



**COASTAL EROSION +  
LAKEFRONT SPECIAL  
IMPROVEMENT  
DISTRICT (SID)**

**COMMUNITY  
MEETING**

PLEASE JOIN MAYOR GAIL ON

**TUESDAY, AUGUST 4TH  
6 - 7PM**

FOR A VIRTUAL PRESENTATION +  
DISCUSSION WITH SPECIAL GUEST

**DEBORAH BECK, P.E.**  
ASSISTANT CHIEF  
OFFICE OF COASTAL MANAGEMENT  
ODNR





July 8, 2020

6pm, Virtual

# Potential Lakefront Special Improvement District (SID)

# What is a Special Improvement District?

- A SID is an area of land within which property owners pay an additional tax for specific improvements within the district's boundaries. The SID can exist within a municipal corporation or any combination of contiguous municipal corporations.
- A property tax assessment is placed on properties within the SID district, allowing the improvement to be financed over time (30 years).

# Lakefront SID Progress:

- Ohio Senate Bill 51 authorized the creation of a special improvement district to facilitate Lake Erie shoreline improvements, effective March 20, 2019.
- In June 2020, the City of Euclid mailed letters and pre-applications to 132 eligible lakefront property owners to gauge interest in the creation of a SID. We've received over 1/3 of surveys back in response. And will continue to accept them.
- Discussions are ongoing with Lake County Mayors. Ideally, Euclid and all lakefront communities in Lake County would form one SID.

# Lakefront SID Progress, cont'd:

- On July 8, we presented the potential SID to the City Planning Council Committee members with special guests from ODNR and Coastal Strategies.
- On July 28, we entered into an agreement with attorney Amanda Gordon of McDonald Hopkins. She is also the bond council at the Lake County Commissioners and has been working with the Lake County communities in tandem.
- On August 4<sup>th</sup> we held a community meeting on lakefront erosion and the potential SID.

# Next steps:

1) The week of August 10<sup>th</sup> the City will review and share with property owners who have responded to the pre-application survey the draft petitions.

- There will be two different petitions:
  - For property owners wanting to petition to create a SID but without a shovel-ready project.
  - For property owners wanting to petition to create a SID with shovel-ready projects (the implementation petition). Construction cost estimates and permits are required attachments.

# Next steps:

## 2) Legislation to create a SID, approved by Euclid City Council.

- McDonald Hopkins providing draft legislation to Euclid and Lake County communities.
- We anticipate presenting the legislation at the September 8, 2020 Euclid Council Meeting.
- Lake County communities also have September timeframe for legislation.

# Next steps:

## 3) Investors.

- Scale matters. Once the size of the demand is established, it becomes more attractive to investors.
- The 30 year property tax lien is attractive to investors.
- Nature of improvements drives interest, too. Public access components could attract mission-related and social-impact investors / grantors offsetting residents' costs.
- **For shovel-ready projects, McDonald Hopkins believes financing could be available as early as October 2020**



# Important for Property Owners:

- **Decide if the SID is right for you.**
  - Send in the pre-application if you have not already.
  - Review the draft petitions which will be circulated next week.
  - Consider if you'd like to participate on the required SID Board.
- **Due your diligence.**
  - To be eligible for the SID financing you must have ODNR and Army Corps approvals for a Shore Structure Permit and Submerged Land Lease, which requires stamped engineered drawings. These projects may be eligible for financing as early as October 2020.
  - Once the SID is established, the City will continue conversations about larger-scale projects that involve potential public access.

# Questions?

Allison Lukacsy-Love, Community Projects Manager  
City of Euclid

[alukacsy@cityofeuclid.com](mailto:alukacsy@cityofeuclid.com)

216-289-8160

# Erosion along the Lake Erie Coast

City of Euclid  
August 4, 2020

Deborah Beck, P.E., Assistant Chief



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# Lake Erie Coastal Erosion

- What influences erosion of the coast?
- What are effective erosion control measures?
- What is ODNR's role?



