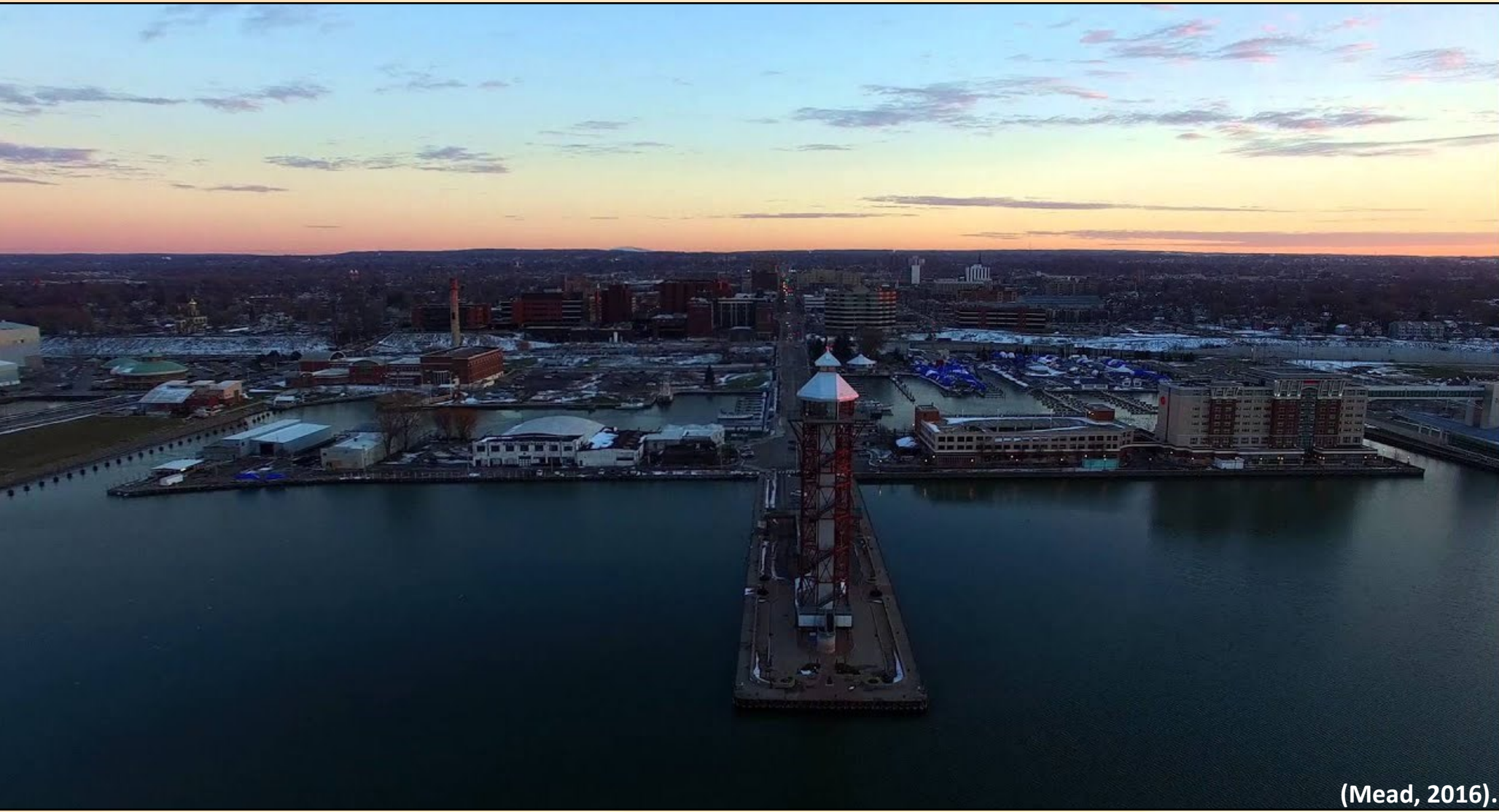


Water Quality and its Effects on the Development of Downtown Erie

Natalee Stinebiser
stinebis001@gannon.edu

Overview

In order for Erie’s revitalization to be successful in the long term, the city must invest in the water system and pollution management, adopt and enforce regulations to protect its water quality, and educate the local community on the importance of Lake Erie.



(Mead, 2016).

