



## Controlling Hemlock Woolly Adelgid (*Adelges tsugae*)

### Guidelines for Controlling Hemlock Woolly Adelgid

Based on the existing knowledge of hemlock and hemlock woolly adelgid (HWA), The Trustees recommends the following strategy for controlling HWA on its properties. These guidelines integrate the best available and most recent information on HWA and its control and management. However, The Trustees will continue to explore control options and as new information based on research and experience becomes available, it may suggest alternate approaches that should be incorporated into The Trustees' management of HWA.

1. The Trustees default position for addressing hemlock mortality due to HWA is to "do nothing." As a result, The Trustees recognizes that significant changes to the landscape at its reservations are likely. To address potential concerns from visitors and the public as a result of these changes, The Trustees will strive to educate visitors and the public as necessary on the impacts and control of HWA. In addition, hemlock mortality will be monitored for potential fire hazards.
2. Salvage cutting for hemlock should not be considered. Active removal of hemlock should only be considered when trees are succumbing to HWA and they present a safety concern (e.g. dead trees falling on trails) or impact important scenic values and designed landscapes.
3. Where individual trees or groves (group as landscape planting) have been identified as significant to a designed landscape, The Trustees will seek to maintain these trees according to an integrated pest management (IPM) process. IPM is a decision making process that seeks to minimize environmental impacts of pest management through regular monitoring and by selecting the least toxic control strategies. Regular monitoring will be critical for detecting HWA on target trees (those identified as needing protection from the HWA) since tree health can decline quickly once HWA is established. Following detection of HWA, horticultural oils, soaps, systemics or toxic insecticidal sprays (e.g. pyrethrum based), in that order, should be applied as necessary to control HWA.

4. Where hemlocks have been identified as an outstanding feature beyond a designed landscape (e.g. significant ecological, scenic or historical), The Trustees will seek to preserve these hemlocks as resources allow. The sustainability of any preservation effort is critical; thus, the decision to control HWA and the specific recommended method must be carefully considered. As a result, The Trustees will actively facilitate biological control for the following reasons: 1) the available biological control agents have been extensively tested for negative impacts on native fauna and determined to represent a very low risk; 2) the control agents have been released in significant numbers both within Massachusetts and in adjacent states; 3) preliminary data suggest these agents are effective at controlling HWA; 4) there is general agreement that without biological control hemlocks will be eliminated except where regular spraying occurs; 5) spraying in all but very limited situations is not sustainable and represents additional environmental concerns; 6) the known threat of HWA to eastern hemlocks presents a greater risk to the region's ecosystem than the possible risks associated with the biological control.

Release sites should be based on those reservations where hemlock has been identified as a significant feature. Once there is agreement by staff that the site is a priority, regional staff will take the lead in pursuing the acquisition and release of the beetles. Monitoring will be required and should follow the protocol established by DCR and the US Forest Service. Finally, before biological controls are released, the regional ecologist will document the release and any special conditions in writing.