

LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN UPDATE

prepared for:

Langlade County Emergency Management

by:

North Central Wisconsin Regional Planning Commission

adopted by Langlade County Board on:

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This update 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:

NORTH CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION
210 McCLELLAN STREET, SUITE 210
WAUSAU, WI 54403



Telephone: 715-849-5510

FAX: 715-849-5110

email: staff@ncwrpc.org

www.ncwrpc.org

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Introduction

Part I of the Langlade County All Hazards Mitigation Plan (AHMP) Update describes and documents the process used to develop the plan update. This includes how it was prepared and who (committee, organizations, departments, staff, consultants, etc.) was involved in the update process. It also describes the local government's involvement, the time period in which the update 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 Update 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 federal government in an attempt at stemming the losses from disasters, reducing future public and private expenditures, and speeding 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 and wildfires need to be addressed in the risk assessment and vulnerability analysis parts of the All Hazards Mitigation Plan. Manmade hazards such as hazardous waste spills are 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 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.
- All Hazard Mitigation Plans must be updated every five years.

The Five Parts of an All Hazards Mitigation Plan Update

The Langlade County All Hazards Mitigation Plan Update was categorized into five parts to address FEMA’s local mitigation plan requirements. The five parts are:

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

Development of the All Hazards Mitigation Plan Update

The Langlade County Emergency Management Department received a Planning Grant in late 2011 to develop an All Hazards Mitigation Plan Update through the Hazard Mitigation Grant Program (HMGP) Program.

The North Central Wisconsin Regional Planning Commission (NCWRPC) finalized a work agreement with Langlade County and began updating the All Hazards Mitigation Plan at the request of the County Emergency Management Director in early 2012.

The update process included regular Taskforce 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 update at various stages, and extensive opportunity for public participation was provided including public informational meetings and hearings.

The remainder of this chapter expands on and provides more detail on key aspects of the plan update development process.

Key Elements Of The Update To The Original 2008 Plan

The major enhancements to the Lantlade County All Hazards Mitigation Plan developed through this update are as follows:

- ✓ Review of Recommended Revisions - The final Crosswalk for the original plan approval listed a number of "recommended revisions" which were addressed in this update through the experience of subsequent plan adoptions from other counties.
- ✓ Review and update of planning area chapter - The planning area description and inventory was expanded and improved with additional information and updated statistics.
- ✓ Review and update of risk assessment - The risk assessment was updated with documentation on recent hazard events. The priority level of hazards facing the County was also reviewed and updated.
- ✓ Review and update of Mitigation Strategy - The mitigation strategies chapter begins with a complete progress report on the strategies from the 2008 plan, establishment of new set of strategies for next five-year cycle and an updated prioritization of projects.

All Hazards Mitigation Plan Update Taskforce

The Lantlade County All Hazards 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 Director, and the committee Taskforce to provide input on the types of hazards to be considered, appropriate mitigation strategies, and to review draft reports. Committee members are as follows:

- Vern Cahak, Chair
- Arlene Bonacci
- Dale Dahms
- Samuel Hardin
- Larry Poltrock

Local Government Involvement

There were a number of opportunities for the local units of government to become involved in the update process. All incorporated jurisdictions participated in the original plan as well as this update through one or more of these opportunities. In addition, unincorporated jurisdictions received a survey and may have participated in other opportunities during the process.

In March of 2012 a hazard mitigation issues survey was sent to each town chairperson and clerk 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 Update. Responses were received from 11 of 17 towns. A significant amount of information was gleaned from these questionnaires and incorporated into the planning document.

The City of Antigo was formally introduced to the update process at a separate meeting on March 12, 2013. The participants at this meeting provided information on hazards that have significance to the city, discussed critical facilities and provided mitigation strategy ideas for the plan. The following City officials participated in this planning meeting:

- City Administrator Mark Desotell
- Public Works Director Charley Brinkmeier
- Fire Chief Jon Petroskey

Discussion from this meeting indicated that the City is most concerned about tornados, flooding and ice storm resulting in long term power outage. Since 2004, the City has been engaged in addressing the effects of flooding on the Spring Brook. Extensive work has been accomplished upstream including building removal as well as vegetation and debris clearing. Dam operations have also been addressed, and lake levels are lowered in the fall to maximize capacity for snowmelt. The focus is now downstream where there remain a couple of businesses and some residences within the floodway. The Highway 45 Bridge is a restriction point in the stream flow that should be addressed.

The potential for significant ice storms in northern Wisconsin is a significant concern for city officials with regard to dealing with a long term power outage situation. Concerns discussed include space for sheltering large numbers of people (such as the high school or armory) plus power generation capability for heating and availability of dispensable fuel supplies to power emergency and essential service vehicles.

The Village of White Lake was formally introduced to the update process at a separate meeting on March 12, 2013. The participants at this meeting provided information on hazards that have significance to the village, discussed critical facilities and provided mitigation strategy ideas for the plan. The following Village officials participated in this planning meeting:

- Joe Edelman, Village President
- Scott Popelka, Public Works Director
- Patsy Listle, Village Trustee
- Jon Grennell, Village Trustee
- Mary Pomasl, Village Trustee
- Cheri Hoffman, Village Trustee
- Carol Blawat, Village Clerk/Treasurer

Discussion from this meeting revealed that the Village is most concerned about tornados. Since the 2007 tornado, the Village has been working to be better prepared. A neighborhood watch program with block captains has been organized in a community-wide effort. Storm spotter training and monitoring weather conditions for natural disasters is a major part of this effort. The new school gym was designed to double as a shelter including back-up power generators.

Neighboring Community Involvement

One of the requirements of the update 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 update 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 February 26, 2013 at County Courthouse in Antigo. Agencies and organizations represented include the following:

Ron Barger	-	County Health Department
Keith Priem	-	Town of Langlade
Robert Brown	-	Elcho EMS
Howard Cadle	-	Town of Langlade Fire
Dave Gregurich	-	Peck Volunteer Fire Department
Brad Henricks	-	County Emergency Management

A number of other agencies were invited but chose not to attend, including: County Aging and Social Services Departments, County Forestry, County Sheriff's Department, County Highway Department, County Land Conservation, Langlade County Airport, Langlade Memorial Hospital, WPS, City Gas Co., WDNR, 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. The mitigation measures were discussed at length with the group. Part IV of the Plan was revised based on the meeting.

Meeting attendees identified a number of issues including long term power outage, community festival/tourism events that draw significant crowds, limited number of stream crossings, and emergency access in rural areas with long driveways, gates and unplowed conditions in the winter.

There is concern that there are not plans in place for checking on the status of elderly and disabled residents in potentially dangerous situations such as a long term power outage. The County does not have the resources to handle this task countywide. Local emergency operations planning needs to address this issue. Communication is key.

In addition, planning staff met with County Code Administrator (Zoning) Jeff McKinney on March 12, 2013 and Northeast Region Statewide Interoperability Plan Implementation Coordinator Andy Faust on March 13, 2013.

During the meeting with Administrator McKinney, a number of issues were discussed, including timelines for flood zone map updating, how county and local development regulations could be modified to better incorporate consideration of stormwater management, compliance with the NFIP, and the county's limited ability to regulate driveways particularly outside of county highways.

Mr. Faust discussed some of the projects he is involved with that relate to emergency management and hazard mitigation within Langlade County. Some of these activities include: NEWCOM - the North East Wisconsin Public Safety Communications interagency group; WROC - the Wisconsin Regional Orthophotography Consortium; and WHAM - the Wisconsin Hazard Assessment and Mapping program.

In his role as the Northeast Region Statewide Interoperability Plan Implementation Coordinator, Mr. Faust coordinates regional training such as the two day training exercise and subsequent action report relating to response to long term power outage situations. He discussed how the findings and outcomes of this exercise could be useful in communities concerned about the potential consequences of long term power outage. Long term power outage is one issue identified during this update planning process.

Public Review Process and Plan Update Adoption

Opportunities for public comment were provided to review the Plan Update during the drafting stage and prior to Plan Update approval. See APPENDIX A for copies of public meeting notices. A copy of draft Plan Update elements were made available on the Internet during the update process. Links that open an email submission form to the County Emergency Management Director or NCWRPC Staff were provided for questions or comments. The final Plan Update document will remain on the Internet until the next draft update is posted for review. The public can continue to submit questions or comments at any time via the email link. (See Contact Information, below, for web addresses.)

County Public Safety Committee meetings are always open to the public (unless entering into legal closed session), and the public can bring questions or comments regarding this Plan Update to any regular meeting. Meeting schedules can be obtained by checking the County website, contacting the County Clerk's Office or the Emergency Management Director (see Contact Information, below).

A public informational meeting on the draft plan update was held in the Langlade County Courthouse on February 26, 2013. Notice was published in the local newspaper. Unfortunately, no members of the public chose to attend this meeting. In addition, no comments were received via U.S. Mail or email as a result of this meeting.

The County Public Safety Committee will review the Plan Update prior to forwarding it to County Board for approval. Following this open, public meetings, the Plan will be forwarded to the County Board for final

adoption. The adopting resolution will be included in APPENDIX B along with details on any plan changes resulting from Committee and/or County Board action.

Each incorporated municipality was asked to adopt the Update for its jurisdiction at their own properly posted and open public meeting, see APPENDIX B for the local units' resolutions of adoption.

Incorporated Plans, Studies, Reports And Technical Data

Many plans, reports, and technical data sources were referenced and incorporated into the Langlade County All Hazards Mitigation Plan Update. These sources include but are not necessarily limited to the following:

Wisconsin Department of Natural Resources, North Central Wisconsin Regional Planning Commission and Langlade County geographic information system databases provided much of the base data for the mapping and analysis within the Update. Statistical reports and data from the US Census and Wisconsin Departments of Administration, Revenue and Workforce Development were used for the demographic background in Part 2 of this Update. Land use data in Part 2 was obtained from the Langlade County Comprehensive Plan.

Wisconsin Department of Natural Resources Wetlands Inventory and Dams Database were used to identify and map wetlands and dams within the County for Maps 2 and 3 in Part 2 and Table 14 in Part 3. NFIP flood zone maps for Langlade County provided the mapping of 100-year floodplain areas, Map 4 in Part 2, for flooding risk assessment, Map 11 in Part 3.

NOAA National Climatic Data Center severe weather event data was used extensively for the risk assessment in Part 3. The wildfire section of the risk assessment was based on the Wisconsin Department of Natural Resources' fire occurrence database and statewide Communities At Risk (CAR) assessment.

Other plans, reports, and documents were reviewed by staff during the update process including but not limited to the State of Wisconsin Hazard Mitigation Plan; the Hazard Analysis for the State of Wisconsin, the Wisconsin Repetitive Loss Report, the Langlade County Zoning Ordinance, the Langlade County Land and Water Resource Management Plan, and the Langlade County Emergency Operations Plan. Although these may not have been directly incorporated, the review provided valuable insight and direction to the update process.

Contact Information

Questions or comments related to this Plan Update can be directed to the County Emergency Management Director at any time. For more information contact:

Brad Henricks, Director
Langlade County Emergency Management
Langlade County Resource Center
837 Clermont Street
Antigo, WI 54409

715-627-6257

bhenricks@co.Langlade.wi.us

Go to:

<http://www.co.langlade.wi.us/emergencymanagement.htm>

<http://www.ncwrpc.org/langlade/ahmp.html>

<http://emergencymanagement.wi.gov/mitigation/default.asp>

<http://www.fema.gov/what-mitigation>

INTRODUCTION

Part II of the Langlade County All-Hazard Mitigation Plan provides general geographical information on Langlade County including demographic and economic characteristics. The general development patterns of the county are described in terms of current land use and future development trends.

In addition to developing an understanding of the planning area, this chapter represents the beginning stages of assessing vulnerability by inventorying the numbers, types and values of existing buildings, infrastructure and critical facilities within each participating jurisdiction in the planning area. This overall summary of each jurisdiction's vulnerability to hazards describes the potential impact on the community.

Land use and development trends are analyzed to project the number and type of potential future buildings, infrastructure and critical facilities within each jurisdiction so that mitigation options can be considered in future land use decisions.

The resulting information is an important element of the planning process, since sound alternative mitigation strategies 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 in the eastern part of the county. There are also several unincorporated villages / hamlets dispersed around 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.

