Northeast Ohio’s Waterways: Lakefront Planning Issue Forums Summary Report Climate and Shoreline

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Northeast Ohio’s Waterways:
Lakefront Planning Issue Forums
Summary Report
Climate and Shoreline

Date: November 7, 2002
Venue: Cleveland State University, Levin College of Urban Affairs
Moderator: Wayne Dawson, FOX 8 News
Panelists: Donald E. Guy, Jr., Senior Geologist, Ohio Department of Natural Resources, Lake Erie Geology Group.
Susan Davies, Environmental Reporter and Meteorologist, News Channel Five
Commander Jay Onadila, Greater Cleveland Boating Association
Jeffrey Bush, Executive Director of the Ohio Lake Erie Commission (OLEC)
John Watkins, Coastal Engineer, Ohio Department of Natural Resources (ODNR), Sandusky, Ohio

The following is a summary of the Lakefront Planning Issues Forum on Climate and Shoreline. The forum was the fourth in the Northeast Ohio Waterways Series, intended to deepen the community’s understanding of some of the more complex issues related to Cleveland’s lakefront planning efforts. The Climate and Shoreline Forum examined the natural forces that have shaped the lakeshore and the impact that these forces will have on future lakefront planning decisions. Background information and planning issues were presented and are summarized below.
Climate and Shoreline

Fast Facts
- Average wind speed: 10.8 mph
- Clear days: 70
- Partly cloudy days: 98
- Cloudy days: 197
- Precipitation days: 156

Protected Shoreline: The breakwater extends six miles from the eastern end of Edgewater Park to East 55th Street.

Natural Shoreline: Approximately 2,800 feet of natural coastline extends from the upper area of Edgewater Park to its beach. Another 1,800 feet of undeveloped shoreline can be found between the Whiskey Island Marina and the Cuyahoga River.

Beach: Approximately 1,000 feet of sandy beach is maintained by the Ohio Department of Natural Resources at the lower level of Edgewater Park.

Fishing Piers: A finger pier extends into Lake Erie at the lower level of Edgewater Park and shoreline fishing areas are found between the east end of the East 55th Street Marina and Gordon Park near the water intake and discharge areas for First Energy’s Lake Shore Plant at East 72nd Street.

Marinas: Eight marinas are located on the lakefront between Edgewater Park and Gordon Park.

Background

Cleveland Climate

Winter: Cleveland lies in the path of many cold air masses advancing south and east out of Canada, and its northeast-southwest alignment positions the city to take the full brunt of the winter winds. Low temperatures are somewhat modified by the air having passed over the comparatively warm waters of Lake Erie but this interaction also produces considerable cloudiness and lake effect snows.

Spring: Spring is generally a brief transition period between the extremes of winter and summer. Air temperatures on the lakefront are cooler than inland temperatures because of the still frigid lake waters.

Summer: Summer in Cleveland is usually hot and humid but locations closer to the lake are moderated by Lake Erie’s cooling effect.

Fall: Fall is the most pleasant season with mild, sunny weather often extending into November or even early December.

Cleveland Shoreline

Shoreline: The portion of shoreline that is the focus of the City’s Lakefront Planning efforts is the approximately eight-mile stretch from Edgewater Park on the west to Gordon Park on the east. This includes the mouth of the Cuyahoga River.
Breakwater: The shoreline is protected by a six-mile-long breakwater that extends from the eastern edge of Edgewater Park to East 55th Street. The breakwater is located between 1,000 and 2,000 feet from the shoreline and is composed of stones piled 20 to 50 feet wide. Access openings are located at the east and west ends and at the mouth of the Cuyahoga River. In addition, much of the lakefront has been reinforced to protect it from erosion.

Natural Shoreline: Approximately 2,800 feet of natural coastline can be found extending from the upper area of Edgewater Park to the park’s beach. Another 1,800 feet of undeveloped shoreline can be found between the Whiskey Island Marina and the Cuyahoga River.

Beach: Approximately 1,000 feet of sandy beach is maintained by the Ohio Department of Natural Resources at the lower level of Edgewater Park.

Fishing Piers: A finger pier extends into Lake Erie at the lower level of Edgewater Park and shoreline fishing areas are found between the east end of the East 55th Street Marina and Gordon Park in the vicinity of the water intakes and discharge areas for First Energy’s Lake Shore Plant at East 72nd Street.

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Issues for Consideration in the Planning Process

The lack of beaches on the Cleveland lakefront

Donald Guy: The lack of beaches is partly the result of efforts to prevent erosion. If there were no shore protection, however, sand would be eroded from the Cleveland waterfront in excess of about 7,000 cubic yards per year. If more recreational beached are desired, some of the embankments along the waterfront will have to be re-engineered.

A built structure that extends out into the water stabilizes the tow of the bluff, but it does not recreate the near shore profile, and a beach will not reform in front of that structure. In order to recreate a beach in front of a structure far more sand than what was along the shoreline initially will be needed. The challenge for Ohio is how to protect the shoreline and nourish the beaches.

The impact of Cleveland's weather

Susan Davies: The lake temperatures make spring colder along the lakeshore, which may make it a less appealing place for outdoor activities such as bicycling, jogging, and roller-blading.

