



OWASCO LAKE'S 9-ELEMENT PLAN: UPDATES

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The Annual OWLA Bob Brower Scientific Symposium in “Plain English”
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Owasco Lake Watershed Management and Waterfront Revitalization Plan



March 2016



Department
of State

This report was prepared with funds provided by the New York State Department of State
under Title 11 of the Environmental Protection Fund.

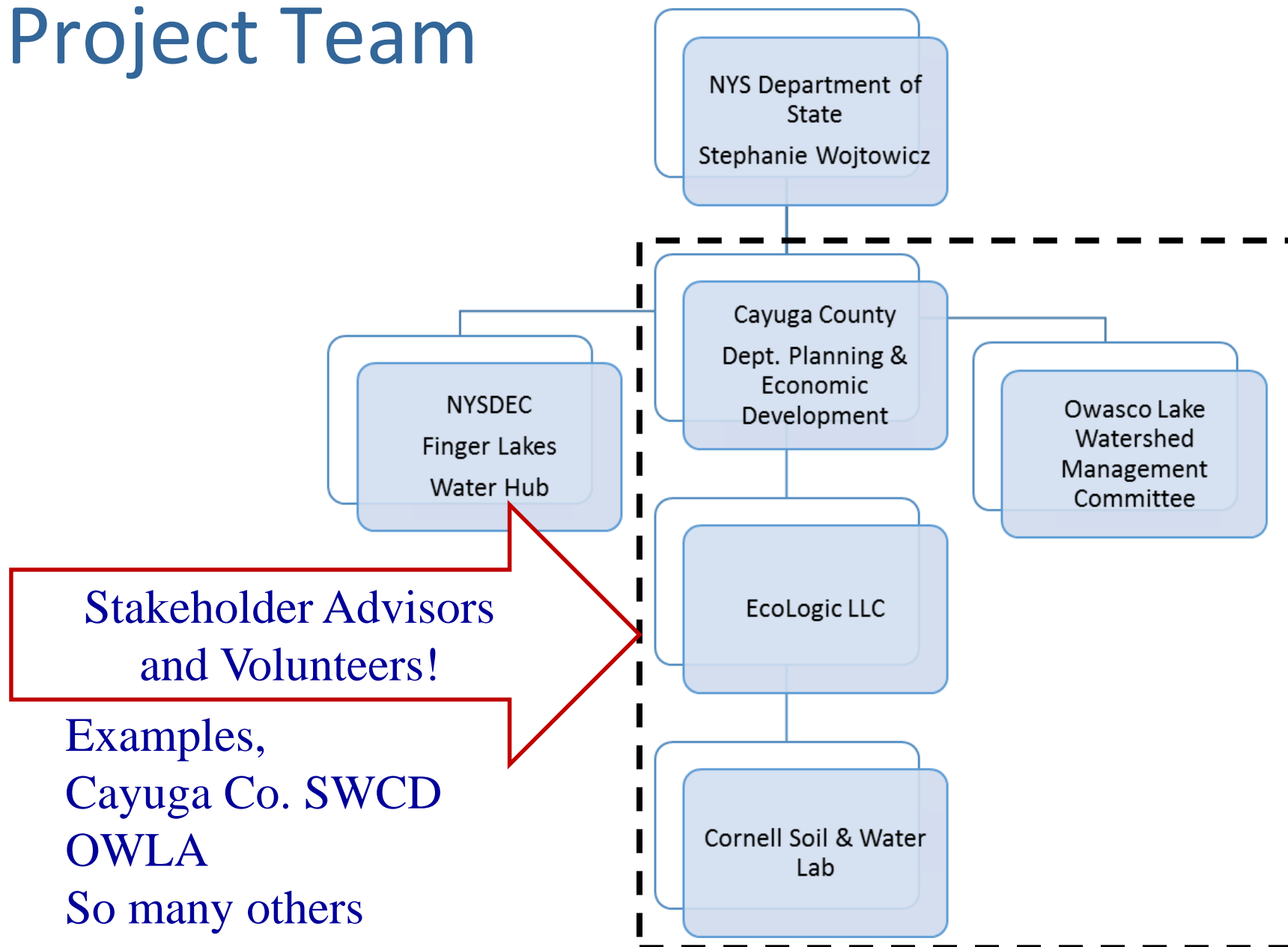
The Nine Element (9E) Plan is similar in many ways

- Community-driven priorities
- Public engagement
- Uses best available science
- Commitment to adaptive management: build and measure

How is the 9E Plan Different?

