

Chapter 12

Flood zones describe a land area's risk of flooding. All land is a part of either a low-, moderate- or high-risk flood zone which are identified by the Federal Emergency Management Agency (FEMA). The flood zones identified in these maps are compiled from FEMA's Flood Insurance Rate Maps (FIRMS). A FIRM is a map created by the National Flood Insurance Program (NFIP) for floodplain management and insurance purposes.

FIRMS usually show a community's base flood elevations, flood zones and floodplain boundaries. They are updated on a continual basis due to changes in geography, construction and mitigation activities, and meteorological events. The maps are generally used to administer the National Flood Insurance Program by identifying areas with increased risks of flooding.

The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance. According

to FEMA, the areas within the "100 year flood zones" represent the flood elevation that has a 1 percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur more than once in a relatively short period of time. A structure located within a special flood hazard area shown on an NFIP map has a 26 percent chance of suffering flood damage during the term of a 30-year mortgage.

With a few exceptions, nearly all littoral property from Maumee Bay to the eastern limits of the city of Sandusky is included in the 100-year flood zone.

Areas within "500-year flood zones" represent the flood elevation that has two-tenths of 1 percent chance of being equaled or exceeded in any given year.

Flood zones are derived by looking at local and regional topography, land use, historic flood information and any other contributing factors. It is important to realize that these maps do not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size.

A more complete understanding of flood risks for an area can be obtained at the FEMA Map Service Center website at www.msc.fema.gov. This additional research will provide information regarding the extent of the study, whether the study was detailed or approximate, floodway information, and additional metadata.

What is a flood?

The National Flood Insurance Program defines a flood as:

"A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is the policyholder's property) from: Overflow of inland or tidal waters; or Unusual and rapid accumulation or runoff of surface waters from any source; or Mudflow; or Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above."

What is a "100-year flood"?

A 100-year flood is a flood that has a 1 percent chance of being equaled or exceeded in any given year. A base flood may also be referred to as a 100-year storm, and the area inundated during the base flood is sometimes called the 100-year floodplain.

Is there a special risk-rating procedure for coastal high hazard areas (V zones)?

Yes. When calculating the risk of a V zone property, the formula takes into account the ability of the building to withstand the impact of wave action.

What is the Coastal Barrier Resources System (CBRS)?

The CBRS is a system of protected coastal areas that includes ocean-front land, the Great Lakes and Other Protected Areas (OPAs). Coastal barriers serve as important buffers between coastal storms and inland areas, often protecting properties on land from serious flood damage. Also, coastal barriers provide a protective habitat for aquatic plants and animals. The Coastal Barrier

Resources Act (CBRA) of 1982 restricted development on the CBRS, in an effort to protect the barrier system and prevent future flood damage. People who live in a CBRS area are eligible for federally-backed flood insurance only if their property was built before 1982 and their community participates in the NFIP. For more information, visit www.fema.gov/nfip/cobra.shtm.

There are ten coastal barriers designated in Ohio, all of which are located in one of three coastal counties—Erie, Lake or Ottawa. All ten are illustrated in the flood hazard maps in this chapter:

- OH-01 = Arcola Creek, Lake County
- OH-02 = Mentor, Lake County
- OH-03 = North Pond, Erie County
- OH-04 = Old Woman Creek, Erie County
- OH-05 = Sheldon Marsh, Erie County
- OH-06 = Bay Point, Ottawa County
- OH-07 = Middle Bass Island, Ottawa County
- OH-08 = North Bass Island, Ottawa County
- OH-09 = Fox's Marsh, Ottawa County
- OH-10 = Toussaint River, Ottawa County

What is FEMA?

The Federal Emergency Management Agency (FEMA) is a former independent agency that became part of the new Department of Homeland Security in March 2003. FEMA is tasked with responding to, planning for, recovering from and mitigating against disasters. FEMA can trace its beginnings to the Congressional Act of 1803. This Act, generally considered the first piece of disaster legislation, provided assistance to a New Hampshire town following an extensive fire.

FEMA is called in to help when the President declares a disaster after hurricanes, tornadoes, floods, earthquakes or other similar events strike a community. The Governor of a state must ask for help from the President before FEMA can respond. FEMA is headquartered in Washington, D.C., with 10 regional offices across the country.

FEMA Region V serves the states of Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin. Four of the six states share land or water borders with Canada, and all six states border the Great Lakes.

