

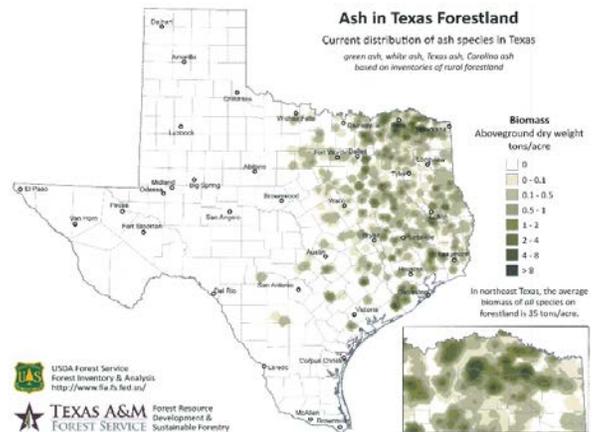


# Statewide Summary of Potential Impacts of Emerald Ash Borer

Emerald ash borer (EAB), an exotic pest of all native ash trees in the United States, has destroyed tens of millions of native ash trees at a huge economic loss since its discovery in the Midwest in 2002. Typically, trees die within 3-5 years of infestation and most trees are infested prior to being symptomatic. Detected in Texas in 2016, EAB will take an environmental and financial toll on Texans, especially in urban areas. Management strategy can influence the rate of spread and overall impact.

## Texas Rural Lands

- According to Forest Inventory and Analysis (FIA) data, ash species account for 1.7% of trees on rural lands across Texas.
- This is an estimated **326 million trees** that provide \$1.5 billion annually in ecosystem services.
- On East Texas timberlands, green and white ash account for 1.2% of the total standing timber inventory.
- The annual harvest of ash in East Texas (2010-2014) has an average stumpage value of \$2.4 million per year and a delivered value of \$4.3 million per year. This is approximately 1% of the average stumpage value and 0.76% of the average delivered value of all species in East Texas during the same time period.
- The volume of ash harvested annually in East Texas is estimated to produce forest products worth a total of \$29.2 million per year.
- Forest industry economic activity from the harvest of ash and manufacture of forest products is estimated to support a total economic activity in East Texas of \$54.9 million per year (0.58% of total economic contribution of industry).



Ash is a minor component of wood supply in Texas. No Texas mills rely exclusively on ash and few, if any, heavily depend on ash. For most industrial products ash can be substituted with other species. In general, ash supply can fluctuate quite a bit year-to-year. Mills process ash opportunistically, meaning if supply becomes available they may adjust their production schedule and market to take advantage of the ash log supply.

Table 1. Potential costs of EAB on Rural Lands

Value of Ash	Annual Value
Stumpage Value	\$2,400,000
Delivered Value	\$4,300,000
Forest products	\$29,200,000
Economic activity	\$54,900,000
Ecosystem Services	\$1,500,000,000

## Urban & Community Forests

### Impact and Maximum Potential Costs

- Ash trees make up 5.8% of Texas urban forests (derived from rapid ash assessments, city inventories, and Urban FIA). This is an estimated **29 million trees** that provide \$522 million annually in ecosystem services.
- Estimated removal costs for community ash trees could exceed \$7.2 billion statewide (\$250/tree) if communities and residents only practice reactive management.



- Debris processing costs of all community ash trees alone could total \$174 million.
- The cost to replace all existing community ash trees is estimated at \$8.7 billion (\$300/tree replacement and installation).
- 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 \$1.4 billion annually. Treatment costs per tree average \$100 every 2 years and must be continued in perpetuity. This would exceed \$29 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 \$362 million annually), total removal costs would be closer to \$3.6 billion.
- Not all trees removed will be replaced. Assuming a modest 50% replacement rate of non-treated trees, replanting costs would be approximately \$2.1 billion.
- This likely scenario results in a **\$19 billion** cost to Texans.

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 If applied to all ash	Percent of Total Ash Trees	20-Year Cost If applied to percent
Treatment	\$29,000	25%	\$7,250
Removals	\$7,250	50%	\$3,625
Debris Processing	\$174	50%	\$87
Replacement	\$8,700	25%	\$2,175
Lost Ecosystem Services	\$10,440	75% trees lost, 25% replaced	\$5,872
<b>Total*</b>	<b>\$29,000 or \$21,344</b>	<b>Total</b>	<b>\$19,009</b>

\*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 some smaller communities to as high as sixty percent in the City of Austin. **Of the \$19 billion likely cost to Texans, at least \$5.7 billion 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)  
 Forest Inventory & Analysis [www.fia.fs.fed.us](http://www.fia.fs.fed.us) and [www.mycitystreets.com](http://www.mycitystreets.com)

