



Are herbs sensitive to NxP addition?

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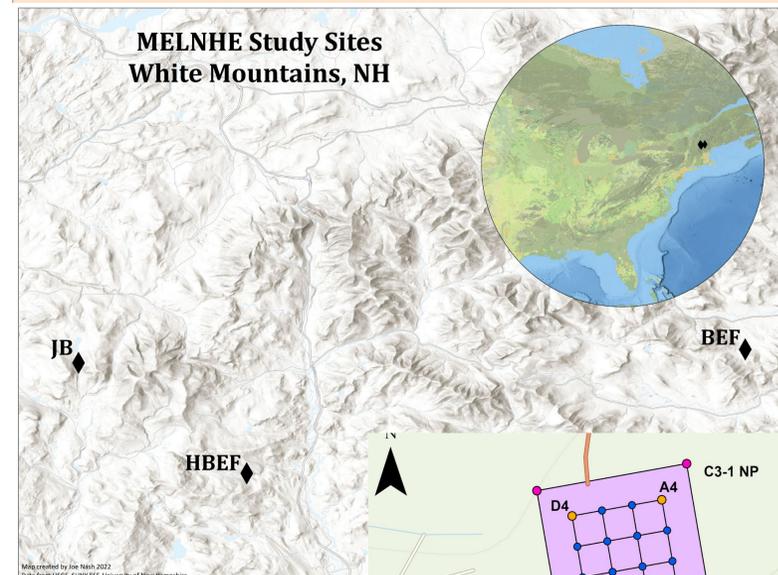
Why herbs and nutrient addition?

- Herbaceous plants support macrofauna and microbial communities, and contribute to forest diversity.
- The long-term effects of nitrogen (N) on herb communities is well-documented, but what about phosphorus (P) or combined N+P?

Multiple Element Limitation in Northern Hardwood Ecosystems (MELNHE) Study

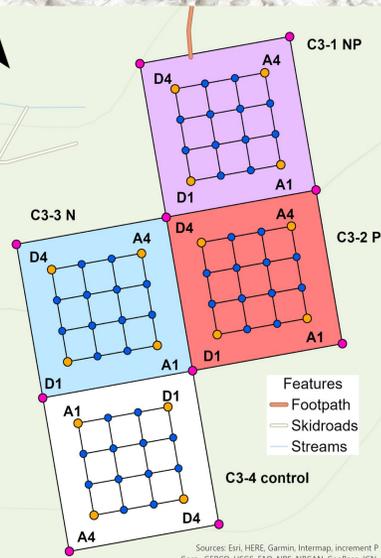
- 10 forests stands at 3 sites in the White Mountains of New Hampshire
- Each plot is assigned a control, N, P, or N+P treatment.

MELNHE Study Sites White Mountains, NH



Top: Location of 3 sites (Nash 2022)

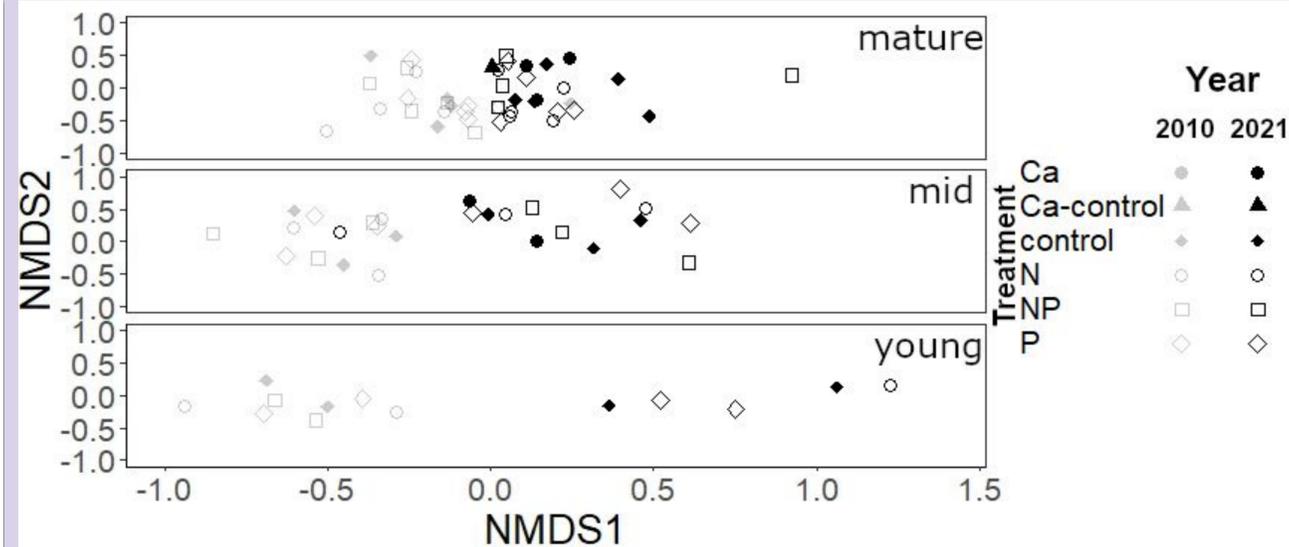
Right: Plot layout of nutrient additions



