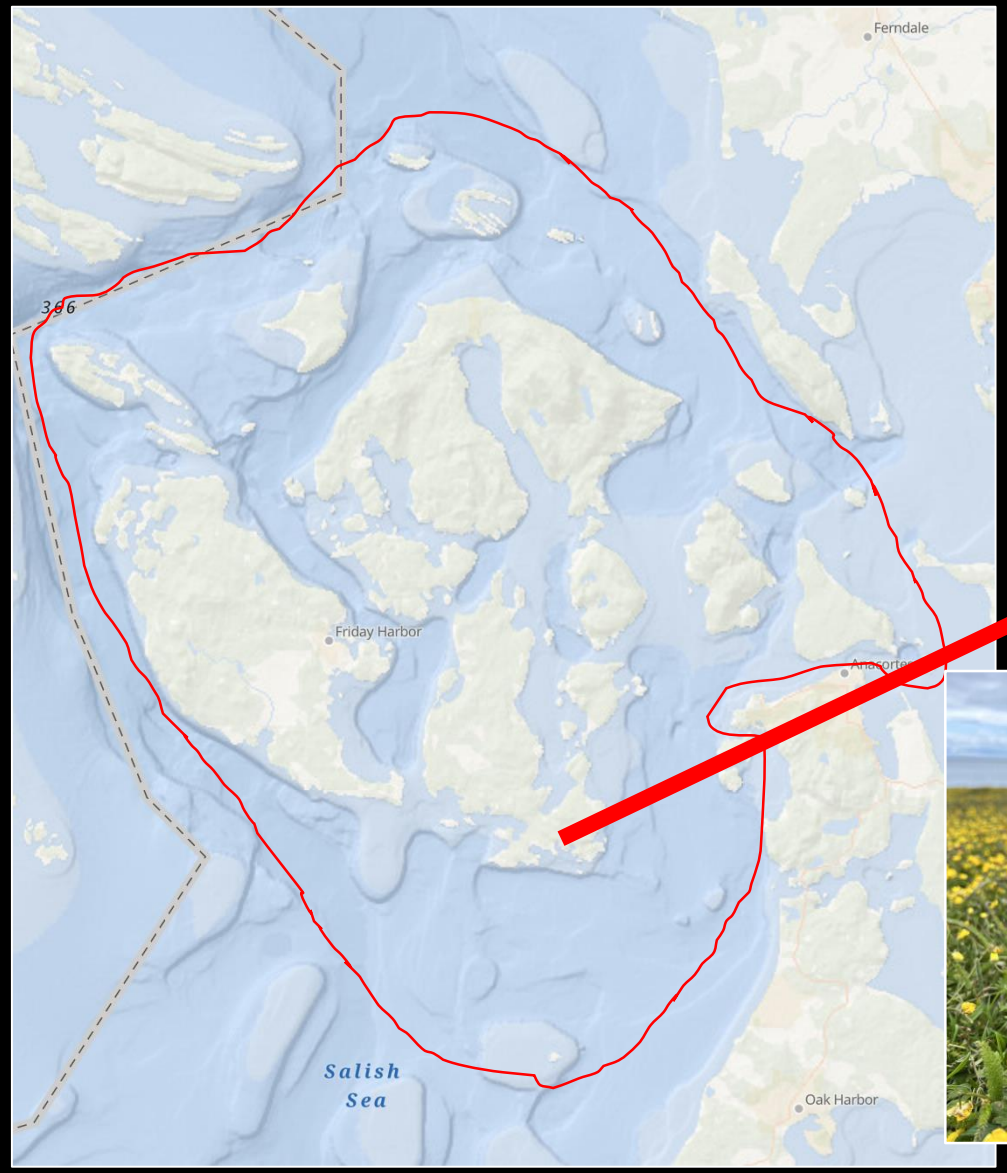
An Anthropocene Island Flora:

The fate of native and alien plants in the San Juan Island Archipelago

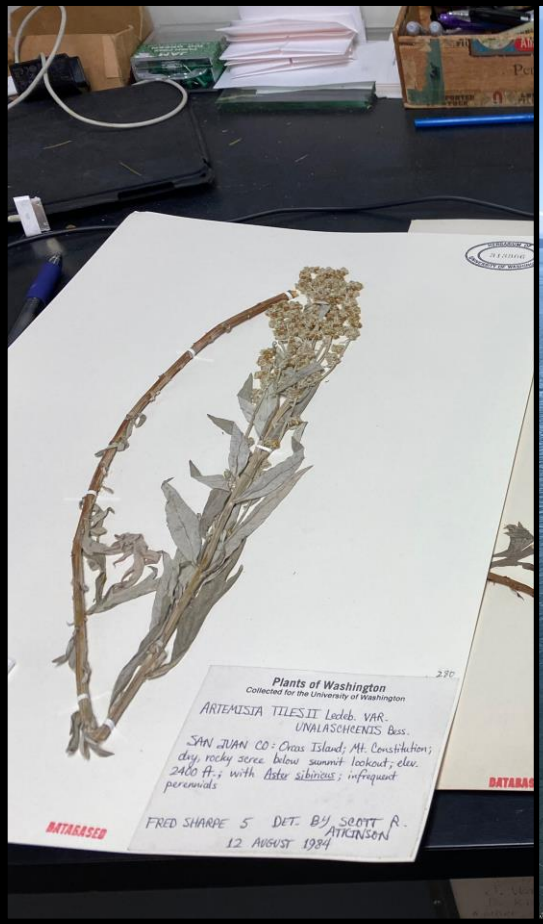
R. Adam Martin
Ecostudies Institute

Study Area – South Lopez Islands




Extinction vortex?

