

Verifying Tree Planting with Land Cover Data

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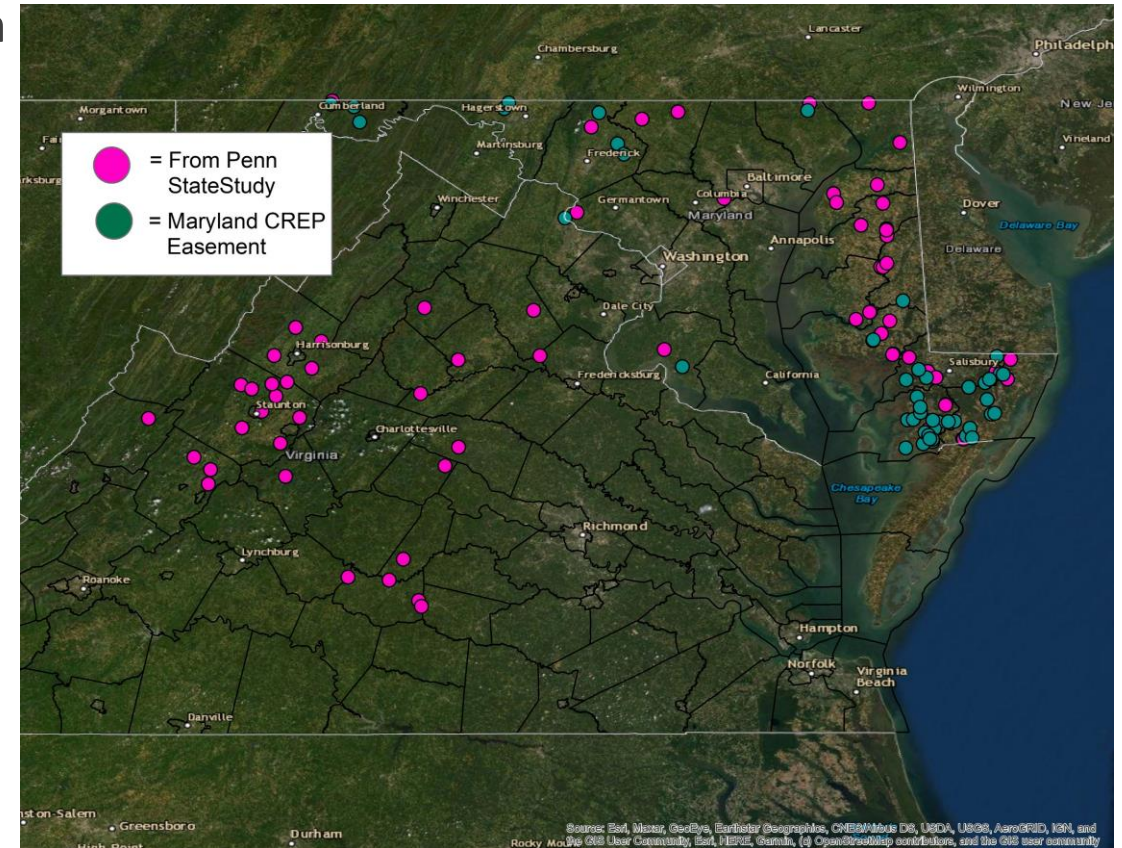


Purpose

- Determine when tree plantings get detected with remote imagery
- When should tree planting credits get “backedout”?
- Are there any factors that influence this?

Methods/Data

- CREP buffer shapefiles from PA, VA, and MD used in Penn State Study
 - Could not locate planting dates for PA plantings
- Maryland CREP Easements
- CC 2013 and 2017 land cover
 - 2017 LC not available for all counties
- Calculated area of different land cover in each shapefile



