

Chapter 9 - Mitigation Strategies and Priorities

The next step in the hazard mitigation planning process is to identify mitigation actions suitable to the community, evaluate the effect the action will have on the specified mitigation objective and prioritize actions to decide what sequence or order these actions should be pursued.

Mitigation actions can be grouped into six broad categories:

1. Prevention. Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.

2. Property Protection. Actions that involve modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

3. Public Education and Awareness. Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

4. Natural Resource Protection. Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

5. Emergency Services. Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.

6. Structural Projects. Actions that involve construction of structures to reduce the hazard impact. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

Identification of Mitigation Actions

Members of the LEPC met on June 19, 2012 to review hazard analysis and update mitigation actions. The following tables provide a prioritized list of the mitigation actions identified at the meeting.

Evaluation and Prioritization of Mitigation Actions

Members of the LEPC met on June 19, 2012 to re-evaluate and prioritize the list of mitigation actions. The committee identified level of government, agencies and organizations that would be responsible for completing the prioritize projects, as well as identifying possible funding sources. This information is included in the tables of Chapter 9. In addition, during the prioritization process each project was evaluated with regard to its: social impact, technical feasibility, administrative potential, political impact, legal ramification, environmental impact, overall benefit and cost effectiveness.

A prioritized listing of mitigation projects and actions for significant hazards follows. The first listing covers mitigation actions that can apply to more than one hazard. The remaining lists are presented as the hazards were ranked for Alpena County.

Review and Updating Hazard Mitigation Action Items

The Committee reviewed the 2006 Mitigation Strategies and made necessary changes. Several action items were eliminated or combined. Actions that have been completed were eliminated. Time lines were altered on mitigation strategies. The 2006 mitigation strategies list is attached to show changes in the document.

Changes in local land development have been negligible given the 2007 nationwide recession. The committee did not identify areas with significant land development since the last plan was completed and therefore made no changes to the plan in relation to new development.

Most activities in the hazard mitigation plan that the community has worked on are related to on-going mitigation actions.

The committee made minor changes in priorities in the Public Health by elevating its risk and adding strategies.

Mitigation Actions & Implementation Strategies A. Multi-Hazard Actions, #1	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Provide training, planning, and preparedness for mass-casualty incidents involving all modes of public transportation.	Medium	A,B,C,D,I,R,S,M W	T	County-wide	ICS/EOC Drill FY2014	Ongoing	Ongoing
2. Review and develop site emergency plans for schools, factories, office buildings, shopping malls, hospitals, correctional facilities, etc. to cover all potential hazards.	Medium	A,B,C,D,R	T	County-wide	Continued liaison with stakeholders	Ongoing	Ongoing
3. Continue to maintain and implement the addressing program using the adopted countywide structure addressing ordinance.	Low	A,B,C	T	County-wide	GIS Mapping ongoing	Ongoing	Ongoing
4. Continue cooperative effort between the County GIS and County 911 program.	High	A,P,C	B, C, Q, T	County-wide	911 mapping corrections are continuous	Ongoing	Ongoing
5. Promote and implement solutions for keeping roads and driveways accessible to vehicles and fire equipment.	Medium	C,E	Q, T	County-wide	Ongoing	Ongoing	Ongoing
6. Develop and implement a public education program for all hazards that threaten the community.	Low	A,B,C,D,G,H,I, N,W.	B, C, T	County-wide	Annual public safety days	Ongoing	Ongoing
7. Expand community awareness of evacuation plans.	Low	A,B,C,D	T	County-wide	Facebook and County website	Long-term	Long-term
8. Maintain equipment for road closures and traffic control in accident areas.	Low	A,B,C,D,E	Q, T	County-wide	Signage trailer kept at Road Commission facility	Mid-term	Mid-term
9. Pre-planning for debris management staging and storage areas	Low	A,B,E,C,Q	T	County-wide	Open spaces are not an issue in this county	Mid-term	Mid-term
10. Review and develop strategies to insure redundancies in utility and communications systems, especially "lifeline" systems.	High	A,B,D,Q	M, T	County-wide	Established RACES/ARES programs	Long-term	Long-term
11. Continue to encourage residents to develop a Family Disaster Plan that includes the preparation of a Disaster Supplies Kit.	Low	A,I	B, C, H, I, N, T	County-wide	Facebook and Public Safety Days	Mid-term	Mid-term
12. Review and improve mutual aid assistance for failures in utility and communications system.	High	A,B,C,D,I,P,Q,	T	County-wide	Constantly reviewing and updating	Mid-term	Mid-term
13. Maintain Continuity of Operation Plan to provide alternate management options in the event of loss of City Hall, County Courthouse, Alpena Combat Readiness Training Center, etc	High	A, B.,C, C	B, C, T	County-wide	911 COOP and COG plans being updated	Long-term	Long-term
14. Review current status and provide back-up generators to maintain community infrastructure at acceptable operating levels during extended power failures.	Low	A,B,C,P	M, T	County-wide	Generators installed and regularly serviced for 911` and communications sites.	On-going	On-going
15. Provide trained, equipped, and prepared search and rescue teams.	Medium	A,D	B, C, H, I, N, T	County-wide	Sheriff's department has recently established a well-trained SAR team	Short-term	Short-term
16. Include safety strategies for flooded areas in driver education classes and materials.	Medium	K,R,	M	County-Wide	ongoing	Mid-term	Mid-term
17. Plan for and promote elimination of clandestine methamphetamine laboratories through law enforcement and public education.	High	A,D,W,	M, T	County-wide	Law Enforcement HUNT team is targeting this issue	On-going	On-going

