

Scajaquada Creek Water Quality and Habitat Restoration Initiative

Biological Sampling of Scajaquada Creek and Adjacent Waterbodies

Ecological Standing Committee

October 26, 2010

Project Sponsors

Forest Lawn Cemetery

in cooperation with

Buffalo Olmsted Parks

Conservancy

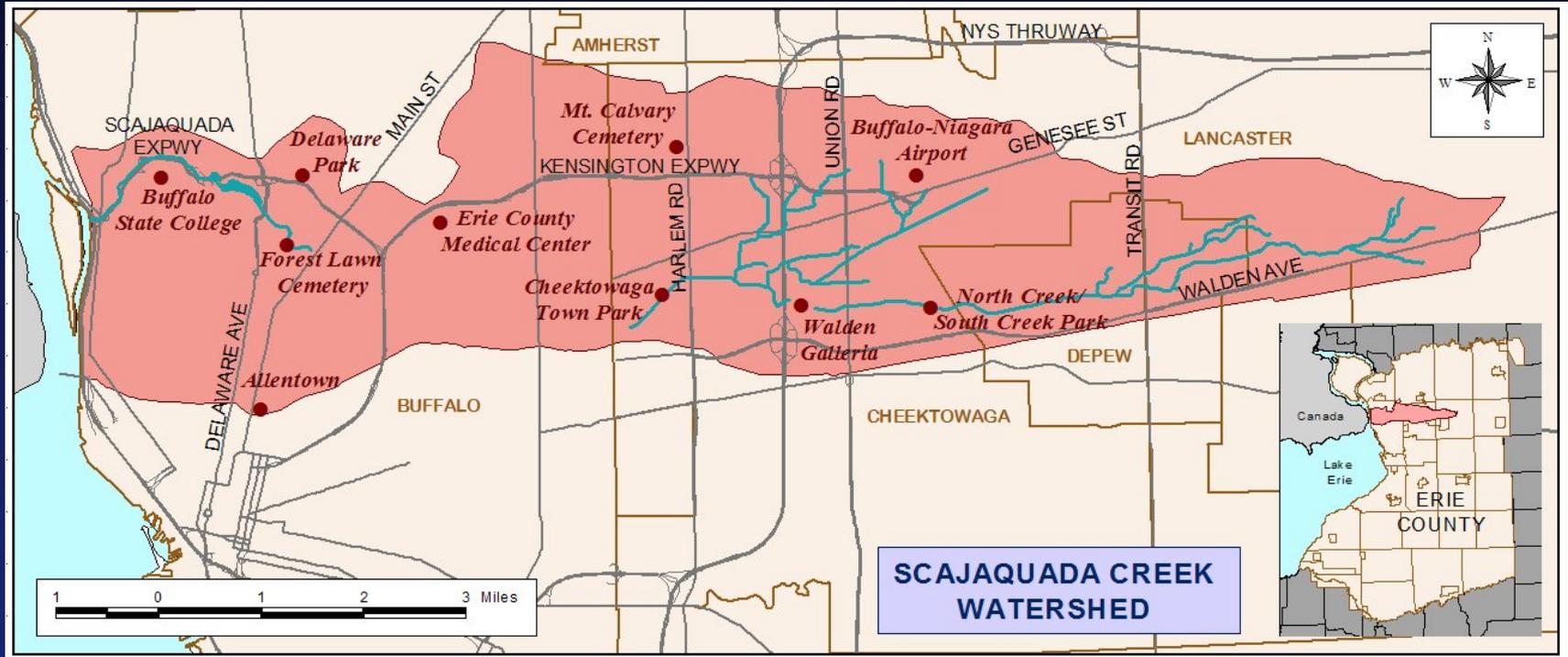
and

Buffalo Niagara Riverkeeper

Community Support

- **Mayor Byron Brown, City of Buffalo**
- **NYS Senator Antoine Thompson**
- **Buffalo Olmsted Parks Conservancy**
- **Buffalo Niagara Riverkeeper**
- **Henry Nowak, former US Congressman**

