

June 15-17, 2018

Houghton County flood disaster

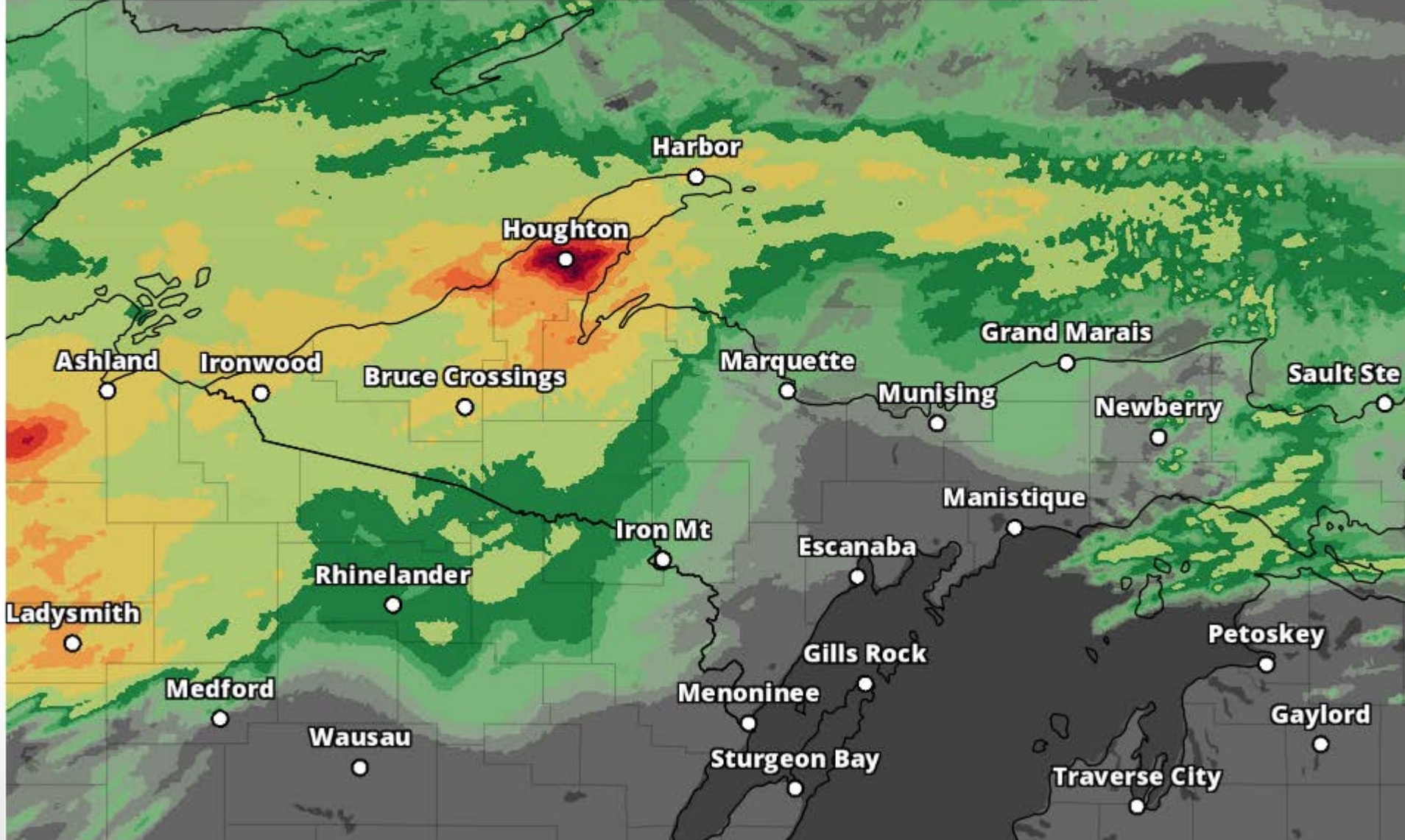




