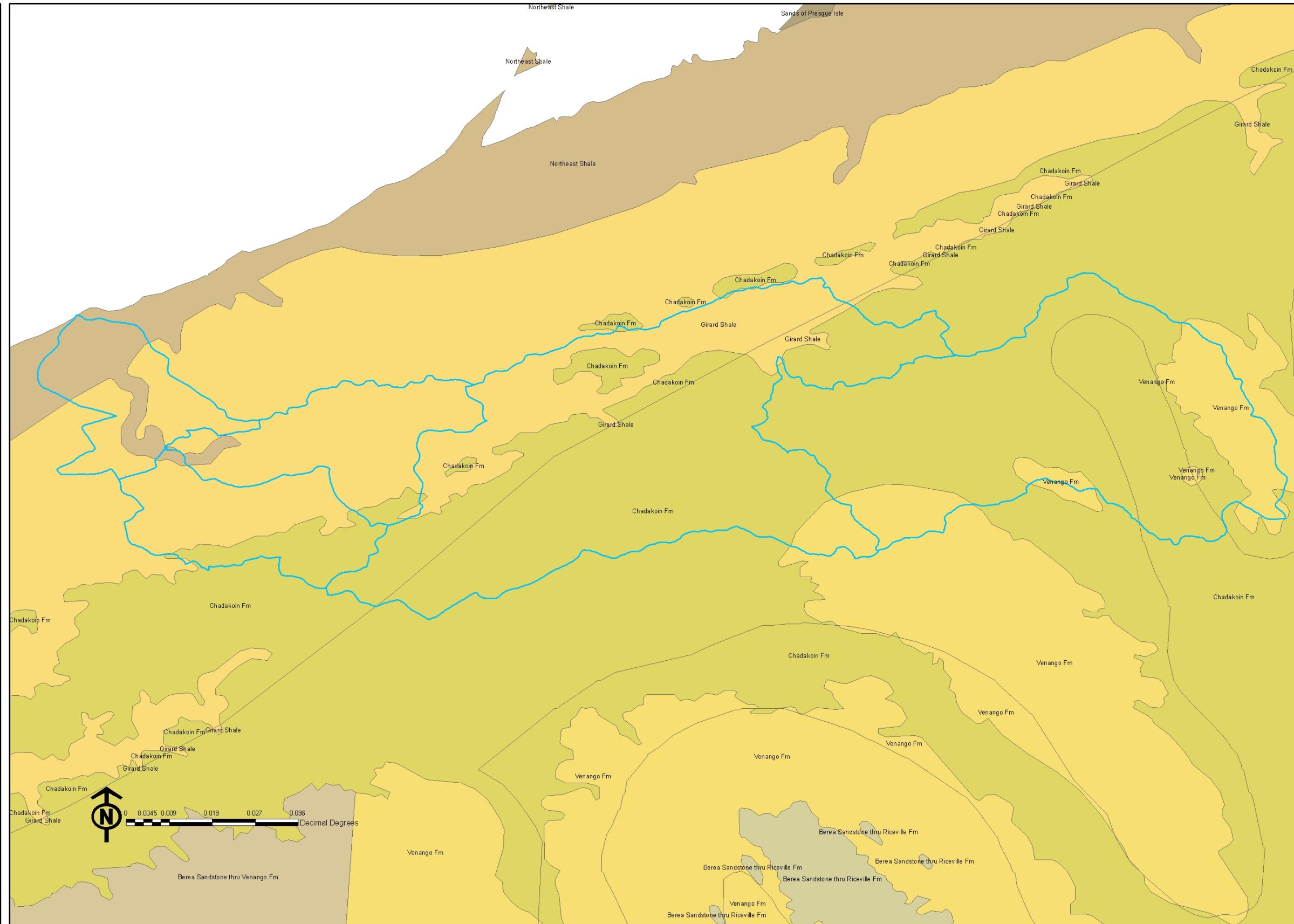
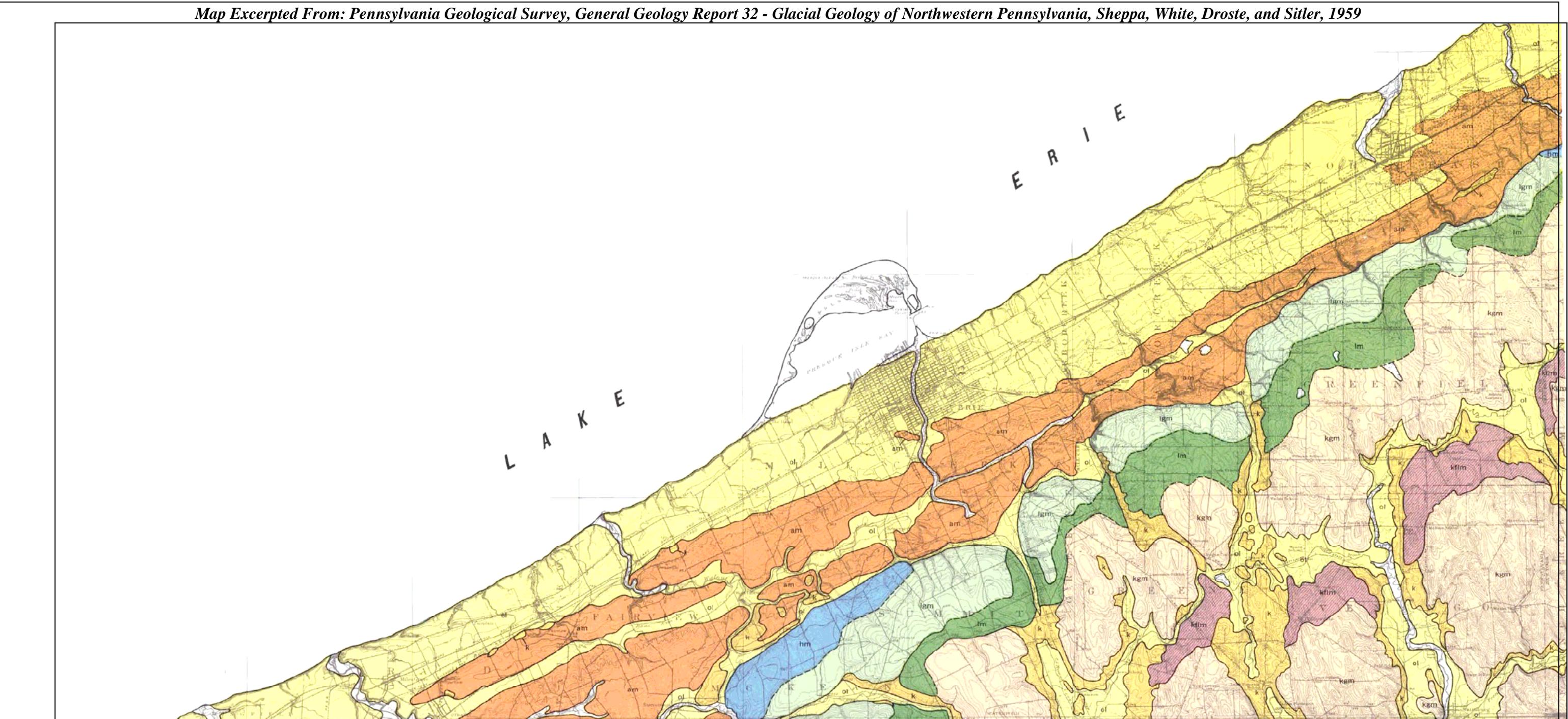


Surficial Bedrock Geology



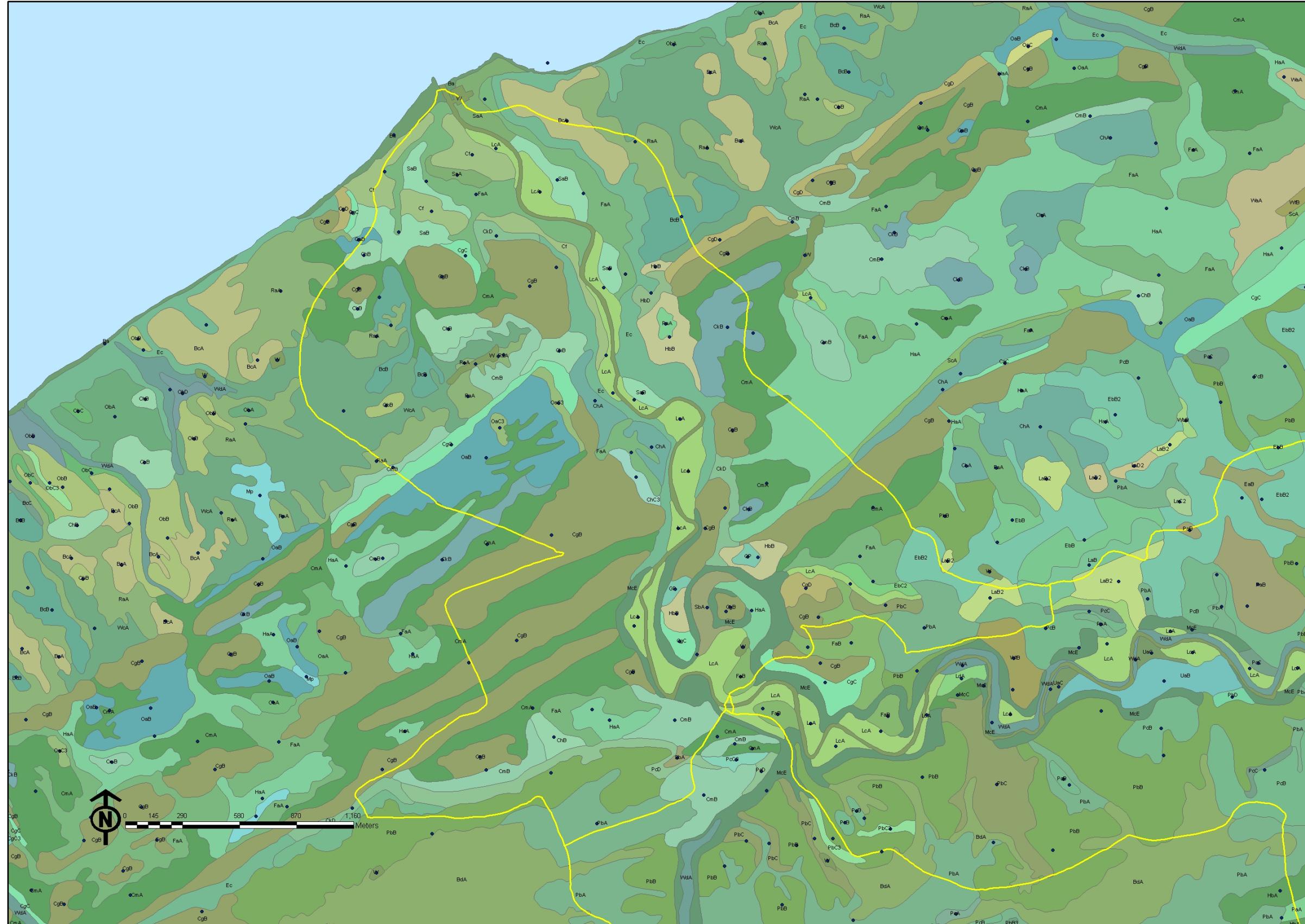
Map Excerpted From: Pennsylvania Geological Survey, General Geology Report 32 - Glacial Geology of Northwestern Pennsylvania, Sheppa, White, Droste, and Sitler, 1959



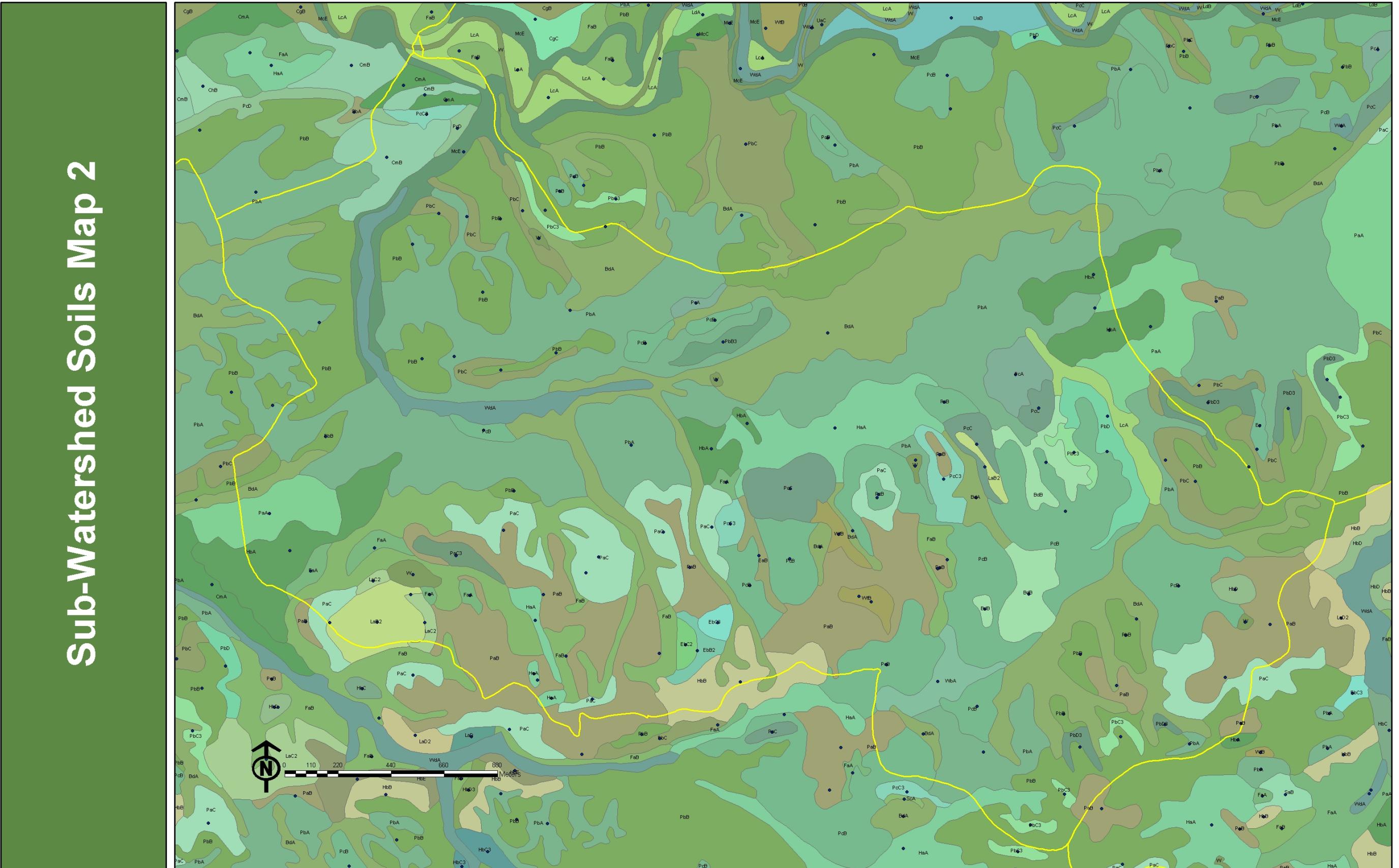
EXPLANATION

| | Unit | Topographic Features | Character of Material | Topography |
