

The Effects of *Vicia villosa* Invasion on Plant-Pollinator Interactions

A photograph of a field of yellow flowers, likely a species of daisy or similar, with green foliage. A purple oval with a white border is overlaid on the lower half of the image, containing white text. The text provides the name of the researcher, her affiliation, and contact information.

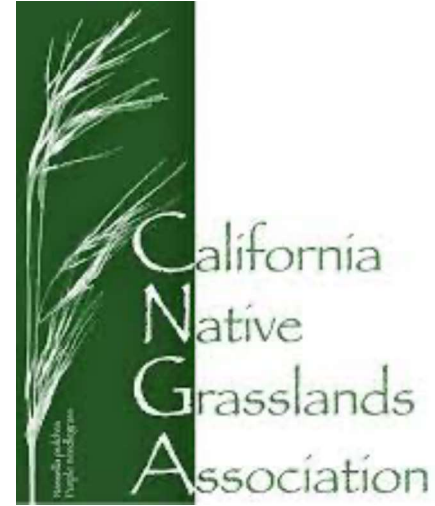
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& Fernanda Valdovinos

Acknowledgements

For thousands of years, the land where this study took place has been the home of Patwin and Miwok peoples. **Full land acknowledgment** at:
<https://politicaecologylab.ucdavis.edu/uc-davis-pe-lab-land-acknowledgement>

Thank you to Prof. Susan Harrison, Prof. Fernanda Valdovinos, Marina LaForgia, Cathy Koehler, Paul Aigner, Ben Amann and the McLaughlin Reserve for their support. Thank to Bitu Rostami, Alexis Grana, Isabel Mendoza, Nat Walts, Rebekah Shane, and Kyle Bianchi for assistance in the field.

Photos taken by Becca Nelson unless otherwise noted.



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Cross-boundary effects

Scherer-Lorenzen, et al. 2022
TREE, Artz and Waddington 2006
Journal of Ecology

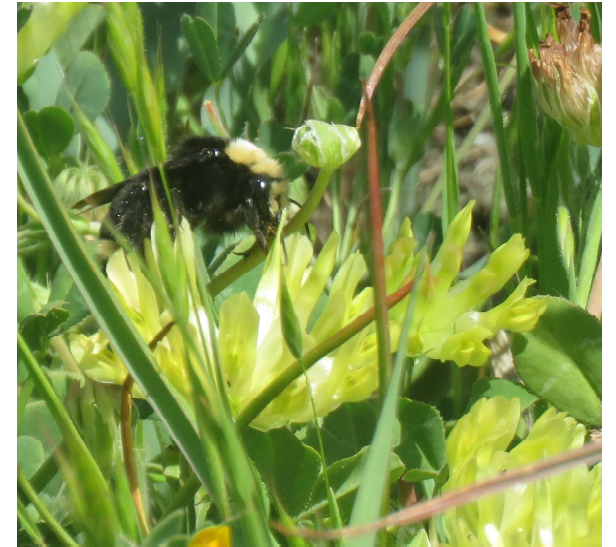


2. How does proximity to invasive vetch at a community boundary affect plant-pollinator interactions within native-dominated serpentine grasslands?