CHAPTER CONTENTS

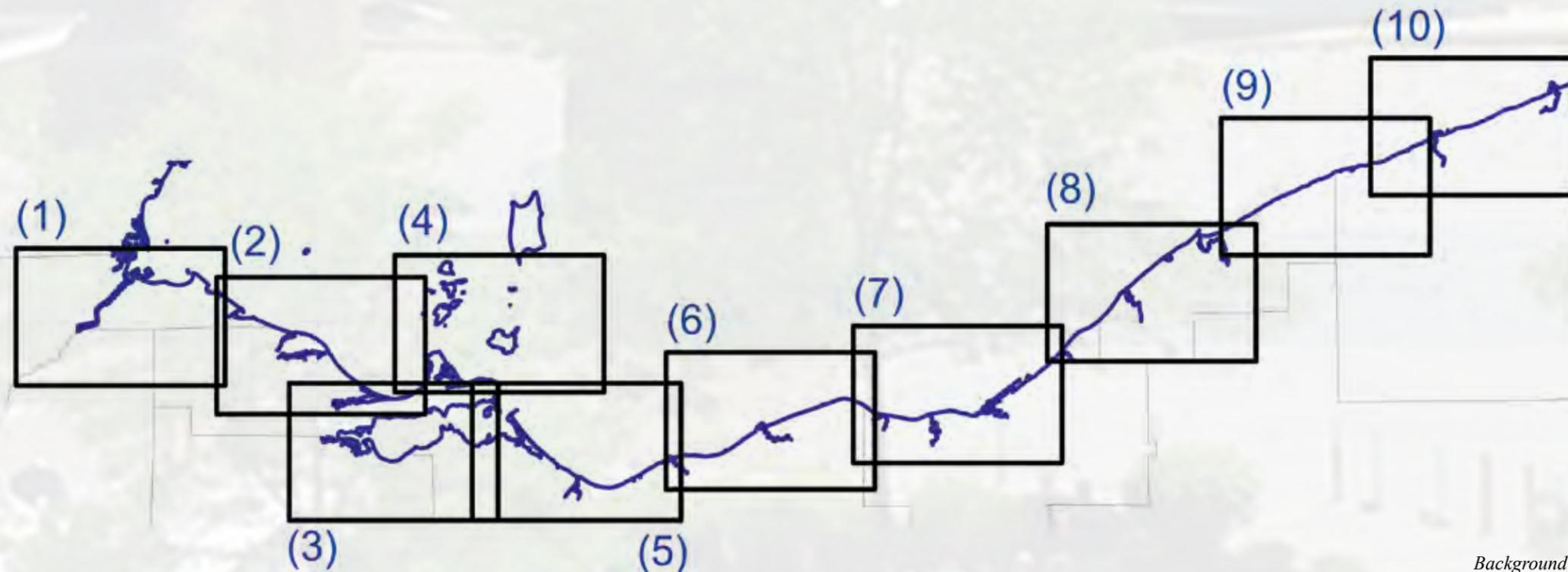
- Map Region 1: Toledo Area
- Map Region 2: Locust Point Area
- Map Region 3: Sandusky Bay Area
- Map Region 4: Lake Erie Islands
- Map Region 5: Sandusky and Huron Area
- Map Region 6: Lorain Area
- Map Region 7: Cleveland Area
- Map Region 8: Painesville Area
- Map Region 9: Arcola Creek Area
- Map Region 10: Ashtabula and Conneaut Area

The six states have nearly 5,000 miles of Great Lakes coast and comprise one of the nation’s major transportation corridors. Thirty-five percent of the total tons of hazardous materials shipped in the United States either originate or terminate in a Region V state.

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 www.fema.gov

For more information:

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 Floodplain Management Section
 2045 Morse Rd. Bldg B-2
 Columbus OH 43229
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 E-mail: tanisha.barnett@dnr.state.oh.us
 Web: ohiodnr.com/water/floodpln/



Navigation Guide for Flood Hazard Maps

- Map Region 1: Toledo Area
- Map Region 2: Locust Point Area
- Map Region 3: Sandusky Bay Area
- Map Region 4: Lake Erie Islands
- Map Region 5: Sandusky & Huron Area
- Map Region 6: Lorain Area
- Map Region 7: Cleveland Area
- Map Region 8: Painesville Area
- Map Region 9: Arcola Creek Area
- Map Region 10: Ashtabula & Conneaut Area

Background photo – Rocky River marina damage due to 2004 flooding, Cuyahoga County