|---|---|----------------------|---|---|
| WISCONSIN | Ashtabula Till | am | Ashtabula morainic system (end moraines) | Till (silt) |
| | | am | Ashtabula moraine under thin beach sands | Strongly constructional; knob and kettle topography; numerous undrained depressions |
| | Hiram Till | hm | Defiance end moraine | Till (silty clay to clay) |
| | | hgm | ground moraine | Undulating; locally constructional; scattered undrained depressions; very weak at places |
| | Lavery Till | lm | Lavery end moraine | Till (silt) |
| | | lgm | ground moraine | Somewhat undulating; locally constructional; undrained areas rare |
| | Kent Till | km | Kent end moraine | Till (sandy loam) |
| | | kfm | Findley Lake recessional moraine | Till (loam) |
| | | kcm | Clymer recessional moraine | Till (loam) |
| | | kgm | ground moraine | Strongly constructional; knob and kettle topography; numerous undrained depressions |
| ILLINOIAN | Inner phase | ii | ground (?) moraine | Till (loam becoming sandy loam toward the east and south-southeast) |
| | Outer phase | io | ground moraine (?) | Smooth to gently undulating; undrained areas very rare |
| | Undifferentiated members of units above | k | kames, kame terraces, kame moraines, and eskers | Erosional; similar to non-glaciated area, but less "rugged"; rare slightly constructional patches |
