

Using Soil Survey Information for Geomorphic Analysis

Part II: St. Croix County Wisconsin

1. Let’s take a look at some soils and landforms a little closer to home. As we discussed in class, both St. Croix (Hudson, WI) and Pierce (River Falls, WI) counties were also glaciated. Both the Santiago and Vlasaty soils have glacial till parent material. Using the information in the St. Croix County Soil Survey, complete the following table.

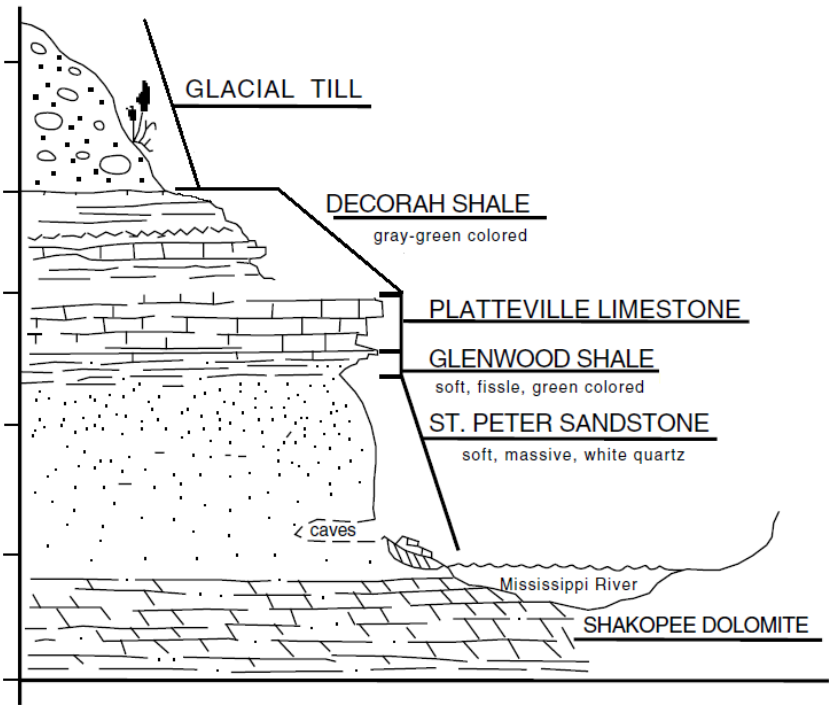
Soil Series	Parent Material	Munsell Color <small>(name and notation)</small>	Textural Class
Santiago	till		
Vlasaty	till		

2. Do these two tills suggest two different ice source regions or ice advances?

TWO ICE SOURCE REGIONS TWO ICE ADVANCES (circle one)

Support your answer.

3.



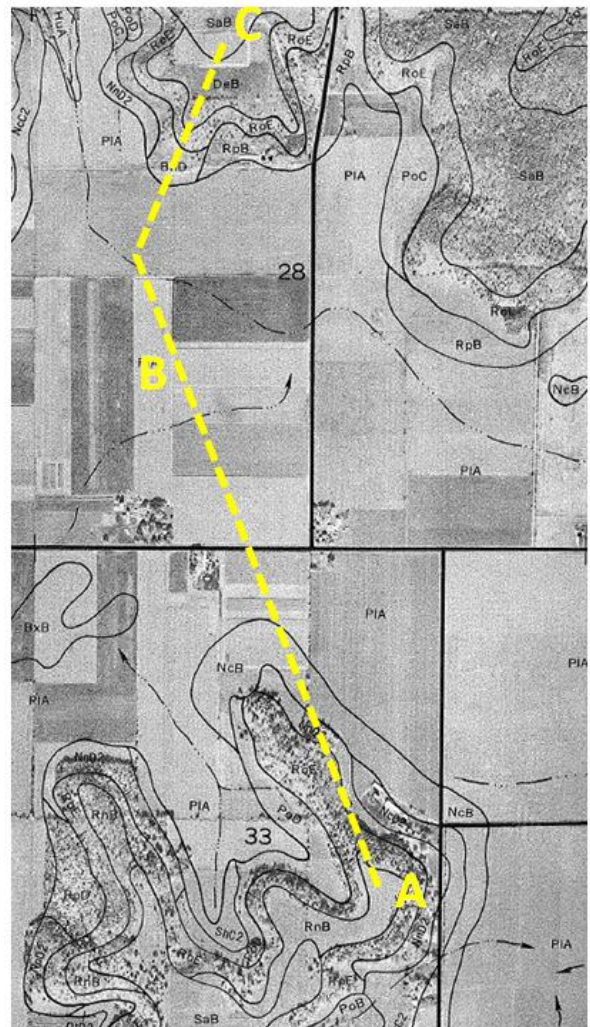
In contrast to Oneida County, bedrock is relatively close to the surface in St. Croix County. In some cases where the glacial cover was thin or non-existent, the soil developed directly from the bedrock. The figure to the left is adapted from a Minnesota Geological Survey publication and depicts the major bedrock units exposed in our area. Note: the Glenwood shale is very thin (< 5 feet) and is not found everywhere.

3. Complete the following table characterizing the bedrock soils series.

Soil Series	Ritchey	Nickin	Derinda
Parent Material Textural Class			
Type of Bedrock			
Bedrock Formation(s) (provide name)			

4. Turn to Mapsheet #90. The geomorphology and soils on this mapsheet is very representative of Western Wisconsin.

On the next page, construct a cross-section/concept diagram illustrating the topography and major geologic units (both bedrock and non-bedrock) from A to C (see figure to right) by deriving information from the soil map units. A small image of the 1:24,000 USGS quadrangle has also been included to help guide you. I encourage you to use the space below to write down information you gather from the soil survey.



Concept Diagram- your concept diagram should include topography (does not have to be to scale but should be reasonable), stratigraphy (include both surface and subsurface sediment...use ? where appropriate), labels, descriptions, etc.

[illegible]

- What type of landform is represented by the region around Points A and C? Explain. _____

- Dig out your “Glaciation of Wisconsin” article and refresh yourself on the glacial history of this part of Wisconsin. In addition, consult the St. Croix County Quaternary map. Write a timeline documenting the geologic history in St. Croix County. Be as specific as possible. Be sure to include all glacial materials in the proper order/age. Also, be sure to address what has been happening post glaciation.

[illegible]