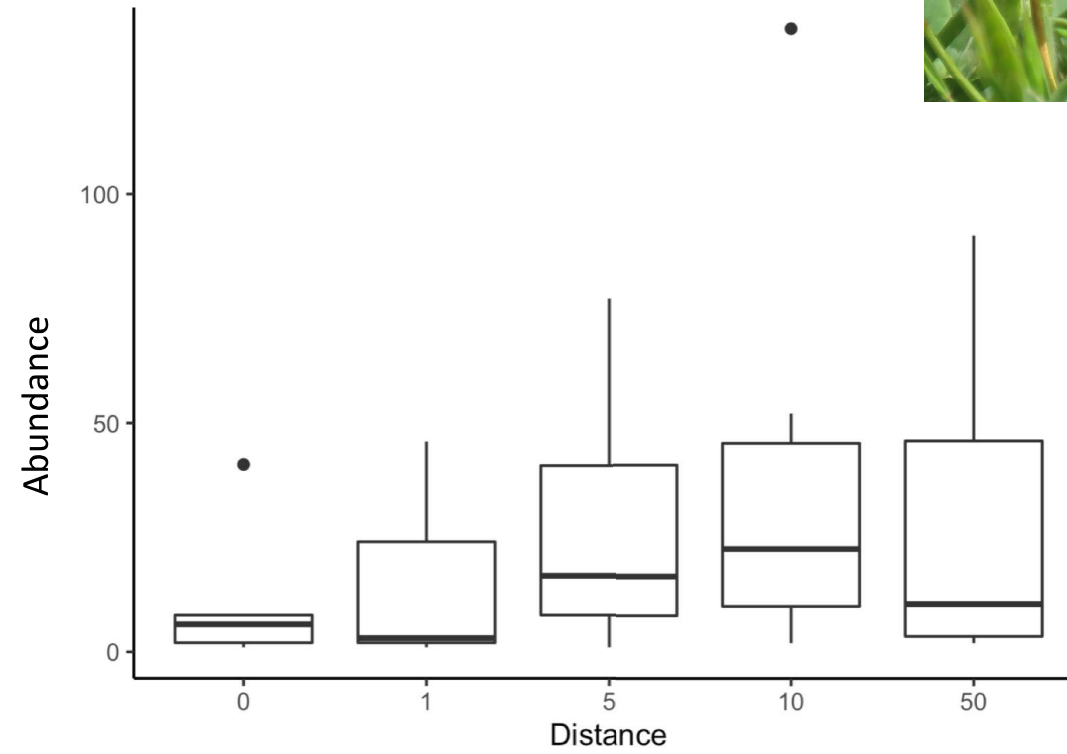
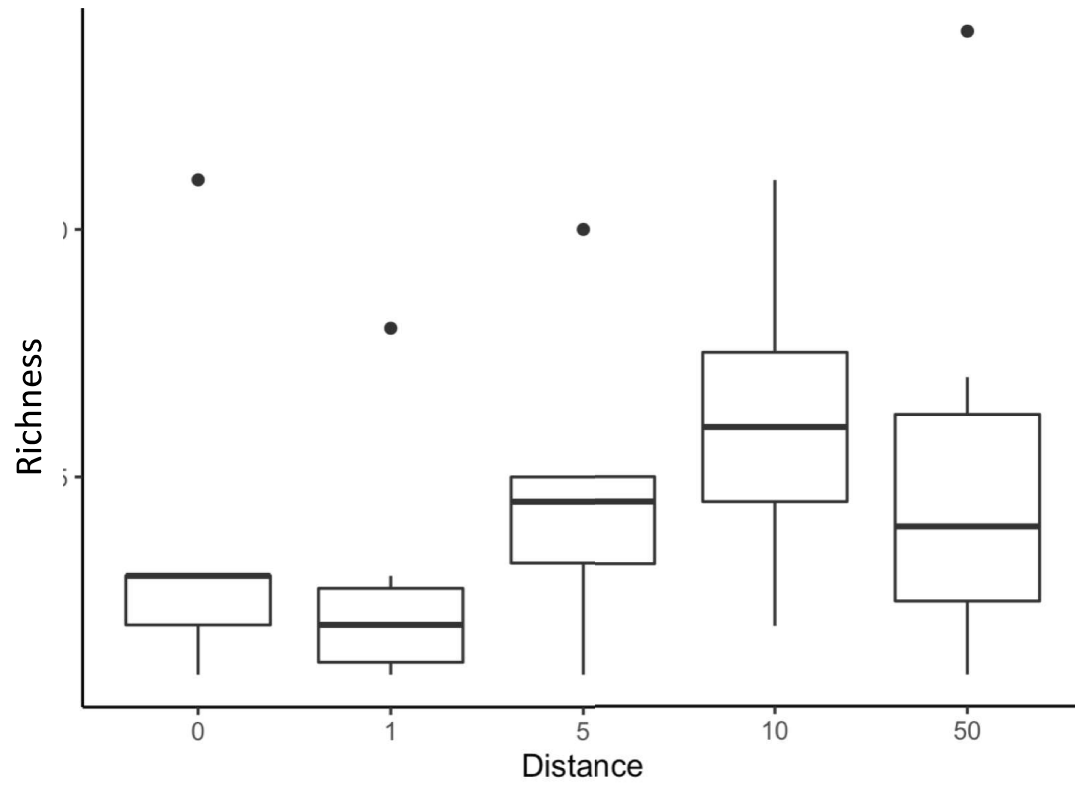
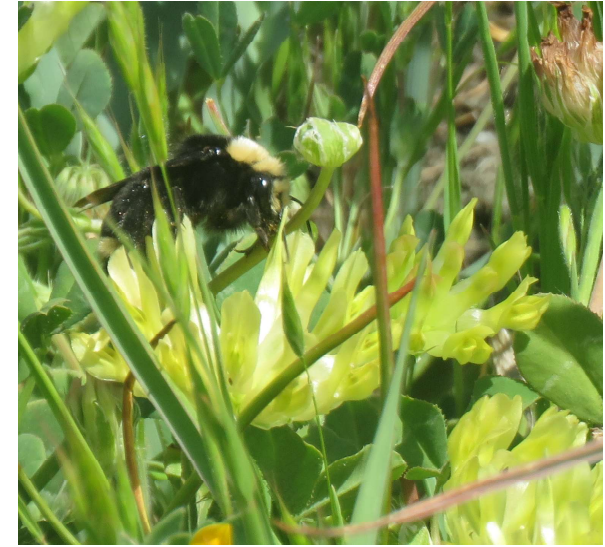


