Floods & Emergency Permitting Process

Responding to flood emergencies and what to expect regarding the permitting process

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Water Resources Division
U.P. District Office

Emergency Procedures

Permits are still required for emergency situations

Not obtaining the proper permits may subject an agency to civil and/or criminal liabilities/loss of funding

First some legalese….

- Section 30105 of Part 301 Inland Lakes and Streams
- (6) In an emergency, the department may issue a conditional permit before the expiration of the 20-day period referred to in subsection (3) (refers to the Public Notice process).

R281.821 Conditional Permits

- Rule 11 (1) The department may issue a conditional permit when emergency conditions warrant a project to *protect property or the public health, safety or welfare*

(2) Conditional permits shall be issued only under *emergency conditions*. Upon a determination by the department that a project would be in the best interest of both the *applicant and the public*, the department may declare an emergency condition to exist and issue a conditional permit. Physical and economic factors shall be considered in determining whether an emergency condition exists.

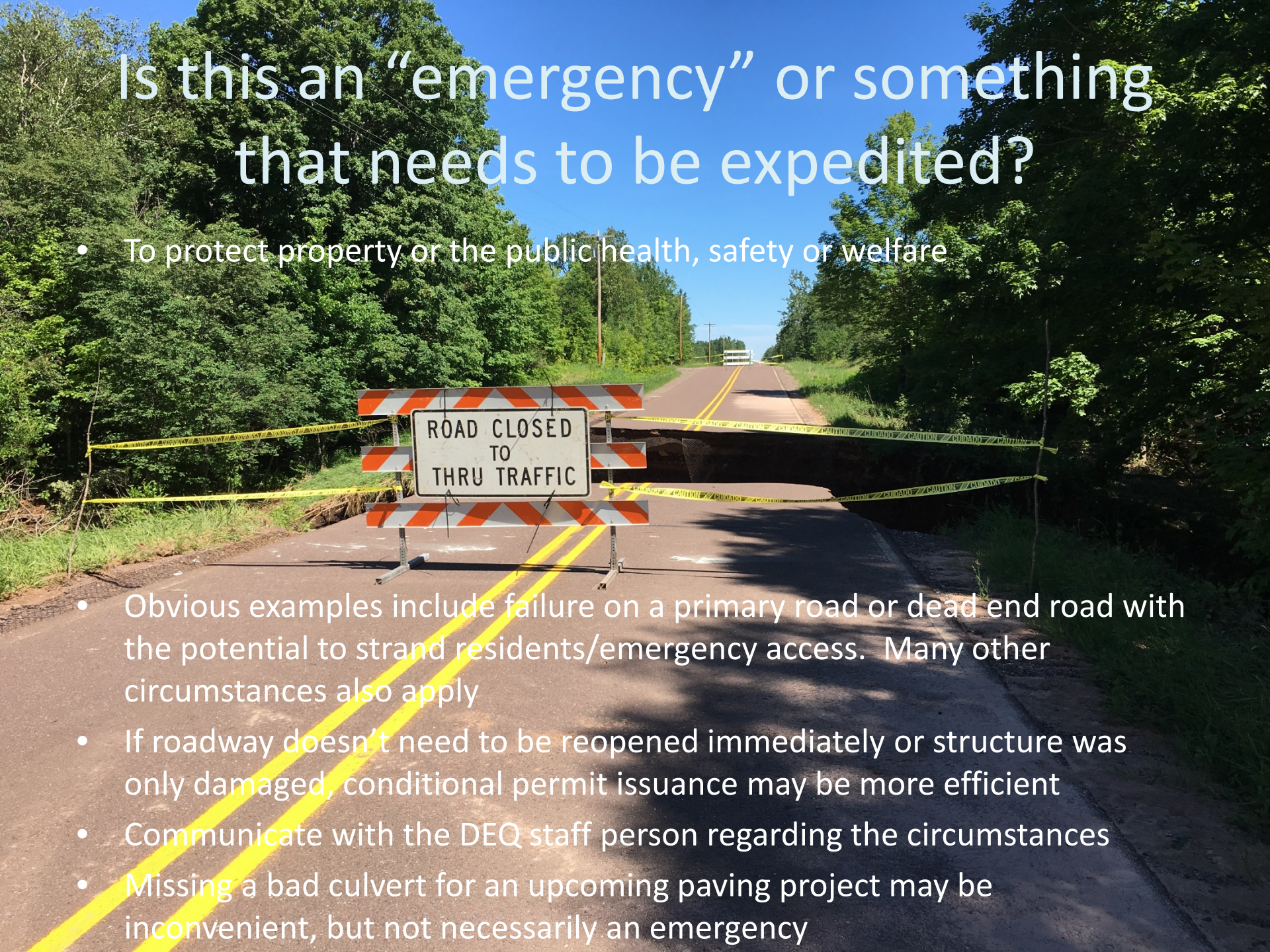
(3) Bridge or culvert repairs or replacements may be made under emergency conditions upon submitting an application and receiving a conditional permit. *A written report which details of the needed emergency repairs shall accompany the application. The department shall give such applications timely response*