Methods: Herbaria, Lists, Floristic Surveys



Methods

Bayesian (Multi-Model) Inference

Species Extinction Probability ~

Nativity * PlantTraits * Area * Impact +

(Island) + (Phylogeny)

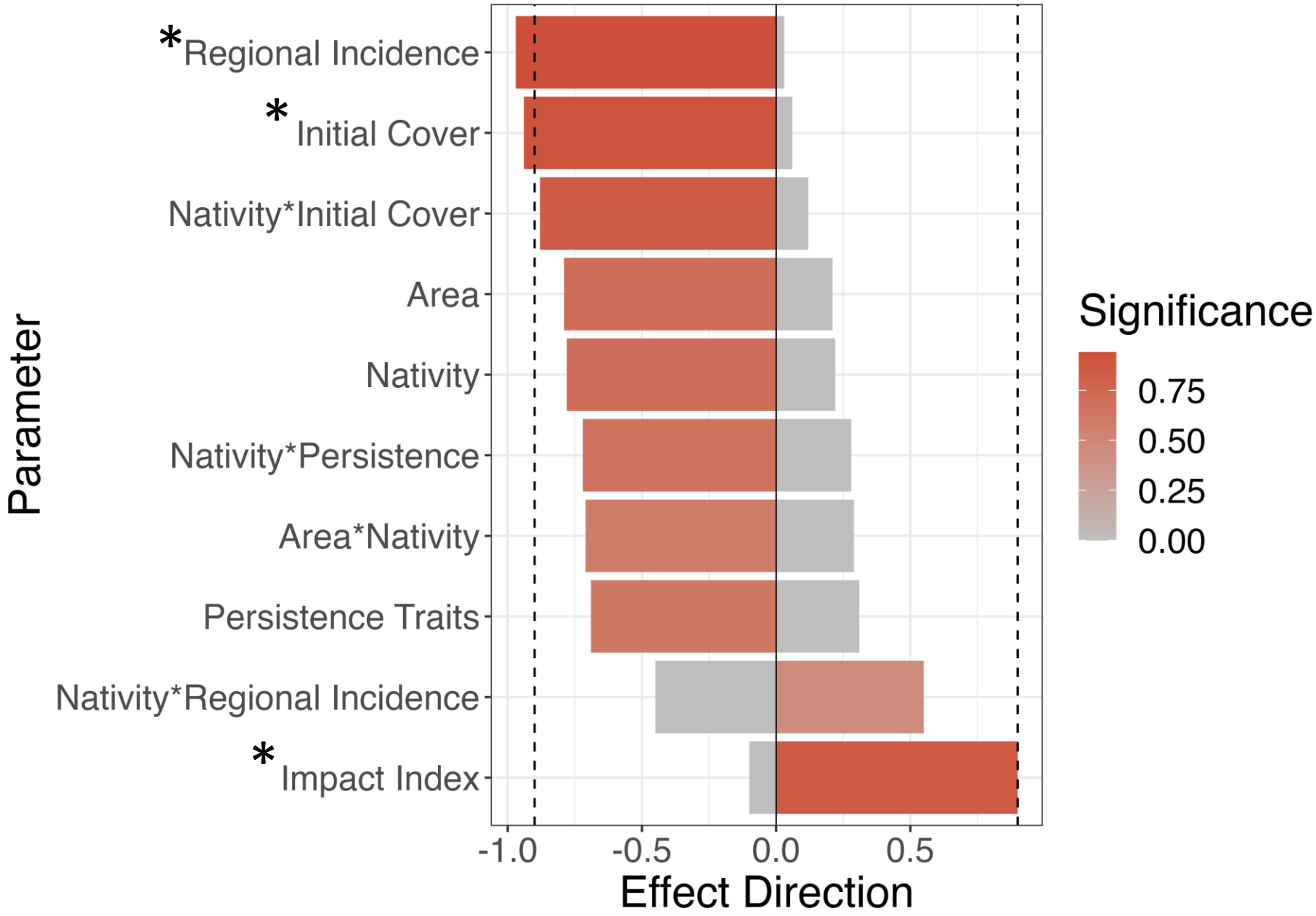
CommunityTraits ~ Time Period