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NEWS

## Lake Superior near monthly high water record, again

Great Lakes water levels to rise in 2020, threatening Michigan's state parks

TwinCities.com  
PIONEER PRESS

Carol

LOCAL NEWS

## Lake Ontario outflows to increase in an attempt to avoid flooding

Lake Erie water level k  
Headlands Beach Fest

Posted Jun 26,

## 'Significant' lakeshore flooding possible along Lake St. Clair

CLICK ON

## Lakeshore flood warning issued along Lake Ontario from Monroe County to Canadian border

# What Drives Water Level Change?

- Climate (long-term variability)

Precipitation + Runoff – Evaporation = Net Basin Supply

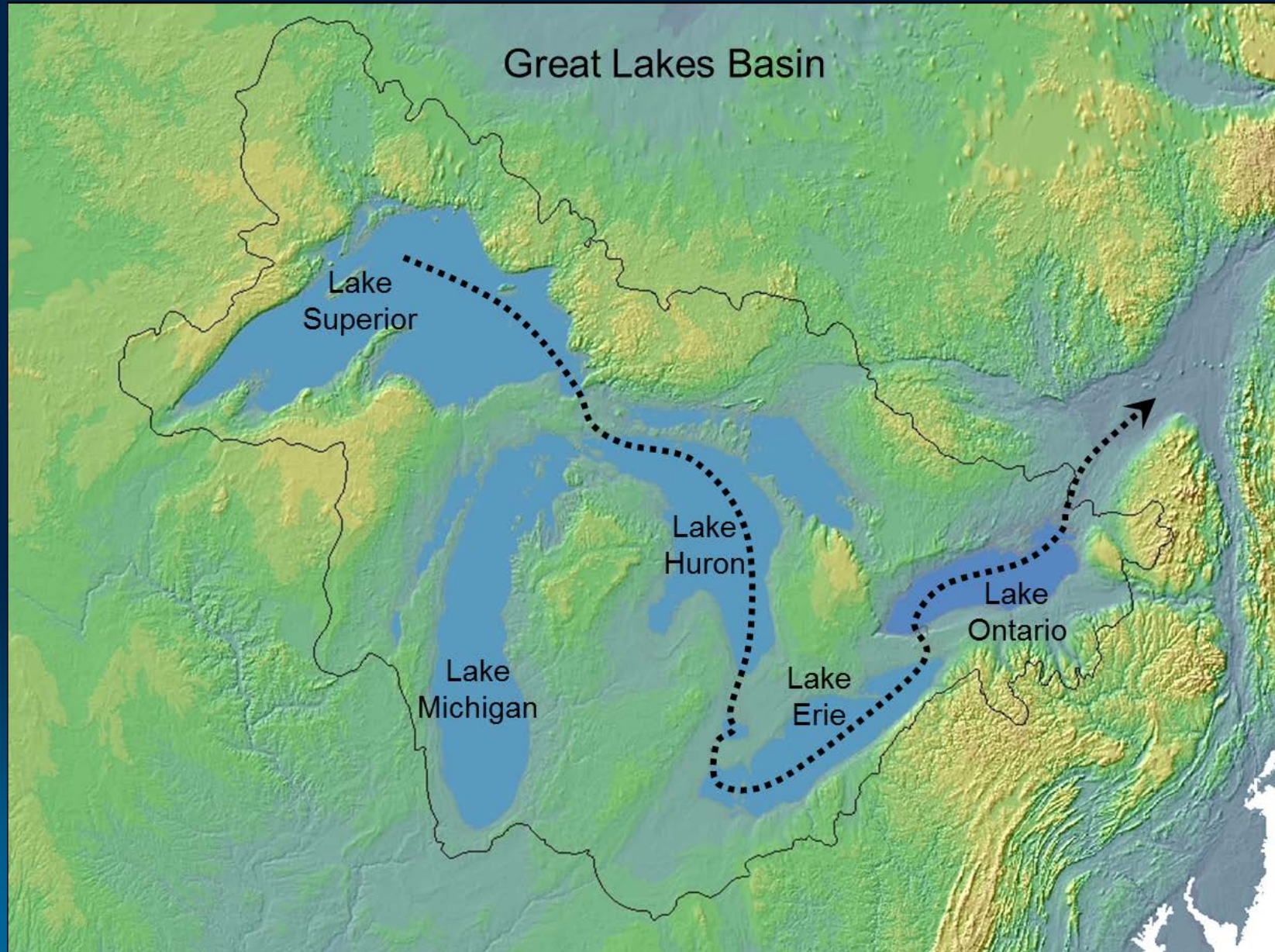
- Seasonal changes in climate (annual variability)
- Diversions (into and out of the basin)
- Inflows and Outflows
  - Connecting Channels between Lakes
  - Water-Level Regulation
- Wind / Storm Events (short-term variability)



