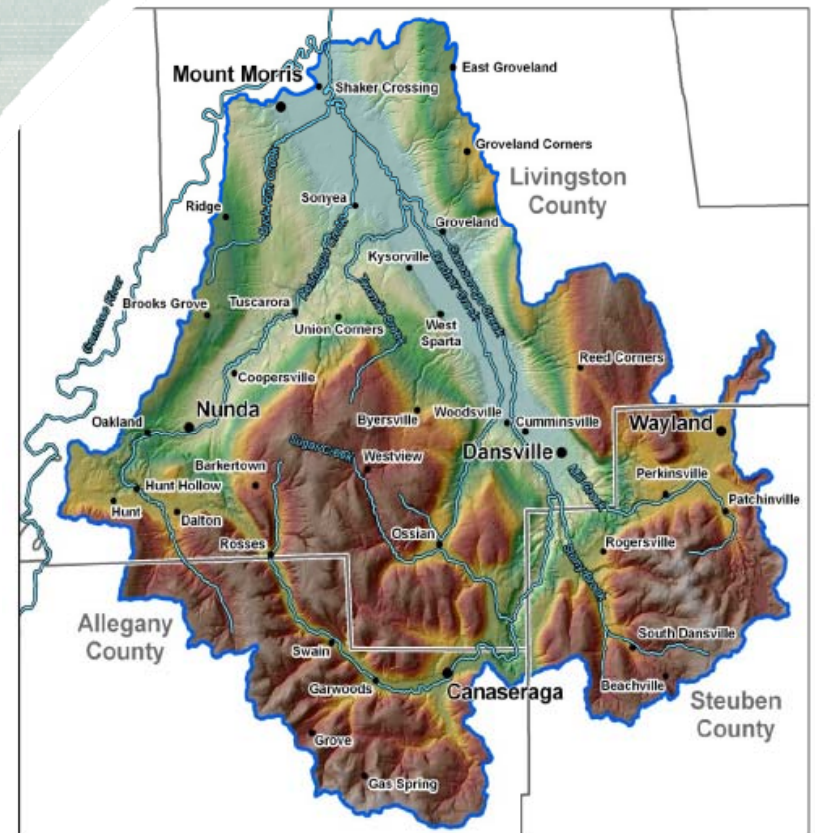


Great Lakes Tributary Modeling: Canaseraga Creek Watershed SWAT Model

Authority: Section 516(e) of WRDA 1996



US Army Corps of Engineers
BUILDING STRONG®



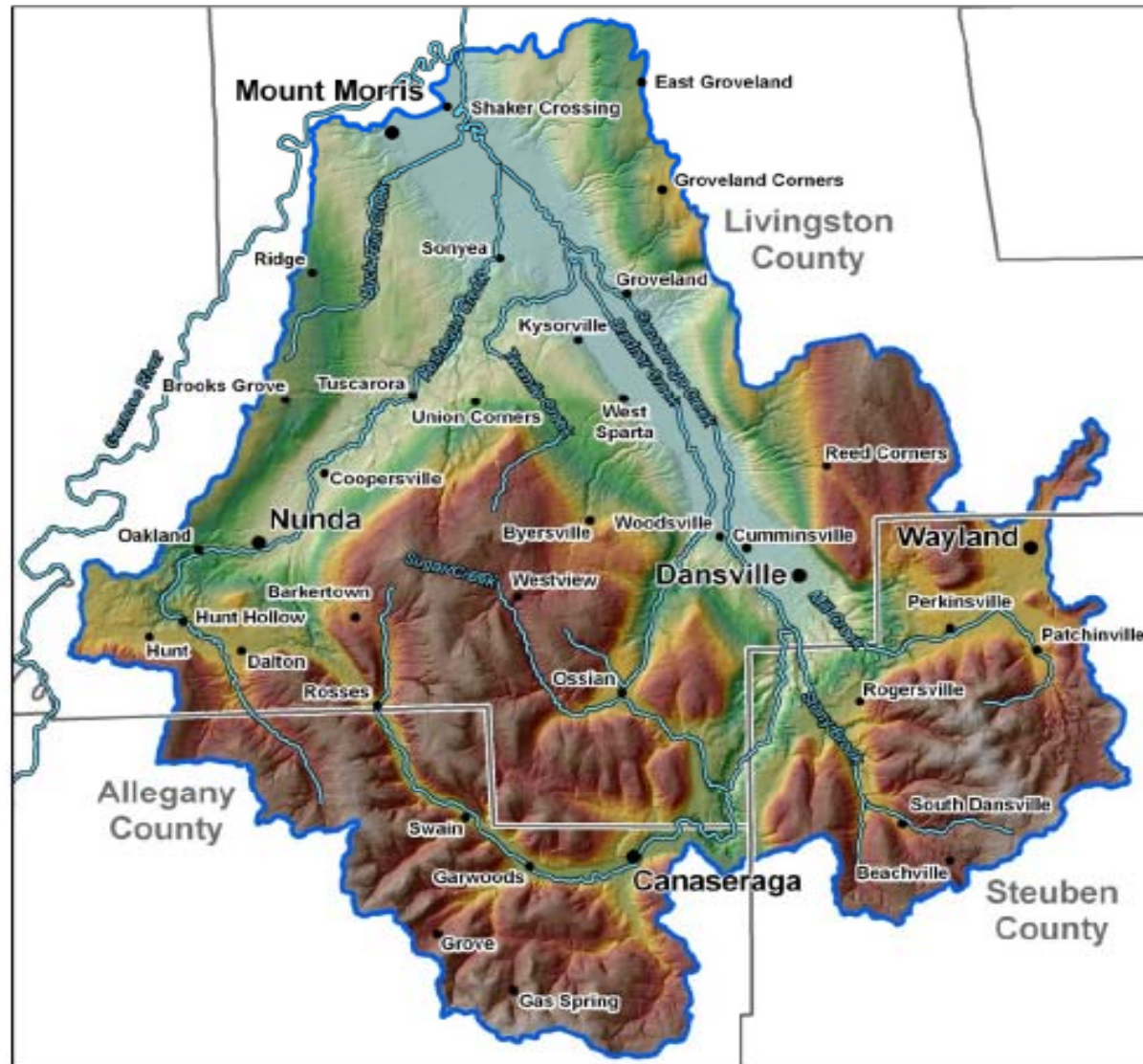
Canaseraga Creek Project Location



- Encompasses portions of Livingston, Steuben, and Allegany Counties.
- Drains into the Genesee River just downstream from the USACE Mount Morris Dam.
- The Genesee River drains into Lake Ontario at the city of Rochester.
- Is the largest sub-watershed of the Genesee River Watershed Basin.
- Drainage area is approximately 340 square miles.



