The Un-frog-ettable Microhabitats of Northeastern Amphibians: Rural to Urban Gradients

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Goals & Hypothesis

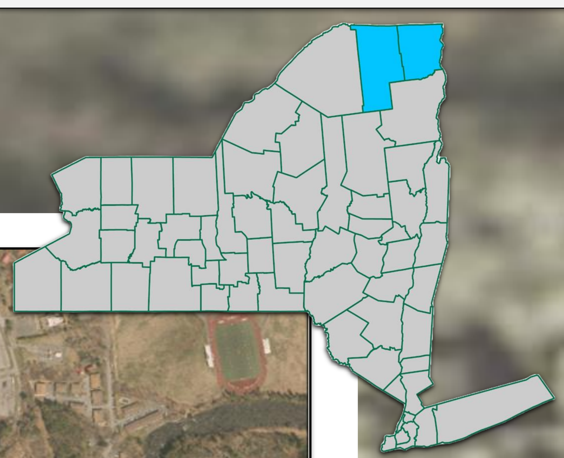
Goals

- Assess how land-cover types including urbanization (Rugar Woods), agriculture (Riley Brook), and forest management (Paul Smiths) affect herpetofaunal species diversity patterns.
- Compare herpetofaunal microhabitat preferences across sites.

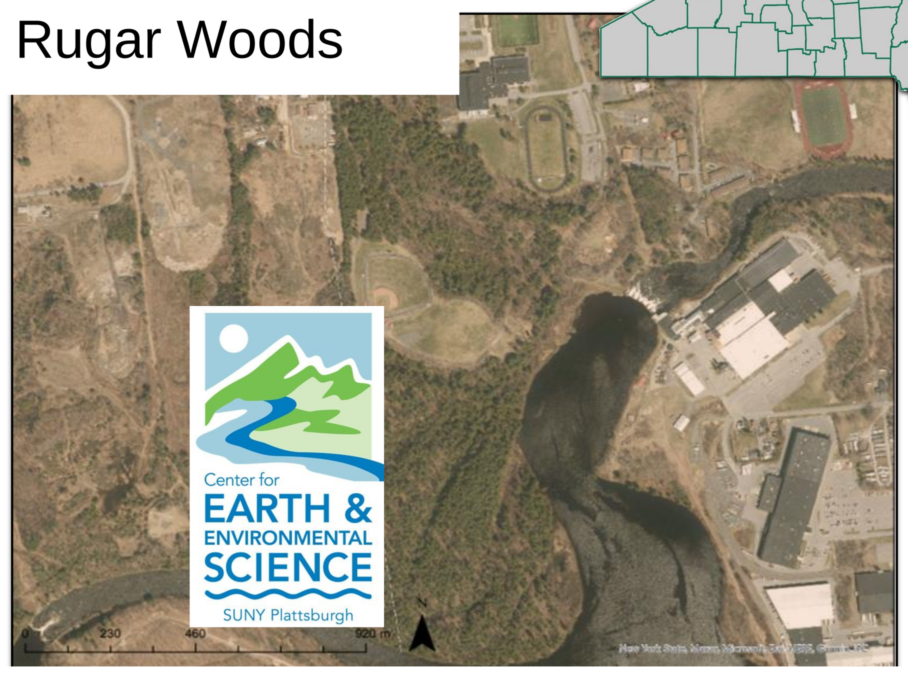
Hypothesis

- Amphibians would prefer warm and moist microhabitats, especially under logs.
- Paul Smiths control site will have the most abundant and diverse community.