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies A. Multi-Hazard Actions, #2	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
18. Continue to expand the Countywide siren system.	Medium	A,B,C,D	T	County-wide	Two additional Sirens are being installed b EOY 2013	On-going	On-going
19. Build alliances with surrounding counties to improve 911 redundancies	High	A,B	T	County-wide	Finalizing 2009 PSIC project for virtual consolidation of Alpena & Alcona 911 centers.	Mid-term	Mid-term
20. Implement virtual 911 consolidation efforts with Alcona County.	High	A,B	T	County-wide	Final Fiber connection expected EOY 2013	New	Short-term
21. Develop strategy for providing public with "real-time" emergency information	High	A	A, B, C, D, Q,	County-wide	Establishing Facebook and twitter pages	On-going	On-going
22. Review and improve tree trimming and maintenance efforts to prevent limb breakage and safeguard nearby utility lines.	Low	E,P	T	County-wide	Ongoing	On-going	On-going
23. Encourage and implement increased coverage and use of NOAA Weather Radio (which can provide notification to community during any period of emergency.)	Low	A,O	T	County-wide	Ongoing	Mid-term	Mid-term
24. Identify electrical systems that will fail due to overload and develop "Rolling blackout" strategy.	Medium	A,B,PQ	B, C, H, I, N, T	County-wide	Power Company liaison ongoing	Long-term	Long-term
25. Develop and implement strategy to provide more planning for response to terrorist acts.	Low	A,B,C,D,H,Q,W	A, B, C, D, Q,	County-wide		Ongoing	Ongoing

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies B. Dam Failure	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Recommend that a study be done to determine whether removal of the old bridge waste to improve flow at George Washington Bridge on US-23 is advisable.	Low	A,B	Q, T	City of Alpena Alpena Twp. County-wide	Not budgeted	A.S.A.P.	A.S.A.P.
2. Develop and implement plans to protect switchyard at Four Mile Dam and other vulnerable sites from flooding damage.	Medium	A,P,Q	T	County-wide	ongoing	A.S.A.P.	A.S.A.P.
3. Develop infrastructure protection plan to preserve undamaged sewer and water systems from flood-damaged sections.	Medium	A. B. C. D. E.H	T	County-wide	ongoing	Mid-term	Mid-term
4. Develop and conduct exercises on moving Alpena Regional Medical Center Hospital in case of flooding.	Medium	A.B.C.D.S	T	County-wide	ACC trailer used as part of 2013 exercise	On- going	On- going
5. Provide inventory and secure debris, yard items or stored objects (including oil, gasoline and propane tanks, and paint and chemical barrels) in flood plain that might pose hazard.	Low	A.C.D.U	T	County-wide	ongoing	Mid-term	Mid-term
6. Review current status and obtain necessary insurance.	Low	A,B,C,K,L,M,U	M	County-wide	County insurance requirements reviewed annually	Long-term	Long-term
7. Develop real estate disclosure laws that identify a home's location within a dam's hydraulic shadow	Low	A,C,L	M	County-wide	Not planned	Long-term	Long-term
Increase ponding capacity of Lake Besser	low	A.B.C.P.Q	T	Alpena Twp. City of Alpena	Removed from plan	Long-term	Removed

