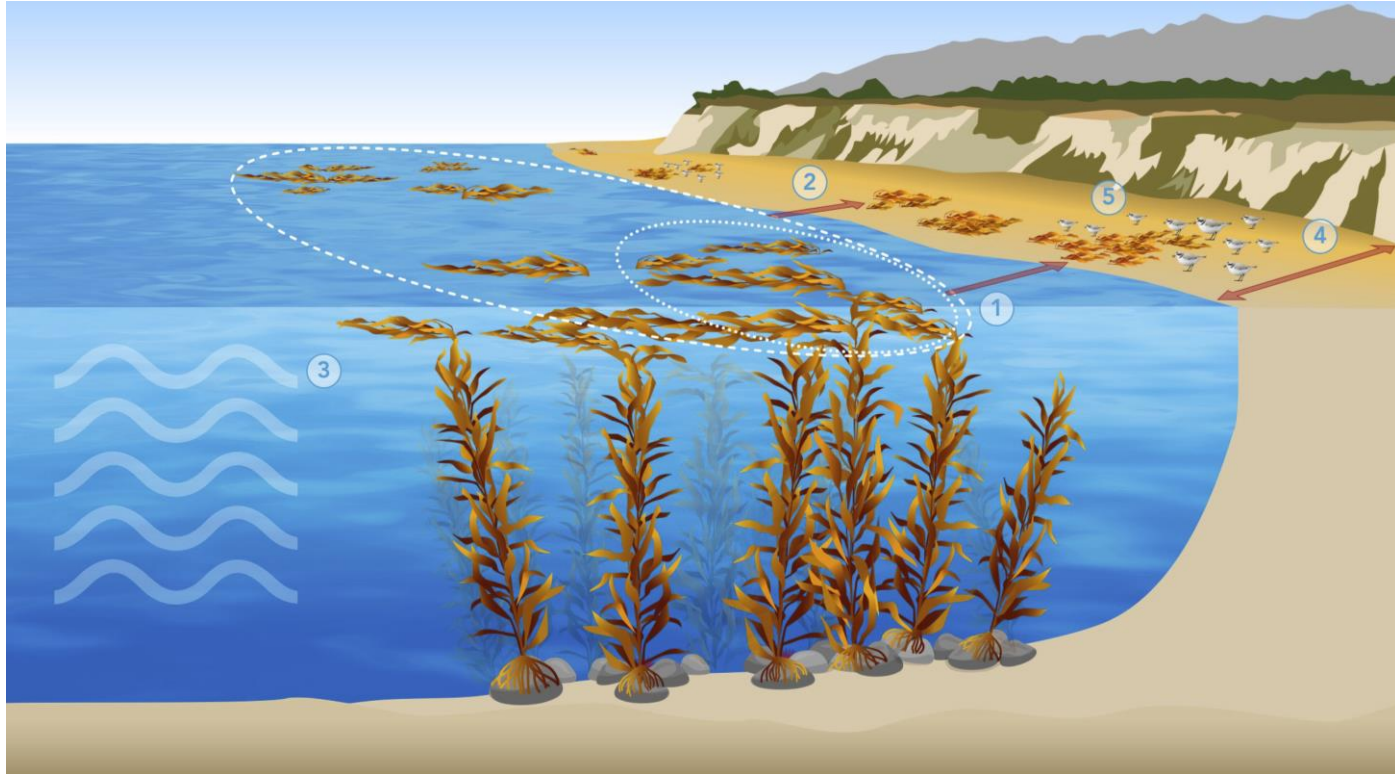


Marine-based diets of Puget Sound western fence lizards

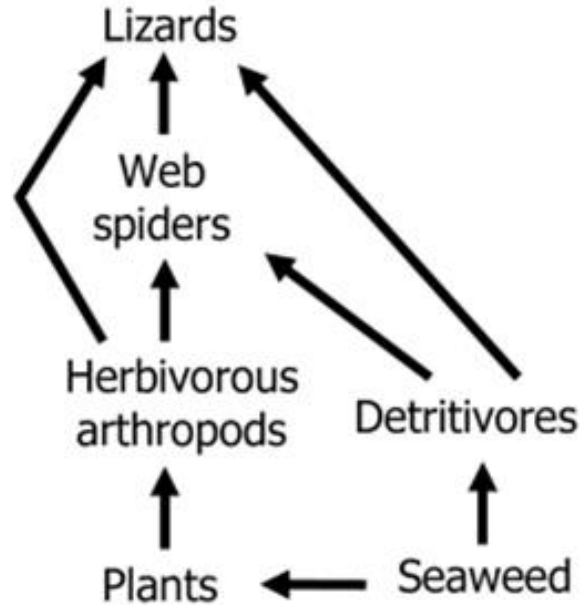


Alexi Ebersole, Marie E. Bunker, Stacey Weiss and Kena Fox-Dobbs
University of Puget Sound, Biology and Geology Departments