- USEPA framework for watershed planning
- Used in watersheds where loading is primarily from nonpoint sources
- Quantitative analysis of nutrient sources:
Watershed Model
 - Tool to identify land use/practices and subwatersheds contributing most nutrients
 - Focus remedial investments
- Facilitates state & federal funding

Project Team

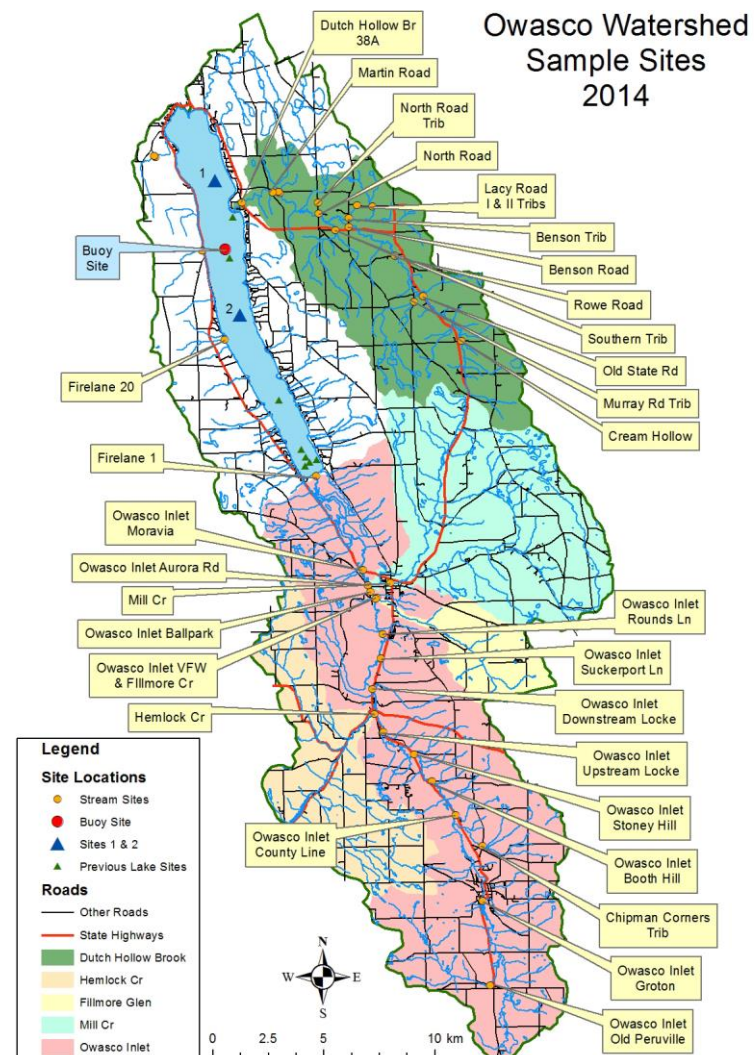


Completed Tasks (hopefully!)

Data Collection

Challenges: Although there are a lot of data, relatively few are easily used

- There are few discharge measurements paired with nutrient/sediment measures
- DEC enforced ELAP criteria for model calibration data after we started this project



So many great data that we cannot easily use



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Journal of Hydrology: Regional Studies

