

APPENDIX: MITIGATION ACTIONS

Mitigation Actions are prioritized by STAPLE+E planning factors including

- Social, Technical, Administrative, Political, Legal, Economic and Environmental factors.

Mitigation Actions are categorized by Jurisdiction, Action, Priority, Strategy, Status, Responsibility and Hazard.

Jurisdictions are:

- LC = Lake County
- TH = City of Two Harbors
- SB = City of Silver Bay
- BB = City of Beaver Bay
- FL = Township of Fall Lake

Strategies are:

- LP = Local Plans and Regulations
- SP = Structure and Infrastructure Projects
- NS = Natural Systems Protection
- EA = Education and Awareness Programs
- MP = Mitigation Preparedness

Priorities are:

1. High Priority
2. Medium Priority
3. Low Priority

Status listings are:

- New
- In Progress
- Ongoing
- Tabled

Table H-1. Mitigation Actions, Lake County

#	Jurisdictions					Hazard	Mitigation Action (including those listed in CWPP)	Priority	Strategy	Status / Timeline	Responsibility / Funding	Comments and Planning Mechanisms for Implementation
	LC	TH	SB	BB	FL							
1	X				X	Wildfire	CWPP 1.1: Facilitate development of and support local jurisdictions in becoming recognized Firewise Communities.	1	EA	Ongoing	LCEM. Title III S	Currently there are 2 recognized FW communities, and are actively working with several others to become recognized. Goal: add 5 more communities in 2017 & 2018 (each). Develop Firewise newsletter.
2	X	X	X	X	X	Wildfire	CWPP 1.2: Provide funding for Level 2 Firewise assessments for all residences and actively conduct Firewise trainings and assessments.	2	MP	In Progress 2020	LCEM Title III \$	We conducted 2034 L2 evals through 2016. Goal: to update them in 2018-2020.
3	X				X	Wildfire	CWPP 2.2: Develop and implement metal roofing grant program with cost share for homes located in Lake County in areas with increased wildfire risk as identified in the CWPP.	1	SP	In Progress 2019	LCEM FEMA HMA \$	30 metal roofs installed through 2012 with a 75% rebate program funded by Title III SRS funds. FEMA HMA grants provided 51 more through 2015-2016, and will end in 2018.
4	X				X	Wildfire	CWPP 2.8: Prioritize and implement hazardous fuels treatments annually for high risk WUIs.	1	SP	Ongoing	LCEM USDA Stevens \$	USFS Stevens Grants support these efforts in designated areas. We have treated 878 acres for 166 landowners from 2009-2016. Stevens grants are ongoing.
5	X				X	Structure Fire, Wildfire	CWPP 2.3: Install dry hydrants or water tanks for residential fire response in key locations.	1	SP	In Progress 2020	LCEM, VFDs HOAs, VFDs	12 dry hydrants installed from 2010 - 2016. Goal: install Kawishiwi R, Fall, Moose and TH Airport by 2019.
6	X				X	Wildfire	CWPP 2.4: Organize and provide brush disposal / chipper programs in communities in high risk areas.	1	SP	Ongoing	LCEM, USFS Title III \$, DNR FW \$	Chipped Two Harbors & Ojibway cmtly sites placed cmtly debris site signs at Ojibway, Moose & Bandana. Roadside chipping at Sunset, Moose L, CBO, Sand Lake, Crooked. Worked with USFS on 7/21/16 windstorm debris in Fall Lake.

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7	X	X	X	X	X	Lightning, Winter Storms, Sever Winter Storms	Install generators in government facilities and critical infrastructure.	2	SP	In progress 2022	LCEM, TH, SB, BB LUGs	Installed 2 60 KW generators from MIFC in Beaver Bay 2017.
8	X				X	Wildfire	CWPP 3.1: Work with partners to communicate fire restrictions to the public	2	EA	In progress. 2018	LCEM, DNR LC \$	Work with USFS and NWS/NOAA to incorporate red flag warnings and burning restrictions though public info and CodeRED.
9	X	X	X	X	X	Flash Flooding	Maintain or improve bridge, roads, and culverts to withstand major storm events.	2	SP	In progress 2022	LCEM, LC Hwy, SWCD, TH, SB SWCD \$	LC Hwy culvert inventory is completed. SWCD inventoried 795 culverts, and has funds to improve culverts. USFS has prioritized culverts based upon our evacuation routes.
10	X	X	X	X		Transportation Hazardous Materials	Collect information on hazardous materials that travel through Lake County.	3	MP	Tabled Tabled	LCEM LC \$	MNDOT currently has no data on hazardous materials on specific state highways.
11	X	X	X			Thunderstorms Windstorms, Extreme Cold, Winter Storms	Locate power lines underground where possible.	3	SP	In Progress Indefinite	CLP, LCP, MN Power, FEMA HMA \$	After the 2009 ice storm, DR 1830 HMA funds provided CLP with \$397,000 to bury powerlines along a 6-mile section of Lax Lake Road.
12			X	X		Structure Fire	CWPP 1.7: Provide fire prevention education with K-12 schools.	2	EA	In Progress 2019	LCEM, VFDs, LC Frstry, ISD 381 DNR FW \$	Silver Bay and Two Harbors Fire Depts present K-6 school programs annually. "Firewise in the Classroom" was presented in WKHS in 2012-13 funded by LC Forestry, Emergency Mgmt. and ISD 381. We hope to receive a Firewise grant to continue it annually.
13	X	X	X			Thunderstorms	Encourage campground operators to provide information for Lake County visitors regarding storm shelter and safety during severe storms.	2	EA	In progress 2019	LCEM LC \$	Flyer was created and distributed about CodeRED, shelters and other emergency info for Burlington Bay campground. Need to revise it for other campgrounds.

