



PLANTING TECHNIQUES FOR BOREAL RECLAMATION

PLANTING IS A RELIABLE RECLAMATION STRATEGY FOR ACHIEVING TARGET PLANT DENSITIES IN THE BOREAL. HOWEVER, RECLAMATION PROFESSIONALS MUST CAREFULLY CONSIDER WHICH PROPAGATION AND PLANTING TECHNIQUES ARE MOST APPROPRIATE FOR EACH SITE.

WHERE DO YOU GET PLANTS FOR RECLAMATION?

NURSERY-GROWN SEEDLINGS ARE AVAILABLE FOR MANY BOREAL SPECIES.

Poplars and willows are hardy, fast-growing species that can tolerate sub-optimal soil conditions.¹

SOME SPECIES CAN BE HARVESTED FROM A DONOR PLANT ON SITE.

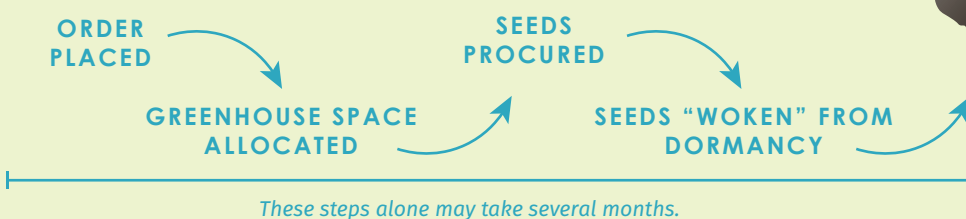
Reed grass is a wetland plant with a high tolerance for harsh conditions, including heavy metal contamination.⁵



The donor plant must be DNA tested to ensure it is not an invasive species of reed.⁵

WORKING WITH THE NURSERY

Nurseries play an essential role in the success of a planting program, and reclamation professionals need to consider nursery timelines. This includes placing orders early enough for the nursery to allocate greenhouse space and allow plants enough time to proceed through their lifecycle.⁷



Ordering at least a year in advance is recommended, with some species requiring even earlier notice.⁷

PLANTING IN THE FIELD

Seedling survival is highly dependent on species requirements and site preparation.



Compared to the summer, spring planting can reduce costs and timelines, while giving seedlings a head-start over competing weeds⁸ and a chance to establish before drying out.^{2,6}



Both seedlings and cuttings must be kept cool prior to planting.^{9,1}

O₂

Good soil contact is important.^{2,9}

Some seedling species require elevated sites to keep above the water table.⁹

Soil decompaction may be needed to allow adequate drainage and access to oxygen.²



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TO LEARN MORE ABOUT SUCCESSFUL RECLAMATION PLANTING, FIND THESE RESOURCES AND MORE AT WWW.CCLMPORTAL.CA

1. Centre for Boreal Research. Technical Note #25. Handling of Poplar and Willow Cuttings Part 1: Collection, Storage and Pre-planting Preparation. Forest Reclamation and Boreal Reforestation – April 2019
2. Centre for Boreal Research. Technical Note #26. Handling of Poplar and Willow Cuttings Part 2: Transportation and Planting. Forest Reclamation and Boreal Reforestation – April 2019.
3. Centre for Boreal Research. Technical Note #27. Native Boreal Seed Enhancement: Seed Pelleting. Plant and Seed Technologies – April 2019
4. Centre for Boreal Research. Technical Note #28. Hitchhiker Planting in Reclamation: Protocols for Developing Nursery Stock of Woody and Herbaceous Species. Forest Reclamation and Boreal Reforestation – April 2019
5. Centre for Boreal Research. Technical Note #29. Greenhouse Propagation of Endemic North American Reed Grass (*Phragmites australis americanus*). Plant and Seed Technologies – November 2019
6. Centre for Boreal Research. Technical Note #40. Timing of Planting: What Are Our Options? Forest Reclamation and Boreal Reforestation – February 2021
7. COSIA. Planting Part I: Sowing the Seeds of Success
8. COSIA. Forest Restoration Virtual Tours and Silviculture Toolkit. 360tours.cosia.ca
9. NRCAN. A Guide to Planting, Timing, microsites, techniques and monitoring
10. Oil Sands Research and Information Network (OSRIN). Alternative Native Boreal Seed and Plant Delivery Systems for Oil Sands Reclamation.

ALTERNATIVE PLANTING TECHNIQUES

Alternative approaches are being explored to improve planting success and expand the biodiversity of planting programs.¹⁰



BIODEGRADABLE CONTAINERS

For species sensitive to root handling.¹⁰



HITCHHIKER PLANTING^{4,10}



MYCORRHIZAL INOCULATION¹⁰

NUTRIENT LOADING¹⁰

SEED PELLETING

Makes small seeds easier to spread.^{3,10}