Emergency Procedures

- The Transportation Review Unit will work with Act 51 eligible agencies to assist in expedient handling of regulated road repairs in emergency situations
- Contact the transportation field staff the next working day after an emergency occurs if they cannot be reached on the day of the emergency

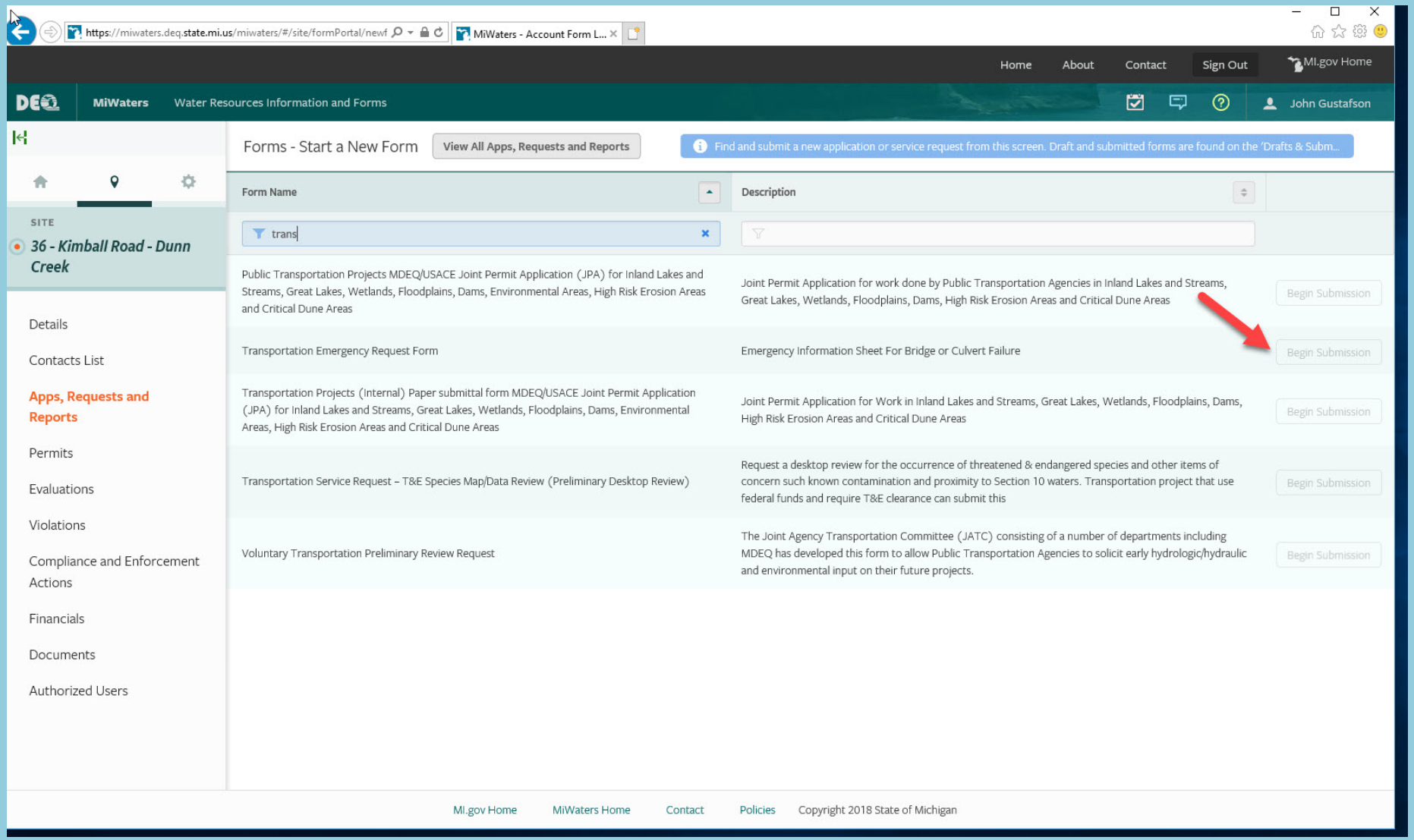
Is this an "emergency" or something that needs to be expedited?