Revitalization Initiatives

- Lake Erie is essential in the efforts to stimulate economic growth within the region. For instance, Presque Isle State Park generates approximately 4 million tourists that spend nearly \$77 million annually (Great Lakes Restoration, 2017). Erie has seen the tourism and recreation industry grow dramatically from year to year, increasing from \$454 million in 2002 to more than \$1 billion in 2016 (Martin, 2018).
- Recently, the 2030 Districts Network was established as a special designation for cities to commit to creating a sustainable future and improving economic development throughout the world (2030 Districts Network, n.d.). As of November 2019, Erie was named as the 24th 2030 district in the world, alongside cities such as New York City and Philadelphia (YourErie, 2019).
- Organizations from around Erie, like the Erie Downtown Partnership and the Erie Downtown Development Corporation, are creating city developmental plans to revitalize the downtown area.
- Scott Enterprises is finishing up construction on its newest addition to the Bayfront: a 95-room Hampton Inn & Suites hotel (Martin, 2020).
- All these plans have outlined the benefits that they would bring to Erie. However, these plans are not considering the water quality of the asset that is essential to the city: Lake Erie.

Effects of Water Quality on Erie

- A study called “The Economic Impact of the Great Lakes Restorative Initiative” cited Erie as one of the eight cities that have been positively impacted by the investment. In this study, environmental benefits along with economic impacts were shown (Erie Times News, 2018). These include: encouragement of waterfront development, an increase in water-based recreational activities, more support in tourism-based jobs, and park attendance growth (Erie Times News, 2018).
- As Erie focuses on protecting its water quality, the city is also ensuring the progression of revitalization initiatives in the downtown and waterfront zones. This is proven throughout other cities worldwide, like Toronto and Chicago (Arcadis, 2018).



(Costal Care, 2016).



(NOAA Great Lakes Environmental Research Lab, 2014).

Investment in Water

- Throughout history, cities have an improvement in prosperity and the economy only after addressing the issue of water quality (Arcadis, 2018).
- Many benchmark cities around the world, such as Boston, New York City, and Toronto, have seen a significant difference when they invested in the water system and pollution management (Arcadis, 2018). Water quality and sustainability improved dramatically when Boston invested in treatments with some of the problems the city was facing, particularly wastewater (Arcadis, 2018).
- Erie is struggling economically, even being named as one of the poorest zip codes in the Pennsylvania and can benefit greatly by protecting and investing in one of its main sources of income—Lake Erie (Erie Times News, 2018).
- Despite the large upfront costs it takes to invest in the water system and implement pollution management, cities that are facing urbanization must make large investments to improve overall water quality for its area including cities like Erie (Arcadis, 2018).

Adoption of Regulations

- Due to there being few regulations regarding runoff from big farms, Lake Erie has become polluted with primarily non-point sources especially from agricultural runoff (Alliance for the Great Lakes, 2016). City officials need to push the state to enforce water protection from agricultural runoff.
- When water regulations are adopted and enforced, Lake Erie will see a decrease in pollutants, like the algal blooms, and ensure clean water for the families that live within the region (Alliance for the Great Lakes, 2016).
- According to environmentalists around the region, water quality of Lake Erie will not improve without regulations on industries that produce runoff like big farming (Sewer, 2020). Holding these industries accountable is key in protecting Lake Erie and encouraging waterfront development along Presque Isle Bay.

Education of Public

- In order to alleviate the issues that Lake Erie is facing, the Erie community needs to become educated on the water issues that the city is undergoing. The residents of the city need to become aware of the effects that they have on the lake, and how they can help to mitigate these problems.
- Outreach and collaboration with organizations around the city is crucial in informing the Erie community about the importance of utilizing Lake Erie to the city’s benefit.
- By providing education on water quality, people are more inclined to advocate for change. When people are informed on how human activity influences water quality, communities can move towards replacing contamination with water-friendly practices.

