



What is the Group 4 Project?

- An impromptu scientific research project lasting 10 hours
- Collaboration between students of different scientific disciplines
- *“The group 4 project is a collaborative activity where students from different group 4 subjects work together on a scientific or technological topic, allowing for concepts and perceptions from across the disciplines to be shared.” - IBO.org*

Michigan Lakeshore

Group 4 2020





**What are the
challenges facing
Michigan's shoreline
infrastructure?**

Great Lakes



Lake Michigan



Mackinac Island



Detroit Dock



Belle Isle



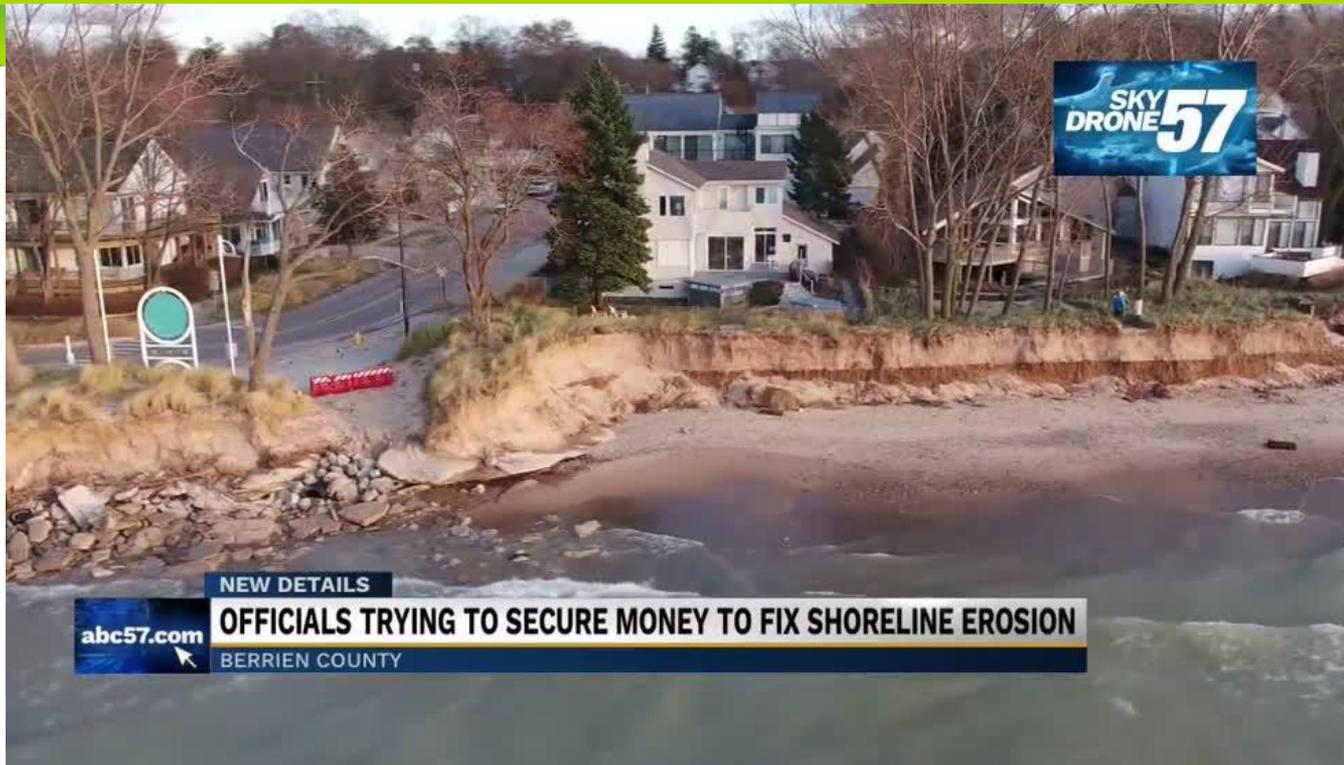
Van Buren County



South Haven



Berrien County



abc57.com

NEW DETAILS

OFFICIALS TRYING TO SECURE MONEY TO FIX SHORELINE EROSION

BERRIEN COUNTY

Port Sanilac



Muskegon







Right click to play video



**What can we do to
secure shorelines?**

**What are the
potential impacts of
these solutions?**

Potential Shoreline Sites

Business/Industrial

DeYoung Plant site (Holland)
Sappi Paper Mill site (Muskegon)
Revere Copper site (Detroit)
Zug Island (Detroit)
Soo Locks (Sault Ste Marie)
Marathon Refinery (Fort St, Detroit)
DTE River Rouge Power Plant
Manistee Wastewater Treatment
Grand Marais Harbor
Waugoshance Lighthouse

Residential/Community

South Haven
Ferrysburg/North Beach Park
Port Sanilac M-25
Michiana
Lincoln Township Beach
Detroit Riverwalk
Saugatuck
St Joseph
St Claire Shores
Muskegon

Park/Wilderness

Belle Isle Riverfront
Pictured Rocks Nat'l Lakeshore
Presque Isle State Park
South Manitou Island Lighthouse
Little Traverse Wheelway
Little Girl's Point (Gogebic)
Big Sable Point Lighthouse
Holland State Park
Tisconia Park (St Joseph)
Port Crescent State Park

Reliable Sources to Consider

Michigan Sea Grant

Michigan Department of Environment, Great Lakes, and Energy (EGLE)

National Oceanic and Atmospheric Association (NOAA)

United States Geological Survey (USGS)

Timeline

The Group 4 Project is a 10 hour project.

- ▶ Today (2/25) - 2 Hours for preliminary planning
- ▶ Tuesday (3/3) - 3 Hours (periods 5-7) for research
- ▶ Wednesday (3/4) - 3 Hours (periods 1-3) for research and presentation planning
- ▶ Tuesday (3/17) - 1 Hour of presenting (periods 5 and 6)
- ▶ This leaves 1 hour of outside work.

Your Task

1. Describe the specific issues with your site.
2. Describe a potential solution. This can be a new solution or one that has already been proposed.
3. Evaluate your solution through the lenses of each subject represented in your group. (Biology, Chemistry, Physics, ESS)