

# Hemlock Woolly Adelgids: Cotton Balls of Death

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# Introduction

- Hemlock wooly adelgid
  - Feeds at the bottom of hemlock needles
  - Take the trees nutrients
- Looks like small cotton balls
- Eggs hatch in the winter time ?
- Was brought to the park in 2002



# Methods

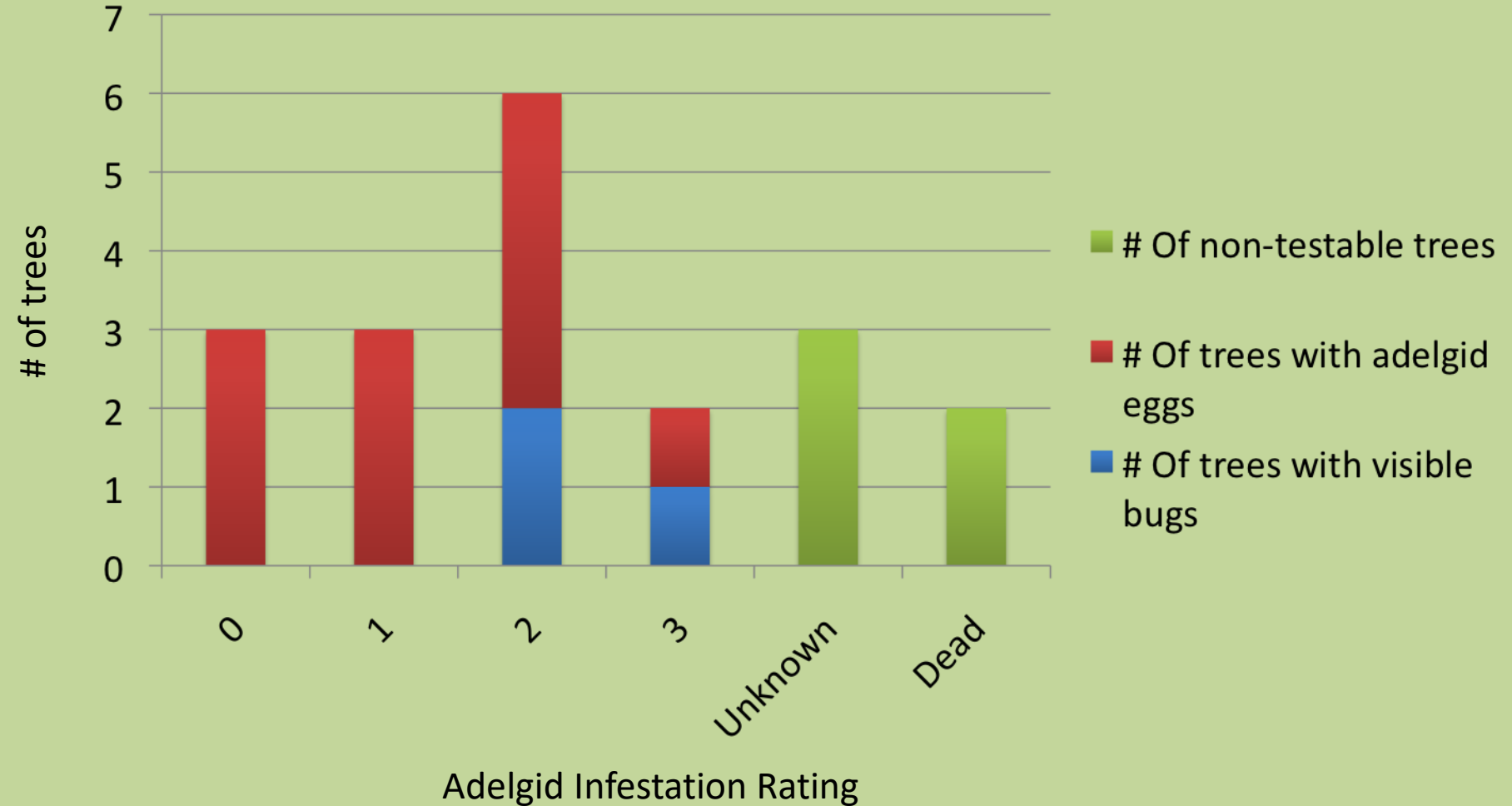
- Tremont: 15 meter by 10 meter
- Cades Cove: 30 meter by 10 meter
- 20 trees each
- Tools and materials
  - Measuring tape
  - Magnifying glasses
  - journals



# Methods Part 2

- Tree analysis aspects:
- Adelgid infestation evidence
- Crown health
- Circumference
- Cone presence
- Treatment
- Visible crawlers (bugs)