CommunityTraits ~Impact + lAG + DG

Betadiversity ~ Time Period

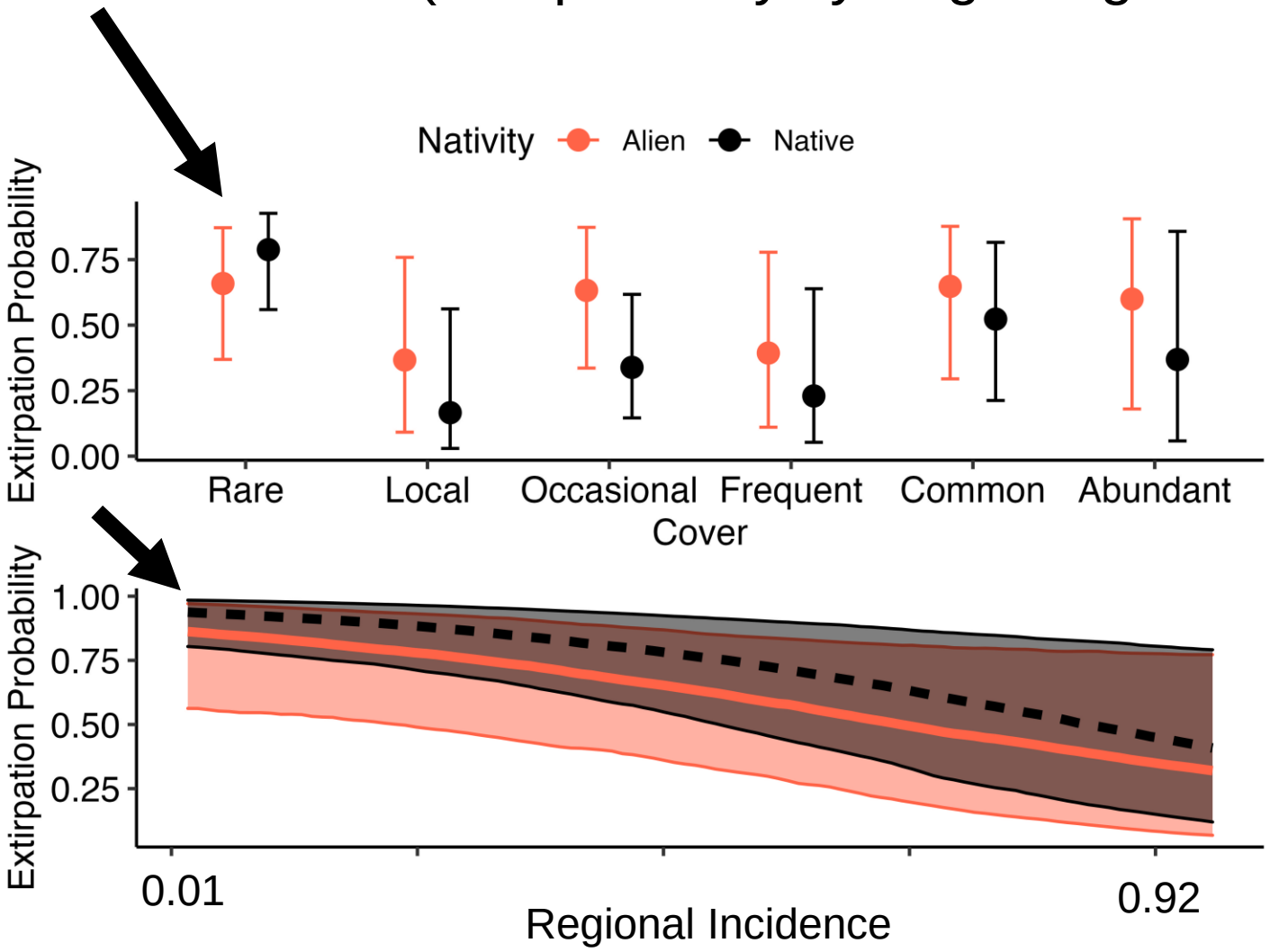
Cover and Regional Incidence Drive Species Extirpation Probability

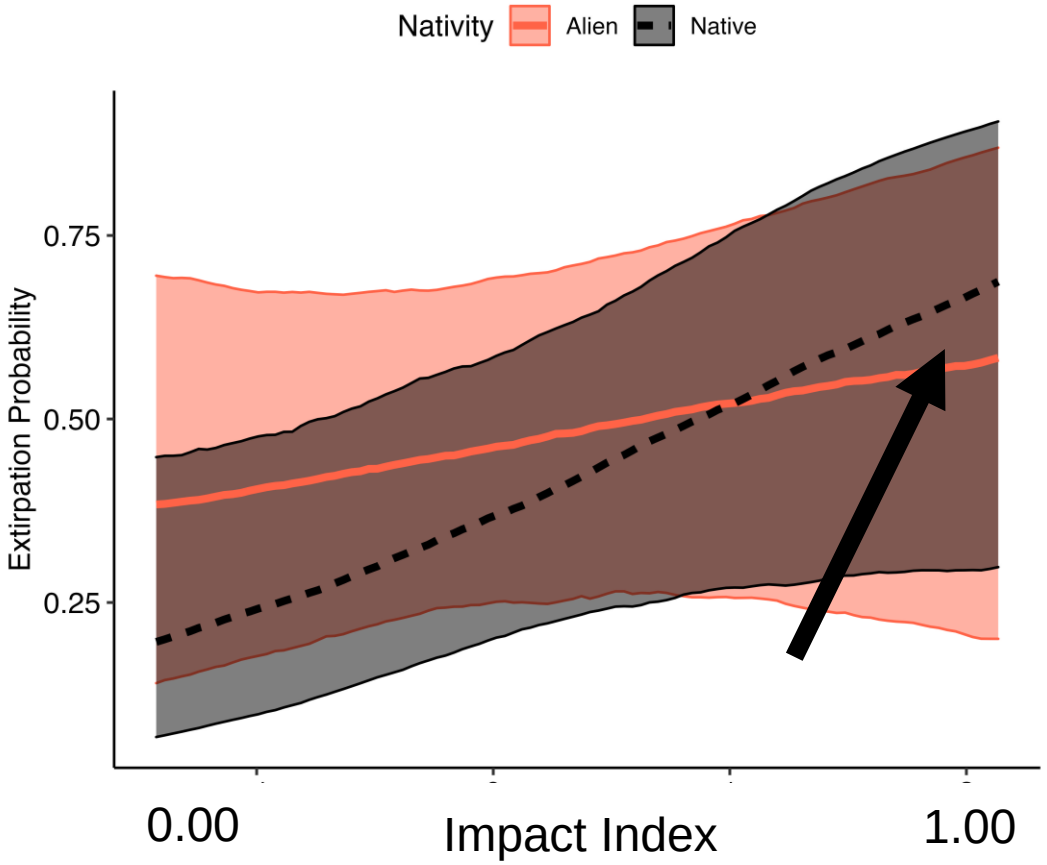
(and probably synergistic goose/deer/iag impact)