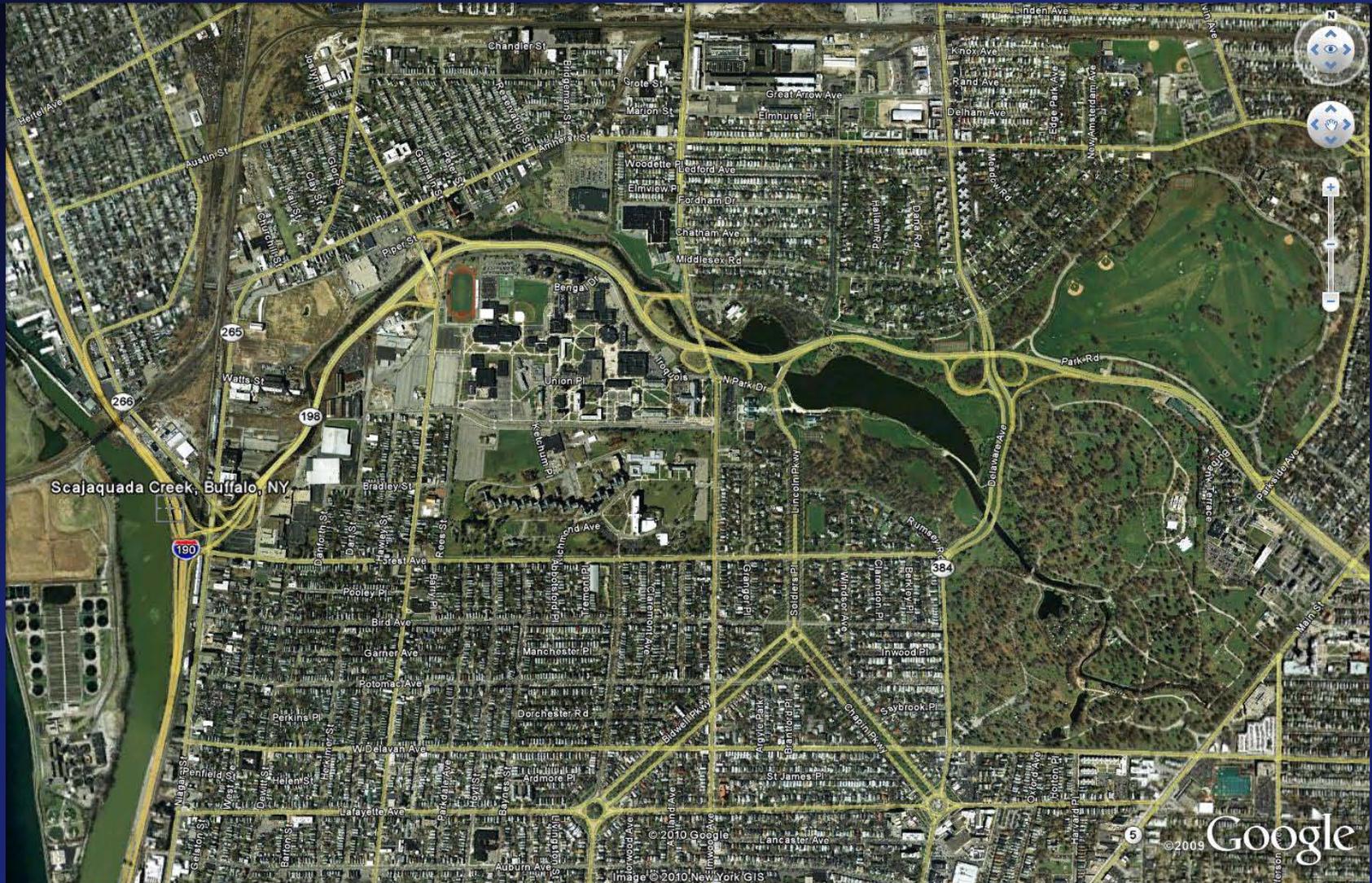
Scajaquada Creek



Current Conditions

- **Diverse watershed (residential, commercial and industrial pollution sources)**
- **Impervious surfaces (i.e. Galleria Mall, Buffalo Airport, roadways)**
- **Combined sewer overflows (BSA)**
- **Poor water quality**
- **Extensive sedimentation**
- **Flow variations**

Scajaquada Creek Project Area



Scajaquada Creek



Sediment Islands



Mirror Lake



Hoyt Lake & Bypass Tunnels



Scajaquada Creek Watershed Management Plan - 2004

- **Botulism outbreaks – waterfowl die-offs have occurred in Scajaquada Creek for over two decades**
- **Est. 300 million gallons of raw sewage enters Scajaquada Creek every year**
- **The by-pass section is a major waterfowl mortality area from botulism, and a highly visible public area**