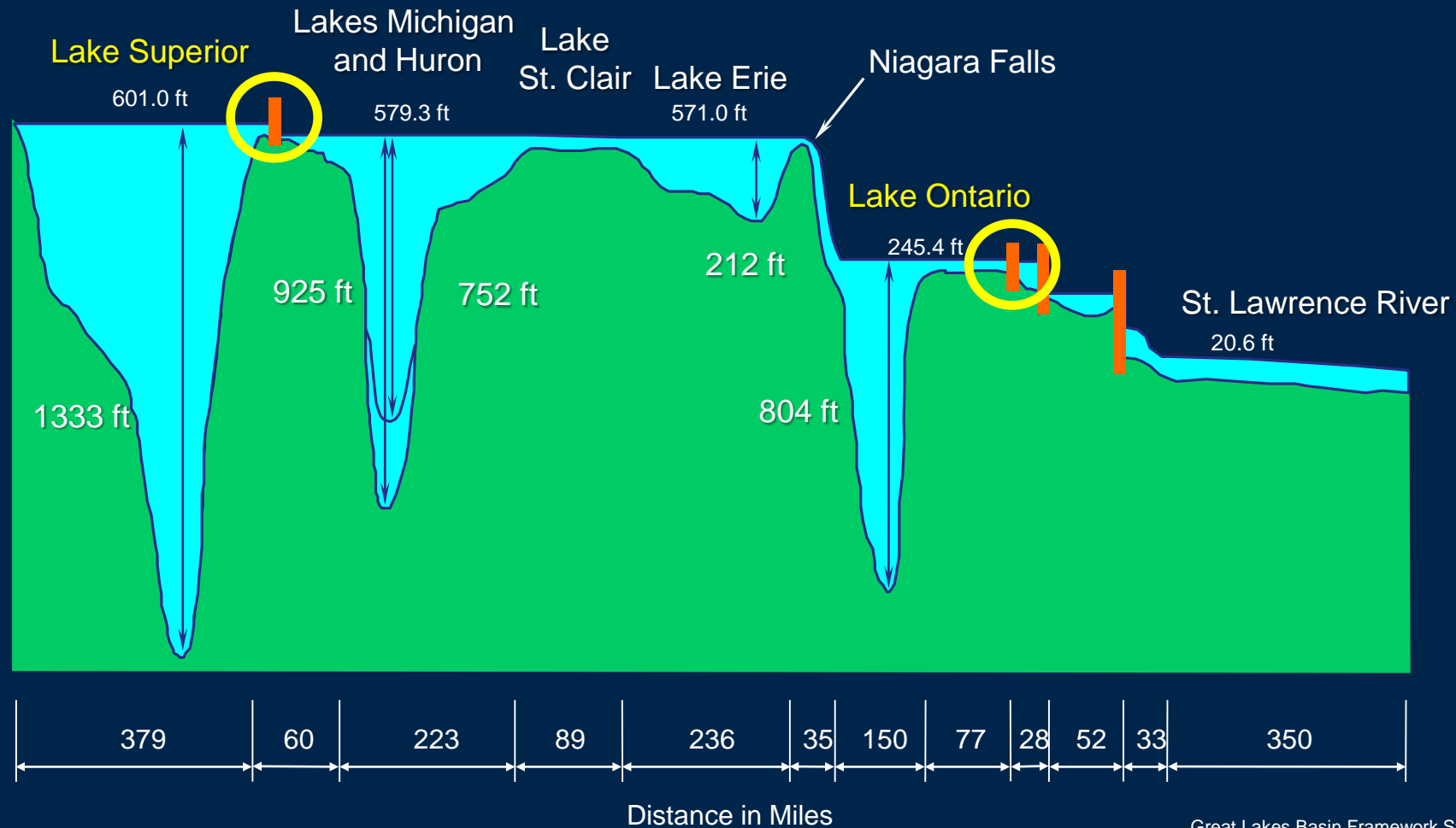
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# Great Lakes Hydrology

