Residents Working Against Huron River Flooding

May 12, 2022
Organization Meeting
Introductions

Amber S. Bismack - Director, Co-Founder

Diane Henry - Assistant Director, Co-Founder

Andrea Claassen - Secretary

Jeff Henry - Website Developer

Kerry Adams - Committee Chair of Upstream Water Inputs Study
AGU's Thriving Earth Exchange advances community solutions. We help scientists, community leaders and sponsors work together to solve local challenges related to natural resources, climate change and natural hazards.
### Introductions cont’d

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Affiliation</th>
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<tr>
<td>Ms. Claire Zarakas</td>
<td>Community Science Fellow</td>
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<tr>
<td>Dr. Wendy Robertson</td>
<td>Associate Professor of Hydrology @ CMU</td>
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<tr>
<td>Mr. Scott Dierks</td>
<td>Senior Water Resources Engineer @ GEI Consultants</td>
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<tr>
<td>Dr. Rod Lammers</td>
<td>Assistant Professor of Engineering (Flood Management; Environmental Modeling) @ CMU</td>
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Partnership with Innovation Academy
Partnership with Innovation Academy

Current Projects:
- Underwater drone footage
- GIS land use study:
  - Lena Lieklowski
  - https://www.youtube.com/watch?v=vwEM1YoY___k
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Future Internships:

- Developing watershed map of Dibrova Creek
- Quantifying wetland and land changes in Brighton upstream of Ore Lake, etc.
- Other ideas?
FEMA Grant: Acquisition & Demolition
FEMA Grant: Acquisition & Demolition

Updates:

- **Purpose of grant is to buy out properties, demolition structures on properties, and keep property as a green space in perpetuity**
  - Pat Hohl has said Hamburg Township intends to keep properties as conservation land so not public access to lake or river
- Hamburg Township & McKenna group to gather documents and pull together the grant applications
- 5 residents included
- Grant to be submitted by June 1, 2022
Flood Level Changed @ Huron River Gauge at Hamburg Road Bridge

- During Nov. 2, 2021 Hamburg Township Board of Trustees meeting:
  - Chief Duffany introduced a new, modified version of the Flood Response Action Plan (FRAP)
  - “...what was happening on the river and around the lakes wasn’t really lining up to what should have been happening as far as township action so myself and Supervisor Hohl met with the NOAA rep or spoke with him and we went through, so that’s reflected in Article 5 and then our response is in Article 6 to more accurately reflect what’s happening in real life and what actions we need to take. The previous one didn’t seem to be accurate” (Chief Duffany, Nov. 11 Township Board of Trustees meeting, 24:20-25:08 on video: https://livestream.com/accounts/11401930/events/9900540/videos/22705960)
Flood Stage Designation

HURON RIVER AT HAMBURG

Latest observed value: 5.7 ft at 4:15 PM EDT 31-Mar-2022. Flood Stage is 7 ft

Stage (ft)

Major: 8.0'
Moderate: 7.5'
Minor: 7.0'
Alert: 6.5'
Record: 8.5'

Site Time (EDT)

Graph Created (4:33PM Mar 31, 2022) — Observed

HMGM4(plotting HGIRG) "Gage 0" Datum: 850'
Observations courtesy of US Geological Survey
National Weather Service (NWS) Flood Level Categories

**Action Stage** - the stage which, when reached by a rising stream, represents the level where the NWS or a partner/user needs to take some type of mitigation action in preparation for possible significant hydrologic activity. The type of action taken varies for each gage location. Gage data should be closely monitored by any affected people if the stage is above action stage.

**Minor Flooding** is defined to have minimal or no property damage, but possibly some public threat. A FLOOD ADVISORY product is issued to advise the public of flood events that are expected not to exceed the minor flood category. Examples of conditions that would be considered minor flooding include:

- water over banks and in yards
- no building flooded, but some water may be under buildings built on stilts (elevated)
- personal property in low lying areas needs to be moved or it will get wet
- water overtopping roads, but not very deep or fast flowing
- water in campgrounds or on bike paths
- inconvenience or nuisance flooding
- small part of the airstrip flooded, and aircraft can still land
- one or two homes in the lowest parts of town may be cut off or get a little water in the crawl spaces or homes themselves if they are not elevated.

