

## Regional Summary of Potential Impacts of Emerald Ash Borer



### Southeast Texas - Greater Houston

Over six million people live in the Houston-The Woodlands-Sugar Land Combined Statistical Area (Greater Houston). This 10,062 square mile area comprises nine counties and over one-hundred fifty-two cities and towns, three which exceed 100,000 in population and twenty-one over 25,000.

- Ash trees make up 3.6% of the urban forest in the Greater Houston area (derived from city inventories and Urban Forest Inventory & Analysis)—an estimated **3.0 million trees** that provide \$55 million annually in ecosystem services. Estimated removal costs for community ash trees in the region could exceed \$765 million (\$250/tree) if communities and residents only practice reactive management.
- Debris processing costs of all community ash trees alone could total \$18 million.
- The cost to replace all existing community ash trees is estimated at \$918 million (\$300/tree).
- Treatment in lieu of removal and replacement is a viable option. If all community ash trees are treated, the cost to treat ash trees will be an estimated \$153 million annually. Treatment costs per tree average \$100 every 2 years and must be continued in perpetuity. This would exceed \$3.0 billion in 20 years.

#### Likely Management Scenario

- It is probable that up to 25% of dead or dying ash trees will be either located in natural riparian areas or small enough diameter to not warrant removal.
- If 25% of trees are ignored due to size or location and 25% of trees are proactively treated once EAB is nearby (at a cost of \$38 million annually), total removal costs would be closer to \$382 million.
- Not all trees removed will be replaced. Assuming a modest 50% replacement rate of non-treated trees, replanting costs would be approximately \$229 million.
- This likely scenario results in a **\$2.0 billion** cost to the region.

Table 2: Potential statewide costs of Emerald Ash Borer infestation in Texas communities (in millions of dollars)

| Applied Management      | Maximum                               | Likely Scenario               |                                       |
|-------------------------|---------------------------------------|-------------------------------|---------------------------------------|
|                         | 20-Year Cost<br>If applied to all ash | Percent<br>of total ash trees | 20-Year Cost<br>If applied to percent |
| Treatment               | \$3,060                               | 25%                           | \$765                                 |
| Removals                | \$765                                 | 50%                           | \$382                                 |
| Debris Processing       | \$18                                  | 50%                           | \$9                                   |
| Replacement             | \$918                                 | 25%                           | \$229                                 |
| Lost Ecosystem Services | \$1,101                               | 75% trees lost, 25% replaced  | \$619                                 |
| Total*                  | \$3,060 or \$2,252                    | Total                         | \$2,005                               |

\*Treatment only, or remove & replace with ecosystem services beginning again 10 years after replacement

The percentage of ash in communities varies widely; some cities have as much as twenty percent of the community trees as ash species. Typically, thirty percent of community land area is owned by the municipality although the range can be as low as ten percent in smaller communities to as high as sixty percent in some. Of the \$2.0 billion likely cost to this area, at least \$601 million of that will be borne by municipalities.

EAB damage to trees tends to be slow initially with escalating mortality several years after initial infestation. This means that damage and mitigation needs may occur seemingly all at once. Proactive planning by communities, including identifying debris staging areas and outreach to residents, will help keep costs from escalating beyond what is likely.

#### Data Sources

Forest Ecosystem Values application, [www.texasforestinfo.com](http://www.texasforestinfo.com)  
Urban Forest Inventory & Analysis, [www.mycitystrees.com](http://www.mycitystrees.com)