



June 19, 2024 Flood Event Trail Condition Report & Remediation Recommendations

Background: During the night of June 18 – 19, the Bayfield Peninsula received a significant short-duration/high-intensity rain. Rain totals were as much as 5 inches in places. This rain event, on top of already super-saturated soils, caused substantial damage to infrastructure, most notably roads and ditches.

Starting on June 19th, Bayfield Area Trails volunteers visited trails to 1) determine if there were immediate safety or environmental issues that needed to be addressed; 2) document & photograph the conditions; 3) inform land managers of conditions; and 4) develop plans to repair and address trail conditions. They first focused on trails that 1) are more frequently used; 2) near water courses; and 3) steep & possibly vulnerable to erosion.

In general, the trails were not significantly damaged and they remain passable. No immediate safety issues have been identified so far. Based upon potential impact to trail user safety and trail sustainability, the trail actions are prioritized as High, Medium, and Low to assist with planning and coordination. Most work can be done by volunteer field crews with hand tools, except for transporting gravel on the Brownstone, East Rim, and Martin/Striped Skunk Trails.

Summary Recommendation:

- Develop project plans and schedule work days, in the following priority order, during the next 2 months for:
 1. Brownstone Trail – estimate 3 days; may require motorized equipment for drainage
 2. Jerry Jolly Overlook - estimate 2 to 3 days
 3. Hemlock Heights – estimate 2 days (due to log cribbing)
 4. Lower East Rim & Pine Bluff – estimate 2 days (due to water bars on East Rim Trail)
- Continue with plans for gravel on the Upper East Rim & Martin/Striped Skunk Trails in October

Big Ravine Trails: Carrier, Clark, Ipsen, Kitchell, Wegerson

- Lower Gil Larsen to waterfall & second creek crossing: the creek overtopped the banks along the entire watercourse where trails travel. At the lower end, the creek went around the steel debris catcher and flowed very close to the trail. There was no real trail damage other than slightly displaced gravel. There is one section just downstream from the first creek crossing where the creek is eroding the bank and starting to encroach on the trail. Stepping stones at both creek crossings are displaced. The rock steps in the bank at the second creek crossing are undermined and destabilized.

- **Medium Priority Action:** Reset & stabilize rock steps in creek bank at the second crossing. Rake and redistribute gravel along the trail. Add more gravel at some point. A reroute or some other action will be needed soon in the location where the creek is starting to encroach on the trail edge. Reset stepping stones at creek crossings.
- School Trail: The trail survived remarkably well. The cribbing and stabilization at the top of the slope is becoming well-vegetated and captured much runoff before it got to the trail. The Zuni Bowls and brush bundles installed on the roof outlet drainage substantially slowed the runoff and kept it from impacting the trail at the bottom. However, the runoff went around the brush bundles. The rock armoring at the bottom was slightly displaced and lost soil from between the rocks. There are a few small gullies in the trail tread.
 - **Medium Priority Action:** Before the start of the new school year, add more to the existing brush bundles or logs to further slow the flow from the school roof outlet pipe. Reset rock armoring and add more soil into the spaces. Fix the gullies in the trail tread and try to redirect the runoff away from the trail.
- Sweeny Switchback: The new footbridge at the bottom is intact. Beyond that, it has not yet been inspected; Likely okay due to the solid cribbing.
- Upper Gil Larsen beyond 2nd creek crossing: In general, the trail is unscathed. The stepping stones at the creek crossings were displaced. Most of the last segment beyond the base of Pine Bluff was unimpacted. There is one spot where a logjam dam developed and caused the creek to spread out across the bank and trail. This deposited sand and debris on the trail. There is one fallen log across the trail, but it does not impede hikers.
 - **Low Priority Action:** reset rocks at creek crossings. Remove the fallen log from across the trail (chainsaw recommended).
- Pine Bluff: Overall, it fared pretty well. There are isolated areas of moderate erosion and some other sections with mild erosion from water flowing down the middle of the trail.
 - **High Priority Action:** Conduct a work day to fix drainage and trail tread. This is a high priority due to the steep slope and heavy summertime use that could cause further deterioration.
- Lower East Rim (Lynde Ave. to northern end of Erickson's easement, where sand end and clay begins): Generally okay as this is sandy and drains well. However, where the trail forks and climbs up the long, steep hill, water ran down the trail in several places and caused erosion and debris piles (mostly pine needles & sticks).
 - **Low Priority Action:** Consider installing water bars on these slopes to stop further erosion.
- Upper East Rim (to the M-O parking lot): not surprisingly, there is lots of standing water.
 - **Medium Priority Action:** We plan to add more gravel here in early October. Continue with this course of action.
- Flying Squirrel: The improvements done by volunteers less than 2 weeks ago made all of the difference! No erosion issues. The reroutes at the top and along the trail worked well, showing that the old trail had become a drainage ditch. The additional and refurbished boardwalks worked great! Water flowed under them in several places.