Lake Erie’s Water Adversities

- Because of environmental issues that Lake Erie is facing, major industries in the region such as tourism, recreation, and fishing are in jeopardy without taking steps toward improving Lake Erie’s water quality.
- Compared to the rest of the Great Lakes, Lake Erie faces the most exposure to activities such as industrialization, urbanization, and agriculture (Environmental Protection Agency, n.d.). Its watershed is highly populated, making up one-third of the residents of the Great Lakes basin (Environmental Protection Agency, n.d.). Rapid urbanization overwhelms the water infrastructure leading to issues like insufficient treatment and plans (Arcadis, 2018).
- Due to the shallowness of Lake Erie, the lake is more susceptible to pollutants and is impacted at a higher degree than the other Great Lakes (Environmental Protection Agency, n.d.).
- Recently, algal blooms have begun to infest the waters of Lake Erie. These are caused by urbanization, agricultural runoff, and poor nutrient management (Alliance for the Great Lakes, 2016). Algal blooms have led to the closure of beaches along with the prohibition of recreational activities like fishing and swimming, all of which are essential to Erie’s economy (Alliance of the Great Lakes, 2016 & Environmental Protection Agency, n.d.). Additionally, other negative impacts include the creation of “dead zones”, health hazards, loss of aesthetic conditions, and declining waterfront property values (Alliance for the Great Lakes, 2016 & Environmental Protection Agency, n.d.).
- Urban and stormwater runoff as well as nonpoint pollution have been associated with the bacteria that has caused many of the beach closures around Lake Erie (Environmental Protection Agency, n.d.).
- Out of all of the Great Lakes, Lake Erie has the highest amount of effluent received from sewage treatment plans (Environmental Protection Agency, n.d.). If not treated properly, excessive pollutants will infect the water leading to a restriction in water recreation and consumption (United States Geological Survey, n.d.).

References

Alliance for the Great Lakes. (2016, August 22). Lake Erie algae blooms: Polluting our drinking water. *Alliance for the Great Lakes*. <https://greatlakes.org/campaigns/lake-erie-algae-blooms/>

Arcadis. (2018). Sustainable cities index. <https://www.arcadis.com/en/united-states/our-perspectives/sustainable-cities-index-2018/united-states/>

Coastal Care. (2016). Presque Isle. <https://coastalcare.org/2016/11/presque-isle-lake-erie-pennsylvania-by-orin-h-pilkey-norma-longo-nicholas-school-of-the-environment-duke-university/>

Erie Times News. (2018, January 29). Study: Erie’s 16501 is state’s poorest ZIP code. *Erie Times News*. <https://www.goerie.com/news/20180129/study-erries-16501-is-states-poorest-zip-code>

Erie Times News. (2018, October 2). Study: Economic benefits of Great Lakes Restoration Initiative benefit Erie. *Erie Times News*. <https://www.goerie.com/news/20181002/study-economic-benefits-of-great-lakes-restoration-initiative-benefit-erie>

Great Lakes Restoration. (2017). Great Lakes Restoration at work in Pennsylvania. *Great Lakes Commission des Grands Lacs*. <https://www.glc.org/wp-content/uploads/2017/03/GLC-Pennsylvania-GLRI-Fact-Sheet-2017-Final-20170303.pdf>

NOAA Great Lakes Environmental Research Lab. (2014). A satellite image showing algal blooms in Lake Erie in August 2014. <https://radio.wosu.org/post/should-lake-erie-have-legal-rights-toledo-voters-will-decide#stream/0>

Martin, J. (2018, August 15). Tourism a \$1 billion annual business in Erie county. *Erie Times News*. <https://www.goerie.com/news/20180814/tourism-1-billion-annual-business-in-erie-county>

Martin, J. (2020, February 16). Hotel nears completion on Erie’s bayfront. *Erie Times News*. <https://www.goerie.com/business/20200216/hotel-nears-completion-on-erries-bayfront>

Mead, M. (2016, February 26). [Erie, PA waterfront]. https://www.youtube.com/watch?v=ASKQ_F1pv44

Sewer, J. (2020, February 24). Environmentalist: Lake Erie won’t recover without new rules. *Great Lakes Now*. <https://www.greatlakesnow.org/2020/02/ap-ohio-epa-lake-erie-total-maximum-daily-load/>

United States Environmental Protection Agency. (n.d.). Lake Erie. <https://www.epa.gov/greatlakes/lake-erie>

United States Geological Survey. (n.d.). Wastewater treatment water use. https://www.usgs.gov/special-topic/water-science-school/science/wastewater-treatment-water-use?qt-science_center_objects=0&qt-science_center_objects

YourErie. (2019, November 5). Erie officially designated as Established 2030 district. <https://www.youerie.com/news/local-news/erie-officially-designated-as-established-2030-district/>