

Memorandum

Engineering Services

Date: November 4, 2024
To: Council
From: Peggy Slama, Director, Public Works, Engineering and Environmental Services
Stuart West, Project Engineer, Growth and Development
Subject: Cranberry Marsh Water Levels

Background

Following the council meeting on April 8, 2024, Council provided the following resolution:

WHEREAS the Cranberry Marsh and Creek watershed is reported to be approximately two feet (.60 meters) higher than the average level in the last 10 years and has been this way for two years now;

AND WHEREAS this high-water level is dangerously threatening the adjacent boardwalk and causing many trees bordering the marsh to die due to the high water level;

AND WHEREAS there are many stakeholders bordering the marsh (condominium corporations, resident's associations, Cranberry Golf Resort, trail users etc.) who are alarmed at the high-water level and are very concerned about the spring run-off expected within weeks;

AND WHEREAS there are a number of regulatory bodies (Town of Collingwood, MNR, NVCA and others) who may have authority to effect change and take corrective action to resolve all or parts of this situation;

AND WHEREAS residents' groups, condominium corporations, Cranberry Golf Resort and others have expressed concern and agreement to take what steps they can (within their ability) as this is a shared responsibility of all stakeholders surrounding and utilizing the marsh;

BE IT RESOLVED THAT the Council of the Town of Collingwood direct staff to report back on remedial steps that can be taken to lower the water level of the Cranberry Marsh as soon as possible in order to avoid a possible flood this spring and that furthermore staff consider recommendations to get all stakeholders together to discuss long term solutions by all parties to ensure a manageable water level going forward.

A map of the Cranberry Marsh and the Cranberry Marsh Trail is provided below for reference.

