

Eastern National Parks Protect Regionally Significant Older Forest Habitat

Camilla E. Seirup, Kate M. Miller, Aaron S. Weed
National Park Service – Northeast Temperate Network, P.O. Box 177, Bar Harbor, ME 04609

Premise:

Forests in national parks are protected from logging unlike the vast majority of the Northeast.

Question: Are park forests structurally different than surrounding forests? **Yes!**

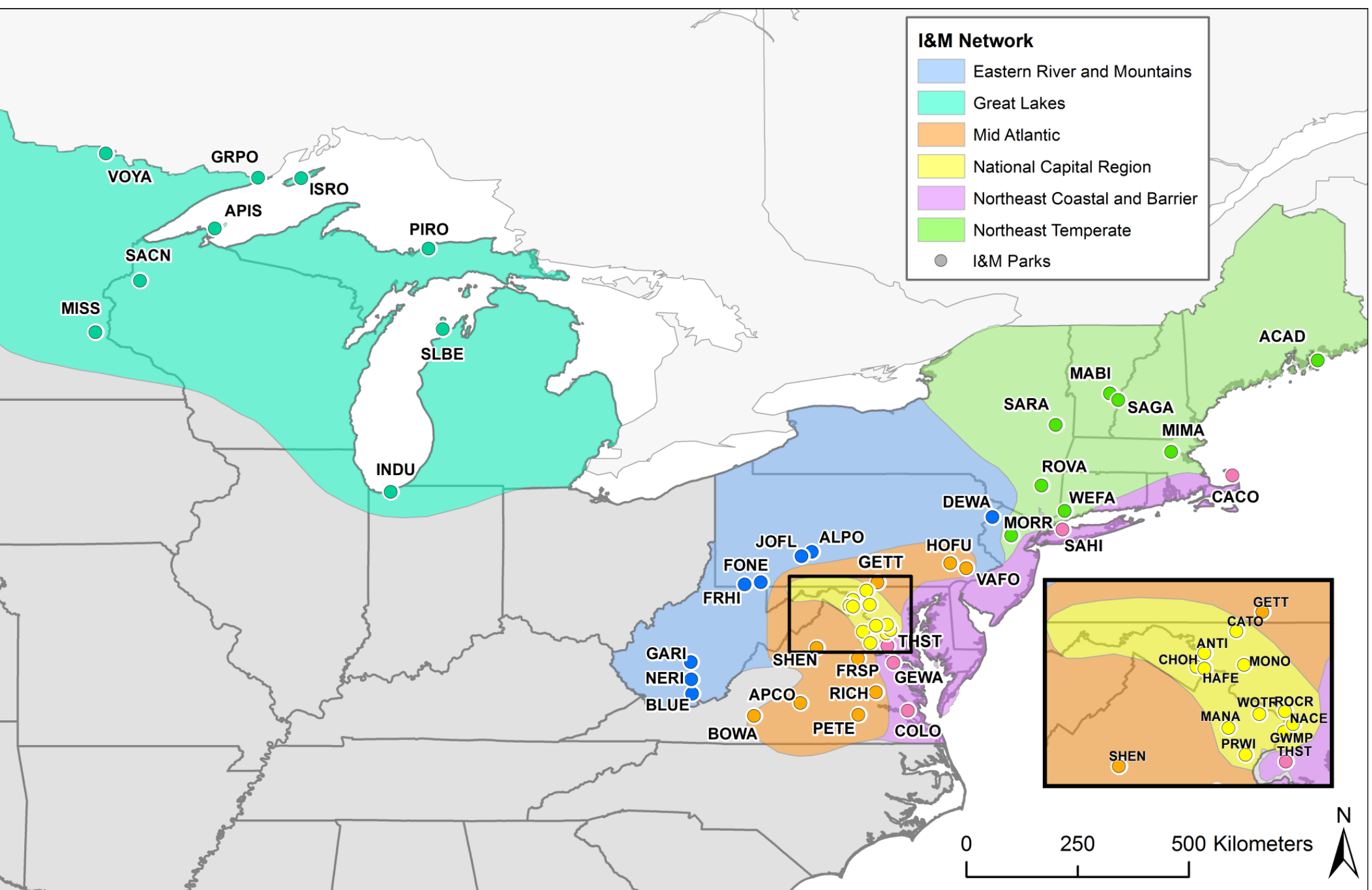


Figure 1. Map of national parks and I&M networks that were included in this study.