- To protect property or the public health, safety or welfare



- Obvious examples include failure on a primary road or dead end road with the potential to strand residents/emergency access. Many other circumstances also apply
- If roadway doesn't need to be reopened immediately or structure was only damaged, conditional permit issuance may be more efficient
- Communicate with the DEQ staff person regarding the circumstances
- Missing a bad culvert for an upcoming paving project may be inconvenient, but not necessarily an emergency

Applying in MiWaters



Similar information to the JPA

Existing

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION

EMERGENCY INFORMATION SHEET FOR BRIDGE OR CULVERT FAILURE

GENERAL INFORMATION:

ROAD NAME	STREAM NAME
T R Section	
TOWNSHIP	COUNTY

EXISTING CONDITIONS: (Before failure)

	YES	NO
Was the culvert perched (waterfall at outlet)?	☐	☐
Is there erosion of the banks upstream or downstream?	☐	☐
Was the invert buried?	☐	☐
Was the structure properly aligned with the stream?	☐	☐
Are there wetlands adjacent to the site?	☐	☐
Will adjacent wetlands be affected by the proposed construction?	☐	☐
Has water ever overtopped the road?	☐	☐
Does this structure control the water elevation of a wetland, pond, or lake?	☐	☐

What is the width of the base flow channel (outside the influence of the structure? _____ feet
What is the bankfull width? _____feet
Stream invert 100-200 feet from the structure: Upstream – distance _____feet, elevation _____feet
Downstream – distance _____feet, elevation _____ feet

EXISTING STRUCTURE: ☐ **culvert or** ☐ **bridge** ☐ **metal** ☐ **concrete** ☐ **timber**

CULVERT ENTRANCE: ☐projecting ☐ mitered ☐ headwall ☐ wingwalls
Diameter _____ feet Span _____ feet Rise _____ feet
Length of culvert _____ feet Width of bridge _____ feet
Waterway (end area) opening (ft^2) _____
Low chord elevation (ft) _____
Invert elevation (ft) structure _____
Invert elevation (ft) stream _____
High-water elevation (ft) _____
Road grade elevation at structure (ft) _____
Elevation of low point of approach (ft) _____

COMMENTS: (describe emergency conditions)

Proposed

How it will be done

Don't forget to sign!

