

# Forest Health in Terra Nova National Park



**Moose browsed deciduous trees, Terra Nova National Park**

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## ***About the Moose Population Reduction Program***

**Moose harvesting began in October 2011 in Terra Nova National Park in an effort to reduce damage to regenerating forests.**

Did you know? Moose can eat 18- 27 kilograms (40- 60 pounds) of vegetation every day.

In Terra Nova National Park, moose populations have reached levels beyond what the forest can support. This hyper-abundance of moose is having a negative impact on forest health.

Canada's national parks were established to preserve and protect

representative examples of Canada's natural ecosystems for the enjoyment, education and appreciation of all Canadians, today and in the future. The overpopulation of moose threatens to permanently alter the ecosystem of Terra Nova National Park, and as such requires active management.

To preserve the natural ecosystem, the moose population must be reduced to a level that decreases browsing pressure and allows for adequate forest regeneration.

*The preferred diet of moose includes balsam fir, white birch, trembling aspen, red maple. These are all important components of our forest ecosystems.*

## Background



Severely moose browsed balsam fir along Platter's Trail in Charlottetown enclave, Terra Nova National Park

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Moose were intentionally introduced to the island of Newfoundland in 1878 and 1904. Since that time, the population of moose has grown to approximately 120,000 animals. Moose were first recorded in the area now known as Terra Nova National Park in 1930. Since this time, moose have successfully established a large population within the park.

The successful growth of the population has been due to many factors. Two of particular note are:

- In 1932, the only wild predator of moose in Newfoundland, the wolf, became extirpated.
- During the 1970s and 1980s, extensive

insect disturbances created additional favourable moose habitat. This allowed for a significant increase in the moose population.

The moose population within the park peaked in 1997 at 650 animals. The current population within the park is estimated to be 185 animals.

Due to excessive browsing by high numbers of moose, the composition and structure of the boreal forest in Terra Nova National Park is changing. Areas once dominated by balsam fir and hardwoods are changing to open habitats dominated by grasses, heath, bracken fern and other species that are not part of the regular diet of moose.



**Mature balsam fir still intact at Blue Hill (right) vs. Mature balsam fir with no regeneration of young trees due to moose browsing at Ochre Hill insect kill (left), Terra Nova National Park**  
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*Our forests cannot recover from this species shift on their own.  
Management actions must be taken to ensure this part of our natural heritage is not lost.*

## **Solution**

After extensive public consultation and independent review, it became clear that reducing the moose population through harvesting with the cooperation of the Newfoundland Wildlife Division is the most feasible option. By using

the Government of Newfoundland and Labrador's big game management system, Parks Canada will be able to implement a cost effective approach to reducing and maintaining the moose population. This will involve the participation of qualified, experienced big game harvesters. Once selected, all participants will operate under the guidance and direction of Parks Canada.

*Parks Canada, Wildlife management specialists, provincial stakeholders, the public and the Qalipu and Miawpukek Mi'kmaq First Nations were all part of this consultation process for moose reduction.*

*Over thirty public consultation sessions were held throughout the province during this process.*



**Breakout group at December 2009 stakeholder meeting held in Gander**

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**Objective/Purpose**

The objective of this approach is to reduce the abundance of moose in order to facilitate forest regeneration. Hunting will be permitted in the park as a management action planned to help forests recover.

## **Hunting Restrictions**

There are several key restrictions to consider:

- The use of motorized boats in inland waters, ATVs, and over snow vehicles is prohibited.
- Fires and tree cutting are not permitted.
- To ensure visitor safety, there will be designated no hunting zones within the park. These will be areas with high visitor use, infrastructure, etc.

**Public safety is of the utmost importance to Parks Canada. Hunters will be required to hunt in designated areas only and to wear blaze orange.**

## **Frequently Asked Questions about Species Management**

### **Why are moose considered hyper-abundant in Terra Nova National Park?**

Moose are not native to Newfoundland. The lack of natural predators, common moose diseases, absence of competition, and the suitability of habitat has allowed moose populations to thrive on the Island.

Moose are considered hyper-abundant because populations are higher than the forest ecosystem can support.

### **How can a high moose population change forest structure?**



An aerial photograph taken during a moose population survey.

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After a disturbance by insects, fire or wind, healthy forests go through natural stages of succession. When the early stages of this process are interrupted by excessive moose browsing, succession is reduced because:

- Excessive browsing stunts tree growth and causes trees to die
- Successful growth and regeneration of many forests species is affected
- Without adequate growth and regeneration, undesirable species such as grasses and kalmia heath can dominate the forest area
- The result is a shift from a mixed balsam fir forest to open areas dominated by herbaceous plants and heath

### **Why must we intervene?**

Our forests cannot recover from this shift without active intervention. Once herbaceous cover is established in a previously forested area, the germination of seeds and establishment of new growth is hindered. In addition, any successful new growth is susceptible to moose browsing.



**Moose exclosures are designed to fence moose out of an area and show how areas protected from their browsing regenerate. These moose exclosures were erected in an insect disturbance in 1996. Notice the lack of growth outside the fence where moose are able to browse.**

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**How will the moose population reduction work?**

To improve the forest health in Terra Nova National Park, Parks Canada will allocate hunting permits through the provincial government's big game licensing system.

The duration of the program will depend on the successful recovery of our forests.

### **Has this sort of control been tested?**

The Parks Canada Agency has an extensive history of actively managing populations of invasive and hyper-abundant wildlife species, including:

- Black-tailed deer in Gwaii Haanas National Park Reserve
- White-tailed deer in Point Pelee National Park
- White-tailed deer in St. Lawrence Islands National
- Cormorants in Point Pelee National Park

In some areas of Terra Nova National Park, additional measures may need to be taken to ensure the health of our forest ecosystem. These may include mechanical site preparation, seeding and/or replanting. This approach becomes necessary when moose damage is so great that herbaceous communities have already been established.

For more information on these restoration measures, see the forest restoration section.

### **Have other options been considered?**

Several options for reducing the moose population were explored through consultation with wildlife management specialists, provincial stakeholders, the public and the Qalipu and Miawpukek Mi'kmaq First Nations. Through this process, lethal control was identified as the preferred population reduction option.

### **How will forest regeneration be monitored?**

Each year, Parks Canada team members at Terra Nova National Park monitor changes in forest health with measures such as tree growth, ground vegetation species composition, balsam fir sapling density, and browse intensity. Park staff hope to see improvements to these measures as a result of their moose management reduction strategy. Park staff are seeing improvements to these measures as a result of the moose management reduction strategy.

## **Additional Reading**

### **Introduced Species Management**

- [Introduced Species Management in Haida Gwaii \(Queen Charlotte Islands\)](#) (PDF, 58.8 kB)

### **About Moose**

- [Hinterland Who's Who: Moose](#)