The Family Forest Network of Nova Scotia

An Overview for the 2023
Spring Woodland Conferences

Outline

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The Project

Over the next four years, FFN will conduct a large-scale pilot of ecological forestry on about 150 woodlots throughout Nova Scotia

- In late September 2021, the Forestry Innovation Transition Trust (FITT) awarded FFN a total of $9.8 million for the pilot and associated activities.
- The pilot will quantify the economic and environmental costs and benefits of forestry based on natural disturbance regimes, and develop recommendations for conducting ecologically sensitive management on small woodlands across a range of forest conditions.
- The project will work only with willing landowners who volunteer to participate. Forest stands to be included in the research must meet rigorous site selection criteria.

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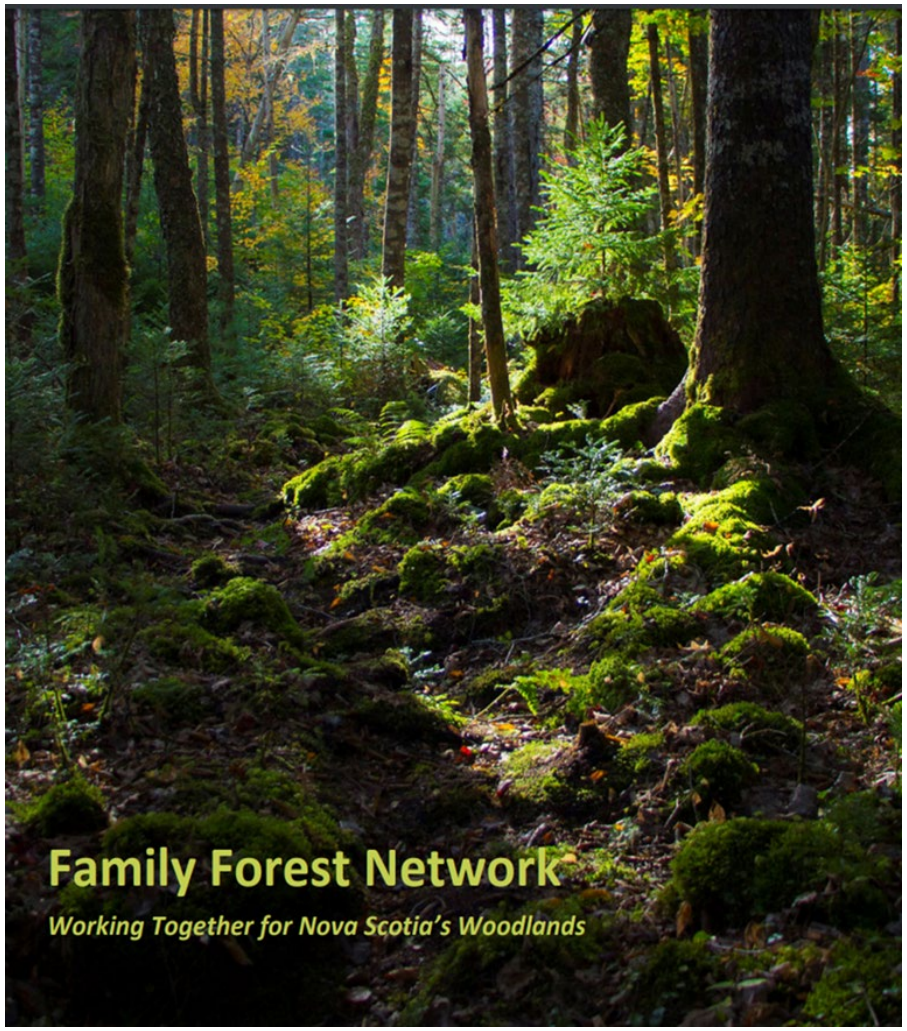
Rationale

While the techniques of ecological forestry have been the focus of numerous research studies over more than 30 years, there has been no large-scale pilot in Nova Scotia that assesses the costs and benefits of ecologically sensitive management forestry. This research project will study not only the short-term economics of ecological forestry, but also the long-term impacts on forest value, carbon storage, soil nutrients, biodiversity, and other non-timber values.



The Network

10 organizations that serve small-woodland owners are working together to develop the Family Forest Network.

Natural Disturbance Regimes

Key findings on natural disturbances in the Wabanaki-Acadian Forest:

- Average gap size in pre-settlement forest: no larger than 0.1 ha. (Seymour et al., 2002)
- Average area of forest disturbed annually: 1 percent (Fraver et al., 2009)
- "If the goal is to emulate most northeastern natural disturbance regimes faithfully, then the majority of the landscape must be under some type of continuous-canopy, multi-aged silviculture that maintains ecologically mature structures at a finely patterned scale." (Seymour et al., 2002)
- "Our analysis suggests that NDBS [Natural Disturbance-Based Silviculture] systems are capable of sustaining a greater diversity in forest structure and composition while producing volume yields and financial returns that are competitive with conventional even- and uneven-aged silvicultural systems." (Saunders et al., 2013)