journal homepage: www.elsevier.com/locate/ejrh



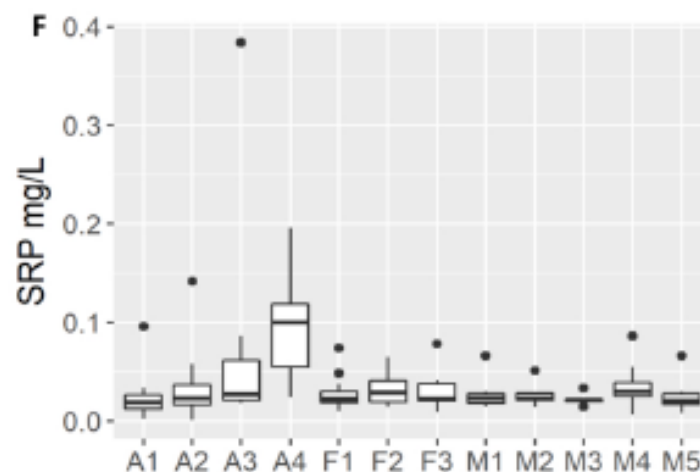
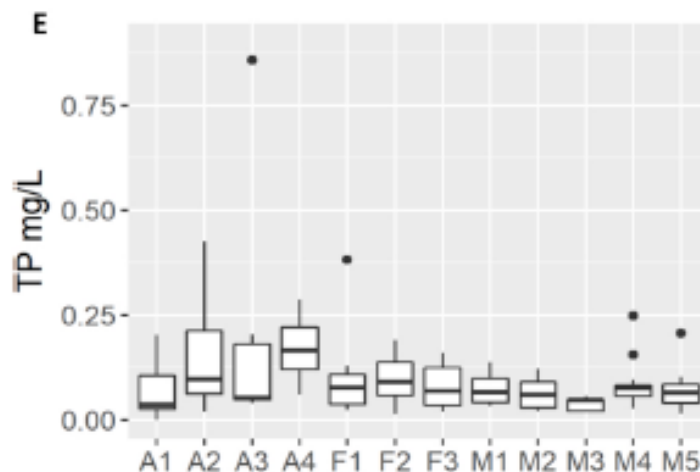
Drought and post-drought rain effect on stream phosphorus and other nutrient losses in the Northeastern USA



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Completed Tasks (hopefully!)

Data Collection

Achievements

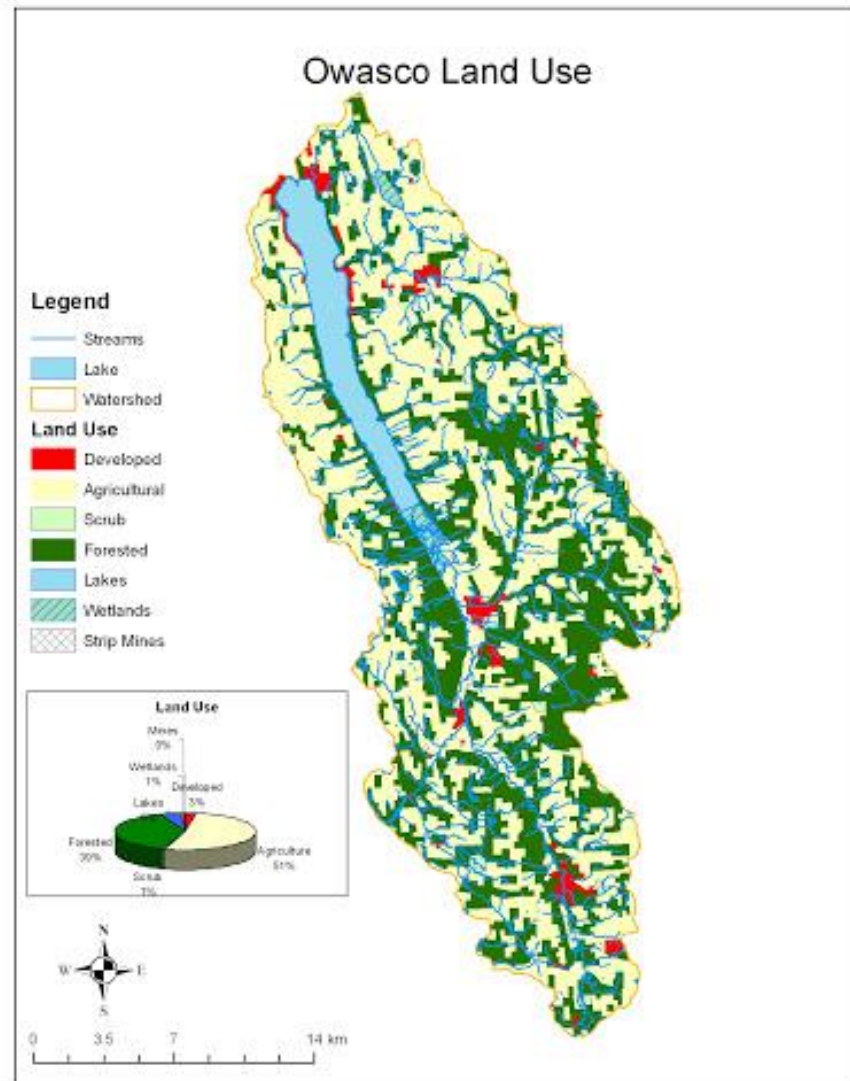
- We have a database of all known data for the watershed (including OWLA and HWS)
- **We have two years of DEC-approved calibration data**



Completed Tasks (hopefully!)

