

Edenville Dam Failure: Vegetation Growth Within the Drained Impoundment Areas (Bottomland)

Frequently Asked Questions

BACKGROUND

On May 19, 2020, the Edenville and Sanford Dams, which are part of a four-dam system near Midland, failed. The failures forced the evacuation of thousands of residents and created catastrophic flooding and property losses. The two other dams on the same river system, the Smallwood and Secord dams, were also compromised. The dams were unable to manage water flows that resulted when storms dropped as much as eight inches of rain over 48 hours in parts of Northeast Michigan.

During the summer season after these events, many of the exposed bottomlands of the former Wixom Lake and Sanford Lake as well as some of the connected streams and other lakes have become densely vegetated, from the natural seed bank in the exposed soil. Vegetation is a highly effective means of stabilizing sediments and preventing further erosion or scouring of these areas. Currently, most vegetation is herbaceous, or non-woody plants, but some young trees and shrubs, including Cottonwood, are starting to establish in certain areas. Wherever possible, vegetation should be allowed to grow to ensure exposed sediments are efficiently stabilized.

Residents should be aware that there are complex and changing property ownership issues on the exposed bottomlands, and it is up to the individual to assure they have the authority to conduct any type of project that is not on their property. They should seek permission from the bottomland owner before clearing or treating vegetation and when applying for any needed Michigan Department of Environment, Great Lakes, and Energy (EGLE) permits. Residents can contact Four Lakes Task Force (FLTF) for assistance in getting permission from the appropriate property owner. FLTF is planning on working with landowners, EGLE, Weed Assessment Districts, and Lake Improvement Boards on developing an overall plan for bottomland management by Spring 2021.

Are these plants invasive species?

Most of the vegetation in the drained impoundment areas is native vegetation; although, some invasive plant species may be beginning to grow in some locations. Examples of invasive species that have the potential to colonize this area include Reed Canary Grass (*Phalaris arundinacea*), Phragmites (*Phragmites australis*), Common Buckthorn (*Rhamnus cathartica*), and Glossy Buckthorn (*Frangula alnus*).

To learn how to identify these species, visit the [Midwest Invasive Species Information Network \(MISIN\)](http://www.misin.msu.edu/report/misin/?project=misin) at www.misin.msu.edu/report/misin/?project=misin.

To find out more about these and other invasive species in Michigan, visit Michigan.gov/Invasives.

For regional information about invasive species management efforts, contact the [Central Michigan Cooperative Invasive Species Network](http://www.cmcisma.org) at www.cmcisma.org.

Can I use herbicides to get rid of the vegetation?

Native vegetation plays an important role in stabilizing the sediments in this area to prevent further damage from erosion or scour. In addition, native vegetation provides filtration and nutrient uptake from runoff, valuable

habitat and food sources for wildlife, and improves aesthetics and recreation opportunities in these impacted areas. Invasive species should be treated in order for the native, beneficial vegetation to establish. The safe use of herbicides under the appropriate regulations can effectively remove invasive species and unwanted vegetation.

As with any pesticide, herbicide users are required to follow all safety and application instructions provided on the product label. We also recommend use of herbicides and other pesticides only when dry weather and calm winds are predicted. For more information on using pesticides safely, visit the [Michigan Department of Agriculture and Rural Development Pesticide and Plant Pest Management Division](https://www.michigan.gov/MDARD/0,4610,7-125-2390--,00.html) at [Michigan.gov/MDARD/0,4610,7-125-2390--,00.html](https://www.michigan.gov/MDARD/0,4610,7-125-2390--,00.html).

Do I need a permit to use herbicides to treat vegetation?

Herbicide and other pesticide treatments on dry land that are near surface water and cover less than 80 acres, may not require National Pollutant Discharge Elimination System (NPDES) pesticide permit coverage. Larger areas (i.e. > 80 acres) that are near surface waters may require NPDES pesticide permit coverage. [For guidance on determining if NPDES permit coverage is required](https://www.michigan.gov/DEQ/wrd-npdes-pesticide-APPEND1_377340_7.pdf), please visit [Michigan.gov/Documents/DEQ/wrd-npdes-pesticide-APPEND1_377340_7.pdf](https://www.michigan.gov/Documents/DEQ/wrd-npdes-pesticide-APPEND1_377340_7.pdf).