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies C. Riverine/Urban Flooding	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Recommend study to determine if repair of George Washington Bridge in order to improve flow of Thunder Bay River.	Low	A,B,C,D,F,K,L,M,P,Q,S	Q, T	City of Alpena Alpena Twp.	Not budgeted	A.S.A.P.	A.S.A.P.
2. Develop and implement drainage plans for Mud Lake-Devil Lake and, Genshaw-Golf Course Sub Division. Involve County Drain Commissioner in the development process.	Medium	A,B,C,F,K,L,M,P,Q	B, C, Q, T	County-wide	Alpena Twp. Working on it	A.S.A.P.	Short-term
3. Increase public awareness of need for permits (MDEQ Part 31) for building in floodplain areas.	Low	A,B,C,Q	Q, T	County-wide	ongoing	Short-term	Short-term
4. Promote communities joining National Flood Insurance Program (NFIP)	Low	A.B.C.K,L	T	County-wide	ongoing	Ongoing	Ongoing
5. Develop county-wide storm water ordinance.	Low	A.B.C.E.Q	Q, T	County-wide	Drain Commissioner	Long-term	Long-term
6. Explore cost sharing alternatives between government and private to address ongoing drainage and flooding problems in the Fletcher Creek and adjoining watersheds	Medium	B, C	A, B, C, Q, T, U	City of Alpena Alpena Twp.	ongoing	New	Short term
7. Evaluate existing capacity of existing storm water drainage system and improve where necessary.	Medium	A,B,C,E,Q	Q, T	County-wide	ongoing	Long-term	Long-term
8. Review and provide for elevating mechanical and utility devices above expected flood levels.	Low	A.B.C.P.Q.S	Q, T	County-wide	Not budgeted	A.S.A.P.	A.S.A.P.
9. Dredge and clear sediment and debris from drainage channels.	Medium	A,B,C,E,Q,T,U	Q, T	County-wide	Performed as needed	A.S.A.P.	A.S.A.P.
10. Promote and employ soil erosion techniques within watershed.	Medium	A,B,C,E,F,Q,T	Q,T	County-wide	ongoing	Ongoing	Ongoing
11. Train local officials on flood fighting, floodplain management, flood proofing.	Medium	A,B,C,D,E,I,P,Q	T	County-wide	Hiring new soil erosion specialist	Long-term	Long-term
12. Review and provide for detection and prevention/ discouragement of illegal discharges into storm-water sewer system.	Medium	A,B,C,D,Q	Q, T	County-wide	Contracted temporary contract with neighboring counties to provide this service until new soil erosion officer can be hired and trained.	Mid-term	Mid-term
13. Conduct annual review of available sand, sand bags and other related materials based on long range forecast.	Low	A	Q, T	County-wide	Completed	Ongoing	Ongoing
Review and identify possible sites for drainage easements	Medium	A.B.C.E.Q	B	County-wide	ongoing	Long-term	Long-term
Encourage farmland and open space preservation.	Low	B.C.Q	B, C	County-wide	ongoing	Ongoing	Ongoing
Study and provide for flood proofing Alpena General Hospital.	High	A,B,S	T	City of Alpena	Removed	A.S.A.P.	Removed
Promote accurate identification and mapping of flood-prone areas.	Low	A,B,C,E,F,T,Q		County-wide	Removed	Long term	
Consider government acquisition, relocation or condemnation of structures within floodplain.	Low	A,B,C		County-wide	Removed	Long term	

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr. & Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies D. Fixed Site Hazmat	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Research and develop contingency plans for worker and public protection, including inclusion of rescue and evacuation procedures for well hazard areas in emergency plans.	1	A,D,P,Q	T	County-wide	Training of responders is ongoing	A.S.A.P.	A.S.A.P.
2. Review and/or develop Regional EMS response plan to assist county's mass casualty plan.	2	A,B,C,D,I,Q,S	T	County-wide	Completed	Short-term	Short-term
3. Review Alpena Area Hazmat team needs and interaction with area fire agencies.	3	A,C,D	T	County-wide	ongoing	On-going	On-going
4. Develop and implement strategy to plot all Tier II sites in GIS and Hazard Mitigation software	4	A,D,Q	T	County-wide	ongoing	On-going	On-going
5. Develop and conduct public education of Tier II sites and products.	5	A	T	County-wide	ongoing	On-going	On-going
6. Develop and implement a public education program for all hazards that threaten the community.	6	A.B.C.D	T	County-wide	In progress	Short-term	Short-term
7. Educate public and implement steps to encourage "shelter in place" response to Hazmat incidents.	Low	A	T	County-wide	Future public safety days topic	Mid-term	Mid-term
8. Provide annual training to County Fire Departments related to on site products, and how they are handled.	Medium	A,D	T	County-wide	ongoing	On-going	On-going
9. Enforce community and operator compliance with Oil/gas industry safety regulations and standards	Medium	A,Q,P	T	County-wide	ongoing	On-going	On-going

