

Report on the ODNR Coastal Management Engineer Site Visit to Heidelberg Beach on August 15, 2019

Jason Trapp, an engineer from the Office of Coastal Management of the Ohio Department of Natural Resources came out to Heidelberg Beach for a site inspection on Thursday, August 15., along with Brice Chidester, Jane Chidester, and Jeff Belmont from the Heidelberg Beach Board. This report summarizes his findings.

Executive Summary:

- Overall, he said that we are in much better shape than many beaches he has seen, and we have a large reservoir of sand up against the slope. He did not see any urgent issues that required emergency action from his perspective.
- He suggested moving the shed away from the edge of the slope and applying for a temporary permit to extend the east groin (pier) back to the slope, because if the lake breaks all the way around the back of the groin, it will be structurally compromised.
- The erosion to the area between the two groins is primarily to sandy dunes, part of the natural beach cycle and not a concern from his perspective.
- The erosion to the far east end of the property is more significant, but the cost of protecting it must be balanced against the impact of the erosion.
- The most cost-effective over time option to protect against erosion is building a revetment, which would essentially be extending the rock wall on the Brown property. The average going cost for this is \$1500-\$3000 per foot of beach protected.
- The lake levels are expected to decline over the next 6 months, and we cannot predict what will happen next year yet.

There are two separate areas of erosion of concern to the Heidelberg Beach community. The first is the bank erosion at the east edge of the property, next to the Brown property. Mr. Trapp said that this is definitely erosion of land, and may continue if water levels stay high. Aside from any wave breaking measures, he recommended moving the shed away from the edge of the slope.

The second area of erosion is the “scarping” occurring at the east end of the main beach. Scarping is erosion of a hillside to a vertical face. Mr. Trapp said that this is happening primarily to built-up sand dunes, and while he understands that it can be difficult to see when we are used to the way it appeared before, it is a normal part of beach lifecycles, and he did not recommend putting anything in front of that because that sand is naturally distributed over the beach to replenish sand lost to the lake.

He said that bringing in sand for the beach is likely not cost effective, since it would take about 800 tons of sand to get an additional foot of beach from groin to groin.

He said that if we want to do something to prevent the erosion on the far east end of the property, the recommended option is revetments, which would essentially mean continuing the rocky barrier on the Brown property westward. These generally cost between \$1500-\$3000 per foot of beach protected, meaning if we wanted to protect 100 feet, we would be looking at \$150,000 to \$300,000. He said any kind of wall (concrete blocks, etc.) is generally ineffective, because it is resting on sand, and once the sand is pulled out from underneath, the entire structure is compromised and generally fails quickly.

In regards to permits, there are two agencies that must approve work along the beaches. For any work done that extends past the normal high waterline (which is about 8 inches below the current waterline), the US Army Corp of Engineers. All work done on the beach above or below the waterline must be approved by the ODNR. There are temporary permits available that can be approved in about a month currently.

He suggested we may want to apply for two temporary permits. One in case the water breaks behind the east groin (The pier on the east end of the beach), which can compromise the integrity of the structure, that would allow us to extend that groin back to the slope. This could either be with concrete or large rocks. The other is for moving any tree trunks parallel to the water to provide a breakwater. He mentioned that the trees (like the logs there currently) can help protect the beach sand from erosion, so if we wanted to (for instance) move the tree that has fallen in the water over to the beach, we should technically apply for a permit for this. He said that moving these trees away would not require any additional permitting.

He said that the slope looks good with mature trees, and that we should not mow the plants down low on the slope. Those will help keep the slope intact. He said that cutting back the plants should be done in late spring to keep good root structure there over the winter and early spring. We should get rid of any vines on the trees, as they can kill the trees.

Overall, his recommendation was to see things look next year and what the water levels look like before undertaking any major projects. He did recommend starting a shoreline preservation fund for any projects that might come up (like extending the east groin). He said we could definitely regrade the dunes that have experienced scarping and use that sand elsewhere on the beach. No permit is required for that.

He said that we are much better off than many beaches he has seen, and we have a significant reservoir of sand on the beach. He said that most of the sand is still there, it's just underwater because the lake is so high. No irreversible damage has been done on the area of the beach between the groins - the sand has moved around, but it is all part of the beach and part of the natural cycle of the lake. The erosion to the east bank is more of a concern, but we have to balance the cost of protecting it against the impact of losing some of the bank & land above.

Brice Chidester

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[Causes of Erosion: Surface and Ground Water](#)