard, ice storm, and sleet warnings. There are also bulletins that are not associated with precipitation, but are used to alert and warn like freeze, wind and wind chill advisories and wind chill warnings. These bulletins are disseminated over a number of telecommunication channels including the NOAA Weather Radio, the NOAA Weather Wire and the state law enforcement TIME system. These weather information sources are routinely monitored by local media, which rebroadcast the weather bulletins over public and private television and radio stations.

Hazard: Drought/Extreme Heat

Goal:
Protect lives from extreme heat stresses.

Goal:
Minimize crop loss while maintaining water supplies during times of drought.

Action 19:
To assist the population in reducing heat disorders, the County should promote extreme heat hazards awareness, including safety tips, medical information, and contact information for health officials.

Participating Jurisdictions for Action 19:
Lead agency will be Langlade County Emergency Management in conjunction with the County Health Department. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns

including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Action 20:
Develop countywide drought mitigation plan to encourage multi-agency approaches to water conservation, drought prediction and stream and groundwater monitoring. Droughts probably have the greatest impact on agricultural areas, and given the significance of the agricultural sector of the County's economy, drought becomes an important hazard to prepare for.

Even droughts of limited duration can reduce crop growth and yields, adversely affecting farm income. More substantial events can decimate croplands and result in total loss, negatively impacting both the individual producer and the local economy. Continuous monitoring of hydrologic conditions is important to identify and assess drought conditions.

Participating Jurisdictions for Action 20:
Lead agency will be Langlade County Land and Water Conservation department with assistance from County UWEX specialists. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Extreme Heat / Drought Hazard Programs:
The National Weather Service (NWS) issues advisory statements to media, emergency management, and public health officials in advance of and during conditions of excessive heat. Heat waves cannot be prevented, therefore, it is important to provide notice of adverse conditions so that the public can anticipate and avoid health-threatening situations.

Summary of National Weather Service's Alert Procedures:
The NWS will initiate alert procedures (advisories or warnings) when the Heat Index (HI) is expected to have a significant impact on public safety. The expected severity of the heat wave determines whether advisories or warnings are issued. A common guideline for the issuance of excessive heat alerts is when the maximum daytime Heat Index is expected to equal or exceed 105°F and a nighttime minimum Heat Index of 80°F or above for two or more consecutive days. Some regions and municipalities are more sensitive to excessive heat than others. As a result, alert thresholds may vary from these guidelines.

The alert procedures are:

- Include Heat Index values in zone and city forecasts;

- Issue Special Weather Statements and/or Public Information Statements presenting a detailed discussion of (1) the extent of the hazard including Heat Index values, (2) who is most at risk, (3) safety rules for reducing the risk;

- Assist state and local health officials in preparing the civil emergency messages in severe heat waves. Meteorological information from Special Weather Statements will be included as well as medical information, advice, and names and telephone numbers of health officials; and

- Release to the media and over NOAA's own Weather Radio all of the above information.

Hazard: Severe Thunderstorm/Lightning/Hail

Goal:
Minimize the threat to human life and property damaged caused by severe storms and associated lightning and high wind.

Action 21:
Determine if critical facilities such as hospitals, police buildings, fire halls, administration buildings, schools, and telecommunication antennas are adequately grounded to eliminate lightning damage. Langlade County Emergency Management could coordinate efforts with cooperation from local units and private operators such as the hospitals.

Where necessary, install lightning grade surge protection devices for critical electronic components used by government, public service and public safety facilities, such as warning systems, control systems, communications and computers.

Participating Jurisdictions for Action 21:
Lead agency will be individual local units for their respective areas. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Action 22:
A review of local building codes should be conducted to determine if revisions are needed to improve a structures ability to withstand greater wind velocities

and lightning. The building code provisions may include requirements for construction methods that employ cross-bracing, anchoring of walls to foundation, and anchoring roof rafters to walls (also mitigates tornado risk) and measures to provide wind protection and retrofits for vulnerable features (windows, garage doors, patio doors, double-wide entry doors, siding and bracing for walls and rafters. The National Fire Protection Association (NFPA) has standards for the installation of lightning protection systems that can be incorporated into building codes.