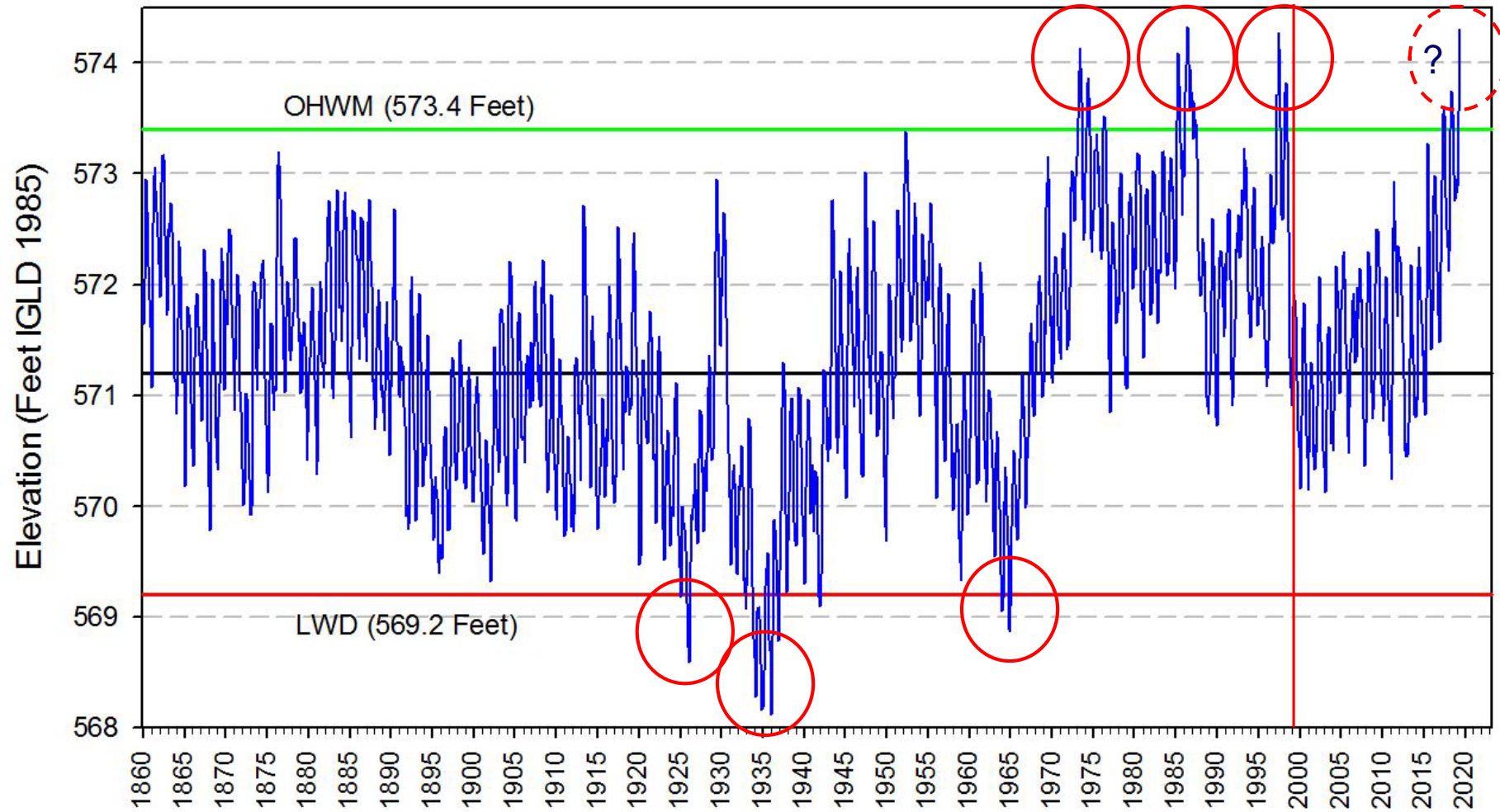


# Great Lakes Cross Section





# Lake Erie Water Levels



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# USACE Forecasted Water Levels

	SUPERIOR	MICH-HURON	ST. CLAIR	ERIE	ONTARIO
Forecasted Water Level for Jul 31, 2020 (feet)	603.02	582.19	577.36	574.15	246.52
Chart Datum (feet)	601.10	577.50	572.30	569.20	243.30
Difference from chart datum (inches)	+23	+56	+61	+59	+39
Difference from average water level for Jul 1, 2020 (inches*)	+3	0	-2	-3	-3
Difference from average water level for Jul 31, 2019 (inches*)	-3	+3	-2	-4	-22