Flood Hazards Map Region 1 – Toledo Area

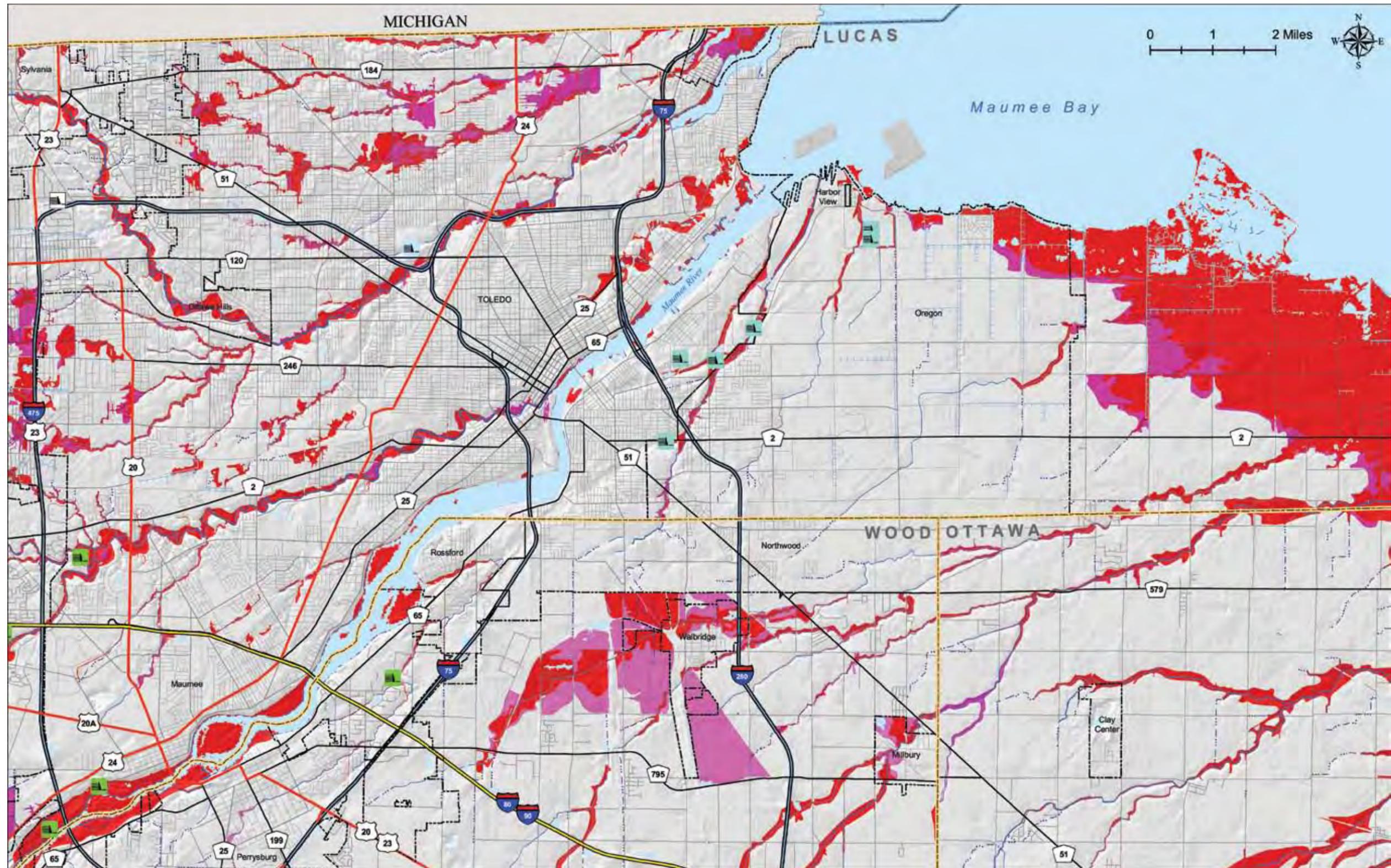
FLOOD COMPARISON POINT PLACE, LUCAS COUNTY