7am Sunday

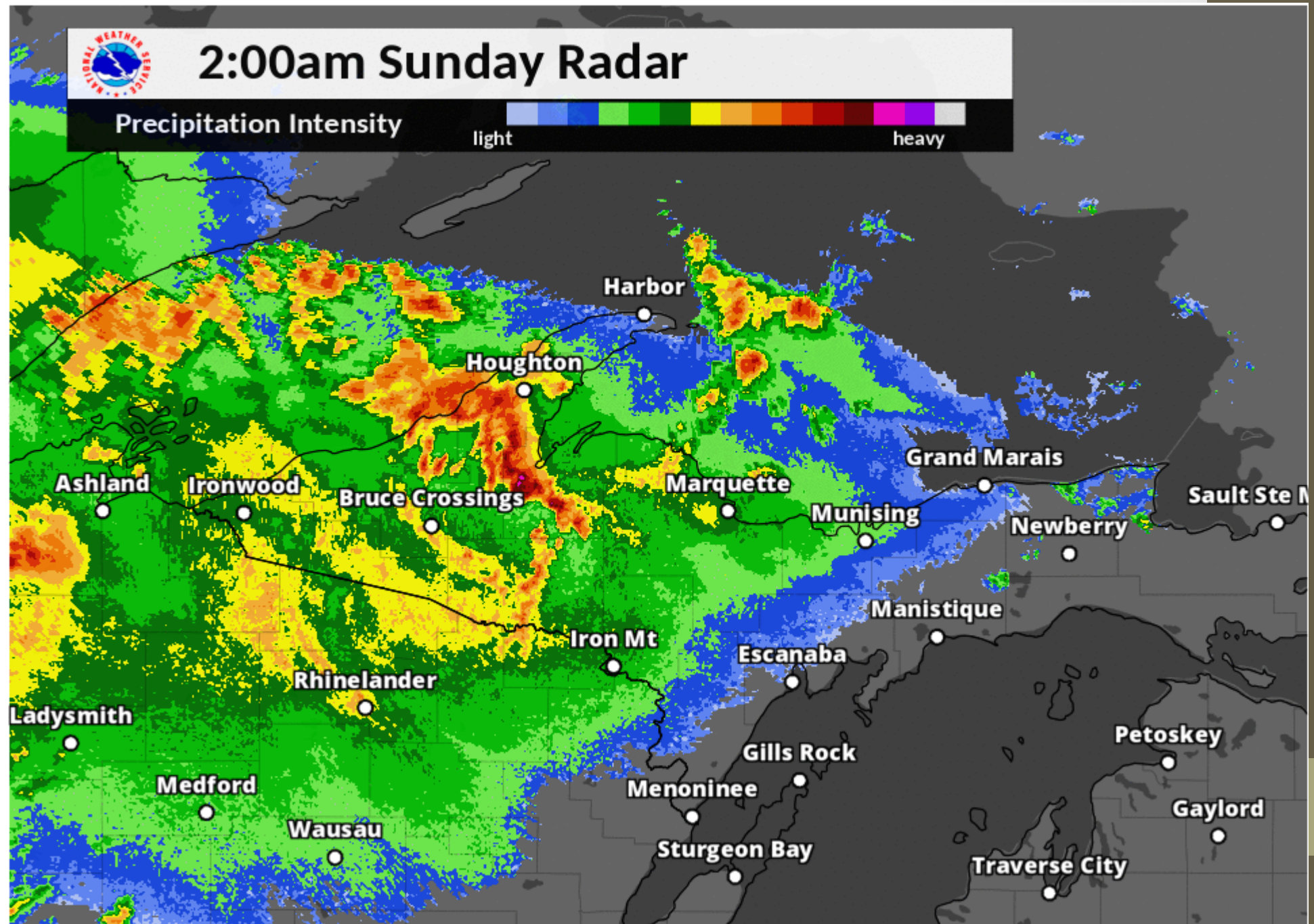
6 Hour Precipitation

0.1 0.5 3 6 9 (in)



