

# Forest Genetic Resource Management Program 10-Year Strategic Plan Summary<sup>1</sup>

The Forest Genetic Resource Management (FGRM) Program is a specific purpose of the Forestry Futures Trust (FFT). The funding of FGRM via the FFT provides support for maintaining Ontario's forest genetic assets, for ensuring that genes are conserved and for developing trees that are adapted for future growing environments<sup>2</sup>. FGRM is a valuable resource for forest management in Ontario and contributes to the Crown Forest Sustainability Act (CFSA) purpose of providing for the sustainability of Ontario's Crown forests. The program supports tree improvement, provides a viable and reliable source of genetically improved seed, conserves existing genetic diversity, and supports adaptation to a changing environment. Ontario's three Regional Genetic Associations (Associations), i.e., Superior Woods Tree Improvement Association (SWTIA), Northeast Seed Management Association (NeSMA), and the Forest Gene Conservation Association (FGCA), are partners with Sustainable Forest Licensees (SFLs) and others in implementing a forest genetics program that benefits Ontario's Crown forests. In addition to providing funding through the FFT, Ontario Ministry of Natural Resources and Forestry (OMNRF) researchers study forest genetics and tree improvement to support Provincial policy and operational programs in collaboration with partners, such as the Associations and universities.

This strategic plan is designed to provide interim<sup>3</sup> direction for the Forestry Futures Trust Committee (FFTC) as the FGRM program administrator and to its applicants. Eligible applicants include SWTIA, NeSMA and FGCA. This strategic plan is being developed to further FFTC's capacity to ensure its instructed allocation of funds for the FGRM Program purpose is done with sufficient oversight and to demonstrate how funding is being used to support important strategic priorities. Applicants are required, in the application process, to demonstrate how project proposals support strategic priorities described in this document. This program direction may be updated from time to time.

## Vision and Mission

**Vision:** An innovative, progressive, and informed program that is recognized as a leader in FGRM by the forestry community.

**Mission:** To maintain and enhance Ontario's forest genetic resources to meet the sustainable objectives of forest managers and the Province through funding administration.

## Guiding Principles

- Provide a high return on investment while supporting the sustainability of Ontario's Crown forests.
- Support applications that are innovative, responsive, and adaptive while complying with applicable legislation and policy.
- Build collaborative, diversified, transparent and equitable relationships while respecting participants' independence.
- Support applications that incorporate science, technological developments, health and safety, and traditional knowledge into program practices.
- Support applications that prioritize adaptation and mitigation to a changing climate while maintaining the genetic diversity of populations.

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<sup>1</sup> Document to be used by the Forestry Futures Trust Committee (FFTC) and the Associations to ensure its instructed allocation of funds is done with sufficient oversight and to demonstrate how funding supports important strategic priorities.

<sup>2</sup> Mandate for the FGRM special purpose is described in the OMNRF Minister's letter — December 2021.

<sup>3</sup> This is an interim document until the Province develops updated strategic policy direction for the FGRM Program.

## Strategic Funding Goals, Objectives and Strategies

Goal 1- Creating and Maintaining Resilient Forests — FGRM programs that support the resiliency of Ontario forests.

**Objective 1.1-** Improve forest health and productivity.

- Strategy 1.1.1- Improve forest growth and quality by producing high-quality seed and/or genetically improved high-quality seed to meet forest management plan (FMP) silviculture objectives.
- Strategy 1.1.2- Investigate opportunities for use of non-traditional species for improvement including hardwoods.
- Strategy 1.1.3- Improve resistance to pests.
- Strategy 1.1.4- Support seed transfer.
- Strategy 1.1.5 Maintain and rejuvenate tree improvement assets.
- Strategy 1.1.6 Advocate for and support forest genetic research, knowledge and information sharing, and skill set development that helps build capacity.

**Objective 1.2-** Conserve genetic quality and diversity.

- Strategy 1.2.1- Improve understanding of genetic diversity among forest practitioners.
- Strategy 1.2.2- Develop orchard establishment practices and other best management practices (BMPs) to maintain genetic diversity.
- Strategy 1.2.3- Support the production of high-quality seed that is diverse (species and provenances). Manage orchards that have improved representation or diversity of species and provenances, as appropriate, while producing seed that is well adapted to a regeneration site.
- Strategy 1.2.4- Gene banking – inform, advocate, and support banking of high quality and improved material.
- Strategy 1.2.5- Initiate and maintain gene conservation for declining and/or threatened tree species.
- Strategy 1.2.6- Improve genetic quality in post-harvest forests where natural regeneration is used.
- Strategy 1.2.7- Improve understanding of those practices that are included and excluded in definitions of genetic engineering.

**Objective 1.3-** Manage for resilience in a changing climate.

- Strategy 1.3.1- Improve collective knowledge, technical capacity and expertise of climate change adaptation.
- Strategy 1.3.2- Encourage collaborative research that supports resilience in a changing climate.
- Strategy 1.3.3- Investigate risk mitigation BMPs to improve climatic resiliency in stands where planting isn't the main method of regeneration.
- Strategy 1.3.4- Support forest managers to understand the expected impacts of climate change while working to meet FMP objectives.

Goal 2- Recognition of FGRM — Recognition of FGRM's fundamental role in improving Ontario's forest estate.

**Objective 2.1-** Demonstrate the value of investing in FGRM.

- Strategy 2.1.1- Set out the value-proposition for an enhanced FGRM program in Ontario.
- Strategy 2.1.2- Promote the Associations as critical for managing Ontario's forest genetic assets.
- Strategy 2.1.3- Use the program's strategic plan to raise the profile and advocate for FGRM support from the OMNRF, forest industry and new partners and the public.

**Objective 2.2-** Support FMP objective achievement.

- Strategy 2.2.1- Promote a stronger link between FGRM and FMP objective achievement.

- Strategy 2.2.2- Improve Associations' collective understanding of genetic gain and gene conservation so that they are better equipped to support forest managers' initiatives to meet FMP objectives.
- Strategy 2.2.3- Promote the integration of FGRM into Ontario's growth and yield program. Collaboratively advocate for a standard defensible process for identifying genetic gain through traditional tree improvement or through adaptations to a changing climate.
- Strategy 2.2.4- Support FMP objective achievement while addressing climate change.
- Strategy 2.2.5- Provide high-quality wild seed or high-quality genetically improved seed to meet FMP silviculture objectives.

This strategic plan guides FGRM program implementation and funding opportunities. It is anticipated that this document will be reviewed every 5 years to ensure effective application and progress. A more detailed version of the strategic plan can be made available upon request to the Associations.

Each Association will develop project proposals and applications to align with this strategic plan and that reflect the unique geography, abilities, expertise, and members of each of the Associations.