

Summary Responses from the "What do you need?" flipchart session

Dec 11, 2019 "Highs and Lows" conference in Duluth, MN



At this concluding session of the conference, attendees were asked to rotate between **four flipcharts** and identify what they needed to be able to respond to water level concerns. The four flipchart categories are shown below.

Participants were given six sticker dots and were asked to vote for their highest priority needs they would like to see addressed.

If I had the money..	If you had the funding, what would you want to invest in to address water level preparedness & resilience in your community?
Professional Expertise	What kind of expertise or professional assistance would be extremely helpful to you, your community, would help you address lake level impacts?
New Data & Information	What information about Lake Superior waters do you not currently have, but wish you had, to help you make decisions?
Other Resources and Needs	Those needs that didn't fall neatly into other categories.

Responses were later clustered by category and tallied, drawing out some of the consensus themes and priority areas of need relating to impacts from dynamic water levels. Results are summarized in the pages that follow.

If I Had the Money...

If you had the funding, what would you invest in to address water level preparedness & resilience in your community?



Large-Scale Infrastructure Change

14
votes

(6) Speed up research and placement of effective "soft" shoreline practices



(4) Highway 61 walls

(2) Overhaul existing infrastructure/design

(2) Get FEMA to allow infrastructure upgrades, not just replacement

14

votes

Cost-Share and Buy-Out options for Landowners



(8) Buy out all the homes on Park Point & restore the habitat

(6) Private property moving/raising/buy-out



Invest in a Coastal Engineer who can Advise the Region

16
votes

(16) Hire a coastal engineer to assist private landowners



Other top vote-getters

An ongoing curriculum to educate planning commissions and elected officials (5)

More data & equipment, including stream gauge data for all Great Lakes streams, more year-round buoy data, and frequent high-resolution data gathering (5)

New Data & Information

What information about Lake Superior do you not currently have, but *wish* you had, to help you make decisions?



Better models that reflect current and future realities

9
votes

(4) Sediment transport models along the lake shore

(2) Coastal erosion rates & debris modeling

Other (1) votes:

- Finer-res climate prediction
- Projected Lake Superior water levels model + forecast
- Precipitation forecasts and associated stream stats

18

votes

Urgent data collection & sharing needs



(6) Data that is digestible by the general public

(4) Winter Lake Superior data

(2) Beaver data

Other (1) votes:

- Lake evaporation
- Coastal recession rates
- Spatial erosion data
- "Soft" shorelines effect
- Impacts data



More guidance and useful tools for many audiences

10
votes

(6) Examples of successful nature-based erosion solutions in similar environment

(2) Rate of erosion on North Shore (requires data, model)

Other (1) votes:

- Place-based landowner guide for the N. Shore
- Social habituation breaking techniques

Other top vote-getters

Imagery: Coastal oblique images, consistent & updated high-res aerals, updated FEMA floodplain maps (5)

Educational information for realtors & buyers (6)

Socio-economic data on impact to inform best management for "vulnerable communities" (3)

Professional Skills & Expertise

What kind of expertise or professional assistance would be extremely helpful to you, your community, would help you address lake level impacts?



Skilled Engineering and Contracting

21
votes

(16) Coastal engineering, to help with design & planning



(5) Skilled contractors



11
votes

Proper Documentation and Proper Planning



(4) Emergency response plans
(2) Develop BMPs
(2) Documenters/Observers: right info at the right time

Other (1) votes:

- Long-term monitoring of shoreline stabilization
- Vulnerability assessment
- Visioning to build toward a common future



Training About Natural Shoreline Protection

6
votes

Nature based coastal erosion prevention options and natural erosion solutions

Other top vote-getters

Traditional Ecological Knowledge (TEK) & historical knowledge transfer (8)

Liaisons who can work specifically with planning commissions & boards of adjustment -- citizen decision makers (4)

The "Parking Lot"

What additional unmet needs around lake levels you are dealing with, or what resources do you need, that didn't fit elsewhere?



Governmental Collaboration & Leadership

11
votes

(7) Capture cumulative impacts (multiple depts. not sharing with each other or to state, Federal policymakers & funders)

(2) Political will

(1) Tribal collaboration + between cities, counties. Governmental effort alignment

(1) International collaboration on shoreline resilience (Canada)

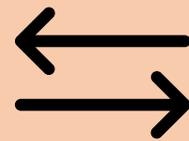
6

votes

Outreach, Education & Communication



Communications toolkit specific to Lake Superior lake levels (online resources) including strategy, messages, and infographics



Shift social norms related to coastal ecosystems



Planning & Piloting for Future Conditions

19
votes



(10) Seven Generations Planning

(9) Pilot studies for low impact shoreline stabilization and restoration in high and low water levels and floods. And case studies collection, incl. outside basin).



What Do You Need Summary

What showed up across the different stations?



There is a need for proven low-impact shoreline design solutions



Coastal engineering expertise, currently lacking, is a critical resource for this region



More should be done to capture lake level impacts in real time



Lake level impacts overlap with land use and policy, so outreach to local officials, boards, landowners and property intermediaries is key.

What can RESEARCHERS prioritize?

- Studies of natural shoreline strategy effectiveness
- Coastal erosion rates
- Modeling (sediment, climate, erosion, streams, debris)
- Year-round Lake Superior data
- Behavior change strategies

What can OUTREACH PROGRAMS prioritize?

- Communication toolkit with clear messaging and guidance
- Education interventions with landowners & decision-makers
- Coastal engineering expertise

What can GRANTING AGENCIES prioritize?

- Fund a coastal engineer
- More research equipment and monitoring capacity
- Enable large-scale infrastructure resilience planning and redesign projects
- Cost-share program for landowners
- Fund pilot or exploratory research on shoreline techniques