Insert Map 1 Location

Civil Divisions

There are 19 municipalities (17 towns, one village and one 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 area of about 888.55 square miles, of which 1.8 percent is water. The area and proportion of the county within each civil division are presented in Table 1.

Municipality	Area in square miles*			Area as % of County*
	Water area	Land area	Total area	
Ackley town	0.35	70.63	70.98	8.0%
Ainsworth town	2.80	69.14	71.94	8.1%
Antigo town	0.04	31.03	31.08	3.5%
Elcho town	4.28	70.97	75.24	8.5%
Evergreen town	0.46	35.78	36.24	4.1%
Langlade town	1.00	71.42	72.42	8.2%
Neva town	0.45	37.29	37.74	4.3%
Norwood town	0.56	35.57	36.13	4.1%
Parrish town	0.41	36.18	36.58	4.1%
Peck town	0.18	37.04	37.22	4.2%
Polar town	0.37	35.55	35.92	4.0%
Price town	0.12	36.12	36.32	4.1%
Rolling town	0.05	35.91	35.96	4.1%
Summit town	0.02	36.40	36.43	4.1%
Upham town	3.61	70.31	73.92	8.3%
Vilas town	0.03	35.81	35.84	4.0%
Wolf River town	2.08	116.78	118.86	13.4%
White Lake village	0.29	2.18	2.47	0.3%
Antigo city	0.05	6.54	6.59	0.7%
Langlade County	17.24	870.64	887.88	100.0%

Source: U.S. Census and NCWRPC

* Totals may not add due to rounding.

Topography

The landscape of Langlade County is primarily the result of glaciation. The relief is characterized by moraines, outwash plains, and a variety of other glacial features. The moraines are primarily 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.

Climate

Langlade County has a continental climate characterized by cold, snowy winters, warm summer days and cool summer nights. The short frost-free period during the summer restricts suitable crops mainly to forage, small grain, and vegetables. Precipitation is fairly well distributed throughout the year, reaching a peak in summer. Snow covers the ground much of the time from late fall until early spring, and has an annual range from 20 to 90+ inches and an annual mean of 51.9 inches during the past 20 years (1971-2000). June is generally the wettest month and February is the driest. Precipitation averages 30.6 inches annually. The sun shines 65 percent of the time in summer, and shines 45 percent in the winter. The prevailing wind is from the southwest. Average wind speed is highest in spring at 12 miles per hour.

DEMOGRAPHIC AND ECONOMIC PROFILE**Population and Households**

The 2010 Census reported a population base of 19,977 people. This represents a decrease of 3.7 percent or 763 residents from the 2000 Census reported population of 20,740 people. Langlade County has underperformed along with most of its neighbor counties versus the overall state average (refer to Table 2). Within Langlade County itself, most of the individual municipalities lost population. Only four towns: Ackley, Evergreen, Langlade, Rolling, and the Village of White Lake saw growth between 2000 and 2010 (refer to Table 3).

Wisconsin Applied Population Lab reports indicate that this decline in population is part of a larger pattern of rural population loss across the Midwest. In Wisconsin, the northern counties were the most affected. One big factor was the experiencing more deaths than births in these areas. In addition, young people are tending to move out of more rural areas for multiple reasons including: job opportunities, educational opportunities, the excitement of city-life, and desire for diversity and cultural amenities.

County	2000	2010	Change	% Change
Langlade	20,740	19,977	-763	-3.7%
Forest	10,024	9,304	-720	-7.2%
Oconto	35,684	37,660	1,976	5.5%
Menominee	4,562	4,232	-330	-7.2%
Shawano	40,664	41,949	1,285	3.2%
Marathon	125,834	134,063	8,229	6.5%
Lincoln	29,641	28,743	-898	-3.0%
Oneida	36,776	35,998	-778	-2.1%
Wisconsin	5,363,690	5,686,986	323,296	6.0%

Source: U.S. Census

MINOR CIVIL DIVISION	2000	2000	2010	2010	2000 – 2010	2000 – 2010 %
	Population	Households	Population	Households	% Change in Population	Change in Households
Ackley town	510	202	524	211	2.75%	4.46%
Ainsworth town	571	255	469	222	-17.86%	-12.94%
Antigo town	1,487	550	1,412	580	-5.04%	5.45%
Elcho town	1,317	613	1,233	579	-6.38%	-5.55%
Evergreen town	468	181	495	209	5.77%	15.47%
Langlade town	472	208	473	223	0.21%	7.21%
Neva town	994	360	902	369	-9.26%	2.50%
Norwood town	918	332	913	360	-0.54%	8.43%
Parrish town	108	41	91	36	-15.74%	-12.20%
Peck town	354	136	349	144	-1.41%	5.88%
Polar town	995	354	984	384	-1.11%	8.47%
Price town	243	92	228	94	-6.17%	2.17%
Rolling town	1,452	512	1,504	576	3.58%	12.50%
Summit town	168	66	163	71	-2.98%	7.58%
Upham town	689	319	676	320	-1.89%	0.31%
Vilas town	249	97	233	93	-6.43%	-4.12%
Wolf River town	856	368	731	347	-14.60%	-5.71%
White Lk village	329	136	363	156	10.33%	14.71%
Antigo city	8,560	3,630	8,234	3,613	-3.81%	-0.47%
Langlade County Total	20,740	8,452	19,977	8,587	-3.68%	1.60%

Source: U.S. Census

Between 2000 and 2010, the most significant growth occurred in the Village of White Lake a 10.3% increase. The Town of Evergreen was second with a 5.8% increase. Also notable was Rolling with a 3.6% increase. The "bedroom community" status of Ackley and Rolling being adjacent to the city likely explains some of this growth. Significant losses were experienced by the Town of Ainsworth down 17.9%, Parrish down 15.7% and Wolf River down 14.6%. The City of Antigo also exhibited a decline of about 3.8%.

Population concentrations and trends are important when prioritizing hazard mitigation strategies. Approximately 41% of the population is classified by the Census as urban and 59% is rural. 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 22.9 persons per square mile which ranges from a high of 1,259.7 in the City of Antigo to a low of 2.5 in the Town of Parrish.

According to the Wisconsin Department of Workforce Development the average age of residents in Langlade County is 45.7, fifteenth highest in the state. The combination of negative natural increase combined with the outflow of younger residents will likely continue the aging of the county population compared to the state as a whole.

Seasonal Population

In addition to the regular full-time resident population, the impact of seasonal population cannot be overlooked when planning for hazards. Although not as significant as in neighboring Oneida County, 25% of Langlade's housing stock has been identified as seasonal/recreational. Table 4 shows estimated seasonal residents by municipality. Determining when and for how long these seasonal residents will be in the county is problematic, but the numbers give some indication of what weekend or other peak period population levels might be.

Another component of the seasonal population includes short-term accommodations such as campgrounds or hotel-style lodging. The scope of this plan did not provide for a detailed inventory of accommodations; however the Wisconsin DNR completed a general inventory as part of its statewide comprehensive outdoor recreation plan. That inventory identified 430 hotel/motel beds, 7 bed and breakfast beds and 42 other types of beds available around the county. The DNR also identified 546

campsites in various campgrounds across the county as well as educational/recreational camps with capacity for 1,752 individuals.

Civil Division	2010 Seasonal Housing Units	Estimated Seasonal Population
Ackley town	19	43
Ainsworth town	293	656
Antigo town	9	20
Elcho town	880	1,971
Evergreen town	60	134
Langlade town	229	513
Neva town	61	137
Norwood town	51	114
Parrish town	61	137
Peck town	38	85
Polar town	44	99
Price town	26	58
Rolling town	18	40
Summit town	102	228
Upham town	550	1,232
Vilas town	66	148
Wolf River town	507	1,136
White Lake village	43	96
Antigo city	43	96
Langlade County	3,100	6,943

Source: U.S. Census and NCWRPC

Employment

In addition to seasonal swells in employment, the number of people working in a given locality fluctuates on a daily basis. The county is a net exporter of labor. In other words, the county has fewer local jobs than residents who work. Nearly 19% of working residents travel to work outside the county, while only about 12% of the county's workforce enters from other counties. The top five counties that Langlade County has inflow from are Marathon, Shawano, Oneida, Lincoln and Portage. The top five

destination counties for Langlade commuters are Marathon, Brown, Oneida, Lincoln and Shawano.

There is a cluster of seasonal leisure and hospitality employment within the county, however, three employment sectors have the greatest impact on Langlade County's economy, comprising over 60% of the job base in the county or about 4,555 workers. The Trade, Transportation & Utilities sector employs 25% of the workforce, the Education and Health Services sector employs 20% and the Manufacturing sector employs 19%. The importance of these sectors can be seen in the listing of the county's top employers. Table 5 identifies the top employers and their general location in the county.

Company	Product or Service	Size	Location
Langlade Memorial Hospital	General Medical/ Surgical Hospitals	250-499	City of Antigo
Antigo School District	Elementary & Secondary Schools	250-499	Various locations
Amtech Corp.	Ammunition Mfg.	250-499	City of Antigo
Wal-Mart	Discount Dept. Stores	100-249	City of Antigo
Plaspack USA Inc	Plastics Bag Mfg	100-249	City of Antigo
County of Langlade	Exec. & Legislative Offices - Gov't	100-249	Various locations
Eastview Rehab. Center	Nursing Care Facilities	100-249	City of Antigo
Waukesha Bearings Corp.	Mechanical Equip. Mfg.	100-249	City of Antigo
Covantage Credit Union	Credit Unions	100-249	City of Antigo
Fleet Wholesale Supply Co.	General Merchandise Stores	100-249	City of Antigo

Source: Wisconsin DWD County Workforce Profile and NCWRPC

Retail trade makes up the majority of employment in the county's Trade, Transportation & Utilities sector and is represented by Wal-Mart and Fleet Wholesale in the City of Antigo. The Education and Health Care Centers sector is well represented on the top employers list with the number one spot in Langlade Hospital and the Antigo School District at number two, as well as Eastview Rehab Center. These are primarily located within the city,

however the school district has some facilities out in the surrounding towns.

Amtech Corporation, Plaspack Inc., and Waukesha Bearings are the County's major manufacturing employers located in the City of Antigo Industrial Park on the north side of the city. Manufacturing has direct and indirect links to employment in natural resources, business services, transportation and wholesale trade.

Identifying locations of large employment is important when prioritizing hazard mitigation strategies. From the list of top employers, the City of Antigo is clearly the primary employment and service hub in the county.

LAND USE / COVER AND DEVELOPMENT PATTERNS

Land use is an important determinant in the potential impact a particular hazard may have, and in the actions which may be taken to mitigate that impact. 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 using 2010 aerial photography to digitize a land use Geographic Information System (GIS) coverage. Map 2 shows the land use and development patterns in Langlade County. Table 6 shows the acreage and percent of each classification.

Agriculture and Forestry

The dominant land-use in Langlade County is forestry. Land area in the county is approximately 77 percent forested, with about 439,000 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, which is mostly located on previously forested tracts that were cleared by early settlers, covers another 15.3 percent of the county's land area. Agriculture is also 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. Dairy and beef production continue to be significant but have been declining over time.

Insert Map 2 Land Use

Commercial, Industrial and Institutional Development

Commercial, industrial and institutional development makes up only about 0.3 percent of the total area of the county. Commercial and industrial land uses are mostly located in the City of Antigo, but pockets are scattered around the county. Much of the 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. A number of non-metallic mining sites, or quarries, are also included with industrial. Government and other institutional facilities are concentrated in the City of Antigo, however a variety of facilities are scattered throughout the county, such as rural schools, town halls and the Langlade County airport just east of Antigo.

Residential Development

Residential development makes up approximately two percent of the total county land area. Residential concentrations are scattered throughout the county (see “Population and Households” above). Much of the rural development is related to 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 about 888 mobile homes in 2010. This is 7.2% of housing units for the County compared to 3.8 percent for the entire state. This is significant due to their vulnerability in natural hazards especially tornadoes. Map 12 (Tornado Vulnerability) displays the mobile home concentrations in the County.

Description	Acres	Percent
Agriculture	87,031	15.3%
Commercial, Industrial, Institutional	1,907	0.3%
Forest/Woodland	439,243	77.4%
Recreation	562	0.1%
Residential	10,907	2.0%
Open Space / Other	11,456	2.0%
Surface Waters	10,927	1.9%
Transportation	5,856	1.0%
Total	567,889	100.0%

Source: NCWRPC

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 Green Bay Basin has two.

