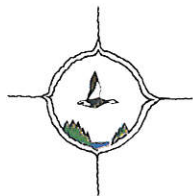


Laying Roots, Growing Prosperous

An Aboriginal Entrepreneur's Guide
to the Herbicide Alternatives Program



Mushkegowuk
Environmental
Research Centre



Forward

The Project Team sincerely thanks all contributors to the AEP and those who assisted in the development of this document.

Contributors:

Miriam Fleming	Project Manager	Gordon Kayahara	OMNR
Lark Ritchie	Project Advisor	Chris McDonell	Tembec
Aimée-Leah Lavoie	Project Officer	Don Bazeley	Tembec
Justine Prevost	Taykwa Tagamou Nation	Jeff Leach	Tembec
Isabell Souliere	Missanabie Cree First Nation	Pat Tangie	NSRCF
Brian Edwards	Chapleau Cree First Nation		
Lynn Lavigne	Michipicoten First Nation		

Introduction

For Aboriginal communities in Northern Ontario, forests are much more than just a source of timber. They have long provided many of the necessities of life to the original inhabitants of this area; shelter, food, medicine. Forests hold historical, cultural, and economic value.

Recent changes to forest tenure licensing arrangements in Ontario, combined with a growing, skilled Aboriginal labour force and increasing community involvement in forest management activities have created an ideal environment for Aboriginal forest-based entrepreneurship.

This resource document seeks to alert existing and future entrepreneurs to opportunities within an exciting new forestry paradigm: the Herbicide Alternatives Program and no-chemical forestry. This report presents some fundamental information regarding these opportunities, as well as providing resource information for those wishing to further explore them.

Background

The Herbicide Alternatives Program (HAP)

The Herbicide Alternatives Program (HAP) is a joint initiative undertaken by Tembec and the Mushkegowuk Environmental Research Centre (MERC) to engage with First Nations in Northeastern Ontario to develop and implement a strategy to regenerate forests on Tembec tenures in Northeastern Ontario using alternatives to the application of chemical herbicides.

Relying on Aboriginal knowledge and guidance, existing field research, and lessons from the elimination of herbicides in Quebec forestry operations, the program aims to identify and introduce no-chemical practices that are socially, environmentally, and economically acceptable, and at the same time meet provincial forest renewal standards.

In the long-term, the Herbicide Alternatives Program may also provide a model for other Ontario forestry companies endeavouring to reduce their reliance on chemical herbicides.

Underlying a motivation to engage First Nation communities in the Herbicide Alternatives Program is a Tembec objective to address expressed First Nation community concerns about herbicide use on their territories and to harmonize Tembec forestry practices to include respect and consideration of traditional First Nation values when developing forest management plans (FMPs).

In this regard the following communities are actively engaged on the HAP Steering Team: Michipicoten First Nation, Missanabie Cree First Nation, Chapleau Cree First Nation and Taykwa Tagamou Nation. The Mushkegowuk Council, a regional tribal council for seven Treaty Nine communities also participates in the program via a representative from the Council.

Since the program's inception in 2011, the HAP Steering Team consisting of representatives from the four First Nations as well as the Council, MERC, Tembec, and science advisors from the Ontario Ministry of Natural Resources (OMNR), has been working to meet the objectives of the program.

In moving toward the objective, a number of HAP trial sites have been identified within Tembec's Martel and Gordon Cosens Forest License areas upon which alternative non-chemical treatments will be applied (see Fig. 1). Additional trial sites will be added as the program progresses.

The monitoring of these sites and others to be established as the program unfolds creates new employment and business opportunities for Aboriginal entrepreneurs and individuals wishing to participate in no-chemical forestry activities.

Because the operational use of herbicide alternative practices in Ontario is relatively new, those entrepreneurs engaging in early HAP silviculture activities have an opportunity to gain first-hand knowledge, experience, and skills that can provide them a marked competitive advantage over future late-entrants to the sector.

