

NEW BRUNSWICK SUGAR BUSH SILVICULTURE FUNDING PROGRAM IMPLEMENTATION GUIDELINES

General Information

The Sugar Bush Silviculture Program is intended to promote silvicultural treatments in sugar bush stands that will enhance the growth, health, and vigor of maple trees for syrup production. Treatments will focus on the thinning/spacing of both young and mature stands of maple trees. Funding is available to existing or new sugar bushes, and on Crown Land or private woodlots.

Funding for the Sugar Bush Silviculture Program is provided by the New Brunswick Government (Regional Development Corporation). The New Brunswick Department of Natural Resources is responsible for management of this program. Program delivery and on-site technical assistance for sugar bush managers will be provided by INFOR Inc.

There are two treatments eligible for funding.

- Precommercial thinning:
 - Goal: To enhance the growth of young maple trees for future sap production in new or existing sugar bush.
 - Emphasis will be placed on removal of non-maple species and spacing of young, quality maple trees.
 - Eligible stands must average at least 5 meters in height with sufficient sugar maple to develop a viable sugar bush operation with a minimum of 150 taps/hectare.

- Commercial thinning:
 - Goal: to enhance the growth of maple trees for sap production in stands that are sapling age or older in new or existing sugar bush.
 - Treatments will be focused on removal of non-maple species and trees of lower quality and health.
 - No more than 1/3 of trees can be harvested from a stand, spacing sugar maple to ensure a minimum of 150 taps/hectare.

Approved precommercial thinning and commercial thinning activities will be funded in 2008 at a rate of \$500.00/ha to a maximum of \$5,000.00 per producer.

Applications must be received by INFOR Inc. between July 18 and August 8, 2008 and all work must be completed within the 2008 calendar year in order to qualify.

Eligible sugar bush must be at least 5ha in size with a minimum of 150 taps/ha. This assessment is to be determined by a stand inventory (cruise) conducted by members in good standing of the Association of Registered Professional Forester of New Brunswick or the New Brunswick Forest Technicians Association.

Commercial thinning treatments must be commenced after August 15 if the harvest is to be conducted using skidders or other mechanical harvest methods.

To be eligible for funding participants must have no outstanding financial claims with the Province of New Brunswick (e.g. lease payments, royalty payments, etc).

Participants are responsible for layout of treatment areas within their sugar bush and ensuring the treatments are conducted properly. An X-permit, available from local DNR offices, will be required for operations on Crown Land producing merchantable wood products.

Technical guidelines for specific treatments are available from INFOR Inc. (ph 506-450-8787 or toll free 1-877-450-8787, email infor@infor.ca) upon request.

Application Process for Sugar Bush Silviculture Funding

INFOR Inc. will administer and implement the funding program.

1. Applicant to ensure that their sugar bush is eligible for treatment.
2. Request made by producer to INFOR Inc., INFOR Inc. to document request and producer information on certification form.
3. INFOR Inc. to conduct pre-treatment assessment with producer to determine eligibility and to develop treatment prescription.
4. Producer to conduct eligible operations or ensure that the operation is conducted to prescription guidelines; they will be required to sign certification form.
5. INFOR Inc. will conduct post-treatment assessment to ensure adherence to guidelines.
6. INFOR Inc. and DNR representatives must approve that treatment was conducted to standard and determine actual area treated.

Sugar Bush Silviculture Technical Guidelines

These guidelines will be used by INFOR staff for developing silviculture prescriptions in cooperation with sugar bush operators.

Precommercial Thinning:

- Average crop tree (sugar maple) height $\geq 5\text{m}$; thinning is to be uniform throughout the stand with each crop tree free to grow on all sides.
- Under existing sugar bush overstory space sugar maple to 5-8m between crop trees. The intent is to select young sugar maple between existing mature trees with the expectation that they will form the next tappable overstory in the future.
- Where no overstory exists, space to 3m spacing between crop trees.
- Crop tree selection:
 - Dominant or co-dominant size trees
 - Healthy, vigorous trees
 - Trees with better than average sweetness by refractometer readings
 - Wide and deep crown trees
 - Trees with little or no physical damage
 - Trees with a single main stem and branching angle of ≤ 45 degrees
- Maintain $\geq 10\%$ stand composition of non-sugar maple species where appropriate. The intent is to allow other tree species to stand where a sugar maple does not exist to maintain biodiversity and prevent development of other vegetation/competition.
- Follow sugar bush stocking recommendations (Table 1).

Commercial Thinning:

- There are two possible methods of treatment available; uniform select harvest and crop tree release.
- Uniform Select Harvest
 - Crop tree selection as previously described.
 - Focus selection harvest treatments in stands with $\geq 19\text{m}^2/\text{ha}$; sugar maple producing stands are considered overstocked when Basal Area exceeds $24\text{m}^2/\text{ha}$.
 - Harvest is a uniform 1/3 Basal Area (maximum) removal.
 - Approximate crop tree spacing should be 5-7m.
 - Maintain $\geq 10\%$ stand composition of non-sugar maple species where appropriate.
- Crop Tree Release
 - Crop tree selection as previously described.
 - Emphasis to be placed on removal of suppressed or codominant trees interfering (immediately adjacent or touching) with the crowns of crop trees.
 - Release the crown of crop trees on 2 to 3 sides.
 - No more than 30% of the crown closure is to be removed.

- Crop trees are to be marked prior to harvest.
- Do not mark or cut trees within 10m of exposed boundaries of the sugar bush to reduce chance of wind throw.
- No more than 10% of the residual trees may incur logging damage:
 - Bark abrasion, exposing 580cm² or more of wood surface for yellow birch or 968cm² or more for other species.
 - Branches larger than 7.6cm in diameter broken from the tree.
 - Root damage where ≥25% of the surface area is exposed.
 - Main stem broken.
 - Tree partly or entirely uprooted or noticeably tipped out of its normal growing position.
- Follow sugar bush stocking recommendations (Table 1).

Table 1: Sugar Bush Stocking Guidelines		
Average Diameter (cm)	Trees per Hectare	No. of Taps per Tree
<10	>690	0
10 - 24	175 - 690	0
24 – 34	125 - 175	1
34 – 44	85 - 125	2
>45	<85	3

(Table 1 adapted from A Guide to Sugar Bush Thinning 1988, Natural Resources and Energy, New Brunswick).

Contact information:

For information concerning the application for the Sugar Bush Silviculture Funding Program please contact: INFOR Inc. (ph 506-450-8787 or toll free 1-877-450-8787, email infor@infor.ca).