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies E. Transportation Accident, #1	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Review and/or develop Regional EMS response plan to assist county's mass casualty plan.	High	A,S	T	County-wide	Completed	A.S.A.P.	A.S.A.P.
2. Provide more training for fireman, police and first responders to school bus and commercial bus accidents.	Medium	A,B,C,D,E,R	T	County-wide	ongoing	A.S.A.P.	A.S.A.P.
3. Encourage long-term planning that provides more connector roads for reduced congestion of arterial roads.	low	A,B,C,D,E,F,K,L,M,N,P,Q,S,T,U	Q, T	County-wide	Ongoing as budget allows	Mid-term	Mid-term
4. Meet with local industries from surrounding counties to determine type of products transported over county highways, and provide local HAZ/MAT team and fire agencies with this information.	medium	A,C,D,Q,S,T,W	T	County-wide	ongoing	Mid-term	Mid-term
5. Develop strategy to provide more mass casualty medical equipment to handle 50 survivors of heavy jet transport.	medium	A,B,C,D,Q,S,W	Q, T	County-wide	Coordinated with CRTC(Air base) FD	Short-term	Short-term
6. Arrange and conduct meeting with all agencies responding to Lake Huron accidents to determine roles.	High	A,B,C,DQ,S,T,V	T	County-wide	USCG Functional exercise conducted 8/2013.	Short-term	Short-term
7. Provide training, planning, and preparedness for mass-casualty incidents involving all modes of public transportation.	High	A,B,C,D,...	T	County-wide	FEMA Virtual tabletop exercise 4/2013	Short-term	Short-term
8. Program load type into Hazard Mitigation software and develop pre-evacuation plans by material type.	low	A,D,W	T	County-wide	Completed	Mid-term	Mid-term
9. Exercise a 60-person accident involving a passenger bus.	Medium	A,B,C,D,R,O,V	T	County-wide	Future exercise possibly 2015	Mid-term	Mid-term
10. Study location where ships could be off-loaded or boarded to respond to fire.	low	A,C,D,M,Q,S,T,	T	Alpena Co. Alpena Twp.	Completed	Short-term	Short-term
Program load type into GAMEDO and develop pre-evacuation plans by material type.	8	A,D,W	T	County-wide	Removed	Mid-term	
Explore placement of computerized weather kiosks at major Lake Huron marinas in conjunction with U.S. Power Squadron.		A,Q,G	T	Alpena Twp.	Removed	Short-term	

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies E. Transportation Accident, #2	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
11. Provide for exercise gasoline or propane accidents.	Medium	Q	T	County-wide	Proposed for FY2014	Ongoing	Ongoing
12. Hold annual meeting with trucking industry and local fire and law enforcement agencies.	Low	A,B,C,D,W	T	County-wide	In progress	Short-term	Short-term
13. Encourage strict enforcement of trucking industry highway speed	Low	W	T	County-wide	Ongoing with MSP	Short-term	Short-term
14. Continue upgrade protocols in Central Dispatch.	High	A,D,S,W	T	County-wide	Continuous process	Ongoing	Ongoing
15. Provide more training for airfield emergencies involving all county fire departments.	Medium	A,B,C,D,Q,S,W	T	County-wide	Exercise held 4/2013	Ongoing	Ongoing
16. Research and develop medical airlift plans.	Medium	A.B.Q.S	T	County-wide	ongoing	Mid-term	Mid-term
17. Arrange for heavy jet training event to provide full sense of situation.	Low	A.B.C.D.Q.S.W	T	County-wide	planned	Mid-term	Mid-term
18. Review procedures for railroad inspections and improved designs at problem railway/roadway intersections.	Low	A,B,C,D,E,Q,T	T	County-wide	unbudgeted	Long-term	Long-term
19. Inventory current heavy equipment, wreckers and jaws units within 30 minutes of county locations.	Medium	A	T	County-wide	Completed 6/2013	Ongoing	Ongoing
20. Meet with trucking industry to coordinated transport times to avoid school transport times	Low	A,W	T	County-wide	In progress	Short-term	Short-term
21. Encourage strict highway speed enforcement during school transport times.	Medium	A,W,	T	County-wide	Constantly monitored by law enforcement	Ongoing	Ongoing
22. Promote and conduct annual review of school buses and emergency exits, plus new features.	Medium	R,Q	T	County-wide	ongoing	Ongoing	Ongoing