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14	X				X	Wildfire, Structure fire	CWPP 2.10: Improve fire truck access on private roads. Install turn arounds or alternate egress on dead end roads.	1	SP	New 2022	LC Hwy, Env Services, HOAs HOA \$	Update LC subdivision codes for new developments, work with local jurisdictions and homeowner associations to improve current problems.
15	X				X	Ground and Water Supply Contamination	Monitor baseline water quality to address contaminants including metallic sulfide minerals, copper, mercury, manganese, arsenic, etc.	2	NS	Ongoing	MPCA, LC SWCD WICOLA, SWCD \$	Multiple state and local groups are monitoring the impact of proposed non-ferrous mining on ground and surface water.
16	X	X	X	X		Flash Flooding, Ground and Water Supply Contamination	Maintain efforts to address storm water management and flood control.	2	NS	Ongoing	LC SWCD SWCD \$	LC SWCD developed a Water Management Plan listing priority watersheds and actions. Recent work includes a detention basin, rain garden, streambank stabilization and erosion control projects.
17	X	X	X	X		Drought	Analyze existing municipal water use and promote water conservation in case of drought.	3	NS	New 2020	LC SWCD SWCD \$	Municipal water supplies can be monitored to help with mitigation and response in drought conditions.
18	X	X	X	X	X	Tornados, windstorms, thunderstorms	Promote saferooms in new construction and housing developments.	3	SP	New 2022	LCEM HSEM \$	MN HSEM may have grants available to support this.
19	X					Dam Failure	Work with the DNR, MN Power and Northshore Mining to identify at-risk dams.	3	SP	In progress 2022	LCEM LC \$	MN Power and Northshore Mining have provided Emergency Plans for the three dams in Lake County. Still need to identify risks.
20	X	X	X	X	X	Structure Fire	Encourage residents to install smoke alarms and have a fire escape plan.	2	EA	In progress 2022	LCEM Red Cross \$	Lake County partners with the American Red Cross on smoke alarm installations and fire response education.
21	X				X	Wildfire, Structure Fire	CWPP 2.9: Address structural ignitability treatments to improve fire resistance of structures.	2	SP	In progress 2022	LCEM DNR FW \$, Title III \$	We are currently installing metal roofing (CWPP 2.2) as part of this program.

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22	X				X	Wildfire, Flash Flooding, windstorm	CWPP 2.11: Provide escape routes and safety zones for high-risk WUIs when possible, and include them in community-based evacuation plans .	1	SP	New 2022	LCEM DNR FW 4	Plans started for several Road Assn's in 2017.
23	X					All Hazards	Develop County Facebook page for emergency information.	1	EA	New 2017	LCEM LC \$	Scheduled to be completed in Fall of 2017
24	x					Wildfire	Update Subdivision Ordinance 9 to require wildfire mitigation standards ie. road access, and water sources for fire response	2	MP	New 2018	LCEM LC \$	Planning Commission meeting in July 2017 started the process.
25	X					All Hazards	Train elected official in Emergency Roles and Responsibilities	2	MP	In progress 2019	LCEM HSEM \$	HSEM has provided elected official training (2/4 parts).
26	X					Water Contamination	Upgrade or replace Beaver Bay water infrastructure	3	MP	New Unknown	LCEM LUG grants?	Age of water/wastewater pipes are of concern.
27	X	X	X			Hostile events	Continue to improve school emergency plans, exercises and response.	2	MP	New Ongoing	LCEM, ISD 381, local LE ISD 381 \$	Lake County partners have met with School Safety Center, held incident and evac meetings, 3 Echo hostile event exercises, mock crashes. Working on reunification plan.
28	X					All Hazards	Incorporate USNG as standard geo-location format for emergency response among all agency partners. Provide USNG response area maps.	2	MP	New 2022	LCEM, ISD 381, local LE Trail groups, NGO \$	Work with agency partners and public to educate and implement USNG as recommended by FEMA Directive 092-5 (Oct 2015).

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29	X	X	X			All Hazards	Promote awareness and mitigation of critical infrastructure and private resources in response to electro-magnetic fluctuations (solar flares, CME, EMP).	3	MP, SP	New 2020	LCEM, RECs, TH, SB LC \$, REC \$?	Research, educate, plan and implement strategies to alert, notify and mitigate effects (ie. SWPC notice, harden infrastructure and caches, plan temporary shut-downs, etc.).