

Jon Bevan and Meghan O'Donnell
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Geomorphology
Project Proposal

**Investigation of depositional sediment and morphology at the Lee River
landslide: Jericho, VT**

Objectives:

- * To recognize the key sedimentary features that characterizes deep-water lake deposits and fluvial deltaic deposits.
- * To identify the different grain sizes of surficial sediments.
- * To interpret a crucial part of the glacial history of the upper Champlain valley from the sequence of sediments and sedimentary structures, (such as slicken lines amongst undisturbed material), visible in this landslide.
- * To observe the surrounding ecosystem and establish what the source is that causes the hillside to fail.

Methods:

We will be visiting a well-exposed section of glacial materials along a large landslide bordering the Lee River in Jericho, VT that we have both visited in the past with our glacial geology class, directed by Steven Wright. The main slide occurred several years ago and the exposure has since slumped somewhat, but the in-place sediments can still be clearly observed with some shovel work.

We will work our way up the section clearing off selected parts so that undisturbed sediments may be exposed. At each of these places, we will make detailed descriptions and sketches of the sediment that we observe. With respect to the slide's morphology we will determine the nature of its movement by examining the conditional state of moved material, and when observing contact layers between disturbed and undisturbed sediment, we will be able to determine what layers may fail in the future. We will department to use a device that calculates cohesion of material, which will be measured at each layer. Obtaining data of clide geometry, cohesion, and phi angle we will apply a slope stability model that we have experimented with in class.