If we are going make Cleveland’s lakefront more pedestrian-friendly we should also consider ways to make it climate friendly. Careful placement of trees and other vegetation can serve as buffers to strong Northwest winds in the winter and provide shade in the summer. Similarly, when planning for apartments and cafes along the waterfront, it is important to consider design features that can mitigate an inhospitable winter environment.
The long-range forecast for Cleveland’s climate and shoreline

Susan Davies: Most scientists studying the issue as it relates to the Great Lakes believe that there will be a five to ten degree increase in air temperature in the next 100 years. In general, scientific models are predicting warmer and wetter winters with late or no ice covering. Less ice cover will lead to more evaporation and lower lake levels. Lake Erie could experience as much as a five-foot reduction in water levels.

Recreational activities

Jay Onacila: A major issue preventing more boaters from spending time (and money) visiting Cleveland is the shortage of transient dockage. There is a major shortage of boat slips for short-term and overnight tie-ups.

This shortage translates into economic losses for the city: a popular 100-slip marina could easily bring $2,000,000 into the local economy during the boating season.

The Lake Erie boating season includes the traditional summer months and continues into the fall because water temperatures are still warm.

Many boaters are intrigued by the city’s beautiful skyline and many attractions upon their arrival in the area.

To attract more recreational boaters and better compete with other Great Lakes cities, Cleveland needs to develop high quality, transient facilities at well-known locations for recreational options such as bicycle paths, parks, hiking trails, and other activities such as shopping opportunities and sports facilities.

The recreational boating community is growing, and demographics indicate that an increasing number of boaters will have the time and the disposable income to leisurely cruise the waterways.

Environmental considerations

Jeffery Bush: Thirty years ago, Lake Erie was considered to be dead. Today, lake fish are, for the most part, much healthier and some are suitable for eating, at least on a limited basis. Many aquatic and land species that had disappeared (e.g. walleye and bald eagles) are returning, as are insects such as mayflies. These species indicate that the health of the land and water ecology is improving. Water clarity has improved four-fold.

The present condition and increased clarity of Lake Erie water is the result of federal, state and local investments in improved sewage treatment and the reduction in point sources of pollution.

Serious environmental problems in Lake Erie still exist, however. About 20 percent of time in the summer, Ohio beaches are under a beach advisory due to bacterial contamination from leaking septic systems, municipal treatment systems, and other sources, particularly during storm events.

Eight Lake Erie commercial port
areas have extremely contaminated sediments resulting from the legacy of the past.

The number one challenge to the improving health of Lake Erie today is non-point pollution, primarily the run-off and erosion of soils and the loading of sediment coming off the farmland in Ohio, going down the rivers, and entering the lakes.

The Ohio Lake Erie Commission (OLEC) studies indicate that to bring back the prime conditions of water clarity, sediment load must be reduced by two-thirds in order to increase healthy eco-communities in the rivers. Atmospheric sources of pollution also need to be addressed.

The OLEC is focusing its attention on three major recreational elements: 1) fishing on Lake Erie, 2) boating on Lake Erie and 3) the bathing beaches, all of which have experienced a renaissance in usage and enjoyment.

Great Lakes states are devising a long-term Great Lakes restoration plan. A major portion of the plan deals with contaminant sediment removal and disposal.

Planning agencies and funding programs

*John Watkins:* The Coastal Zone Management Act was developed as part of the Clean Water Act of 1972 to encourage states that border an ocean or Great Lake to develop and implement programs to manage their coastlines. Ohio's coastal management law designates the Ohio Department of Natural Resources (ODNR) as the lead agency in developing and implementing Ohio's coastal management program.

The ODNR develops and maintains the lakefront state parks and encourages private developers to incorporate public access and recreation opportunities into development plans. The ODNR also helps local governments develop lakeshore and urban waterfront recreational areas by providing financial and technical assistance.

The ODNR has two programs that are used in planning and policy implementation along the lakefront. The first is the Statewide Comprehensive Outdoor Plan (SCORP), which provides a comprehensive assessment of recreational needs, resources and planning for facilities. The second program is the Lake Erie Access Program (LEAP), which provides up to 75 percent matching funds to local government agencies on Lake Erie for boating and fishing improvements.

Other assistance opportunities through the ODNR include Coastal Management Assistance Grants (CMAGs), which are annual competitive matching grants to local communities.

*Environmental clean-up programs*

*Jeffrey Bush:* As part of the coastal management program, Ohio is now receiving funding opportunities through the National Oceanic and Atmospheric Administration to address non-point pollution.
John Watkins: The Conservation Reserve Enhance Program, which is being administrated by ODNR, is in its third year and has been a remarkable success. It is a rental fee paid by the government to farmers to keep vulnerable tracks of land uncultivated, particularly buffer strips near streams and wetlands. Thousands of acres of wetlands and buffers have been constructed through this program in the last three years.

How the Chicago lakefront differs from Cleveland’s

Jeff Bush: The Chicago waterfront has several urban beaches that can be accessed by walking; there is access across their shoreway as well. The other key difference is that the Chicago waterfront is not enclosed behind a federal breakwater, so there's better circulation of lake waters.

Susan Davies: In Chicago, although the prevailing winds are out of the west or southwest, they are not coming off the lake. It's not as cold a wind as Cleveland’s winter winds. The Cleveland lakefront is very unpleasant in January or February.