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies F. Structural Fire	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Identify adequate water supplies for emergency firefighting, areas lacking adequate water supplies and develop strategy to construct dry hydrants.	High	A,B,C,D,E,K,Q,	Q, T	County-wide	Dry hydrants and water drafting is constantly trained. Dry hydrants are in place	A.S.A.P.	A.S.A.P.
2. Develop integrated water supply system using multi-tankers at well located water supplies, with easy year around access.	High	A,B,C,H,I	Q, T	County-wide	completed	A.S.A.P.	A.S.A.P.
3. Develop strategy to standardize equipment so that all firefighters in County system can operate any piece of equipment.	High	A,C,D	Q, T	County-wide	ongoing	Long-term	Long-term
4. Provide training to fire and emergency personnel to respond to a fuel explosion, fire, or other maritime accident at local marinas.	Medium	A, B, D, Q	T	County-wide	ongoing	Mid-term	Mid-term
5. Increase use of CRTC Regional Fire Training Center for County Fire Departments.	Low	A,D,S	T	County-wide	ongoing	Ongoing	Ongoing
6. Provide training for large, industrial-related fires	Medium	A, B, D,	T	County-wide	ongoing	Mid-term	Mid-term
7. Develop program to encourage landlords and families to install and maintain smoke detectors and fire extinguishers. Train residents in use a fire extinguisher.	Medium	A,C,D	Q, T	County-wide	City-wide inspection of rental property in place. Public awareness annually at Public Safety Days event.	Mid-term	Mid-term
8. Develop public education and school programs related to the use of stoves, heaters, fireworks, electric and "space" heaters, matches/ lighters, etc.	Medium	A,D	D, T	County-wide	Same as above	Ongoing	Ongoing
9. Review and develop programs to raise community awareness on proper installation and maintenance of heating systems.	Medium	A,C,D	D, T	County-wide	Same as above	Ongoing	Ongoing
10. Communicate to residents information related to handy household items that can be used as fire tools.	Medium	A,D	B, C, K, N	County-wide	Same as above	Ongoing	Ongoing
11. Increase volunteer recruitment, and study offering paid training.	Low	A,B,C,D	B, C, T	County-wide	unbudgeted	Ongoing	Ongoing

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies G. Wildfire, #1	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Conduct annual wildfire planning with all fire departments and MDNR.	High	A, C,D,J	T	County-wide	ongoing		A.S.A.P
2. Develop a program to instruct residents on proper procedures for wildfire evacuation, ...	Medium	A,C,D,N,R,	B, C, Q, T, D	Ossineke, Maple Ridge and Wilso Twps.	ongoing		A.S.A.P
3. Identify communities or neighborhoods to develop "Firewise" demonstration projects.	Medium	A,C,D,J,U	Q, T	County-wide	Firewise program being developed		A.S.A.P.
4. Develop and implement strategy to introduce "Firewise" program in risk communities.	Medium	A,C,D,J,U	Q, T	Ossineke, Maple Ridge and Wilso Twps.	Same as above		Short-term
5. Coordinate countywide wildfire education program: distribution of materials via direct mailings, school presentations. Incorporate Firewise demonstration projects.	Medium	A,D,J,R	B, C, Q, T	County-wide	Same as above and public safety days		Mid- term
6. Work with insurance companies to provide wildfire safety information to area residents, and consider reduction of insurance premiums if homes meet "Firewise" criteria.	Low	A,C,D,J,K,U	Q, T	Ossineke, Maple Ridge and Wilso Twps.	ongoing		Short-term
Community Chipper Days—Organize a program to provide a chipper for properly disposing of woody debris, in conjunction with composting programs and spring clean-up days.	Low	C,D,U		Ossineke, Maple Ridge and Wilso Twps.	Removed	Long term	

