

# 2013 Cayuga Lake Monitoring Project

**Progress as of December 3, 2013**

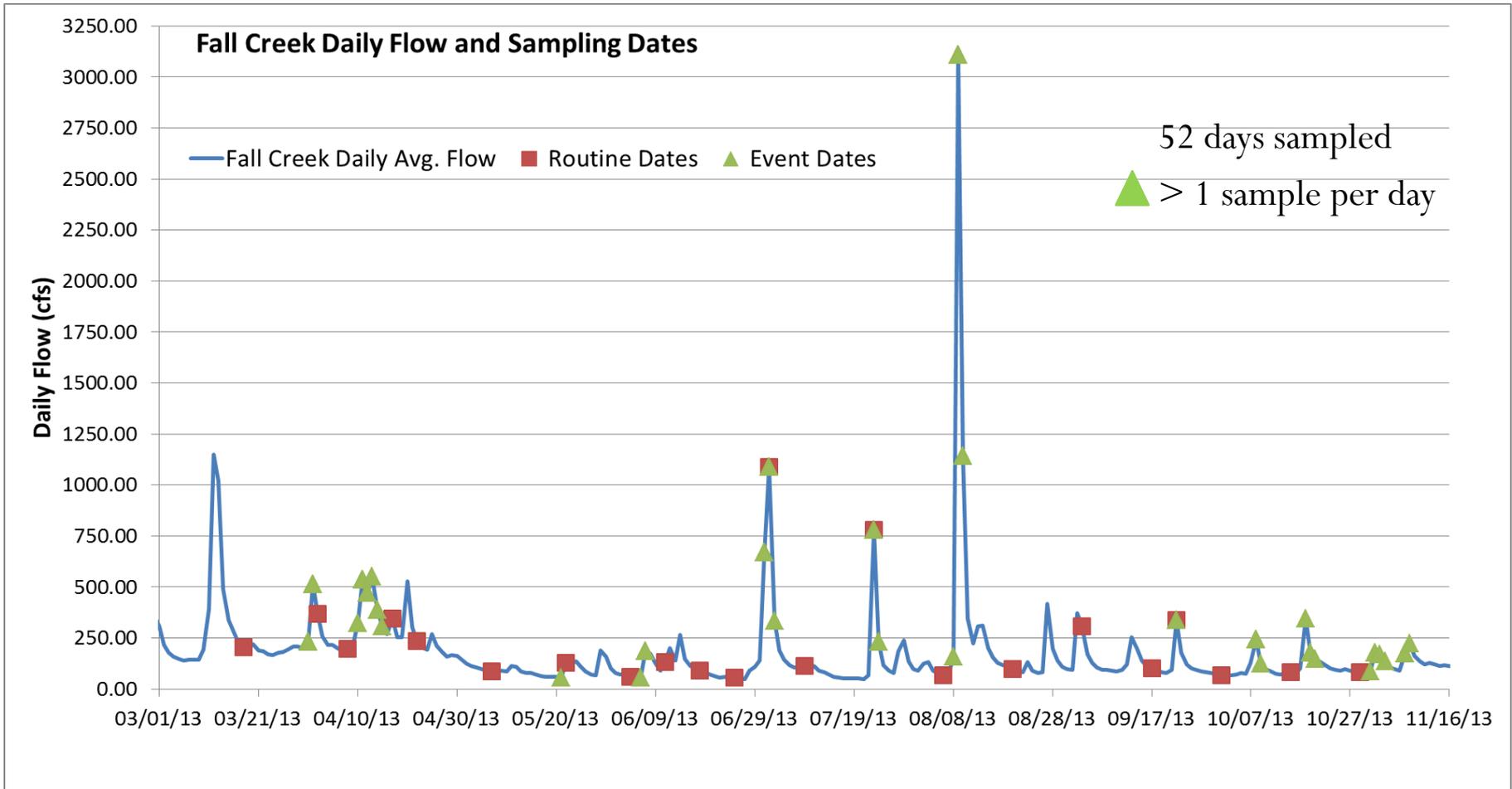
# Tributary Monitoring: Routine

- **sites adjoining mouths**
  - **Program began in mid-March and continued biweekly through October**
  - **15 sampling dates are required to satisfy QAPP**
  - **18 routine monitoring days collected as of 10/29**
  - **Field measurements and chemistry analytes have been collected and conducted as outlined in QAPP**
  - **task is complete**

# Tributary Monitoring: Events

- sites adjoining mouths
  - 4 events required to satisfy the QAPP
  - There have been events monitored in April, June, July, August, September, and October
  - Number of event samples for QAPP satisfied, UFI authorized to collect additional samples in the Fall.
  - ~10 runoff events (> 70 total samples) monitored for Fall Creek, including Aug. 8-10 which was the highest flow peak of the year (to date)
  - Similar coverage for other 3 streams (Salmon Creek, Six-Mile Creek, and Cayuga Inlet)
  - task is complete