PROPOSED CONDITIONS:

	YES	NO
Will the proposed structure have a different span, rise, length or width than the existing structure?	☐	☐
Will temporary and permanent soil erosion controls be implemented?	☐	☐
Will there be any changes to the invert elevation from the existing conditions?	☐	☐
Will the road low point elevation be increased?	☐	☐

PROPOSED STRUCTURE: ☐ **culvert or** ☐ **bridge** ☐ **metal** ☐ **concrete** ☐ **timber**

CULVERT ENTRANCE: ☐projecting ☐ mitered ☐ headwall ☐ wingwalls

Diameter _____ feet Span _____ feet Rise _____ feet

Length of culvert _____ feet Width of bridge _____ feet

Waterway (end area) opening (ft^2) _____

Low chord elevation (ft) _____

Invert elevation (ft) structure _____

Invert elevation (ft) stream _____

High-water elevation (ft) _____

Road grade elevation at structure (ft) _____

Elevation of low point of approach (ft) _____

DESCRIPTION: (Construction staging including soil erosion control measures to be implemented)

_____

_____

_____

_____

_____

Signature: _____ **(owner) Phone:** _____ **Date:** _____

Print Name: _____ **(owner) Agency:** _____

Please mail completed form to:

TRANSPORTATION AND FLOOD HAZARD UNIT
WATER RESOURCES DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

Michigan Department of Environmental Quality Transportation Specialists:

Upper Peninsula: John Gustafson, 906-203-9887: Fax 906-228-4940
Northern Lower Peninsula: Jeff Silagy, 989-370-1569: Fax 989-731-6181
Southeastern Lower Peninsula: John Skubinna, 517-284-5501: Fax 517-241-9003
Southwestern Lower Peninsula: Holly Vickers, 616-295-2787: Fax: 616-356-0202

WRD staff may:

- Give verbal or email approval for repair upon receipt of an emergency form
  - A follow-up application is required in most instances and must be submitted within 30 days

  If the activity qualifies for a Minor Project (MP), staff can issue a permit using the emergency form once plans are submitted
- Issue a conditional emergency permit to be made final after Public Notice, when required
  - Requires submission of full application/plans

Plans/cross sections

- In order to effectively issue a permit, plans and cross sections should still be provided whenever possible. Try to gather minimum of information when assessing damaged crossing when possible
- Required for final approval particularly with a conditional permit

Temporary replacements

- Can be used if necessary while permanent design is being completed
  - Generally larger crossings
  - Important considerations for those with Part 31 authority

Follow-up planning after an emergency failure

- An opportunity to review why the culvert failed
  - Was the culvert undersized for the drainage area and expected flows
  - Is there a scour pool downstream or indicators of upstream backwater effect
  - Was the existing culvert perched

Follow-up: continued

- Can the crossing be improved to avoid future maintenance issues, while improving the stream crossing and associated resources

Mistakes to avoid when undertaking an emergency replacement

- Installing a culvert that does not match the stream size and may not meet the regulatory criteria under Parts 301 and 31

- Putting in a structure with less waterway opening than what previously existed

Mistakes to avoid:

- Raising the road grade – Part 31 considerations

Mistakes to avoid:

- Failure to properly install the culvert (recess)

Mistakes to avoid:

