



# New York Water Sentinels

## NY Water Sentinels – Citizens Monitoring our Local Streams

February 27, 2016



# New York Water Sentinels

## NY Water Sentinels Quick Facts

- All volunteer organization, a Sierra Club sponsored program
- Started in early 2012.
- ~100 active volunteers, ~100 active stream sites
- Monitor rivers and streams in the Southern Tier, NY
  - Cattaraugus, Allegany, Steuben-Chemung (Painted Post) , Broome-Tioga, Norwich, Delaware
- Database of almost 4,000 stream visits
- Water testing training provided by ALLARM
  - Environmental Science Department, Dickinson College, PA



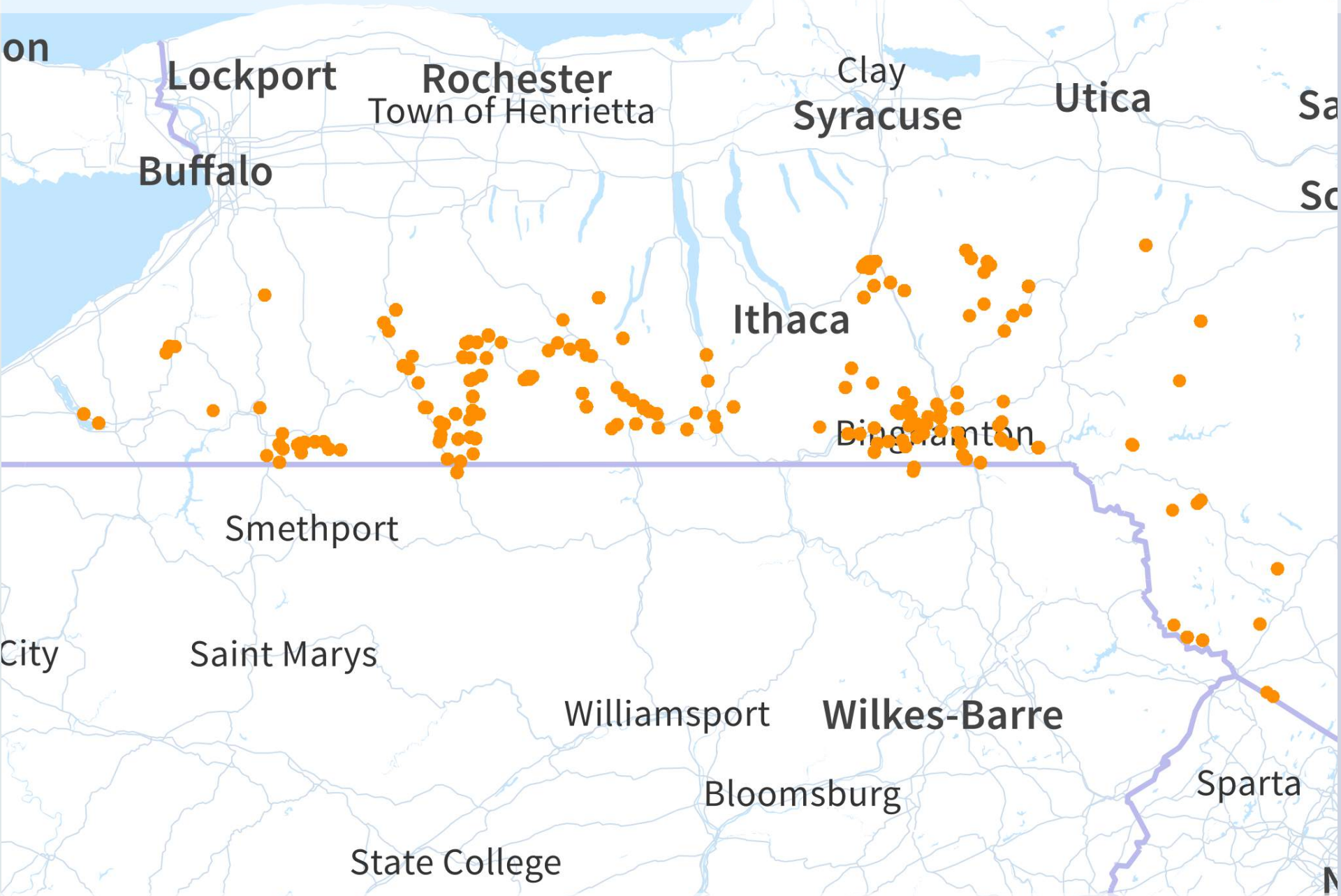


# New York Water Sentinels

## Mission

- Guard our streams against hydrofracking-related pollution events
  - Establish baseline behavior of streams
- Community outreach