Difference from long-term monthly average of Jul (inches)	+11	+34	+30	+26	+5
Difference from highest monthly average of record for Jul (inches)	-2	+2	-2	-5	-26
Year of highest recorded monthly mean	2019	1986	2019	2019	2019
Difference from lowest monthly average of record for Jul (inches)	+33	+66	+58	+61	+39
Year of lowest recorded monthly mean	1926	1964	1934	1934	1934
Projected net change in levels by Aug 31, 2020 (inches)	0	-2	-3	-4	-3

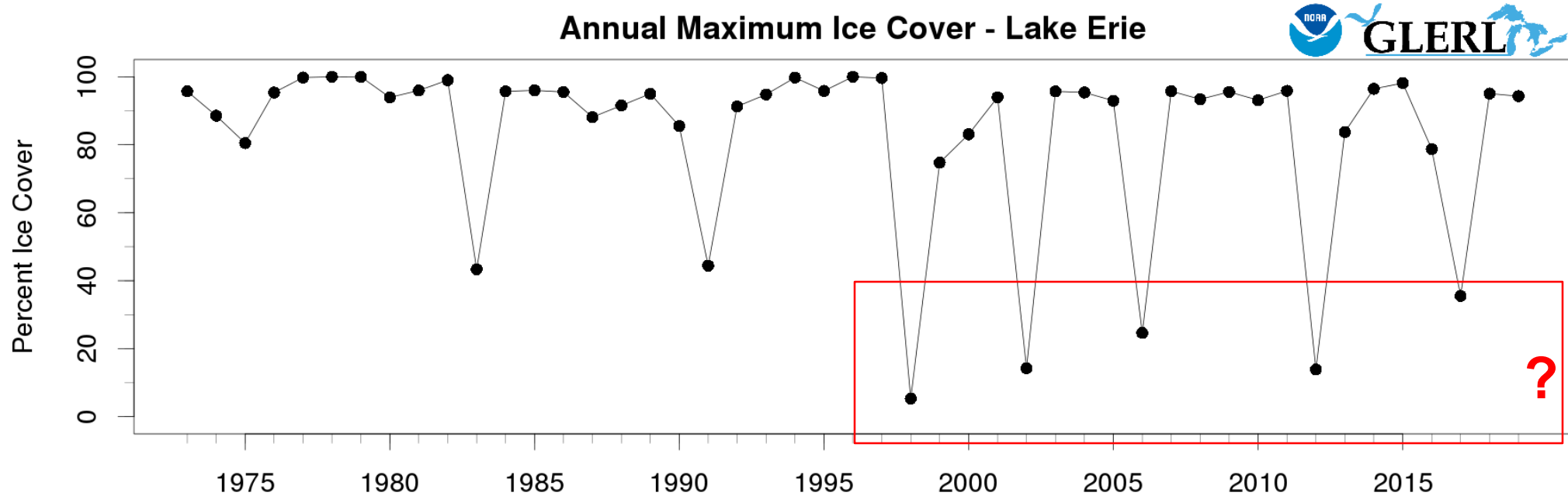
<http://www.lre.usace.army.mil/Missions/Great-Lakes-Information/Great-Lakes-Water-Levels/Water-Level-Forecast/Weekly-Great-Lakes-Water-Levels/>