Methods

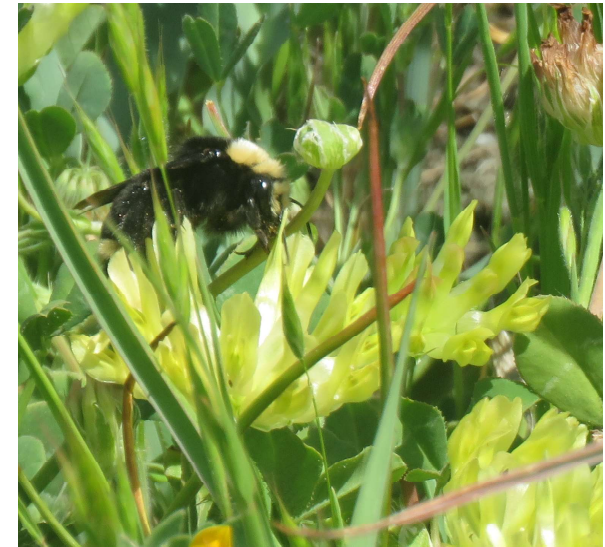
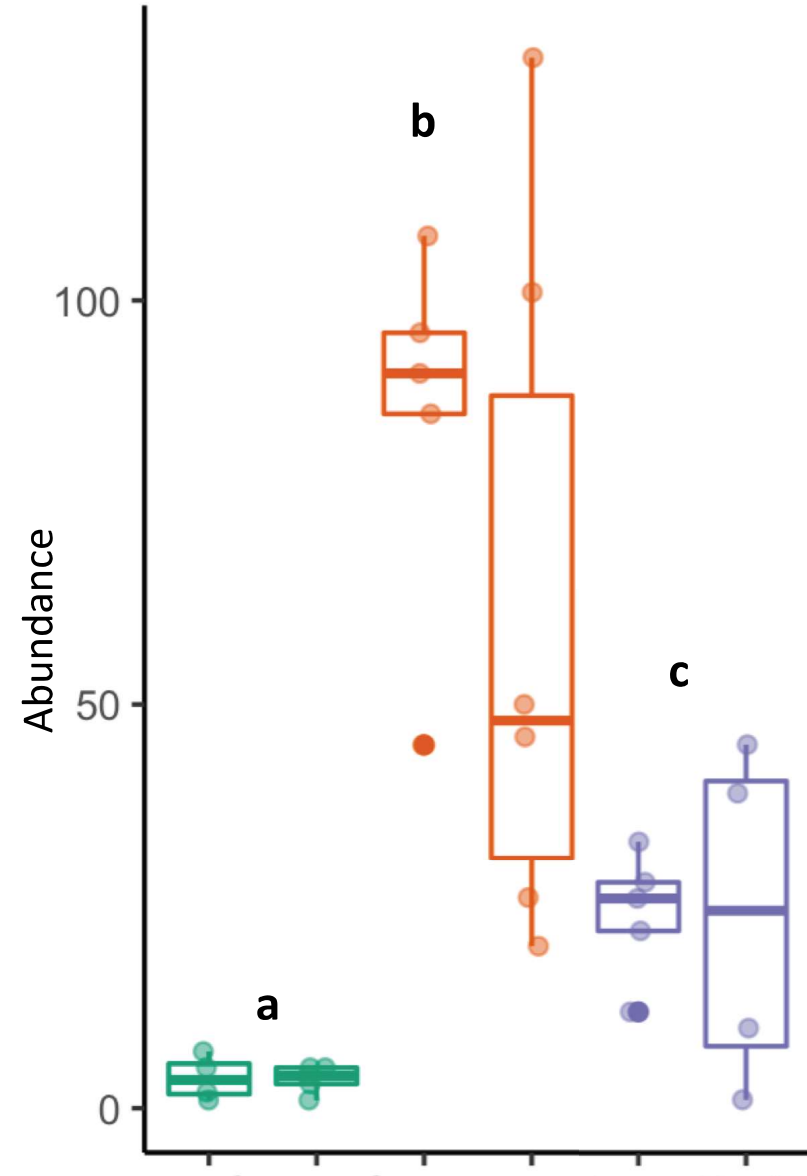
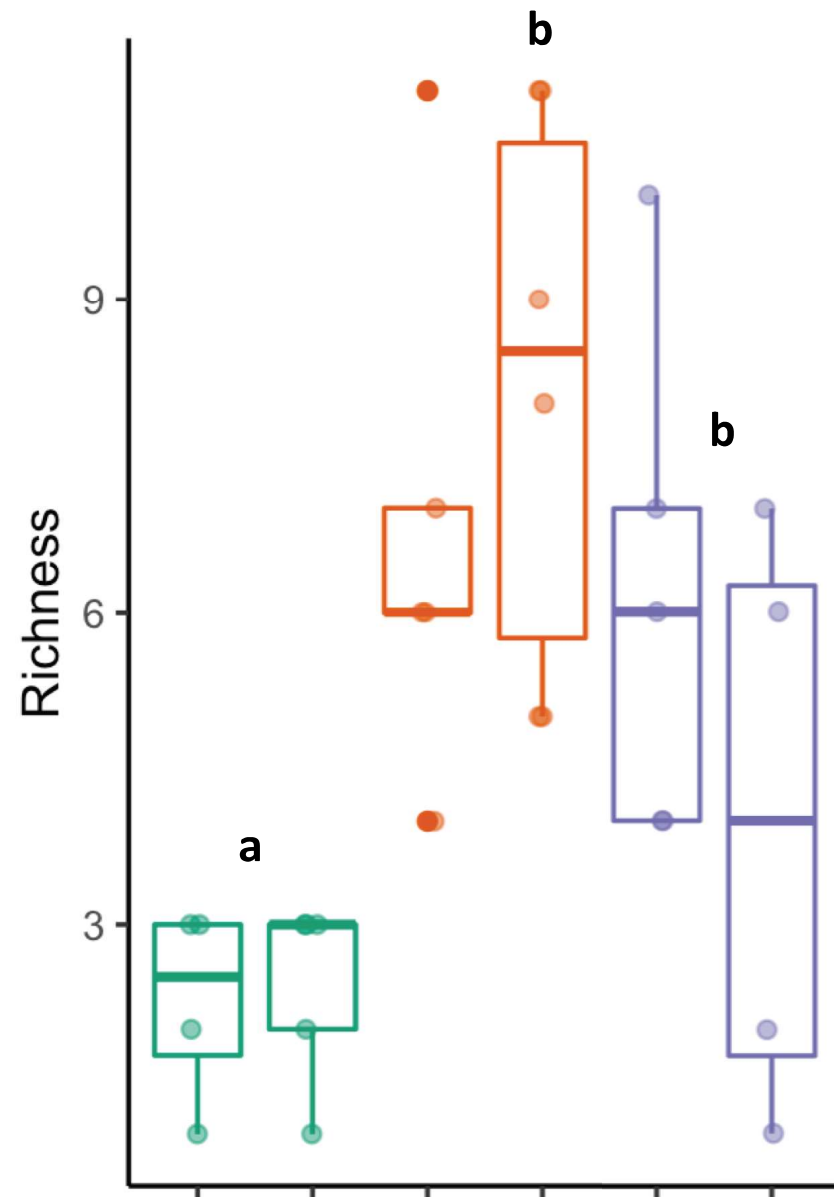
- Observational study of Bull Clover (*Trifolium fucatum*) floral visitation at 0, 1, 5, 10, and 50 m from Hairy Vetch (*Vicia villosa*) at 6 meadows spanning an invasion gradient
- Recorded community-level plant-pollinator interactions and floral abundances for the same 6 meadows to generate networks
- Mixed effects models and network z-scores



