Fundy Model Forest

~Partners in Sustainability~

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The Fundy Model Forest…
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"The Fundy Model Forest (FMF) is a partnership of 38 organizations that are promoting sustainable forest management practices in the Acadian Forest region."

Atlantic Society of Fish and Wildlife Biologists
Canadian Institute of Forestry
Canadian Forest Service
City of Moncton
Conservation Council of New Brunswick
Fisheries and Oceans Canada
Indian and Northern Affairs Canada
Eel Ground First Nation
Elgin Eco Association
Elmhurst Outdoors
Environment Canada
Fawcett Lumber Company
Fundy Environmental Action Group
Fundy National Park
Greater Fundy Ecosystem Research Group
INFOR, Inc.
J.D. Irving, Limited
KC Irving Chair for Sustainable Development
Maritime College of Forest Technology
NB Department of the Environment and Local Government
NB Department of Natural Resources
NB Federation of Naturalists
New Brunswick Federation of Woodlot Owners
NB Premier's Round Table on the Environment & Economy
New Brunswick School District 2
New Brunswick School District 6
Nova Forest Alliance
Petitcodiac Sportsman's Club
Red Bank First Nation
Remsoft Inc.
Southern New Brunswick Wood Cooperative Limited
Sussex and District Chamber of Commerce
Sussex Fish and Game Association
Town of Sussex
Université de Moncton
University of NB, Fredericton - Faculty of Forestry
University of NB - Saint John Campus
Village of Petitcodiac
Washademoak Environmentalists

Natural Resources Canada / Ressources naturelles Canada

Canada

Revision of the FMF Natural Forest Development Yield Curves

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SNB   Wood   Co-op   Ltd.

This project provides land managers with updated forest stand yield curves for the five eco-regions in the Fundy Model Forest so that better estimates of stand yields over time can be made by the land managers in the FMF area. This update was necessary due to the fact that since the original yield curves were developed there has been far more Forest Development Survey data made available for the FMF area than was available when the yield curves were first built. This increase in the base of information used to build the yield curves will increase the accuracy of the yield predictions made.

The objective of this project was to provide land managers in the FMF area with more accurate forest stand yield projections so that more accurate wood supply projections can be made. The need to incorporate the new data now available for the FMF area into the existing forest development curves is obvious in that more and more values are being managed for in today's forests and people are demanding to know that practices occurring today in the forest are not going to remove opportunity to continue with their use of the forest in the future. The incorporation of the newly available data into the forest development yield curves allows land managers, woodlot owners, the general public, and local governments to have more confidence in the long term management plans being put forward by the land managers in the FMF.

To accomplish this all currently available forest development data for the Fundy Model Forest area and the five eco-regions contained within it was obtained from the NB DNRE. This included all of the currently available Forest Development Survey (FDS) data from the NB DNRE (found on CD: yield curve/fds data/*.*). This raw FDS data was then formatted so that the forest development survey data-compiling program could use it. This involved formatting and converting the files into a text format (found on CD: yield curve/fds/*.*).

The FDS data needed to be stratified into similar groups so that the variation amongst the projected future growth of each stand in the strata will be minimized. It was decided that the most useful way to stratify the data was by eco-region and then by vegetative community type. This stratification will allow a forest planner to report on the forest at the eco-region level for both vegetative community types and forest community groups. Forest community groups are derived from a combination of eco-region and vegetative community type (table 1). In order to link the forest cover to the FDS plot information a spatial join between the photo interpreted forest inventory with vegetative community types added and the NB DNRE FDS lines was performed. This allowed for the sorting or stratification of the FDS plots into the various stand types (found on CD: yield curve/fdsvcom2.dbf).

Once the FDS data was formatted and the stratification complete the forest development survey data-compiling program was run to create a stand table for each of the individual strata. (found on CD: yield curve/fds/stand tables/*.*).

These stand tables were then individually run through the stand level growth model STAMAN. The STAMAN model takes each stand table for each strata and projects its growth over time using the information on the make up of the stand and local volume

tables. For each strata STAMAN creates a text output file that details the initial volume of the stand and its subsequent growth over an eighty-year time horizon. These text output files for each strata were then converted in to a database file in preparation for a translation into a WOODSTOCK model format

Table 1

Eco-Region	Vegetative Community Type	Forest Community Group
03	BFSP	BF
03	BFTH	MXWD
03	BSBF	BS
03	HWNC	IHSW
03	IH	IHSW
03	IHSW	IHSW
03	JPSP	PINE
03	SPBF	SPBF
03	SPTH	MXWD
03	SPWP	PINE
03	SWNC	IHSW
03	TH	TH
03	THBF	MXWD
03	THIH	MXWD
03	THSP	MXWD
04	BFSP	BF
04	BFTH	MXWD
04	BS	BS
04	BSBF	BS
04	BSIH	BS
04	BSTL	BS
04	EC	EC
04	ECBS	EC
04	ECSP	EC
04	HWNC	IHSW
04	IH	IHSW
04	IHSW	IHSW
04	INSW	IHSW
04	SP	SPBF
04	SPIH	SPBF
04	SPTL	SPBF
04	SPWP	PINE
04	SWNC	SPBF
04	THSP	MXWD
04	TL	SPBF
04	TLEC	SPBF
05	BS	BS
05	BSBF	BS
05	EC	EC
05	ECSP	EC
05	EH	SPBF
05	HWNC	IHSW

05	IH	IHSW
05	IHSW	IHSW
05	JP	PINE
05	RP	PINE
05	SP	SPBF
05	SPBF	SPBF
05	SPEC	SPBF
05	SPIH	SPBF
05	SPTH	MXWD
05	SPTL	SPBF
05	SPWP	PINE
05	SWNC	IHSW
05	TH	TH
05	THBF	MXWD
05	THIH	TH
05	THSP	MXWD
05	TLEC	SPBF
06	BFSP	BF
06	BFTH	MXWD
06	BS	BS
06	BSBF	BS
06	BSIH	BS
06	BSJP	PINE
06	BSTL	BS
06	BSWP	PINE
06	EC	EC
06	ECBS	EC
06	EH	SPBF
06	HWNC	IHSW
06	IH	IHSW
06	IHSW	IHSW
06	JP	PINE
06	SP	BS
06	SPBF	SPBF
06	SPEC	EC
06	SPIH	SPBF
06	SPTH	MXWD
06	SPTL	SPBF
06	SPWP	PINE
06	SWNC	IHSW
06	TH	TH
06	THIH	MXWD
06	TL	BS
06	TLEC	EC
07	BFSP	BF
07	BS	BS
07	BSIH	BS
07	BSJP	PINE
07	BSTL	BS
07	EC	EC
07	EH	SPBF

07	HWNC	IHSW
07	IH	IHSW
07	IHSW	IHSW
07	RP	PINE
07	SP	SPBF
07	SPBF	SPBF
07	SPEC	EC
07	SPIH	SPBF
07	SPWP	PINE
07	SWNC	IHSW
07	TH	TH
07	THIH	MXWD
07	THSW	MXWD
07	TL	BS
07	WP	PINE