1972: Flood damage throughout Toledo neighborhood

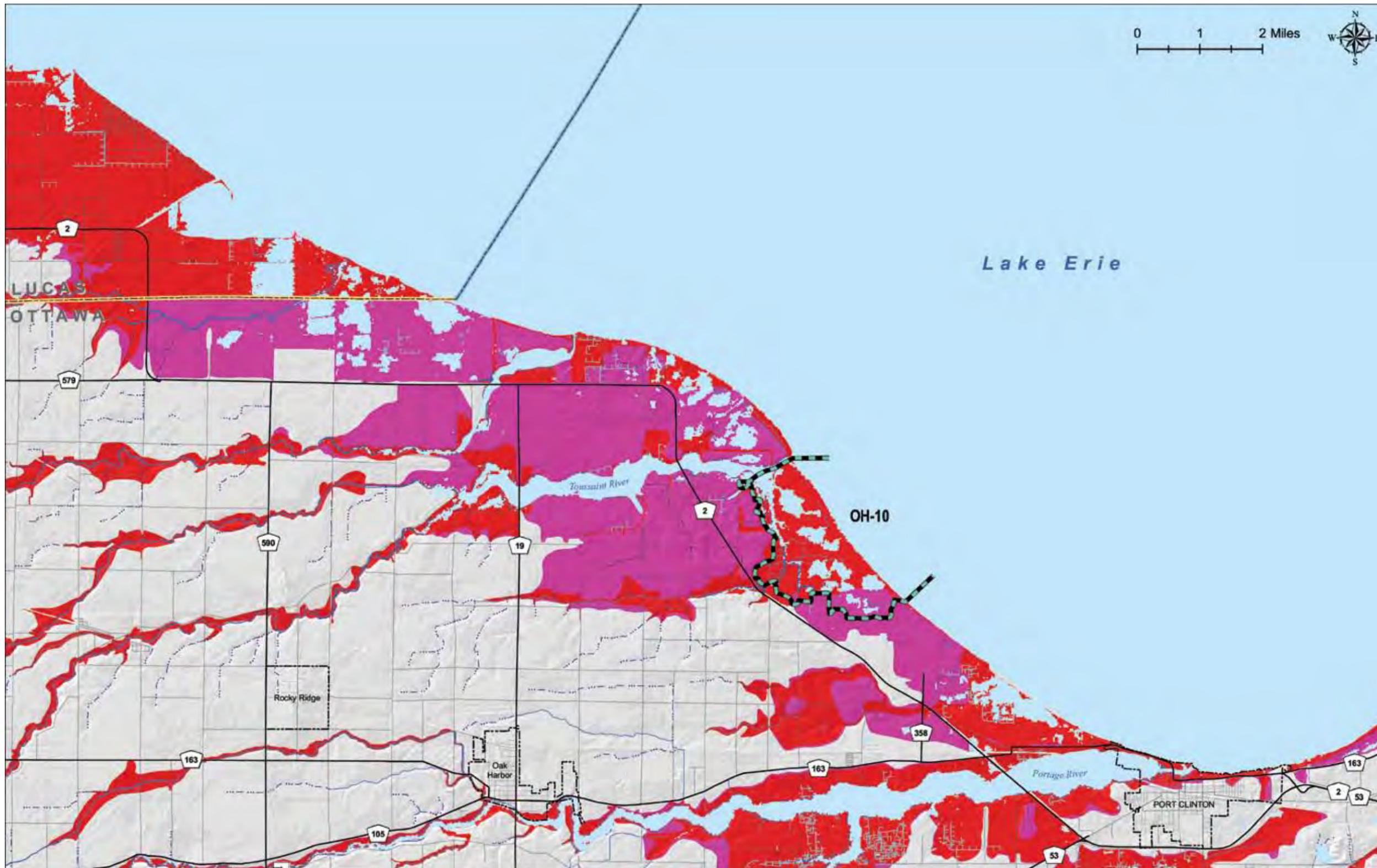


1973: Recovered flood area



Map 54 GIS data citation in Appendices

Flood Hazards Map Region 2 – Locust Point Area



Flood Hazard Areas

- Areas inside 100-Year Floodplain
- Areas inside 500-Year Floodplain
- Areas outside 100- and 500-Year Floodplain
- Coastal Barriers

Dam Purpose

- Flood Control
- Landscape
- Recreation
- Sediment Control
- Waste Retention
- Wastewater Treatment
- Water Supply
- Unspecified

Rivers and Streams

- River, Stream or Creek
- Intermittent Stream
- Ditch or Canal

Map 54 GIS data citation in Appendices

Flood Hazards Map Region 3 – Sandusky Bay Area



Fox's Marsh, North Bass Island, Ottawa County



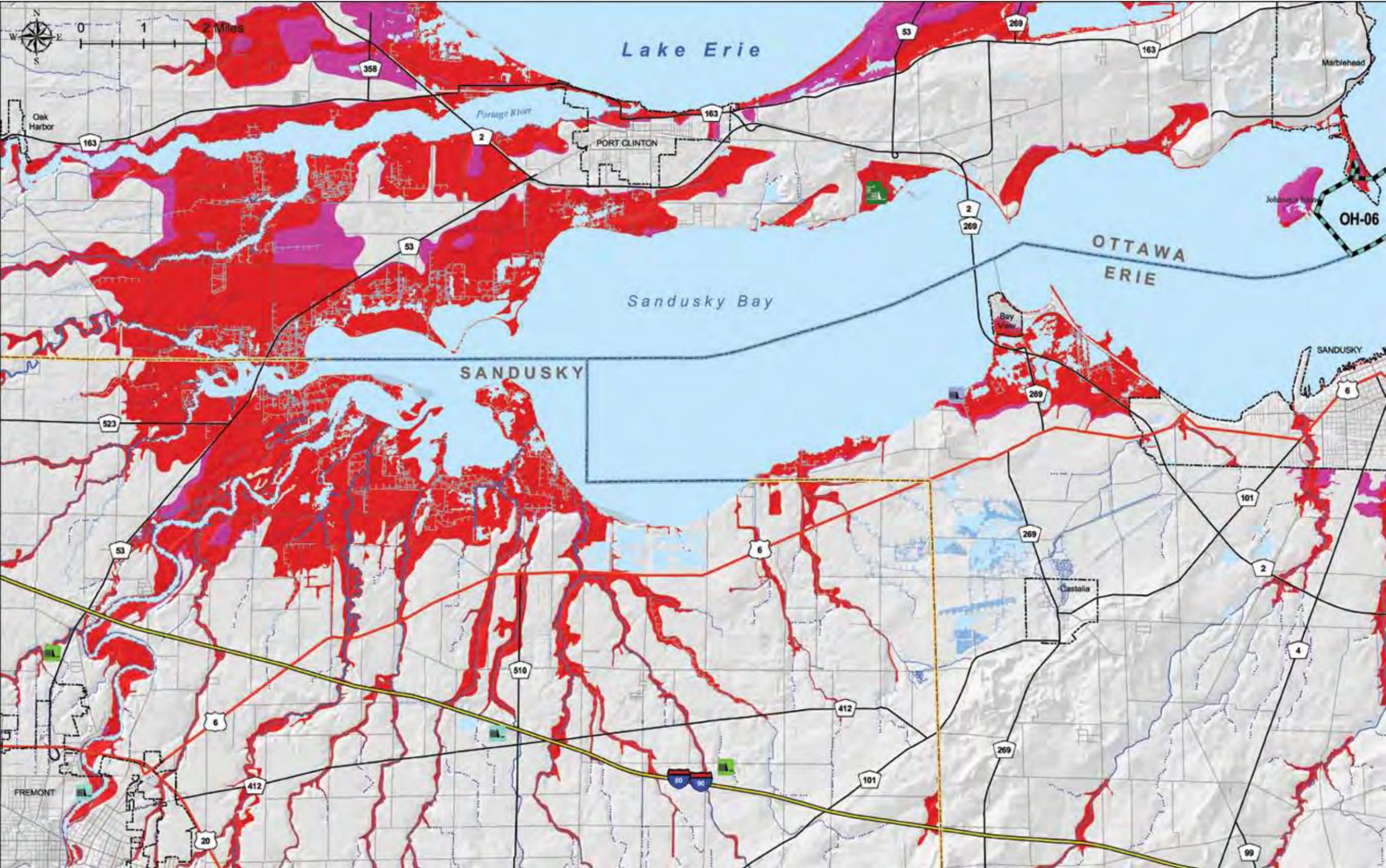
North Pond State Nature Preserve, Kelleys Island, Erie County