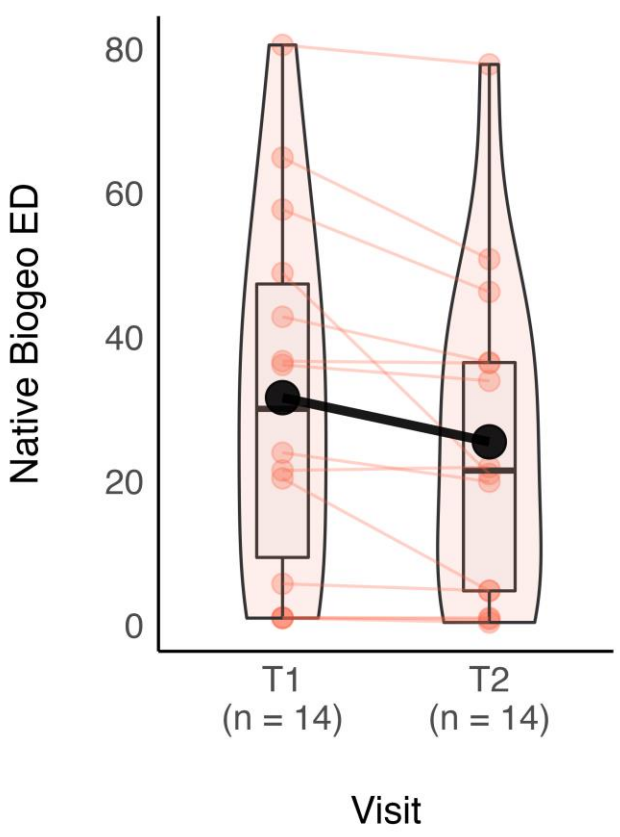
Cover and Regional Incidence Drive Species Extirpation Probability

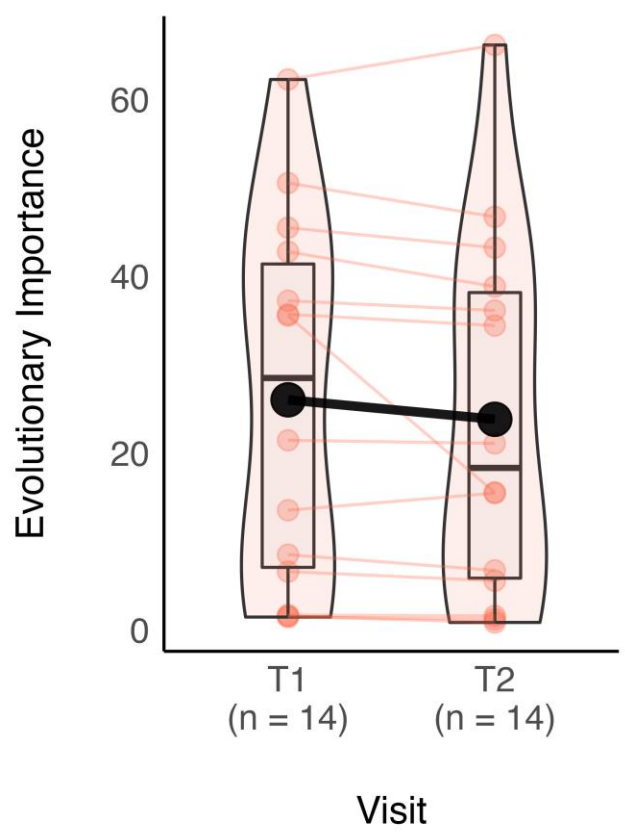
(and probably synergistic goose/deer/iag impact)