Study Sites



Rugar Woods



Riley Brook

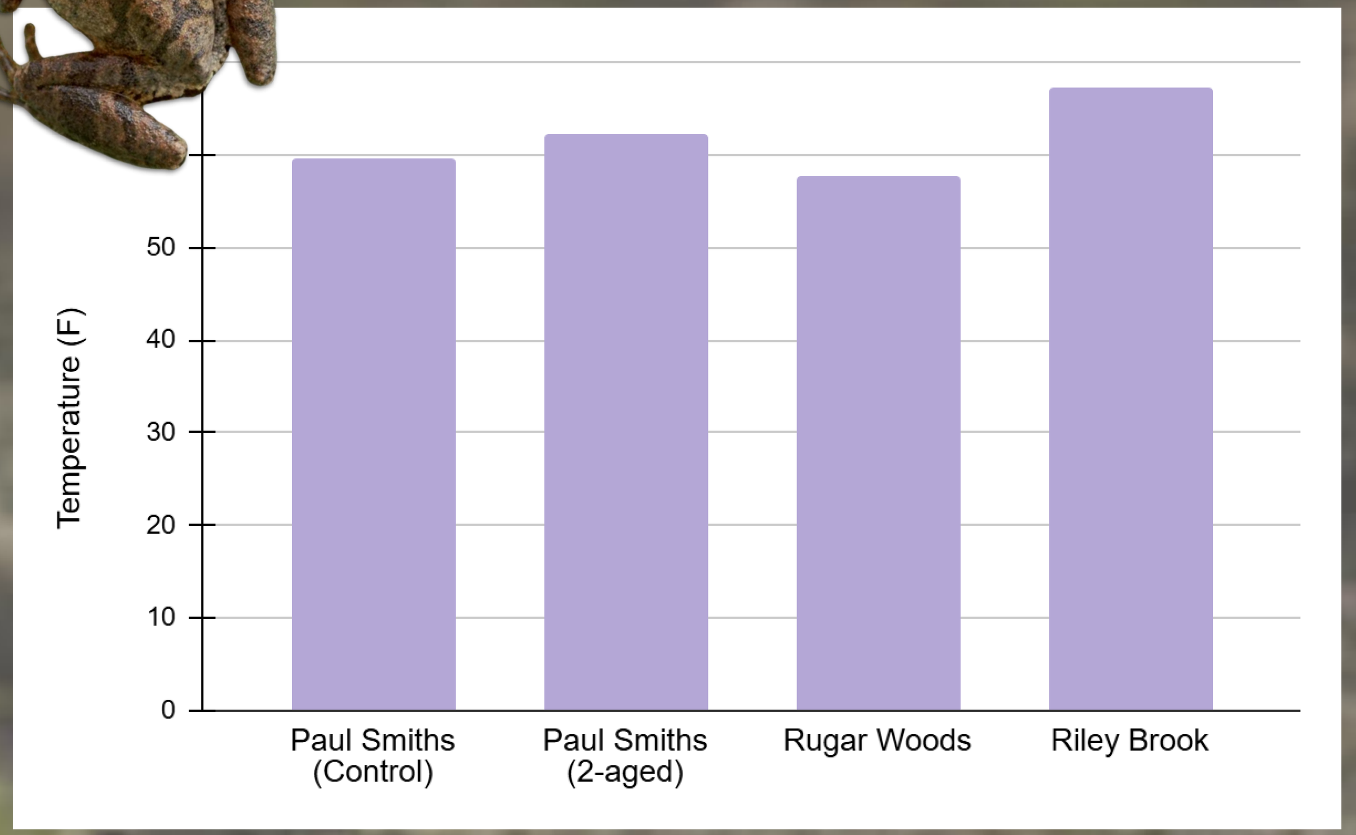
