

# 67<sup>th</sup> Annual Reunion of the Northeastern Friends of the Pleistocene

MAY 21-23, 2004, Great Bend, Pennsylvania

## Late Wisconsinan Deglaciation of the Great Bend - Tunkhannock Region of Northeastern Pennsylvania

**Led By:** Duane Braun      Geography & Geosciences, Bloomsburg University of PA.  
Jack Ridge      Geology, Tufts University  
Jon Inners      Pennsylvania Geological Survey

### Field Trip Overview and Tentative Stops:

There will be five primary topics of discussion for the trip. (1) Evidence for the existence of an extensive Glacial Lake Great Bend and a regional readvance of the late Wisconsinan glacier across that lake. (2) The mode of retreat of the glacier from the region and deposition of till in till knobs that form "beaded valleys" throughout the region. It will be argued that the till knobs can be best explained by a "till rich" stagnation-zone retreat model where lodgment till is rapidly stacked to form an individual 30 to 50 meter till knob in a matter of years to decades. (3) The incision of post-glacial "one-sided" bedrock gorges due to glacial deposit-induced stream derangement. (4) Evidence for large outburst, but not catastrophic, floods down the North Branch Susquehanna valley from proglacial lakes impounded in north-draining valleys in the Tunkhannock region. (5) Evidence contradicting Shaw's proposed catastrophic floods down the North Branch Susquehanna valley.

### Saturday, May 22, 2004, 7:45 to 5:00, Travel by Van to the Starrucca area:

- Stop 1: Bucks Falls - Transverse to ice flow valley with "till shadow" and post-glacial "one-sided" bedrock gorge.
- Stop 2: Fifteen-meter exposure of a readvance sequence of till, ice contact stratified drift, and ice-proximal clay-draped sands of the final stage of Glacial Lake Great Bend, capped by fluvial gravel.
- Stop 3: Varves of Glacial Lake Great Bend over-ridden by till from a regional readvance.
- Stop 4: Ten-meter exposure of lodgment till in the core of a 50-meter, valley blocking till knob.
- Stop 5: Picture stop at the 1848 stone-arch Starrucca Viaduct that still carries trains.
- Stop 6: Gravel pit exposing a 30-meter cross-section of the Lanesboro- Oakland esker. **Hardhats Required!**

### Sunday, May 24, 2004, 7:45 to 3:00, Travel by Bus to the Tunkhannock area:

- Stop 1: Picture and discussion stop in the New Milford glacial meltwater sluiceway, the 200-meter deep outlet for Glacial Lake Great Bend and the future course of the Susquehanna River.
- Stop 2: Thirty-meter exposure of clay draped bottomset beds of Glacial Lake Bowman.
- Stop 3: Twenty-meter exposure of the loess capped, outburst flood scoured surface, topsets, and foresets of the delta built into Glacial Lake Bowman.
- Stop 4: Picture and discussion stop of the unscoured till surface in the North Branch Susquehanna valley, only ten meters above the highest outwash terraces. Where is there evidence of Shaw's catastrophic floods from the Finger Lakes?
- Stop 5: Optional picture stop of the 2,375 feet long, 240 feet high Tunkhannock Viaduct built in 1912-1915.
- Stop 6: On the way back to Great Bend, picture stop of a "beaded valley" with an alternating series of till knobs and lakes impounded by the knobs.

NOTE: On Sunday, Stop 2 will be most distant from the conference motel (43 mi. or a one hour drive) and each successive stop will be closer to the hotel (Stop 6 will be 10 mi. from the motel). **So take the Bus!**

**REGISTRATION DEADLINE: APRIL 30, 2004**

**Don't forget to bring your hardhats!**