- Improper alignment
- Improper soil erosion measures

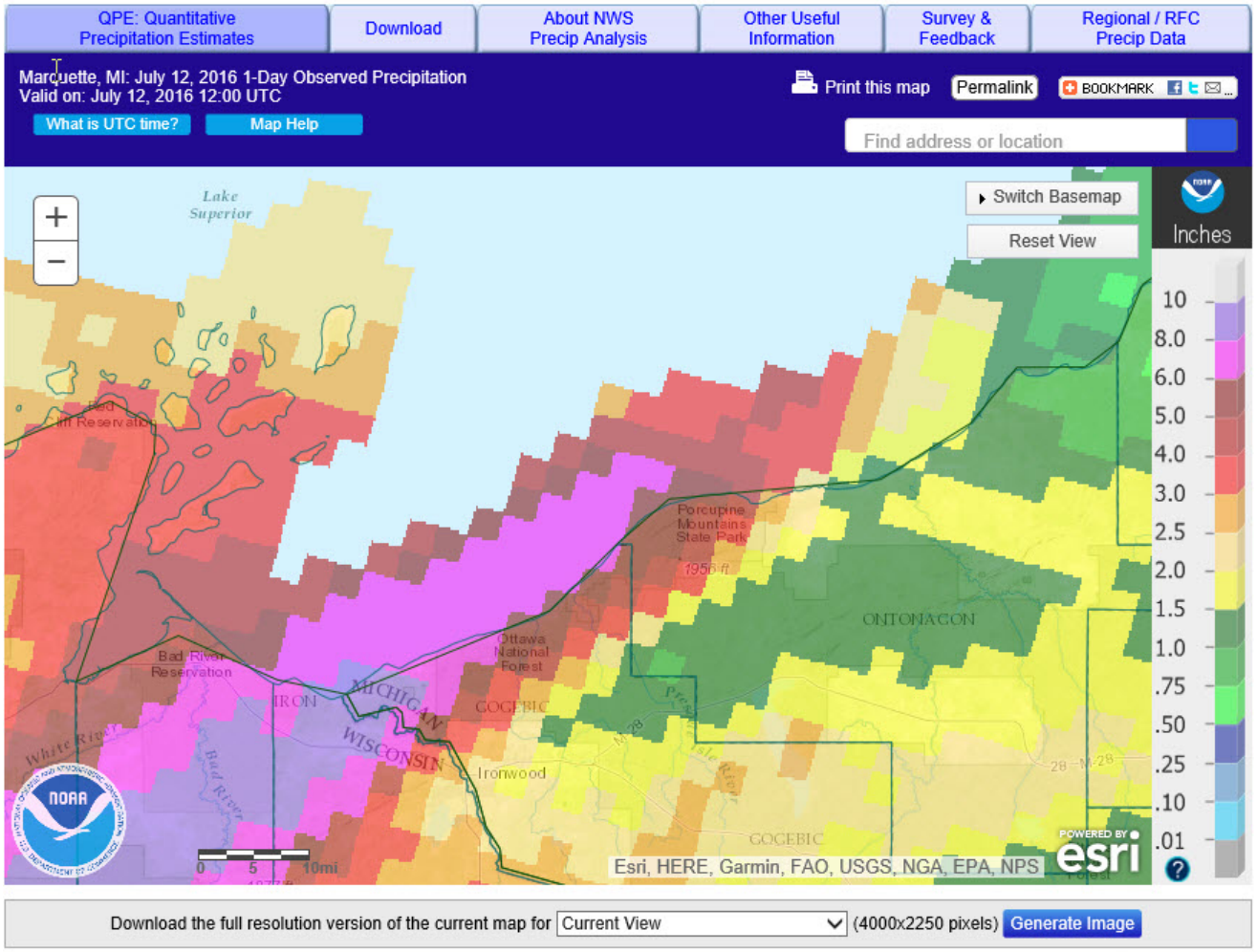
- Ensure that temporary soil erosion measures are installed as soon a possible after failure or flooding
- Remove as much road fill and other material from downstream as possible

Major flooding emergencies

- Major storm events that cause significant damage to road system and failures at many road stream crossing locations
- Usually damages to other infrastructure, property, etc.
- County emergency management/FEMA/FHWA/municipal governments

Gogebic County 2016

- July 11, 2016 flooding – 1000 year storm event
- Centered around the Little Girls Point area of northwest Gogebic County
- Impacts to local roads and 8 major washouts on Lake Road stranding multiple residents requiring detours through neighboring Wisconsin