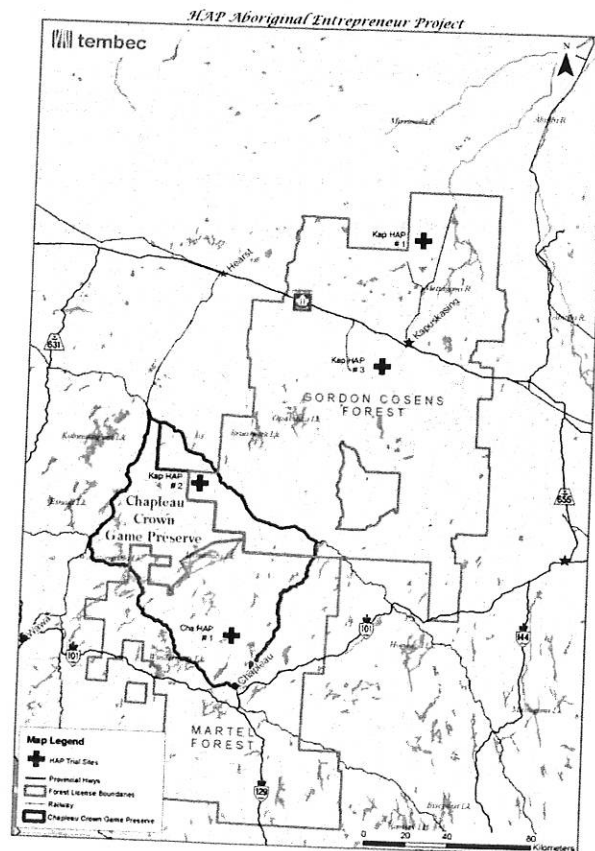


Fig. 1 Map showing the approximate locations of HAP trial sites as of March 2013.
(See Appendices for enlarged version of this map)

The Aboriginal Entrepreneur Project (AEP)

In 2012, with support from the Ontario Ministry of Aboriginal Affairs' New Relationship Fund, MERC initiated a project to develop, publish and distribute to First Nation communities this business resource document identifying and assessing opportunities for First Nations community members and businesses seeking participation in no-chemical forestry. The project was identified as the HAP Aboriginal Entrepreneur Project (AEP).

Objectives were to:

- Meet with the leadership and members of First Nation Communities,
- Describe the HAP initiative and progress to date,
- Identify future opportunities in the forestry industry during and after the HAP, and
- Provide First Nation communities and Tembec with a guidance document that may be used as an initial planning resource for entrepreneurs who may be interested in providing services to Tembec.

The Engagement Process

Engaging the four First Nation communities in discussions regarding the HAP-related immediate and future business opportunities allowed the AEP team to hear and understand session participants':

- Perceptions, impressions and interests regarding the HAP,
- Questions, concerns and reactions regarding the economic aspects of the program, and
- Actual and perceived barriers anticipated by Aboriginal business operators and would-be entrepreneurs.

The information collected through the sessions was important to be considered for the development of the Aboriginal Entrepreneur Project and will be valuable in planning other HAP-related activities.

The AEP project's engagement process included meetings with four First Nations:

- Taykwa Tagamou Nation,
- Missanabie Cree First Nation,
- Chapleau Cree First Nation, and
- Michipicoten First Nation.

During each of these meetings, a PowerPoint presentation was delivered by the Project Team, and was immediately followed by a facilitated discussion session with meeting participants.

Feedback was invited by the facilitator and further, through attendee-completed hardcopy surveys which included written comments and suggestions from session participants.

Notes from the session proceedings were compiled as meeting reports, which were in turn validated by community representatives. Both the feedback gathered during the discussion

sessions and the survey data shaped the final resource document, which also serves as a resource to the HAP.

The Opportunities

The elimination of chemical herbicides in forestry activities is expected to expand in the coming years.

The Herbicide Alternatives Program offers a variety of short- and long-term opportunities for motivated Aboriginal entrepreneurs.

The following diagram maps the possible evolution of services essential to no-chemical forestry, beginning with the more immediate opportunities related to monitoring and silviculture activities, through planning, auditing, consulting and other higher level services in the forestry and Non-Timber Forest Products industries.

All of these are open to Aboriginal entrepreneurs having the will and support to succeed.



Fig. 2: Diagram of opportunities for First Nations over the lifespan of the HAP.

During the AEP community meetings, participants expressed interest in a broad range of entrepreneurial opportunities related to silviculture activities and Non-Timber Forest Products (NTFPs).

For the purposes of this document, we limited the focus to a select few. It is important to remember that within the context of the opportunities listed in this document, entrepreneurial ventures may range from very small businesses, to much larger and complex forms of service provision.

The following pages describe activities reflecting services required at various stages of development of the HAP, including current and future initiatives which may lead to the realization of individual and collective visions for the HAP and the economy among Northeastern Ontario communities.

Tembec Summer Silvicultural Assistants (Aboriginal)

What is it?