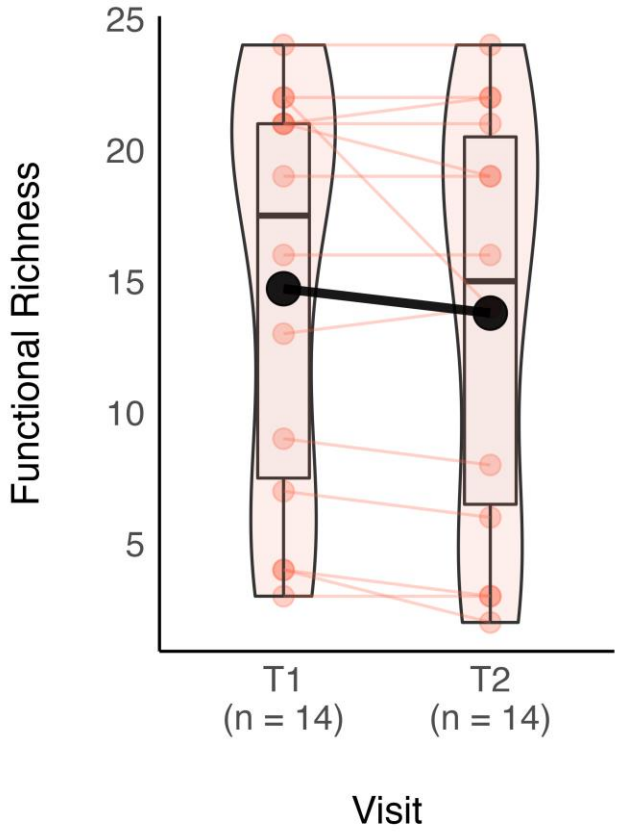


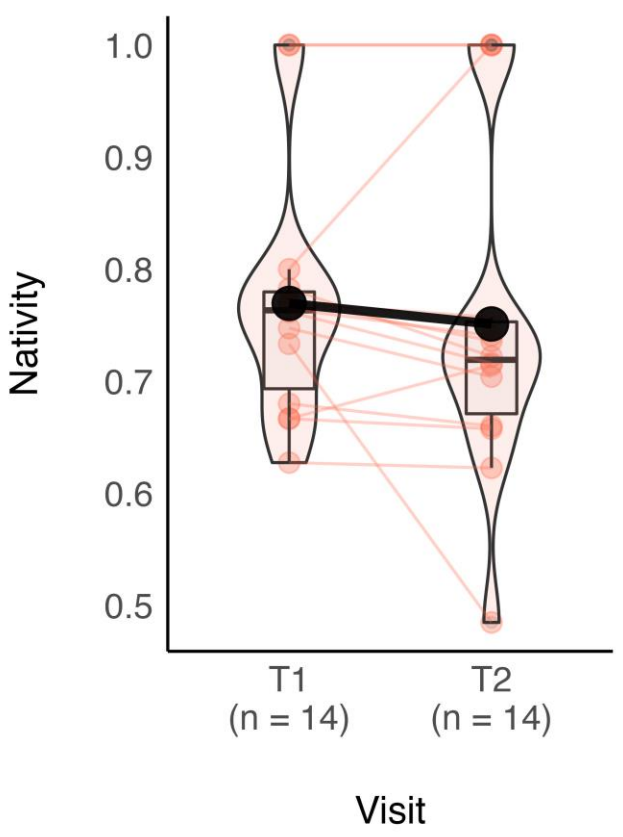


S. Lopez Islands Flora Generally Simplifying
(though its complicated)

