

Return of the Spruce Budworm to Maine

The **Spruce Budworm** (*Choristoneura fumiferana*, SBW) is a native pest with periodic outbreaks that cause extensive damage to spruce-fir forests. Between outbreaks, SBW populations are difficult to detect without pheromone-baited traps. During outbreaks, heavy feeding by SBW larvae leads to reduced tree growth rates and overall forest stand health and increased tree mortality.



Quebec's most recent outbreak has lasted almost two decades, causing 33.5 million acres of damage in 2020. New Brunswick has engaged in an early intervention management approach for SBW since 2014.



Spruce budworm defoliation in Maine 2020

Pheromone and light trap catches have been rising in Maine. Large numbers of adult moths were transported to Maine forests during eruption flights from Canadian outbreak areas

in 2019. In 2020, mature larvae and defoliation were observed across much of northern Maine for the first time since the collapse of the last outbreak. In other areas of Maine, populations remain low.

Spruce budworm outbreaks can last for many years, causing significant impacts to timber volumes. Unlike the last outbreak, continuous stands of mature fir are not as prevalent on the landscape. Landowners have been preparing and can continue to prepare by adjusting harvest priorities. Access to forests is better due to improved infrastructure, allowing for more flexibility to apply management. These factors are expected to mitigate severe impacts from the developing outbreak.



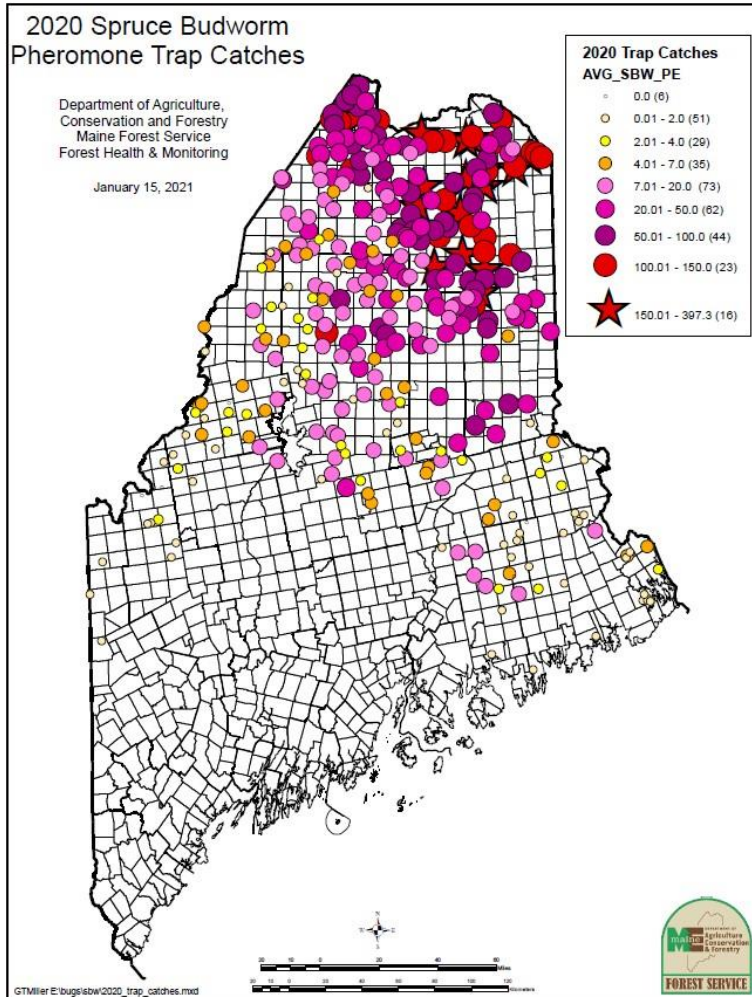
Spruce budworm defoliation along the West Branch of the Penobscot River, T4 R14 WELS, 1974

However, forest managers seeking to avoid timber loss will need a plan to mitigate damage in stands with a large component of vulnerable trees. Potential approaches include:

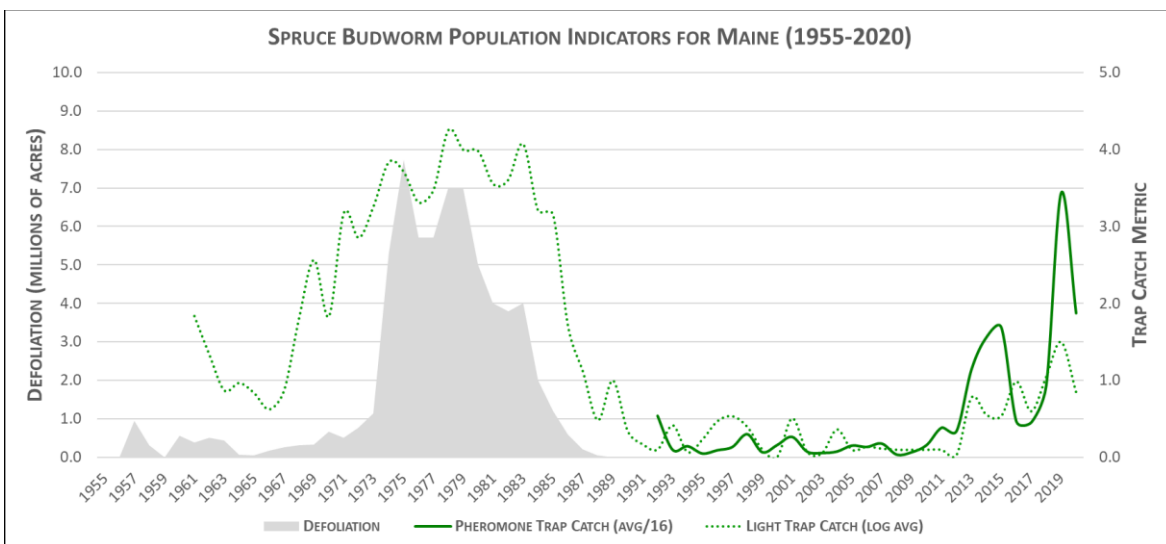
- Follow the Early Intervention Strategy developed and tested in Atlantic Canada by suppressing population hotspots.
- Apply pesticides following a foliage protection strategy as currently employed in Quebec.
- Continue to target harvests to high risk stands before more significant populations build.



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Left: Spruce budworm male moth trap captures in Maine 2020,
Right: Top: Trap sample. Bottom: Mature spruce budworm larva in Maine 2020



Trends in spruce budworm population indicators in Maine (1955-2020), note increase beginning in 2013