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# Ice Coverage



- Higher ice coverage protects the coast
- Severe storms/wind events are common in winter



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# Shale Bedrock



# Glacial Till





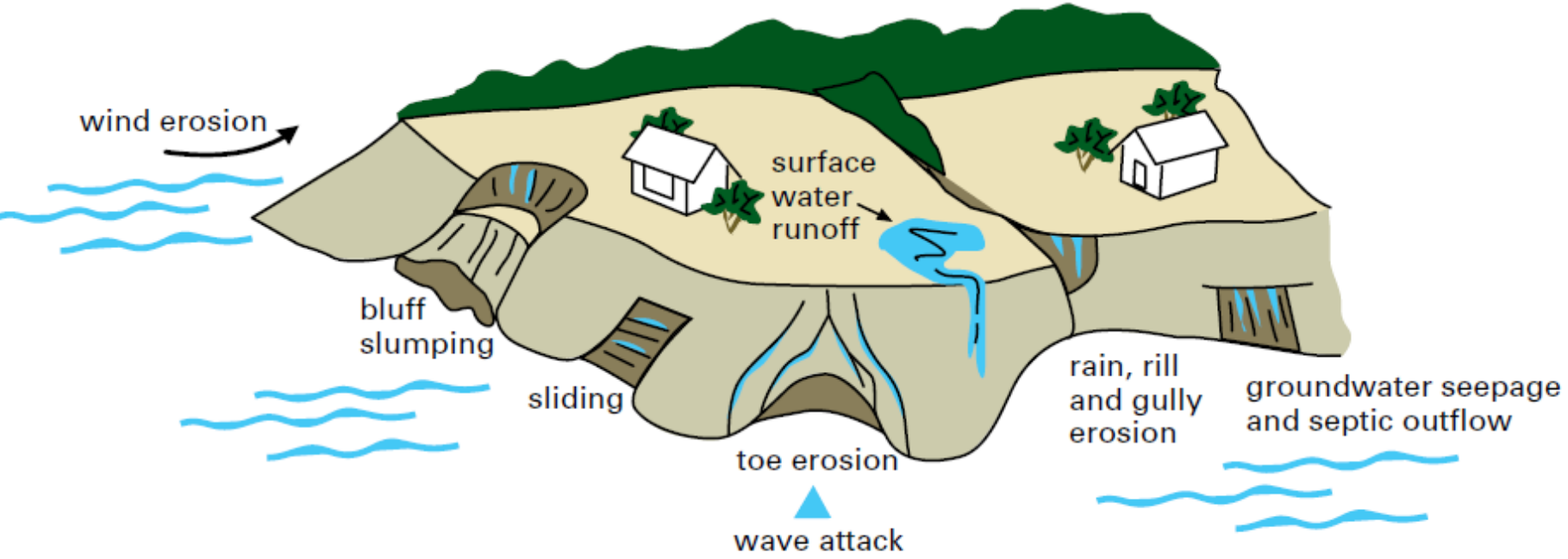
# Miscellaneous Fill



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# Causes and Effects of Coastal Erosion



Keillor and White, 2003

# Bluff Re-grading



Modifying the bluff to a more stable slope.