The county has 843 lakes and 225 streams within the watersheds (see Map 3). 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 account for 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 are 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 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 left clear of 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, levees, or other man-made flood control devices will be saved. Second, for each structure that is constructed in a flood-prone area, that 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 floodplain puts more life and property in danger.

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 the City of Antigo, have each completed a Flood Insurance Study and Flood Insurance Rate Maps (FIRMs) that encompass most of Langlade County. The FIRMs delineate the "A" Zones including the floodway and flood fringe, those areas inundated by the 100-year flood within the county. The Village of White Lake had flood hazard areas identified within its boundaries but never participated in the program. Langlade County is not yet scheduled for map modernization at this time, so upgraded Digital Flood Insurance Rate Maps or DFIRMs are not yet available for the county.

The NCWRPC digitized the existing county FIRMs for use in this plan. Although unofficial, this digital file indicates there are 25,495 acres of floodplain in Langlade County, or 4.5 percent of the land area. Map 4 shows these approximate floodplains. Floodplains in Langlade County are small and floods occur only during periods of exceptionally heavy rainfall. 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 mechanisms 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 107,094 acres, or about 18.9 percent of its total area. Map 3 shows these wetland areas to be scattered throughout Langlade County. Wetlands are more extensive in the northwestern half of the county including the towns of Ackley, Vilas, Peck, Summit, Upham, Parrish, Elcho and Ainsworth.

Destruction of wetlands can occur through the use of fill material, which 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.

Insert Map 3 Watersheds and Wetlands

Insert Map 4 Floodplains and Dams

Other Land Cover/Uses

Recreational lands including parks and outdoor sports facilities total about 562 acres or 0.1 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 5,856 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

According to the current Langlade County Comprehensive Plan, future land use reflects no major changes in land use over the next 20 years. Forestry will continue to be the major land use in the County, accounting for over 56% of the land area, followed by preservation areas and open space (much of which is wooded wetland) at about 20% and agriculture at about 16%.

Residential growth is planned to the east and west of the City of Antigo in the Towns of Ackley and Antigo. The northern fringe of the City is expected to be more mixed uses with commercial and industrial. Elsewhere, scattered, low-density development is found in many parts of the County. Outside the city and village, there is some concentration of residential development around many of the larger lakes in the northern part of the County.

The Comprehensive Plan projects overall residential land demand based on the addition of 585 units for year round residents. This does not account for seasonal housing making up about 20 percent of the housing stock. Assuming a county wide average of about 2 acres of land needed per unit, 60 acres per year on average is expected to be needed to accommodate anticipated housing unit growth by the year 2030.

Commercial and industrial development is subject to market forces and difficult to predict, however, the Comprehensive Plan projects future development of about 221 acres for commercial uses and about 179 acres for industrial uses over the next 20 years.

Therefore, between 2010 and 2030 based on projections presented in the County Comprehensive Plan, it is anticipated that approximately 250

acres will be needed every five-years to support residential, commercial and industrial development demands in Langlade County. Over the twenty-year period about 1,000 acres will be needed to meet overall development demands. However, the backlog of parcels currently available will buffer the amount of "new" acreage taken for development.

New infrastructure or public facilities will be somewhat minimal as budget constraints will curtail local government ability to develop new facilities and result in a tendency to make do with existing infrastructure and delay expansion plans.

The county's population is generally older with a median age of 45.7 years, versus statewide median age of 38.4 years. Over the next few decades, the population will become even older, aging much more quickly than the state as a whole. In fact, based on previous projections which under the new population trends are unlikely to change directions, 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.

PUBLIC FACILITIES AND SERVICES**Transportation**

The transportation system of Langlade County provides the basis for movement of goods and people into, within and out of 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 Antigo and the Village of White Lake. State Highways 17, 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 population centers and major highways. Local roads provide access to local development, farming and forest areas, as well as the county's lake areas.

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 include forty bridges with ten in the City of Antigo and thirty in various towns.

Through the Aging and Disability Resource Center of Central Wisconsin, Langlade County coordinates transit services for the elderly and disabled in the county, both in the city and to rural towns. The service is also open to the general public including service to the Northcentral Technical College. 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 as a Transport/Corporate airport. This category includes corporate jets, small passenger and cargo jets used in regional service and small airplanes used in commuter air service. These aircraft generally have a gross take-off weight of less than 60,000 pounds and wingspans of less than 118 feet with approach speeds below 141 knots. There are private landing strips located in the Towns of Norwood and Upham, as well as a heliport at the

Antigo hospital. The nearest commercial passenger service is located in Rhinelander or Wausau.

There are currently no active rail lines within Langlade County. The nearest access to freight rail would be the east-west line through Rhinelander or the north-south line through Wausau.

Utilities

Utility systems are important in hazard mitigation planning because of the dependence on water, wastewater treatment, gas service, electricity, and telecommunications. 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, the Village of White Lake and the Town of Elcho.

The infrastructure of electric and telephone lines can be threatened in the events of high wind, ice storms, tornadoes, flooding, and fire. Wisconsin Public Service provides electric service throughout the county. Since 2001, an independent company, American Transmission Company LLC (ATC), has owned, maintained, and operated 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. Frontier is the primary provider of telephone service in the county.

Nationwide, cellular telephone systems account for about half of all 911 calls. Service coverage is based upon the handset receiving a direct line-of-sight signal from a system provider's antenna on a tower. See Map 6 for tower locations within the County. 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. There are remote areas of the County where there are gaps in cellular coverage or service is spotty.

The ANR pipeline is the main source of natural gas for Langlade County. A main line runs north-south between Lincoln and Marathon counties. A spur line serves the City of Antigo in Langlade County, branching off the main near the Lincoln-Marathon border. From this spur, City Gas Company provides residential and commercial gas service in Antigo and the surrounding area.

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 stations located within 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 Towns of Antigo, Polar and Price. The City of Antigo Fire Department is the only force in the county that provides full-time, paid service, while the rest 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 Antigo 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 Sheriff's Department has sixteen officers, eight dispatchers and sixteen 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.

Insert Map 5 Transportation

Insert Map 6 Utilities

Insert Map 7 Fire Service

Insert Map 8 EMS Service

Insert Map 9 Police Service

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.

Critical Community Facilities

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 to transport injured residents and as to how many people can be accommodated if a hazard occurs.



City Hall, Antigo.

Langlade Memorial Hospital in the City of Antigo is a 25-bed level 4 trauma center facility affiliated with more than 70 health care providers. There are two clinics also in the city as well as one located in Elcho. There are three nursing homes within the City and a number of other facilities dedicated to the care and sheltering of the elderly and disabled around the county.



County Courthouse, Antigo.

Nursing homes are vulnerable, because of the high level of services required by the residents. The schools are facilities that are important, since hundreds of the county’s children are there for most of the year. Map 10 (See also Map 12) shows the location of selected types of critical community facilities within Langlade County.

Insert Map 10 Critical Facilities

INVENTORY & VALUE OF STRUCTURES/PROPERTY IN LANGLADE COUNTY

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 are apportioned to each municipality on the basis of equalized value. Table 7 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.

Municipality	Real Estate	Personal Property	Total	% of Total
Ackley town	\$38,316,300	\$220,400	\$38,536,500	2.3%
Ainsworth town	\$83,861,700	\$1,117,100	\$84,978,800	5.1%
Antigo town	\$92,141,400	\$1,343,200	\$93,484,200	5.6%
Elcho town	\$252,983,800	\$4,975,200	\$257,959,000	15.3%
Evergreen town	\$32,966,000	\$60,200	\$33,026,200	2%
Langlade town	\$63,320,800	\$869,500	\$64,190,300	3.8%
Neva town	\$67,425,200	\$317,100	\$67,742,300	4.1%
Norwood town	\$65,717,400	\$643,800	\$66,361,200	4%
Parrish town	\$13,356,400	\$14,900	\$13,371,600	0.1%
Peck town	\$29,048,900	\$118,300	\$29,167,200	1.8%
Polar town	\$76,013,000	\$741,800	\$76,754,800	4.6%
Price town	\$19,842,400	\$275,200	\$20,117,400	1.2%
Rolling town	\$100,786,800	\$1,198,000	\$101,984,800	6.1%
Summit town	\$20,323,800	\$537,300	\$20,861,100	1.3%
Upham town	\$185,383,700	\$1,813,100	\$187,199,800	11.1%
Vilas town	\$26,176,200	\$394,800	\$26,571,000	1.6%
Wolf River town	\$120,455,600	\$273,200	\$120,728,800	7.2%
White Lake village	\$16,314,500	\$335,100	\$16,649,700	1%
Antigo city	\$348,746,700	\$17,444,000	\$366,190,700	21.8%
Langlade County	\$1,653,180,600	\$32,692,200	\$1,685,875,400	100.0%

Source: WI Department of Revenue, 2011

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 8a, 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 8b - d.

Name	Value*	Location
Airport	\$3,661,768	Antigo town
Camp Susan	\$612,915	Deerbrook
Courthouse	\$7,692,314	Antigo city
Safety Building	\$13,099,697	Antigo city
Fairgrounds	\$7,647,784	Antigo city
Health Services Center	\$5,649,211	Antigo city
Highway Department	\$6,628,151	Antigo city
Highway Department	\$173,883	Lily
Jack Lake	1,481,095	Deerbrook
Kettlebowl Ski Hill	\$349,804	Price town
Other Parks & Recreation	\$692,623	Various locations
Post Lake Dam Area	\$434,595	Elcho
Resource Center	\$2,219,988	Antigo city
Wood Tech Center	\$4,176,010	Antigo city
Other Misc. Property	\$63,205	Various locations
Total	\$54,583,043	Above locations

*=Includes insured buildings, contents, and property in the open.

Source: Statement of Values State of Wisconsin Local Government Property Insurance Fund.

Property	Value*
Cemetery	\$299,776
City Hall / Fire Dept.	\$3,339,376
Landfill	\$1,082,501
Library	\$4,821,870
Library Branches**	\$76,637
Llfe Beyond Wheat Bldg	\$1,435,326
Lift Stations	\$579,697
Parks & Recreation	\$3,583,028
Police Department	\$145,699
Public Works Shop	\$2,974,579
Sewage Treatment Plant	\$27,532,163
Water Works	\$10,683,065
Well Locations	\$673,747
Misc. Other Property	\$826,069
Total	\$56,971,032

*=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.

Property	Value*
Municipal Bldg / Shop	\$1,164,560
Fire Station	\$389,012
Well Locations	\$322,395
Ball Park	\$224,822
Pavilion Lake Park	\$568,573
Storage Garage	\$55,687
Erdman Road Lagoon	\$75,112
Misc. Other Property	\$803,754
Total	\$3,603,915

*Includes insured buildings, contents, and property in the open.

Source: Statement of Values State of Wisconsin Local Government Property Insurance Fund.

Table 8d: Value of Town Owned Properties		
Town	Property	Value*
Ackley town	Town Hall	\$207,900
Ainsworth town	Town Hall	\$207,900
Antigo town	Town Hall / Fire Dept.	\$420,200
Elcho town	Town Hall & Misc. Facilities	\$1,874,400
Evergreen town	Town Hall	\$170,500
Langlade town	Town Hall / Fire Dept.	\$410,000
Neva town	Town Hall & Storage Bldg	\$124,000
	School Building	\$26,400
Norwood town	Town Hall / Shop & Fire Dept.	\$400,400
Parrish town	Town Hall	\$224,000
Peck town	Town Hall	\$207,900
Polar town	Town Hall	\$207,900
Price town	Town Hall	\$207,900
Rolling town	Town Hall	\$118,800
Summit town	Town Hall	\$207,900
Upham town	Town Hall	\$242,141
Vilas town	Town Hall	\$207,900
Wolf River town	Town Hall	\$207,900
*Includes insured buildings, contents, and property in the open. Source: NCWRPC Estimates.		

INTRODUCTION

Analyzing the hazards facing a community is an important 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.