Participating Jurisdictions for Action 22:
Lead agency will be Langlade County Code Administrator to coordinate efforts. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

Thunderstorm Hazard Programs:
Wisconsin Emergency Management, in conjunction with the National Weather Service and state and local government agencies provides both preparedness information and severe weather information to the citizens of Wisconsin. Preparedness information is provided during three severe weather awareness campaigns conducted during the year, each focusing on the prevalent weather hazard at that time. Each April, Tornado Awareness Week is conducted in cooperation with the Department of Instruction educating schools and the public on tornado hazards and safety actions. Extensive information is also distributed on related weather events such as severe thunderstorms.

In the event of severe weather, weather bulletins are posted. A severe thunderstorm watch announces that conditions are favorable for storms in and close to the watch area and implies that people should be alert for these severe storms and have a plan of action if they threaten. These watches are issued by the Storm Prediction Center in Kansas City for the Midwest. A severe thunderstorm warning is given when a severe storm or tornado has been detected by radar or observed by trained spotters, the storm has winds of 58 miles per hour or greater and/or produces hail ¾ inch or larger and people in the path of the storm should take actions to protect life and property. The National Weather Service issues these warnings.

These severe thunderstorm watch and warning bulletins and advisories are disseminated over a number of telecommunication channels, including NOAA Weather Radio, the NOAA Weather Wire and the State Law Enforcement TIME System. NOAA Weather Radio is available to any individual with a weather alert radio. This system and the other sources are routinely monitored by local media, which rebroadcast the bulletins over television and radio stations.

Hazard: Forest/Wild Fires

Goal:
Protect the safety and property of residents from forest and wildfires.

Action 23:
The County should develop education and information for homeowners on protecting their homes and other structures from fires. Since Langlade County is mostly rural with vast woodlands, emphasis should be placed on construction and establishing defensible areas around structures. Roofs and exterior siding should be made of ignition-resistant materials. At least 30 feet should be left between homes and surrounding combustible vegetation. Outreach efforts can exist in the form of web sites, local newspaper articles, and pamphlets to homeowners.

Participating Jurisdictions for Action 23:
Lead agency will be the Langlade County Fire Chief's Association. The only directly participating jurisdiction will be Langlade County

Action 24:
Towns with high risk of wildfire should develop Community Wildfire Protection Plans (CWPPs). The Towns of Langlade, Norwood, Parrish, Polar and Rolling indicated that wildfire was a significant potential hazard for their towns. A CWPP identifies and prioritizes areas for hazardous fuels reduction treatments and recommends types and methods of treatment that will protect at-risk areas and critical infrastructure. WisDNR has grant funding available for community wildfire protection planning.

Participating Jurisdictions for Action 24:
Lead agency will be the Towns of Langlade, Norwood, Parrish, Polar and Rolling. The only directly participating jurisdictions will be the Towns. WisDNR would also likely be involved.

Action 25:
Local units of government should develop driveway ordinances and minimum standards for private roads to support emergency vehicle access. The ability of emergency response units to reach a site is often the critical factor in the effectiveness of the response. Inadequate private access roads or driveways are common problems in rural areas. In some cases emergency units cannot physically reach a target site due to narrowness, tight corners, steep slopes, etc. Other problems include lack of space to maneuver or turn around.

Participating Jurisdictions for Action 25:
Lead agency will be the Town governments. Jurisdictions participating in this action will include: all Towns including: Birch, Bradley, Corning, Harding, Harrison, King, Merrill, Pine River, Rock Falls, Russell, Schley, Scott, Skanawan, Somo, Tomahawk, and Wilson.

Forest/Wild Fire Hazard Programs:
Local fire departments are important partners in Wisconsin's Forest Fire Program. The WDNR offers resources to assist fire departments in a joint effort to fight fires. Local fire departments that have a signed cooperating agreement with the WDNR may order equipment through the LeMay Forestry Center in Tomahawk. Funds are available to organize, train, and support county fire associations which serve the cooperative fire protection areas as authorized by the Cooperative Forestry Assistance Act via the Forest Stewardship Act of 1990.