Current Land Mgt

With enormous help from Soil & Water Conservation Districts (esp. Cayuga Co.), local ag. consultants, and ProDairy **we have a well-vetted database of how and where land is managed throughout the watershed**

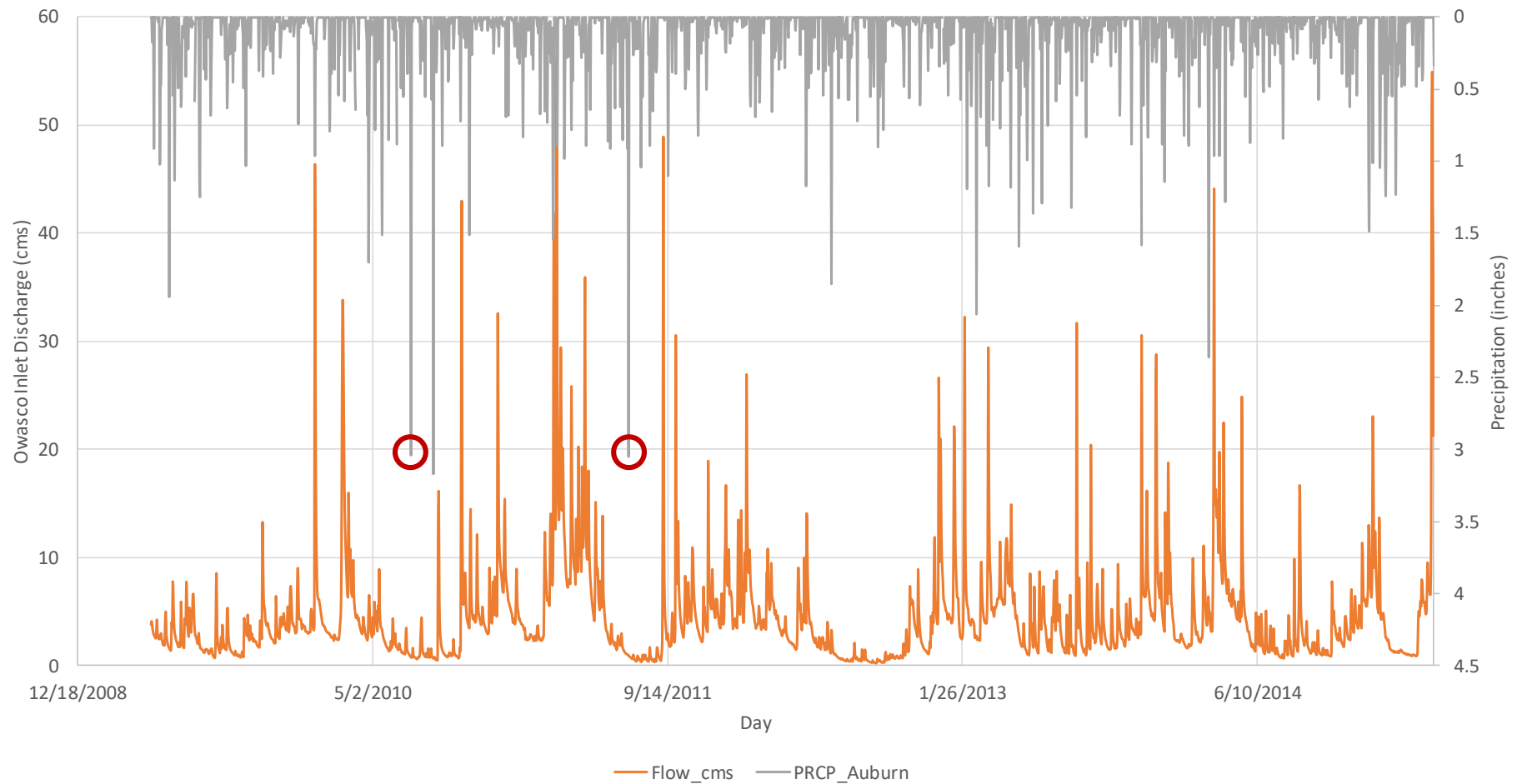


Completed Tasks (hopefully!)