# Sampling Locations 2012-2015



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## Some Local Streams Being Monitored

- **Chemung River**
  - Cutler Creek
  - Post Creek
  - Whisky creek
  - Caton Creek
  - Sing Sing Creek \*
  - Newtown Creek
- **Canisteo River**
  - Colonel Bills Creek
  - Baker Creek
  - Stephens Creek
  - Helmer Creek
  - Tracy Creek
  - Tuscarora Creek
  - Elk Creek
  - Goodhue Creek
- **Cohocton River**
  - Twelvemile Creek
  - Neils Creek
  - Tenmile Creek
  - Goff Creek
  - Fivemile Creek
  - Campbell Creek
  - Harrisburg Hollow Creek
  - Mud Creek
  - Michigan Creek
  - Curtis Creek
  - Meads Creek
  - Erwin Hollow Creek
  - Hodgmans Creek
- **Tioga River**

\* Susquehanna River Basin Commission sonde site



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## The Data Volunteers Collect

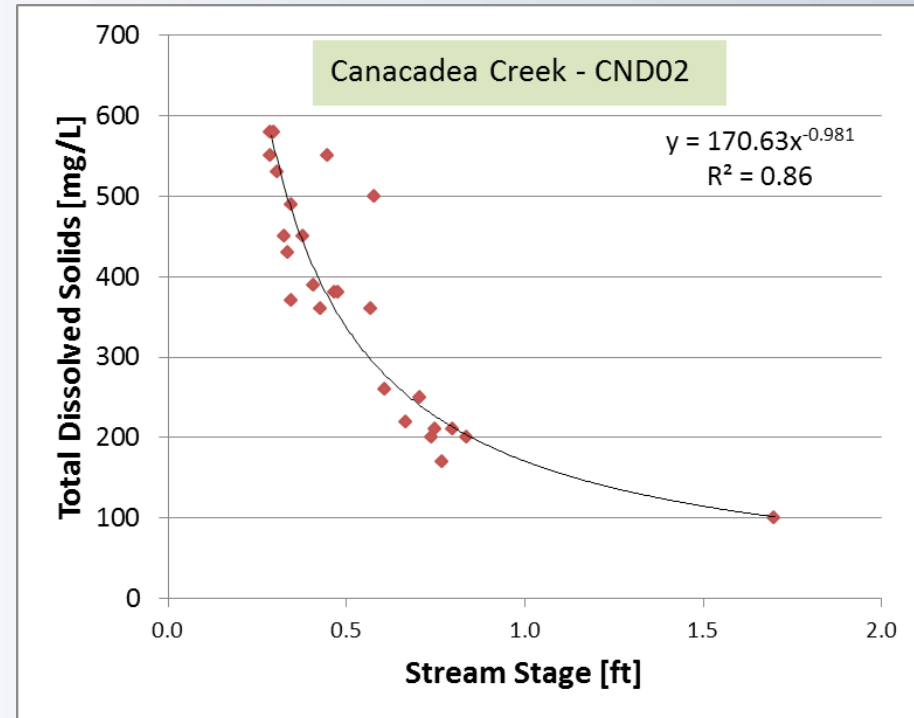
- Measure **TDS** and **Stage** of the streams (every two weeks)
  - TDS = total dissolved solids [mg/L]
    - Meter estimates TDS from conductivity [ $\mu\text{S}/\text{cm}$ ] measurement
  - Stream stage = stream depth [feet]
- TDS and stage are used together to create a baseline plot for each stream
- Visually assess the site
- Collect water samples every 6 months
  - Do QAQC check, analyze for Ba, Sr level
- Website is [NYWaterSentinels.org](http://NYWaterSentinels.org)



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## TDS (Conductivity) & Stage

- Inversely related (as one goes up, the other goes down)
- Volunteers use the baseline Stage/TDS plot to assess whether their new reading is typical or not.
- 3X the curve is atypical. If atypical, take a grab sample



TDS-Stage Baseline Plot



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## 1 year of Conductivity Data Sing Sing Creek, SRBC Sonde







## Next Steps

- Continuing to gather baseline TDS-stage data on our local streams
- Taking a closer look at potential point sources of TDS (wastewater treatment plants, salt cavern gas storage facilities, creeks near landfills)



# New York Water Sentinels

Want to test your local stream?

- Sign up on our website: [NYWaterSentinels.org](http://NYWaterSentinels.org)
- Fill out a sign up sheet
- See me (Bill Mattingly) after the Forum