Canaseraga Creek Watershed Project



- Project was initiated by Jeffery Parker at NRCS in Steuben County

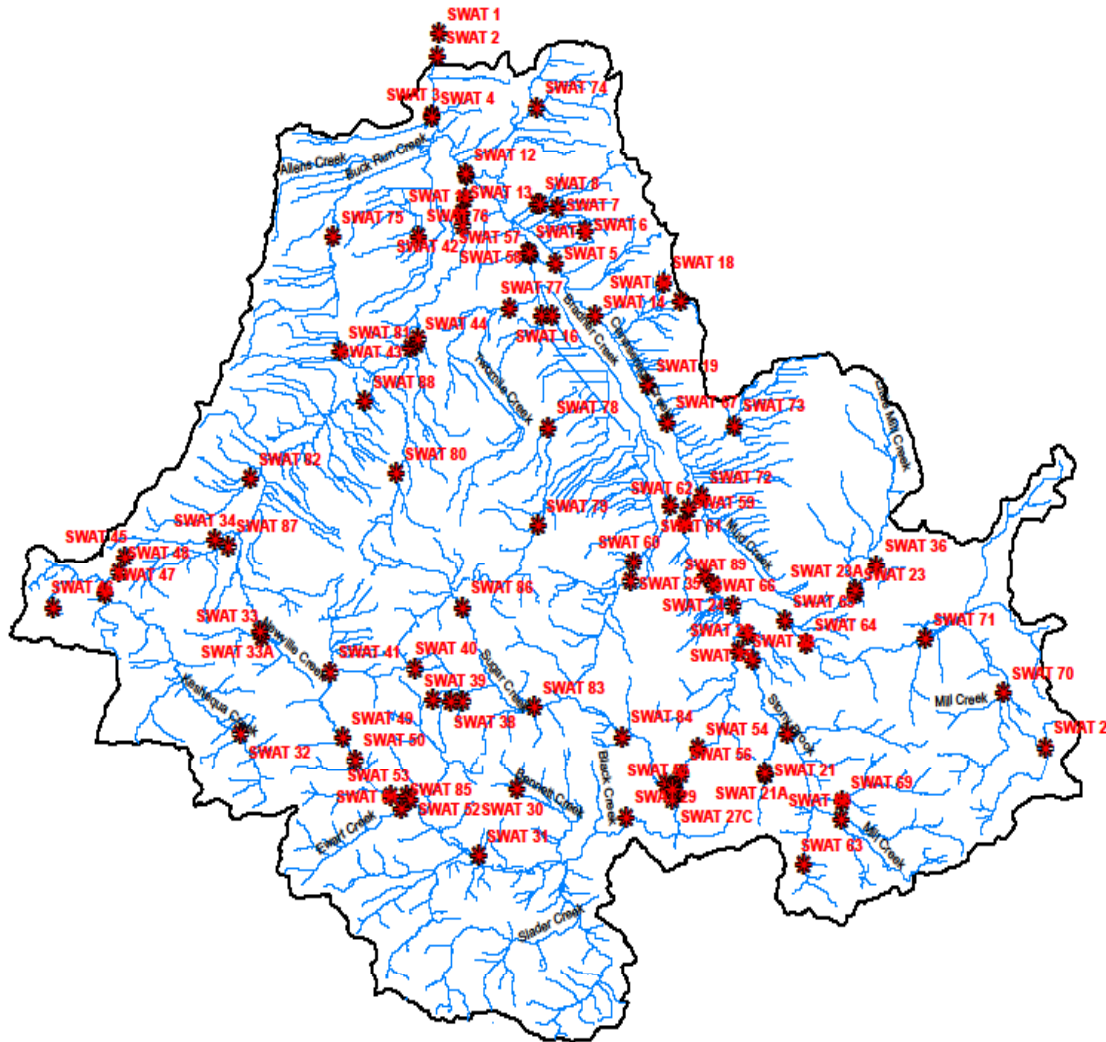
- Additional stakeholders that support the project are Robert Stryker at NRCS in Livingston County and Scott Torrey at Soil and Water Conservation District in Allegany County.

- Ed Bugliosi, U.S. Geological Survey, has requested to be involved in the development of the study.



BUILDING STRONG®

Field Reconnaissance (89 locations)



To better understand the watershed, a field reconnaissance was undertaken.

To date, 89 sites within the watershed have been visited and the channel characteristics documented.



Canaseraga Creek Watershed Ecoregions and Soils



Three (3) Level IV Ecoregions:

- Glaciated Low Allegheny Plateau (51%)
- Finger Lakes Uplands and Gorges (43%)
- Ontario Lowlands (6%)

Soils:

- Devonian shale
- Thin limestone beds
- Glacial till deposits of gravel, sand, clay, and silt
- Alluvial sediments of sands, silts, and clays in various mixtures
- Thick dense deposit of lacustrine blue clay



