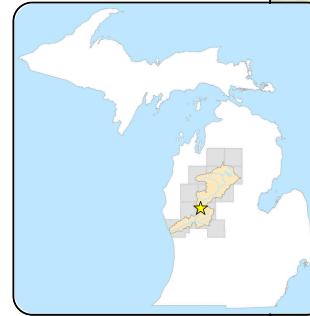




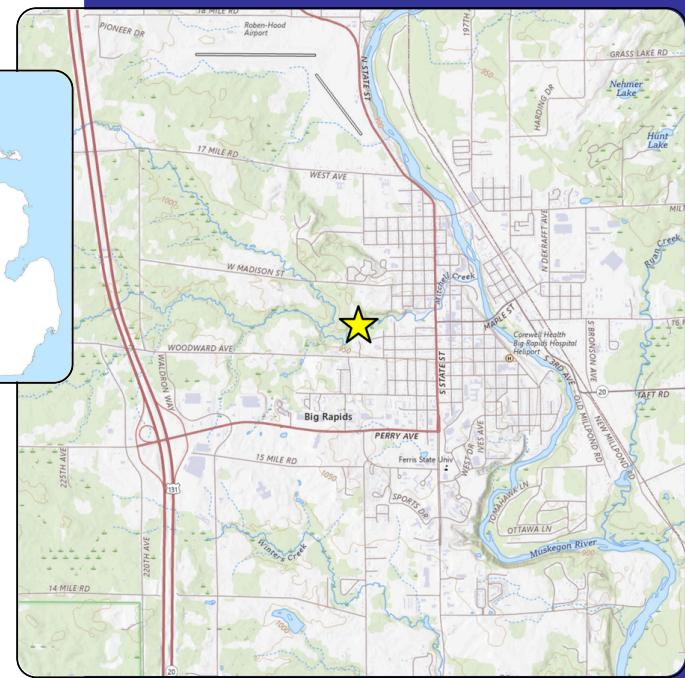
Clay Cliffs Riparian Restoration

Mitchell Creek
Clay Cliffs Natural Area
(City of Big Rapids)



Why This Project Matters

- Restoration of one of the largest eroding banks in the middle portion of the Muskegon River watershed.
- Reduction of an estimated 326 tons of annual sediment input into the stream
- Improvement of habitat and water quality conditions for a healthy Mitchell Creek.
- Recreational benefit - fishing, birding, hiking, and more in a beautiful, quiet, accessible natural area nestled in downtown Big Rapids.



Mitchell Creek is a tranquil little tributary which flows through the heart of Big Rapids, and is a critical part of the community. The stream's cool waters have been impacted by years of logging, industry, damming, and agriculture, but still support healthy populations of trout and native species. Together, we are working to stop the slide of sediment, heal the stream, and restore a healthy Mitchell Creek for generations of plants, animal, and humans.

Project Goals

- Technical Stabilization of the eroding stream-bank
- Restoration of healthy riparian vegetation
- Redirection of trails to reduce foot traffic and surface runoff contributing to erosion.
- Improved stream ecosystem structure and function



About the Project

Clay Cliffs is a large eroding stream bank for which the Clay Cliffs Natural Area gets its name. The Erosion is unnatural, and contributes large amounts of sand and fine sediment to Mitchell Creek and the Muskegon River. Sedimentation introduces excess nutrients, smothers healthy stream substrate critical for habitat and reproduction of fish and aquatic species, alters stream hydrology, and degrades stream ecosystem structure and function. MRWA saw the impact of the erosion on stream health, setting to work to form partnerships, raise funds, and stop the slide of sediment into Mitchell Creek.



MCD Installing Coir Logs



Technical Restoration



Volunteers Planting Trees

The Muskegon River Watershed Assembly, Muskegon Conservation District, City of Big Rapids, and partners conducted phase I in 2023, hardening the bank-toe and completing technical stabilization of the slope. However natural geology and years of impact presented additional challenges. In 2025, We re-visited the restoration for phase II, installing additional coir logs, erosion blanket, and brush bundles to stabilize areas of further erosion, re-locating trails to redirect the flow of storm water away from the slope and reduce the impact of foot-traffic, and bringing in the community for support. With the help of volunteers, we planted 600 native trees and shrubs from the toe to the top of Clay Cliffs. Establishing roots, shoots, and local stewardship to ensure lasting success.

- Planning & development
- Community Partnership
- Fundraising

2021-2022

- Permitting
- **Phase I Restoration**
- Monitoring & evaluation

2023-2024

- Monitoring & evaluation
- Planning & development
- **Phase II Restoration**

2025

- Monitoring & evaluation
- Community stewardship

FUTURE

Community Partnership

*A healthy, restored
Clay Cliffs &
Mitchell Creek*

How can you help?

The Muskegon River Watershed Assembly is dedicated to the protection, conservation, and restoration of the Muskegon River watershed since 1998. Our work relies on the help and support of the people like you.

- **Volunteer & Participate** – Join monitoring, educational workshops, citizen science projects, and other fun events.
- **Donate** – Fund restoration, education, and community projects.
- **Share** – Spread the word about river restoration.



For more information or to make a donation of support today, contact the Muskegon River Watershed Assembly.

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