

DOUGLAS-FIR HEALTH AND TUSSOCK MOTH

Recognize defoliation and respond at the right scale.

Douglas-fir tussock moth is a native defoliator of Douglas-fir, spruce, and true fir. Outbreaks can build quickly, strip needles from the top of crowns downward, weaken hosts, and make stressed trees more vulnerable to other insects.



Accurate identification matters: host species, feeding pattern, larvae, cocoons, and egg masses help separate tussock moth from other causes.

● RECOGNIZE THE PATTERN

HOSTS AND DEFOLIATION

Begin with where and how damage appears.

- ✓ Confirm Douglas-fir, spruce, or true fir hosts and look for top-down needle loss.
- ✓ Inspect for hairy larvae, silken cocoons, and pale egg masses on bark or nearby objects.
- ✓ Compare affected trees across the stand and note whether damage is expanding.

● UNDERSTAND OUTBREAKS

FAST, CYCLIC, AND STRESSFUL

Severity can change markedly within a season.

- ✓ Outbreaks often last one to three years and may recur on a roughly seven-to-ten-year cycle.
- ✓ Repeated defoliation reduces growth and can kill tops or entire trees.
- ✓ Weakened Douglas-fir may become more vulnerable to Douglas-fir beetle.

● RESPOND DELIBERATELY

VALUE, TIMING, AND SCALE

Treatment should match the trees and outbreak.

- ✓ Promote species and age diversity and reduce overabundant hosts in dense stands.
- ✓ Protect high-value trees only with correctly timed, label-directed treatment when warranted.
- ✓ Coordinate larger outbreaks with a forester and monitor recovery and secondary beetles.

✓ START HERE

- ✓ Confirm the host and document where defoliation begins in the crown.
- ✓ Photograph larvae, cocoons, and egg masses without handling them.
- ✓ Map affected trees and rank those near people, homes, access, or other high values.
- ✓ Consult a forester or qualified applicator before choosing treatment.

▲ THE RAVEN WORKS PERSPECTIVE

Tussock moth is part of Colorado's forest ecology, but dense host-dominated stands can magnify its effects. The durable response combines accurate identification, timely protection of selected trees, and long-term stand diversity.

Identify accurately. Protect selectively. Build diversity.

Sources: Colorado State Forest Service and CSU Extension Douglas-fir tussock moth guidance.

◎ IN THE FIELD

Three field cautions are worth remembering:

HAIRS CAN IRRITATE

Larval hairs may cause skin reactions; avoid direct handling and keep children and pets away.

TIMING MATTERS

Monitoring egg hatch and early larvae is more useful than reacting after severe defoliation.

WATCH WEAKENED TREES

After defoliation, inspect declining Douglas-fir for signs of bark beetle attack.