Paul Smiths

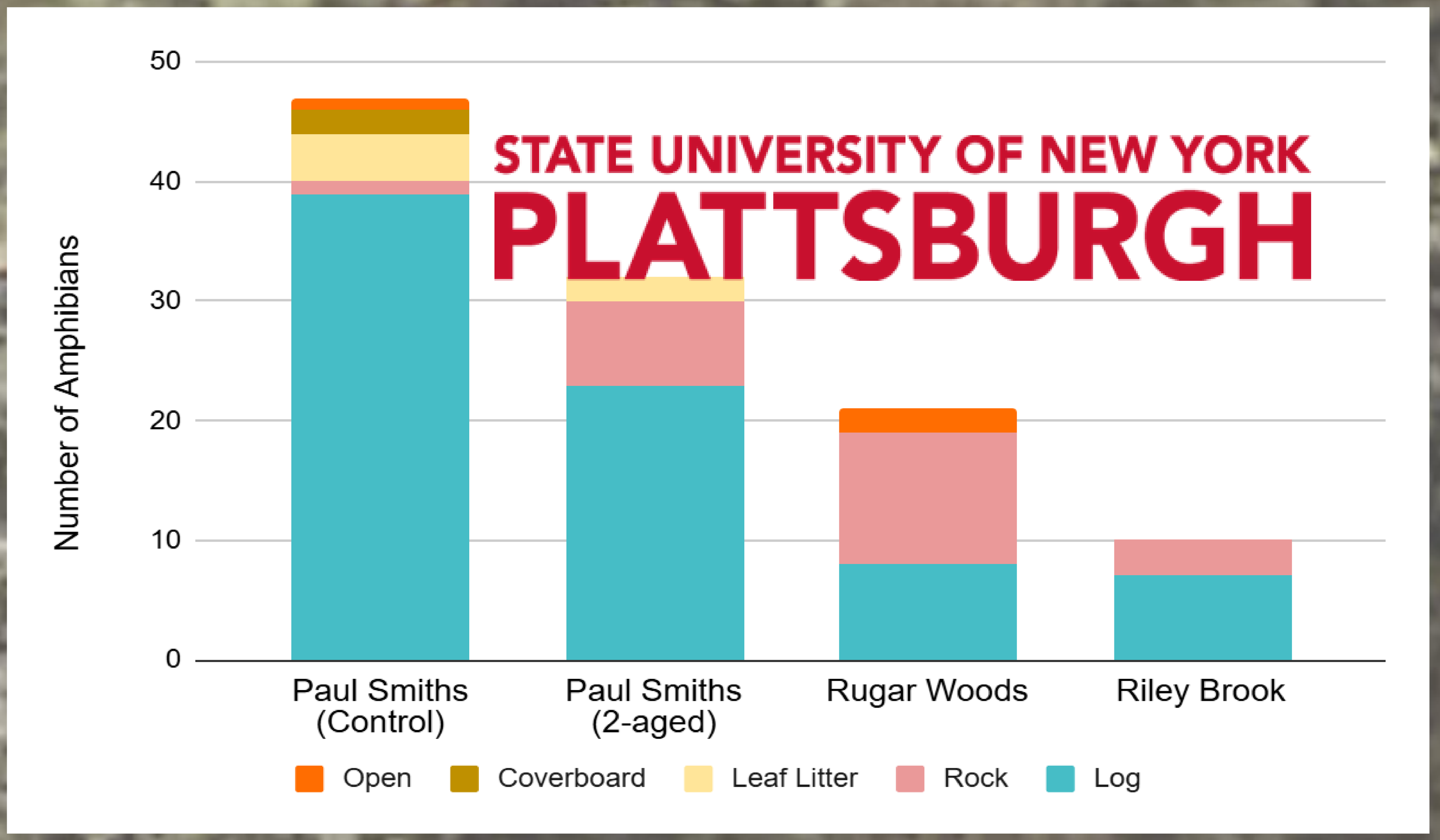
Scan Me!