The Tembec Summer Silvicultural Assistant (Aboriginal) positions represent an opportunity within the short-term of the HAP, and are the first economic opportunities to arise from the program

Responding to needs expressed by Aboriginal representatives early in the HAP regarding capacity building and youth involvement, Tembec established a pilot project for 2013 employing two Aboriginal youth from May through end of August 2013. The summer positions are based at the Chapleau and Kapuskasing operations.

What's involved?

During the contract period the Aboriginal Summer Silvicultural Assistants are introduced to a full suite of forestry operations and silviculture activities including those that are uniquely HAP-related. Activities include travel to and from harvest and regeneration sites, in-office experience with aerial photo interpretation and silviculture software as well as opportunities for involvement with local and regional Aboriginal and environmental organizations. Additional on-the-job training includes among other topics; WHMIS, First Aid, Health and Safety. Employee incentives include Tembec-scale wages, and financial assistance toward accommodations when required.

While the positions offer income for the employees, they will also provide on-the-job training and the development of transferable skills. The work experience may also provide an impetus to pursue a post-secondary education in the field, and may prove an important advantage for those who do so. Ideal employees are those who have a passion for the forest, a desire for on-the-land experience, and a commitment to continuous learning; all factors essential to a successful career in forestry.

Where do I get more information?

Check your community bulletin board or employment services for information regarding positions such as these. A job advertisement was widely distributed among Aboriginal communities, organizations, and related post-secondary institutions. The closing date was March 15th, 2013. Should this pilot project prove successful, these positions may be available in the coming years. See *Appendix 3, 'Tembec Summer Silvicultural Aboriginal Assistants - Advertisement - March 2013'* for details.

How do I get involved?

The closing date for 2013 was March 15th, 2013. Should this pilot project be successful, these positions may be available in the coming years. As well, opportunities for Aboriginal Youth employment will continue to be available with Tembec through existing job channels.

For more information regarding Tembec's Summer Silvicultural Assistants (Aboriginal), please contact:

Chris McDonell
Manager Aboriginal and Environmental
Relations
White Oaks Office
10 Gatineau Road
P.O. Box 5000
Témiscaming, QC J0Z 3R0
Phone: 819-627-4429
Fax: 819-627-4753
Email: chris.mcdonell@tembec.com

Jeff Leach
Silvicultural Specialist
Tembec – Kapuskasing Operations
P.O. Box 100
Kapuskasing, ON P5N 2Y2
Phone: 705-337-9888
Email: jeff.leach@tembec.com

Individuals seeking to gain experience or qualifications beyond these positions may wish to further engage with other silvicultural companies in an entry-level position, or pursue post-secondary education leading to forestry-related occupations.

Cone Collection

What is it?

With a mobile workforce, cone collectors access cutover sites to manually collect quality cones from residual tree limbs and tops, and squirrel caches. There is an existing need for cone collectors on the Martel Forest and demand for this service will likely be continuous.

What's involved?

Cone collection contractors work outdoors and with their employees, collect cones in which the seeds have ripened, but not opened. The time and duration of cone harvest periods are dependent on a number of factors including tree species, seed year, and quotas, however cone collection usually occurs over brief periods of time; a week to one month between August and October. Because Jack Pine cones remain closed on the branches for a long time, their collection can occur during or just after tree harvest. Contractors are required to collect a certain amount of cones (in hectoliters) by a specified deadline, as per work agreements with forestry companies. Collected cones are bagged and labeled with their origin and sent to a seed extraction facility.

Contractors are required to have tree identification skills, the ability to select proper cones and pick them cleanly, as well as applicable insurance. They must also have coverage under and meet the requirements of the Workplace Safety and Insurance Board (WSIB), and the Occupational Health and Safety Act.

Where do I get more information?

Information regarding cone collection procedures can be found at the MNR website here:
www.mnr.gov.on.ca/en/Business/Forests/2ColumnSubPage/STEL02_166310.html

or by ordering the *Seed Manual for Ontario* by contacting the Ontario Tree Seed Facility. The price of this document is \$24.95 plus tax.

Ontario Tree Seed Facility
P.O. Box 2028
Angus, ON L0M 1B0
Phone: 705-424-5311
Toll free: 877-861-8881
Fax: 705-424-9282

Individuals can also contact forestry companies or silviculture contractors in their area who are currently conducting these activities for more information.

How do I get involved?