Leaves have piled up on the upstream side in a few spots: after raking them away, water movement under the boardwalks was restored.

- o **No action needed**
- Hemlock Heights: generally good. The cable steps are becoming undermined by water flowing down the front and under the 4x4's. Some of the steps are out of kilter and need to be reset. There is an ongoing problem at the first switchback below the steps, and this event aggravated the situation. The hillside above the switchback is steep and runoff is causing failure of the backslope. Then, water runs down the trail over a recently-installed 4x4 step. The rock armoring in the trail worked well. The wooden steps and rock steps at the bottom remain stable.
 - o **High Priority Action:** Due to the steepness of the situation this should be attended to within the next few months. Reset & stabilize the cable steps – add dirt and/or rocks underneath the front of the steps. Add log cribbing on the backslope by the switchback. Possibly add rock armoring into the tread. Stabilize the rocks along the edge of the trail.
- West Rim: The West Rim was intact. There are places where the slope of the trail showed signs of water running down the trail and piling up leaves & debris. The new reroute around a wet seep was done just in time! It is in good shape. The “ski” trail which is marked separately from the main trail became a substantial drainage with lots of runoff and debris piled up. It's a good thing that the trail was rerouted off of this area several years ago.
 - o **No action needed**
- Striped Skunk; Although this trail seems to be flat, water has run down the trail, displacing gravel and creating gullies. As of 6/20, water was still draining across the trail and under the boardwalks. The 2 boardwalks at the eastern end of the trail that appeared to serve no purpose last week, now show that they serve a purpose to keep people out of the mud and runoff. These should be retained.
 - o **Low Priority Action:** Add 2 or 3 more boardwalk sections closer to the Butterfly intersection. Augment gravel along from the Martin intersection to where the boardwalks begin. Possibly add gravel between boardwalks. This work is planned for early October, but could be done sooner, with Phil Peterson's assistance when things dry up.

Brickyard Creek: Our friend and colleague Jeff Garrett reported that the trails have been significantly damaged, inundated with sand, and bridges rendered unsafe. He is currently developing a plan to address the issues.

Brownstone Trail (BST): Ipsen, Kitchell, Wegerson

- Overall, the trail remains fully passable. The only possible safety issue could be the unstable sides of the deep gullies on the Blue Wing Bay road wash out. If this is repaired soon, no safety issues would persist.
 - o **Overall action plan:** conduct a more detailed field visit to develop a specific plan. Address the BWB Rd. area as soon as possible, with John Black or Sean Reagan's

assistance. Schedule a work session by the end of July to address BWB Rd. to Cheq. Rd. Individual action could address the Waterford drainage issue.

