White-tailed Deer and Beech Herbivory

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White-tailed Deer (*Odocoileus virginianus*)

- Currently found in most of the US
- Deer are Ungulates
- Habitat/food generalist (with food preferences
- Known for its characteristic white underside of its tail
- AVG weight of 68-136kg (male) and 40-90kg (female)
- Hight 53-120cm
- Length 95-220cm
- Males have antlers that grow and shed yearly

History

- 1800’s: Extirpated
- 1900’s: Recovered
- 2000’s: Hyper-abundant

Effects of Deer

- Many studies have shown the effects of hyperabundant deer populations on plant communities

Research Question

- How does deer herbivory on beech affect forest vegetation?

Hypothesis

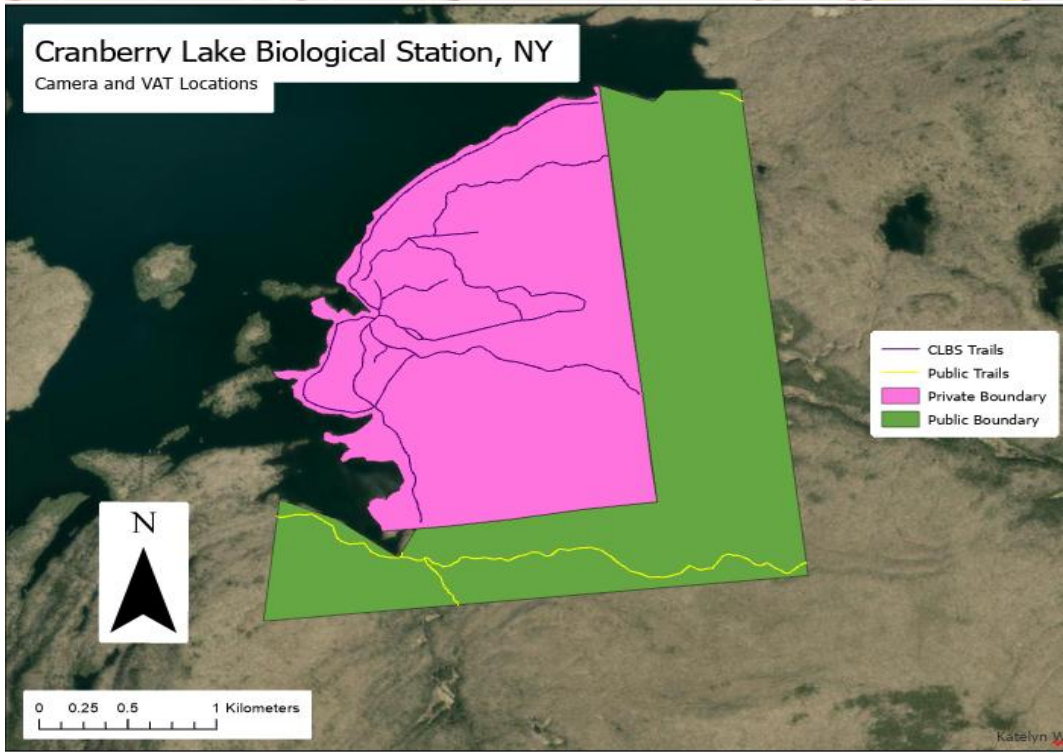
- High deer abundance on private land locally depletes preferred woody browse
- Deer switch to less preferred species like beech
- Deer eat current annual growth of beech, suppress stem development

If my hypothesis is true:

- deer abundance will be higher on CLBS (private) than on surrounding State land (public)
- plots with high levels of browsing on beech sprouts will have a less developed sprout layer