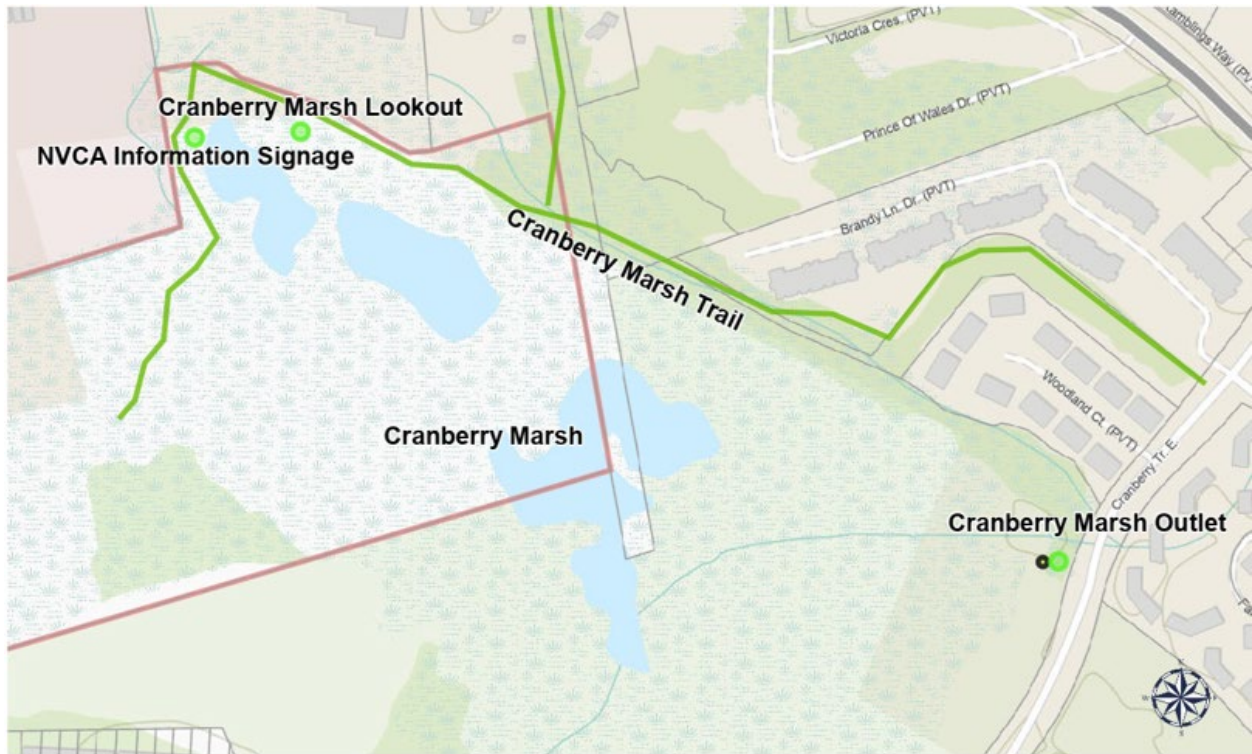


Figure 1: Overview Map of Cranberry Marsh

Staff have reviewed the material presented and provide the following recommendations on next steps for Council to consider.

Recommended Next Steps

1. Public Works complete ditching work on the Cranberry Creek from Cranberry Trail East to Dawson Drive. (**complete**)

Public Works staff have removed some debris and completed minor ditching within the outlet from the Cranberry Marsh. This includes the ditch along Cranberry Trail East to approximately Dawson Drive. A beaver dam was removed (by a licenced trapper retained by the Parks Department) within the marsh, and anecdotally, the water levels receded after this work was completed.

Given the naturalized wetland environment of the Cranberry Marsh, and the fact that beavers are transient animals, this occurrence and activity can be expected to continue. Staff will continue to monitor for beaver activities and damming, which is a natural process, and will respond accordingly when needed. It should be noted by Council that this may be engaging a local licensed trapper to remove the beaver and dams within Town owned lands. The Town does not have the ability to address these issues on private lands.

2. Engineering Services include additional modelling and verification of the Cranberry Marsh to verify flood capacity, as part of the ongoing Stormwater Management Master Plan (<https://engage.collingwood.ca/swmmp>). (**ongoing**)

Staff have expanded the scope of the Stormwater Master Plan to include modelling within the Cranberry Marsh. This modelling will seek to verify some of the conclusions reached in previous stormwater management reports completed for this subwatershed and confirm a high water level for a regulatory storm event. The consultants (Greenland Consulting Engineers) are aware of the concerns in this area and will include this area as part of the study.

3. Engineering Services to discuss with NVCA staff, any potential for longer term monitoring of water levels within the Cranberry Marsh. (**underway and ongoing**)

Staff have engaged with NVCA staff on the matter, and long-term monitoring of water levels within the Cranberry Marsh will occur during Fall 2024 and Spring 2025. Staff utilized existing budgets for NVCA staff to install three monitoring stations within the marsh on Town owned lands. Signage has been installed at the look-out along the boardwalk allowing the public to learn more about the purpose of the water monitoring stations (piezometers). A summary report will be provided to Staff in 2025 to summarize the measured water level changes throughout the year. There is also the opportunity to extend this monitoring period further than one year, should there be a need or desire to review further.



Figure 2: Location for public signage on water monitoring program

Water levels at the outlet from the marsh appeared normal, considering the time of year (Spring 2024), based on the known elevations of the outlet bridge on Cranberry Trail East. Water levels have appeared to have slowly dropped through the Spring, Summer, and Fall months of 2024.

The NVCA has placed a community monitoring station near the Pretty River Academy next to the Cranberry Marsh boardwalk. Residents can help the study by submitting water level observations and photographs taken at the community monitoring station to the NVCA.

To submit observations, residents are invited to record the water level on the ruler at the station along with the date and time. Next, take a photo of the ruler showing the water level and text all this information including the photo to the NVCA phone number provided on the sign. More detailed instructions can be viewed on the signage around the water loggers.