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies G. Wildfire, #2	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
7. Distribute wildfire education materials to homeowners and businesses through tax bill receipts.	Low	C	D, Q, T	Ossineke, Maple Ridge and Wilso Twps.	unbudgeted	Short-term	Short-term
8. Review and strict enforcement of open burning regulations.	Medium	C,D,J,	B, C, D, Q	County-wide	In progress	Ongoing	Ongoing
9. Promote creation of defensible space around structures in fire-prone wildland areas.	Medium	C,D,J,U	B, C, D, Q	Ossineke, Maple Ridge and Wilso Twps.	ongoing	Ongoing	Ongoing
10. Develop program to inspect campsites in public forest areas to insure safe open fires, where allowed.	Medium	C,J	B, C, D, Q	County-wide	ongoing	Ongoing	Ongoing
11. Develop Countywide solution for funding fire service.	Low	A,B,C,D,K,M,N	B, C	County-wide	unbudgeted	Ongoing	Ongoing
12. Organize neighborhood wildfire safety coalitions to plan how to work together to prevent wildfire	Low	A,B,B,C,D	A, B, C	Ossineke, Maple Ridge and Wilso Twps.	Ongoing issue	Mid-term	Mid-term
13. Promote media broadcasts of fire weather and fire warnings	Medium	A,C,D	A, B, C	County-wide	Social media, NWS alerts and siren use	Short-term	Short-term
14. Promote and implement fuel management by thinning of flammable vegetation, creation of fuel breaks, use of fire-retardant materials/vegetation and selective thinning....	Medium	D,J	Q	Ossineke, Maple Ridge and Wilso Twps.	Conducted by State fire service	Mid-term	Mid-term
15. Conduct multi-agency, inter-county emergency management response exercises for fire suppression	Medium	A,B,C,D,F,Q,W	A, Q, T	County-wide	ongoing	Ongoing	Ongoing
16. Review and develop a regional base for air-firefighting wildfire support at Alpena County Regional Airport.	Low	A,B,T	A, Q, T	County-wide	Not scheduled for review this FY	Long-term	Long-term
17. Study and develop GIS layers to include water supply location, Tier II sites, gas and oil well	Low	A,B,C,D	B	County-wide	No progress	Mid-term	Mid-term

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies H. Winter Weather Hazards	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Explore and implement plan to improve distribution of NOAA radios throughout community	Low	A,O,M,N	B, C, M, N, Q,	County-wide	unbudgeted	Ongoing	Ongoing
2. Study and employ available NOAA data to predict location and warn motorists of potential white-out road hazards.	Medium	A,O	B, C, Q, T	County-wide	In progress	Short-term	Short-term
3. Study and support pre-arranged shelters for stranded motorists/travelers, and others.	Medium	A,I,N	A, B, C	County-wide	ongoing	Ongoing	Ongoing
4. Produce and distribute family emergency preparedness information relating to severe winter weather hazards	Low	A,I	A, B, C	County-wide	Public safety days and schools	Mid-term	Mid-term
5. Encourage including safety strategies for severe weather events in driver education classes and materials.	Medium	R	B, C, Q	County-wide	In progress	Ongoing	Ongoing
Acquire portable signs to inform motorists of high wind area, lake effect snow area and road glazing area on major highways.	Low	E,O	Local, State			Mid term	Removed

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies I. Extreme Temperatures	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Identify location and organize outreach to vulnerable and special needs populations during periods of extreme temperatures	Medium	A	T	County-wide	ongoing	On-going	On-going
2. Continue to develop and maintain shelter agreements with American Red Cross and local entities	Medium	A, C, I, N, & V	B, C, N	County-wide	ongoing	New	On-going
3. Study and improve location, design and maintenance of water and sewer systems (to include insulation of critical components to prevent damage from ground freeze)	Low	A, C	Q, T	City of Alpena	ongoing	Long-term	Long-term
4. Develop a program to lower or insulate known water services with freeze-up problems.	Low	A, B, C, D	Q, T	County-wide	ongoing	Long-term	Long-term
5. Develop a contingency plan for source water in the event that the City water intake freeze or becomes blocked with frazzle ice.	Low	C, H.	Q, T	City of Alpena	City DPW ongoing	Mid-term	Mid-term
6. Develop housing/landlord codes to enforce heating requirements.	Low	C	B, C, M, Q	County-wide	Townships have lead	Mid-term	Mid-term
7. Improve and/or enact landlord/tenant ordinances.	Low	C	B, C, Q	City of Alpena	City has ordinances	Long-term	Long-term