Sheldon Marsh State Nature Preserve, Erie County

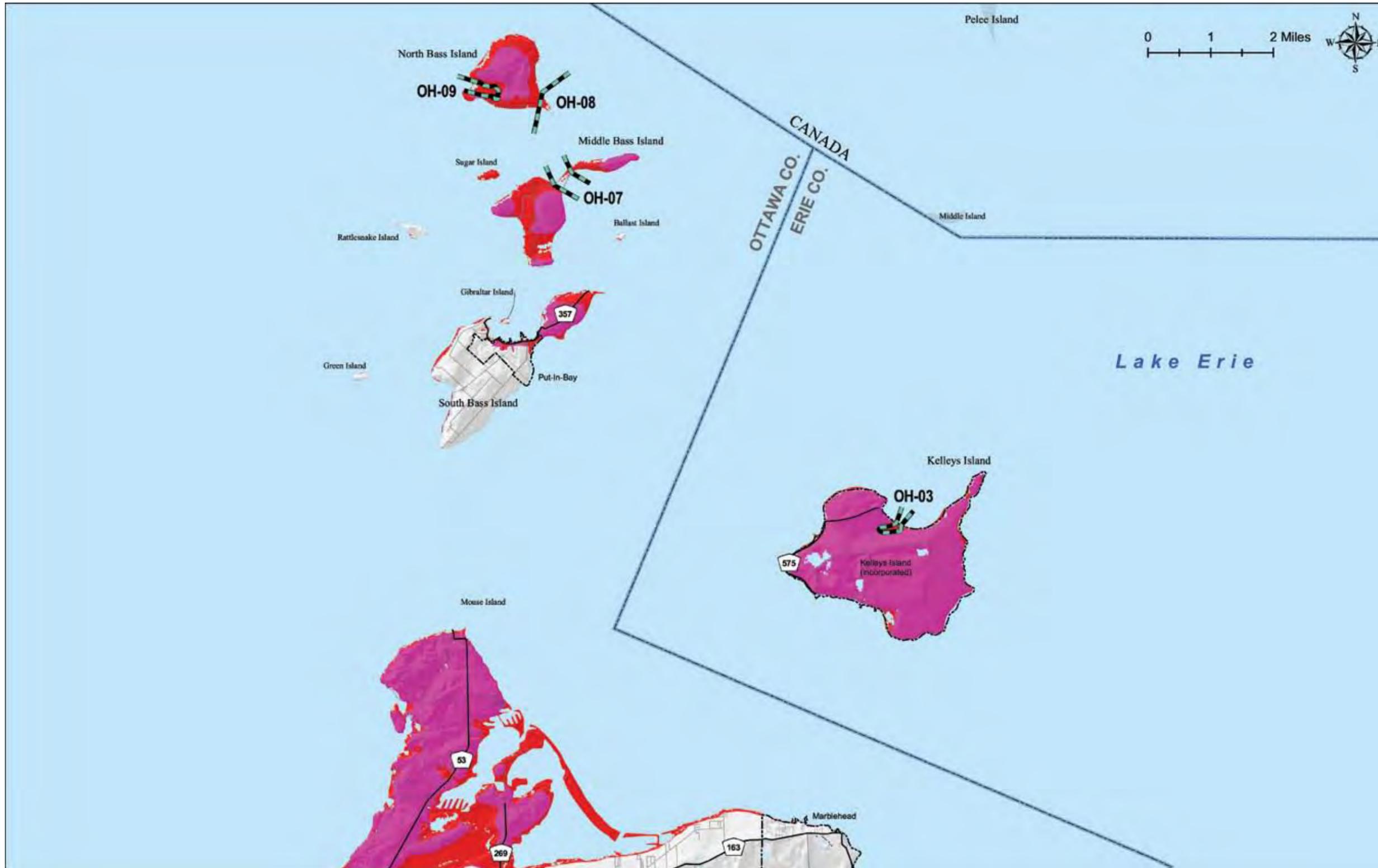


Old Woman Creek, Erie County



Map 54 GIS data citation in Appendices

Flood Hazards Map Region 4 – Lake Erie Islands



Flood Hazard Areas

- Areas inside 100-Year Floodplain
- Areas inside 500-Year Floodplain
- Areas outside 100- and 500-Year Floodplain
- Coastal Barriers

