Monona Bay Restoration Options

Jacob Swift

Where do we start?

- *Enhancing an Urban Resource: Watershed Assessment and Management Plan for Monona Bay*
- This report was published in 2007 by students in UW Madison's Water Resource Managment Master's degree program.
- This report (which I will call "the 2007 report" in this presentation) provides information on the state of Monona Bay in 2007 which we may use for comparison.
- Also provides an array of recommendations for improving the recreational and ecological appeal of Monona Bay.

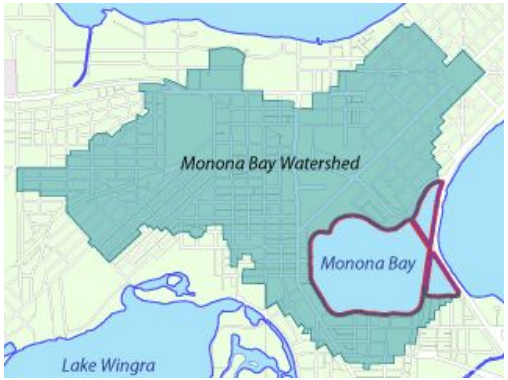
What is the problem with Monona Bay?

(there are more than one)

- Stormwater outflow into Monona Bay carries harmful chemicals and particles into the Bay and downstream bodies of water
  - Total Suspended Solids (TSS)
  - Phosphorus
- High volume construction runoff in the Monona Bay watershed is hurting the water quality
- Excessive aquatic plant growth hinders recreational and aesethetic appeal for residents near Monona Bay (Blue-Green Algae presents an even greater detriment)

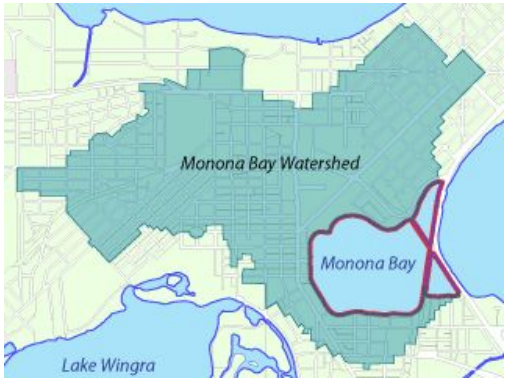
How much do we know now?

- The Monona Bay Watershed contains a large swath of downtown Madison, very high volume stormwater outflow given the size of the bay.
- When rain falls (especially heavy rain) pollutants within the Monona Bay Watershed are washed into the bay.
- Stormwater outflow carries a variety of pollutants including phosphorus (in the form of plant waste), sediment, trash, and more in the bay.



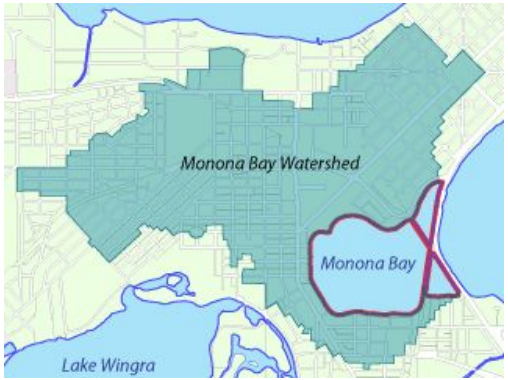
How much do we know now?

- Just one pound of phosphorus can support around 500 pounds of algae.
- Total suspended solids correlate with higher bacterial concentrations which gobble up available nutrients and choke benign aquatic life.
- Overall: drainage and infiltration in the Monona Bay Watershed have been unable to prevent these two main types of pollutants (phosphorus & suspended solids) from harming the water quality in Monona bay.



What progress has been made since 2007?

- Erosion “report a problem” website
- Enhanced street sweeping
- Brittingham park native shoreline buffer
- Non-native species harvesting
- Green infrastructure
- Bayview redevelopment plan (in-progress)



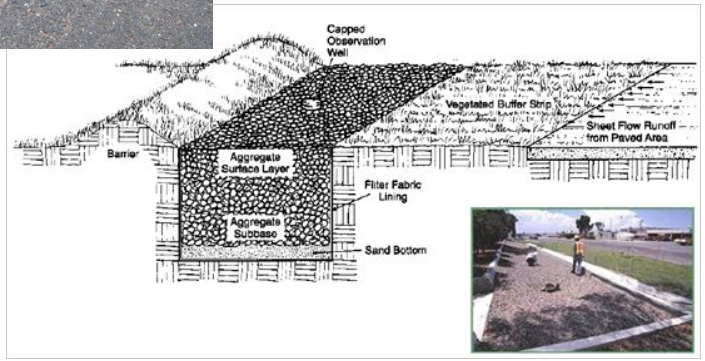
What Reccomendations were made in 2007?

- **Create a fully developed stormwater management plan**
  - Create a long-term program with adequate budget to target and support initiatives that improve the water quality in the Monona Bay watershed and other local urban watersheds.
  - Higher prioritization of water quality in relation to City of Madison Stormwater Utility and Public Works
  - A fully-realized stormwater management master plan could include a lot more, but this is a good place to start.
- Other recommendations:
  - Shoreland Restoration
  - Enhanced aquatic plant management
  - Adjust drainage requirements
  - Install water treatment devices somewhere between stormwater inflows and outflow locations

What can we do today?

- *Environmentally-oriented action*
  - Expand green infrastructure initiatives within Monona Bay Watershed
  - Expand aquatic plant harvesting
  - Stronger drainage requirements
  - Install collection baskets on major stormwater outflows

Stormwater curb inserts, infiltration trenches, permeable surface.



What can we do today?

- Local government-oriented action:
  - Stormwater management master plan
    - (stormwater utility bill money directed towards water quality, rather than public works)
  - Strengthen street sweeping procedures
  - Reform erosion reporting process (specifically regarding construction
  - Tighten chemical regulations (reduce usage of lawn chemicals, etc.)

What Questions can I answer for you?

Photo credits

https://images.app.goo.gl/zoJatrTG2kQ9BXSY8

https://images.app.goo.gl/HAGqKdiitkA2ykr2A

https://images.app.goo.gl/tTeyLW69cWJ85v6z5

https://images.app.goo.gl/r8a24MhXK3Bv6kF59

https://images.app.goo.gl/BhbHL5DCEaqqae1L7

https://images.app.goo.gl/3hDNUjr1J6y6jRid8