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies J. Infrastructure Failures	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Develop contingency plans for emergency treatment procedures in the event of catastrophic events at the Water Production Plant or Water Recycling Plant.	Medium	A, C	Q, T	City of Alpena	City DPW and Twp. Water Dept. have lead	Mid-term	Mid-term
2. Identify key transmission and collection mains within the utility infrastructure with bypass or alternate capacity plans.	Medium	A, C	Q, T	City of Alpena	Utility liaison is constant	Mid-term	Mid-term
3. Establish safe and appropriate locations for temporary debris disposal sites.	Low	A,B,C,E	Q, T	County-wide	Completed	Mid-term	Mid-term
4. Review and develop strategy, when feasible and cost effective in more populated areas, to bury electrical and phone lines.	Low	A.B.C.P,Q	Q, T	County-wide	unbudgeted	Long-term	Long-term

Mitigation Actions & Implementation Strategies K. Public Health Emergencies	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Develop and maintain system for mass vaccination and prophylaxis of residents during a pandemic or public health emergencies	High	A, B, C, H, I, R, T, V & W	H, T	County-wide	Health Dept. has system in place	New	Ongoing
2. Encourage residents to receive immunizations against communicable diseases	Medium	H. I. N. Q. S.	H, T	County-wide	ongoing	Ongoing	Ongoing
3. Maintain a community public health system with sufficient disease monitoring and surveillance capabilities to adequately protect the population from large-scale outbreaks	Medium	H. Q. S. T.	H, T	County-wide	ongoing	Ongoing	Ongoing
4. Increase public awareness of the causes, symptoms, and protective actions for disease outbreaks and other potential public health emergencies	Medium	H. N. R. S.	H, T	County-wide	ongoing	Ongoing	Ongoing
5. Increase public awareness of radon dangers and the prevention efforts that can be taken to reduce concentrations of radon in homes and buildings	Low	H.	H, T	County-wide	ongoing	Ongoing	Ongoing
6. Expand community support of free or reduced-expense clinics and school health services	Medium	B. C. H. N. Q. S.	H	County-wide	unbudgeted	Ongoing	Ongoing
7. Inform public and support pollution control, enforcement and cleanup; proper disposal of chemicals and scrap materials	Low	A. B. H. M. Q. R. T.	H, T	County-wide	In progress	Ongoing	Ongoing
8. Seek support and funding to clean up sites of environmental contamination	Medium	B. M. Q. T.	H, T	County-wide	DEQ issue ongoing	Ongoing	Ongoing
9. Coordinate with health department and local communities to assure proper location, installation, cleaning, monitoring, and maintenance of septic tanks	Low	C. H.	T	County-wide	ongoing	Ongoing	Ongoing

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	

Mitigation Actions & Implementation Strategies L. Hazardous Material Transportation Incidents	Priority	Responsible Agency	Funding Sources	Application	Progress	Original Status	New Status
1. Provide for trained, equipped, and prepared search and rescue teams	Medium	A. B. C. D.	B, C, T	County-wide	Sherriff Dept. SAR Team in place and well trained	Ongoing	Ongoing
2. Increase coverage and use of NOAA Weather Radio (which can provide notification to the community during any period of emergency, including large scale hazardous material incidents)	Low	A.	B, C, T	County-wide	Unbudgeted for radio purchase	Short-term	Short-term
3. Improve capability of agencies to carry-out road closures and to provide traffic control in accident areas	Medium	E.	E, T	County-wide	Signage and training has been provided to Road Commission	Short-term	Short-term
4. Maintain and enhance trained, equipped and prepared local hazardous materials emergency response teams	Medium	A. B. C. D.	B, C, T	County-wide	CRTC Has a trained team available	Ongoing	Ongoing
5. Develop evacuation plans and community awareness of them	Medium	A.	A, T	County-wide	In progress	Mid-term	Mid-term

A. County Emergency Management Office	G. MSU Extension	M. Local Businesses	S. Medical
B. County	H. District Health Dept.	N. Civic Gr.& Churches	T. Federal Government
C. Local Units of Gov.	I. American Red Cross	O. National Weather Service	U. landowners
D. Local Fire Dept.	J. USFS & MDNR	P. Utility Company	V. Salvation Army
E. County Road Commission	K. Insurance Companies	Q. State	W. Police
F. NEMCOG	L. Real Estate Co.	R. Schools	