Model Calibration: Soil & Water Assessment Tool (SWAT)

Some Challenges:

- Land management patterns were not intuitive
- Weather has been a issue

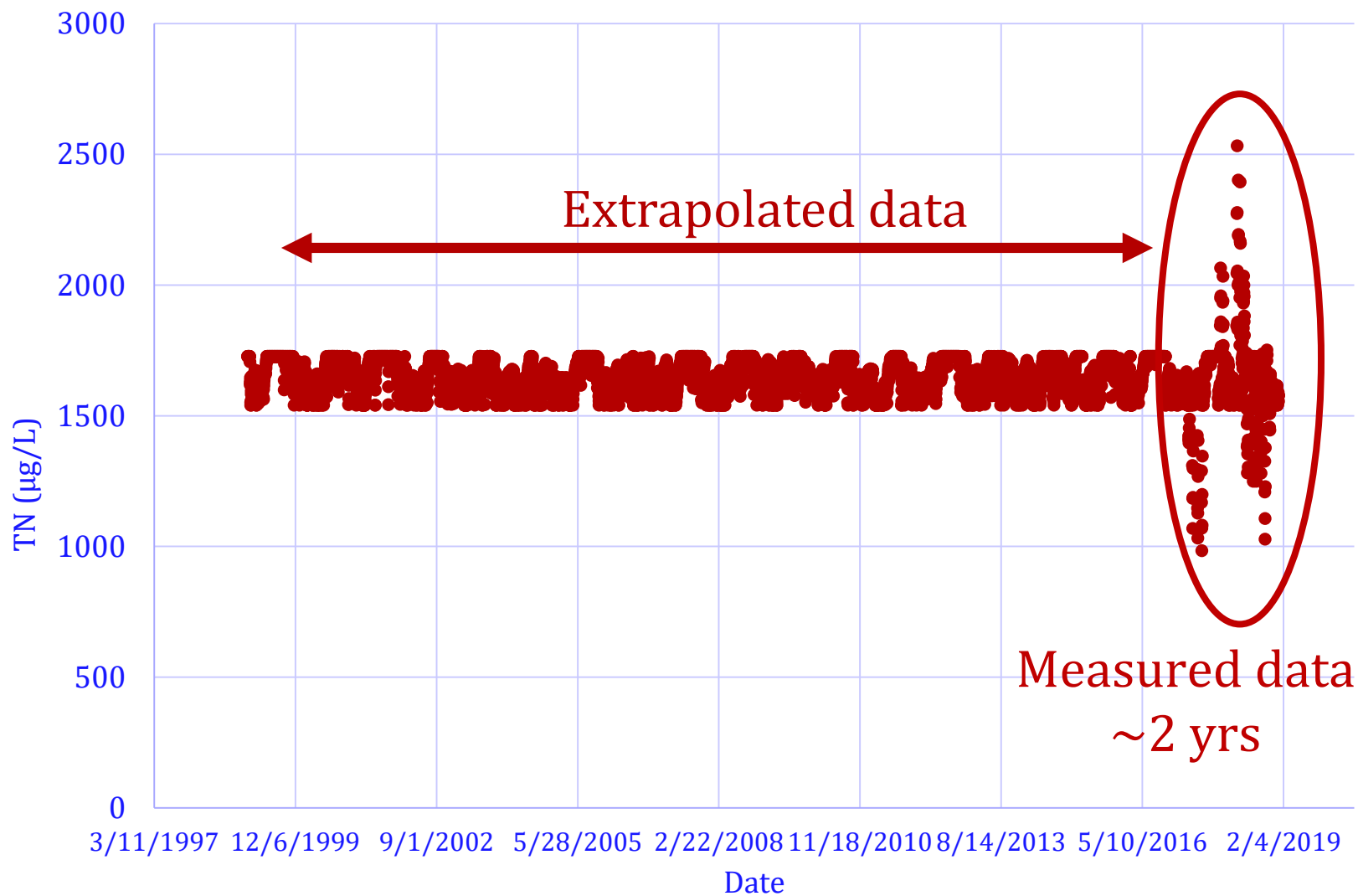


Completed Tasks (hopefully!)