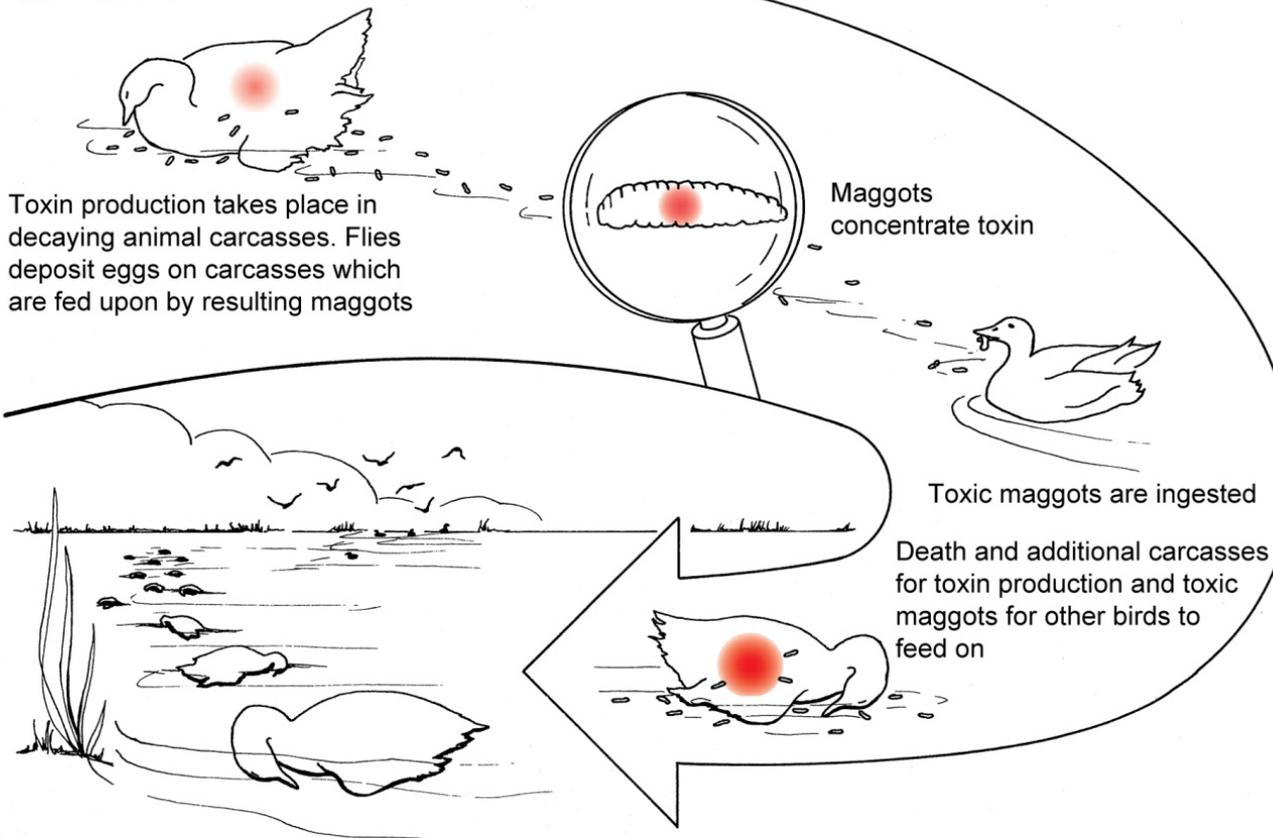
Clostridium Botulism

- **Bacteria in soil and untreated water**
- **Anaerobic conditions**
- **Produces spores**
- **Produces some of the most potent natural neurotoxins known to man**

Avian Botulism Lifecycle

Carcass-maggot cycle of avian botulism

60 – 92 °F



Cycle accelerates — major die-off occurs

Mallard with “Limberneck” Symptom



Proposed Work

1. Project Planning

Sampling Plan, QAPP, H/S Plan, Site Recon

2. Sampling effort –

Estimated 52 samples

Creek – 1 sampling location/quarter mile

Lakes – 1 sample/100 meters of shoreline

Up to 10 extra samples

3. Analyses (Subcontractor laboratory) – Culture/PCR analyses

4. Report preparation

Analytical Summary

Combined Conventional Culture and Polymerase Chain Reaction (PCR) Analyses

- Demonstrates presence or absence
- Indicates quantity
- Indicates toxic production

Project Schedule

- | | |
|-----------------------------|----------------|
| 1. Planning, QAPP, H/S plan | 4 weeks |
| 2. Field Sampling Effort | 2 weeks |
| 3. Sampling Analysis | 8 weeks |
| 4. Report Preparation | <u>6 weeks</u> |

Est. 20 weeks/5 months

Cost Summary

<u>Project Phase</u>	<u>Estimated Cost</u>
Project Planning	\$ 29,000
Sampling	\$ 63,400
Lab Analyses	\$ 64,200
Data Analysis and Report Preparation	\$ 23,400
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Total:	\$180,000

Coordinate with Other Initiatives...

- **City/BSA re other investigation and remediation of CSO and other upstream sources**
- **EPA/BNR/City re anticipated GLLA-funded Study of Chemical Contamination**
- **BNR re other Scajaquada Creek Initiatives**
- **BNR preparation of Niagara River Watershed Mgmt Plan – Scajaquada Sub-basin**
- **Sen Thompson’s efforts to “clean up” Scajaquada Creek**
- **Other Olmsted Parks Conservancy efforts in Delaware Park**

Questions