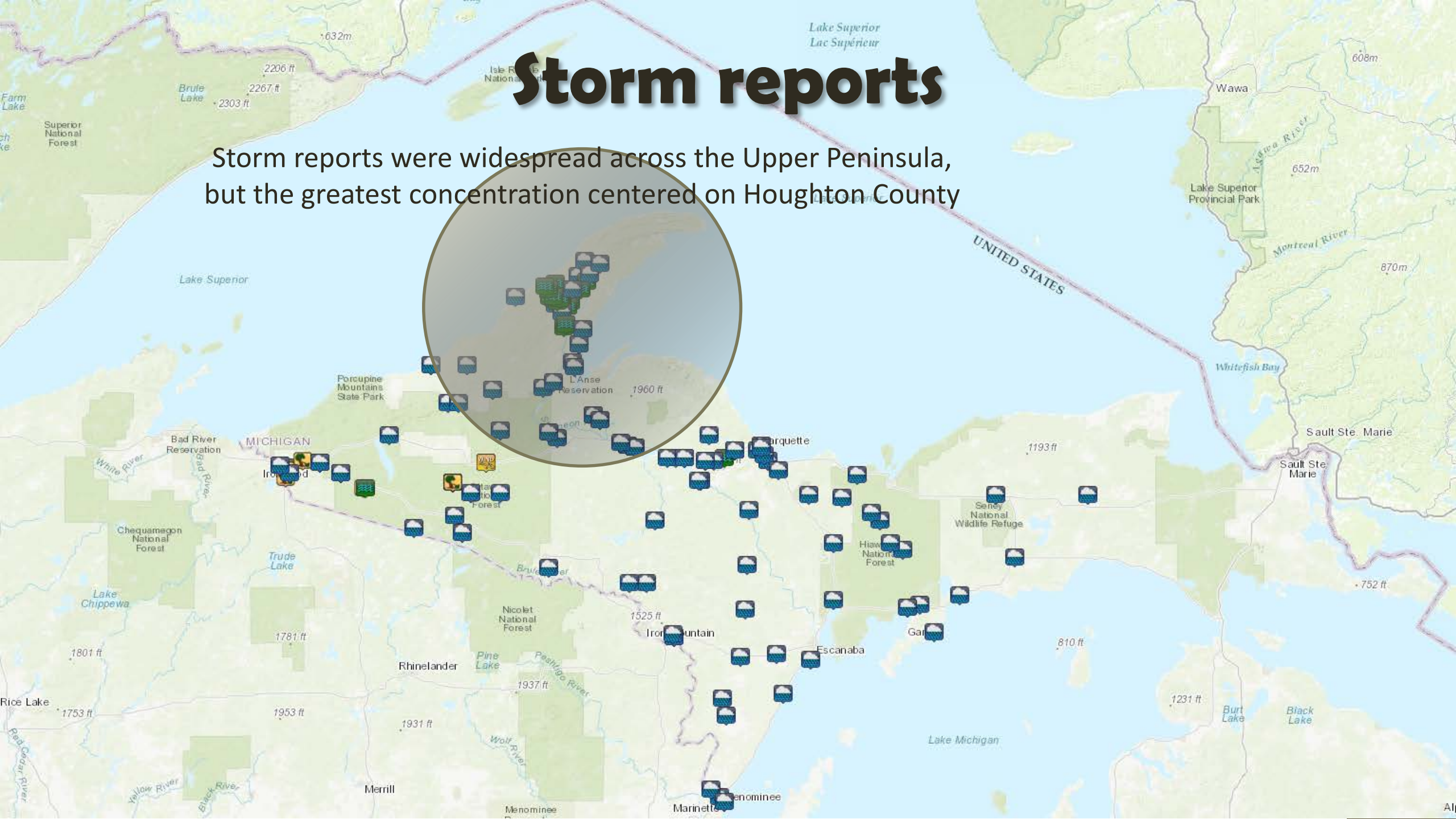
Father's Day weekend, June 15-17, 2018, the western Upper Peninsula was struck by unrelenting rain. Hardest hit was Houghton County, which saw over 7 inches of rain in a three-hour period devastate the region.

Multiple rounds of heavy rain slammed Houghton and surrounding counties throughout the weekend, causing massive amounts of damage to the cities of Houghton and Hancock and was especially damaging to the state and local roads in its path. According to the National Weather Service in Marquette, the storm was a 1,000-year rain event.



Storm reports

Storm reports were widespread across the Upper Peninsula, but the greatest concentration centered on Houghton County



Kevin's Rain Gauge



State of emergency



Old Mill Hill



Tweet



Governor Rick Snyder

@onetoughnerd



I have declared a state of disaster for Houghton and Menominee counties after severe weather and heavy rainfall struck both counties, resulting in widespread flooding damage. bit.ly/2MCHifq

“ ”

I appreciate the dedication of our state and local emergency response teams and volunteers who have been working diligently to protect the public health and safety of our residents affected by this severe flooding. This declaration will ensure additional state resources are available so that damages can be repaired as quickly as possible.