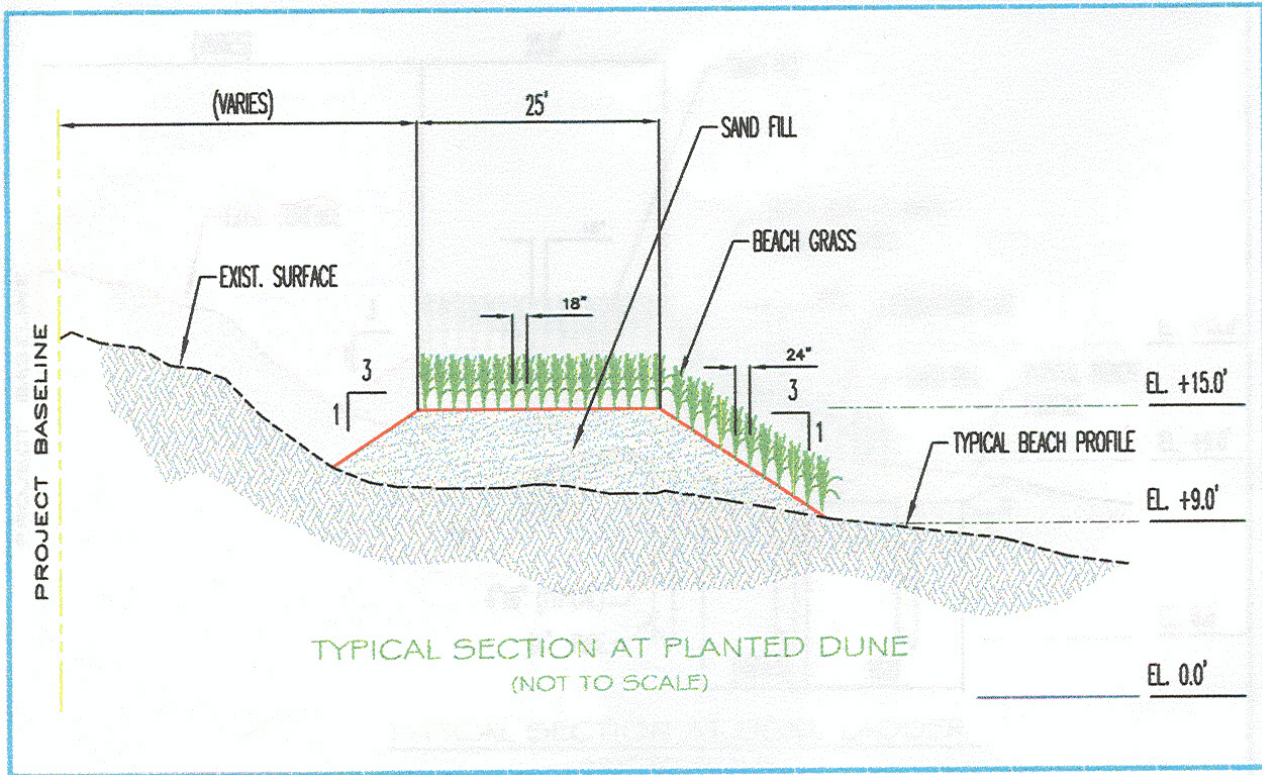
# Beach Nourishment

Placing sand along the toe of the bluff to increase beach width.





