

NEBRASKA FOREST SERVICE

Managing Ips Beetles in Pine

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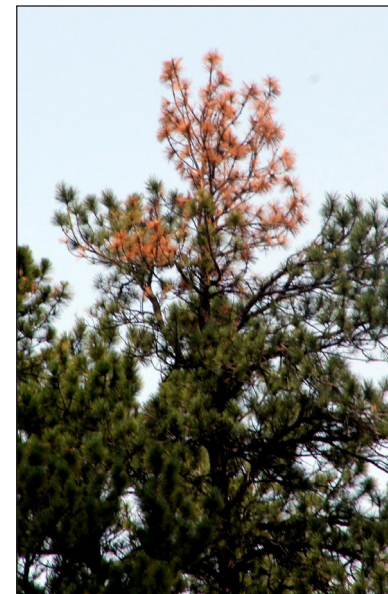
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Mark Harrell, Forest Health Program Leader

Ips beetles, also known as pine engraver beetles, can be a serious problem for pine trees that have been stressed by fire, drought or other factors, or are near recently cut logs or woody debris. Ips beetles can attack stressed or healthy trees in large enough numbers to kill the trees or the tops of the trees.

Proper timber management, good harvesting practices and the avoidance of conditions that create local outbreaks of ips beetles are needed to keep beetle populations low and reduce the damage the beetles cause.

In western Nebraska, ips beetles may be found with other bark beetles, such as mountain pine beetle. In these cases, management strategies for all of the beetles present should be considered. In some cases, several strategies applied together will provide the best results.




Ponderosa pine with top killed by ips beetles.¹



Y-shaped tunnels made by ips beetles under the bark. Tunnels also may be X or H-shaped.³



Ips beetle adult (actual size →  1/8 to 1/4-inch long).²

Key ips beetle management strategies —Forests and windbreaks

- **Maintain forest stands at the appropriate stocking level for the site.** Thin stands as needed to improve tree vigor.
- **Conduct logging operations from August through December** to allow sufficient time for the remaining woody material (slash) to dry. However, any slash created during this time that is covered by early snow may still be fresh enough to attract and support beetles in the spring.
- **Avoid creating pine slash from January through July.**
- **Promptly treat slash** by crushing with a bulldozer or by chipping. This reduces the amount of suitable wood for the beetles by decreasing the size of the pieces and by removing and drying the bark.
- **When possible, burn the slash** but avoid scorching nearby trees, which can make the trees more susceptible to beetle attack.

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Key ips beetle management strategies —Forests and windbreaks (continued)

- **If slash disposal is not possible, lop and scatter the slash.** Reducing the size of the slash and exposing it to direct sunlight helps dry it more quickly and makes it less suitable for beetle development.
- **Do not pile logs or slash.** The shade in the pile allows some of the wood to remain suitable for beetle development for long periods.
- **Especially do not pile logs, slash or fresh firewood near standing trees.** Beetles that emerge from the piles attack nearby trees and can cause top killing or death.
- **During logging, drop trees into openings and use established skid trails** to avoid damaging the residual stand.
- **Remove and dispose of trees damaged by logging activities and road construction** at the end of the activity.



*Ips beetle boring dust on bark.*⁴



*Immature ips beetles (larva in center and pupae).*⁵



*Ips beetle pitch tube on bark.*⁶

Key ips beetle management strategies —Developed landscapes

- **Reduce or avoid stress** in landscape pines with proper watering, mulching and pruning.
- **During construction, protect the roots of trees** that will be left as landscape trees. Weakened or badly damaged trees should be removed.
- **Do not add or pile soil over root areas** (the area under the dripline), which can weaken trees.
- **Do not drive or park vehicles or equipment over root areas**, which can damage roots.
- **Avoid injury to trees from herbicides and other pesticides** by carefully reading and following label instructions.
- **Do not leave pruned branches near trees.** Beetles can develop in and emerge from the pruned branches and attack the trees.
- **Remove infested trees** and promptly dispose of them by chipping, burning or burying.
- **Protect high-value trees** with sprays of appropriate insecticides. Currently labeled products include formulations of permethrin, bifenthrin and carbaryl. Insecticides are not necessary if ips beetles do not pose a serious risk.

Additional information:

Bark Beetles of Pine. Laurie Stepanek. Nebraska Forest Service Publication FH09-2009, 2 p., [nfs.unl.edu/documents/foresthealth/bark beetles of pine.pdf](http://nfs.unl.edu/documents/foresthealth/bark%20beetles%20of%20pine.pdf)

Ips Beetles. Cranshaw, W. and D.A. Leatherman. Colorado State University Extension Fact Sheet No. 5.558, 2013, 2 p., www.ext.colostate.edu/pubs/insect/05558.html

Ips Bark Beetles in the South. Connor M.D. and R.C. Wilkinson. USDA Forest Service, Forest Insect & Disease Leaflet 129, 1983, www.na.fs.fed.us/spfo/pubs/fidls/ips/ipsfidl.htm

Bark Beetles. Seybold, S. J., T. D. Paine and S. H. Dreistadt. University of California Agriculture and Natural Resources Publication 7421, www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7421.html

Photo credits:

¹ Whitney Cranshaw, Colorado State University, Bugwood.org

² Pennsylvania Department of Conservation and Natural Resources - Forestry Archive, Bugwood.org

³ David McComb, USDA Forest Service, Bugwood.org

⁴ Jeffrey Eickwort, Florida Department of Agriculture and Consumer Services, Bugwood.org

⁵ Texas A&M AgrLife Extension Service Archive, Texas A&M University, Bugwood.org

⁶ G. Keith Douce, University of Georgia, Bugwood.org