



We have identified evidence of attacks by the Mountain Pine Beetle (MPB) on trees in the City of Greeley. The beetle has predominately attacked Scotch Pine, but we have seen it infest Pinyon Pine, Ponderosa Pine and Bristlecone Pine. On the other hand, the mountainous areas to our west are seeing Lodgepole Pine attacked. Please use this information as a tool to help you proceed with your tree care this year. As a measure to help control the spread of MPB, if your tree “fades” and declines due to a successful attack of the beetle, it will be necessary to remove the tree(s) and dispose of the wood as soon as possible.

### **History**

Mountain Pine Beetle (MPB) is currently at epidemic levels from New Mexico into Canada, mostly in Lodgepole Pine forests. However, over the past few years, the beetle has been found in urban areas along the northern Front Range. Signs of the MPB were found in Greeley in late August of 2008. At the end of the 2009, we had identified 92 trees that were attacked by the beetle. To date in 2010, 58 more trees in Greeley have been identified as showing signs of being hit (attacked) by MPB.

### **Current Status**

In late August of 2009, we received reports from homeowners in the City that “pitch-tubes” were showing up on pine trees. Pitch-tubes are the most visible signs of attack by MPB. As we investigated, it became clear that something new was happening. The new attacks could be explained by the presence of beetle-infested wood being brought into the city from infested areas or by the beetle being transferred to local communities through a strong wind event. Such events could disperse beetles throughout Greeley and other communities along the front range of Colorado. Wellington, Windsor, Fort Collins, Loveland, Berthoud, Longmont and Boulder have all seen MPB attacks in their communities.

### **What You Need To Do**

Many of you are wondering what you need to do if trees on your property are attacked by Mountain Pine Beetle. Following is a list of our suggested best practices to follow:

**Look at your trees again!** Here’s what to look for specifically:



**Photo 1 MPB pitch tubes. Notice the difference between lighter and darker tubes**

1) Pitch-tubes (Photo 1) tend to be yellow to brownish in color, and the holes in the pitch tubes are packed with sawdust. Look above the pitch-tubes for air holes in the bark. Successful galleries (tunnels under the bark created by the beetle) probably have more than one air hole. These are not emergence holes; the female beetle bored the holes to get air into the gallery.

2) Select pitchtubes (Photo 2) that are small, darker colored and have air holes above them. Then use a knife or hatchet to cut into the bark on either side and above the pitch-tube to create a “window” when you pop the bark off. If the bark comes off easily, then the beetles have caused quite a bit of damage to the tree, regardless of whether they will successfully complete their reproductive cycle. If the bark is firmly attached, the tree is probably winning the fight; however, it is still a good idea to check and see if live larvae are feeding under the bark.

3) Fading foliage (Photo 3) becomes noticeable. Trees losing the battle may show signs of needles fading and changing color. The needles change from green to a kind of “fading” brown-tinged green. This may occur in some trees as early as November, but others may not fade until spring.

4) Bird feeding activity (Photo 4) is more evident. Several of the harder hit trees have very visible areas of woodpecker activity. These areas are characterized by the outer bark being chipped off by the birds; sometimes even the inner bark is pulled off. The birds peck through the bark to feed on the larvae. There are usually a lot of bark chips at the base of these trees. Sapsucker feeding is also common, especially on Scotch pine. These birds feed on the sap and are not going after the beetles. You can distinguish sapsucker holes because they tend to be in even rows, not randomly spaced.

5) Lack of bud (candle) elongation in the spring could be an early indicator. New growth on pines in the spring is characterized by buds actively growing in length. This growth is often referred to as candle elongation. If the MPB attacks have been successful, the infested or dead trees will not have enough energy to push new growth out in the spring. In fact, buds may not open at all.



**Photo 2**



**Photo 3**



**Photo 4**

### **Treatment Options**

If your trees were attacked but successfully repelled the attack in 2008 or 2009, we strongly suggest that you treat your pine tree(s) with a preventative insecticide in 2010. Coating the trunk with an approved insecticide may also be advisable for protecting valuable pine trees in a landscape setting. Insecticides will **NOT** cure trees that are already hit by the beetle, but they will help protect trees from being hit again in 2010. Most common insecticides that are used contain: Permethrin (i.e. – Astro™), Bifenthrin (i.e. - Onyx™), Carbaryl (i.e. - Sevin™).

Insecticides can be applied once or twice per year, depending on the chemical and rate used. It is highly recommended that you contact a **licensed pesticide applicator** to have your trees sprayed. A list of licensed pesticide applicators can be found on our website at [www.greeleyforestry.org](http://www.greeleyforestry.org); look on the left-hand tabs under “Choosing a Tree Service.”

### **What to do if MPB successfully attacks or kills your tree**

While we anticipate a low mortality rate, some trees will be lost to MPB. It is important to take action if your tree harbors viable mountain pine beetle populations. Such trees will need to be removed before June 1, 2010. This will be necessary to prevent or reduce the spread of MPB. Upon removal, the wood will need to be chipped or taken to the GreenCycle Center or landfill for proper disposal. The wood cannot be kept for private purposes, such as for firewood or woodworking unless the bark has been removed.

### **Summary**

Try to determine if your tree will survive the MPB attack by following the information listed above. If your tree does survive, you can either have it sprayed with insecticide as a preventive measure, or do nothing and see what happens. If the attack is successful in your tree, you will need to have it removed and disposed of properly by no later than June 1, 2010.

It is just as important to ensure that your trees remain as healthy as possible. Good watering practices throughout the year will greatly help your pine tree to repel future attacks. It is also important to stop the transport of infested firewood. Let friends and neighbors know that bringing firewood from the mountains also brings the mountain pine beetle into our community. Check with the U.S. Forest Service or Colorado State Forest Service for regulations regarding firewood transport.

## **City of Greeley Forestry Program**

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