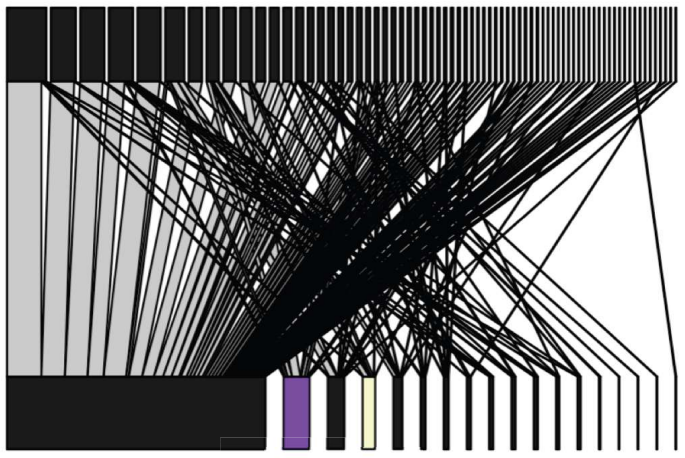
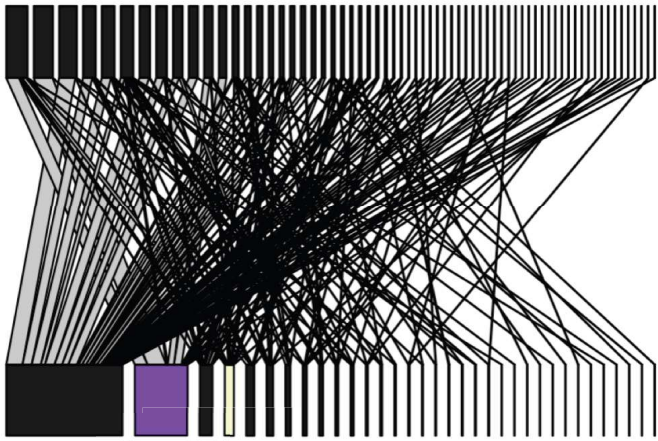
Within-meadow Effects