Worksheets from the Wisconsin Guide to All-Hazards Mitigation Planning were used by the Planning Taskforce to evaluate and rank the listing of possible hazards to help identify which hazards should be included in the Plan according to threat to human safety and possible damage to property. This hazard scoring exercise resulted in the selection of the following hazards listed in priority order:

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

Tornados were rated the top hazard based on the potential damage to life and property as well as recent tornado experiences within the county and in neighboring Lincoln County - Merrill area. Winter storms were rated high on the list based on severity and the potential for extreme cold and ice hazards in northern Wisconsin. Drought ranked relatively high based on the persistent drought conditions across the state and the potential impacts this can have on this heavily agricultural county. Likely due in part to the drought and the fact

that a number of measures have been taken to mitigate flooding in Antigo since 2004, flooding ranked lower than might be expected. Despite the drought, forest/wild fire was rated lowest because most events are typically isolated from development and are limited in impact, with relatively low per incident costs.

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, hazardous materials incidents, civil disturbances, 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 avalanche, coastal hazard, hurricane, tsunami or volcano issues and conditions for landslide, subsidence or expansive soil 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 experience of disasters is an indication of the potential for future disasters to 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 eight natural disasters in Langlade County, where a Presidential Declaration was requested from 1971-2012. 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
- 2007 Tornado

It should be noted that this significantly understates the number of events 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 March 31, 2012, NCDC reported 229 severe weather events for Langlade County.

Note that since the NCDC data is somewhat incomplete, this report focuses on the 18-year period from 1994 to 2012 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.

Because this is a multi-jurisdictional plan, FEMA requires that the plan assess 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 a benchmark for mitigation for each hazard.

HAZARD ANALYSIS: TORNADOS/HIGH WIND

Background on Tornado/High Wind Hazard:

A tornado is a relatively short-lived storm composed of an intense rotating column of air, extending from a thunderstorm cloud system. It is nearly always visible as a funnel, although its lower end does not necessarily touch the ground. Average winds in a tornado, although never accurately measured, are between 100 and 200 miles per hour, but some tornados may have winds in excess of 300 miles per hour.

A tornado path averages four miles, but may reach up to 300 miles in length. Widths average 300 to 400 yards, but severe tornados have cut swaths a mile or more in width, or have formed groups of two or three funnels traveling together. On average, tornados move between 25 and 45 miles per hour, but speeds over land of up to 70 miles per hour have been recorded. Tornados rarely last more than a few minutes in one location or 15 to 20 minutes in a ten-mile area.

Tornados are classified into six intensity categories, EF0-EF5, see Table 9. This scale is an updated or "enhanced" version of the Fujita Tornado Scale (or "F Scale"). The scale estimates wind speeds within tornados based upon the damage done to buildings and structures. It is used by the National Weather Service in investigating tornados and by engineers in correlating building design standards against anticipated damage caused by different wind speeds.

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.

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 EF0 tornado and may even approach EF1 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 affected by high wind events, but significant damage and bodily injury or death can occur.

Table 9 Tornado Wind and Damage Scale		
Tornado Scale	Wind Speeds	Damage
EF0	65 to 85 MPH	Some damage to chimneys, TV antennas, roof shingles, trees, and windows.
EF1	86 to 110 MPH	Automobiles overturned, carports destroyed, trees uprooted
EF2	111 to 135 MPH	Roofs blown off homes, sheds and outbuildings demolished, mobile homes overturned.
EF3	136 to 165 MPH	Exterior walls and roofs blown off homes. Metal buildings collapsed or are severely damaged. Forests and farmland flattened.
EF4	166 to 200 MPH	Few walls, if any, standing in well-built homes. Large steel and concrete missiles thrown far distances.
EF5	OVER 200 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

Source: National Weather Service

History of Tornadoes/High Wind in Langlade County:

Langlade County has had 8 reported tornadoes from 1959 to 2012, with 5 occurring prior to 1985, see Table 10. The most recent tornado event occurred on April 10, 2011 when an EF1 tornado touched down near Parrish and was on the ground for just over five miles. About 1,600 acres of forest land were affected with estimates of over one million trees snapped, uprooted or otherwise seriously damaged. Timber losses were estimated at over \$1 million. One cabin was destroyed by falling trees. This tornado was part of a record number of tornadoes for April in Wisconsin (15).

On June 7, 2007, a powerful EF3 tornado with winds estimated at 150 to 160 mph caused significant damage in the White Lake area. The Bear Paw Outdoor Adventure Resort was severely damaged with every building (10) destroyed or damaged, including the three-story inn which pushed over by the high winds. One employee sustained minor injuries. Fortunately, there were only 9 people on site during the tornado; hundreds of visitors were due to arrive the next day. In addition, hundreds of acres of trees were flattened and 9 homes were damaged. Damages were estimated at approximately \$2.2 million. This tornado persisted for an extended amount of time crossing several counties and was one of a 5-tornado outbreak that resulted in over \$60 million in total damages and 4 injured. Presidential disaster declaration was applied for but not awarded.

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. On April 27, 1984, 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. Two tornados actually occurred on the same day in 1976 within less than an hour as two separate F1 tornados. No one was injured in these events and property damage was relatively light at about \$6,000. 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. Request for Presidential disaster declaration was not approved. Little information is available on the 1959 tornado.

DATE	TIME	LOCATION	LENGTH (miles)	WIDTH (yards)	DEATHS	INJURIES	F- SCALE
4/10/2011	5:58 PM	Parrish	5.3	400	0	0	F1
6/7/2007	3:48 PM	V. White Lake	7.4	1,000	0	1	F3
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 28 high or strong wind events from 1994 to 2012. 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. On July 14, 2010 numerous thunderstorms moved across the western Great Lakes, producing wind gusts up to 95 mph, leaving 22,000 homes without power and downing trees near Elcho.

Tornado / High Wind Vulnerability Assessment:

Though Langlade County is mostly a rural county, there are concentrations of population scattered throughout. 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 11.

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 7 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 2010 U.S. Census reported 901 mobile homes in Langlade County. While mobile homes are scattered throughout the county, many are in mobile home parks. Map 11 also displays the location of the mobile home parks with approximate number of units.

In addition to 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 holds 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 as Boy/Girl Scout camps around the County. Refer to Map 11.

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, radio communication
- Transportation – debris clean-up

Insert Map 11 Tornado Vulnerability

- 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 and high wind, there are no specific areas in the county that have unusual risk of occurrence. The events are a countywide concern. In mitigation planning meetings for this Plan, both the City and Village noted that tornado was their top priority hazard concern. General vulnerability by geographic area (local unit of government) is identified in Map 11.

Future Probability and Potential Dollar Losses – Tornados / High Wind:

Based on the historic data presented here (frequency of past events), between 1994 and 2012 Langlade County experienced two tornados or about 1 every 9 years. This matches with the historic pattern between 1959 and 1994. It remains to be seen if the 2011 tornado was an anomaly or the beginnings of a new trend in tornado frequency. 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 28 occurring in the last 18 year period from 1994 to 2012. Thus, the County can expect 1.9 high wind events per year. In other words, the probability is 1.0 or 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 damage of \$756,250 per tornado; however, three of the historic tornados resulted in damages of \$1 million or more. 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, below 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.

Dangerously cold conditions can be the result of the combination of cold temperatures and high winds. The combination of cold temperatures and high wind creates a perceived temperature known as "wind chill". Wind chill is the apparent temperature that describes the combined effect of wind and air temperatures on exposed skin. When wind blows across the skin, it removes the insulating layer of warm air adjacent to the skin. When all factors are the same, the faster the wind blows the greater the heat loss, which results in a colder feeling. As winds increase, heat is carried away from the body at a faster rate, driving down both the skin temperature and eventually the internal body temperature.

The National Weather Service issues wind chill advisories when wind chill readings of -20 to -34 degrees are expected. Wind chill warnings are issued

when wind chill values are expected at or below -35 degrees. Extreme cold events are most likely during the months of January and February.

History of Winter Storms/Extreme Cold in Langlade County:

The NCDC has reported 80 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, on February 29, 2012 a low pressure system out of Colorado produced a broad area of heavy snow over Minnesota and Wisconsin. This system deposited 18 to 20+ inches of snow between Rhinelander and Crandon, including parts of Langlade County.

Between December 11 and 12 of 2010, a strong winter storm developed as low pressure moved from Wyoming to Lake Michigan causing numerous cancellations and rescheduling. The pressure difference between an arctic high over southern Canada and the low pressure storm system generated strong winds resulting in severe blowing snow and blizzard conditions across the State. Fourteen inches of snow fell in western Langlade County with winds gusting up to 46 mph recorded near Antigo. The Governor declared a state of emergency in all 72 counties and the state's Emergency Operations Center was activated. The State Patrol advised against traveling as it was difficult to keep the blowing and drifting snow off the highways. There were numerous slide-offs and accidents across the state. Frigid temperatures followed the storm with actual air temps dropping to -23 degrees in some areas.

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.

On January 1, 2005 an approaching storm system aloft forced warmer air and abundant moisture over sub-freezing air north of a surface warm front. The warm, moist air loft and cold air at the surface resulted in freezing rain and a significant accumulation of ice across much of central Wisconsin.

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. Downed electrical lines caused power outages to roughly 21,000 customers in east-central Wisconsin.

From the NCDC, nine extreme cold temperature events have affected Langlade County from 1994 to 2012. Most recently, on February 10, 2008 strong northwest winds behind a departing low pressure system brought cold air of 10 to 20 degrees below zero into Wisconsin, which when combined with 15 to 30 mph winds and gusts up to 40 mph led to wind chills of -47 in Antigo.

An extended cold streak occurred in February of 1996 when a frigid arctic air mass became entrenched across central and northeast Wisconsin. Actual temperatures remained below zero for more than 130 hours straight dropping as far as -45. The extreme cold temps combined with west winds of 10 to 15 mph produced wind chills from 50 to 70 below zero on February 2. The cold weather was responsible for many school closures, stalled vehicles, frozen pipes, and broken water lines, as well as, electrical and phone outages resulted from snapped lines. All outdoor events at the Badger State Games had to be canceled and ski hills were closed.

Winter Storms/Extreme Cold Vulnerability Assessment:

Winter storms and extreme cold present serious threats 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. Extreme cold includes the risk of frostbite and hypothermia.

The following is a list of things that may be adversely affected by a winter storm or extreme cold. 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

Based on review of the historic events of winter storms and extreme cold, there are no specific areas in the county that have an unusually high risk. The risk for winter storms and extreme cold is relatively uniform and a county-wide concern. In their mitigation planning meeting, the City of Antigo identified the potential risk of power outage associated with a major winter/ice storm as a significant

concern with regard to the issue of availability of adequate warming shelter space.

Future Probability and Potential Dollar Losses – Winter Storms/Extreme Cold:

Based on historical frequency, Langlade County can expect 4.4 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.

For extreme cold temperatures, based on historical frequency, Langlade County can expect an occurrence about every 2 years. Although, extreme cold temperatures may also accompany winter storms, so a probability of 100% chance in a given year cannot be ruled out.

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. 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.

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.

Extended periods of warm, humid weather can create significant risks for people, particularly the elderly who may lack air conditioning or proper insulation or ventilation in their homes. Animals are also at risk during extended periods of heat and humidity. The National Weather Service issues a Heat Advisory when the Heat Index ranges from 105 to 114 degrees daytime and remains at or above 80 degrees at night, during a 24-hour period. The heat

index combines the effects of heat and humidity to better reflect the risk of warm weather to people and animals. When heat and humidity combine to reduce the amount of evaporation of sweat from the body, outdoor activity becomes dangerous even for those in good shape. The index measures the apparent temperature in the shade. People exposed to the sun would experience an even higher apparent temperature. A heat index of 105 is considered dangerous and prolonged exposure can result in heat stroke, exhaustion and cramps. People should be reminded to use extreme caution when the heat index is between 95 and 105. A heat index of 95 occurs when the temperature is 90 degrees and the relative humidity is 50 percent.

History of Drought/Extreme Heat in Langlade County:

An extended period of drought conditions going back to 2005 for Langlade County and much of Wisconsin eased a bit in 2011. Periods of below normal precipitation led to ongoing moisture deficits despite periodic storm events creating breaks in the dry pattern. In 2009 reports from County Agricultural Agents across northern Wisconsin indicated that crops were drought stressed and would have been in worse shape if temps had not been cooler than normal. The report from Langlade County indicated a 20 to 25 % loss of the corn and soybean crop through July of 2009. During this period, the Governor declared a state of emergency to get assistance to the state's agricultural sectors. The extended dry conditions posed serious challenges for farmers from drought stressed crops to issues providing feed for livestock.

NCDC reports indicate drought periods from September to October 2005, August through October 2007, September 2008 through April 2009, July through October 2009 and from May through June 2010.