Governor **Rick Snyder**

6/18/18, 3:15 PM

The numbers

- **\$30 million** in damages on the Houghton County road system
- **60 sinkholes** created by flash flooding in the Keweenaw Peninsula
- **150 road washouts**, including 15 massive washouts
- **150+ roads** affected by the flood with varying degrees of damage

Source: Houghton County Road Commission, July 2018



Coles Creek Road



Old Mill Hill

According to MDOT, this marks the largest emergency Federal Highway Administration claim in Michigan in more than 20 years

Affected Road Name	City or Township	Total Site Estimate ¹ calculated
1-A Canal Rd by Old Mill Rd 3135	Stanton	\$ 160,021
Liminga Rd 3172	Stanton	\$ 205,000
Larson Rd 3174	Stanton	\$ 55,000
Obenhoff Rd 3174	Adams	\$ 75,000
5A South of Denton Rd Area 3149	Portage	\$ 201,502
Green Acres Rd 3141	Portage	\$ 55,000
Chassell Painesdale Rd 3164	Chassell, Portage, Adams	\$ 150,000
Salo Rd 3145	Hancock Twp	\$ 1,140,100
9-A Lower Forsman Rd 3170	Franklin, Osceola	\$ 130,994
Boston Rd 3153	Franklin	\$ 134,400
Superior Rd 3141	Portage	\$ 125,000
Tapiola Rd 3131	Portage	\$ 180,000
Airport Park Rd 3157	Franklin	\$ 1,050,000
Baltic Onkalos Corner 3141	Adams and Portage	\$ 125,000
Lake Annie Rd 3145	Quincy and Hancock	\$ 264,500
Industrial Drive 3157	Franklin Twp	\$ 37,000
Bootjack Rd 3177	Schoolcraft and Torch Lake	\$ 350,000
1B- Canal Rd Coles Creek Culvert 3135	Adams	\$ 1,023,490
1C- Canal Rd East of Gedvillas Rd 3135	Stanton	\$ 75,058
1-D Canal Rd Gedvillas Rd Area 3135	Stanton	\$ 208,539
1-E Canal Rd west of Gedvillas Rd 3135	Stanton	\$ 80,948
1-F Canal Rd West of Gedvillas Rd 3135	Stanton	\$ 89,550
1-G Canal Rd West of Gedvillas Rd 3135	Stanton	\$ 98,079
1-H Canal Rd West of Gedvillas Rd 3135	Stanton	\$ 183,537
1-I Canal Rd West of Gedvillas Rd 3135	Stanton	\$ 49,007
1-J Canal Rd East Side of Markhams Marina 3135	Stanton	\$ 540,715
1-K Canal Rd Markham's Marina House area 3135	Stanton	\$ 756,870
1-L Canal Rd Anderson Farm Area 3135	Stanton	\$ 317,548
1-M Canal Rd Weber Lane Area 3135	Stanton	\$ 56,395
1-N Canal Rd Rocky Shores Rd Area 3135	Stanton	\$ 187,537
1-O Canal Rd west of Rocky Shores Rd 3135	Stanton	\$ 42,424
1-P Canal Rd Blue Top Cabin Rd Area 3135	Stanton	\$ 135,930
1-Q Canal Rd Schotts Creek Oscar Bay Culvert 3135	Stanton	\$ 1,177,200
5-B Paradise Rd Pilgrim River approaches and Bridge 3149	Portage	\$ 2,512,048
9-B Forsman Rd 36" culvert 3170	Franklin	\$ 130,758
9-C Forsman Rd 42" Culvert 3170	Franklin	\$ 90,982
9-D Forsman Rd Box Culvert 3170	Franklin	\$ 985,400
9-E Forsman Rd washout 3170	Osceola Twp	\$ 1,087,010
		\$ 14,230,542



Local roads eligible for federal aid:

38 damaged areas to 20 local roads and bridges totaling **\$14,230,542**

Local roads not eligible for federal aid:

142 damaged areas to local roads and bridges totaling **\$15,478,328**

(Detailed over the next 6 pages)