Dam Purpose

- Flood Control
- Landscape
- Recreation
- Sediment Control
- Waste Retention
- Wastewater Treatment
- Water Supply
- Unspecified

Rivers and Streams

- River, Stream or Creek
- Intermittent Stream
- Ditch or Canal

Map 54 GIS data citation in Appendices

Flood Hazards Map Region 5 – Sandusky and Huron Area

FLOOD COMPARISON RENO BEACH, LUCAS COUNTY



1972: Flood damage throughout neighborhood

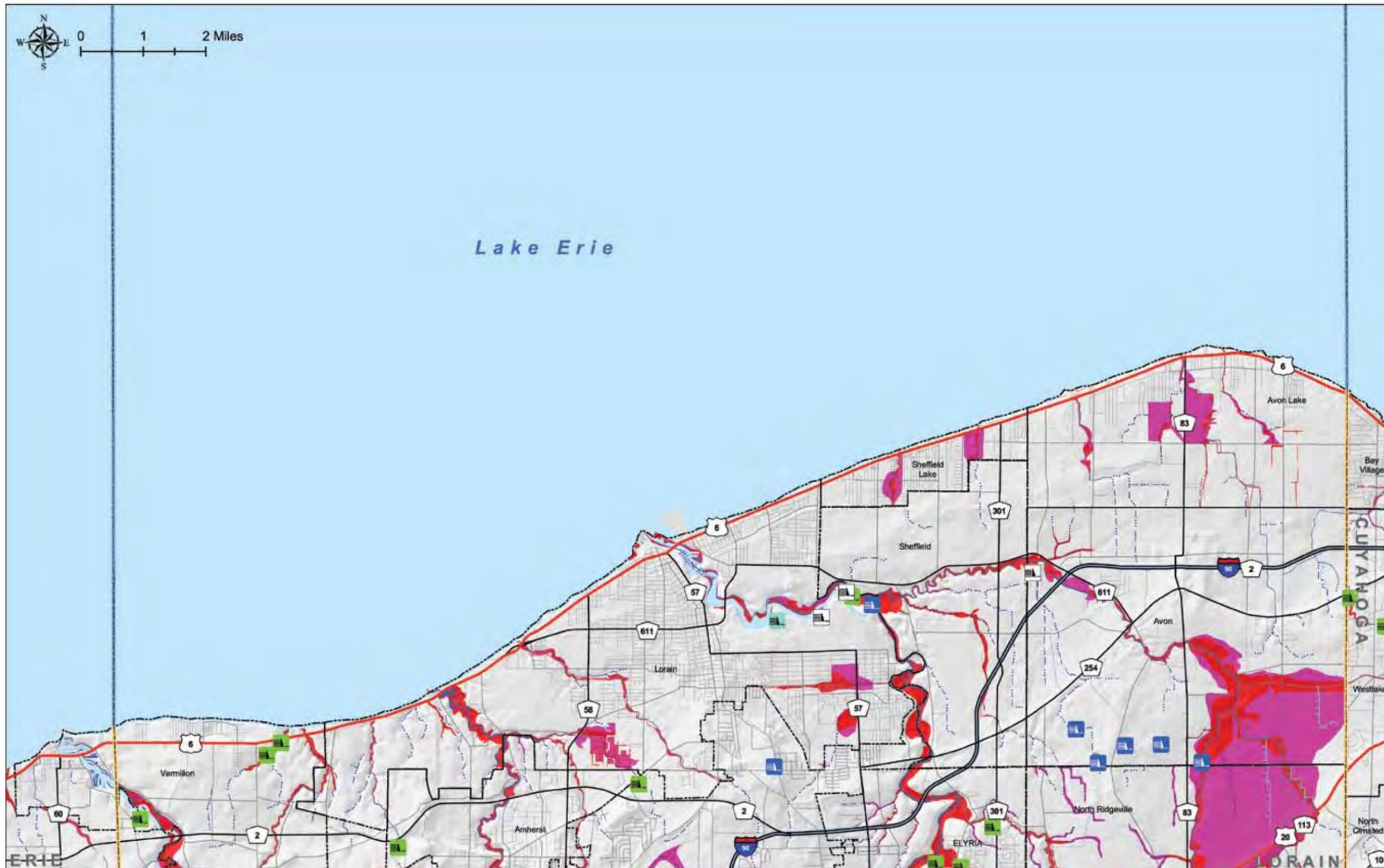


1973: Recovered flood area



Map 54 GIS data citation in Appendices

Flood Hazards Map Region 6 – Lorain Area



Flood Hazard Areas

- Areas inside 100-Year Floodplain
- Areas inside 500-Year Floodplain
- Areas outside 100- and 500-Year Floodplain
- Coastal Barriers