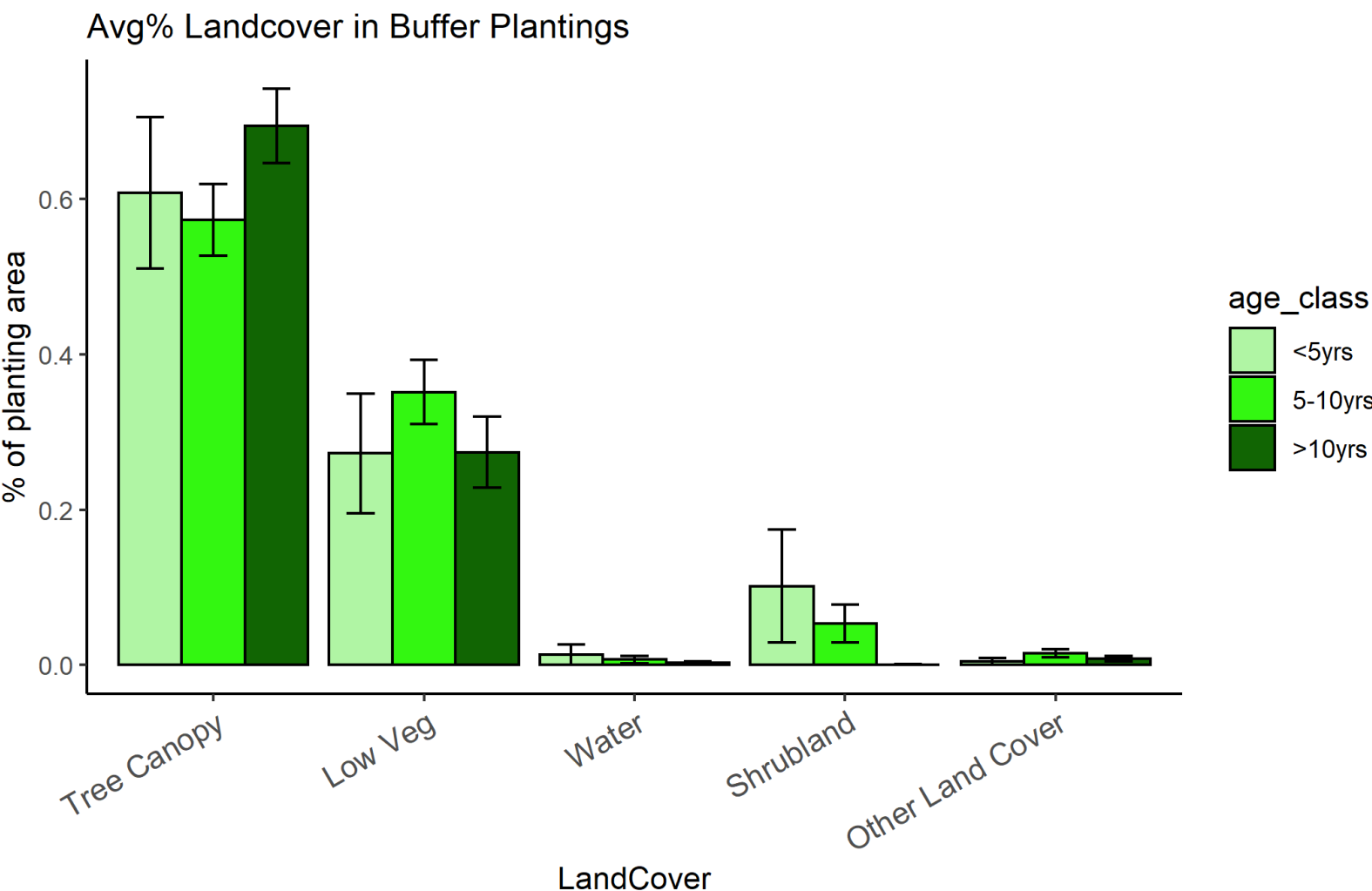
TC in 2013 = 6%
Age 10



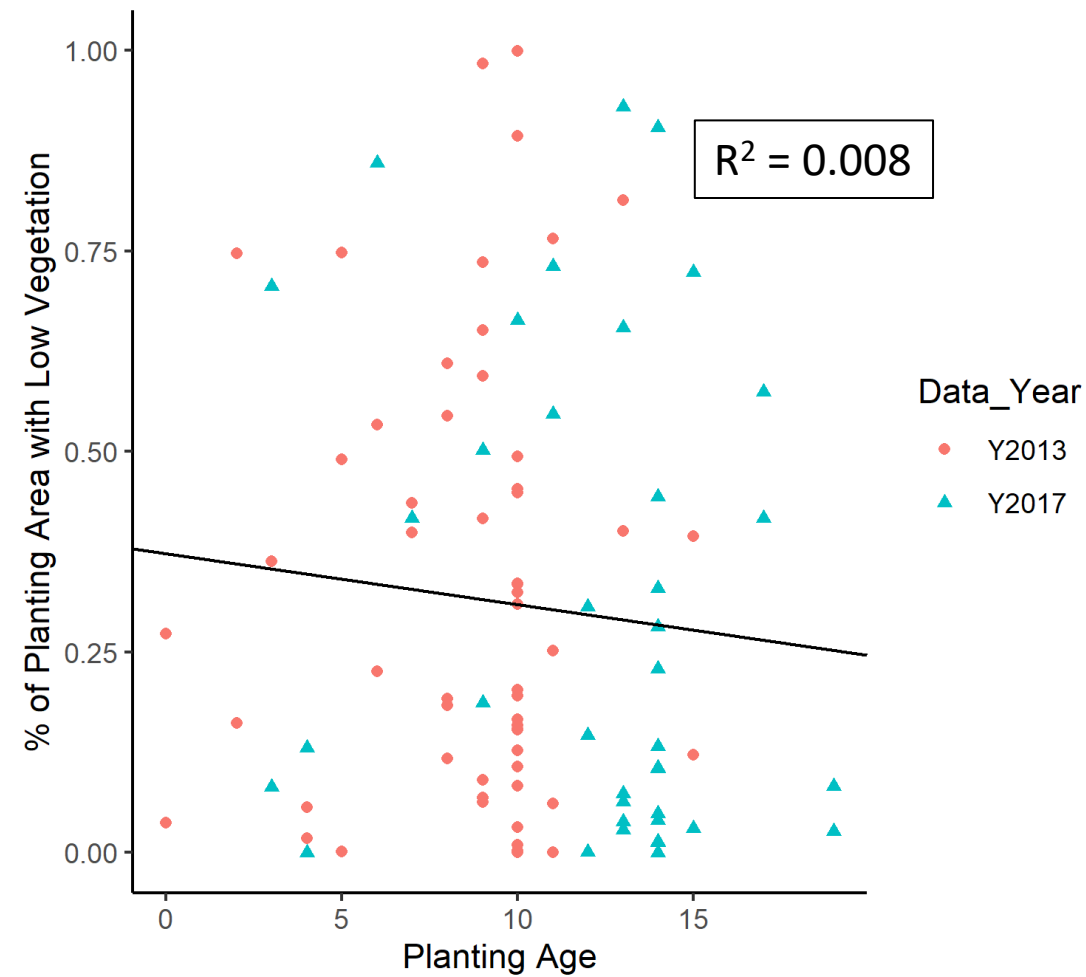