| ILLINOIAN OR WISCONSIN | Undifferentiated members of units above | ol | outwash (valley trains), river terraces, lake deposits including beaches of former high levels of Lake Erie | Erosional; similar to non-glaciated area, but slightly less "rugged" |
| | Undifferentiated | | stream alluvium and bedrock | Thin, discontinuous, weathered till blanket |
| <p>NOTE — The symbols above are normally prefixed by the letter "Q" for Quaternary. The letter has been omitted since all units having symbols are of Quaternary age. Glacioluvial deposits outside the glacial border are only partially mapped.</p> | | | | |

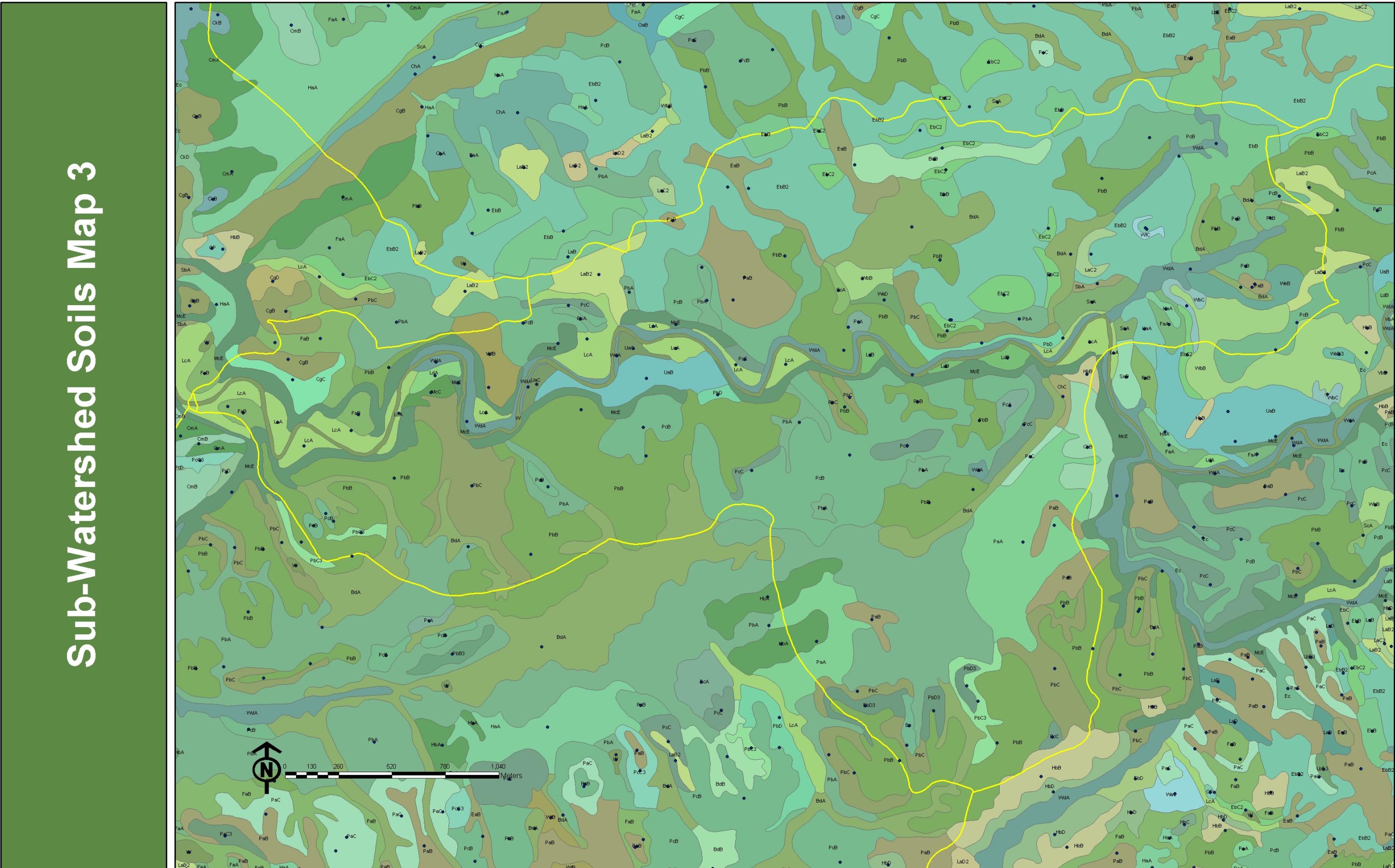
Sub-Watershed Soils Map 1



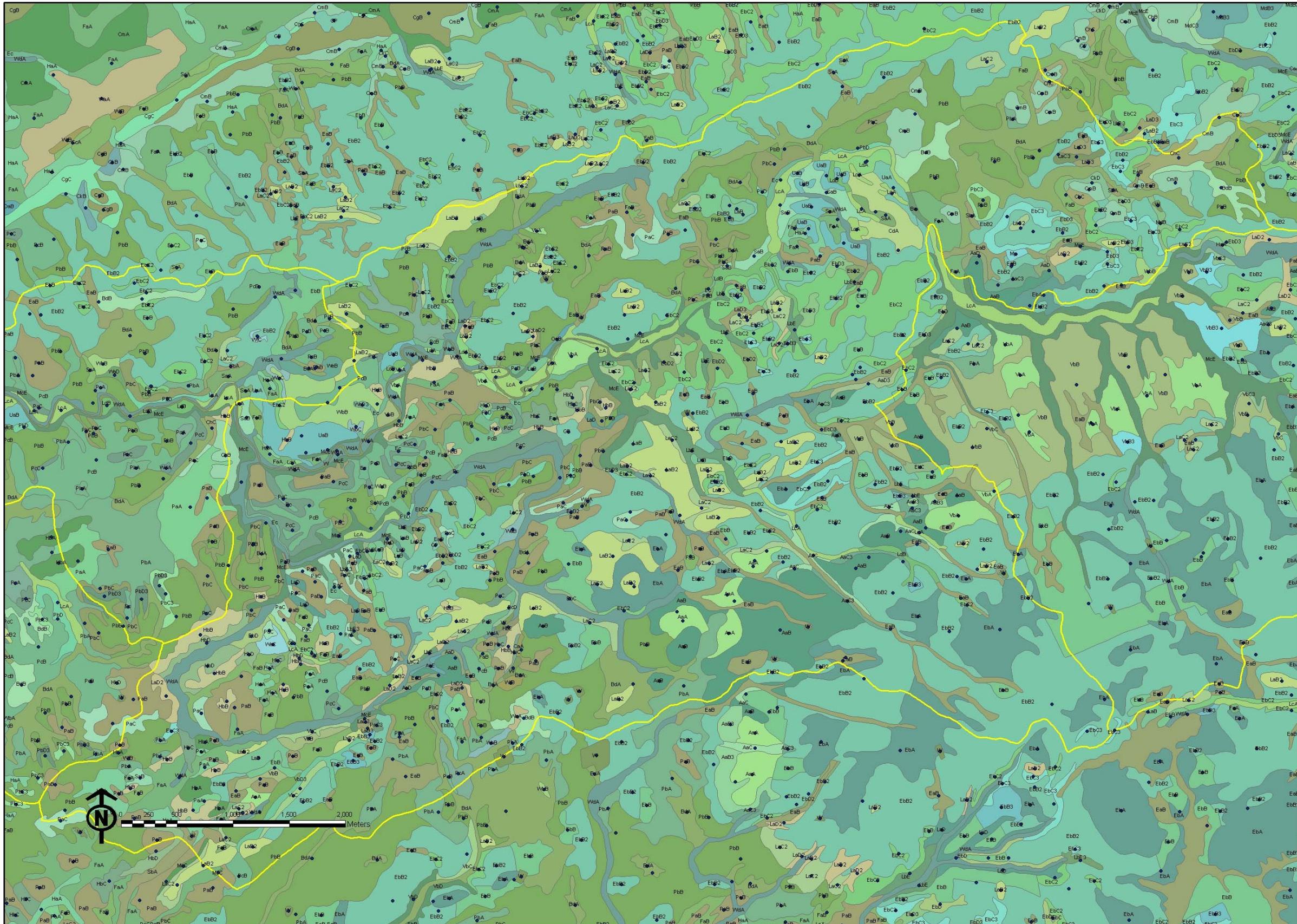
Sub-Watershed Soils Map 2



Sub-Watershed Soils Map 3



Sub-Watershed Soils Map 4



Sub-Watershed Soils Map 5