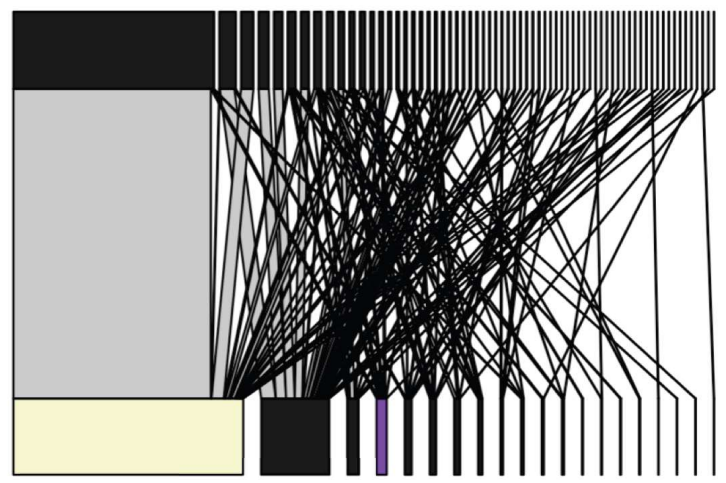
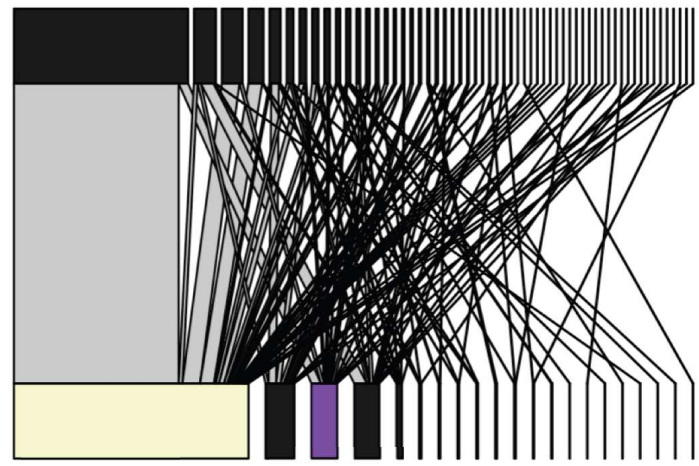
Vetch Invasion Gradient



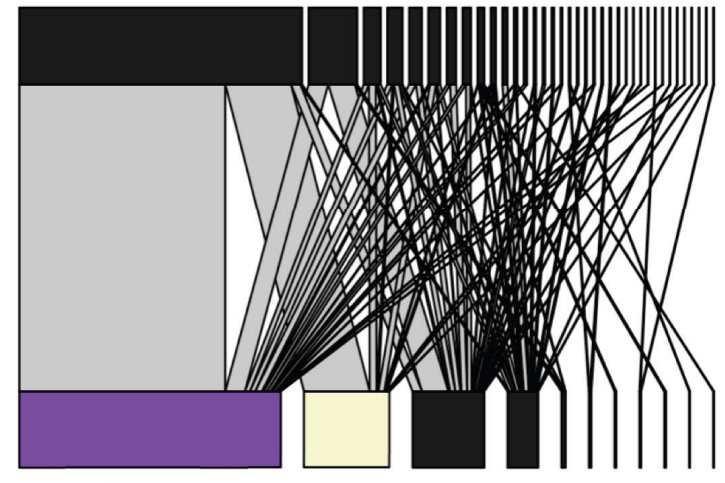
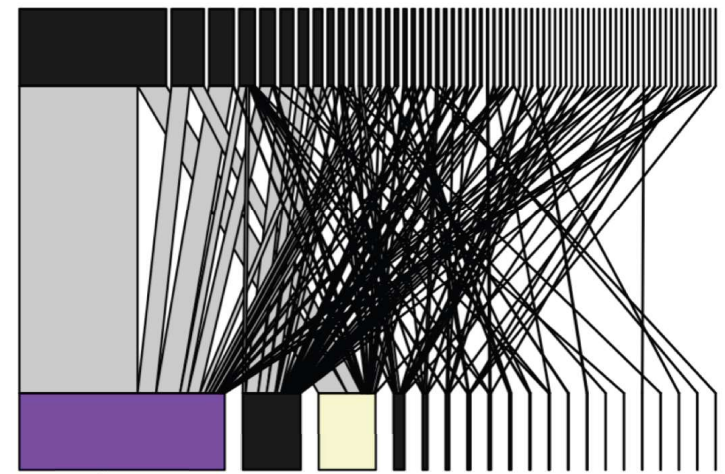
Low Invasion



