

Coastal Erosion Hazard Mapping Task Force Meeting Notes

Lake County Law Enforcement Center- February 25th, 2020 – 10:00 a.m.

Meeting Attendees: Neva Maxwell-Lake County, Clint Little-MN DNR Coastal Program, Ilena Hansel-Cook County SWCD, Sonja Smerud-Lake County SWCD, Ryan Dagger-AMI, Tim Nelson-Cook County, Melanie Perello-MN DNR Coastal Program, Derrick Passe-Lake Co. SWCD, Christine McCarthy-Lake County, Maren Webb-MnDOT, John Swenson-UMD.

1. Welcome/Introductions

- a. All were welcomed and introduced themselves.
- b. Otsea provided a brief review of the project's goal, history, and status for new attendees.

2. Vision Statement Draft Review

- a. Otsea referenced meeting attendees to the packet which included a draft vision statement based on the feedback received at the last meeting. Discussion followed providing feedback on the statement prior to finalizing, topics included: 'Minnesota's Lake Superior Coast', identifying the product/process/map, including the education and outreach component, shortening up if possible as well as other items. Otsea will take the feedback from today and present and improved draft for adoption at the next meeting.

3. Action Plan Discussion

- a. Otsea referenced the meeting packet which included an updated version of the action plan. The only changes from the last meeting included moving the methodology discussion up to be completed in March, as highlighted in the packet. The group came to consensus that the work plan looked appropriate to guide the project.

4. Coastal Fellow Update (Melanie, Full Group)

- a. Melanie gave a brief background on the focus of her fellowship for new attendees.
- b. She updated meeting attendees that a Community of Practice meeting is expected to be held in April. Seems to be a shared interest around coastal hazards, training opportunities, and established regular communication for stakeholders. A survey is expected to be coming out in March so keep an eye out for that.
- c. Melanie went on to present efforts to assess Park Point using the USGS DSAS tool which is an ESRI add-on and publicly available tool developed for assessing national shoreline change. Her presentation slides are available at www.ardc.org/cehm, and her presentation and the discussion which followed has been summarized below:
 - i. All shorelines need to be based on same feature.
 1. High/ low water
 2. Vegetation, other, Etc.
 - ii. We need a consistent baseline.
 1. Carol Used Highway 61 in previous work
 2. Brandon's benchmarks could be an option
 - iii. We need to decide shoreline delineation method
 1. Discussion followed regarding what erosion is defined as, glacial till recession or the retreat of the bedrock core?

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- a. Shoreline retreat- we're not talking about rearrangement of cobble beaches we're talking about bed rock core retreat as more of the focus of what we're trying to measure.
 - b. Measuring a very dynamic environment, but consideration on where we should measure the setback from will be integral to the final data set.
 - c. Considerations of having a separate measure for separate areas (i.e. different analysis for clay beaches compared to bed rock, or other types of shorelines) could be a consideration.
 - d. DSAS uses transects to help measure, setting at a standard distance appeared to be the best method, as parcel lines can change over time.
 - e. Other states require separate level of permitting to require separate level of analysis for specific site, where map gives more of a generalized.
 - f. Other states have said don't use the vegetation line – if there's any disturbance to that its going change. But this is inaccurate, since if it is bedrock – the vegetation line will move.
 - g. Brandon mentioned higher resolution imagery should be available soon and could be utilized as one of the shorelines.
 - h. Focus on geological features instead of vegetation seemed to be recommended by other states
 - i. Counties use vegetation line and may like that because of how functional it is, and it usually follows the bluff (as long as the bluff is defined properly).
2. Argument for consideration of the dynamic aspect of the rocks moving and how does that impact defining of regression rate.
 3. There are 3 classifications of soil type along the shoreline
 - a. Bedrock
 - b. Til (catch all phrase for sediment still in place)
 - c. 'Active beach' often cobbles, or sand. Identifies material that's active compared to static.
 4. **Melanie will share the Ohio tool about beach nourishment.**
 5. What is the purpose of the data set? Zoning? Tax Assessment? Could that mean different measures for different purposes.
 6. Benchmark inventory along the shore- good inventory on 61 could be utilized as baseline.
 - a. But standardizing the measurement for drawing shoreline is the main question.
 - b. **Is there a data set from MnDOT that details the centerline throughout?**
 7. Could create a separate baseline by connecting building corners or other features to draw a new data set (doesn't have to be a road centerline for example)

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8. New York bases on ‘natural geographic feature area’ and base recession rates based on that. And then the push the setbacks further to create a ‘structural hazard area’ if it is in an area identified as an erosion hazard area.
 - a. New York example has a formula that extends setback based on recession rate for specific areas defined via the layer derived for the project.
 - b. i.e. a Natural protected feature where no building can happen, and a setback based off of that feature area.
 - i. We could use bluffs or beaches.
 - ii. Could offshore be utilized? Possibly.
 - iii. Challenge of the shore is there’s not as much regression as sand for example.
 - c. Is original platting available as a data set for earliest. Earliest survey from 1920’s have a bluff line.
 - d. Cautionary tale from John- Using bedrock isn’t great because it can erode substantially on the timescales we are looking at. Rhyolite and Basalt are on the shore, which varies. More basalt up the shore than Duluth.
9. Tim likes the vegetation level. If the layer can be an overlay district, that would trigger bigger setbacks, that could help.
 - a. Overlay District over the map could help push back the setback.
10. We may need multiple types of shorelines, but possibly analyzed separately through DSAS.
11. Other considerations
 - a. Does assessment include beaches? Low water mark in Duluth.
 - b. Sometimes the vegetation is slumping inside the vegetation line.
 - c. Beach should not be used for recession rate. It will come and go. Not use it to calculate recession rate Erosion of beach is not equal bedrock. (John)

- b. Presentation abstract I submitted to the North Central Section GSA meeting
 - a. Geological Society of America, Annual meeting here in Duluth around May 18th. There’s a Shoreline Change session, hoping to get input from geologists around the state by presenting at the meeting if selected.

5. Methodology Discussion (full group)

- a. Much of this discussion overlapped and was documented with the previous presentation.

6. Data Update

- a. None at this time.

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7. Other Partner Updates

- a. None at this time.

8. Future Meeting Location

- a. DNR/ Lake Co Highway if available.

9. Next Steps

- a. Methodology finalization
- b. Determine at least some pilot locations
- c. A technical working group will meet in advance of the March 25th meeting to further the methodology discussion and report back to the group. Melanie offered to coordinate correspondence for the group.
- d. What do the SWCD's collect to move forward? Discussion around what we need collector app or survey 123 should be continued by tech group.
- e. **SWCDs and Counties send the group what they collect for on site visits.**
- f. **Otsea asked project partners to provide financial match documentation to him if possible and follow up with any questions they may have.**