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. Federal monies totaled only 19% of losses attributed to the drought.

Langlade County also experienced the drought of 1987-1988 and a dry spell in 1999.

The county has experienced four extreme heat waves from 1994 to 2012. The first of these was 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.

A heat wave was recorded 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. More recently, on July 31, 2006 temperatures near 100 and dew points in the lower 70s led to heat indexes near 110 degrees.

Drought/Extreme Heat Vulnerability Assessment:

Droughts can have a dramatic effect on Langlade County. The County has 87,000 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. The primary towns include Ackley, Antigo, Neva, Norwood, Peck, Polar, Price, Rolling and Vilas, but several other towns also contain varying amounts of agricultural land.

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 about every 5 years or a 20 percent chance in a given year based on the historic data presented.

HAZARD ANALYSIS: FLOODING/DAM FAILURE

Background on Flooding/Dam Failure Hazard:

There are a variety of classifications for flooding including coastal, dam failure, flash, lake, riverine, stormwater and urban/small stream. Langlade County has the potential for all these types except coastal. The following descriptions of the types of flooding are compiled from various FEMA and other notable hazard planning sources:

Coastal – Different from other types of flooding which relate to movement of water through a watershed, coastal flooding is due to the effect of severe storm systems on tides resulting in a storm surge. Primarily known as an ocean-based event, the Great Lakes coastal areas can also be affected.

Dam Failure – More of a technology related hazard than a natural hazard, various factors can result in the failure of the structural technology that is a dam,

thus causing flooding of areas downstream of the dam often similar in effect to flash flooding.

Flash – Involves a rapid rise in water level moving at high velocity with large amounts of debris which can lead to damage including tearing out of trees, undermining buildings and bridges, and scouring new channels. Dam failure, ice jams and obstruction of the waterway can also lead to flash flooding. Urban /built-up areas are increasingly subject to flash flooding due to removal of vegetation, covering of ground with impermeable surfaces and construction of drainage systems.

Lake – Prolonged wet weather patterns can induce water-level rises that threaten lakeshore areas.

Riverine – Also known as overbank flooding, this is the most common type of flooding event. The amount of flooding is a function of the size and topography of the watershed, the regional climate, soil and land use characteristics. In steep valleys, flooding is usually rapid and deep, but of short duration, while flooding in flat areas is typically slow, relatively shallow, and may last for long periods.

The cause of flooding in rivers is typically prolonged periods of rainfall from weather systems covering large areas. These systems may saturate the ground and overload the streams and reservoirs in the smaller sub-basins that drain into larger rivers. Annual spring floods are typically due to the melting of snowpack.

Stormwater – Water from a storm event that exceeds the capacity of local drainage systems, either man-made or natural, can result in flooding. Inadequate storm sewers and drainage systems are often the primary factor resulting in this type of flooding.

Urban and Small Stream – Locally heavy rainfall can lead to flooding in smaller rivers and streams. Streams through urban or built-up areas are more susceptible due to increased surface runoff and constricted stream channels.

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.

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
Pickrel Lake	Small	Private	2	Pickrel 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

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 4/Table 11), but most do not pose a significant hazard if they were to fail. According to the DNR, Langlade County has 12 large dams, 21 small dams and the other 4 were not classified. The Wisconsin DNR regulates all dams on waterways to some degree; however, the small dams are not stringently regulated for safety purposes.

A dam can fail for a number of reasons such as excessive rainfall or melting snow. It can also be the result of poor construction or maintenance, flood damage, weakening caused by burrowing animals or vegetation, surface erosion, vandalism or a combination of these factors. Dam failures can happen with little warning resulting in the loss of life and significant property damage in an extensive area downstream of the dam.

History of Flooding/Dam Failure in Langlade County:

Flooding was a principal cause of damage in four of eight Presidential Disaster Declaration requests in Langlade County from 1971 to 2012. One of the worst flood events experienced by Langlade County was the flooding of 2004. News reports identified this flooding in the City of Antigo as the worst flooding in four decades. 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, however; a 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 a combination of severe storms and flooding included 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 homes 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 Antigo 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.

Flooding/Dam Failure 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, describes a repetitive loss structure as “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 administered by 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.

Insert Map 12 Flood Vulnerability

Table 12 shows the number of structures in each municipality identified as “vulnerable to flooding” according to proximity to floodplains. There were a total of 709 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 aerial photos.
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.

Municipality	Number	Total Value	Average Value
Ackley town	27	\$3,545,100	\$131,300
Ainsworth town	85	\$10,684,500	\$125,700
Antigo town	51	\$6,604,500	\$129,500
Elcho town	100	\$14,550,000	\$145,500
Evergreen town	10	\$1,158,000	\$115,800
Langlade town	37	\$5,868,200	\$158,600
Neva town	20	\$2,408,700	\$120,400
Norwood town	27	\$3,407,700	\$126,100
Parrish town	1	\$143,800	\$143,800
Peck town	12	\$1,330,800	\$110,900
Polar town	6	\$985,200	\$164,200
Price town	0		\$138,200
Rolling town	7	\$1,071,700	\$153,100
Summit town	7	\$1,067,500	\$152,500
Upham town	4	\$674,000	\$168,500
Vilas town	3	\$396,300	\$132,100
Wolf River town	43	\$5,435,200	\$126,400
White Lake Village	23	\$1,178,800	\$76,900
Antigo city	246	\$19,089,600	\$77,600
Langlade County	709	\$79,599,600	\$107,500

Source: U.S. Census and NCWRPC

In addition to structural damage from flooding, there may also be significant damages to public roadways, particularly to roadway surfaces, culverts and bridges. Floods may inundate roadways in the county for varying periods. Such interruptions in the county transportation network may cause travel delays through detours.

The agriculture industry is one sector that faces substantial losses during floods. Cool, rainy/wet, cloudy weather in the spring and summer can create a general condition of high water and saturated soils throughout the county.

Flood conditions can leave farmers with these economic obstacles:

- Delayed planting (reduced growing season)
- Seed and agricultural chemicals washing out of fields
- Rotting crops 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 yields can result in loss of revenues from cash crops and increased expenses for purchasing 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 often need to be added even in much of the purchased feed.

Economic losses to farmers can generate a ripple effect to the local community as well. Reduction in farm income curtails farmers' ability to purchase new equipment and make other improvements. Farmers 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 will have reduced tax revenues. Farmers increase their debt load and have less money to save and invest.

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.

Considering both the agricultural and forestry sectors, virtually the entire county faces significant risk due to flooding, however; the areas most considered to have a higher risk for impact from flooding include those communities with structures in floodplains as shown in Map 12.

Future Probability and Potential Dollar Losses – Flooding/Dam Failure:

The NCDC data shows that Langlade County had five floods from 1994-2012, however, this data does not include the 1973 or 2002 flooding, which received Presidential Disaster Declaration, nor the 1961, 1965, 1967, 1971 or 1988 flooding. Based on this combination of historic data (frequency of past events), Langlade County can expect a significant flood event about every four years on average.

This equates to a probability of 0.25, or about a 25 percent chance in a given year.

Historic data is again used to estimate potential future dollar losses from flooding. 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 exceed \$2 million.

Potential losses for structures by jurisdiction are reflected in Table 12. 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: 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 1 inch in diameter or greater, or a tornado. Hail and lightning will be addressed in this section; however, tornadoes are discussed as a separate hazard due to their potential level of severity.

Lightning results from discharge of energy between positive and negative areas separated by rising and falling air within a thunderstorm. This discharge heats the surrounding air to 50,000 degrees. Hail results as the warm rising air cools, forming ice crystals which are held by the updrafts until accumulating enough weight to fall. The hail size depends on strength of the updrafts keeping it up.

Thunderstorm frequency is measured in terms of incidence of thunderstorm days or days on which thunderstorms are observed. Wisconsin averages between 30 and 50 thunderstorm days per year depending on location. A given county may experience ten or more thunderstorm 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 88 severe storm events for Langlade County since 1994. These storms typically contain some form of heavy rain and strong winds and often lightning or hail. In 2002, a combination of severe storms and flooding resulted in a Presidential Disaster Declaration for Langlade and 19 other counties.

Most recently, in May of 2012, thunderstorms developed in unstable air as cold fronts passed through northern Wisconsin. The storms produced heavy rains, golf balls sized hail (5-20-12) and numerous trees and power lines blown down around Antigo, destroyed a bandstand in Neva, and near Summit Lake (5-24-12) downed trees and produced a funnel cloud in Marathon County.

On July 30, 2011, a bow echo squall line passed through northeast Wisconsin blowing down trees and knocking out power to 36,000 customers. Downed trees damaged the Bass Lake Country Club and Golf Course. Strong winds lifted a paddle boat out of Summit Lake and depositing up a hill. 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 July 24, 2006, a man died in Antigo when lightning struck a tree near where he was standing and the current traveled into his body. 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 lightning, 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, 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 4.9 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 data 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 \$775,000 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.

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 2009, 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 less than one acre.

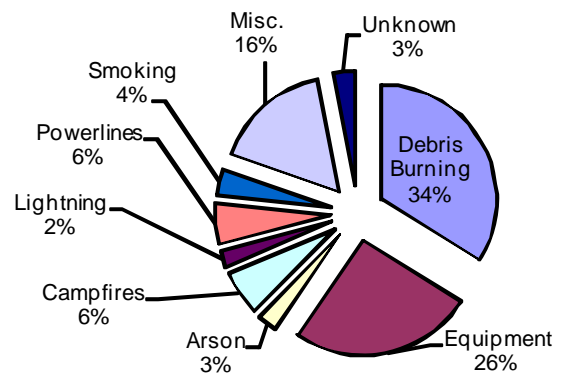
The drought period of 1987-1988 appears to have had an influence on wildfire activity in the County. In 1987, the highest total for acres burned in a year was 145.3 acres in 41 fires. Then in 1988, the highest number of individual fires in a year was reached at 71, however, only 31.4 acres burned.

The most recent drought period yielded a below average number of fires in both 2008 and 2009, but the most notable incident took place on August 20, 2008 when twelve separate fires in the Town of Polar burned 54 acres.

The 2005 drought, 1999 dry spell and various heat waves were not shown to produce more fire activity than at other times.

The chart above breaks down the causes of wildfire within Langlade County as classified by the Wisconsin DNR. The principle cause of wildfire in the County and Wisconsin as a whole is debris burning which resulted in 34% of wildfires within the County. Equipment is the next leading category at 26% and includes vehicle, motor and other machinery related causes except railroad. Arson resulted in about 3% of wildfires, and lightning, the only natural cause of fire was responsible for about 2%.

Fire Causes in Langlade Co. 1982-2009



Source: WDNR

Forest Fires/Wildfires Vulnerability Assessment:

Langlade County has 439,243 acres of forestland scattered throughout the County, or 77 percent of the land area. The potential for property damage from fire increases each year as more recreational and retirement homes are developed on wooded land.

The trend toward introducing more human development into fire prone areas has brought about the term wildland urban interface or WUI. The WUI identifies areas where structures and human developments meet or intermingle with undeveloped wildlands. It is within these areas where wildfire poses the greatest risk to human lives and property.

Rural buildings may be more vulnerable because of lack of access. Access to buildings off main roads is often via long and narrow driveways with minimal vertical clearance and no turn around areas large enough for emergency vehicles making it difficult to combat fires. These buildings also may not have

much of a defensible space because of little area between the structures themselves and highly flammable vegetation.

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 campsites (see Map 11).

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 2009: Ainsworth (60), Antigo (58), Elcho (99), Langlade (58), Norwood (60), Polar (70, including 12 on August 20, 2008), Rolling (75), and Wolf River (90). Elcho and Wolf River stand out with 99 and 90, respectively.

Future Probability and Potential Dollar Losses – Forest Fires/Wildfires:

Forest and wild fires are relatively common occurrences in Langlade County. Over the period analyzed here, there has been an average of 30 fires per year in the County. In other words, the probability is 1.0 or 100% chance of wildfire each year.

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" with the potential to exceed the \$1.4 million in damages of the Cottonville Fire that recently occurred in Southern Wisconsin

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 to be taken 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.