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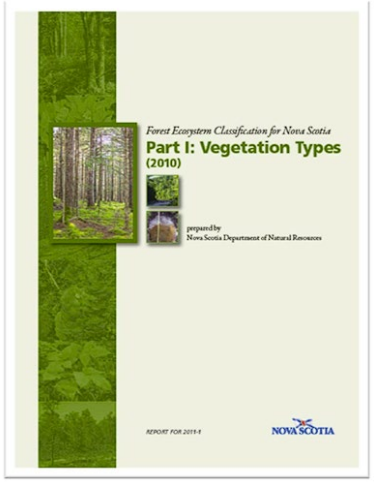
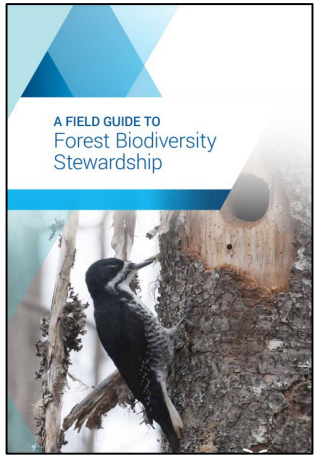
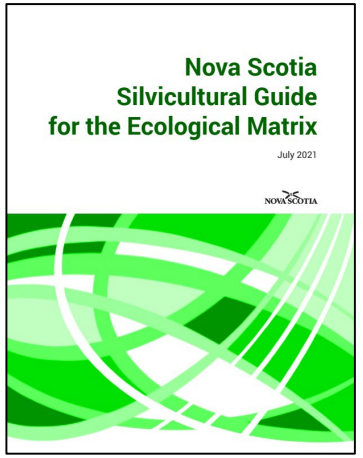
The Pilot

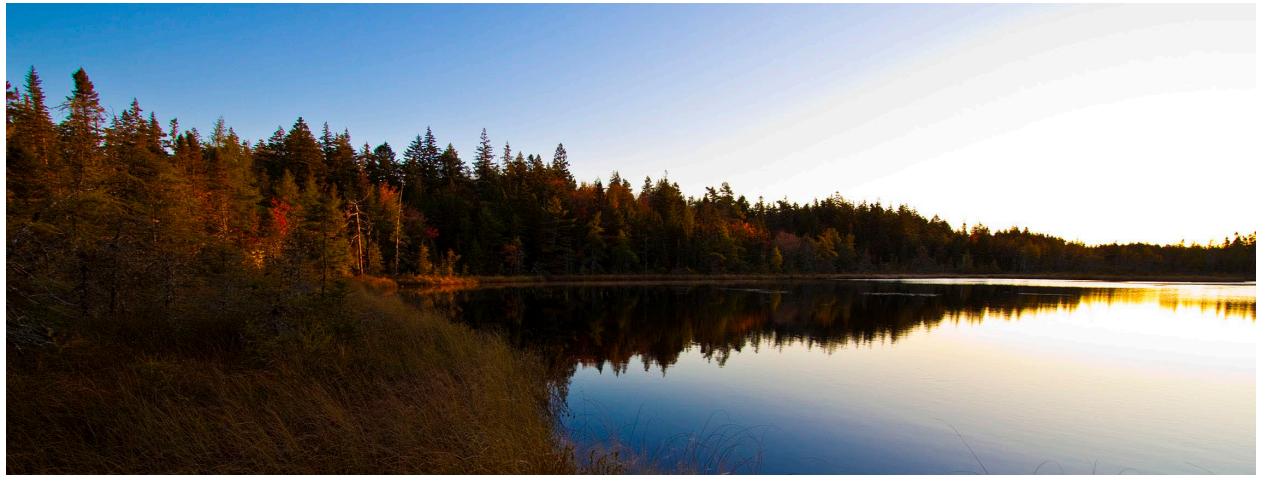
For this research, "ecological forestry" aims to promote the restoration of stands to climax forest types appropriate for each parcel's vegetation, soil types and ecosites. Consistent with Palik and D'Amato (2016), we intend to treat forests "in ways that bring them closer … in structure, function, and composition to healthy, natural forests at all stages of successional development." The goals are to build diversity and resilience, ensure ecological integrity, and mitigate the impacts of climate change. To help determine appropriate prescriptions and successional pathways, the project will be rooted in existing NSDNRR publications and protocols (SGEM, FEC, Nutrient Budget Model, PTAs, etc.) adapted to a small-woodland context.

We will focus mainly on applying a mix of irregular gap and continuous cover shelter-wood treatments on sites dominated by early successional species. Robust data collection pre- and post-harvest (timber, biodiversity, carbon, and soil nutrients) will be standardized through a proprietary data management app compatible with new DNRR protocols.









The Pilot II

Determining acceptable and unacceptable growing stock (AGS and UGS) can be very subjective, especially in a restoration context. Instead of trying to redefine these terms to better account for non-economic values, we are considering whether to adopt a new category for Ecological Growing Stock (EGS). This designation could be used for trees that are desirable for retention but don't fit the standard definition for AGS, for example: a long-lived, shade-tolerant tree that doesn't have saw log potential but would be an important seed source; trees with high wildlife value (e.g. mast producers, wolf trees, large-diameter trees soon to become snags); or non-commercial species that are kept purely for diversity. For this project, maintaining or restoring natural diversity is critically important.

How Can I Participate?

Because this is a research project, each forested parcel that will be studied must meet clearly defined criteria related to forest types and conditions. Some parcels will not qualify. If you are interested in exploring whether your land is eligible, please contact Daniel Hart at danielhart.ffn@gmail.com, or Ryan Dickie at Dickie.FFN@gmail.com.

The Family Forest Network partners will begin talking with landowners, contractors and forest professionals this spring. Sign up for more information at www.nswoods.ca/family-forest-network

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Questions

To receive updates on the project, sign up at:
www.nswoods.ca/family-forest-network.html

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