# Dunes and Native Vegetation



# Revetments



# Seawalls



# Effects of Coastal Structures

- All structures can have good and bad effects
- Improper designs can lead to erosion problems elsewhere
- All structures must be properly designed to fit the particular need and the physical location
- Not every structure will work in every situation



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# Coastal Regulatory Programs

## ODNR

- Federal and State Consistency
- Shore Structure Permits
- Submerged Lands Leases

## Others

- U.S. Army Corps of Engineers
- Ohio Environmental Protection Agency
- Locals (Flood Plain Administrator, Building Department)



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# Submerged Lands Lease ORC 1506.10 & 1506.11

- Required for use or occupation lakeward of the Natural Shoreline
  - Management of public trust lands
  - Ensure the wise use of Lake Erie
  - Protect the rights of littoral property owners
  - Accommodate various public and private uses of the territory



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# Shore Structure Permit ORC 1506.40

- A permit must be obtained from ODNR prior to constructing a structure to control erosion, wave action or flooding along Ohio's Lake Erie coast
  - Seawalls, Revetments & Bulkheads
  - Nourished Beaches
  - Breakwaters & Groins
  - Docks & Piers



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## Shore Structure Permit

## Temporary Shore Structure Permit

Projects that will control erosion, wave action or flooding (revetments, seawalls, piers, groins)

Erosion control projects immediately necessary to safeguard life, health, or property (revetments, seawalls)

Authorizes construction during a 2-year period and repairs for structure life

Temporary authorization (2 years); Shore Structure Permit required upon expiration

Professional engineer required for design

No professional engineer design required

Reviewed for structural stability, long term functionality, impacts to Lake Erie & upland is owned by the applicant

Reviewed to ensure construction materials are suitable and upland is owned by the applicant

Issued within 3 – 6 months of application receipt

Issued within 1 week to 2 weeks



# Technical Assistance

- **Free on-site Technical Assistance** to littoral property owners
  - Erosion control recommendations
  - Best management practices
  - Regulatory process overview
  - [coastal@dnr.state.oh.us](mailto:coastal@dnr.state.oh.us) or (419) 626-7980



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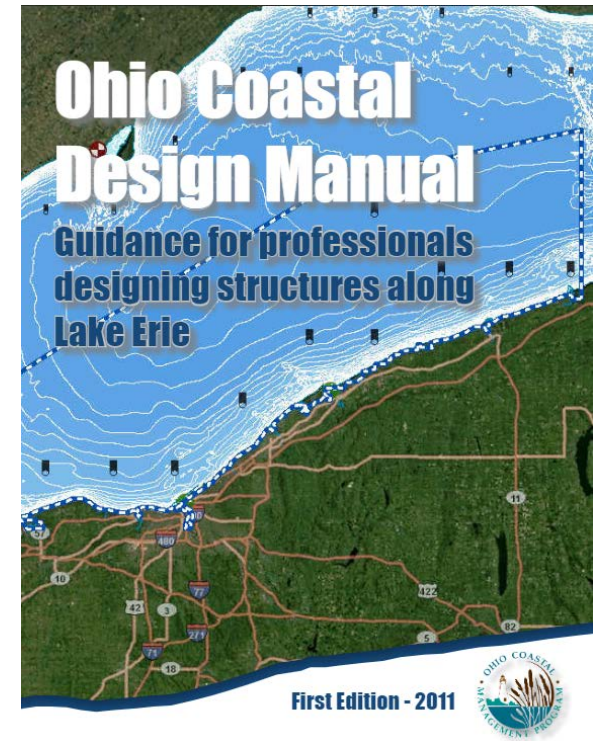
# Available Resources

## Ohio Coastal Design Manual

- [ohiomemory.org](http://ohiomemory.org)

## Coastal Erosion Area Map Viewer

- [gis.ohiodnr.gov/MapView/?config=CEA](http://gis.ohiodnr.gov/MapView/?config=CEA)



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**419-626-7980**

**[coastal.ohiodnr.gov](http://coastal.ohiodnr.gov)**