What we used:

- 50 national parks
- Surrounding forestlands across 15 states
- 25,000 permanent forest plots
 - 2,000+ from NPS I&M
 - 22,500+ from USFS FIA
- 10+ years of data collection

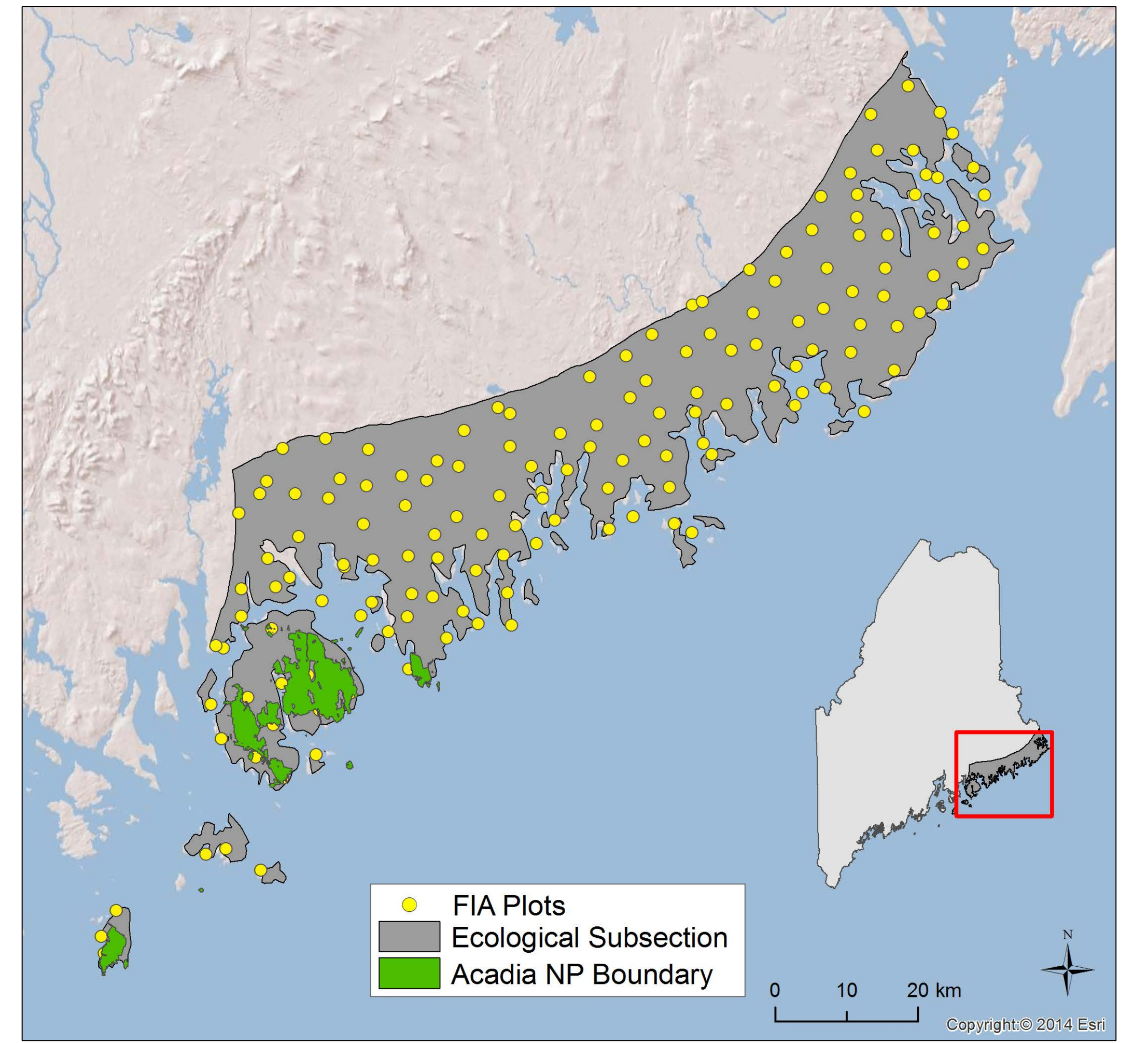


Figure 2. Park and surrounding forestland comparison for Acadia NP.

