

NHRI Knowledge Mobilization/Transfer

April 2016 -March 2017



Institut de recherche sur les feuillus nordiques
Northern Hardwoods Research Institute



March 2017

IMPROVING PRODUCTS built by the NHRI

MANAGEMENT SYSTEM

Pelletier, G. 2016. Silvicultural Prescription System. Made available for demonstrations and workshops.

DECISION SUPPORT SYSTEM

Pascual, J. 2017. Decision Support System the optimization of uneven-aged silviculture.

CONSULTANCY SERVICE

Hurley-Poitras, P. 2016-2017. Operating plan for McCoy Brook Forests.

ENABLING PRODUCTS created by the NHRI

HANDBOOKS

Hébert, F. (Editor). 2016. **Best management practices for tolerant hardwoods in New Brunswick. Volume I:** Distribution, silvics and stand attributes of key species associated with northern hardwoods in New Brunswick. 160p. Northern Hardwoods Research Institute.

Pelletier, G. and Hébert, F. (Editors). 2016. **Best management practices for tolerant hardwoods in New Brunswick. Volume II:** Silvicultural systems and treatments for tolerant hardwoods in New Brunswick. 83p. Northern Hardwoods Research Institute.

Pelletier, G., Baral, S.K., Danyagri, G. and Hurley-Poitras, P. 2016. **Best management practices for tolerant hardwoods in New Brunswick. Volume IV:** The NHRI Silvicultural Prescription System. 74p. Northern Hardwoods Research Institute.

IOS AND ANDROID APP

1. Silvicultural prescription system of the Best Management Practices for tolerant hardwoods in New Brunswick. 2016.

PREDICTION MODELS

1. Moose browsing occurs. 2016.
2. Stem damage as a function of various parameters. 2016.
3. Age structure of HW stands. 2016.

CONSULTANCY REPORTS

1. Productivity of three forest company. 2016.
2. Productivity curves of crop tree release operation. 2016.

INNOVATIVE TOOLS

1. GIS classification of forest sites according to their potential to produce high quality hardwoods. 2017
2. Estimation of forest canopy cover from Landsat imagery. 2017
3. Prediction of stand basal area growth from residual basal area, quadratic mean diameter, species composition and treatment effect, in young even-aged hardwood stands. 2017
4. Vigor of hardwood and mixedwood stands from Landsat imagery. 2016.
5. Stand density management diagram for managing young even aged hardwood stands. 2016.

TRAINING ACTIVITIES prepared by the NHRI

WORKSHOPS

Launch of the silvicultural guide. Edmundston, NB, February, 2016

Best Management Practices for tolerant hardwoods in New Brunswick: NHRI Silvicultural Prescription System. Canterbury, NB, June 2016

Best Management Practices for tolerant hardwoods in New Brunswick: NHRI Silvicultural Prescription System. Northern NB, October, 2016.

Best Management Practices for tolerant hardwoods in New Brunswick: NHRI Silvicultural Prescription System. Maine, USA, September, 2016.

Vers une augmentation du rendement en sciage des feuillus, May, 2016.

Optimizing the hardwood value chain: from seedling to the end product. Edmundston, NB, February 17-18 2016. Organized by NHRI in collaboration with the Canadian Woodlands Forum and FPInnovations.

SPECIFIC TRAINING

Using GIS, Forest company, March, 2016.

INFORMING PRODUCTS generated by the NHRI

PRESENTATIONS

Pelletier, G. 2017. NHRI initiatives to sustain managed hardwood-dominated stands in New Brunswick. The 2017 Eastern Hardwood Conference: Exploring Hardwood Potential and Innovation. Port Hawkesbury, N.S. March 2, 2017.

Bittencourt, E. 2016. Drones, lasers and images: remote sensing to better manage hardwoods at the Northern Hardwoods Research Institute. Barbara Wheatland Seminar series. Maine, USA.

Hébert, F., Krause, C., Achim, A., Prigent, G. 2016. Effect of tree spacing on tree level volume growth, morphology and wood properties in a 25-year-old Jack pine (*Pinus banksiana* Lamb.) plantation in the boreal forest of Québec, Canada. WoodQC2016. Baie-Saint-Paul, QC, June 12-17 2016.

Bittencourt, E. 2016. Trois ans d'expérience de l'IRFN avec des drones à ailes fixes. Les drones et la foresterie workshop, organized by Partenariat Innovation Forêt. June 2nd, 2016, Alma, QC.

Fréchette, E., Chang CY, Ensminger I. 2016. Clarifier les rôles de la température et de la photopériode dans l'activation printanière et la diminution automnale de la photosynthèse chez différentes provenances de pin blanc. 10th annual meeting of the Center for forest research. Montréal, QC. May 2-3 2016.

Pelletier, G. 2016. Enhanced forest inventory metrics (EFI) to better manage for value. April 21st, 2016, Bangor, Maine.

Fréchette, E. 2016. Mon parcours de recherche: de l'écophysiole à la télédétection. Midis Forestiers de l'École de Foresterie de l'UMCE, April 8th 2016, Edmundston, NB.

Fréchette, E. 2016. Remote sensing as a tool for ecosystem productivity assessment and sustainable forest management. University of Maine at Fort Kent Environmental Seminar Series, April 15th 2016, Fort Kent, ME.