4. Communication with neighbouring landowners, including Cranberry Golf Course, on recommended remedial measures and maintenance measures associated with the Cranberry Marsh. **(not started)**

Challenges exist with removal of fallen trees within the Cranberry Creek, downstream (east) of Dawson Drive. The majority of the creek is located on lands that are not owned by the Town of Collingwood, and access to the fallen trees would require action from the private landowners along with the likely removal of additional healthy trees for access, due to the natural state of the lands.

Unlike a municipal drain (Ontario Drainage Act) or Town owned drainage course, private landowners are responsible for the maintenance of a watercourse through their lands. There are no regulatory tools in place for the Town to control the state of watercourse through private lands nor does the Town have any authority to enter, maintain, or remove trees. Staff are able to write to landowners to bring to their attention their obligations to maintain watercourses, and the potential risks if they do not do so.

Costs for any work on the municipally owned portion will be born by the tax levy.

As the lands are not owned by the Town of Collingwood, and any changes to how the lands function would require an NVCA permit, and possibly other permits or approvals (federal navigable waterways, MNRF with respect to fish habitat), Town staff would like Council permission to engage with the landowners. Staff can recommend remedial measures be taken, however there may be little enforcement possible, again considering that the land is not owned by the Town of Collingwood and would be a fiscal burden to the taxpayers if maintenance of unowned lands were to be completed.

Maintenance of stormwater infrastructure does not lay solely with the municipality. There are several private property condominium corporations that also need to maintain their stormwater infrastructure. Town staff will provide contact information to the condominium corporations for follow up with the appropriate department for any information or construction records the Town may have on stormwater assets associated with the development.

5. The Town could consider various options to obtain ownership or rights to maintenance of the Marsh and outlet channel. **(not started)**

As the Stormwater Master Plan advances, given the importance of this creek as an outlet for drainage within the Town, Council may wish to consider exploring other avenues such as:

- Petitioning a Municipal Drain

- Purchasing Drainage Easements
- Purchasing or assuming the lands where the creek lays

A municipal drain (per the Ontario Drainage Act)) is created pursuant to a bylaw passed by the local municipality. There are various actions to take before the by-law may be passed, but the municipality would be responsible for the construction and future maintenance of the drainage system. Costs may be recovered from the property owners in the watershed of the drain. More information on this option can be provided to Council upon request.

Further Considerations and Contextual Matters

6. The boardwalk was constructed by volunteers and there was no delineation conducted to identify flood prone areas around the boardwalk. There is also a lack of proper footings that would prevent the boardwalk from long-term settlement into the soft soils below the boardwalk. The installation of water level monitors is the accurate tool to be used for measuring or gauging the variation of water levels through different seasons, and year after year.
7. The comparison pictures shown during the presentation on March 18, 2024 were during two different seasons (Fall and Spring). Spring has typically a higher groundwater table, due to a combination of winter snow melt and thawing underlying soils. It does not necessarily imply that water levels are rising, but seasonally it is expected that there will be changes and differences.



Figure 3: Comparison between Fall and Spring Seasons in Cranberry Marsh, March 2024 presentation

8. Dead trees within the Marsh are not necessarily a result of high water levels. The emerald ash borer is an invasive species that is particularly harmful to Ash trees across the province. There is also no indication if some of the trees were at their end of life.

Conclusion

Staff have provided five recommended next steps, and three contextual comments associated with the Cranberry Marsh. The Cranberry Marsh is a natural marsh, to which some stormwater use has been made, and an environmental asset that should be maintained and protected. It also provides habitat a variety of species of birds, aquatic animals, and insects.

Considering the storms and flooding witnessed in the GTA during July 2024, we are all reminded of the importance that stormwater management has on minimizing the Town's and its residents' risks. Staff are committed to providing solutions and recommendations that protect and improve the safety of residents residing within the municipality and ensuring the Town's infrastructure is adequate. Staff would suggest Council weigh some of these options further with staff, and perhaps wait for the outcome of the water monitoring report within the marsh in partnership with the NVCA.