QPE: Quantitative Precipitation Estimates
Download
About NWS Precip Analysis
Other Useful Information
Survey & Feedback
Regional / RFC Precip Data
Marquette, MI: July 12, 2016 1-Day Observed Precipitation
Valid on: July 12, 2016 12:00 UTC
What is UTC time?
Map Help
Print this map
Permalink
BOOKMARK
Find address or location
Switch Basemap
Reset View
Inches
10
8.0
6.0
5.0
4.0
3.0
2.5
2.0
1.5
1.0
.75
.50
.25
.10
.01
Lake Superior
Porcupine Mountains State Park
1956 ft
ONTONAGON
Ottawa National Forest
Bad River Reservation
IRON
GOGEBIC
MICHIGAN
WISCONSIN
Ironwood
White River
Bad River
Presque Isle River
28
M-28
0 5 10mi
Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS
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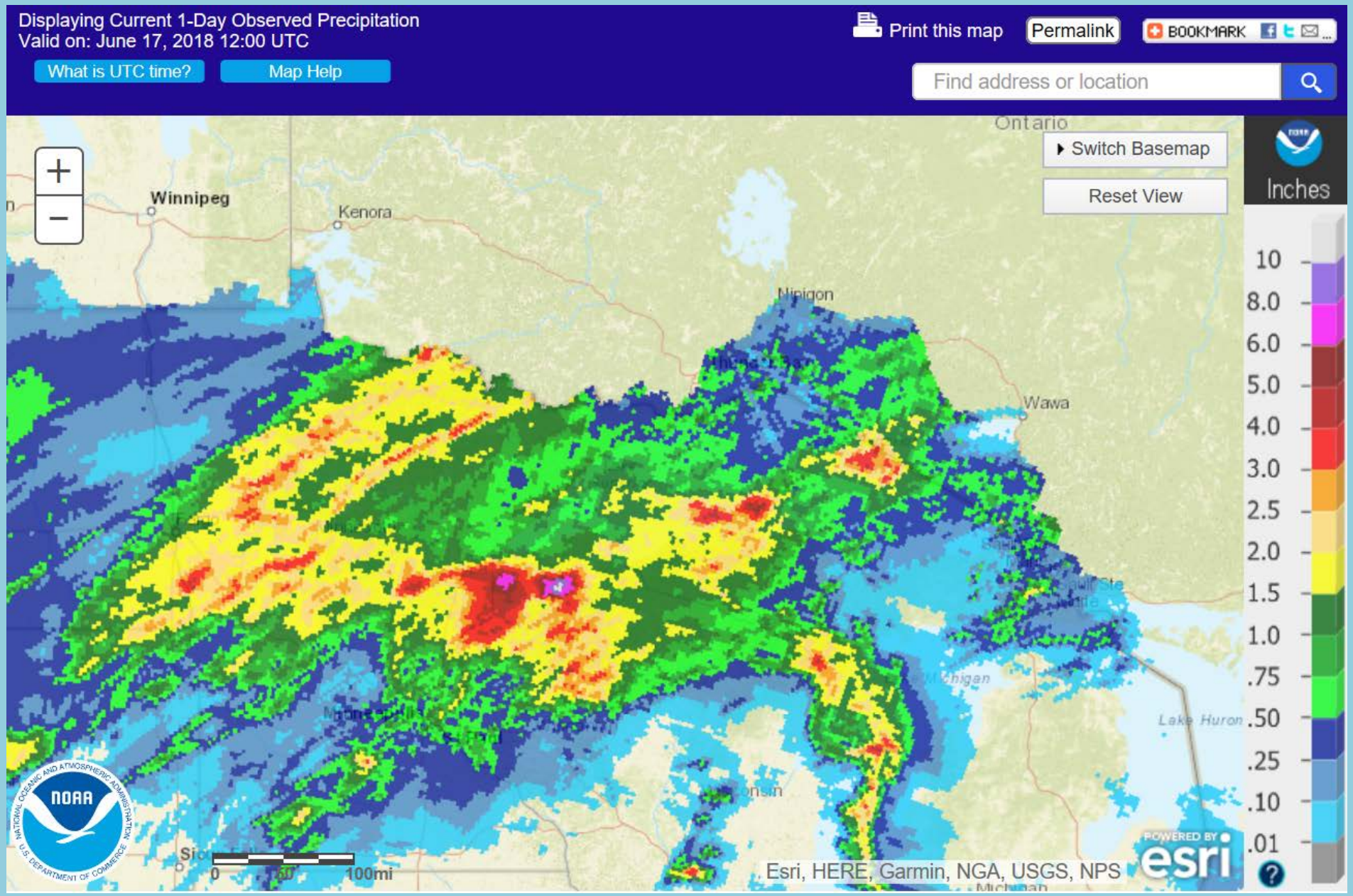
Download the full resolution version of the current map for
Current View
(4000x2250 pixels)
Generate Image


