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Spruce budworm - Gros Morne National Park (April 2021)





Emerging outbreak in Gros Morne National Park

- Outbreaks of defoliating insects are natural and help return young forest to the landscape
- Many forest species adapt and benefit from insect outbreaks
- Spruce budworm causes significant economic losses to Canada's forest products industry



Photo: Natural Resources Canada



Emerging outbreak in Gros Morne National Park (cont'd)

- Outbreak in the 1970s affected forests across Newfoundland and caused a wood shortage that affected industry into the 1990s
- Budworm outbreaks can last up to 10 years
- Outbreak started in Quebec in 2006 and the moths move eastward to Newfoundland on prevailing winds
- Budworm population increasing in western Newfoundland since 2017

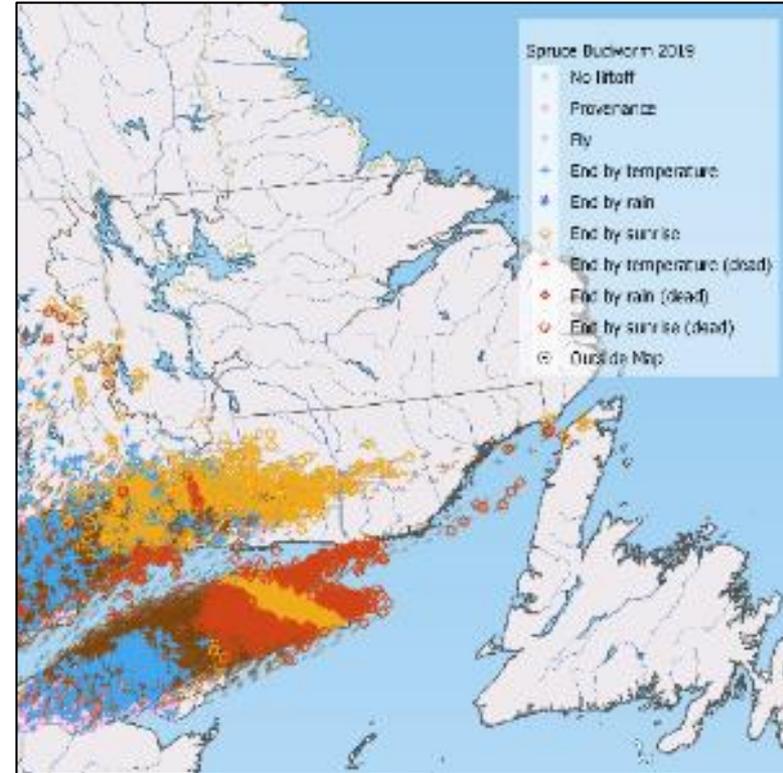


Photo: Natural Resources Canada



Provincial budworm control program

- Canadian Forest Service Early Intervention Strategy (EIS) involves spraying budworm before an outbreak develops. EIS being used in New Brunswick since 2014
- 356 km² of forest north of Gros Morne National Park treated under EIS in July 2020





Provincial budworm control program (continued)

- Province is asking that the national park be included in the budworm control program starting in 2021
- Concern for Parks Canada is that budworm outbreaks are natural process with a key role in the forest ecosystem
- Parks Canada must weigh possible effects on areas outside the park while also following its policies and legislation



What would budworm control look like in Gros Morne National Park?

- Mapping showed that 20% of forest in the park qualified for treatment last year
- Warm, dry summer in 2020 led to high numbers of budworm meaning that some 400 km² of park could be a priority for treatment in 2021





What would budworm control look like in Gros Morne National Park? (continued)

- First defoliation observed in park during summer 2020; trees die after 4-5 years of repeated defoliation
- Treatment areas could include campgrounds, day use areas, trails, and domestic timber harvest blocks, as well as highland forest and areas around enclave communities
- Follow up treatments likely in future years



Budworm control method

- Pesticide *Bacillus thuringiensis*, var. *kurstaki* (*Btk*) is used for budworm control in Newfoundland and Labrador
- Lethal to caterpillars of spruce budworm and other moths and butterflies that eat treated foliage
- Not considered toxic for humans, other mammals, birds, fish, amphibians, or most other insects



Budworm control method (continued)

- Pesticide applied as a spray from low-flying aircraft
- Controlled application reduces impacts on non-target organisms and buffer zones help avoid surface water
- Effectiveness depends on weather and growth stage of caterpillars; repeated treatment may be required



Photo: Natural Resources Canada



Policy and legislation

- Canada National Parks Act and Gros Morne National Park management plan state that maintenance of ecological integrity is the first priority in managing national parks. Disrupting a budworm outbreak may conflict with that priority.
- Parks Canada policy allows manipulation of natural processes like insect outbreaks to prevent serious adverse effects on neighbouring lands:
 - Manipulation can only occur only if a number of conditions can be met, including requiring that ecosystems not be impaired
 - Intervention is only allowed when no reasonable alternative exists



Policy and legislation (continued)

- Parks Canada's President and CEO directed staff to develop guidance for this and similar decisions
- Minister responsible for Parks Canada has a mandate to: *“Work with the Minister of Natural Resources to... invest in protecting trees from infestations and, when ecologically appropriate, help rebuild our forests after a wildfire.”*





Making the decision

Saying “No” means:

- An outbreak may develop and lead to death of mature forest in Gros Morne National Park
- Questions could arise about forest health and aesthetics of the park
- With continued moose management an outbreak could help with forest regeneration
- An outbreak may affect domestic wood harvesters
- Not treating areas in the park could make the situation worse outside the park



Photo: Natural Resources Canada



Making the decision (continued)

Saying “Yes” means:

- Treatment would occur during late June or early July for two or more years
- Concerns about spray aircraft and potential effects of pesticide
- Parks Canada could be seen as ignoring its priority to maintain ecological integrity
- If implemented, control program could be precedent setting for other parks
- Impacts on ecosystem unclear; forests may be vulnerable to more severe insect outbreaks later



Photo: Natural Resources Canada



What has been done so far?

- Parks Canada has been supporting budworm research and monitoring, including research permitting, logistics and staff support, sample collection, helicopter support, and geomatics support
- Parks Canada has been meeting with representatives of CFS and the Government of NL





What has been done so far? (continued)

- Decision Support Guide to be reviewed by scientists both inside and outside of the federal government
- Public consultations being held
- Detailed impact assessment will be ready to proceed if a decision is made to continue evaluation of request





Next steps:

- Release *What We Heard* report
- Initial policy-based decision

If decision is made to proceed:

- Detailed Impact Assessment (DIA)
- Final decision regarding inclusion of park in EIS based on feedback, DIA and Integrated Pest Management Plan
- Advise public and provide detailed information on the control program





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Gros Morne National Park

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