Part IV of the Langlade County All Hazards Mitigation Plan will discuss the following factors in establishing the multi-jurisdictional mitigation strategies:

- Benchmark Progress of Previous Plan 2008-2012
- Review of Mitigation Goals
- Prioritize Identified Mitigation Strategies
- Establish Mitigation Action Plans

PROGRESS REPORT 2008 - 2012

Table 13 identifies the completed, deleted or deferred mitigation actions from the original 2008 Plan. For each action recommendation, a brief status report is provided, which describes the progress made on that measure. If an item remains unchanged, a description is provided as to why no action has been taken and whether that item is deferred to the new plan.

The table also provides the new status of each recommendation with regard to the updated plan alongside the original timeframe target for comparison. Many of the recommendations are on-going efforts and are carried over as such in the updated action plan. Some have had significant progress or have been deferred, but are recommended for further action with new target date or on-going status. If the recommendation has been completed with no further specific action anticipated within the next five year planning period, it is shown as "Removed from list" and will not appear in the updated action plan. In some cases, an incomplete action is not selected for various reasons (noted) and is also shown as "Removed from list."

This progress report serves as a benchmark for progress in achieving the multi-jurisdictional mitigation goals of Langlade County and the local jurisdictions that participated in the Plan.

2008-2012 Plan Measure	Progress Report	Original Status	New Status
Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	Working with the County Health Department approximately 50 radios have been distributed, primarily to the disabled and elderly and as replacements at critical facilities	On-going (1)	On-going (1)
Continue to add/update Emergency Management Department link off existing County website.	The Emergency Management site is continually updated with relevant information.	On-going (2)	On-going (2)
Develop emergency response zone atlas.	Atlas last updated in 2012; Change recommendation to maintain updates on 5-yr cycle.	2009 (3)	2017 (3)
Work toward development of county-wide early warning systems possibly including all telephone message cast & cable TV broadcast, among others.	The County has promoted the Nixle system, a subscriber based notification system, but response has been slow. The flourishing of social media has led to the development of alternative systems.	On-going (4)	On-going (4)
Update county-wide disaster shelter plan including available shelters, trailer park shelter needs, notification procedures, etc.	County continues working with other agencies on shelter issue. No new shelters have been added. Listing of existing shelters is being formalized.	On-going (5)	On-going (5)
Work to improve county's rural addressing system as part of Enhanced 911 development.	Addressing throughout the county has been updated, in maintenance and error fixing mode.	2008 (6)	Removed from list (-)
Develop local emergency response plans.	The County has developed a template for local plans and is working to assist the Towns.	2010 (7)	2017 (6)
Acquire digital aerial photos with appropriate contour levels (2 ft) to facilitate update and modernization of FEMA Flood Insurance Maps.	Aerial photography was obtained in 2010, but contour data was not included. (City does have 2 ft contours.) Extend recommendation for contour data to modernize FIRMs.	2010 (8)	2015 (7)
Require stormwater plans for new development on the urban fringe.	No progress to date.	2009 (9)	2016 (14)
Review and test Emergency Action Plan (EAP) for each significant and high hazard dam.	An EAP has been done for the Skinner Dam at the headwaters of Spring Brook,	On-going (10)	On-going (15)
City of Antigo Drainage/Flood Plain Study and Recommendations.	Extensive implementation of recommendations - several relocations pending.	2009 (11)	2017 (18)

Table 13 Continued			
2008-2012 Plan Measure	Progress Report	Original Status	New Status
County/City continued compliance in the NFIP. - Village of White Lake NFIP Compliance.	County and City continue to maintain NFIP compliance. No progress to date by Village.	2009 (12)	On-going (16)
Town of Antigo Stormwater Options.	Flood control projects in the City reduce concern and the Town is looking at East 8 th Avenue.	2010 (13)	Removed from list (-)
Town of Rolling Evacuation Plan.	No progress to date as flood control projects in the City reduce the concern.	2009 (14)	Removed from list (-)
Town Road Improvements / Flood Proofing.	T. of Antigo has undertaken a study of E.8 th Av. No other action.	2010 (15)	2015 (19)
Town of Price/STH 52 Culverts.	No progress to date; not identified in town survey / shift to new project identified.	2010 (16)	2016 (20)
Establish Shelters in the Towns of Ackley, Elcho and Parrish.	No progress to date / adjust recommendation to reflect current survey results.	2010 (17)	2017 (9)
Support Area-wide Collapse Rescue Unit based with City of Antigo Fire Department.	The City has established this unit and developed mutual aid agreements.	2008 (18)	Removed from list (-)
Assist with reducing heat disorders through awareness program.	County does awareness PR as needed.	As needed (19)	As needed (13)
Develop countywide drought mitigation plans for multi-agency approaches to water conservation, drought prediction, stream & groundwater monitoring.	No progress to date.	On-going (20)	As needed (12)
Determine if critical facilities are adequately grounded to eliminate lightning damage. Install surge protection as necessary.	No measures beyond what is required by electrical codes have been taken, except in the 911 center, where special protections have been installed	2010 (21)	2017 (22)
Review local building codes for revisions to improve ability to withstand wind and lightning.	Updated building codes now require higher standards for storm resistance. Removed from list.	On-going (22)	Removed from list (-)
Use education programs aimed at mitigating fires.	County has done limited awareness PR.	Annual (23)	On-going (23)
Develop Community Wildfire Protection Plans in high risk Towns.	No progress to date: town / DNR driven.	On-going (24)	Ongoing (24)
Develop driveway ordinances and private road standards to ensure emergency vehicle access.	Some towns have developed / updated ordinances. All towns should have appropriate regulations to supplement county land division ordinance.	2010 (25)	On-going (25)

LOCAL HAZARD MITIGATION GOALS

The mitigation strategy is based on a set of goals to reduce or avoid long-term vulnerabilities to the hazards identified in the Risk Assessment. The goals were established by the previous Mitigation Planning Taskforce during the development of the original plan. The update Planning Taskforce reviewed the goals and concurred that these goals, with some minor revisions, continue to represent the desired conditions to strive for through the mitigation efforts of the County and municipalities.

The mitigation goals for reducing or avoiding the long-term vulnerability of Langlade County are as follows:

- Prepare residents and visitors of Langlade County for natural hazard events and protect from the effects of such events to the extent possible.
- Protect health, safety, and welfare of county residents and visitors, along with mitigating future loss of property from tornados and high wind events.
- Create safety awareness in citizens and travelers of Langlade County to protect them during and after winter storm events.
- Improve County preparedness for dealing with extended drought.
- Create safety awareness in citizens of Langlade County to help protect themselves during extreme heat events.
- Lessen the impact floods have on people, property and the environment.
- Prevent the loss of life and reduce the risk of property damage in downstream areas that result from a dam failure.
- Minimize the threat to human life and property damages caused by severe storms and associated hail and lightning.
- Protect the safety and property of residents and visitors from forest and wildfires.

PRIORITIZATION OF STRATEGIES

The Mitigation Planning Taskforce 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

<i>Strategy Prioritization Factor</i>	<i>Description of Factor Considerations</i>
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 were 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 Task Force 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.

Members of the Taskforce scored each strategy based on these prioritization factors and assigned a high, medium or low rating to reflect their relative level of priority for that strategy. A 3-point weighted scale was used to average the scores into the overall high, medium or low priority for the County or local units as shown in Table 14.

MITIGATION ACTION PLAN

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.

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.

The chapter concludes with a summary of the recommended mitigation strategies shown in Table 14. Table 14 also contains project cost estimates where available and potential time frames.

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 coverage and use of National Oceanic and Atmospheric Administration (NOAA) weather radios. NOAA weather radios receive signals from a nationwide network of radio stations broadcasting continuous weather information from the nearest National Weather Service office. All National Weather Service forecasts, watches,

warnings, and other hazard information like dam failures are broadcast 24 hours / 7 days a week. The NOAA weather radio is a single source for comprehensive weather and emergency information; because the Emergency Alert System (formerly the Emergency Broadcast System) broadcasts use the same network of radio stations as one of many electronic methods to broadcast other hazard information.

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 / links on ordinances pertaining to hazards (i.e. County floodplain zoning), and links to other sites that provide valuable information on weather conditions, burning permits, etc.

Participating Jurisdictions for Action 2:

Lead agency will be the Langlade County Emergency Management Department with the County I.T. Departments. The only directly participating jurisdiction will be Langlade County.

Action 3:

The county-wide emergency response zone atlas should be maintained on a five year update cycle. Often referred to as a fire zone atlas, these atlas books were originally conceived to help direct firefighting 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. 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 in conjunction with the Wisconsin Department of Natural Resources. Jurisdictions participating in this action will include Langlade County, City of Antigo, Village of White Lake, and all Towns including corresponding police, fire and EMS departments.

Action 4:

Maintenance and potential expansion of early warning and communication systems should be sought, including Emergency Alert System (EAS) capabilities and expanded use of emerging technologies such as IPAWS. 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.

The County should also evaluate the continued / expanded use of the Nixle System. This is a free, subscriber based system that can be used to notify particular areas of the County via internet, email and/or cell phone text. Residents register and choose the type of information to receive such as: public safety notifications, weather alerts, school notifications, community news, etc. The service allows the users to determine the level of information they find important. The County could look at ways to better promote use of the Nixle system.

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. For example, some shelter information is out of date and there may be better options such as new town facilities. 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 activation / 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. Sheltering needs for an incident occurring during a festival event that attracts significant numbers of visitors must also be considered.

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. Cooling capability may be needed in an extreme heat event. 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.

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:

Each Town should develop a local emergency response plan (ERP). 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.

One area these plans should look at is developing a system for welfare checks for elderly, disabled or otherwise disadvantaged residents within each town. Local town officials have better knowledge of who these people are within their own towns and can more quickly ensure they have been checked on. The county does not have adequate knowledge or resources to effectively accomplish this task.

Another issue brought to light by recent tornados in the area is that of debris management. Towns should address debris management in their Local ERPs. This should include identification of debris management sites within the town for temporary storage of storm debris for later separation and transport to permanent disposal sites. A little advance preparation can avoid conflicts between residents and the town, reduce development of nuisance situations such as breeding sites for insects and rodents, and minimize the accumulation of debris in the road right-of-way.

Participating Jurisdictions for Action 6:

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. Langlade County Emergency Management is working with towns to assist in developing these plans.

Action 7:

The County, City and Village should obtain new aerial photography to include LIDAR for use by their emergency services and for improvement in flood zone mapping. LIDAR stands for light detection and ranging which uses a laser beam to map physical features with a very high resolution.

Adding LIDAR, with its increased precision, to the County's next generation of aerial photos will be a very effective tool for use in risk assessment, disaster response and mitigation activities over the full spectrum of hazards facing the County. Periodic updating of the aerial photo / lidar imaging enables time comparison which can enhance assessment of change and trends. Participating with the Wisconsin Regional Orthophotography Consortium (WROC) can help reduce the cost of obtaining the aerial imagery.

Participating Jurisdictions for Action 7:

Lead agency will be Langlade County Land Records and Regulations Department in conjunction with Langlade County Emergency Management.

Jurisdictions participating in this action will include Langlade County, City of Antigo and Village of White Lake.

Action 8:

The Town of Upham identified a need to install an emergency back-up generator at its Town Hall / Garage Complex, in response to the mitigation issues survey.

Participating Jurisdictions for Action 8:

Lead agency will be the Town of Upham. Upham will be the only directly participating jurisdiction.

HAZARD: TORNADO/HIGH WINDS**Goal:**

Protect health, safety, and welfare of county residents and visitors, along with mitigating future loss of property from tornados and high wind events.

Action 9:

Establish emergency “tornado” shelters in the Towns of Langlade, Norwood, Polar, Upham 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 Polar, while Langlade indicated possible location near the Town Hall or ball field, and Parrish said the Town Hall basement offered a temporary shelter option. A shelter option exists in the church at Phlox (Norwood).

Participating Jurisdictions for Action 9:

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

Action 10:

In response to the mitigation issues survey, the Town of Langlade identified the need to trim / remove trees near power lines that risk electrical service. Much of the land within the Town is heavily forested. The Town should coordinate with Wisconsin Public Service which owns the power lines.

Participating Jurisdictions for Action 10:

Lead agency will be the Town of Langlade. Langlade will be the only directly participating jurisdiction, in conjunction with Wisconsin Public Service. Other jurisdictions may choose to participate in this type of action as the need arises.

HAZARD: WINTER STORMS/EXTREME COLD**Goal:**

Create safety awareness in citizens and travelers of Langlade County to protect them during and after winter storm events.