The Wisconsin DNR is responsible for forest fire protection on approximately 18 million acres of forest/ wild lands in the state. The U.S. Forest Service maintains fire protection responsibility for national forests within the state that cover about 2 million acres. Local fire departments are responsible in the rest of Wisconsin.

The WDNR Division of Forestry is the lead state agency in this area. The Division of Forestry maintains a command center in Madison that can be used to monitor fire conditions throughout the state, and it maintains and conducts an active fire management program for the state. Personnel from this division develop fire program action plans, which are developed for use during emergencies. Fire program action plans contain listings of hazard areas, maps, response actions, notification guidance, points-of-contact for additional assistance, and mutual support. Plans are created annually at the county level. The Division works through its six regional offices to conduct local training, education, coordination, response actions, and assistance.

Major programs being conducted by the WDNR to improve fire hazard response include the monitoring of weather conditions to evaluate fire danger, and the use of single engine air tanker [SEAT] aircraft to fight fires. There are 22 State and Federally owned fully automatic weather stations located throughout the northern two thirds of the state. These weather stations constantly monitor local conditions, and collected data are converted using the National Fire Danger System to provide current fire hazard conditions or levels. Single engine air tanker aircraft have been used to fight fires in Wisconsin since 1997. These aircraft operate out of Adams-Friendship, Black River Falls, Siren, and Crivitz areas, and are used to apply environmentally safe foam and fire retardant that can extinguish fires and also to protect buildings by applying the foam to the forest fuels adjacent to these structures.

Table 14 - Summary of Mitigation Strategies

Hazard Type		Mitigation Measures (See Expanded Text in Plan)	Costs of Project	Responsible Unit	Project Timetable*	Priority Level
All Hazards	1	Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	1,000	Langlade County	On-going	HIGH
	2	Continue to add/update Emergency Management Department link off existing County website.	Covered by Dept. Annual Budget	Langlade County	On-going	HIGH
	3	Develop emergency response zone atlas.	10-15,000	Langlade County	2009	HIGH
	4	Work toward development of county-wide early warning systems possibly including all telephone message cast & cable TV broadcast, among others.	TBD	County / City / Village / All Towns	On-going	MEDIUM
	5	Update county-wide disaster shelter plan possibly including i.d. available shelters, trailer park shelter needs, notification procedures, etc.	TBD	Red Cross / City / Village / All Towns	On-going	MEDIUM
	6	Work to improve county's rural addressing system as part of Enhanced 911 development.	120,000	Co. Land Info. Dept.	2010	HIGH
	7	Develop local emergency response plans.	Costs Vary	All Towns	2010	HIGH
Flooding Dam Failure	8	Acquire digital aerial photography with appropriate contour levels (2 ft) to facilitate update and modernization of FEMA Flood Insurance Maps.	300,000	Co. Land Info. Dept.	2010	MEDIUM
	9	Require stormwater plans for new development on the urban fringe.	Costs Vary	City of Antigo & adjoining Towns	2009	MEDIUM
	10	Review and test Emergency Action Plan (EAP) for each significant and high hazard dam.	Covered by Dept. Annual Budget	Co. Land Conservation	On-going	LOW
	11	City of Antigo Drainage / Flood Plain Study and Recommendations.	1.5 -2 million	City of Antigo	2009	HIGH
	12	County/City continued compliance in the NFIP. - Village of White Lake NFIP Compliance.	TBD	County / City / Village	2009	MEDIUM