DAMAGED FACILITY	Township / Community	DIMENSIONS / QUANTITIES	TOTAL
Fishermans Road	Calumet		
Oikerinen Road	Calumet		\$ 48,700.00
Pepin Road	Calumet		
South Cloverland Road	Calumet		\$ 53,381.88
Waasa Road	Calumet		\$ 46,500.00
E 12th	Hubbell		\$ 205,372.76
Ave B	Hubbell		\$ 15,794.48
W 9th	Hubbell		\$ 37,076.78
11th	Hubbell		
W 12th	Hubbell		\$ 23,588.96
E 13th	Hubbell		\$ 48,433.43
W 14th	Hubbell		\$ 41,934.55
W 15th	Hubbell		\$ 9,650.00
E 15th	Hubbell		\$ 73,311.28
E 16th	Hubbell		\$ 51,922.39
W 32nd	Hubbell		
Summit Road	Hubbell		\$ 170,131.44
Cemetery Road	Schoolcraft	8ft CMP with concrete headwalls, 56 ft long; DEQ proposes: 10ft x 6ft box culvert 56 ft long	\$ 160,000.00
Sawmill Road #1	Schoolcraft		\$ 336,672.94
Sawmill Road #1	Schoolcraft		\$ 22,300.00
Hanson Rd	Schoolcraft	DEQ - May require upsize	
Gas Plant Road	Schoolcraft		
Post Road	Schoolcraft		\$ 9,100.00
Normand Road	Schoolcraft		\$ 39,900.00

Rimfetti Road	Schoolcraft		
Rice Lake Road	Schoolcraft		
Seivi Road	Schoolcraft		\$ 6,086.00
Mud Lake Road	Torch Lake		\$ 824,015.75
Bridge St. (By Louies)	Torch Lake		\$ 500,000.00
Baulman Road	Torch Lake		\$ 92,478.41
Senter Road	Torch Lake		\$ 63,627.55
Lower Point Mills Road	Torch Lake		\$ 96,208.35
N. Gross Pointe Shores Road	Torch Lake		
Red Barn Road	Torch Lake		\$ 59,632.24
Beaver Dam Road	Torch Lake		
Birdseye Road #1	Torch Lake		\$ 108,029.82
Birdseye Road #2	Torch Lake		\$ 39,900.00
Deer Field Road	Torch Lake		\$ 46,253.42
McCollum Road	Torch Lake		
Oak Ridge Road 1	Torch Lake		\$ 78,190.12
Oak Ridge Road 2	Torch Lake		\$ 54,640.00
Orchard Road	Torch Lake		
Paradise Lane (Alley) Road	Torch Lake		\$ 102,396.38
Rabbit Bay Road	Torch Lake		
School Forest Road	Torch Lake		
White Tail Road	Torch Lake		
43 Roads		subtotal	\$ 3,465,228.90

DAMAGED FACILITY	Township / Community	DIMENSIONS / QUANTITIES	TOTAL
Beagle Farm	Chassell		\$ 13,309.89
Creamery	Chassell		\$ 37,051.85
Lower Worham	Chassell	10' span x 4.5' rise masonry box culvert with steel span and concrete deck - DEQ proposes: 10' x 5' box culvert	\$ 120,000.00
Lower Massie	Chassell		\$ 423,689.96
Hamar	Chassell		\$ 17,295.34
Lindala Road	Chassell		
Pike River Road	Chassell		
Sajdak Road	Chassell		
Upper Massie	Chassell		\$ 32,988.20
Upper Pike River	Chassell		\$ 62,544.84
Upper Worham	Chassell		\$ 16,222.26
Goat Hill	Franklin		\$ 224,203.81
Military Rd	Franklin		\$ 161,640.78
Pewabic	Franklin		\$ 193,589.56
North Royce	Franklin		\$ 250,000.00
Upper Forsman	Franklin		\$ 14,144.48
Upper Forsman	Franklin		\$ 652,968.95
Pontiac	Franklin	#1 = 48in x 48ft RCMP - DEQ Proposes: 72in x 48ft RCP; #2 = 2 26in x 60 ft concrete pipes with masonry headwalls DEQ proposes: 16ft x 4ft high box culvert	\$ 390,000.00
Hendrickson	Franklin		\$ 30,740.67
2nd St (Ripley)	Franklin		\$ 28,117.85
W. 3rd Street embankment erosion at dead end	Franklin	Flash flooding from atop Ripley caused severe embankment erosion west of 3rd street south of ripley falls - may be MTUs responsibility	\$ 50,000
Boston	Franklin		\$ 39,900.00
Coal Dock	Franklin		\$ 115,032.43
Crosscut Road	Franklin		