Model Calibration: Soil & Water Assessment Tool (SWAT)

Some Challenges:

- Land management patterns were not intuitive
- Weather has been a issue
- Relatively few acceptable calibration data (mentioned earlier)

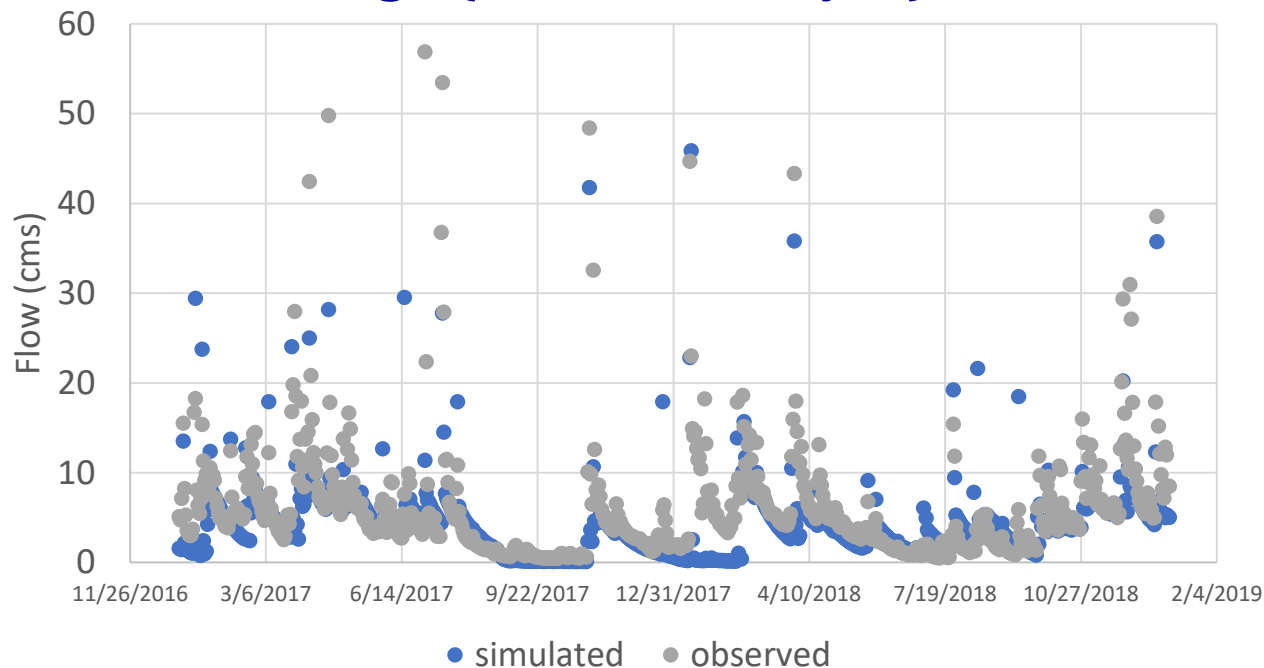


Completed Tasks (hopefully!)

Model Calibration: Soil & Water Assessment Tool (SWAT)

We have some promising calibration results:

Steam discharge (more than 2 yrs)