Hazard Type	Mitigation Measures	Costs of Project	Responsible Unit	Project Timetable*	Priority Level
Flooding Dam Failure	13 Town of Antigo Stormwater Options.	TBD	Town of Antigo	2010	MEDIUM
	14 Town of Rolling Evacuation Plan.	TBD	Town of Rolling	2009	MEDIUM
	15 Town Road Improvements / Flood Proofing.	Unknown at this time.	Towns of Ainsworth, Antigo & Polar	2010	MEDIUM
	16 Town of Price / STH 52 Culverts.	Unknown at this time.	Town of Price	2010	MEDIUM
Tornado High Winds	17 Establish Shelters in the Towns of Ackley, Elcho and Parrish.	300,000	Towns of Ackley, Elcho, and Parrish	2010	MEDIUM
Winter Storm Extreme Cold	18 Support Area-wide Collapse Rescue Unit based with City of Antigo Fire Department.	Unknown at this time.	City / County / Village / All Towns	2008	MEDIUM
Drought Extreme Heat	19 Assist population with reducing heat disorders through awareness program.	Covered by Dept. Annual Budget	Co. Health Dept. / Co. EM Dept.	As needed.	LOW
	20 Develop countywide drought mitigation plans for multi-agency approaches to water conservation, drought prediction, stream and groundwater monitoring.	Covered by Dept. Annual Budget	Co. UWEX / Co. Land Conservation	On-going	MEDIUM
Thunderstorm / Lightning / Hail	21 Determine if critical facilities are adequately grounded to eliminate lightning damage. Install surge protection as necessary.	Covered by Dept. Annual Budget	County / City / Village / All Towns	2010	LOW
	22 Review local building codes for revisions to improve ability to withstand wind and lightning.	Covered by Dept. Annual Budget	City / Village / All Towns	On-going	LOW
Forest / Wildfire	23 Use education programs aimed at mitigating fires.	Covered by Dept. Annual Budget	Town Fire Chiefs Association	Annual	LOW
	24 Develop Community Wildfire Protection Plans in high risk Towns.	39,000 ea.	Various Towns	On-going	MEDIUM
	25 Develop driveway ordinances and private road standards to ensure emergency vehicle access.	Covered by Dept. Annual Budget	All Towns	2010	LOW

* Actual project implementation dependant on funding and staff availability.

INTRODUCTION

Part V of the Langlade County All Hazards Mitigation Plan describes the plan adoption, implementation, and evaluation and maintenance.

PLAN ADOPTION

The adoption of the Langlade County All Hazards Mitigation Plan lends itself to serve as a guiding document for all local government officials. It also certifies to program and grant administrators from the FEMA and WEM that the plan's recommendations have been properly considered and approved by the governing authority and the jurisdiction's citizens. Finally, it helps to ensure the continuity of mitigation programs and policies over time because elected officials, staff, and other community decision-makers can refer to the official document when making decisions about the community's future.

Before adoption of the Plan by the incorporated areas, the Plan must be sent to the state and federal level to verify that all DMA2K requirements are met. Once a draft of the Plan has been completed, it is submitted to the State Hazard Mitigation Officer (SHMO) at the state level at WEM. Previous drafts of the Plan have already been reviewed prior to this submittal. The SHMO will determine if the Plan meets DMA2K and/or other state program requirements. Upon approval of the draft by WEM, the SHMO is responsible for showing the Plan to the FEMA Region V Office for review.

After review and approval by FEMA, the Plan must be formally adopted by Langlade County and its incorporated areas by resolution. Incorporated communities that do not adopt the Plan cannot apply for mitigation grant funds unless they opt to prepare, adopt, and submit their own plan. Adoption of the plan gives the jurisdiction a legal basis to enact ordinances, policies, or programs to reduce hazard losses and to implement other mitigation actions. Resolutions of adoption are contained in APPENDIX B.

PLAN IMPLEMENTATION

Administrative Responsibilities

Once the Plan has been approved, stakeholders should be informed. The County Emergency Management Director should distribute copies to these stakeholders. The County should make the Plan available to the public by linking the Plan on their web site.

Along with monitoring the progress of the action projects, the County Emergency Management Director and Committee should also work to secure funding to implement the Plan. State and federal agencies, nonprofit organizations, and foundations continually make grants available. Emergency Management should research these grant opportunities to determine eligibility for the County and its local units of government.

When implementing this Plan, the Emergency Management Committee and staff team should consider innovative ways to involve active participation from nonprofit organizations, businesses, and citizens to implement the Plan. The relationship between these groups will result in greater exposure of the Plan and provide greater probability of implementation of the action projects listed.