- City to Re-route at the slump: This is all in good shape, thanks to the substantial work done last fall. The swale at Seagull Bay/south Seventh St. worked very well. It was difficult to assess the slump: but nothing was apparent when inspecting from the wall at the back edge of the “Maki” property.
 - **No action needed.**
- At the telegraph pole, there were a couple of small cavities dug out in the asphalt that paves the steep hill.
 - **Town Road action:** The cavities would probably best be repaired with asphalt patch before they enlarge.
- West of the crossing at the end of Lake Shore Drive, to Blue Wing Bay Rd. there are wet areas. The box culverts going up the detour were in remarkably good shape, although they had some gravel washed into them, but not much—there’s no obstruction to flow. Water is flowing across the trail, but not causing damage. The drainage is working fine.
 - **Low Priority Action:** Gravel could be added onto the wet areas close to Lakeshore Drive
- Blue Wing Bay Rd. intersection: Blue Wing Bay Road is badly washed out from the hill above the intersection with the BST to the end of the road. There is significant gullying and the sides of the gullies could be unstable and slightly unsafe for trail users if the sides collapse. A lot of gullying occurred and gravel has been deposited in the area in front of the large wooden Brownstone Trail sign. Water is running across the bottom of the trail that heads uphill to the south of BWB Rd.
 - **High Priority Action:** Try to address this as soon as possible. This part of the trail will require equipment to move gravel and level out the area in front of the sign. Sean Reagan could assist with his tractor. It’s possible that no additional gravel would be needed in the location by the sign. Drainage along the BWB road needs to be improved: it appears that the drainage ditch on the south side of the road needs to be cleaned & enlarged; and perhaps a culvert should be set under the BST to carry the water under the trail.
- Blue Wing Bay Rd. to the bottom of the box steps: the hill climbing up from BWB road shows signs of water running down the trail and causing erosion. For the most part, the blue Brule gravel set up very well, but there are several spots where water crossed the trail and displaced gravel. The top of the box steps is slightly eroded and gravel displaced. The box culvert at the bottom of the steps functioned well: it was clogged, but after cleaning it out, it continued to function.
 - **Medium Priority Action:** Add 3 – 4 water bars on the slope that climbs up from BWB Rd. Put down more gravel after the water bars. Add 2 or 3 water bars along the trail where water crossed the trail to facilitate drainage. Add gravel to various locations along the route. Repair the erosion at the top of the steps. Consider some type of water bar or drainage ditch at the top of the steps. The box steps area needs to be weeded to get vegetation out of the gravel.
- Box steps to Chequamegon. Road: In the long straight section of trail in front of Wild Rice, you first come to some big puddles that could be drained with nicks, and/or they

could be filled with gravel. As you get closer to Marty's Landing, there are muddy areas that could benefit from gravel. From the first trail that goes up to Wild Rice to the crossing at Marty's Landing, a channel of gravel was dug out by the rain. In the section further west, that is a raised turnpike with ditches on either side; the new gravel also survived pretty well, but there was one smaller excavated area, and the ditches had some gravel washed into them. West of the box culvert, the trail had some more significant excavation of gravel by the storm, with flows going off in several places towards the lake side of the trail. The landowner did not want any fresh gravel applied here last summer, as he felt it would cause water to move towards his buildings. Fundamental drainage issues should be addressed here.

- o **High Priority Action:** Add nicks to facilitate drainage. Clean out ditches and dig them deeper. Consider culverts in select locations. Rake & redistribute gravel and add more gravel, especially in low spots.
- Graveled trail before Waterford: was damaged by the rain in a couple of places. There is a ditch on the upper side of the trail that has been filled with debris that can be cleaned out to improve its performance. Runoff from Pumphouse Rd created a gully right at the end of the trail.
 - o **Medium Priority Action:** This is a drainage issue that might be addressed by a berm that would keep water on Pumphouse Rd until it gets across the trail entrance.

Frog Bay: Ted May

- No new trees down on the trails. Wonderful to see. It was very muddy in many spots – as anticipated. Some erosion spots where the trail showed some minor cutting across the trail down by the lake. These were not major. The tree leaning over at the beach may have become more bent over; somewhat obscuring a full view. Corduroy part of the trail was passable, albeit some of the logs were displaced, making the walking slightly difficult: it's more of a light jump between the logs.
- The road back up is pretty significantly eroded in places. It might be difficult to drive a vehicle down there at this time – especially near the top and down where the trail branches off. That would be good to address.
 - o **Medium Priority Action:** Improving the corduroy part of the trail may be time-sensitive, since it is slightly difficult to walk on. Remediate potential erosion on the road by perhaps putting in some angled 'speed bumps' on the road or something like that.