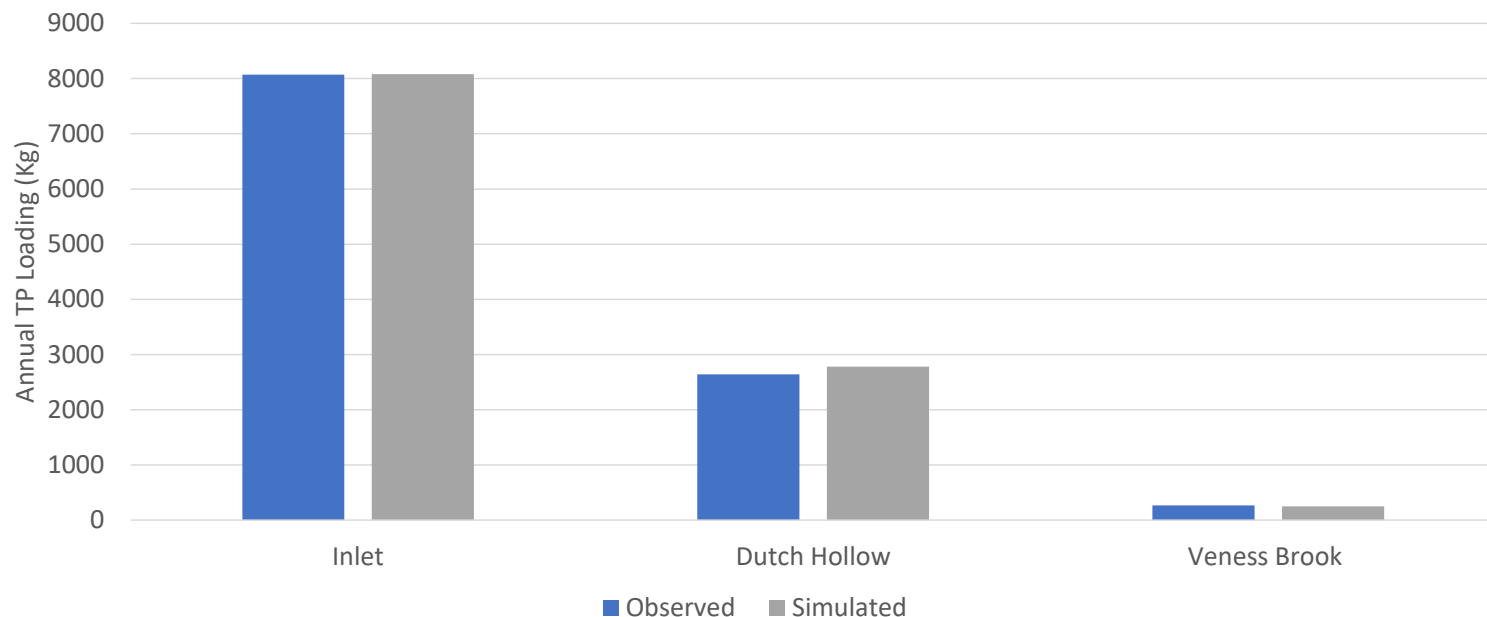


Completed Tasks (hopefully!)

Model Calibration: Soil & Water Assessment Tool (SWAT)

We have some promising calibration results:

Total Phosphorus (~2 yrs)