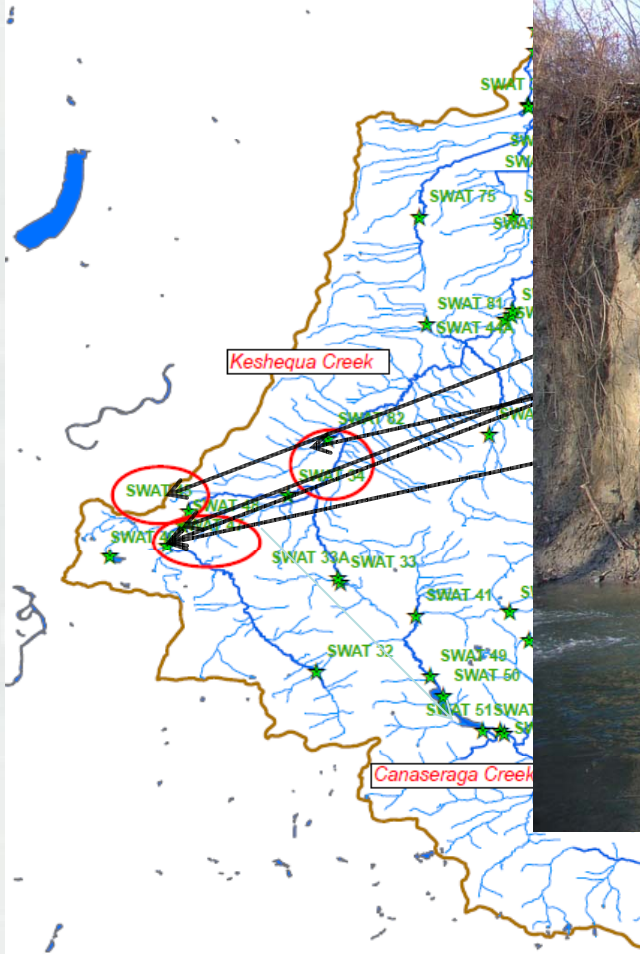
Canaseraga Creek Watershed

Photos From the Field Reconnaissance

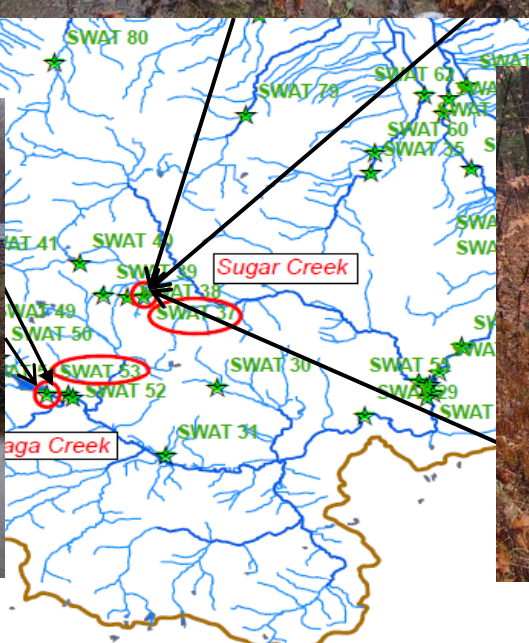


BUILDING STRONG®

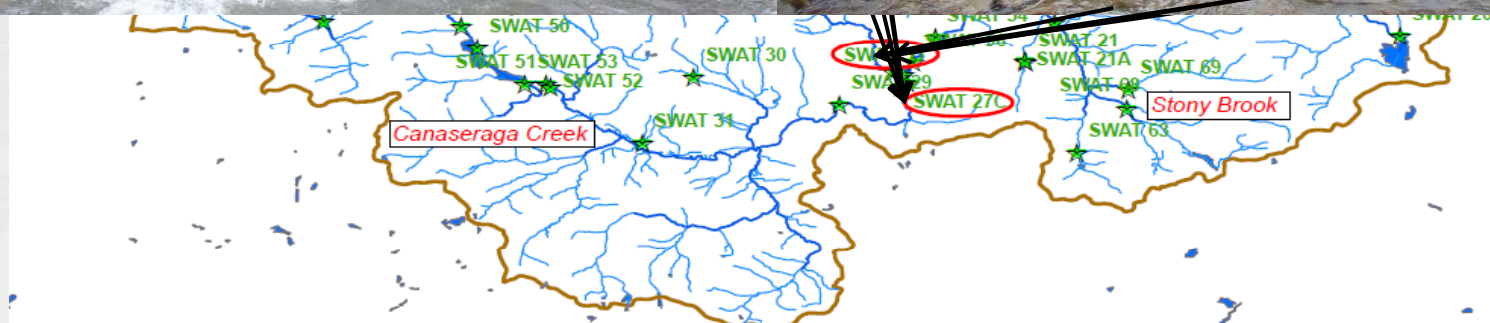
SWAT 34, 45, & 47 - Keshequa Creek



..., Rattlesnake Hill Creek



SWAT 27 & 55 – Canaseraga Creek, Sugar Creek Glen Campground



BUILDING STRONG®

SWAT 28 – Stony Brook, massive slope failure and sediment supply



SWAT 22 - Stony Brook at Bluff Point Road

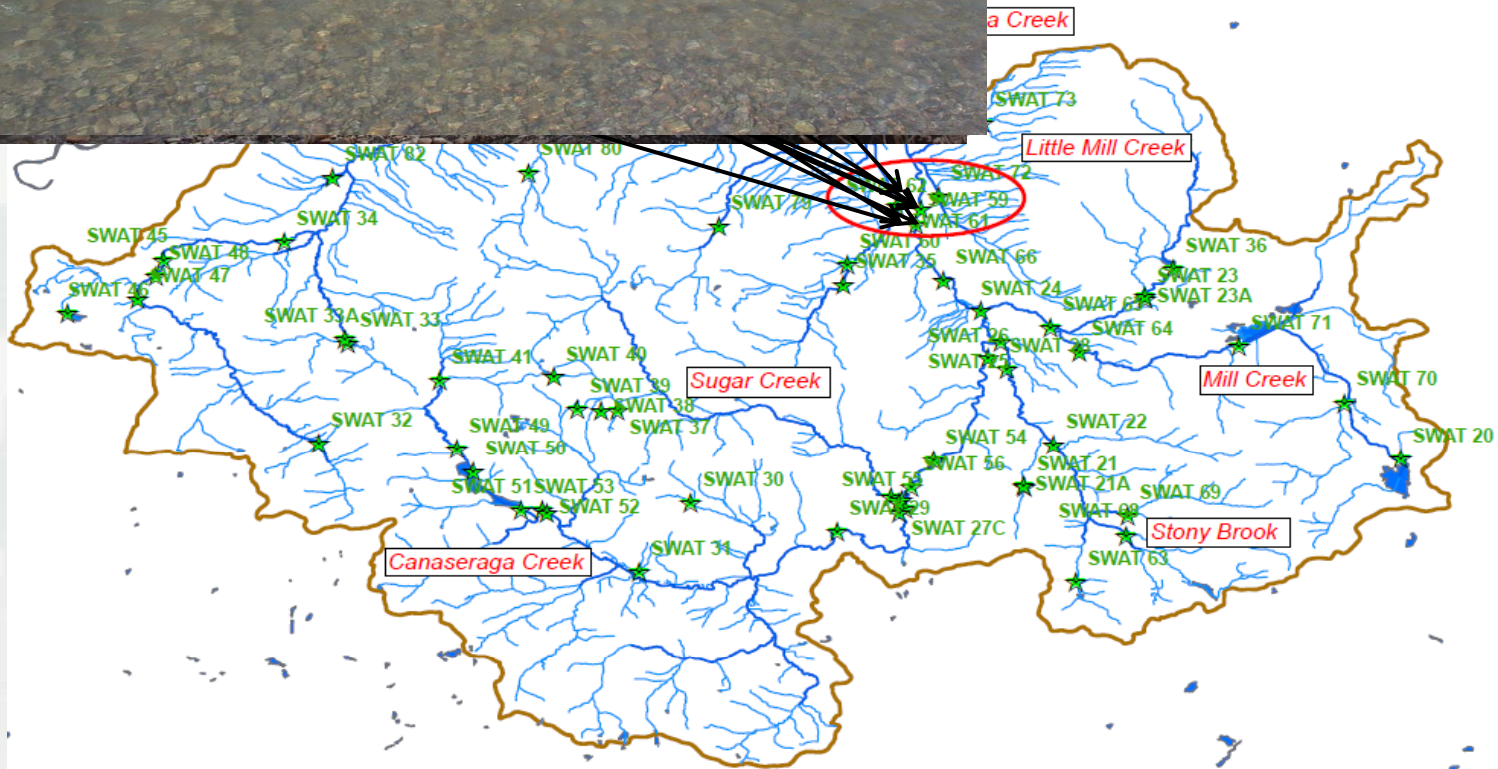




Iner Creek



Canaseraga Creek

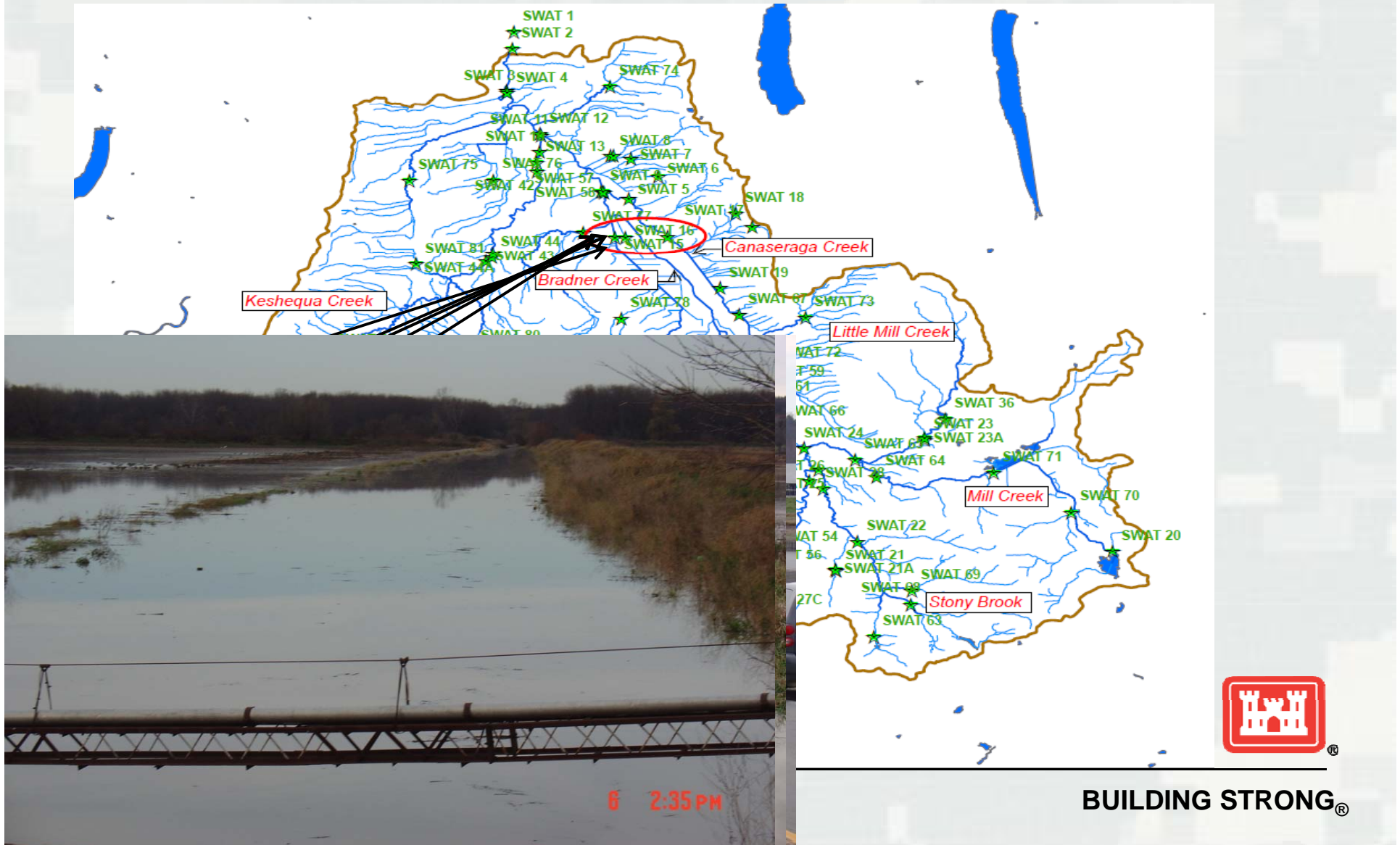


BUILDING STRONG®

Adner Creek



SWAT 15 Bradner Creek flooding at SR 258 on 15 Nov 2011 (1.25" of rain).



Stakeholders observations