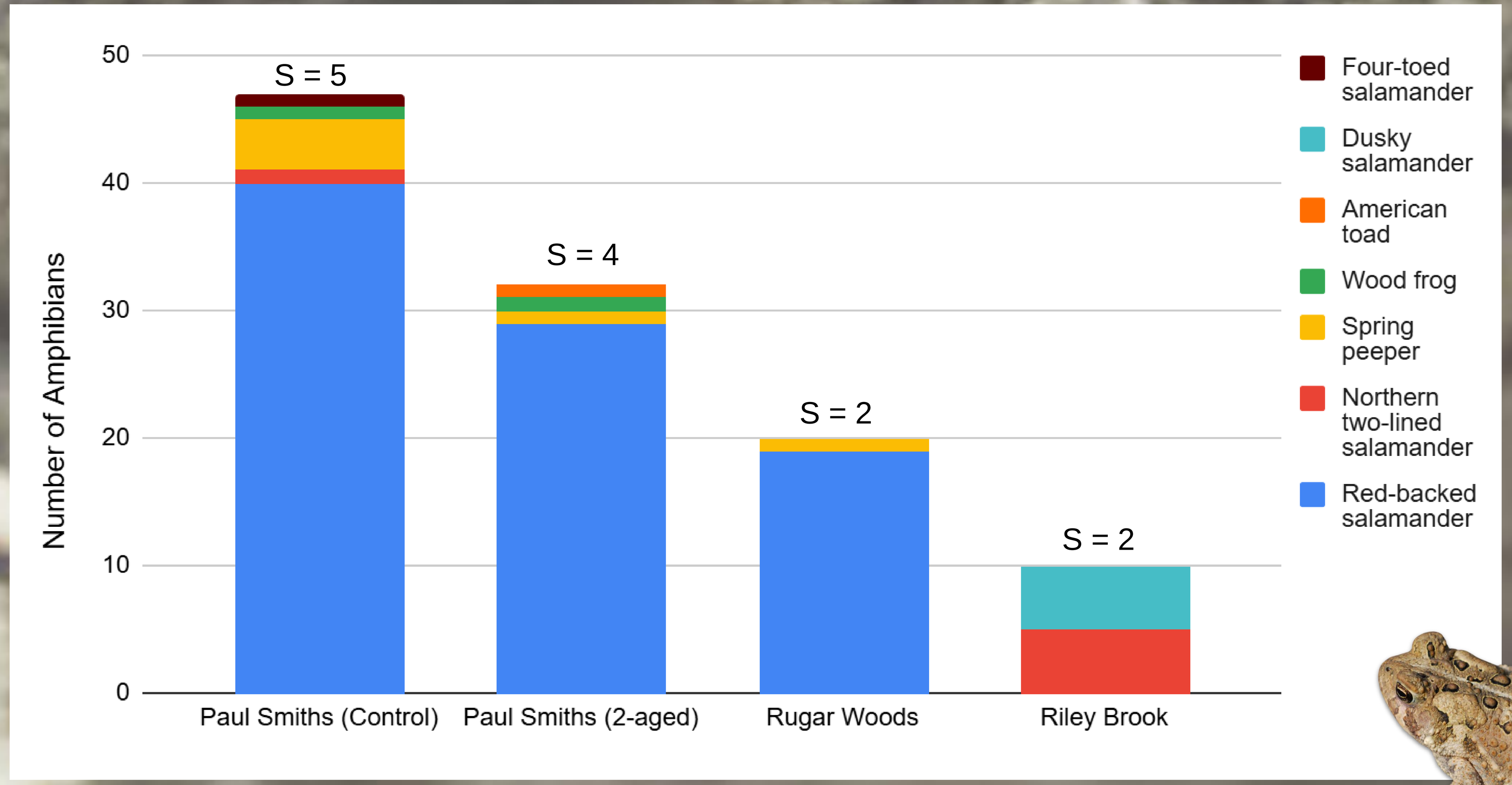
Methods

Results

- Red-backed salamanders were the species most common (n=88) at all sites.
- Dusky salamanders were only found along stream habitat.
- Four-toed salamanders were only found intact forest.
- Coarse woody debris, common in silvicultural sites, was a good predictor of herpetofauna abundance and diversity.
- Rocks were more important habitat at Rugar Woods site.
- Coverboards (pressure-treated wood) were not ideal microhabitat for amphibians.
- Red-backed salamanders were significantly larger at the urban forest.
- Soil temperature at points of capture were similar across sites.







Conclusion & Take Homes

- Plethodontid salamanders are indicator species in relation to forest health.
- An undisturbed, dense canopy site has the greatest herpetofauna diversity.
- Amphibians prefer moist, dense cover material such as coarse woody debris.
- The four-toed salamander, unique to Paul Smiths Control, is a *Species of Moderate Conservation Concern* in New York State.
- Monitoring herpetofaunal diversity and abundance is a surrogate for forest health.
- Amphibians hold important ecological roles and populations are rapidly declining due to development and cli, disease, and climate change.

Acknowledgements

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