If pesticide treatments are deemed necessary and will occur near any waters of the state, it is recommended pesticides labeled for aquatic environments be utilized. Please review [the list of Aquatic Pesticides and Related Products Currently Approved for Use in Waters of the State](https://www.michigan.gov/EGLE/0,9429,7-135-3313_3681_3710-134667--,00.html) found at this link: [Michigan.gov/EGLE/0,9429,7-135-3313_3681_3710-134667--,00.html](https://www.michigan.gov/EGLE/0,9429,7-135-3313_3681_3710-134667--,00.html).

If pesticide treatments will include any waters of the state where water is visibly present or contained in the area at the time of chemical treatment, an Aquatic Nuisance Control (ANC) permit may be required. For more [information on regulations and permitting](https://www.michigan.gov/ANC), please visit the [ANC webpage](https://www.michigan.gov/ANC) at [Michigan.gov/ANC](https://www.michigan.gov/ANC), or contact ANC Program staff by email EGLE-WRD-ANC@Michigan.gov or by telephone at 517-284-5593.

If a pesticide application company or entity is leading the treatment efforts, they may need an ANC permit and/or an NPDES pesticide permit.

Can I cut trees or shrubs beginning to grow? What about burning?

If you can cut the small trees and shrubs safely and without causing rutting or disturbance of the sediments, then a permit is not necessary. However, extreme caution should be used as the soils and sediments in this area may not be fully stabilized and it can be dangerous to walk on these areas at this time. Even where substrate appears safe, it is important to keep in mind these sediments have not been settled and vegetated for a very long time.

In addition, trees and shrubs provide substantial benefits to the environment. In particular, the root structures of trees and shrubs are deeper and stronger than those of smaller plants, which improves stabilization of these former lakebeds and prevents further erosion or scour. Trees and shrubs also provide habitat diversity for wildlife, help maintain water temperature and water quality by providing shade over water flowing in the main channels and are part of the natural succession of plant communities in Michigan. Most of the tree and shrub species are native species, but there may be some invasive shrubs, too. We recommend only invasive species be cut in order for the native, beneficial vegetation to establish.

Prescribed fire is sometimes used to remove excess biomass of invasive herbaceous or woody vegetation, and when done properly may also promote growth of native vegetation. However, this is not recommended for individual homeowners to implement on their own, as it is important that burns are conducted by trained experts. These experts will evaluate a wide variety of factors in planning a burn including safety, site conditions, and

weather. There may also be significant concerns from nearby residents and local agencies regarding the use of fire in this location due to the proximity of houses, as well as the stability and safety of the location.

All state and local guidelines must be followed. Filling, dredging, and other construction activities need permit approval from EGLE before work begins.

If vegetation is allowed to grow, will it make it harder for the lakes to be eventually restored?

Dam reconstruction and refilling the impoundments is a major project that will take many years of planning and implementation. In the meantime, it is important that the bottomlands are effectively stabilized to prevent further erosion and structural issues. Allowing native vegetation to establish, including some woody trees and shrubs, will restore some wildlife habitat and food source, provide water quality benefits, improve aesthetics, and provide some recreation opportunities. It is recommended that any vegetation removal be completed in a way that is consistent with a coordinated plan for the exposed bottomlands. At this point, EGLE does not believe that allowing vegetation to establish will make it more difficult for the lakes to be restored. EGLE is committed to working with local partners to further address this question, as management plans are developed for site restoration and vegetation management.

Resources

- [Midland County GIS \(including parcel ownership information\)](#)
- [Gladwin County GIS \(including parcel ownership information\)](#)
- [Michigan Landowners Guide to Aquatic Invasive Species Management](#)
- [A Guide to the Control and Management of Invasive Phragmites](#)
- [Central Michigan Cooperative Invasive Species Management Area](#)
- [Best Control Practices – Common Buckthorn](#)
- [Best Control Practices – Glossy Buckthorn](#)
- [Michigan's Citizen's Guide to Invasive Plant Disposal](#)
- [Preventing the Spread of Aquatic Invasive Species: Decontamination Steps for Field Equipment](#)
- [The Midwest Invasive Species Information Network \(MISIN\)](#)
- [Michigan Invasive Species](#)

Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making.

Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.