How are they different?

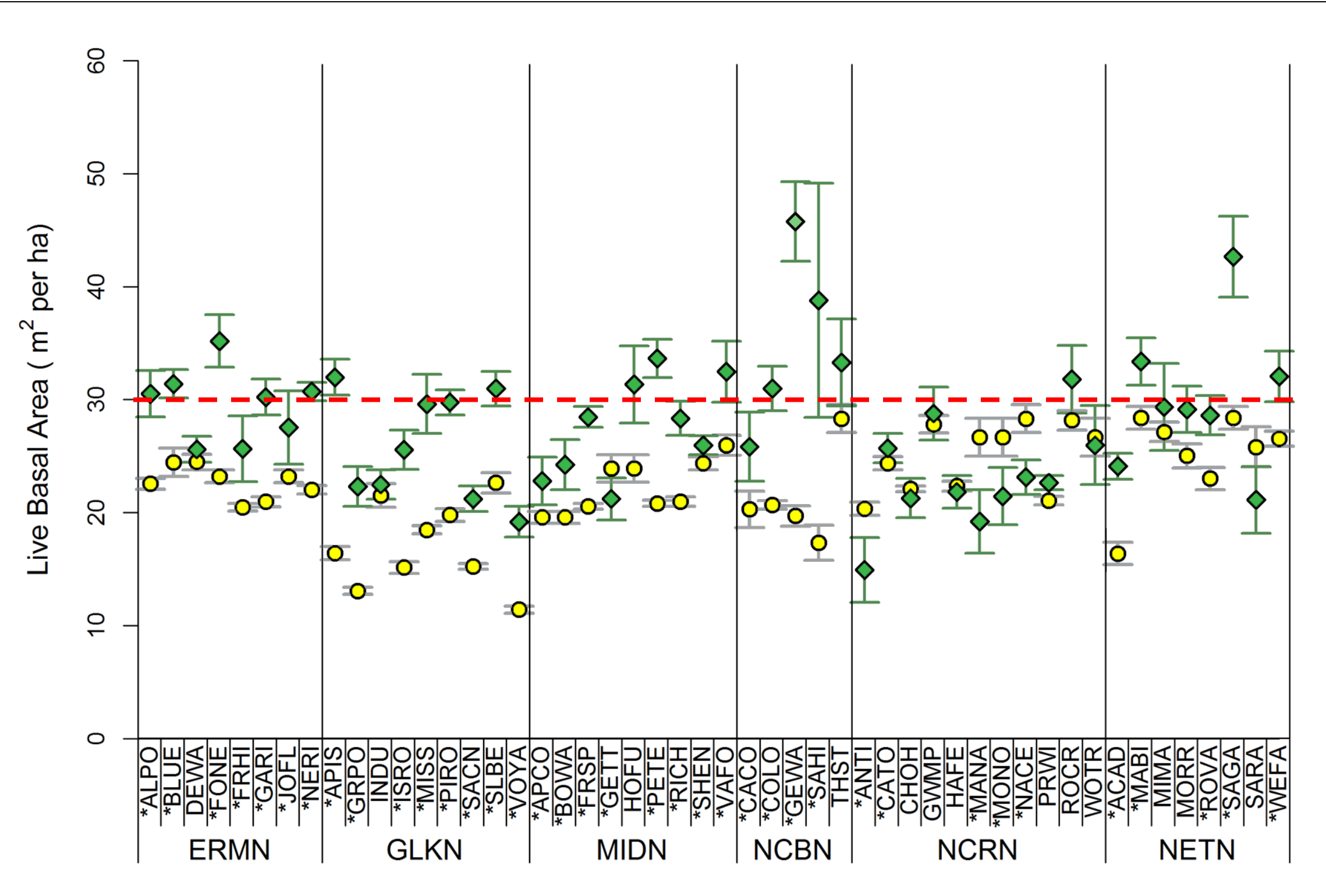


Figure 3. Mean live basal area (m²/ha).