Action 11:

The County should promote winter hazards awareness, including home and travel safety measures, such as avoiding travel during winter storms. If travel cannot be avoided, stocking of vehicles with a shovel, sand, warm clothing, food, water, etc. should be encouraged. This effort should also include suggestions regarding checking on neighbors or others known to live alone or that may be at a disadvantage in fending for themselves. Other winter / extreme cold problems common in northwoods counties include freezing of septic systems and residential LP Gas (extreme cold).

Participating Jurisdictions for Action 11:

Lead agency will be Langlade County Emergency Management. Langlade County will be the only directly participating jurisdiction.

Hazard: Drought/Extreme Heat**Goal:**

Improve County preparedness for dealing with extended drought.

Goal:

Create safety awareness in citizens of Langlade County to help protect themselves during extreme heat events.

Action 12:

Develop countywide drought mitigation plan to encourage multi-agency approaches to deal with the negative consequences of extended severe drought in light of extended drought conditions within the County and the recent drought disaster declaration in 23 of the state's southern counties. Working with the City to develop and implement sprinkling bans as necessary may be one possible tool.

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.

Participating Jurisdictions for Action 12:

Lead agency will be Langlade County Land 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.

Action 13:

The County should promote heat hazards awareness, including home and travel safety measures. Include suggestions regarding checking on neighbors or others known to live alone or that may be at a disadvantage in fending for themselves.

Participating Jurisdictions for Action 13:

Lead agency will be Langlade County Emergency Management in conjunction with the County Health Department. Participating jurisdictions 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.

HAZARD: FLOODING/DAM FAILURE**Goal:**

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

Goal:

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

Action 14:

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 14:

Lead agency will be Langlade County Land Records and Regulation 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 15:

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 15:

Lead agencies will be Langlade County Emergency Management, Land Conservation, and Highways (Skinner Dam). 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 16*:

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 state mandated County Shoreland Zoning.

The Village of White Lake is not currently participating in the NFIP. Village officials have chosen not to participate, but will reevaluate this situation in the future. This Plan recommends the Village of White Lake 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 16:

Lead agencies are communities that are eligible to participate in the NFIP including Langlade County Land Records and Regulation Department, the City of Antigo, and the Village of White Lake. Currently, only Langlade County and the City of Antigo participate in the NFIP and both communities are in good standing.

Action 17*:

To mitigate the long-term impacts of flooding, if evidence of recurring flooding is an issue with specific properties after a significant flood event, the County or other appropriate jurisdiction should investigate, as a possible solution, the voluntary acquisition and removal of buildings in the floodplain with flood damage. The City has done this in flood prone areas along Spring Brook. Property owners should be informed of their floodplain status and related insurance issues. A survey to gauge interest in buy-out and relocation of properties within the floodplain is recommended to help evaluate the County's options in capturing part of a major stream of federal mitigation dollars.

Participating Jurisdictions for Action 17:

Lead agencies include Langlade County Land Records and Regulations and Emergency Management, the City of Antigo and the Village of White Lake. Participating jurisdictions will include: Langlade County, the City of Antigo and the Village of White Lake.

Action 18:

The City of Antigo still has 2 businesses and several residences in the Spring Brook flood area identified for relocation. Tight budgets have left the City in need of funding sources to complete this project.

Participating Jurisdictions for Action 18:

Lead agency will be the City of Antigo. The City will be the only directly participating jurisdiction.

Action 19:

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, and the Town has had an engineering study completed. Ainsworth has also had reports of roads 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 19:

Lead agency will be the respective Towns such as Ainsworth, Antigo and Polar. The only directly participating jurisdictions will be the individual Towns.

Action 20:

The Town of Parrish should work with the Wisconsin Department of Transportation to address culverts/drainage at State Highway 17 and First Lake Road. A larger culvert is needed to prevent flooding of the roads. The Town has upgraded a number of culverts on local roads, but STH 17 has not yet been addressed.

Participating Jurisdictions for Action 20:

Lead agency will be the Town of Parrish. STH 17 is a State highway and requires WisDOT participation to effect this action.

Action 21

Two lift stations within the City are subject to flooding and overflow: 5th Avenue and Hudson Street. These lift stations should be flood proofed. The 5th Avenue station is a priority due to the location of the hospital on the line it serves. Hudson Street should be outfitted with backup power generators.

Participating Jurisdictions for Action 21:

Lead agency will be the City of Antigo. The only directly participating jurisdiction will be the City.

Hazard: Severe Thunderstorm/Lightning/Hail**Goal:**

Minimize the threat to human life and property damages caused by severe storms and associated hail and lightning.

Action 22:

Determine if critical facilities such as hospitals, police buildings, fire halls, administration buildings, schools, and telecommunication antennas are adequately grounded to mitigate 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 22:

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.

Hazard: Forest/Wild Fires**Goal:**

Protect the safety and property of residents and visitors from forest and wildfires.

Action 23:

The County, in conjunction with the WDNR, should promote the Firewise program and related educational materials to increase community awareness of wildfire risk within the County. Outreach efforts should include information on how to protect homes and structures from wildfires. Since Langlade County is mostly rural with vast woodlands, emphasis should be placed on building 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 Emergency Management. 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 Ackley, Langlade, Polar, Rolling, Summit and Upham 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 Ackley, Langlade, Polar, Rolling, Summit and Upham. The only directly participating jurisdictions will be these Towns. Other towns with conditions for wildfire risk should also consider this action. 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: Ackley, Ainsworth, Antigo, Elcho, Evergreen, Langlade, Neva, Norwood, Parrish, Peck, Polar, Price, Rolling, Summit, Upham, Vilas, and Wolf River.

**TABLE 14 SUMMARY OF MITIGATION STRATEGIES
LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN**

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
ALL HAZARDS					
1. Promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	County EM Dept.	Staff Time	Radio sales cover cost of radios.	On-going	MEDIUM
2. Continue to add/update Emergency Management Department link off existing County website.	County EM Dept.	Staff Time	Dept. Budget	On-going	MEDIUM
3. Maintain County Emergency Response Zone Atlas on a five-year update cycle.	County EM Dept.	\$20,000	Wisconsin DNR tech. assist. and funding / WEM funding	2017	MEDIUM
4. Continued development of county-wide early warning systems including expanded use of current and emergency technologies such as EAS and IPAWS. Evaluate utilization of the Nixle System.	County EM Dept. / City of Antigo / Village of White Lake / All Towns	Costs to be determined	Dept. Budgets	On-going	HIGH
5. Update county-wide shelter plans including i.d. available shelter options, procedures for activation & use, trailer park sheltering, event sheltering, power, heating/cooling & transportation needs and maintenance.	County EM Dept. / Co. Health Dept. / Red Cross / City / Village / All Towns	Costs to be determined	Dept. Budgets	On-going	MEDIUM
6. Each Town should develop an ERP to help prepare for disasters; including developing a system for welfare checks as well as addressing debris management.	All Towns	Staff Time	Dept. Budgets	2017	HIGH
7. Update aerial photography to include LIDAR for use by Langlade County, City and Village emergency services and for further improvement in flood zone mapping.	Co. Land Records Dept. / City of Antigo / Village	\$200,000	Dept. Budget / Local Match Funds / WI Land Information Program Retained Fees	2015	MEDIUM
8. The Town of Upham should install emergency backup generator at Town Hall / Garage.	Town of Upham	\$20,000	Town Funds / Assistance to Firefighters Grant (AFG)	2014	LOW
TORNADO / HIGH WINDS					
9. Establish emergency "tornado" shelters in the Towns of Langlade, Norwood, Polar, Upham and Parrish.	Towns of Langlade, Norwood, Polar, Upham & Parrish	Costs to be determined	Local Funds / FEMA / Hazard Mitigation Grants / CBDG Program	2017	MEDIUM
10. Trim trees near power lines that risk electrical service within the Town of Langlade.	Town of Langlade	Costs to be determined	Dept. Budget	2014	LOW

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
WINTER STORMS / EXTREME COLD					
11. Promote winter hazards awareness including home and travel safety measures.	County EM Dept. / City / Village/ Towns	Staff Time	Dept. Budgets	Annual	MEDIUM
DROUGHT / EXTREME HEAT					
12. Develop countywide drought mitigation plans.	County EM Dept. / Co. Land & Water Conservation Dept. / Co. UW Extension	Staff Time	Dept. Budgets	As needed	LOW
13. Assist population with reducing heat disorders through awareness program as needed.	County EM Dept. / County Health Dept. / City / Village / All Towns	Staff Time	Dept. Budgets	As needed	LOW
FLOODING / DAM FAILURE					
14. Require stormwater management plans for new development on the urban fringe.	Co. Land Records & Regulations Dept. / City of Antigo / surrounding Towns	Costs to be determined	Dept. Budgets	2016	MEDIUM
15. Continue to work with dam owners to review Emergency Action Plan (EAP) for each significant and high hazard dam.	County EM Dept.	Staff Time	Dept. Budget	On-going	MEDIUM
16. County / City continued compliance in the National Flood Insurance Program (NFIP). - Village of White Lake NFIP compliance *	Co. Land Records & Regulations Dept. / City of Antigo / Village of White Lake	Staff Time	Dept. Budgets	On-going	MEDIUM
17. If evidence of recurring flooding is an issue with specific properties after a significant flood event, investigate, as a possible solution, the voluntary acquisition / removal of buildings in a floodplain with flood damage.* (FEMA NFIP requirement)	Co. Land Records & Regulations Dept. / City of Antigo / Village of White Lake	Costs to be determined	Mitigation Grants	As needed	MEDIUM
18. Complete remaining relocations from Spring Brook flooding area.	City of Antigo	Costs to be determined	Mitigation Grants	2017	MEDIUM
19. Town Road Improvements / Flood Proofing.	Towns of Ainsworth, Antigo & Polar	Costs to be determined	Dept. Budgets / DOT funding program / Mitigation Grants	2015	MEDIUM

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
20. Town of Parrish / STH 17 Culvert.	Town of Parrish	Costs to be determined	WisDOT	2016	MEDIUM
21. Lift station flood proofing and back-up power.	City of Antigo	Costs to be determined	Dept. Budget	2016	MEDIUM
SEVERE THUNDERSTORMS / LIGHTNING / HAIL					
22. Determine if critical facilities are adequately grounded to eliminate lightning damage	County EM Dept. / City / Village/ Towns	Staff Time	Dept. Budget	2017	HIGH
FOREST / WILDFIRE					
23. Promote Firewise program and related educational material to increase community awareness of wildfire risk within the County.	County EM Dept.	Staff Time	Dept. Budget	On-going	MEDIUM
24. Develop Community Wildfire Protection Plans (CWPP) for high risk towns.	Towns of Ackley, Langlade, Polar, Rolling, Summit and Upham	\$24,999	WisDNR National Fire Plan Funding	On-going	LOW
25. Develop driveway ordinances and private road standards to ensure emergency vehicle access.	Various Towns	Costs to be determined	Dept. Budgets	On-going	MEDIUM
* <i>Denotes actions related to compliance with NFIP.</i>					
** <i>Actual project implementation dependent on funding and staff availability.</i>					

INTRODUCTION

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

PLAN UPDATE ADOPTION

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

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

All general purpose units of government (i.e. cities, towns) within Langlade County were offered one or more avenues to participate in the development of this Plan Update. Adoption of the Plan by a local unit of government certifies their participation. The Langlade County Board has adopted this Update. Resolutions of adoption are contained in APPENDIX B.

PLAN UPDATE IMPLEMENTATION**Administrative Responsibilities**

Once the Plan Update has been approved, stakeholders must be informed. The County Emergency Management Director will distribute notice of availability to stakeholders. The County will also make the Plan Update available to the public by linking the report on their web site.

Along with monitoring the progress of the action projects, the County Emergency Management Director and Public Safety Committee should also work to secure funding to implement the Plan Update. 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 Update, the County Public Safety Committee and staff team should consider innovative ways to involve active participation from nonprofit organizations, businesses, and citizens to implement the Plan Update. The relationship between these groups will result in greater exposure of the Plan Update 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.

