
Joe Heller
HAVE CAMPER
WILL TRAVEL
I'M WITH
STUPID
EMERALD
ASH
BORER

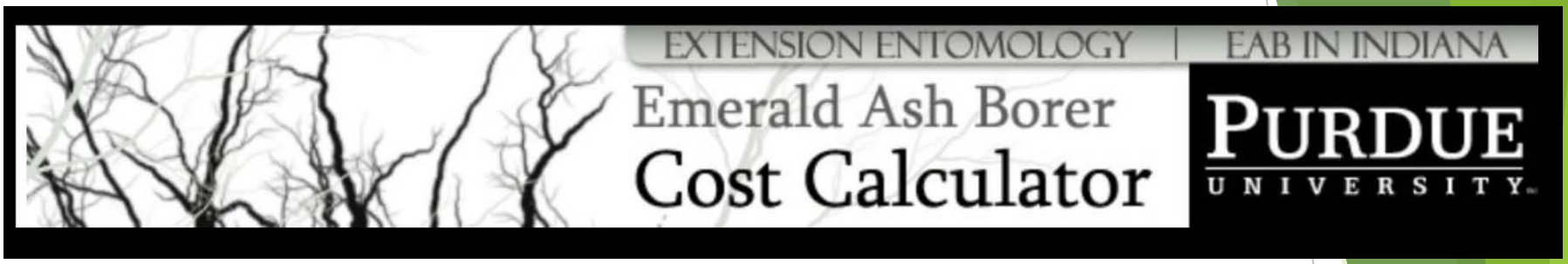
# Available resources

- Maine DACF resources:
  - Municipal EAB Management Sample Plan
  - Homeowners Guide to saving high value ash
  - Readiness checklist
  - Licensed arborist list
  - Pesticide applicators
  - Management guidelines for wood waste
  - Guidance for forest landowners
  - Entomologists, field foresters, planners, educators
  - Grants!

# Are you ready?

- Inventory of trees as well as community resources – volunteer groups, tree related policies, staffing, arborists, pesticide applicators, emergency management
- Determine timeline for management
- Will you preserve significant ash?
- Plan for removals
- How will infested wood be disposed or utilized?
- Replanting efforts

# Emerald Ash Borer Cost Calculator




https://int.entm.purdue.edu/ext/treecomputer/

Web based tool to help urban foresters make decisions about tree management related to EAB.

To run the calculator you will need:

- An inventory of the number and size of ash trees within the public domain
- An estimate of costs for removing and treating trees based on the size of each tree
- An estimate of costs for replacing each ash tree that is removed

# Inventory

Size Class Distribution for Belfast's ash

| Size Span (inches) | Number of Trees |
|---|---|
| 0 - 4 | 95 |
| 4 - 6 | 32 |
| 6 - 8 | 74 |
| 8 - 10 | 61 |
| 10 - 12 | 55 |
| 12 - 15 | 83 |
| 15 - 20 | 43 |
| 20 - 25 | 31 |
| 25 - 30 | 16 |
| 30 - 40 | 18 |
| 40 - 50 | 7 |
| 50 - | 3 |

## Belfast

- 100% street tree inventory, 2017
- Belfast Green Streets - Volunteers
- 15,871 street trees
- 518 (3%) ash trees

# Inventory

*Size class distribution for Belfast's Ash*

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| 40 - 50 | 7 |
| 50 - | 3 |

| Treatment Cost | |
|---|---|
| DBH | Cost / DBH For Treatment |
| 0 - 4 | $3 |
| 4 - 6 | $3 |
| 6 - 8 | $3 |
| 8 - 10 | $3 |
| 10 - 12 | $3 |
| 12 - 15 | $3 |
| 15 - 20 | $4 |
| 20 - 25 | $4 |
| 25 - 30 | $4 |
| 30 - 40 | $4 |
| 40 - 50 | $4 |
| 50 - | $4 |

| Removal Cost | | |
|---|---|---|
| DBH[1] | Avg. Cost / DBH | Adjusted Cost |
| 0 - 4 | $11.15 | $11.15 |
| 4 - 6 | $11.15 | $11.15 |
| 6 - 8 | $11.15 | $13.35 |
| 8 - 10 | $11.15 | $17.75 |
| 10 - 12 | $17.75 | $17.75 |
| 12 - 15 | $17.75 | $25.00 |
| 15 - 20 | $17.75 | $25.00 |
| 20 - 25 | $19.20 | $25.00 |
| 25 - 30 | $25.00 | $33.00 |
| 30 - 40 | $25.00 | $33.00 |
| 40 - 50 | $33.00 | $33.00 |
| 50 - | $33.00 | $33.00 |

Cost s of treatment and removal correspond to dbh

# Management Strategies

- Simple Strategies
  - Treat ash trees with insecticides
  - Remove ash trees
  - Replace ash trees with resistant trees
- Pre-designed Strategies
  - Replace <24”
  - Save 50%, etc.
- Custom Strategies

# Belfast's Case

- Strategies
  - Remove all
  - Replace unsafe ash
  - Replace <24"
  - Save 50%
- Simulations
  - Year 0
  - Year 4
- Treatment
  - Systemic insecticide imidacloprid-Merit ($3/dbh)
    - Aggressive- 1 year application
    - Maintenance- 3 year application

# Integrating Tree Benefits

- i-Tree Streets


www.itreetols.org

**Benefits**
Energy conservation
Air quality improvement
Carbon dioxide sequestration
Stormwater interception
Increase in property value

| | All ash trees (518 trees) | | Ash Trees Larger than 24" (44 trees) | |
|---|---|---|---|---|
| | Annual Benefits (US$/tree) | Net Annual Benefits (US$/year) | Annual Benefits (US$/tree) | Net Annual Benefits (US$/year) |
| *Fraxinus americana* | 120.76 | 38,160 | 286.84 | 6,884 |
| *Fraxinus pensylvanica* | 128.74 | 26,258 | 276.17 | 5,523 |
| Average/Total | 124.74 | 64,418 | 281.51 | 12,407 |

Larger (healthy) trees provide more benefits
9% of ash trees provide 20% of the benefits

# Public Involvement

- EAB detection
- Tree surveys (inventories)
  - Complete inventory
  - Sample based survey
  - “Windshield survey”

# Conclusions

- EAB infestation is hard to detect before year 4-5
- Tree inventory is crucial
- Pro-active response reduces short-term costs
- Treatment and replacement strategies promote canopy recovery
- It is important to consider tree benefits