

# INFORMATIONAL BRIEF

The City of Springfield, Massachusetts  
Parks & Recreation Department, Forestry Division  
& The Northeast Center for Urban & Community Forestry at UMass/Amherst

August 1998

## Hemlock Woolly Adelgid Damage in Forest Park, Springfield, MA

### **Background**

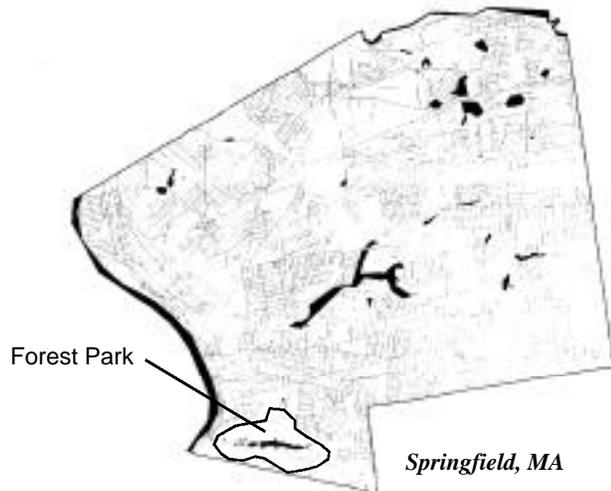
The City of Springfield is located in southwestern Massachusetts in the Connecticut River valley. It is a city of 157,000 inhabitants and the center of a metropolitan area of more than 500,000 people. With a land area of 31.7 square miles, Springfield has an average density of about 5,000 persons per square mile.

Although Springfield can be described as a fully developed urban community, numerous lakes, streams, parks and conservation areas add variety and diversity to the urban landscape. The extent of Springfield's park system has earned it the historical reputation as both the "Garden City and the "Park City."



### **Springfield's Forest Park**

Springfield's largest public park is Forest Park, located in the southwest corner of the city. Forest Park is a 780-acre urban park, comprised primarily of forested landscapes. The park is found in one of Springfield's most densely populated neighborhoods and is surrounded on three sides by residential housing and by Interstate-91 on the western edge.



The park is extensively used for active and passive recreation, with about 10 acres of open fields, a petting zoo, historic structures, aquatic gardens and recreational facilities. The forested portions of the park contain numerous trails, roadways, picnic facilities and unimproved natural areas. Vegetation in the park is comprised of a combination of hardwoods and conifers, with large percentages of Oak, Maple, Pine and Hemlock. Canadian Hemlock is found throughout the entire park, and comprises about 20 percent of the total tree population growing on the site.

### **Hemlock Woolly Adelgid in Forest Park**

Hemlock Woolly Adelgid was first detected in Forest Park in 1994 and has been migrating throughout all portions of the park since its first sighting. Control measures were taken in 1996, to curb the spread of the insect, including spraying and soil treatments in several areas throughout the park. The control measures appeared to keep in check the migration of the insect and limited damage to minimal levels.

In June 1998 a noticeable increase in the severity and scale of damage to Hemlocks resulting from the insect was noted. It appeared that areas of moderate infestation were severely damaged and the total amount of acreage that was affected increased dramatically. Thinning of the crowns of many trees was noted, light intensity throughout forested stands increased at the forest floor level and live crown ratios appeared to be greatly reduced.

### ***July 1998 Survey***

The entire park was inspected during July 1998 and an assessment of the severity of damage from the Hemlock Woolly Adelgid was completed. The relative occurrence of Canadian Hemlock in the forested areas of the park was also delineated.

Based on this visual survey of the park, areas that contain predominantly Canadian Hemlock, the infestation of Woolly Adelgid ranges from Moderate to Heavy. In areas that are not heavily forested with Hemlock, damage is less severe and not as visually apparent. Continued monitoring of the trees will continue throughout this season for assessment of population rates and visible damage.

### ***Management Planning***

A forest management plan, addressing the damage caused by the Adelgid is currently being developed by the City's Forestry Division and the Northeast Center for Urban & Community Forestry at UMass/Amherst, with assistance by the USDA Forest Service, Northeastern Area and the Massachusetts Department of Environmental Management. Preliminary drafts of this Management plan utilize an integrated approach including controlled spraying, introduction of beneficial insects, soil injections and drenching, removal of hazard trees in high-use areas, harvesting of usable wood and the planting of new trees throughout the affected area.

It is expected that spraying and soil treatments will likely take place during the late summer and be targeted at areas containing high distributions of Canadian Hemlock. Targeted areas include the main entry area into the park, along Washington Road and in picnic areas. These areas currently have moderate to heavy levels of the Adelgid. The selected areas are accessible via vehicles and are highly visible to travelers through the Park.

### ***Beneficial Predator Insects***

It is anticipated that the introduction of beneficial predator insects, for the control of Hemlock Woolly Adelgid, may be trial tested in Forest Park during 1999. Preliminary discussion with forest health personnel from the Forest Service's Northeast Area office in Durham, NH and the MA DEM has been initiated. Field visits were completed by staff from these offices during July. It is expected that the City of Springfield will make a formal request for assistance to these two agencies during the fall 1998.

### ***Other Details***

A detailed map outlining the range of the infestation has been prepared and is available for review. More information on the Hemlock Woolly Adelgid may be obtained on the Internet at [http://www.nena.org/NA\\_Home/NA\\_online/NA\\_online.html](http://www.nena.org/NA_Home/NA_online/NA_online.html)

For more information on the cooperative initiative in Springfield, please contact the following:

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