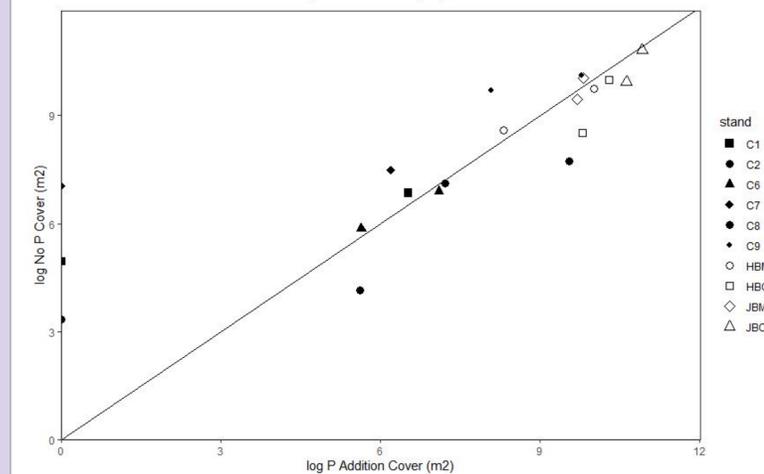
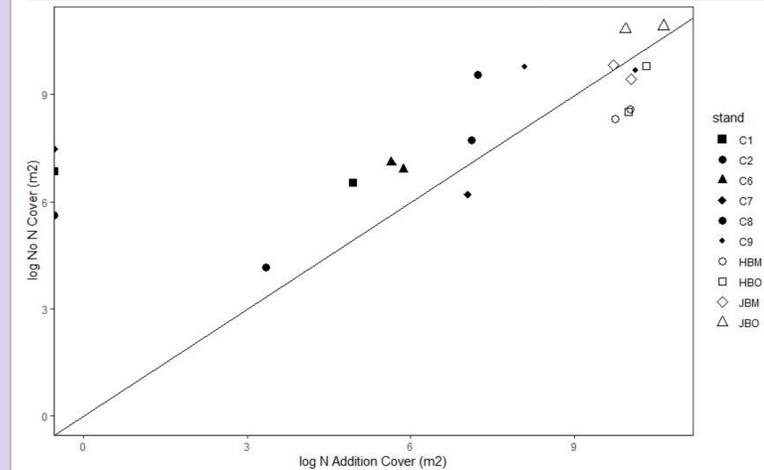
What I did:

- Resurveyed 2500 1-m² quadrats after 11 years of NxP fertilization.
- I looked at herb plant species richness, cover, and abundance.