Spatial subsidies: cross-boundary resource flow



Spatial subsidies: cross-boundary resource flow

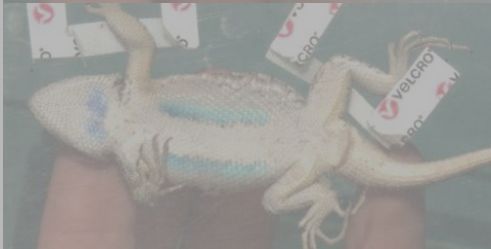
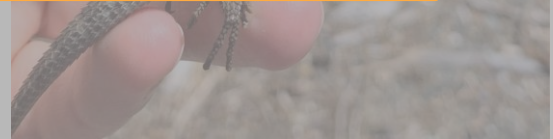
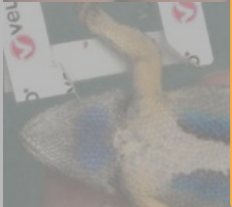


Spiller et al. 2010

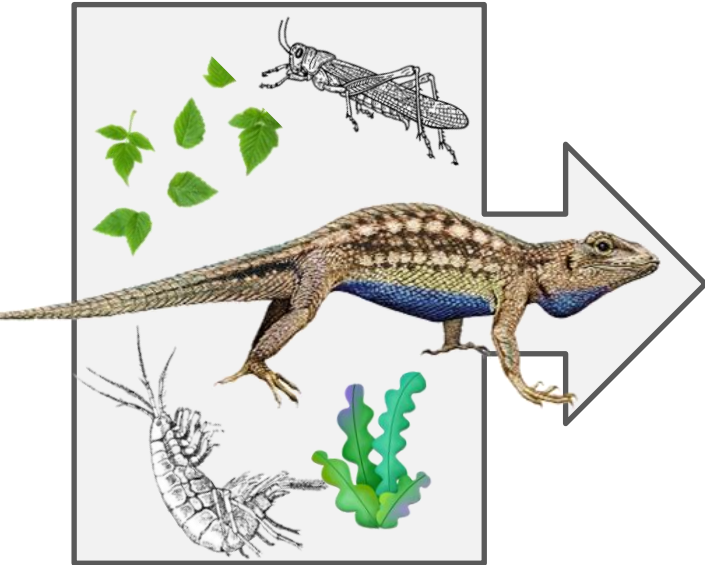
Western Fence Lizards in Washington State



Do Puget Sound beach lizards
consume marine resources?