LeBel-Landry, S. 2016. Interaction plantes - herbivores – Cours Faune du milieu forestier (RESN 2213). Université de Moncton, Campus d'Edmundston. Edmundston, NB. March 31st 2016.

Hébert, F. 2016. Est-ce que l'intensité de l'éclaircie commerciale favorise l'envahissement du hêtre à grandes feuilles-Mon projet en 180 secondes. Journées de la recherche, Université de Moncton, Campus d'Edmundston. Edmundston, NB. March 17th 2016

LeBel-Landry, S. 2016. Effet du broutage par l'orignal sur la régénération feuillue-Mon projet en 180 secondes. Journées de la recherche, Université de Moncton, Campus d'Edmundston. Edmundston, NB. March 17th 2016.

LeBel-Landry, S. 2016. Effet du broutage par l'orignal sur la régénération feuillue – Vendredis science. Université de Moncton, Campus de Moncton. Moncton, NB. March 4th 2016.

Fréchette, E., Camy J. and Hurley-Poitras P. 2016. Precision forestry research at the NHRI : Current and future project highlights. AWARE-EFI New Brunswick meeting, February 19th 2016, Fredericton, NB.

Pelletier, G. 2016. Designing processes to enable the new “Outcome/results-based forest management” paradigm. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Hébert, F. and Pelletier G. 2016. Introducing the Best management practices for tolerant hardwoods in New Brunswick. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Pelletier, G. 2016. Operational implementation of irregular & group shelterwood treatments on NB. Crown lands license #9. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Baral, S.K., Girouard, M. and Pelletier, G. 2016. Effects of hardwood silviculture on tree architecture and wood quality. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Pascual Puigdevall, J. and Girouard, M. 2016. How to predict the hardwood product basket from A-LiDAR. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

TECHNICAL NOTES

Danyagri, G. 2016. Factors influencing mountain maple growth. Technical note no 2016_2_01. 6 p.

Pelletier, G. 2016. Developing a methodology to map trees to harvest in low volume stands. Technical note no 2014_3_2. 3p.

GUIDES

Danyagri, G. and Pelletier, G. 2016. A forest harvest classification system for New Brunswick. Version 1.0. 19p.

KNOWLEDGE SYNTHESIS

Hébert, F., Tremblay, S., Guillemette, F., Barrette, M. 2016. Pre-commerical thinning. 24p.

POSTERS

Labonté, J., Girard, F., Hébert, F. 2016. Recent mapping of glossy buckthorn in the eastern townships: a spatial analysis. Canadian Association of Geographers Conference. Halifax, NS May 30 to June 4 2016.

Labonté, J., Girard, F., Hébert, F. 2016. Recent mapping of glossy buckthorn in the eastern townships: a spatial analysis. 10th annual meeting of the Center for forest research. Montréal, QC. May 2-3 2016.

Hébert, F., Fréchette, E. Baral, S.K. 2016. Initiative de recherche sur le hêtre à grandes feuilles au Nouveau-Brunswick. 10th annual meeting of the Center for forest research. Montréal, QC. May 2-3 2016.

Fréchette, E., Camy, J. and Hurley Poitras, P. 2016. Characterizing forest regeneration using satellite images. CFRU Deer winter remote sensing development meeting. Edmundston, NB, February 24 2016.

Camy, J. 2016. Comparing LiDAR pulse intensities. CFRU Deer winter remote sensing development meeting. Edmundston, NB, February 24 2016.

LeBel-Landry, S., Pelletier, G. and Camy, J. 2016. Estimation of canopy cover using remote sensing technology. CFRU Deer winter remote sensing development meeting. Edmundston, NB, February 24 2016.

LeBel-Landry, S., Pelletier, G. and Camy, J. 2016. Estimation of canopy cover using remote sensing technology. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Baral, S.K. 2016. Process of dead branch stub occlusion. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Camy, J. and Fréchette, E. 2016. The forest industry of New Brunswick. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Camy, J., Fréchette, E. and Hurley-Poitras, P. 2016. The endless possibilities of precision forestry. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Soucy, P. 2016. Impacts of stand, tree and treatments on harvesting costs. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Camy, J. 2016. Comparing LiDAR pulse intensities. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Baral, S.K. and Girouard, M. 2016. Economic potential of hardwoods: products and product grade. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Phillips, M., Baral, S.K., Pascual, J., Girouard, M. and Pelletier, G. 2016. Mapping trees to harvest in low volume stands. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Danyagri, G., Baral, S.K., Adégbidi, H.G., Hébert, F., Girouard, M. and Pelletier, G. 2016. Dendrochronological reconstruction of stand structures and species composition: a supplement to permanent sample plots. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Danyagri, G. 2016. Timing of overstory removal on stocking and quality of desired tree species. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

Fréchette, E., Camy, J. and Hurley-Poitras. 2016. Characterizing forest regeneration using satellite images. Optimizing the hardwood value chain: from seedling to the end product, Edmundston, NB, February 17-18 2016.

METHODOLOGIES

Fréchette, E., Camy, J. and Hurley-Poitras. Characterizing forest regeneration using satellite images, procedure. 2016.

Fréchette, E. Standard operating procedure for vigor determination. 2016.