To get involved in cone collection in the Gordon Cosens Forest contact:

Kevin Del Guidice, R.P.F.
Planning Superintendent, Forest Operations - Northern Ontario West
Forest Resource Management Group
1 Government Road, Kapuskasing, ON P5N 2Y2
Phone: 705-337-9773
Mobile: 705-347-0274
Fax: 705-337-9785

For the Martel Forest, please contact:

Sarah Sullivan, R.P.F.
Planning Superintendent, Forest Resource Management - North Ontario East
175 Planer Road, Box 280 Chapleau, ON P0M 1K0
Phone: 705-864-3021
Mobile: 705-262-7804
Fax: 705-864-0928

HAP Monitoring

As no-chemical forestry is new in Ontario, there is a need for the development of a standardized monitoring procedure and training program for HAP silviculture sites and Tembec forestry activities.

A team of representatives from First Nations, Tembec, and the OMNR are working along with First Nation communities to prepare these two items in a way that addresses Aboriginal, industry, and government needs.

The initiative has been in motion for a while and a HAP sub-committee was engaged in December 2012 to develop an initial monitoring procedure. The monitoring procedure and subsequent training modules will require First Nation community input and further refinement under field conditions during the spring and summer of 2013, through the aforementioned "Tembec Summer Silvicultural Assistants" positions and other channels. As the program is developed, the identification of Aboriginal values on HAP sites may also come into effect. Monitors may need to be able to identify and track populations of plants of cultural value, or log accounts of species or sites of interest. Knowledge and experience on the land will certainly be an asset for those wishing to engage in HAP Site monitoring activities.

Entrepreneurial opportunities within monitoring activities are likely to present themselves in the next 3-5 years and beyond, with monitoring of trial sites expecting to occur over the next 5 to 15 years, or up until the free-to-grow establishment phase at each trial site.

What is it?

HAP silviculture monitoring is the evaluation of the cost and effectiveness of the applied non-herbicide conifer regeneration treatment options. It aims to ensure that the treatments are effective in meeting company requirements and activities as described in forest management plans.

What's involved?

Working alone or with others, individuals involved in monitoring activities will follow established protocols to perform a variety of duties. These include: establishing sampling plots, performing ground and aerial surveys, evaluating specific site characteristics (i.e. soils and plant identification), logging GPS information, taking site photos, interpreting aerial photos, collecting and interpreting data, and making proposals for site preparation and regeneration based on findings. Performing these duties requires travel and working both outdoors and indoors with a variety of equipment. Those offering monitoring services would require a vehicle and GPS equipment, as well as technical knowledge in silviculture and environmental monitoring.

Where do I get more information?

For more information regarding silviculture effectiveness monitoring, please consult the MNR *Silviculture Effectiveness Monitoring Manual for Ontario* which may be accessed at this link www.mnr.gov.on.ca/en/Business/Forests/Publication/MNR_E000271P.html or by contacting the Natural Resources Information Centre.

Current publications of the Ontario Ministry of Natural Resources and price lists are available from:

Natural Resources Information Centre

300 Water Street
P.O.Box 7000
Peterborough, ON K9J 8M5
Toll free: 800-667-1940
Fax: 705-755-1677
Email: mnr.nric.mnr@ontario.ca

How do I get involved?

For information on how to get involved in monitoring, contact:
(For work in the Gordon Cosens Forest)

Kevin Del Guidice, R.P.F.
Planning Superintendent, Forest Operations - Northern Ontario West
Forest Resource Management Group
1 Government Road, Kapuskasing, ON P5N 2Y2
Phone: 705-337-9773
Mobile: 705-347-0274
Fax: 705-337-9785

(For the Martel Forest)

Sarah Sullivan, R.P.F.
Planning Superintendent, Forest Resource Management - North Ontario East
175 Planer Road, Box 280 Chapleau, ON P0M 1K0
Phone: 705-864-3021
Mobile: 705-262-7804
Fax: 705-864-0928

Thunderhouse Forest Services Inc. is a Northeastern Ontario company currently providing some monitoring services.

Thunderhouse Forest Services Inc.

P.O. Box 70, 34 Rouse Street
Hearst, ON P0L 1N0
Phone: 705-362-4488
Fax: 705-362-4563
Email: mail@thunderhouse.ca
www.thunderhouse.ca

HAP Silviculture Treatments

Opportunities exist within the HAP for specialized contractors who wish to perform alternative silviculture activities on no-chemical sites. It is surmised that the elimination of aerial herbicide application will lead to an increased demand for the application of mechanical site preparation treatments, as well as motor and manual tending activities in order to reduce competing vegetation on regeneration sites. Silviculture treatment opportunities are likely to present themselves in the next 3-5 years and beyond.

All contractors have to follow the Company's environmental policy, maintain insurance coverage, as well as comply with all applicable environmental, occupational, federal, provincial, and municipal legislation.

