

BRIEFING NOTE FOR INFORMATION

DATE:

PREPARED FOR: Honourable Katrine Conroy, Minister of Forests, Lands, Natural Resource Operations and Rural Development

ISSUE: Coast Region Western Hemlock Looper Outbreak

BACKGROUND:

- In 2019, localized western hemlock looper (*Lamdina fiscellaria lugubrosa*; looper) outbreaks were observed on the Sunshine Coast (Rainy River and Brittain River drainages) and in Metro Vancouver's three watersheds (Capilano, Seymour and Coquitlam). The looper is a native defoliator and the principal hosts are western hemlock (preferred), Douglas-fir and western red cedar. When populations are high, looper caterpillars also feed on other hosts such as subalpine fir, amabilis fir, grand fir and spruce.
- Outbreaks can last three to four years. This is the third year of the outbreak on the coast.
- The Ministry received a number of inquiries from residents of North Vancouver and West Vancouver, municipalities (District of North Vancouver and West Vancouver), Metro Vancouver (watersheds), the Powell River Community Forest, B.C. Timber Sales in Sunshine Coast District and Western Forest Products (TFL 39). They all expressed concerns about the impacts of this outbreak.
- Historically, the Ministry has not implemented aerial spray treatments to manage looper outbreaks on the coast. Based on the observed impacts of the 2019 and 2020 defoliation, aerial application of the biological insecticide Btk (*Bacillus thuringiensis* variety *kurstaki*) was not deemed necessary on crown lands.
- A detailed survey of the 2019 and 2020 looper impacts across North Vancouver was completed on July 6, 2021 by the Provincial Forest Entomologist. It was confirmed that the outbreak has not yet extended east of Pitt Lake; however, the coast aerial overview survey for forest health will confirm the 2021 outbreak extent.

DISCUSSION:

Looper outbreaks are common in coastal forested ecosystems and are considered a natural disturbance agent that is important for the renewal of coastal forest ecosystems. Populations build and crash without intervention, approximately every 11 - 15 years. Susceptible trees typically survive light to moderate defoliation. Severe defoliation can result in growth reduction, top kill, and tree mortality. Tree mortality is more likely in stands with stressed, mature trees. Overall, tree mortality is likely to be patchy. Patchy mortality is essential for 'recharging' ecosystems by allowing younger/suppressed trees to emerge and supporting the recycling of nutrients. Looper populations fluctuate based on weather conditions, the level of natural parasitoids (insect larvae that feed on a host, eventually killing it), and the level of naturally occurring viruses and/or predators. No management or treatment is recommended at this time.

MINISTRY RESPONSE:

1. The coast region will be aerially surveyed (AOS: annual aerial overview survey for forest health) to determine the impact and extent of the outbreak.
2. Aerial survey information will be shared with the local communities, municipalities, industry and other stakeholders (anyone who is interested).



3. No treatments are planned for crown lands at this time.

PREPARED BY:

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REVIEWED BY:

	Initials	Date
DM		
Associate DM		
DMO		
ADM	DN	September 14, 2021
Program Dir/Mgr.	BB	September 7, 2021

**CONFIDENTIAL
ISSUES NOTE**

Ministry of Forests, Lands, Natural Resource
Operations and Rural Development
Minister Responsible: Hon. Katrine Conroy
Date: July 12, 2021

Coast Region Western Hemlock Looper Outbreak

ADVICE AND RECOMMENDED RESPONSE:

- **Forests on the Sunshine Coast and in Metro Vancouver's Watersheds are currently experiencing an outbreak of western hemlock looper (*Lamda fiscellaria lugubrosa*; looper).**
- **The looper is a native defoliator and the principal hosts are western hemlock (preferred), Douglas-fir and western redcedar. When populations are high they also feed on other hosts such as subalpine fir, amabilis fir, grand fir and spruce.**
- **Looper outbreaks are common and populations build every 11 - 15 years in British Columbia's (B.C.'s) Coastal forests.**
- **Trees typically survive light to moderate defoliation. However, severe defoliation can result in growth reduction, top kill and tree mortality.**
- **Susceptible forests (those with severe defoliation) will have stressed, mature and over-mature trees. Mortality in these susceptible stands is an important component of ecosystem dynamics and essential in recharging ecosystems by allowing younger/suppressed trees to emerge and supports the recycling of nutrients.**
- **This outbreak started in 2019. Outbreaks can last three to four years. This is the third year of the Coast outbreak.**
- **Looper populations fluctuate based on several factors (i.e., weather, level of natural parasitoids, viruses and/or predators).**
- **Looper impacts will be captured in the 2021 Aerial Overview Survey (AOS) which is currently being completed for the Coast Area. When survey information is available it will be circulated to the Sunshine Coast Natural Resource District (DSC), Chilliwack Natural Resource District (DCK) and Squamish Natural Resource District (DSQ), MetroVancouver, licensees and B.C. Timber Sales.**
- **Treatments are not being considered at this time.**
- **Individuals with concerns can contact the Provincial Forest Entomologist (Babita.Bains@gov.bc.ca / Jeanne.Robert@gov.bc.ca) or the Provincial Forest Health Officer (Stefan.Zeglan@gov.bc.ca).**

KEY FACTS REGARDING THE ISSUE:

- **In 2019, localized western hemlock looper (*Lamda fiscellaria lugubrosa*; looper) outbreaks were observed on the Sunshine Coast (Rainy River and Brittain River drainages) and in Metro Vancouver's three watersheds (Capilano, Seymour and Coquitlam).**
- **Looper populations continued to increase in 2020 and the Ministry received a number of inquiries from residents of North Vancouver and West Vancouver, municipalities (District of North Vancouver and West Vancouver), MetroVancouver (watersheds), the Powell River Community Forest, B.C.**

Timber Sales (DSC) and Western Forest Products (TFL 39). They all expressed concerns about the impacts of this outbreak.

- Based on the observed impacts of the 2019 and 2020 defoliation, aerial application of the biological insecticide, *Bacillus thuringiensis* variety *kurstaki* (Btk) was not deemed necessary on Crown lands.
- Historically, the Ministry has not implemented aerial spray treatments to manage looper outbreaks on the Coast.
- A detailed survey of the 2019 and 2020 looper impacts across North Vancouver was completed on July 6, 2021 by the Provincial Forest Entomologist. It was confirmed that the outbreak has not yet extended east of Pitt Lake; however, the Coast AOS will confirm the 2021 extend later in the season.
- The July 6, 2021 survey showed unusually early signs of looper defoliation across North Vancouver. The full extent of this summer's defoliation will be visible by the end of August or early September.

Next steps:

1. The Coast will be aerially surveyed (annual AOS) and specialists will share any updated information on the impact and extent of the ongoing looper outbreak.
2. Aerial survey information will be shared with the DSC, DCK and DSQ, B.C. Timber Sales (DSC), Western Forest Products (TFL 39), Powell River Community Forest, District of North Vancouver and MetroVancouver (watersheds).
3. No treatments are being planned for Crown lands at this time.

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