

Emily Russell-Roy

Candidate for a Master's of Science in Natural Resources and Forestry

Evaluating the potential for rehabilitation forestry and carbon market access on former industrial timberlands in northern Vermont

Vermont, like much of the Northeast, is close to 80% forested today. However, in the late 19th century, forest cover dropped to about half this extent due to large scale clearing for agriculture (Aber et al. 2010). While much of the forest has since recovered, a combined history of clearing, followed by industrial forest management, has left the majority of forests in the Northeast less than fully stocked (Heath and Hoover 2010). Many private and public forest landowners would like to see their forests restored to full productive capacity, but do not know what silviculture treatments to implement. In addition, they often face the reality of having to generate revenue in the short term, in order to make long term ownership economically viable. This study will investigate the potential to use carbon markets as a finance mechanism to help restore poorly stocked forests in the Northeast. Using recent forest inventory data, I will compare the forest structure and composition of three properties in northern Vermont with a range of past management, from low-level sustainable management to heavy commercial harvesting. I will then use remote sensing imagery and an index of forest health conditions to determine how well modeled predictions reflect observations on the ground. Finally, I will compare the potential for these properties to generate carbon credits using three different forest carbon protocols. This study is important because it will provide landowners with practical information they can use to assess future management options given the starting condition of their forest and its legacy of past management. It will also inform policymakers seeking to increase the pace of restoration, of the particular challenges and barriers facing former industrial timberlands in the Northeast.

References:

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