

# EFFECT OF HARVEST INTENSITY ON SOIL PHYSICAL PROPERTIES AND SITE PRODUCTIVITY IN RIPARIAN MIXEDWOOD FORESTS

Jamie K. Weaver<sup>1</sup>, Laura S. Kenefic<sup>2</sup>, and Ivan J. Fernandez<sup>3</sup>

<sup>1</sup>Department of Forest Ecosystem Science, University of Maine, Orono, ME 04469  
[jamie.weaver@maine.edu](mailto:jamie.weaver@maine.edu)

<sup>2</sup>USDA Forest Service, Northeastern Research Station, Bradley, ME

<sup>3</sup>Department of Plant, Soil, and Environmental Sciences, University of Maine, Orono, ME

Networks of perennial and intermittent streams and rivers cross Maine's private and public forest land. Among the functions provided by these riparian forests, water quality has received considerable attention. Impacts of harvesting practices are an important concern and stringent water quality standards have been established. Preserving riparian forests is an essential part of compliance with those standards. However, changes in riparian function associated with various harvest intensities are poorly understood.

Our objectives include (1) determining impacts of varying harvest intensities on soil physical properties, forest structure, and site productivity in riparian mixed-wood forests, and (2) relating terrestrial impacts of harvesting to observed in-stream changes. We propose to meet these objectives through a study of harvest blocks of varying intensities (from clearcut to no cut) along forested streams in Maine.

This project will complement an ongoing Agenda 2020 study of harvest intensity, soil productivity, and growth response (Reinmann et al. 2004), as well as headwater streams research conducted by the Manomet Center for Conservation Sciences (Wilkerson et al. 2004). We anticipate that this research will facilitate the identification of key associations within the aquatic-terrestrial interface in landscapes managed for timber production. This information will provide the basis for assessing the sustainability of managed mixed-wood riparian ecosystems, and for developing and improving management guidelines.

## Literature Cited

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