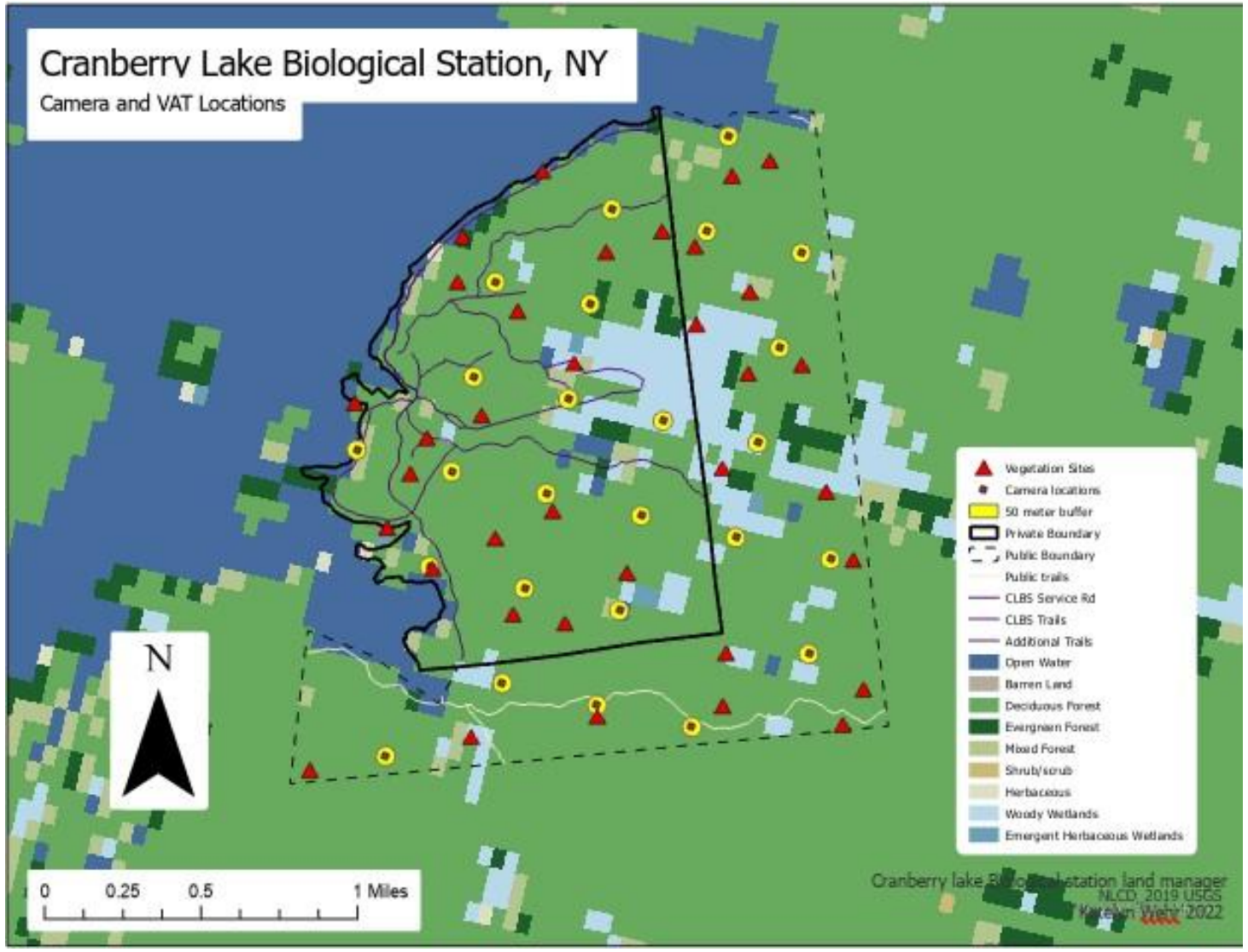
Study Area

- Cranberry Lake Biological Station (CLBS)
  - SUNY ESF satellite campus
  - Hosts students in the summer months
  - No hunting
- Surrounding state-owned public land
  - Hunting
  - Public recreation
- Both classified as northern hardwood forest
  - Beech/yellow birch/sugar maple



Methods

- Pellet Transects
  - Relative deer abundance on each property
- Beech browse transects
  - Assessing deer herbivory between units



Pellet Transects

- Conducted at 34 randomly selected points
- At least 250 meters apart
- Counts pellet groups within one meter of transect line

Beech Browse Transects

- Conducted at pellet transect points
- Limit 40 beech sprouts or 100 meters

Conclusions

- Locally
  - Affects deer and forest management decisions on CLBS
  - Preserve vegetation diversity for future education
- Broadly
  - Deer are overabundant nearly everywhere