Dam Purpose

- Flood Control
- Landscape
- Recreation
- Sediment Control
- Waste Retention
- Wastewater Treatment
- Water Supply
- Unspecified

Rivers and Streams

- Rocky River
- River, Stream or Creek
- Intermittent Stream
- Ditch or Canal

Map 54 GIS data citation in Appendices

Flood Hazards Map Region 7 – Cleveland Area



2004 Flood, Rocky River, Cuyahoga County



2004 Flood, Rocky River, Cuyahoga County

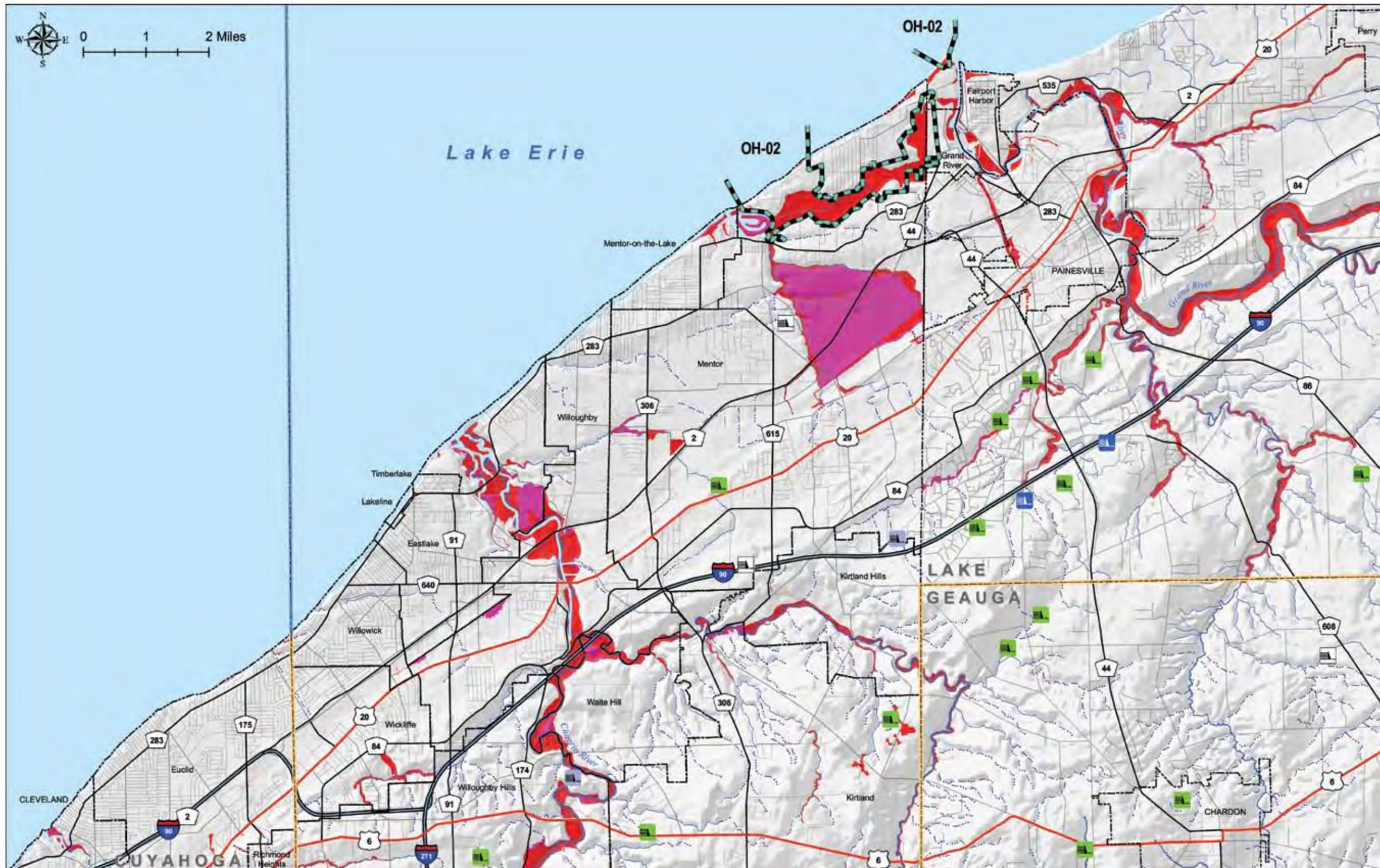


1913 Flooding in Fremont, Sandusky County



Map 54 GIS data citation in Appendices

Flood Hazards Map Region 8 – Painesville Area



Flood Hazard Areas

- Areas inside 100-Year Floodplain
- Areas inside 500-Year Floodplain
- Areas outside 100- and 500-Year Floodplain
- Coastal Barriers