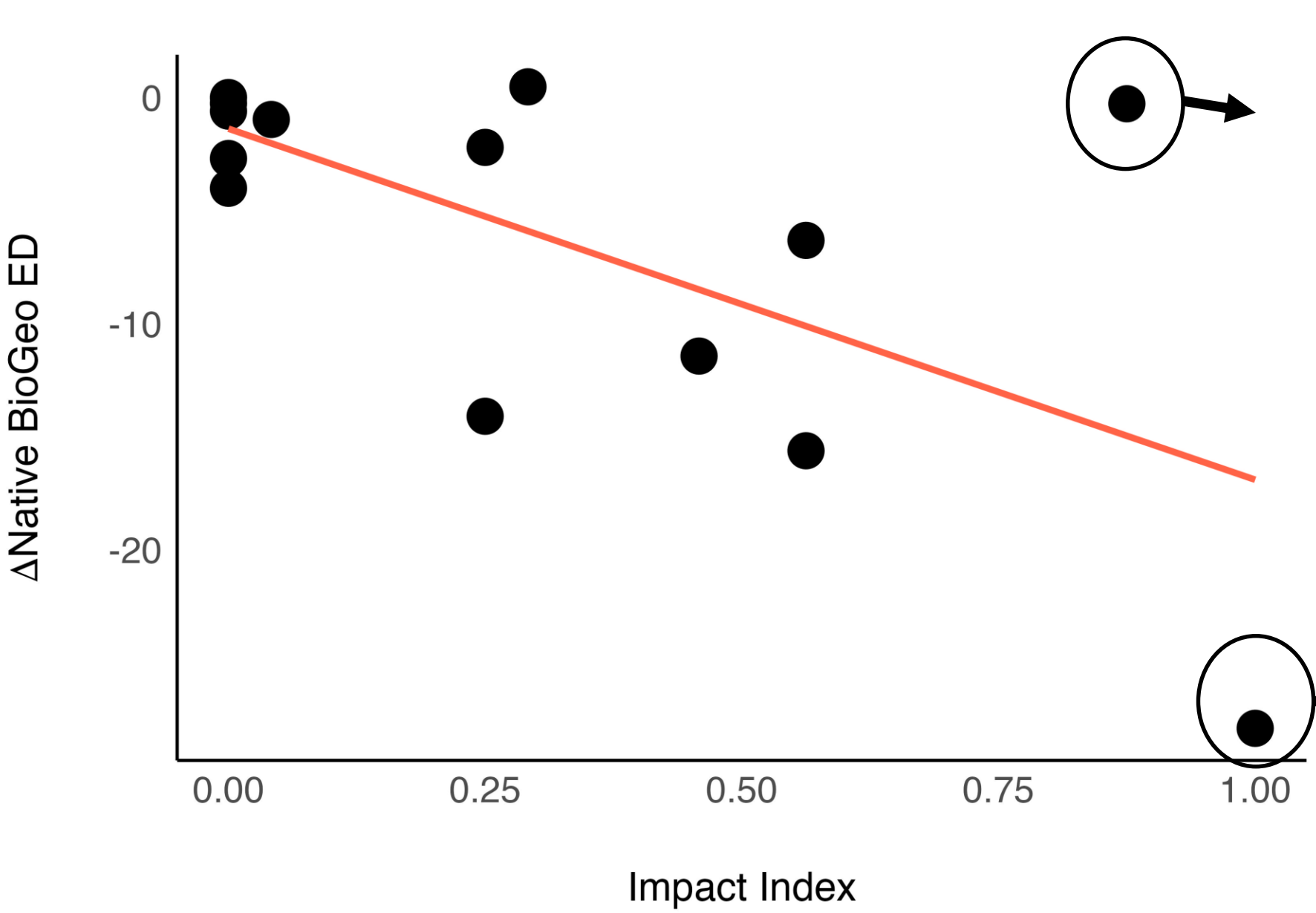




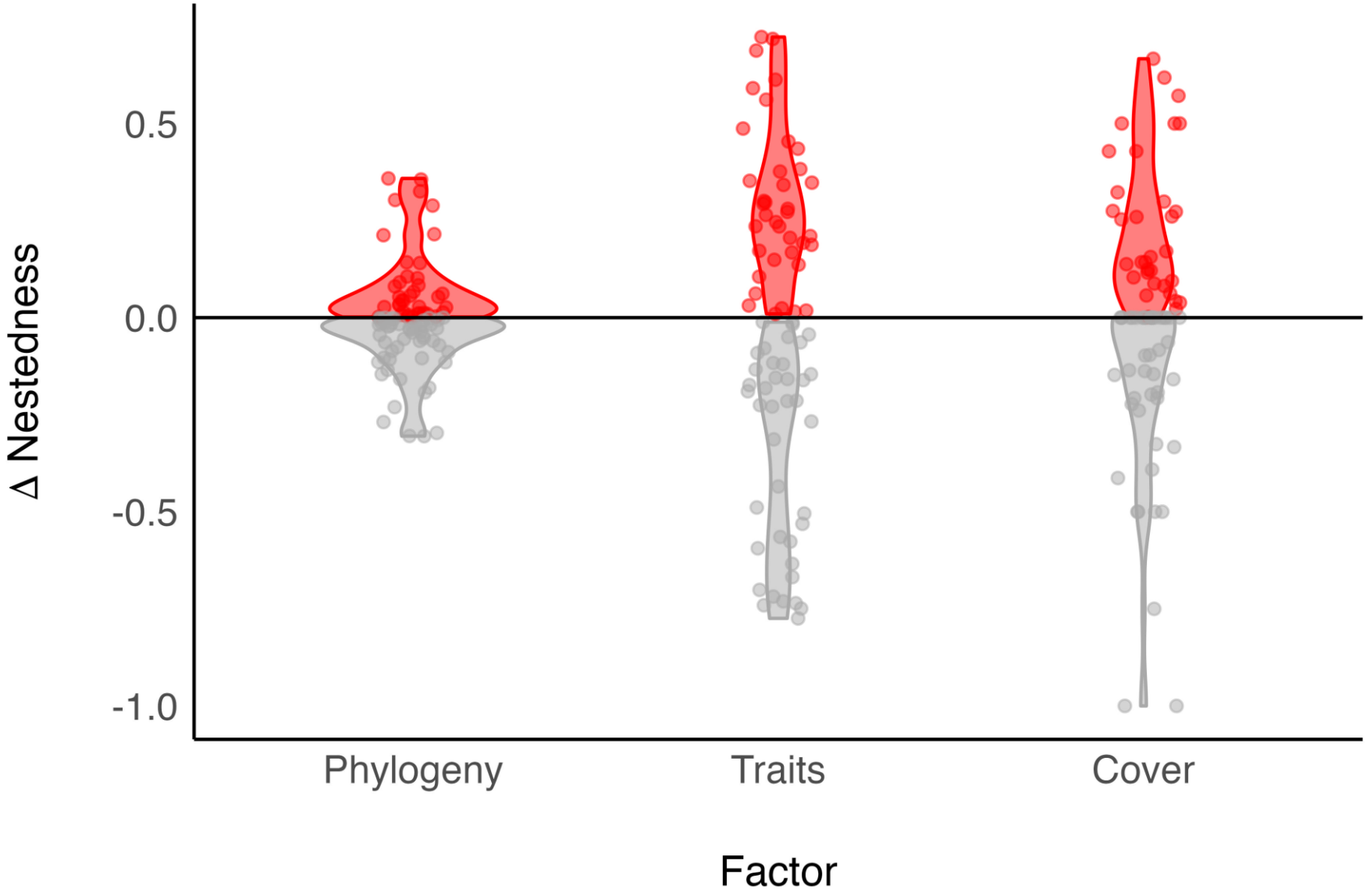




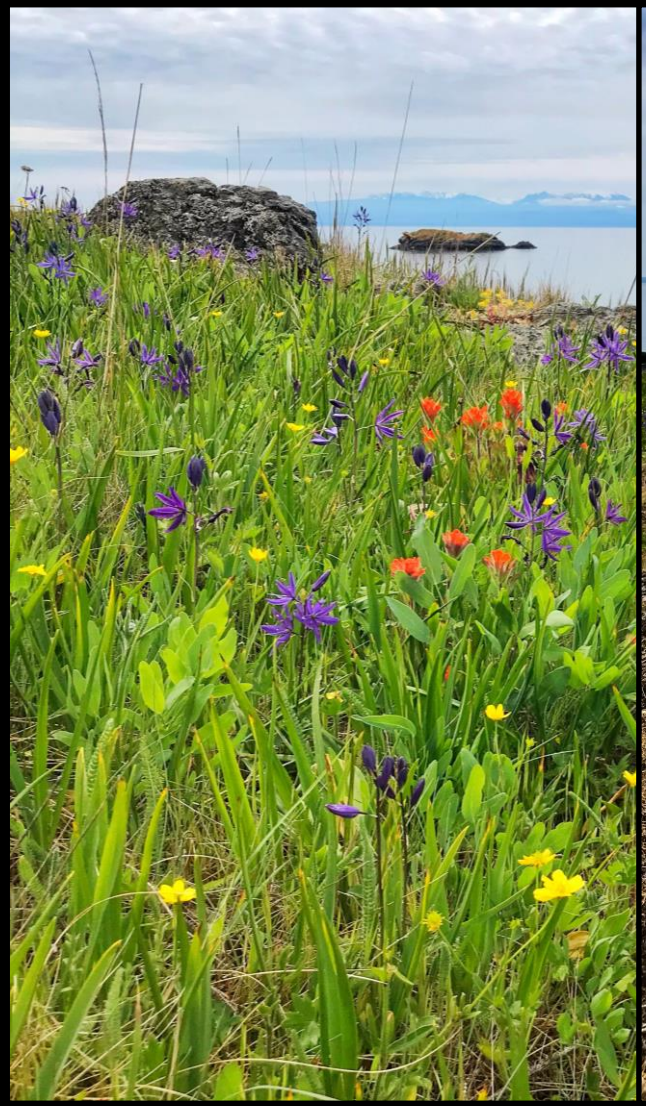