Hill Top Road	Franklin		
Pit	Franklin		\$ 9,100.00
Roosevelt	Franklin		\$ 9,290.36
Brooks	Hancock		\$ 174,700.60
Golf Course	Osceola		\$ 211,781.88
Dover 1	Osceola		\$ 170,000.00
Dover 2	Osceola		\$ 75,100.00
		#1 = 8 ft span, rise masonry box culvert, 40 ft long DEQ proposes: 10 ft x 4 ft concrete box culvert 40 ft long # 2 = 7.5 ft span 6.5 ft rise masonry box culvert, 40 ft long DEQ Proposes: to 8 ft span x 6 ft rise box culvert, 40 ft long	
Woodside	Osceola		\$ 230,000.00
Upper Point Mills	Osceola		\$ 116,291.24
Junction	Osceola		\$ 31,100.00
North Cloverland	Osceola		\$ 23,588.96
Old County	Osceola		\$ 9,100.00
Rhode Island	Osceola		\$ 22,300.00
Seeburg	Osceola		\$ 12,180.00
South Oneco	Osceola		\$ 13,500.00
Woodland Road	Osceola		
Spruce (TC)	Tamarack City		\$ 382,633.60
W 8th (TC)	Tamarack City		\$ 303,597.34
4th (TC)	Tamarack City		\$ 38,153.42
6th (TC)	Tamarack City		\$ 58,493.48
7th St (TC)	Tamarack City		\$ 19,120.05
7th (TC)	Tamarack City		\$ 23,588.96
8th (TC)	Tamarack City		\$ 76,766.87
Maple (TC)	Tamarack City		\$ 48,454.46
N Spruce (TC)	Tamarack City		\$ 10,566.67
Osceola Hill (TC)	Tamarack City		\$ 95,760.20
Tamarack Hill	Tamarack City		\$ 79,333.53
51 Roads		subtotal	\$ 5,117,942.48

DAMAGED FACILITY	TOWNSHIP	DIMENSIONS / QUANTITIES	TOTAL
Old Mill	Adams		\$ 1,250,000.00
Atlantic Ave	Adams		\$ 121,713.83
3rd Street	Adams		
Cheese Factory Road	Adams		
Elsie	Adams		
Juntikka	Adams		
North Huron (aka Strauch)	Adams		
Shaft Road	Adams		
Donken Road	Elm River		
Lake Gerald	Elm River		
Pike Lake Road	Elm River		
Winona Road	Elm River		
Hazel Road	Laird		
S. Laird Road	Laird		
Main	Portage		\$ 649,158.66
Pilgrim	Portage		\$ 820,863.40
Denton	Portage		\$ 349,124.77
Boundry	Portage	5' span x 6' high masonry box with concrete headwalls length 48' DEQ proposes: elliptical culvert with a 5.5' span	\$ 73,628.04
Broemer	Portage		\$ 133,042.84
Lahti	Portage		\$ 225,904.51
Hongisto Road	Portage		
Horoscope Road	Portage		
Horseshoe Lane	Portage		
Mill Road	Portage		

Moskow Road	Portage		
Old Road	Portage		
Palo	Portage		\$ 12,976.43
River Road	Portage		
Superior Loc Road	Portage		
Coles Creek	Stanton		\$ 2,640,000.00
Beacon Hill Toivolæ	Stanton		\$ 200,000.00
Old Rink	Stanton		\$ 47,454.80
Agate Beach	Stanton		\$ 24,092.99
Salmi	Stanton		\$ 41,472.39
Superior View	Stanton		\$ 16,184.68
1st St Redridge	Stanton		\$ 16,392.59
3rd St (Beacon Hill)	Stanton		\$ 84,153.73
Ausamaa Road	Stanton		
Eiola Road	Stanton		
Fire Hall Road	Stanton		
Gedvillas Rd	Stanton		
Harma	Stanton		\$ 6,900.00
Maata Road	Stanton		
Niemi	Stanton		\$ 29,601.57
North Superior Road	Stanton		
Old Rink	Stanton		\$ 67,792.94
Osma Plat Road	Stanton		
Rauhala	Stanton		\$ 84,700.53
Superior Shores	Stanton		
48 Roads		subtotal	\$6,895,158.71

