

### Abstract

The City of Greeley is losing more trees than they can plant, and there is an invasive species that will threaten many more trees, but the city of Greeley does not have the resources to replenish the lost trees.

Therefore we need a volunteer plan to help subsidize the cost and ultimately plant more trees. Nothing in volunteering makes sense though without their first be saliency for the urban environment.

Any potential volunteer plan needs to take into account the audience and advertise to the potential participants in the program weather that is the person receiving the trees or those who would be volunteering to plant the tree.

### Emerald Ash Borer Threat

- The Emerald Ash Borer (Figure 2.) is an invasive species, and therefore, has no natural predators
- There are 15,000 Ash trees in Greeley that are at risk to be lost due to the Emerald Ash Borer. See figure 3.
  - Could potentially be more as this only takes into account trees that are managed by the city or along streets. Could potentially be more due to trees in yards and such.
- The Emerald Ash Borer kills Ash trees during the larvae stage. In this stage the larvae eat the inner bark which disrupts the tree's ability to transport water and nutrient.
- Once the Emerald Ash Borer is an adult, it poses no threat to Ash trees
- Trees in Greeley are also threatened by continued development

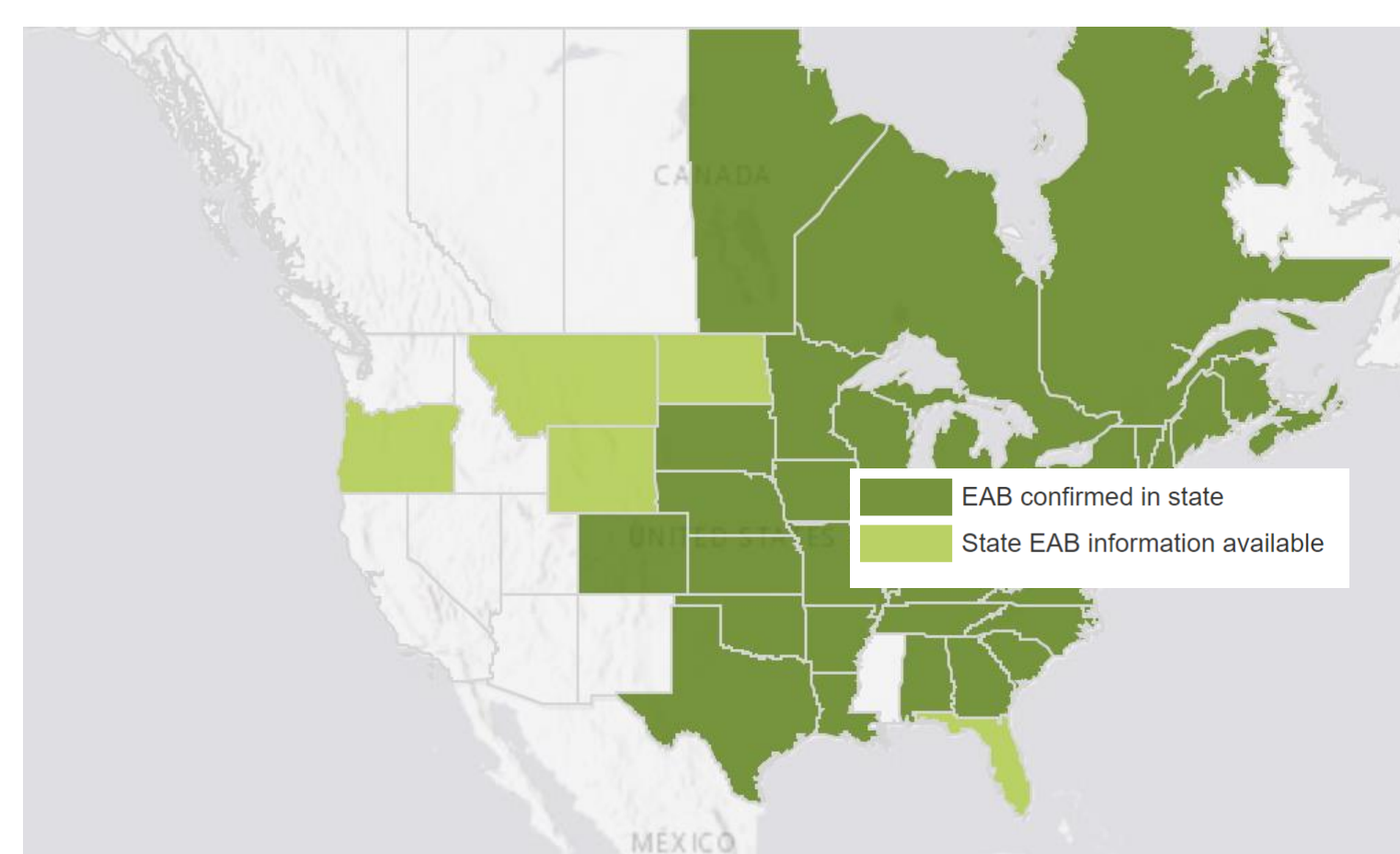


Figure 1. Map of Emerald Ash Borer ESRI



Figure 2. Emerald Ash Borer In the Larvae Stage

### References

1. emeraldashborer.info
2. <https://www.canva.com/>
3. Brownlow A. Between rights and responsibilities: insurgent performance in an invisible landscapes. *Environment, and Planning*. 2011; 43: 1268-1286
4. García-Valiñas MA, Macintyre A, Torgler B. Volunteering, pro-environmental attitudes and norms. *The Journal of Socio-Economics*. 2012;41(4):455-467.
4. Johnson. Z, Koski T, Stover A. The Hidden Value of Landscapes: Implication for Drought Planning. Colorado State University
5. Seymour V. and Hakla M. Exploring Engagement Characteristics and Behaviours of Environmental Volunteer. *Citizen science theory and planning*

