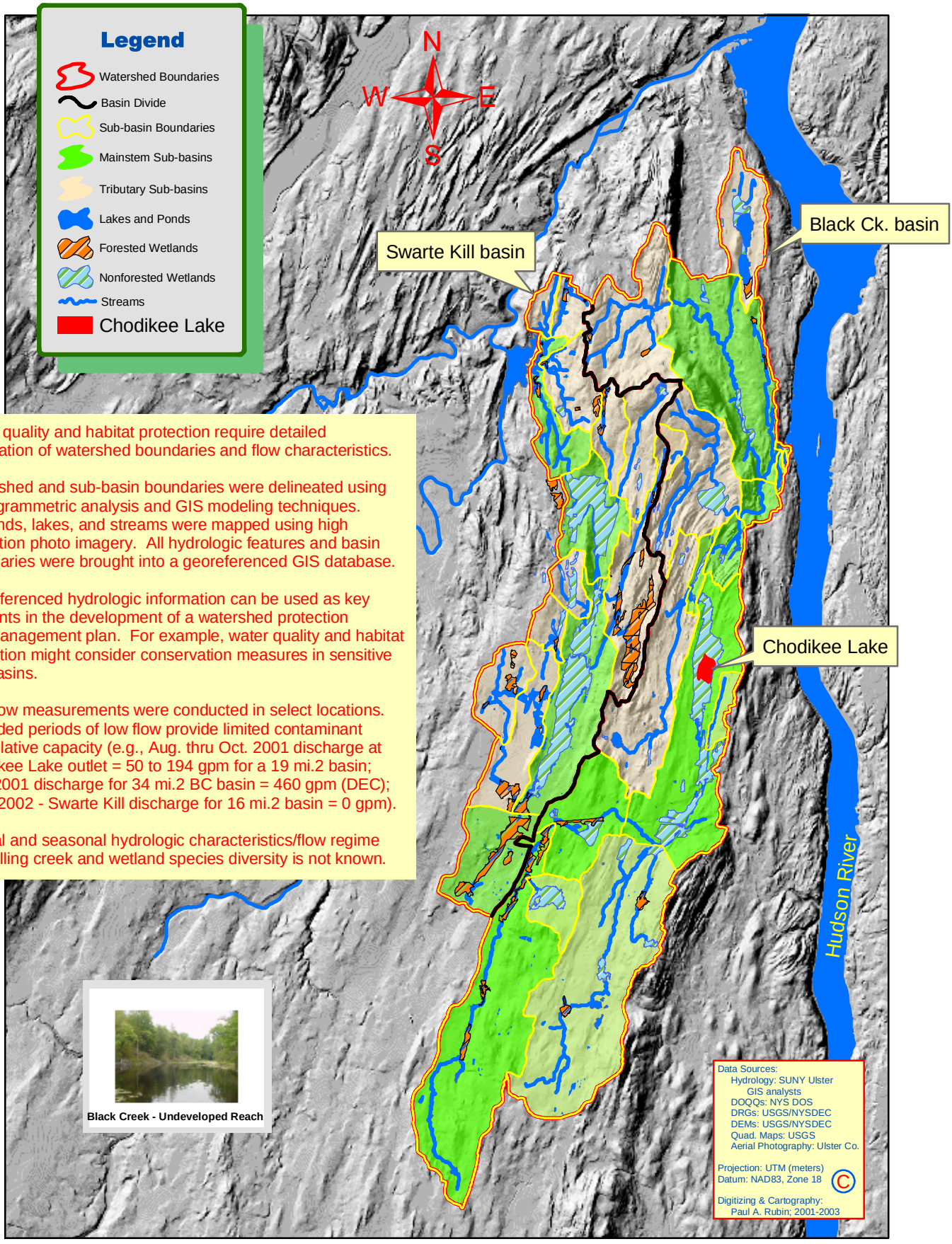
Hydrology of the Swarte Kill and Black Creek Basins, Eastern NYS



Water quality and habitat protection require detailed delineation of watershed boundaries and flow characteristics.

Watershed and sub-basin boundaries were delineated using photogrammetric analysis and GIS modeling techniques. Wetlands, lakes, and streams were mapped using high resolution photo imagery. All hydrologic features and basin boundaries were brought into a georeferenced GIS database.

Georeferenced hydrologic information can be used as key elements in the development of a watershed protection and management plan. For example, water quality and habitat protection might consider conservation measures in sensitive sub-basins.

Low flow measurements were conducted in select locations. Extended periods of low flow provide limited contaminant assimilative capacity (e.g., Aug. thru Oct. 2001 discharge at Chodikee Lake outlet = 50 to 194 gpm for a 19 mi.2 basin; Aug. 2001 discharge for 34 mi.2 BC basin = 460 gpm (DEC); Sept. 2002 - Swarte Kill discharge for 16 mi.2 basin = 0 gpm).

Annual and seasonal hydrologic characteristics/flow regime controlling creek and wetland species diversity is not known.

Black Creek - Undeveloped Reach