TOTAL \$15,478,328

2nd Street - Ripley



8th Street - Hubbell



31st Street – Lake Linden



Bridge Street – Lake Linden



Coles Creek Road



Coles Creek Road



Gedvillas Hill



Houghton Canal Road at Schott Creek



Houghton Canal Road



Houghton Canal Road at Coles Creek



Liminga Road



Old Mill Hill



Old Mill Hill



Paradise Road



The latest updates

HCRC's Federal Aid System

- HCRC is working directly with FHWA and MDOT to address the repairs to HCRC's Federal Aid System.
- These are **primary roads** such as:
 - Airport Park Road
 - Baltic/Onkalos Corner Road
 - Bootjack Road
 - Boston Road
 - Chassell/Painesdale Road
 - Houghton Canal Road
 - Industrial Drive
 - Lake Annie Road
 - Larson Road
 - Liminga Road
 - Lower Forsman Road
 - Obenhoff Road
 - Paradise Road
 - Salo Road
 - Superior Road
 - Tapiola Road
- Design is nearing completion on several roads and will be going out for bids in the near future.



Paradise Road

HCRC's Local System

- The HCRC is working with FEMA to address the repairs to the HCRC's Local System.
- There were over 150 roads affected from the flood with varying degrees of damage.
- The HCRC has bid out the installation of the larger culverts on Cloverland Road, Lower Worham, Cemetery Road, Woodside Road and Pontiac Road.
- The other road damage is continuing to be reviewed by HCRC and FEMA, as more details are finalized we will be posting updates.

In addition ...

- In addition to these projects the HCRC will be working with the State to address the damage caused by the July 12 flood under Section 19 Disaster Assistance.

Houghton County local government impacts from flood

	Total damage	FHWA portion	FEMA portion	Local match FHWA (20%)
Houghton County Road Commission	\$30,000,000	\$15,000,000	\$15,000,000	\$3,000,000
City of Hancock	\$12,081,000	\$4,575,000	\$7,506,000	\$915,000
City of Houghton	\$14,640,000	\$3,000,000	\$11,640,000	\$600,000
Village of South Range	\$100,000	\$100,000		\$20,000
Townships of Franklin, Osceola, Torch Lake, Portage, Schoolcraft; and villages of South Range and Lake Linden	\$6,854,000		\$6,854,000	
Totals	\$63,675,000	\$22,675,000	\$41,000,000	\$4,535,000

What's needed

To help recover from this storm and the resulting **\$30 million** in damages on the county road system:

- Houghton County and affected cities, townships and villages must match **\$4,535,000** to receive Federal Highway Administration (FHWA) funds to assist with repairs to damaged or destroyed roads and bridges.
- HCRC's distribution of MTF dollars was **\$5,056,572** in 2018 and is expected to be **\$5,469,447** in 2019 to service and maintain **318 miles** of primary roads, **526 miles** of local roads and **34 bridges**.

Washed Away

- 23 “large” culverts were destroyed by the flooding.
- Some were too small to handle the water and some plugged with debris.
- 13 of these culverts were replaced in 2018 at a total cost of \$4.2 million.
- The remaining 10 culverts will be bid out and replaced in 2019.
- 5 bridges will be added to our system

Salo Road Box Culvert



Salo Road Box Culvert



Canal Road over Schlott Creek Box Culvert



Canal Road over Schlott Creek Box Culvert



Canal Road over Coles Creek Box Culvert



Canal Road over Coles Creek Box Culvert



What We've Learned

- Take more pictures (with GPS coordinates) than you ever think you will need. And then take some more.
- Get the MDEQ involved immediately to expedite permitting. FEMA/FHWA will fund larger size structures than what was existing if it is a MDEQ permit requirement.
- Get culvert supplier involved immediately to start the production process on unique structures.
- Approve a HMA pavement replacement policy prior to the event and document enforcement.

What We've Learned

- Contact SHPO to make them aware you will be sending them a lot of projects and need them expedited.
- Ensure all bid documents will meet FEMA/FHWA guidelines and your agency procurement policy.
- Consider applying for SIB loan even if you think you won't need it.
- Ensure RC staff is accurately documenting time and materials for reimbursement.

What We've Learned

- Contact Contractor's to delegate repair locations and encourage them to take a lot of pictures prior to doing repairs and during the repair process.
- Inform the public on roads that are closed and give frequent updates on repair progress.
- Regularly inform emergency services (fire, EMS) on road closures and repairs.
- If it happens to you, call us.

Houghton County Road Commission

Contact information

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