



JANUARY 2018

# Spruce Beetles in British Columbia

## WHAT IS A SPRUCE BEETLE?

- » The spruce beetle (*Dendroctonus rufipennis*) is a forest pest that is native to spruce forests of western North America. In British Columbia, the spruce beetle typically has a two-year life cycle. Beetles exhibiting a one-year life cycle can also be found after early, warm spring weather.
- » The adult beetle is about six millimetres long and has a black, segmented body and red-brown wing covers. The colour of an immature adult ranges from pale yellow to brown.
- » Spruce beetle larvae are cylindrical, legless and white or tan in colour, measuring six or seven millimetres long.
- » Between cyclical outbreaks, spruce beetle populations are usually held in check through climatic conditions, predation and a lack of susceptible hosts.



Above: adult spruce beetle

## EFFECTS ON SPRUCE TREES

- » The beetle attacks the inner bark of spruce trees. The adult female bores through the tree's bark and creates an egg gallery in the sapwood where she lays her fertilized eggs.
- » When the larvae hatch, they feed on the inner bark and continue to burrow laterally in the tree. The insect's extended larval galleries and associated blue stain fungi eventually kill the tree.
- » Recent weather patterns, including warm springs, dry summers, warm winters and windstorms (resulting in more tree blowdowns) have contributed to the current increase in spruce beetle populations in this region.
- » When populations exceed naturally occurring levels, the beetles are better positioned to attack and kill standing spruce trees that are otherwise healthy. A spruce beetle outbreak has the potential to seriously harm or kill spruce trees over large areas wherever mature spruce stands grow.

## DETECTION

- » Identifying trees affected by spruce beetles can be a challenge. An infested host tree does not immediately display signs of stress or impending death until 13 to 15 months after being successfully attacked.
- » This is different than what's seen during a mountain pine beetle infestation, where the colour of the needles change from green to chlorotic (pale green or yellow) in early spring of the following year. The pine tree then turns red and is grey by the end of the second summer after it is attacked.

## **CURRENT INFESTATION IN THE OMINECA REGION**

- » Spruce beetle outbreaks occur regularly in B.C. and historically have lasted up to seven or eight years.
- » Aerial Overview Surveys (AOS) in the fall of 2017 indicated that spruce beetles have been found in over 500,000 hectares of forest throughout the province. That figure includes 340,000 hectares within the Omineca Region, making it the largest spruce beetle outbreak ever recorded in that region.
- » By comparison, spruce beetles were found in about 210,000 hectares of the Omineca Region in 2016 and about 156,000 hectares in 2015.
- » The Omineca region contains 9,018,763 hectares of forest, with 4,728,782 hectares considered to be part of the Timber Harvesting Land Base.

## **WHAT IS THE B.C. GOVERNMENT DOING ABOUT THE CURRENT OUTBREAK?**

- » Ministry of Forests, Lands, Natural Resource Operations and Rural Development staff have been actively identifying tree stands in the Omineca region where adult beetles and their young are present, as well as reviewing which population control methods would be most effective in those areas.
- » Higher-than-normal populations of spruce beetles in the Omineca region are being carefully monitored and reviewed by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, due to the potential impact on the area's timber supply, ecosystems, First Nations traditional territories and local communities.
- » About \$1.3 million has been allocated in the ministry's 2017-18 Land Base Investment Strategy budget for spruce beetle detection and research.
- » A public advisory committee with representation from communities, First Nations and key stakeholders has been providing input into a regional spruce beetle plan.
- » In response to concerns about non-timber values, B.C.'s chief forester has provided harvesting guidelines to help protect biodiversity and fish and wildlife habitat in the Omineca region.

## **FOR MORE INFORMATION:**

Call FrontCounterBC at 1 877 855-3222 to be connected to a local spruce beetle expert.



*Above: spruce beetle larvae*