Mechanical Site Preparation (MSP) - tractor, shear blade, disk trencher, scarifier, moulder

What is it?

Using specialized machinery, the treatment area is conditioned in order to reduce the competitive vegetation and to expose mineral soil microsites to permit operational planting and/or seeding.

What's involved?

Specialized and trained heavy equipment operators access cutover sites and prepare the soil according to specifications in the work contract. MSP contractors are responsible for obtaining and maintaining the necessary equipment, as well as ensuring that it is transported to and from the worksite (i.e. lowbed services). The contractor is expected to track and report on where work has occurred, and that it meets quality and production standards.

Mechanical Site Preparation (MSP) - Mulching Treatments

What is it?

Mulching treatments break the residual wood on harvested sites down into small fragments and spreads them over the forest floor, which redistributes nutrients, helps retain moisture in the ground, reduces vegetation competition, and facilitates planting.

What's involved?

Using an excavator and mulcher, the specially trained operator mulches and redistributes wood residue on harvested sites as per a work agreement. MSP contractors are responsible for obtaining and maintaining the necessary equipment, as well as ensuring that it is transported to and from the worksite (i.e. lowbed services). The contractor is expected to track and report on where work has occurred, and that it meets quality and production standards. Mulching services are also in demand in other sectors. For example, electricity providers (e.g. Hydro One) who are moving away from herbicide application often seek contractors to mulch along power lines in order to keep corridors free of vegetation.

Tending/Release – Motor Manual

What is it?

Tending and release treatments remove competing vegetation from around planted seedlings on cutover sites to ensure that they have adequate access to sunlight, moisture and nutrients until they are free-to-grow.

What's involved?

A team of labourers accesses forest regeneration sites, and use brush saws to cut the competing vegetation away within a specified radius of the planted seedling. Contractors are expected to manage and direct a large group of individuals, manage health and safety programs, provide and maintain equipment, and perform services according to stipulations laid out in a work agreement.

Where do I get more information?

Information on mechanical site preparation and motor-manual tending methods can be found online in the OMNR Vegetation Management Alternatives Program literature. Use the links are provided below

Mechanical Site Preparation and Vegetation Management

www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@nws/documents/document/mnr_e005364.pdf

Manual, Motor-Manual, and Mechanical Brushing Tools for Conifer Release

www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@nws/documents/document/mnr_e005369.pdf

or contact the Natural Resources Information Centre. Current publications of the Ontario Ministry of Natural Resources, and price lists are available from:

Natural Resources Information Centre

300 Water Street

P.O.Box 7000

Peterborough, ON K9J 8M5

Toll free: 800-667-1940

Fax: 705-755-1677

Email: mnr.nric.mnr@ontario.ca

Some companies offering mechanical site preparation services include:

LS Silviculture Inc.

5667 Pine Stone Dr
Williamstown, ON K0C 2J0
Phone: 613-931-2666

Millson Forestry Services

1782 Dalton Rd RR#1
Timmins ON P4N 7C2
Phone: (705)-264-3426
Fax: (705)-267-6954
Email: info@millsonforestry.com
www.millsonforestry.com

Local companies currently offering tending services include:

Outland Reforestation

Ontario Northeast:
Ian Cuddy, Regional Manager
Phone: 705-273-1131
Mobile: 705-363-5124
Email: icuddy@outland.ca
www.outland.ca

Thunderhouse Forest Services Inc.

P.O. Box 70, 34 Rousse Street
Hearst, ON P0L 1N0
Phone: 705-362-4488
Fax: 705-362-4563
Email: mail@thunderhouse.ca
www.thunderhouse.ca

How do I get involved?

For work in the Gordon Cosens Forest contact:

Kevin Del Guidice, R.P.F.
Planning Superintendent, Forest Operations - Northern Ontario West
Forest Resource Management Group
1 Government Road, Kapuskasing, ON P5N 2Y2
Phone: 705-337-9773
Mobile: 705-347-0274
Fax: 705-337-9785

For the Martel Forest, contact:

Sarah Sullivan, R.P.F.
Planning Superintendent, Forest Resource Management - North Ontario East
175 Planer Road, Box 280 Chapleau, ON P0M 1K0
Phone: 705-864-3021
Mobile: 705-262-7804
Fax: 705-864-0928

Appendix 2 - HAP Trial Sites as of March 2013

HAP Aboriginal Entrepreneur Project



Map showing the approximate locations of HAP trial sites as of March 2013