Shoreline Bluff FAQ

Frequently Asked Questions about Lake Huron bluff erosion

The information below relates to tall bluffs (about 15+ meters tall) and is specific to Maitland Conservation's section of the Lake Huron shoreline. Please note that all work along the shoreline requires permission from Maitland Conservation prior to construction.

1. Is there any way to mitigate the inevitable bluff failures?

- Once toe erosion happens, failures at the top of the bluff are inevitable.
- Maintaining existing vegetation and redirecting surface water are some ways you can try to prolong the failure but this will not prevent a failure from occurring.
- If you are concerned about a failure involving a structure, it is best to consider moving it away from the hazard.

2. Can tree planting be used to prevent bluff failures?

- Unfortunately, once toe erosion happens, failure of the bluff is a certainty.
- Although planting new trees won't prevent the failure, you don't want to speed up the process by removing vegetation.
- There are many good reasons to plant vegetation. The Coastal Bluff Native Plant Guide produced by the Lake Huron Centre for Coastal Conservation is an excellent resource. It's available in the Resources section of LHCCC's website: https://www.lakehuron.ca/
- Please note that although there are benefits to planting vegetation, it will not prevent failures.
- If you are concerned about a failure involving a structure it is best to consider moving it away from the hazard.

3. Are there geotechnical measures that can be taken to stabilize slopes?

- Anytime you are considering this type of work, it's important to talk to Maitland Conservation to determine requirements and what type of study work is needed.
- Although there are technologies to stabilize slopes, it is important to evaluate the cost and likelihood of success.
- Please recognize that larger scale geotechnical measures are just "buying time" from the inevitable failure; it may be better to consider moving structures away from the hazard instead.

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4. Who is responsible for clean-up of structures that fail?

- The landowner is responsible for clean-up costs.

5. Does bluff grading prevent failures?

- Bluff grading is considered for beach access and/or when there is a cliff that poses a public safety hazard, especially in urban areas where there is a larger population.
- Any work to grade the bluff needs approval from Maitland Conservation which typically involves geotechnical and coastal engineering studies; in addition, approval may also be needed by the Ministry of Natural Resources and Forestry (MNRF) and the Department of Fisheries and Oceans (DFO).
- Bluff grading will not prevent toe erosion and long term erosion of the bluff will continue.

6. Will shore protection prevent bluff failures?

- All shore protection needs permission from Maitland Conservation who will then determine if engineering is required.
- Shore protection is a temporary measure and is often destroyed in during high water and storm events.
- Shore protection will not prevent bluff failures and it is best to consider moving structures away from the hazard instead.

7. Why is there a delay between when toe erosion happens and when a bluff fails?

- Along Maitland Conservation's stretch of Lake Huron jurisdiction, soil moisture and ground water play a key role in slope stability.
- After toe erosion happens, the failure will be delayed until the soil moisture and ground water conditions are wet enough to cause a bluff failure. If there are favourable soil moisture and groundwater conditions, the failure could directly follow the toe erosion, or it may take several months or years depending on seasonal moisture conditions.

8. Is there a minimum distance that structures should be from the edge of bank?

- If you have concerns that your structure may be at risk or want to build a new structure on your property, please contact Maitland Conservation for more information.
- There is no generic setback because each section of bluff is different (i.e. some areas of bluff experience more erosion than others and should be setback further)

9. What should I do if I see a tension crack?

- A tension crack runs parallel to the shoreline and runs along the top of bank.
- You don't always see signs of a failure, but sometimes you can see tension cracks before the failure happens. The area between that crack and the edge of bluff is unstable and will fail.
- If you see a tension crack, warn neighbour to avoid the area. Turn off the water supply (if safe to do so) if there are structures on the crack, between the crack and the edge of bank, or just in front of the crack. If water pipes break, it will add water to the bluff and speed up the failure.
- If there is a structure on the crack, between the crack and the edge of bank, or just in front of the crack call Maitland Conservation's Flood and Erosion Emergency Number 519-357-0890.

10 What should I do if there is a failure involving a house?

- Get away from the edge of the bluff
- Call 911 if a person is trapped or injured
- Call Hydro to turn off power to the structure
- Call Maitland Conservation's Flood and Erosion Emergency Number 519-357-0890 to assess the situation and bring a qualified geotechnical engineer to set a safe perimeter.
- Call your Municipal Building Official to determine what buildings could be moved, repaired, or demolished.