### Tree Map of Greeley, Colorado

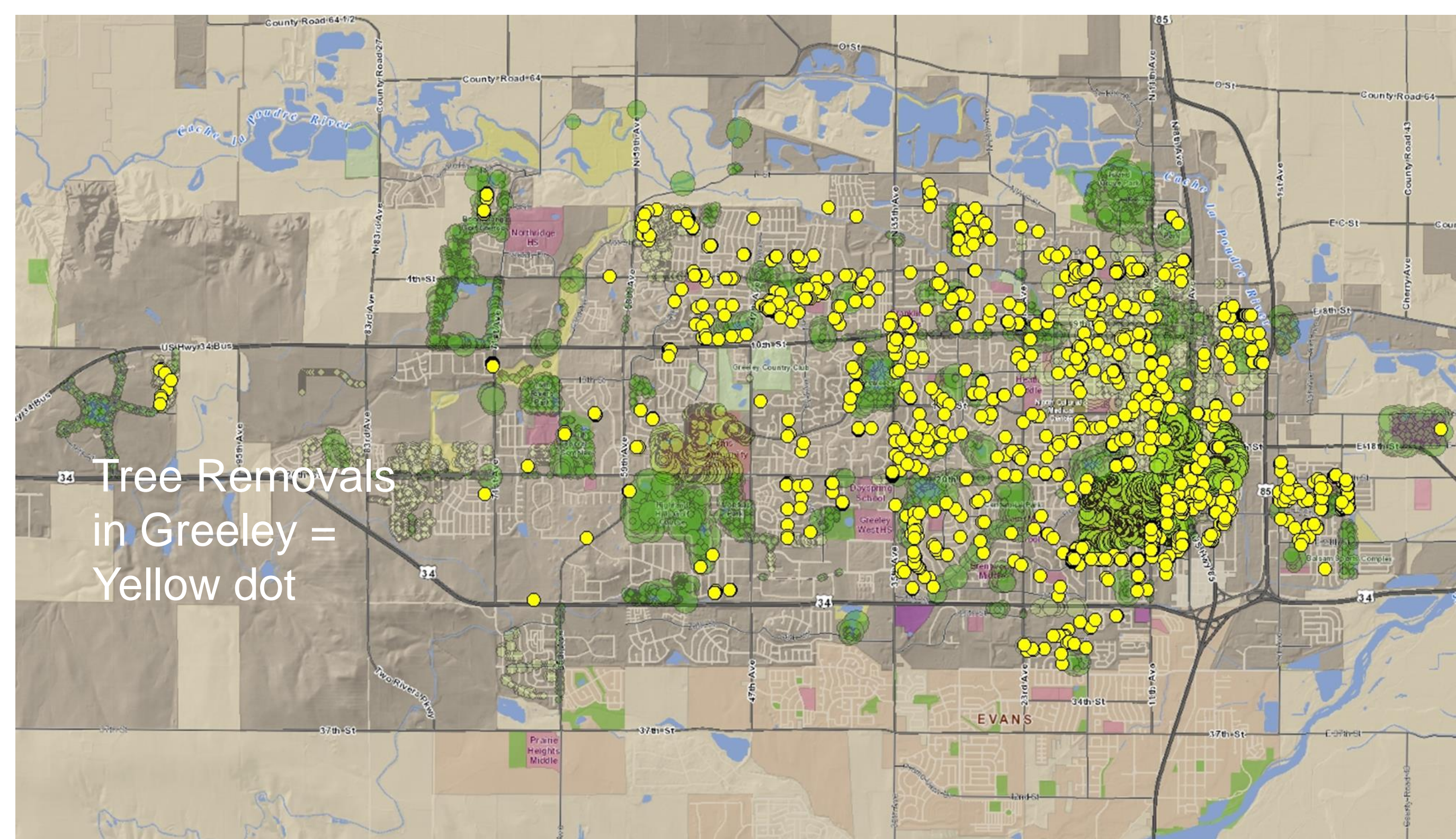


Figure 3. This is a tree map of the City of Greeley. All the dots on the map represent trees. The yellow dots, however, are the most important because these are the trees that have been removed in the past couple years due to old age and residential and industrial development. This loss of trees is what our plan hopes to replace.

### The Value of trees and landscapes

- 1 Tree removes 48 pounds of carbon dioxide from the atmosphere in a single year(Johnson et al.)
- Produces enough air to support 2 humans for a year
- Trees provide 1.7 billion dollars in air quality benefits to the Denver metro area
- Less irrigation to maintain trees.
- Decreases storm Runoff and erosion
  - Increases the quality of streams
- Areas with landscapes have less crime
- Cooling effect on the surrounding neighborhood

### Community Partner Proposal

- Reaching out to residents in the live in the areas of need who have well-kept landscapes.
- Proposal outlines the options that landowners will have if they join the program.
  - Option to plant a new tree or shadow plant
- Explains the benefits for both the community and the homeowners
  - Shows how much the homeowner will benefit the tree and how it outweighs the cost
- Establishes the responsibilities of both the homeowner and the city

### Volunteer Plan

- Modeling volunteer website after the Rooted in Cheyenne program
- Outreach through traditional channels
  - Chambers of commerce
  - City of Greeley volunteer website
  - Environmental quality is a normal good, and are thus willing to pay/volunteer more(María A. García-Vali et al)
- Outreach to UNC organizations such as Greek life
- Volunteers will be tracked and profiles will be created
  - longevity frequency and distance traveled to the site.(Seymore and Hakla)
- Volunteers benefits
  - Volunteers could gain political power and agency in there community(Brownlow)
  - Social connections
  - Career advancement and Networking

### Marketing Strategies

- We are choosing to use flyers to advertise our volunteer plan
  - Great because it is easy to manipulate their distribution
- We want trees to be planted in areas where they will properly be taken care of.
- The main audience is community member s of the city of Greeley who like east of 23rd Avenue
  - That is where the largest concentration of mature ash trees are located
- Specifically, target wealthier landowners
  - More likely to have access to necessary resources
- College students who want volunteer hours
- Concerned community members



Figure 4. Above is front and back of our flyer proposal. This flyer was made using a free template from [www.canva.com](https://www.canva.com)