The role of department administrators, elected officials, and local administrators are to ensure that adopted actions from Part IV are considered in their budgets. It is understood that projects may not be carried out as they are scheduled in Part IV due to budget constraints. However, since many of these action projects are considered an investment in safeguarding the publics' health, safety, and property, they should be carefully considered as a priority.

Coordination with Comprehensive Plans

As Langlade County and its local units develop their comprehensive plans, incorporation of the All Hazards Mitigation Plan is highly recommended. Wisconsin comprehensive planning law includes a detailed description of nine elements. The following concepts will be considered when developing and implementing the County and local unit comprehensive plans, based on the nine elements of the comprehensive planning law:

- *Issues and Opportunities Element*– a summary of major hazards local government is vulnerable to, and what is proposed to done to mitigate future losses from the hazards.
- *Housing Element* – an inventory of the properties that are in the floodplain boundaries, the location of mobile homes, recommendation on building codes, shelter opportunities, and a survey of homeowners that may be interested in a voluntary buyout and relocation program
- *Transportation Element* – identify any transportation routes or facilities that are more at risk during flooding, winter storms, or hazardous material spills

- *Utilities and Community Facilities Element* – identify critical facilities such as shelter, schools, medical, water infrastructure, etc. and make recommendations on how to mitigate specific risks factors
- *Agricultural, Natural Resources, and Cultural Resources Element* – identify the floodplains and agricultural areas that area at risk to hazardous events. Incorporate recommendations on how to mitigate future losses to agricultural areas.
- *Economic Development Element* – Describe the impact past hazards have had on County and municipal business
- *Intergovernmental Cooperation Element* - identify intergovernmental police, fire, and rescue service sharing agreements that are in effect, or which may merit further investigation, consider cost-sharing and resource pooling on government services and facilities.
- *Land Use Element* - describe how flooding have impacted land uses and what is being done to mitigate negative land use impacts from flooding; map and identify hazard areas such as floodplains, hazardous materials areas, and soils with limitations.
- *Implementation Element* – have action plans from this Plan implemented into comprehensive plans.

Promote Success of Identified Projects

Upon implementing a project covered by this Plan, it is important to promote the accomplishment to the stakeholders and to the communities. This will help inform people that the Plan is being implemented and is effective.

PLAN EVALUATION AND MAINTENANCE

Planning is an ongoing process. Because of this, this document should grow and adapt in order to keep pace with growth and change of the County and its local jurisdictions. DMA2K requires that local plans be evaluated and updated at least every five years to remain eligible for assistance.

The Plan will be reviewed and evaluated on an annual basis. Within this period, the Langlade County Emergency Management Director will evaluate incoming information against the contents of the Plan as needed to prepare for revisions. It is recommended that the Committee discuss evaluation and revisions to the Plan one year from its adoption and annually thereafter as it fits the Committee's scheduling. The Emergency Management Director is encouraged to consult/coordinate with the NCWRPC at the time of revision.

The Plan must also be evaluated and revised following disaster events to determine if the recommended actions are appropriate given the impact of the event. The risk assessment (Part III) should also be reviewed to see if any changes are necessary based on the pattern of disaster damages.

Full updates are required every five years. Every fifth year, the annual review will be expanded to an overall plan update to meet FEMA requirements. All stakeholders and the public must be involved in this update. A survey or open comment meeting is required. This also provides an opportunity to inform on the progress of any projects.

The County Board must approve all changes and updates to the plan.

Collecting Data To Improve Future Updates

FEMA is challenging local units of government to take a look at how they can ensure that each subsequent version of the plan is an improvement over the last. As the first round of plans comes to a close, data has been one of the biggest issues in the development of these plans. Both the quantity and quality of data needed to create these plans has been called into question. FEMA's challenge in response to these concerns is for the local unit of government to develop some means of collecting data over the course of the five-year period. This data would presumably fill the "gap" in data experienced with the initial plan.

In Langlade County, the Emergency Management Director will fill-out an incident/disaster summary report form. These forms will be filed together for use in the 5-year plan update. The purpose of the form is to record some pertinent information about a harzard event, which when compiled with other events over the five years, will give a much more accurate picture of the community's actual risk for the risk assessment element of the plan.