# Tributary Monitoring Coverage: Fall Creek

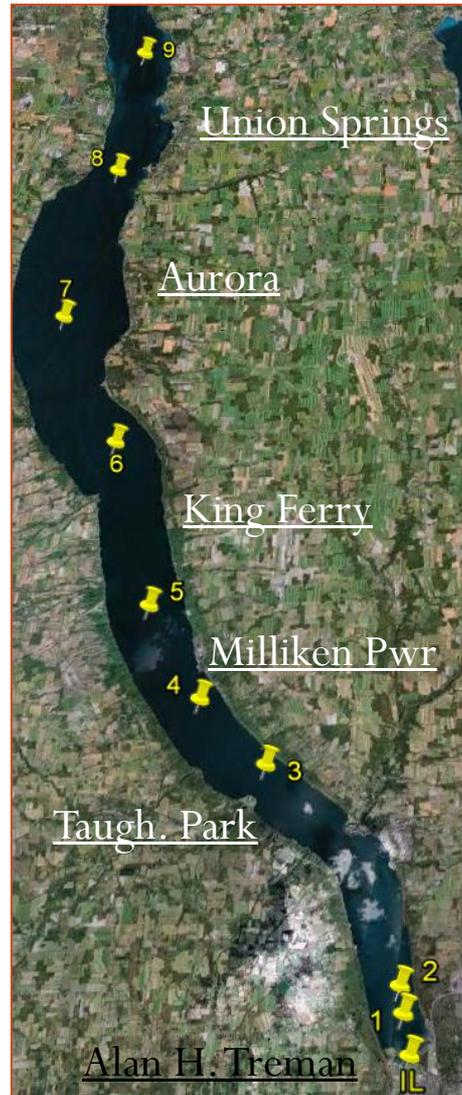


# Tributary Monitoring: Synoptic Events

- multiple sites along Fall and Salmon Creeks
  - 2 synoptic surveys on Fall and Salmon Creeks are required to satisfy QAPP
  - 1 synoptic survey completed in April (4/10-4/14)
  - 1 synoptic survey completed in late October (10/31-11/3)
  - task is complete



# Lake-Wide Survey Locations



# Lake Monitoring: Lake-Wide

- Program began in early April and has continued biweekly through October
- 10 sites along main axis of lake from near Union Springs to Cayuga Inlet
- 15 sampling dates are required to satisfy QAPP
- 16 total days monitored for routine program
- Field measurements, biology collections, and chemistry analytes have been collected and conducted as outlined in QAPP
- task is complete

# Frequent South Survey Locations



# Lake Monitoring: Frequent South

- **Conducted June through September**
- **4 sites monitored 1-2 times per week in southern shelf region**
- **24 monitoring days collected**
- **task is complete**

# Bioavailability Sample Collection

- **Tributary Monitoring**
  - 3 bioavailability studies required by QAPP for Fall Creek, Salmon Creek, Cayuga Inlet, and Six Mile Creek
    - Fall Creek: 3 collected, 3 delivered to MTU
    - Salmon Creek: 3 collected, 3 delivered to MTU
    - Six Mile Creek: 3 collected, 2 delivered to MTU
    - Cayuga Inlet: 3 collected, 2 delivered to MTU
  - Fall Creek and Salmon Creek are now 100% complete
  - awaiting opportunity to complete Cayuga Inlet and Six Mile Creek
- **Ithaca Area WWTP**
  - 3 bioavailability studies required by QAPP
  - 3 collections completed on May 7, June 11, and Sept. 17
  - task is complete
- **Cayuga Heights WWTP**
  - No samples collected

# Ancillary Studies (not in QAPP)

- **Lake Monitoring**

- Lake Bioavailability

- 1 bioavailability collection completed on 7/3

- Automated buoy at Site 2

- Data sonde at Inlet Site

- Optical surveys weekly at a pelagic site and sites on southern shelf

- ADCP in Inlet

- thermistor chains

- **Tributary Monitoring**

- Small creeks survey; 1 time sampling on June 11 for 13 additional tributaries to Cayuga Lake

- more events as described above

# Commencement of Work Elements

- **two-dimensional hydrothermal/hydrodynamic model**
  - W2
  - widely used – NYC reservoirs, eastern Finger Lakes
- **bioavailability experiments**
  - at Michigan Technol. Univ.
  - determines fraction of phosphorus that will support algae growth
- **other data analysis**
  - tributary
  - lake
  - stakeholder data