Promote Success Of Identified Projects

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

Incorporation Into Other Local Planning Mechanisms

FEMA requires a process by which the mitigation plan is incorporated into other planning mechanisms where appropriate. When undergoing any planning process, County departments, local units of government and/or any professional staff assisting them, typically review and incorporate any related pre-existing plans as a matter of course. However, to help ensure this outcome, Langlade County has established a two-part process to

incorporate the updated All Hazards Mitigation Plan into other County and local planning efforts as follows:

- Notification of County Departments and Local Units of Government - Upon adoption of the All Hazards Mitigation Plan Update, the County EM Director will distribute a letter that explains how the Plan Update applies to other planning efforts they might undertake and how to obtain copies of the updated Mitigation Plan.
- Promotion by EM Director - The EM Director will promote incorporation of the updated All Hazards Mitigation Plan as is made aware of or becomes a participant in any new planning process.

A number of upcoming planning efforts have been identified for incorporation of the updated All Hazards Mitigation Plan. Upcoming planning efforts at the County or local levels include: Community Wildfire Protection Plans (CWPPs), updates to the Comprehensive Plans for the all local units, and a county-wide Farmland Preservation Plan.

Currently, the County's All Hazard Mitigation Plan is already incorporated into another planning process, the Langlade County Comprehensive Plan, as follows.

Langlade County Comprehensive Plan

The following concepts were considered when developing the Langlade County Comprehensive Plan, based on the nine elements of the Wisconsin 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.
- *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
- *Transportation Element* – identify any transportation routes or facilities that are more at risk during flooding, winter storms, or hazardous material spills.
- *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.

PLAN UPDATE 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 updated Plan will be reviewed and evaluated on an annual basis. Within this period, the County Emergency Management Director will evaluate incoming information against the contents of the Plan Update as needed to prepare for revisions. It is recommended that the County Public Safety 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.

County Public Safety Committee meetings are always open to the public, and the public can bring questions or comments regarding this Plan Update to any regular meeting. The final plan document will be available on the Internet until the next draft update is posted for review. The public can continue to submit questions or comments at any time via an email link.

The Plan Update 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

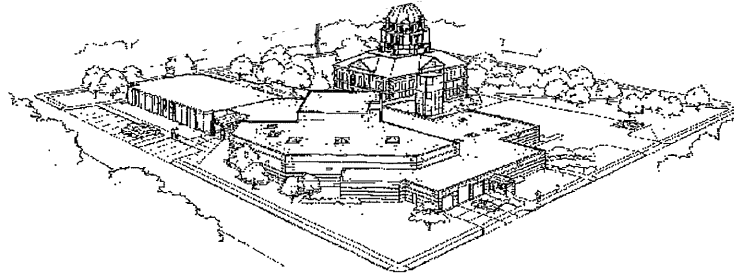
reviewed to see if any changes are necessary based on the pattern of disaster damages.

Full updates are required every five years. As a result, every fifth year, the annual review will be expanded to an overall plan update to meet FEMA requirements. All stakeholders and the public will again be involved in the update. The County will conduct a survey and open comment meeting. This also provides an opportunity to inform on the progress of any projects.

The County Public Safety Committee and County Board must approve all changes and updates to the Plan.

Appendix A – Meeting Notices

July 31, 2013



AGENDA

COMMITTEE - PUBLIC SAFETY
Date - TUESDAY, August 6, 2013
Time - 8:00 A.M.
Place - CONFERENCE ROOM, UPPER LEVEL SAFETY BLDG

The Public Safety Committee may discuss and take action on any of the agenda items listed below

Subjects

1. Call meeting to order/Pledge of Allegiance
2. Approve minutes of the July 09, 2013 meeting
3. Coroner's Report and paid bills
4. Review and approve Coroner 2014-2015 Budgets
5. Child Support Report and paid bills
6. Review and approve Child Support 2014-2015 Budgets
7. Emergency Management Report and paid bills
8. North Central Wisconsin Regional Planning Commission regarding 5 year mitigation plan
9. Review and approve Emergency Management 2014-2015 Budgets
10. Car Report
11. Sheriff/Jail Office/Nurse Report and paid bills
12. Review and approve Sheriff 2014-2015 Budgets
13. Review and approve Jail 2014-2015 Budgets
14. Set date of next meeting
15. Adjourn the meeting

Additional items may be discussed, with no action taken during the meeting, for the purpose of preparing future meeting agendas.

Vern Cahak , Chairman
Public Safety Committee

If there is a quorum of any other governmental body present at the meeting, the existence of the quorum shall not constitute a meeting as no action of such body is contemplated.

Please note that, upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, contact Kim Bissonette, Sheriff's Office Administrative Assistant, 840 Clermont Street, Antigo, Wisconsin, 54409. Telephone 627-6408.

Cc	Committee	Bill Greening	Gene Kamps	Angie Close
	Larry Shadick	Diane Baker	Antigo Daily Journal	Results Broadcasting
	Antigo Fire Department	Robin Stowe	Gary Olsen	
	Brad Henricks			
	Becky McPhail			

NCWRPC Langlade County AHMP Village of White Lake Planning Mtg 3/12/13

NAME	TITLE	CONTACT (phone or email)
Carol Blawat	Clerk/treasurer	715-882-8501
Cheri Hoffman		715-882-8651
Mary L. Pomas	Trustee	715-882-2291
Joe Edelmas	Pres	715-610-7504
JOE GREENE II	TRUSTEE	715 882-2781
Patsy Listle	trustee	715-882-2179
Scott Popelka	DPW	715-216-0981

Langlade County

**Hazard Mitigation Plan
Public Informational
Meeting**

Notice is hereby given that there will be a public informational meeting at the County Boardroom, Safety Building, lower level, 840 Clermont Street, in Antigo on Tuesday, February 26 from 6:00 to 7:00 p.m. to discuss the update of the County's All Hazards Mitigation Plan.

The meeting will be an open house format and provide information about the natural hazards that can affect the county and the strategies being developed to mitigate against future losses and reduce public expenditure for response and recovery.

Information on the plan can be reviewed on the Web at <http://www.ncwrpc.org/langlade/ahmp.html>.

All interested parties are encouraged to attend. Contact County Emergency Management Director Brad Henricks at 715-627-6257 for more information.

NCWRPC Lantlade County AHMP Interest Group Meeting 2/26/13

NAME	REPRESENTING	CONTACT address, phone or email
Ron Barger	Langlade Co. Health Dept.	rbarger@co.langlade.wi.us
Kathleen Primm	Town of Langlade	715-484-8994
Robert Brown	Elcho EMS	715-275-4684 715-216-7128
Howard Cadle	TOWN OF LANGLADIE FIRE	715 216-1142
DAVID GREGURICH	TOWN OF PECK	715-627-4615
Brad Hennicks	Langlade Co. EM	715-627-6257

NORTH CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION


210 McClellan Street, Suite 210, Wausau, Wisconsin 54403
Telephone: (715) 849-5510 Fax: (715) 849-5110
Web Page: www.ncwrpc.org Email: staff@ncwrpc.org



SERVING ADAMS, FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, ONEIDA, PORTAGE, VILAS AND WOOD COUNTIES

MEMORANDUM

TO: Government agencies, County department staff, and other private or non-profit organizations within Langlade County

FROM: Darryl L. Landeau, AICP: Senior Planner 

DATE: February 12, 2013

RE: Langlade Co. All-Hazards Mitigation Plan Update Interest Group Meeting Notice

Langlade County has received a grant through the Federal Emergency Management Agency (FEMA) to complete an update of its All-Hazards Mitigation Plan to protect the health and safety of residents from the impacts of natural hazards and to minimize and prevent damages caused by these events. The North Central Wisconsin Regional Planning Commission (NCWRPC) is assisting Langlade County with this plan.

As a requirement of the planning process, an opportunity must be provided to local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as business, academia and private and non profit interests to be involved. To meet this requirement, an interest group meeting is scheduled for the following date and place:

When: Tuesday, February 26, 2013 at 2:30 p.m.
**Where: County Boardroom, Langlade County Safety Building, Lower Level
840 Clermont Street, City of Antigo**

In addition to meeting FEMA requirements, the interest group meeting will be a way to gather ideas on how to safeguard the residents and visitors of Langlade County and protect property in the event of natural disasters. Since you live and/or do business in or around Langlade County, your input in this process is very valuable.

Please call or email me if you have any questions regarding this meeting. My number is 715-849-5510 ext. 308, and my email is dlandeau@ncwrpc.org . Or, contact Brad Henricks, the County's emergency management director at 715-627-6257 or bhenricks@co.langlade.wi.us . I highly encourage at least one staff person from your department or agency with responsibilities relating to or potentially impacted by natural hazards / disaster to attend.

Thank you.

C:\DARRYL\LANGLADE\COUNTY\LAHMP\UPDATE\NEW FOLDER\LA_INTGROUPMTG.DOC

LANGLADE CO ALL HAZARDS MITIGATION PLAN TOWN SURVEY HIGHLIGHTS

ISSUES IDENTIFIED:

- >Lack of Equipment
- >Access cut off from certain areas due to high winds (trees down), flooding (washouts) or "blizzards"
- >Power outage - forested areas / falling trees and limbs downing lines
- >Potato field ditches exacerbate flooding situation
- >Lack of windbreaks in the Antigo Flats area
- >Narrow roads make snow and ice removal a problem
- >Better communications that cell phones during an emergency
- >Most Towns do not appear to have local emergency action plans in place
- >Funding / Budgets

PROJECTS IDENTIFIED:

- >Upham - Emergency Power for Town Hall / Garage
- >Parrish - Larger culvert at First Lake Rd and STH 17
- >Langlade - Remove trees that risk electrical service

SHELTER NEEDS IDENTIFIED:

- >Upham (Town Hall / Garage)
- >Parrish (Town Hall - temporary)
- >Norwood (church)
- >Polar (Lake Park / Town Hall F.D.)
- >Langlade (Town Hall - Lily / Military Park / Baseball Field on DD)

Appendix B – Resolutions of Plan Adoption



DEC 18 2013

NORTH CENTRAL WISCONSIN
REGIONAL PLANNING COMMISSION

RESOLUTION #58-2013

INTRODUCED BY: PUBLIC SAFETY COMMITTEE

INTENT: ADOPT THE LANGLADE COUNTY FIVE YEAR 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 adopted its initial All Hazards Mitigation Plan on June 17, 2008; and

WHEREAS, Langlade County participated jointly in the planning process with the other local units of government within the County to prepare an update to the existing multi-jurisdictional 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 Update as an official plan; and

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

PUBLIC SAFETY COMMITTEE:

Vernon Cahak
Vernon Cahak, Chairman

Arlene C. Bonacci
Arlene C. Bonacci

Dale Williams
Dale Williams

Richard Olsen

Larry Poltrpck
Larry Poltrpck

Samuel Hardin

FISCAL NOTE: No Fiscal impact. A copy of the Mitigation Plan is available in the Emergency Management Office.

ADOPTED BY THE COUNTY BOARD OF LANGLADE COUNTY THIS 22nd DAY OF OCTOBER, 2013.

Kathryn Jacob
Kathryn Jacob, Langlade County Clerk

Handwritten initials

ORIGIN: FINANCE, PERSONNEL & LEGISLATIVE COMMITTEE

December 11, 2013

RESOLUTION NO. 137-13

WHEREAS, the City 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 City of Antigo adopted the initial All Hazards Mitigation Plan on June 11, 2008; and

WHEREAS, the City of Antigo participated jointly in the planning process with Langlade County and other local units of government within the County to prepare an update to the existing multi-jurisdictional All Hazards Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE COMMON COUNCIL, City of Antigo, to hereby adopt the Langlade County All Hazards Mitigation Plan Update dated October 22, 2013 as an official plan; and

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

(Committee Approved 6-0)



Mayor

COPY

Attest:

Kaye M. Matucksek
Clerk-Treasurer

12/11/13 Approved by Council

RESOLUTION # B01-2013

ADOPTING THE LANGLADE COUNTY ALL HAZARDS MITIGATION PLAN UPDATE

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

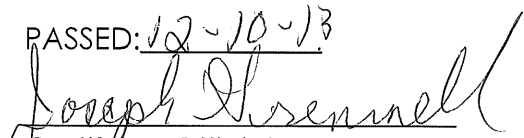
WHEREAS, an adopted All Hazards Mitigation Plan is required as a condition of future grant funding for mitigation projects; and

WHEREAS, the Village of White Lake adopted the initial All Hazards Mitigation Plan on May 13, 2008; 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 update to the existing multi-jurisdictional 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 Update 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 Update to Wisconsin Emergency Management and Federal Emergency Management Agency officials for final review and approval.

PASSED: 12-10-13

Certifying Official