Medium Invasion



High Invasion



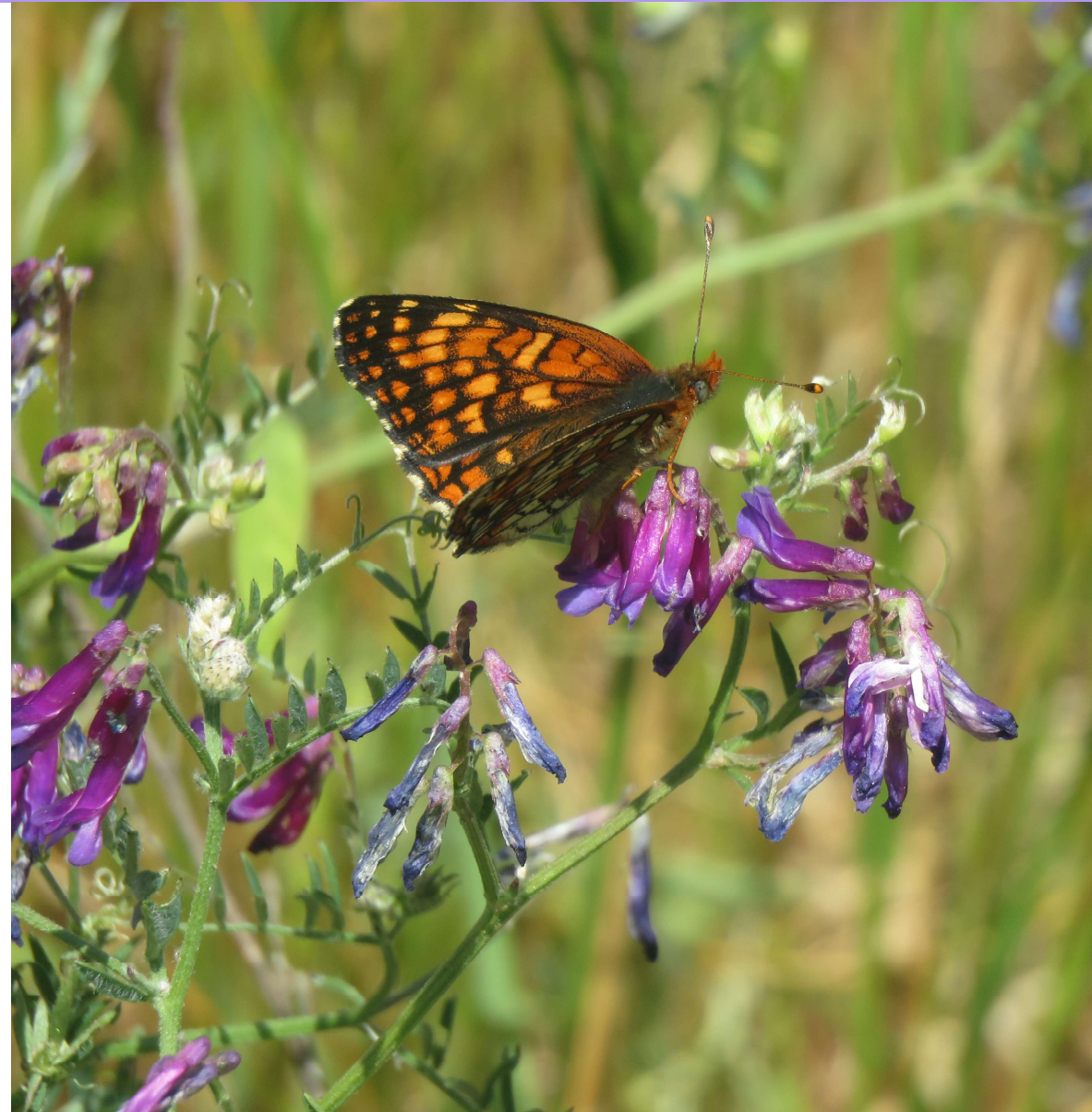
Summary

- Between meadow distance effects were stronger than within meadow effects.
- Pollinator richness and abundance peaked at medium invasion intensities.
- At high invasion levels, Hairy Vetch replaced Bull Clover as a key hub in the network.



Questions?

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Thank you for listening!