- **Migration of large sediment deposits downstream and the excessive build up of sediments at numerous locations in the stream channel.**
- **Major bank failure in numerous areas.**
- **Significant migration of stream channel due to sediment bars and bank erosion.**
- **Significant timber debris and follow-up sediment deposition in channel due to stream bank failure from erosion.**
- **Higher water levels and the increased frequency of flooding during storm events as the results of the loss of channel storage capacity.**
- **Transport of soils from agricultural fields into the Genesee River during and after flooding events.**



Stakeholders Expectations

- **Identify sediment sources and areas with highest erosion potential**
- **Estimate soil losses from both overland and streambank erosion**
- **Evaluate methods of reducing sediment deposition in the channels**
- **Evaluate the effects of alternate land-uses**
- **Evaluate the best locations for removal of sediment deposits from the system.**
- **Compare impacts of proposed best management practices**



Great Lakes Tributary Modeling: Canaseraga Creek SWAT

Brent LaSpada

Program Manager
US Army Corps of Engineers
Buffalo District
716-879-4446

Brent.R.Laspada@usace.army.mil

Keith R. Koralewski, PE

Chief H&H Engineering Team
US Army Corps of Engineers
Buffalo District
716-879-4358

Kieth.R.Koralewski@usace.army.mil

Joshua Unghire

Planner
US Army Corps of Engineers
Buffalo District
716-879-4345

Joshua.Unghire@usace.army.mil

Michael Baker, PE

Project Manager
US Army Corps of Engineers
Buffalo District
716-879-4335

Michael.G.Baker@usace.army.mil



BUILDING STRONG®