Dam Purpose

- Flood Control
- Landscape
- Recreation
- Sediment Control
- Waste Retention
- Wastewater Treatment
- Water Supply
- Unspecified

Rivers and Streams

- River, Stream or Creek
- Intermittent Stream
- Ditch or Canal

Map 54 GIS data citation in Appendices

Flood Hazards Map Region 9 – Arcola Creek Area



Mentor Marsh State Nature Preserve, Lake County



Mentor Marsh State Nature Preserve



Mentor Headlands area, Lake County

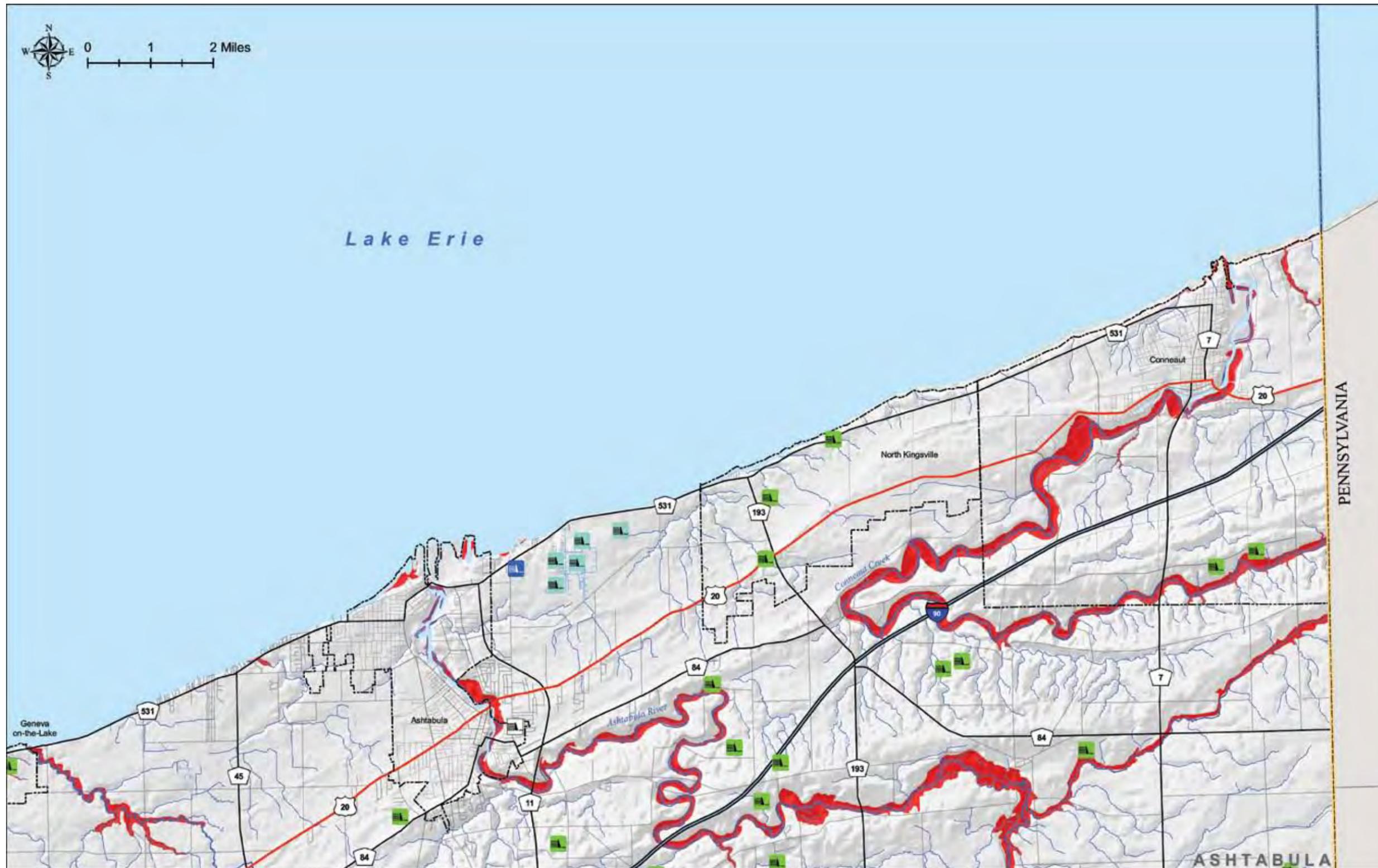


Arcola Creek Estuary, Lake County



Map 54 GIS data citation in Appendices

Flood Hazards Map Region 10 – Ashtabula and Conneaut Area



Flood Hazard Areas

- Areas inside 100-Year Floodplain
- Areas inside 500-Year Floodplain
- Areas outside 100- and 500-Year Floodplain
- Coastal Barriers

Dam Purpose

- Flood Control
- Landscape
- Recreation
- Sediment Control
- Waste Retention
- Wastewater Treatment
- Water Supply
- Unspecified

Rivers and Streams

- River, Stream or Creek
- Intermittent Stream
- Ditch or Canal

Map 54 GIS data citation in Appendices