

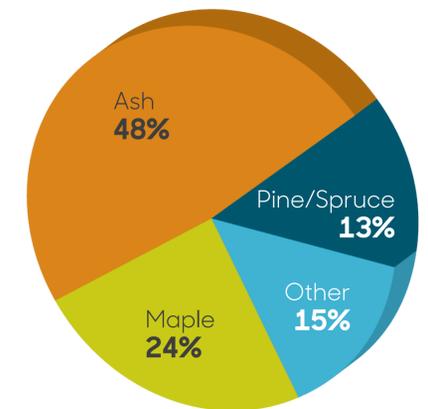
### The Urban Forest

The map on the left depicts city owned—trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).<sup>1</sup> The trees are divided into three categories: healthy trees, hazard trees, and ash trees.

"Hazard" trees are distinguished with a yellow triangle symbol. The hazard designation reflects tree condition using the Iowa DNR's priority rating. Trees highlighted on this map are "dangerous, dead, or dying, and no amount of maintenance will increase longevity or safety;" or are infected by "insects, pathogens, or parasites."

"Ash" trees are distinguished with a purple cross. They are under imminent threat from the Emerald Ash Borer (EAB), an invasive beetle that disrupts circulation in the tree resulting in the loss of tens of millions of ash trees in North America.<sup>2</sup> EAB was first discovered in Iowa in 2010 and was confirmed in 65 Iowa counties as of 2018.<sup>3</sup>

The graph shows how many of the city's trees are of the same species. There is a strong possibility that 48% (ash trees) of Royal's city-owned trees will die once EAB is carried to the area. With proper planning and management, the city's canopy can be improved by planting suitable trees that can gradually replace hazard trees and ash trees. Improving species diversity will create a more resilient urban forest.



- + Ash Tree (susceptible to EAB)
- ▲ Hazard Tree
- Healthy Tree

Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislib/>.

<sup>1</sup> Iowa Department of Natural Resources Community Tree Inventories, <http://www.iowadnr.gov/Conservation/Forestry/Urban-Forestry/Community-Tree-Inventories>.

<sup>2</sup> EAB is a significant threat to our urban, suburban, and rural forests because it kills stressed and healthy ash trees. EAB is so aggressive that ash trees may die within two or three years after they become infested. Ash trees are as important ecologically as they are economically in the forests of the eastern United States. Emerald Ash Borer the Green Menace, USDA Program Aid No. 1769, 2008, [https://www.aphis.usda.gov/publications/plant\\_health/content/printable\\_version/EAB-GreenMenace-reprint\\_June09.pdf](https://www.aphis.usda.gov/publications/plant_health/content/printable_version/EAB-GreenMenace-reprint_June09.pdf).

<sup>3</sup> "Iowa Tree Pests website," Entomology and Plant Science Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS), last updated September 12, 2018, [http://www.iowatreepests.com/eab\\_home.html](http://www.iowatreepests.com/eab_home.html).

# Royal Urban Forest

### Bioregional Context

Julia Badenhope, Riley Dunn, Emma Georgeff, Timothy Kerkhove, Clare Kiboko, Alysse Kirkman, Giannis Koutsou, Zoey Mauck, Abigail Schafer

Iowa State University | Trees Forever | Iowa Department of Transportation