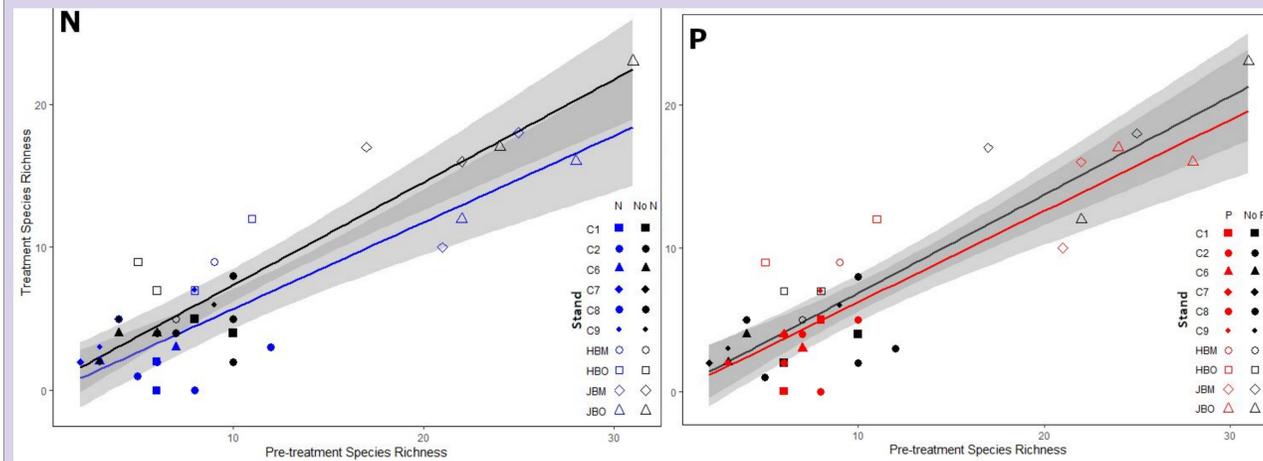
Herb communities differed by stand age and site



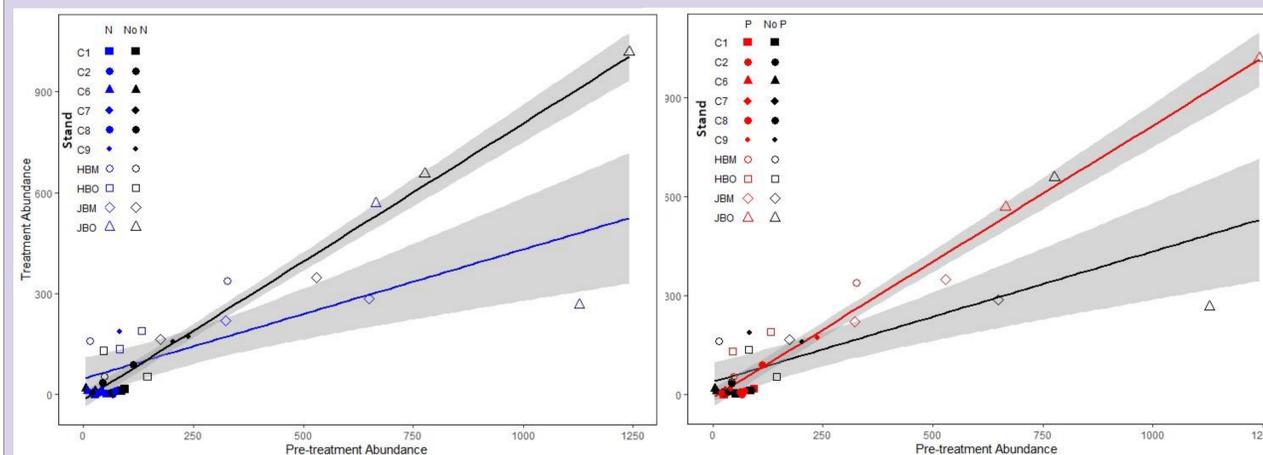
Cover was not sensitive to N or P addition, but varies by site



Fewer species were observed with N addition, but no effects were detected with P addition



Abundance was not sensitive to N or P addition



Conclusions

- Our results were consistent with other studies: N addition decreases species richness
- Cover and abundance were not sensitive to nutrient addition
- Herb communities varied by year

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