Hatchery - Pileated Woodpecker: Ted May

- Hatchery to Red Dam: The Hatchery did not fare well at all – with over three feet in some of their buildings. There were reeds/grasses wrapped around the welcome entry sign and their new round garden is mostly wiped out (some plants survive, and hopefully will the canas make it). The ponds were almost level – and all brown. Walking up the road it was a wee bit muddy, and then the dip with the cement worked – albeit pretty muddy-covered and gravel chunks. Then further up at a small culvert, it looked like it was totally excavated (by the pulsing waters, possibly backed up by a tree-dam) and

water deposited a ridge about 15 feet further away from the river. The road was gone to a depth of maybe as much as three feet. Water was just moving over the dam almost like it wasn't there.

- Red Dam to the Pileated Woodpecker Trail & Bridge: The path toward the bridge was extremely muddy, and in places water was ankle-deep or else mud. The bridge was intact and stable: it was whole and had river-twig debris on it; the far side had a layer of ½ or more inches of mud, showing that the creek had flowed over and around the bridge. It seemed largely unscathed. The footbridge is fine, boardwalk, and box steps and all are superb!! There was mud over the lower long boardwalk, with water flowing underneath it. Our wood pile is a bit thrown about, and the sign that was near the bridge is now on the neighbor's property.
 - **No action needed**

Jerry Jolly Trails: Jen Maytum

Walked from Star Route, around the Jolly Long loop and back through the Overlook trails. Did not walk the meadow loop or the Oppedahl's Alley trails. All trails, except the lower Overlook Trail, are easily passable, although with standing and even running water on the trails in many areas. It'll be a while before any equipment can get in there.

- Star Route to the Bridge: One tree over the trail near the entry; washout of gravel causing ruts to the first bridge; the creek brought up a lot of sand and deposited it on the floodplain, including on the trail. There is one mildly gullied area near the new boardwalk/bridge. Boardwalk and main bridge are fine
- The lower Overlook trail along the creek is obliterated. The water rushed through there and left behind trees, debris and sand, taking out about 50 yards completely. Luckily the boardwalks recently put in were outside of that zone. The trail is not passable. The upper overlook is fine.
- Jolly Long loop: Gullying just above the bridge. Then fine until the back side, where the old bridge crossing is washed out. It was already in need of replacement. Gullying on the slope above the bridge. A few small trees on the trail just up and down from the Pileated Woodpecker trail. One larger tree across the trail (this one could use a power saw) very close to where the old Old overlook connecting trail meets the Jolly Long.
 - **Immediate action:** Post a sign at trailhead that the Overlook Loop is impassable. Close the lower Overlook Loop at the bottom and top with a sign and flagging.
 - **Medium priority action:** Rebuild the lower Overlook trail. This will require chainsaws and trail building tools. This will likely become a higher priority than rebuilding the link from the Overlook to the Jolly Long Loop, which was scheduled for August.

Lost Creek Falls:

- After the heavy rains, there is plenty of evidence of runoff...but generally the trail held up well. There are muddy spots (to be expected), and the boardwalks are working, but the flow of water carried a lot of debris onto (and under) the boardwalks and bridges. Unfortunately, the trail seems wider with hikers trying to avoid water and mud. Some boardwalk over the gully is plugged. (will be easy to clean out)

6/24/24

- **High Priority Action:** Clear debris out from under the boardwalk. Shovel and sweep debris off of the boardwalk.

Salmo Ted May

Water came over Highway 13 at Pikes Creek, and washed out the shoulder on the other side from the Hatchery. – Salmo parking lot is functional, but a ridge of sand part way into the lot. The Salmo trail is in remarkably good condition all the way to the lake.

- **No action needed**

Siskiwit River Preserve John Ipsen

- Meadow Trail: intact with frequent shallow wet areas.
- Woodland/Orchard Trail: Some areas experienced strong water flow and some erosion. Vegetation is above waist high. Bridges are intact. The orchard looked nice and could use a good mowing. There was still quite a bit of water coming through the road culvert into the draw that goes through the orchard.
- River Trail on east side: Major areas of erosion down by the river, where the entire gravel layer was lost and geofabric is all that's left. Debris on trail. Other areas show partial or full thickness loss of gravel over a portion of the trail.
 - **High Priority Action:** clear debris off of trail; replace gravel along exposed trail.
- River Trail on west side: not checked.