Synergistic Impact of Geese, Deer and IAG Likely to Blame



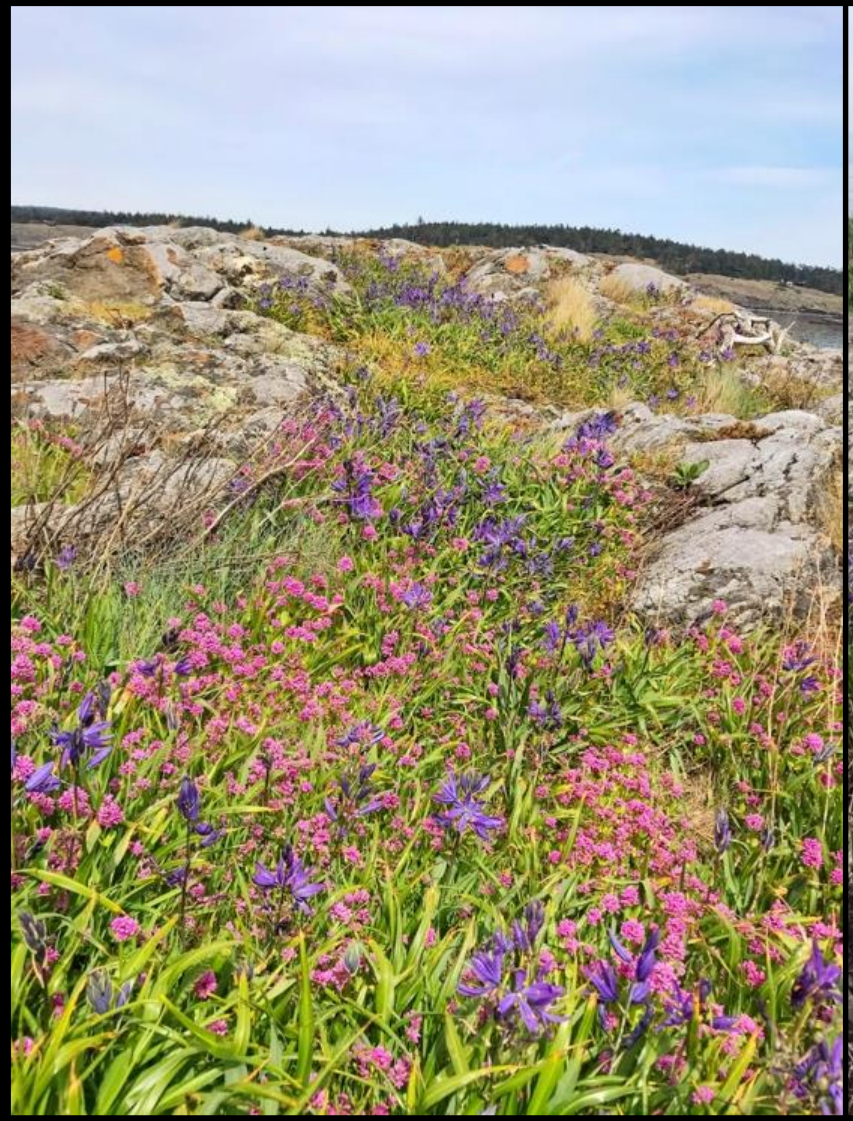
No Directional Change w/in S. Lopez Islands as Whole