Appendix A – Local Unit Survey

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MEMORANDUM

TO: Town Chairpersons and Clerks

FROM: Katie Hovland-Frisch, Langlade County Emergency Management

DATE: March 13, 2006

RE: Langlade County All Hazard Mitigation Plan Survey

Langlade County has received a grant through the Federal Emergency Management Agency (FEMA) to complete an All Hazard Mitigation Plan for the purposes of reducing the County's vulnerability to the impacts of natural hazards. Local governments must have an approved local plan to remain eligible for certain FEMA disaster funds that would be available after a disaster declaration. By participating and being included in the County Plan, local units of government can satisfy the requirement.

The County is being assisted by the North Central Wisconsin Regional Planning Commission (NCWRPC) to develop this plan. We are currently seeking information from local officials. The enclosed survey has been created for this purpose.

Please complete and return the survey to me by April 14, 2006. Your participation in completing this survey is critical in completing a plan that satisfies FEMA's requirements. We will keep you apprised of future meetings and provide opportunity to review drafts of the report. If you have any questions in the meantime, please feel free to call me at 715-627-6257 or Darryl Landeau of the NCWRPC at 715-849-5510 extension 308.

Langlade County
All Hazard Mitigation Plan Local Government Survey

1. Town of _____

2. Which of the following hazards (if any) do you consider your community to be more vulnerable than others? (check all that apply)

   - □ Flooding
   - □ Dam Failures
   - □ Drought
   - □ Forest Fires and Wildfires
   - □ Insect Infestation
   - □ Thunderstorms
   - □ Lightening
   - □ Hail
   - □ High Winds
   - □ Tornados
   - □ Winter Storms (heavy snow, freezing rain)
   - □ Other_____

   If you checked any of the above, please describe why your community is more vulnerable to each of those hazards over others.

3. Please identify any public or private facilities or specific areas of the community that may be more vulnerable to a natural hazard.

4. Please list any projects or actions your community has taken to minimize or eliminate the risks of future natural hazards? (i.e. acquired land/structures in floodplains, dam/levee maintenance, constructed tornado shelters, specific road improvements, etc.)

5. Please list projects or actions your community may be interested in doing in the future to reduce or eliminate the impacts of a natural hazard.

6. Does your community have any consultant reports or engineering studies that may be relevant to natural hazards (i.e.: for repairing or strengthening buildings, roads, bridges, etc., or a stormwater plan / ordinance)? If so, please list even if not yet implemented:

   Who can we contact regarding more information on the above listed items:

   - □ Chairperson
   - □ Clerk
   - □ Other (list name and number):_____

7. Does your community have an emergency action plan in place to guide what actions need to be taken in the event of a natural disaster?

   - □ Yes
   - □ No

8. Is there a need for emergency shelters in your community?

   □ Yes
   □ No

   If so, where are some possible locations to place or construct a shelter facility?

9. Please describe any areas in your community that became isolated and inaccessible during or after a past disaster where access by law enforcement or rescue personnel was hampered?

10. One of the plan requirements is to quantify the value of critical infrastructure such as government buildings and property. Your Statement of Values form from the Local Government Property Insurance Fund or a similar declarations page from a private insurer. If you would be willing to provide us a copy of this form for your town, we would greatly appreciate it. Please include the copy when you return this survey or mail separately to the address below.

11. Please feel free to comment on any other related issues to this plan.

Return completed surveys to:
Katie Hovland-Frisch, Langlade Co. Emergency Mgmt, 837 Clermont Street, Antigo, WI 54409

THANK YOU FOR YOUR ASSISTANCE!

Appendix B – Resolutions of Plan Adoption

LANGLADE COUNTY

RESOLUTION # 44-2008

INTRODUCED BY: PUBLIC SAFETY COMMITTEE

INTENT: ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, Langlade County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, Langlade County participated jointly in the planning process with the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW THEREFORE, BE IT RESOLVED, that the Langlade County Board of Supervisors hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the participating municipalities, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PUBLIC SAFETY COMMITTEE

Douglas Nonnenmacher

Jerrold L. Burns

Vernon Cahak

Richard H. Hulbert

Richard Olsen

FISCAL NOTE: The County has currently paid $22,500 to NCWRPC over the last three years to complete the Hazards Mitigation Plan. $11,250 in grant funding has been received to date, with another $11,250 to be received once the resolution and plan is passed by the County Board.