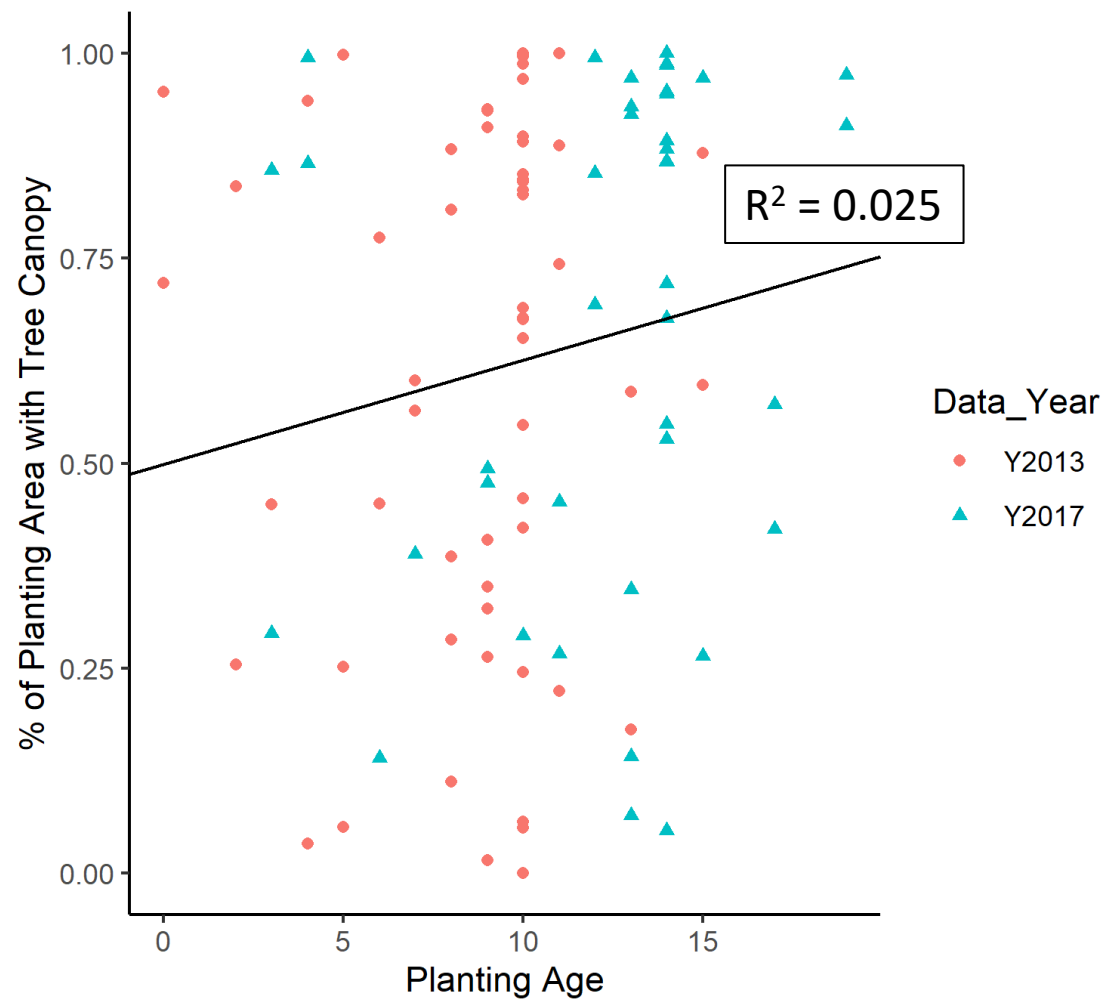
TC in 2017 = 98%
Age 14