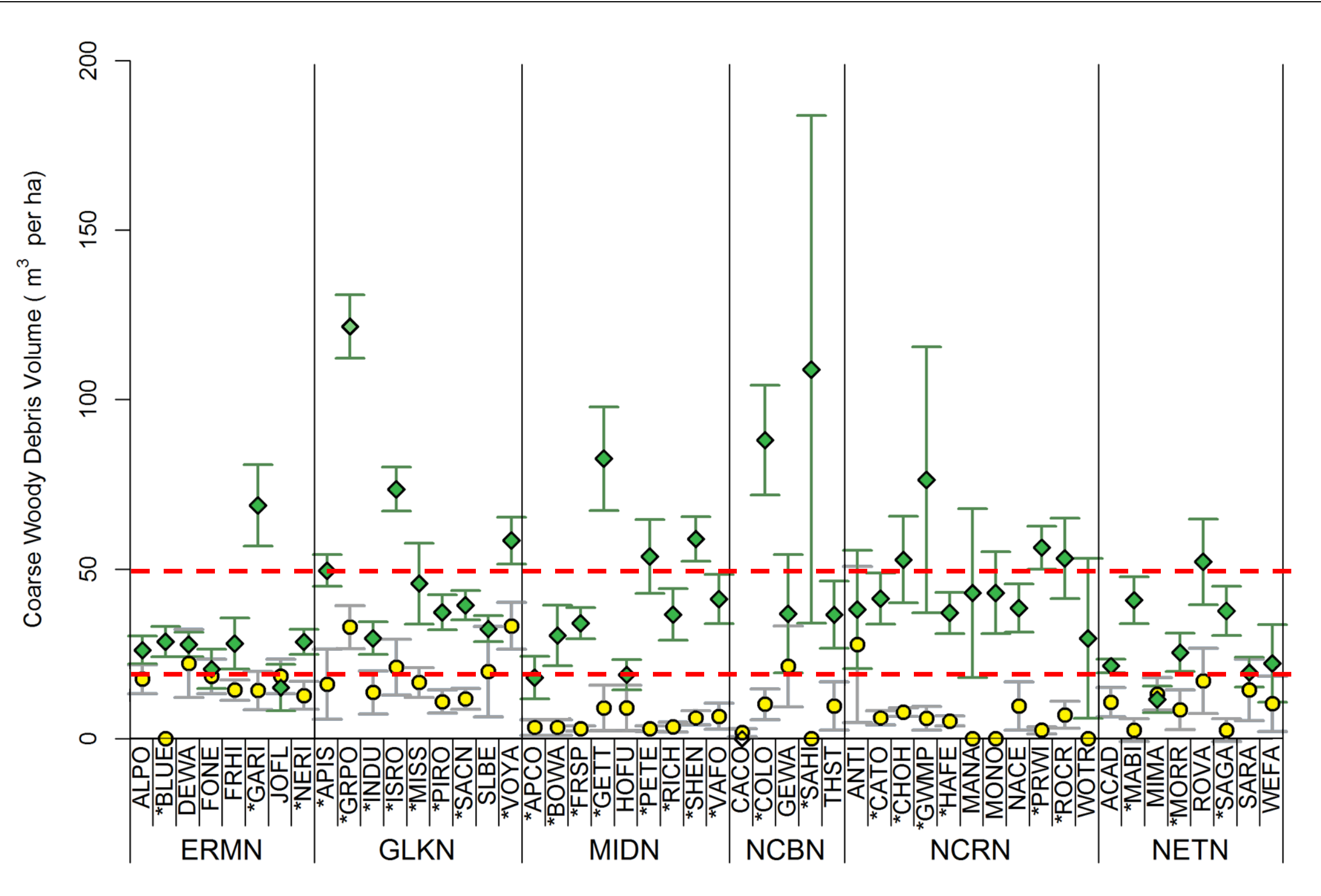


Figure 4. Down and dead wood volume (m³/ha)

