Spring 2024 MPB Alert

Bruce Benninghoff, Forester

THERE ARE TWO FACETS OF A SUCCESSFUL MOUNTAIN PINE BEETLE (MPB) STRATEGY:

Long Term - Manage your forest for healthy trees that are not prime habitat for MPB
Short Term - Detect invading MPB and don't allow them to reproduce

LONG TERM

Trees of all species need to be spaced out to minimize competition for water.
Brush (oak, hawthorn, mahogany, chokecherry) also competes for water.
Trees need to be healthy, meaning free of parasites, like dwarf mistletoe.
Trees need soil that is not compacted by autos or livestock so that it can absorb precipitation and allow roots to breathe.

SHORT TERM
If MPB move in to your forest, prompt detection and treatment is required to prevent the population from expanding. It is less work to detect and treat one tree this year than to ignore it and have to deal with 4 trees next year or 16 the year after.

How do we detect invading MPB?

It is important to review the beetles life cycle so that we know what to look for in each stage or season. The schedule of events is not exactly the same every year because development is temperature and moisture dependent:

- Adults emerge and fly to find new host trees between mid July and early September of year 1.

- Adults mate and begin creating egg galleries as soon as they have bored under the bark. Eggs hatch and larvae feed until freezing temperatures (November) cause dormancy through the winter.

- Warm April temperatures allow feeding by larvae to resume.

- By late June most larvae cease feeding and begin pupation (the transformation from larva to adult beetle).

- Host trees fade to straw/red in June and July of the year following the initial attack and occupation.

By mid July to early September of year 2 a second generation of new adults are emerging to repeat the cycle. It is a one year long cycle.

Too often people wait until spring (April 2024) to look for fading foliage color. That is not optimal timing because what they are finding are trees attacked almost two years ago (2022). The mountain pine beetles are no longer in those trees. However, they may be in nearby green trees that were attacked in 2023.

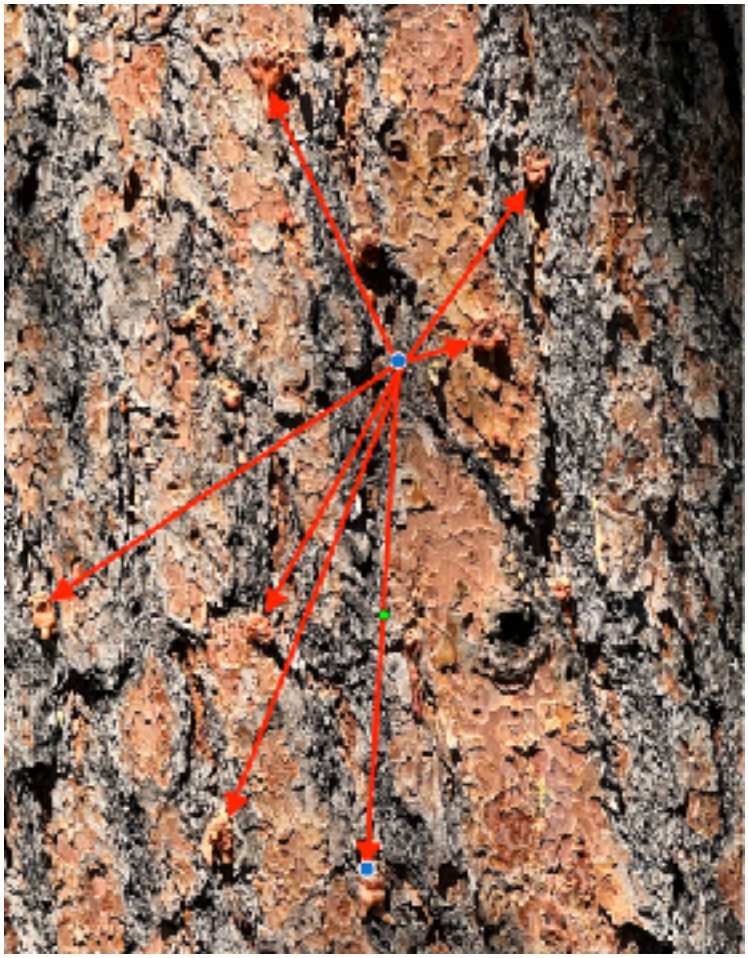
The tree in the center catches your eye. It died last year (2023).
The beetles that emerged from that tree last summer are now in the tree beyond (red arrow). It still has green foliage, but the beetle larvae under the bark are waking up as the weather warms. They will resume feeding, growing, then pupating.

The tree will fade to straw then red color about the time of pupation, late June to mid July (2024). The new adult beetles emerge to find a new home and repeat the process.

How do we find the currently infested tree(s)?

<u>Look for pitch tubes on trees with green needles.</u>
They can be difficult to see from a distance. You must get close.

Frequently, but not always, they will be in the proximity of previously killed (straw/red colored needles) trees.



To save the rest of your trees you must kill the beetles under the bark. They will be found above the pitch tube. The female beetle creates the egg gallery as she moves up the tree under the bark.

Cutting down the tree does not kill the beetle. Cutting it down and donating the firewood to someone else is not a solution. It is a great way to help spread the beetles around a wider area.

How do you kill the beetle?

Mechanical removal of the bark by hand peeling or a chainsaw attachment like a Log Wizard.

Mechanical destruction of the whole tree by feeding it into a chipper. Not very practical for large trees.

Chemical treatments with fumigants like ethylene dibromide, that were used in previous epidemics to kill beetles still under the bark are now outlawed.
But, we do have diesel oil.

Solar method with or without plastic. Both work if done properly.

TIMING
To kill beetles in currently infested trees (green tops) the treatments above must be applied by the Fourth of July. After that the risk of an early beetle flight increases to unacceptable levels.

Ideally this sequence of detection and treatment should be done after the beetle flight ends in mid September. If you detect the newly infested trees by October, then you have all winter to apply treatment.

CURIOUS AS TO WHERE THE PICTURES OF CURRENT INFESTATIONS WERE TAKEN?
Only 5.5 miles west of Blue Mtn Estates. The ones pictured above are not the only trees infested at that location.

Is that a threat to you? Remember that the MPB can fly at least one mile without the aid of wind. They also sometimes fly above canopy level and hitch a ride on the wind. The Canadians tracked a flight with radar that traveled 100km in one day. That is about 62 miles.