Preliminary Results



| LC | Age | Count |
|------|-------|-------|
| Year | Class | |
| 2013 | <5 | 10 |
| | 5-10 | 39 |
| | >10 | 8 |
| 2017 | <5 | 4 |
| | 5-10 | 32 |
| | >10 | 5 |



Issues with Data

- Different regions have different growth rates
- States have different planting practices
 - VA doesn't plant as many pines as MD
- Effect of planting density?
- LiDAR date can differ between states + not match perfectly with date from NAIP imagery
- Sample size low
 - Especially in younger buffers
- Some planting dates are not clear
- Maybe not all parts in buffer shapefile get planted

Next Steps

- Find more planting shapefiles across CBWS
 - Track down planting dates for PA plantings from Penn State Study
- Find shapefiles with plating density
- Compare LC data from 2013 and 2017 on same shapefiles
- Look at imagery
- Compare TC cover in natural vs planted buffers
- Summarize data by region
 - State
 - Physiographic region

A photograph of a calm river or stream flowing through a dense forest. The water is still, acting as a perfect mirror for the surrounding greenery. Tall trees with thick canopies line both banks, their leaves in various shades of green. Sunlight filters through the branches, creating dappled light on the water's surface. A large, leafy branch hangs down from the right side of the frame, partially obscuring the view. The overall atmosphere is peaceful and natural.

Questions?

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