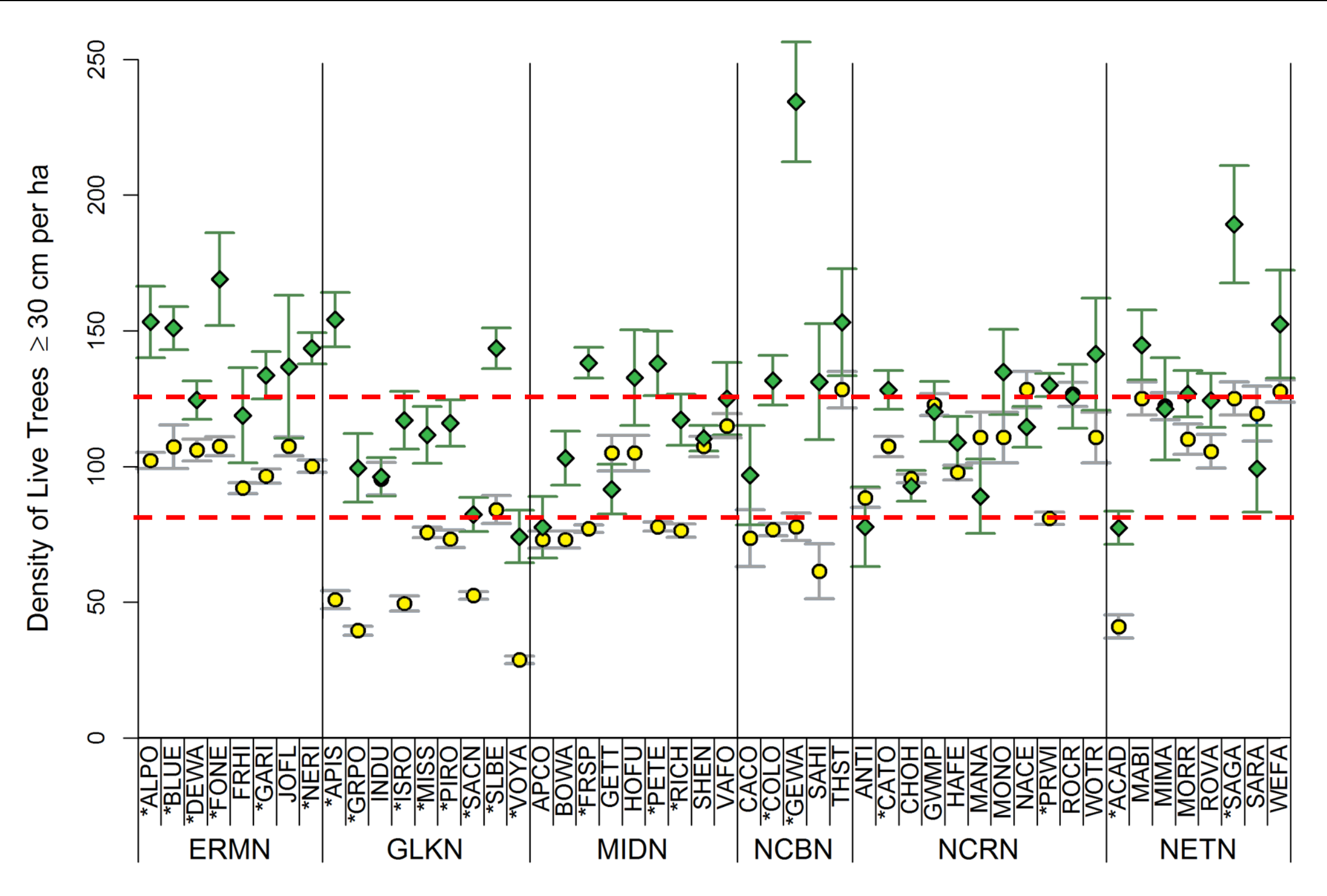


Figure 5. Density of live trees ≥30cm DBH per ha.
* Represents a significant difference at p<0.05
Parks represented by green diamonds.