Adopted by the Langlade County Board of Supervisors
this 17th day of June, 2008.

Kathryn Jacob, Langlade County Clerk

KR

LANGLADE COUNTY

STATE OF WISCONSIN }
}SS.
COUNTY OF LANGLADE }

I, Kathryn Jacob, County Clerk of Langlade County, Wisconsin, do hereby certify that the attached Resolution # **44 -2008** is a true and correct copy of said resolution as passed by the Langlade County Board of Supervisors at their Monthly Meeting held on Tuesday the 17th day of June, 2008.

Certified this 19th day of June, 2008.

Kathryn Jacob

Kathryn Jacob
Langlade County Clerk

RESOLUTION # C-2008

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Village of White Lake recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of White Lake participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of the Village of White Lake, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Village, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5/13/2008

Certifying Official

RESOLUTION # 2008-1

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Ackley recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Ackley participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Ackley, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 6-12-08.

Michael Kennedy
Certifying Official

Amy Mehs, Clerk

TOWN OF ANTIGO
ANTIGO, WI 54409

RESOLUTION #1-08
Adopting the Langlade County All Hazards Mitigation Plan

WHEREAS, the Town of Antigo recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Antigo participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Antigo, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

ADOPTED, this 18th day of June, 2008.

TOWN OF ANTIGO BOARD

Richard Parilek, Chairperson

Jon Petroskey, Supervisor

Wayne Schroeder, Supervisor

I hereby certify that the foregoing Resolution #1-08 was duly adopted by the Town of Antigo at a legal meeting on the 18th day of June, 2008.

ATTEST: Rosemary Servi, Clerk

RESOLUTION # 51308

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Evergreen recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Evergreen participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Evergreen, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5-13-08

Gerald McGee Chairman
Certifying Official

RESOLUTION # 2008-1

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Langlade recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Langlade participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Langlade, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5-20-08

Gary T. Stibb Sr.

Certifying Official

RESOLUTION # 32

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of NEVA recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of NEVA participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of NEVA, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5/9/08

Eugene Loesch

Certifying Official

RECEIVED

MAY 12 2008

NORTH CENTRAL WISCONSIN
REGIONAL PLANNING COMMISSION

RESOLUTION # 51308

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of PARRISH recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of PARRISH participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of PARRISH, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: YES.

CHAIRMAN

Certifying Official

RESOLUTION # 01-2008

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Peck recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Peck participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Peck, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: March 13, 2008

Dan Walroth

Certifying Official

RESOLUTION # 2008-5

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Polar recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Polar participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Polar, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5/15/08

William Walters

Certifying Official

RECEIVED JUN 1 6 2008

RESOLUTION # 5/19/08

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of PRICE recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of PRICE participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of PRICE, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5/19/08

Certifying Official

RESOLUTION # 1-08

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Rolling recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Rolling participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Rolling, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5-14-08

Norman Cefka
Certifying Official

RECEIVED

MAY 21 2008

NORTH CENTRAL WISCONSIN
REGIONAL PLANNING COMMISSION

RESOLUTION # 1

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Summit recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Summit participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Summit, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 5-13-08

Donald L Kirby

Certifying Official

May 13, 2008

RESOLUTION # 5-13-08

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN

WHEREAS, the Town of Vilas recognizes the threat that natural hazards pose to people and property; and

WHEREAS, under taking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save tax payer dollars; and

WHEREAS, an adopted all hazards mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Town of Vilas participated jointly in the planning process with Langlade County and the other local units of government within the County to prepare an All Hazards Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Vilas, hereby adopts the Langlade County All Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Langlade County Emergency Management Department will submit, on behalf of the Town, the adopted All Hazards Mitigation Plan to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: Yes

Louie Krivoshein Chairman

Certifying Official