

Bedrock Geology of the Black Creek and Swarte Kill Study Area

Bedrock structure, lithostratigraphy, and subsequent glaciation contribute to vast wetland complexes in the Black Creek and Swarte Kill watersheds. These complexes comprise two of the most species-rich ecosystems in New York State. Wetlands commonly occur over non-resistant strata and are impounded by resistant sandstones.



SE Dipping Slab Sides Fm. Dam Impounds Chodikee Lake Wetland



Chodikee Lake Wetland Bedrock Dam Immediately Upstream of Waterfalls



Black Creek Waterfall Cascades Over The Resistant Shaupeneak Fm.



Fault Exposure In The Slab Sides Fm. Along Long Level (Black Ck.)

Formation Lithology & Erosive Resistance:

Chodikee Fm. - shales, siltstones, sandstones; non-resistant
 Slab Sides Fm. - sandstones, minor shales; resistant; ridge-former
 Shaupeneak Fm. - sandstones; conglomerates; resistant; ridge-former
 Rifton Fm. - sandstones, siltstones, shales; non-resistant to resistant
 Bushkill Fm. - shales, siltstones, minor sandstones; non-resistant
 Creek Locks Fm. - shales, sandstones, siltstones; variable resistance
 Ulster Park Fm. - sandstones, siltstones, shales, occas. conglomerates; variable resistance (Unpublished)
 Austin Glen Fm. - massive sandstones, shales; resistant; ridge-former
 --- Formation Boundaries and Fault Locations Approximated ---

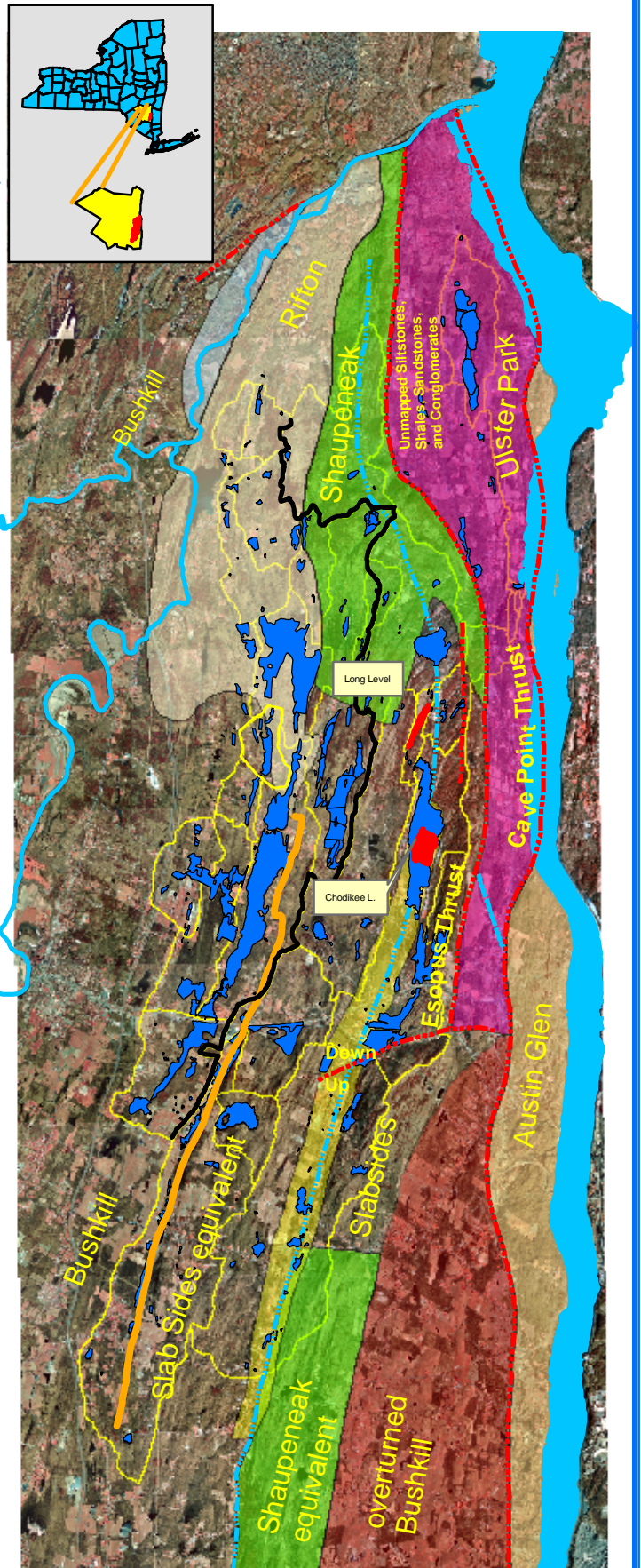
Legend

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|--|--------------------|--|----------------|--|-----------------|
| | Wetlands and Lakes | | Chodikee Fm. | | Creek Locks Fm. |
| | Basin Divide | | Slab Sides Fm. | | Ulster Park Fm. |
| | Sub-basins | | Shaupeneak Fm. | | Austin Glen Fm. |
| | - Facies Contact | | Rifton Fm. | | Bushkill Fm. |
| | - Synclinal Axes | | | | |
| | - Fault Locations | | | | |

Data Sources:
 Geology: R. Waines & SUNY New Paltz students
 Hydrology: SUNY Ulster GIS analysts
 DQQs: NYS DOS

Projection: UTM (meters)
 Datum: NAD 83; Zone 18

Digitizing & Cartography:
 Paul A. Rubin; Aug. 2003



0 0.5 1 2 3 4 Miles