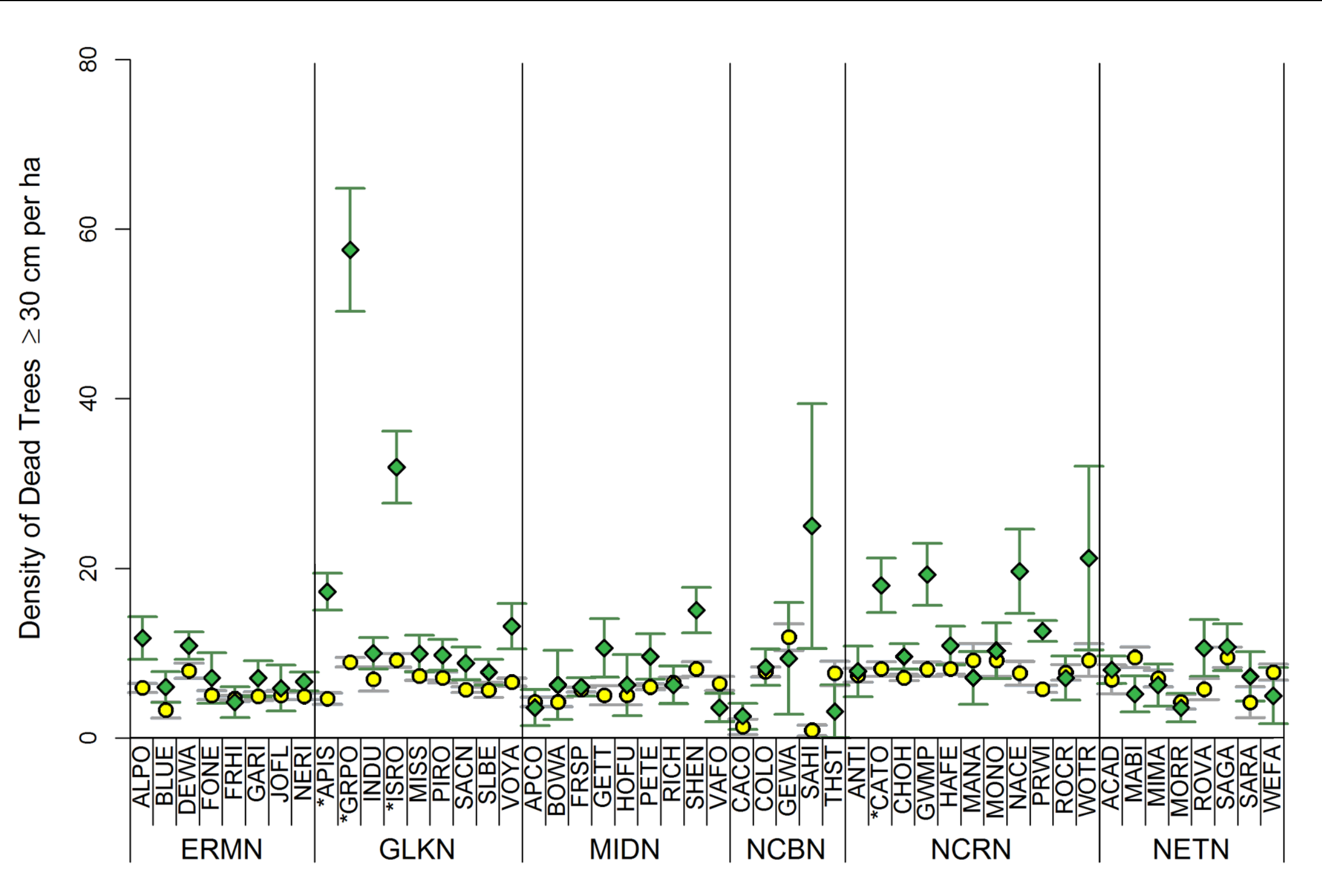


Figure 6. Density of dead trees ≥30cm DBH per ha.
--- Indicates an ecological threshold
Surrounding forest represented by yellow circles.

- **Parks consistently had more complex forest structure typical of older forests.**
- **Park forests often met ecological thresholds for organisms dependent on older structure that surrounding forests failed to meet.**



Down wood and dead standing trees are critical forest habitat for many organisms, including birds, saproxylic beetles, lichens, amphibians, fungi, small mammals, and tree seedlings.

The Takeaway:

- Park forests are regionally important.
- Let natural disturbances occur.
- Messy forests are healthy forests!

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For more information:

NETN forest health monitoring website:
<http://go.nps.gov/NETNforest>
Link to full article from Ecosphere journal:
<http://onlinelibrary.wiley.com/doi/10.1002/ecs2.1404/full>