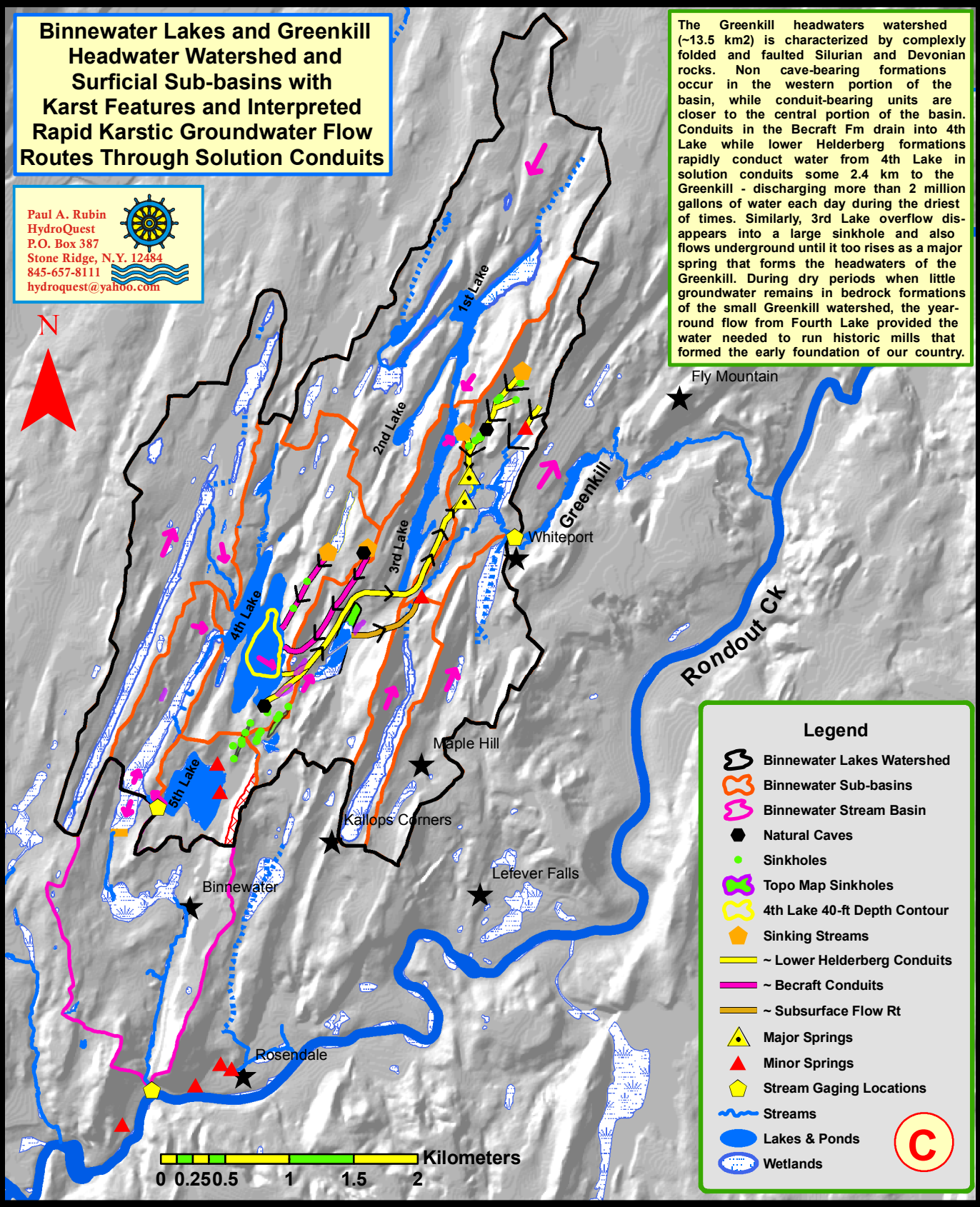


**Binnewater Lakes and Greenkill
Headwater Watershed and
Surficial Sub-basins with
Karst Features and Interpreted
Rapid Karstic Groundwater Flow
Routes Through Solution Conduits**

Paul A. Rubin
HydroQuest
P.O. Box 387
Stone Ridge, N.Y. 12484
845-657-8111
hydroquest@yahoo.com



The Greenkill headwaters watershed (~13.5 km²) is characterized by complexly folded and faulted Silurian and Devonian rocks. Non cave-bearing formations occur in the western portion of the basin, while conduit-bearing units are closer to the central portion of the basin. Conduits in the Becraft Fm drain into 4th Lake while lower Helderberg formations rapidly conduct water from 4th Lake in solution conduits some 2.4 km to the Greenkill - discharging more than 2 million gallons of water each day during the driest of times. Similarly, 3rd Lake overflow disappears into a large sinkhole and also flows underground until it too rises as a major spring that forms the headwaters of the Greenkill. During dry periods when little groundwater remains in bedrock formations of the small Greenkill watershed, the year-round flow from Fourth Lake provided the water needed to run historic mills that formed the early foundation of our country.



Legend

- Binnewater Lakes Watershed
- Binnewater Sub-basins
- Binnewater Stream Basin
- Natural Caves
- Sinkholes
- Topo Map Sinkholes
- 4th Lake 40-ft Depth Contour
- Sinking Streams
- ~ Lower Helderberg Conduits
- ~ Becraft Conduits
- ~ Subsurface Flow Rt
- Major Springs
- Minor Springs
- Stream Gaging Locations
- Streams
- Lakes & Ponds
- Wetlands

C