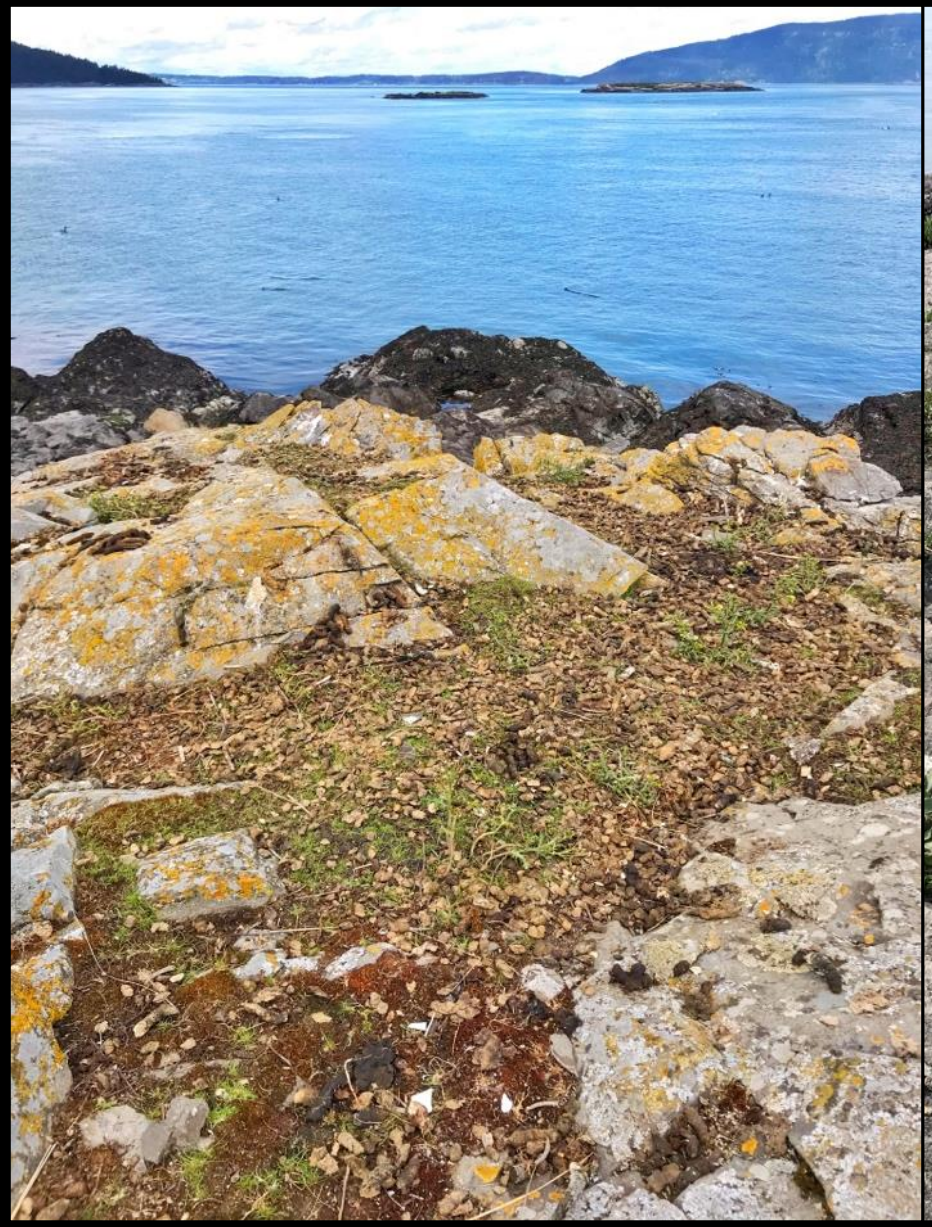


Conclusion: marching towards monotony



diverse meadow + deer & geese browse → common persisters + IAG → simple meadow





Acknowledgements

Peter Dunwiddie
Peter Zika
Katy Beck
Steve Ulvi
WA State Parks
USFWS
WNPS
BLM

amartin@ecoinst.org

No directional change. But Some highly impacted meadows becoming similar to rocky shoreline floras