



## **Willow Plantation to Restore Wildlife Habitat.**

The aim of the project is to restore critical wildlife habitat for moose using willow plantation. This research is to validate how willow can provide forage for moose population and restore their habitats quickly following large and severe wildfires in boreal forest. The research project would be mostly focused on the 2023 wildfires areas located close or within protected areas in the northern Québec Waswanipi territory (Théodat lake and Waswanipi lake).

Across much of North America, populations of moose (*Alces alces*) are declining because of disease, predation, climate change, and anthropogenic-driven habitat loss.<sup>1</sup> Waswanipi wildfires in 2023 covered more than 700 000 ha. of lands including many moose habitats such as calving sites and winter yard. The moose population in hunting area 17 (see following map) has declined abruptly over the past decades to a point that non-native hunting is now prohibited. Most of the traplines located in zone 17 have been affected by last year wildfires (fires 274-314-344-449)<sup>2</sup> to an extent that the MELLCCFP in collaboration with the regional Cree Trapper Association and the Cree Nation Government have undergone a moose survey including the collaring of 16 female moose to understand the movement and behavior of moose following such land disturbances.

Even though these efforts have been done to understand moose behavior after huge wildfires, no restoration plan have been proposed to the Cree families to restore moose wildlife habitats and sustain moose population to maintain the Cree way of life. Even though no final report on wildlife and wildlife habitat has been produced following the 2023 wildfires in Waswanipi Cree traplines, it is understood that most of the wildlife sites of interest affected by wildfires will be deserted by wildlife for several years while impacting the ones left with increased occupation by the remaining wildlife population. This situation added to continuing land and land use development (forestry, mining) will bring wildlife habitats to the brick of their capacity in sustaining shelter, food and wilderness specially for the moose population.

Studies in Colorado have acknowledged improvement in calving rates survival for moose by willow nutrition. This habitat feature is considered as critical to the persistence of moose. The hypothesis is that moose using habitat with higher quality and availability of willow (*Salix* sp.) have a higher probability of calf-at-heel (i.e calving success)<sup>3</sup>

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<sup>1</sup> Effects of willow nutrition and morphology on calving success of moose Forest P. Hayes & al The Journal of wildlife management Volume 86, issue 2 February 2022

<sup>2</sup> SOPFEU Wildfire maps

<sup>3</sup> Effects of willow nutrition and morphology on calving success of moose Forest P. Hayes & al The Journal of wildlife management Volume 86, issue 2 February 2022

RAMO<sup>4</sup>, a main producer of willow in North-America, have proposed to the Cree First nation of Waswanipi to experiment willow plantation in the northern part of the territory to support wildlife habitat restoration, more specifically in moose calving sites following 2023 wildfires that devastated the area (fires 467-534). The pilot project aims to restore the moose habitat north of the Broadback River and support the reintroduction of beaver population in two traplines that were devastated by wildfires in 2023. The restoration areas for the experiment project (20-40 ha) are pristine areas surrounded by protected areas and a provincial park (Assinica park). We believe that this pilot project will support moose population and beaver reintroduction in traplines W05A (Don Saganash) and W05B (Robert Kitchen) where a Cree outfitting traditional camp is still active. This area called Mishigamish (lac Théodat) has a very long history in the Cree nation and bears local and regional support for preservation and conservation.

Following the results of the pilot project, it is proposed to plant willow on tertiary forest (road deactivation) further south closed to or in the Waswanipi Lake conservation area to provide forage for moose and reduce wolf predation.

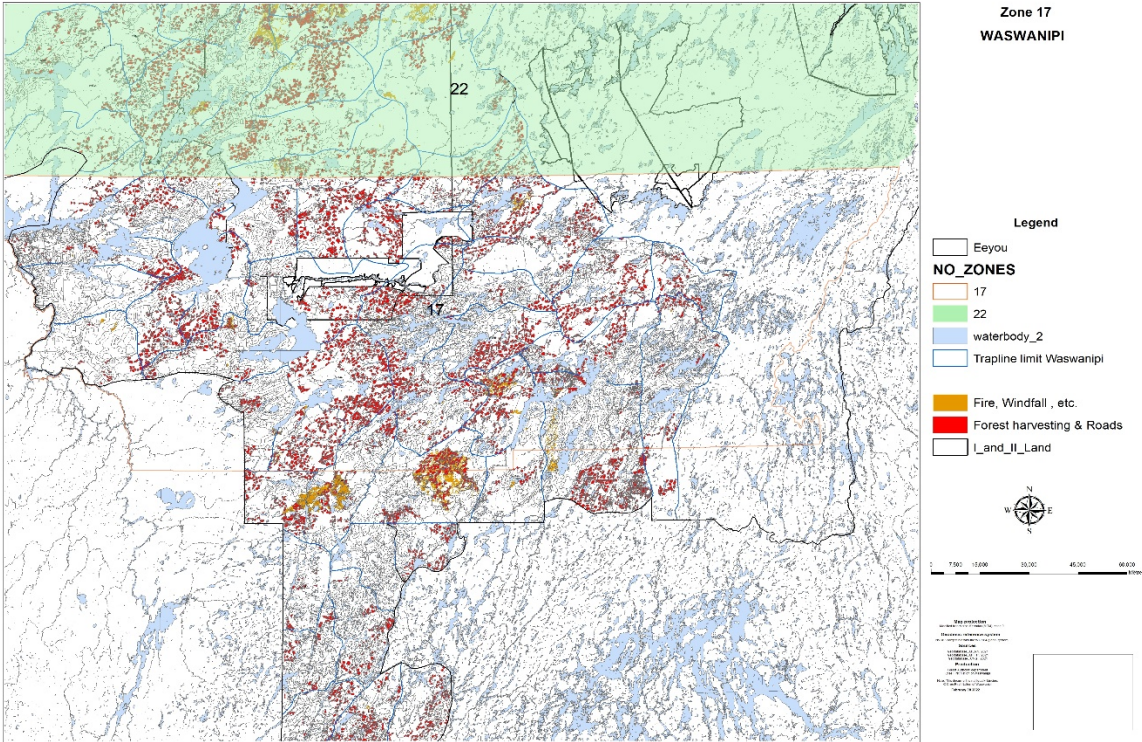
RAMO has installed a willow nursery in La Corne where they produce hybrid and southern type of willows (*Salix* sp.). The Cree are interested by the willow plantation because they know it is part of the moose nutrition, but they are concerned on the invasion of southern or hybrid species that could have an impact on the sensitive ecosystems and environment of Mishigamish. They would be very much interested in having local willow species to be reproduced locally and tree planted for the pilot project.

Questions on the willow research topic:

- 1- What type of willow (*Salix* sp.) is common in the boreal forest east of the James Bay?
- 2- What type of willows can be reproduced in nursery with a minimum of equipment?
- 3- Can willow nutrition (*Salix* sp.) contribute to sustain the moose population in boreal forest, especially after wildfires (3-5 years)?
- 4- Can willow plantation also be used for beaver reintroduction?

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<sup>4</sup> [www.ramo.eco](http://www.ramo.eco)



## Waswanipi Territory Summary (Aug 2nd)

**650 000ha Land Affected (excl. water)**

▶ 537 000ha Forestry productive lands

**20% of Total Waswanipi lands**

▶ 50% Traplines affected (32/62)

▶ Areas spread North & South

**Total = 14 Fires\* over Community**

▶ \*Initially >20 Fires, but some Merged