WARNING
Operator may swing or reverse machine
STAY CLEAR
135G


DEERE
DEERE

Houghton County 2018

- Father's Day flood – June 17th – 1000-year storm
- 100-year storm on July 12th
- Much more wide spread area of impact and impact to population centers

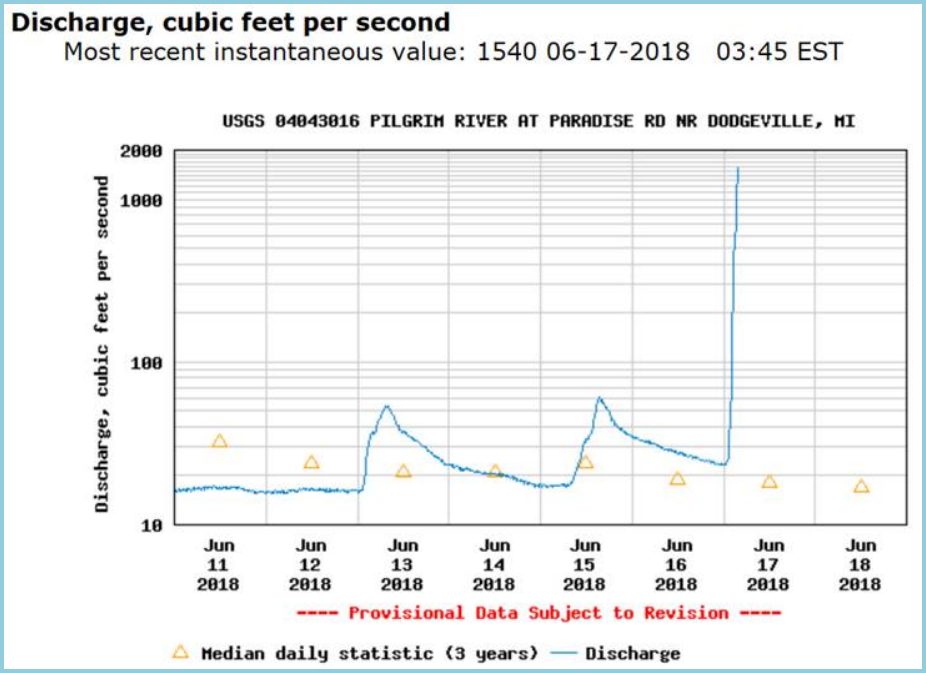

Displaying Current 1-Day Observed Precipitation
Valid on: June 17, 2018 12:00 UTC
What is UTC time?
Map Help
Print this map
Permalink
BOOKMARK
Find address or location
Switch Basemap
Reset View
Inches
10
8.0
6.0
5.0
4.0
3.0
2.5
2.0
1.5
1.0
.75
.50
.25
.10
.01
Winnipeg
Kenora
Ontario
Nipigon
Wawa
Lake Huron
0
50
100mi
Esri, HERE, Garmin, NGA, USGS, NPS
POWERED BY esri


STOP


Swedetown
Creek

Pilgrim River

June 17, 2018 at 0:30 AM EST the gage height was 5.04 feet and the flow 23.2 cfs, at 3:45 AM EST, when the gage stopped operating, the gage height was 11.35 feet and the flow 1,540 cfs. And increase of 6.31 feet in 3:15 hours at the gage.



Any questions??