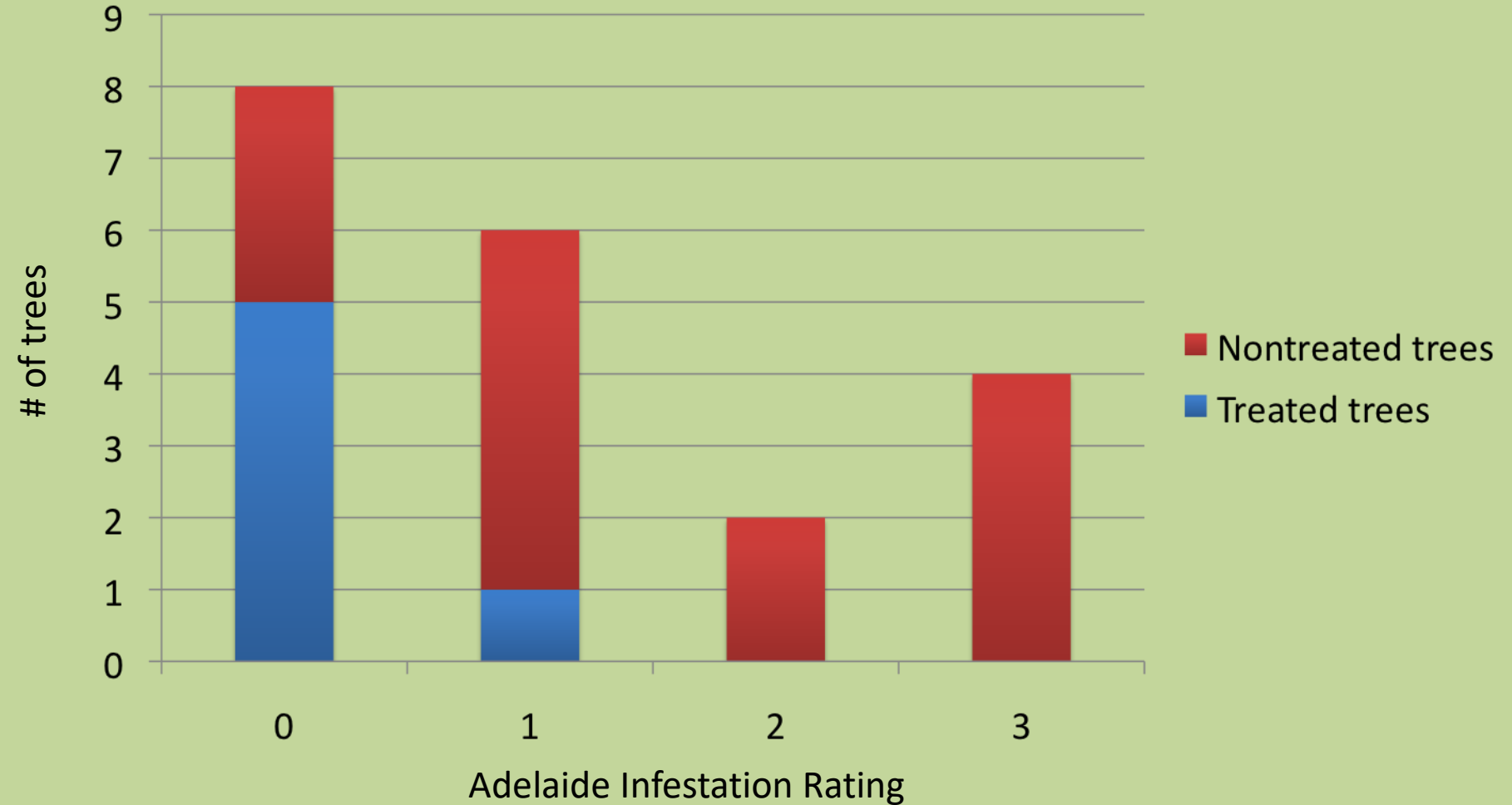
# Graph for Tremont



# Results

- Location: Tremont
- Time: 10:10-11:20
- Hemlock Woolly Adelgid Scale
  - 3/20- 0
  - 3/20- 1
  - 6/20- 2
  - 2/20- 3
  - 3/20- unknown
  - 2/20- dead

# Graph for Cade's Cove



# Results (Cade's Cove)

- 2/5 of the trees had no visible adelgid
- 6/20 had evidence of treatment
  - 1 of these 6 were infected by adelgid
- 8/20 were saplings
- 1/5 had visible wooly adelgid insect
- 5 trees that had good canopy had little to no wooly adelgid



# Conclusion

- Need way to cheaply help sapling
- Stop cotton balls of death
- what to do differently

# Discussion

- Results didn't support hypothesis
- Many different factors
  - Markings
  - Beetles
  - Recent infestation
- Check more thoroughly