In remote areas with few specific impacts, floods with 5-10 year recurrence interval would be assumed to be causing minor flooding on streams in the area.

[https://www.weather.gov/aprfc/terminology](https://www.weather.gov/aprfc/terminology)
NOAA National Severe Storms Laboratory Flood Level Categories

**River Flooding.** Once a river reaches flood stage, the flood severity categories used by the River Forecast Centers include minor flooding, moderate flooding, and major flooding. Each category has a definition based on property damage and public threat. This applies to large scale river flooding:

- **Minor Flooding**—minimal or no property damage, but possibly some public threat or inconvenience
- **Moderate Flooding**—some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary.
- **Major Flooding**—extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations.

[https://www.nssl.noaa.gov/education/svrwx101/floods/faq/](https://www.nssl.noaa.gov/education/svrwx101/floods/faq/)
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<td>Bankfull</td>
<td>(None)</td>
<td>• Routine monitoring of NWS/USGS forecasts.</td>
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- Boat docks begin to become submerged.                                                           | • NWS begins issuing flood forecasts.  
• Daily monitoring of NWS/USGS reports, data and forecasts.  
• Fire and Police Departments begin physical monitoring of affected areas. |
| (856.50 feet above sea level) |                |                                              |                                                                                                                                          |
| **7.00 Feet**        | Minor flood Stage | **Damage Level: Affected Damage.**  
- Yards of homes along the Huron River, Little Ore Lake and Ore Lake become flooded.              | • NWS issues Flood Warning over local media (radio, TV, newspapers) when actual gage height is 7.00 feet.  
• Continue monitoring of NWS/USGS reports, data or forecasts.  
• After reaching 7.00 feet with a forecast of 7.50 feet the Township Supervisor convenes an emergency meeting of the Township Board of Trustees and requests a resolution pursuant to MCL 324.80146 (“No Wake” restrictions for affected areas).  
• Fire and Police Departments continue physical monitoring of affected areas. |
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• Fire and Police Departments continue physical monitoring of affected areas. |
| 7.50 Feet (857.50 feet above sea level) | Moderate Flooding | Damage Level: Transitions From Affected Damage to Minor Damage. - Water reaching foundations and crawl spaces of many homes along the Huron River, Little Ore Lake and Ore Lake as homes are surrounded by flood water -Roads in flood prone areas are being covered by flood waters | - NWS continues issuing Flood Warnings over local media (radio, TV, newspapers) cross-indexed to precipitation forecasts and NOAA Advanced Hydrologic Prediction Service modeling. - Township Supervisor closely monitors NWS flooding forecast and has daily consultations with Director of Public Safety and Public Safety command officers (multiple times daily if necessary) - Fire and Police Departments continue physical monitoring of affected areas and conduct needs assessment based upon conditions and forecast. - Township Supervisor formally requests “No Wake” restrictions from Livingston County Sheriff and/or Livingston County Emergency Management Coordinator. - If a “No Wake” order is issued, the Action Plan outlined in Article 12 of the FRAP is implemented. - Police Department begins enforcing “No Wake” restrictions in affected areas. - Shut off utilities such as grinder pumps, electrical service and natural gas service as needed. |
Flood Stage Designation: Why should you care?

- Hamburg Township support for homeowners is based on the river level at the Hamburg Road Bridge
- Changes will affect when the NWS issues flood watches/warnings
- Will affect when Hamburg Township implements No Wake
Flood Level Change: Two Responses

- Community-wide No Wake on Ore Lake
- Data collection using iFlood site
Community Wide No Wake on Ore Lake

- Homeowner Association Presidents/Leaders met Monday (5/9/2022)
- Agreed on 6.5 feet as No Wake on Ore Lake
- Informational flyer will be provided to all/most residents and homeowners with access to the lake
  - Will occur during Memorial Day weekend
- Our organization may help purchase No Wake signs which will be posted around the lake and at possibly association entrances when the river gets to 6.5 feet or higher
  - They will be removed when the river level goes down below 6.5 feet
  - Signs will be posted and removed by residents (coordinated effort by Kurt Richardson & Tom Tocco)
Questions?