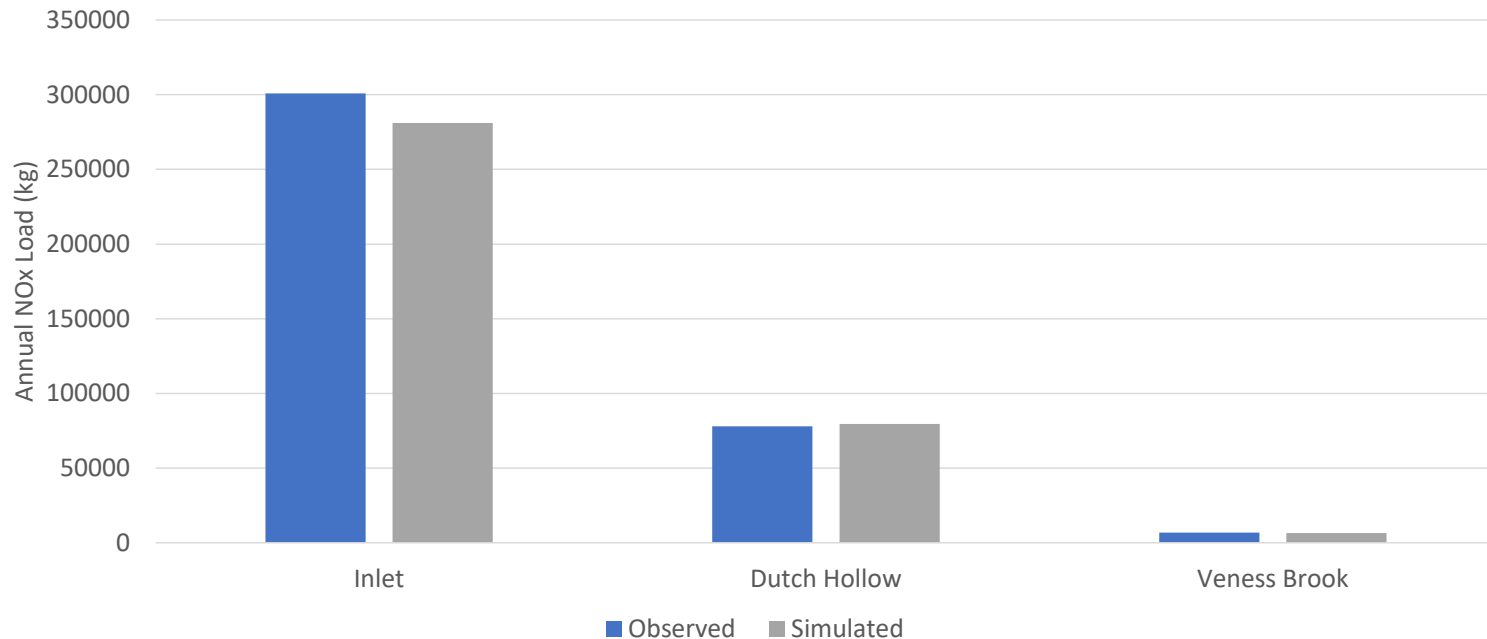


Completed Tasks (hopefully!)

Model Calibration: Soil & Water Assessment Tool (SWAT)

We have some promising calibration results:

Nitrogen (~2 yrs)

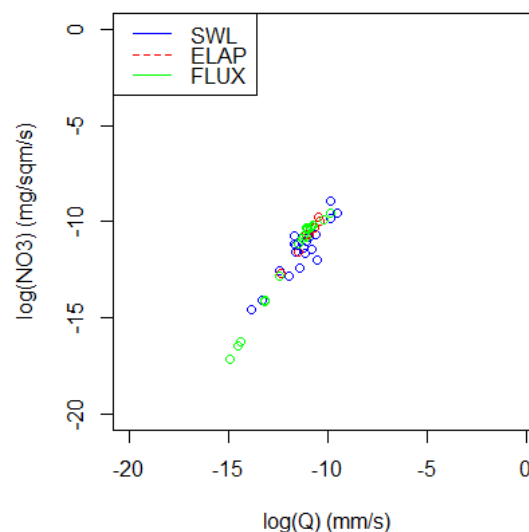
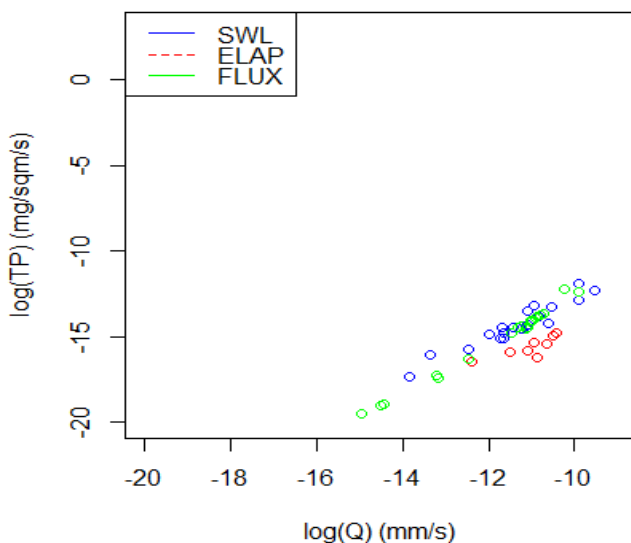


In-Progress

Model Calibration: Soil & Water Assessment Tool (SWAT)

We are exploring ways to independently test or validate our model

- Use the 2 yrs of approved data creatively (e.g., split the data)
- Use other data sources after vetting them





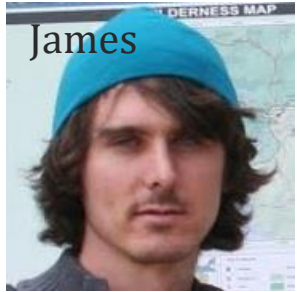
Summary – 9E Plan Status

- Data are collected
- Stakeholders have provided insights into land management patterns over the watershed
- Model calibration is nearly done
- Model needs to be calibrated
- We need to run management scenarios
- Working on ways to address things SWAT does not do well, e.g., septic systems

Acknowledgement

This planning effort is funded through a Title 11 Environmental Protection Fund grant from the New York State Department of State.

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Questions?