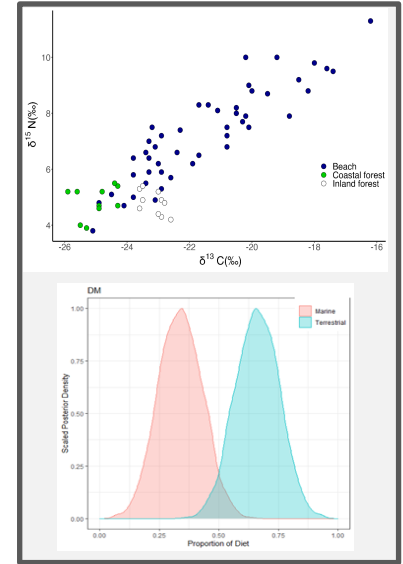
Field sampling
across 7 sites



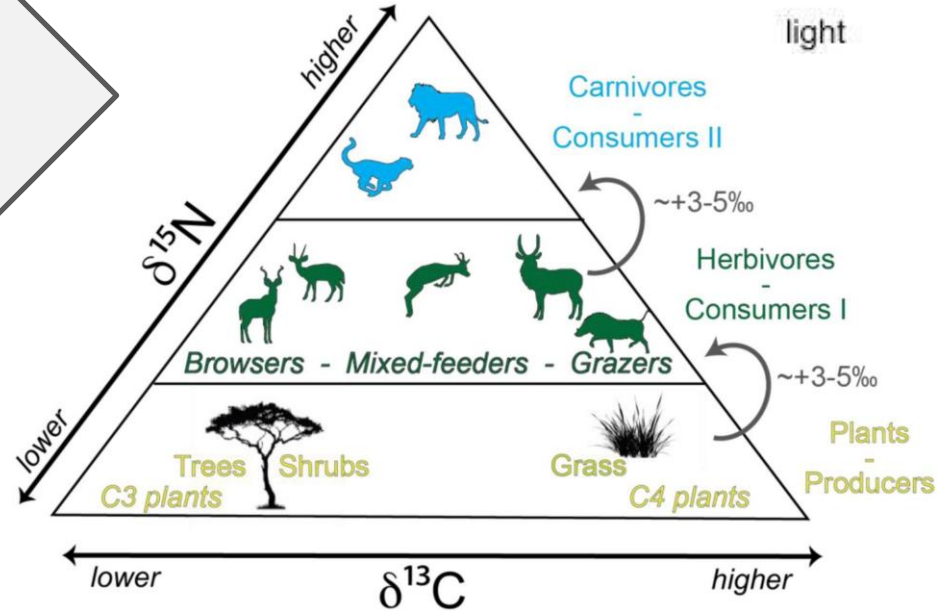
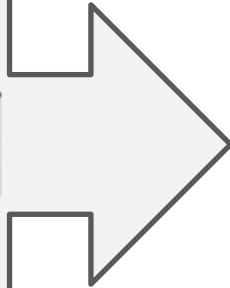
$\delta^{13}\text{C}$ and $\delta^{15}\text{N}$



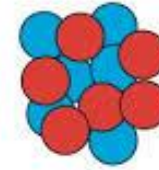
Estimate
marine diet
contribution



$\delta^{13}\text{C}$ and $\delta^{15}\text{N}$



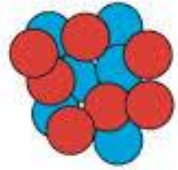
carbon-12



^{12}C

6 protons
6 neutrons
light

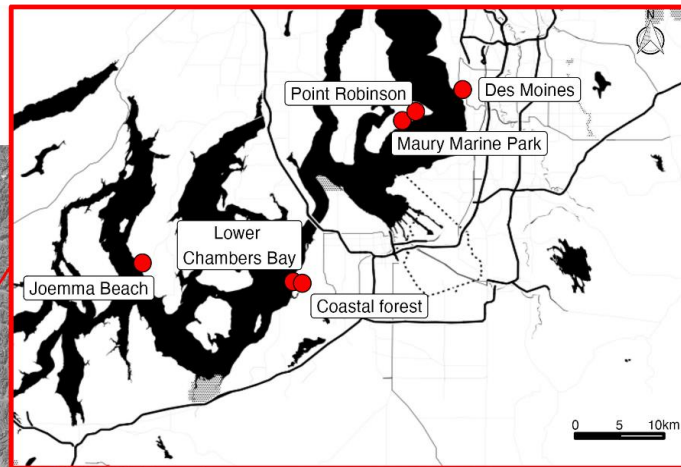
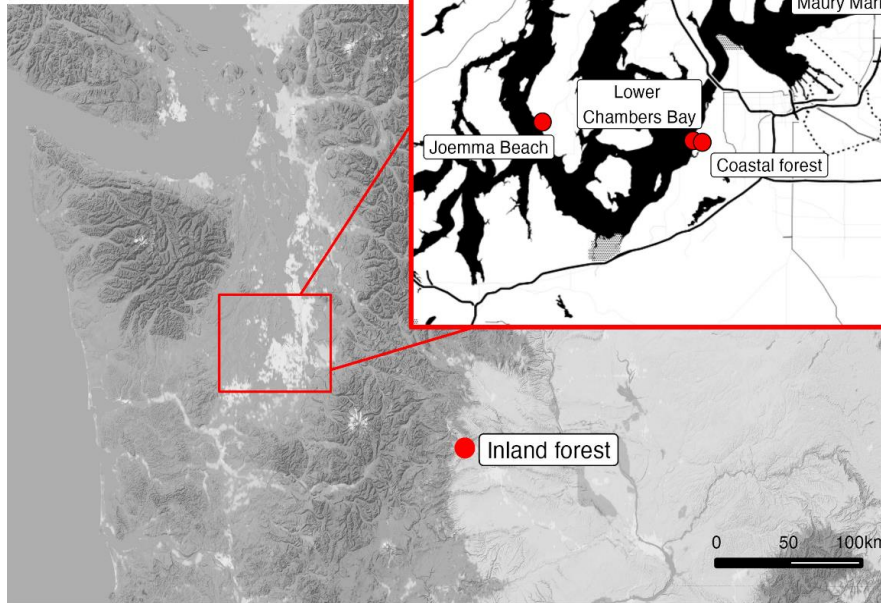
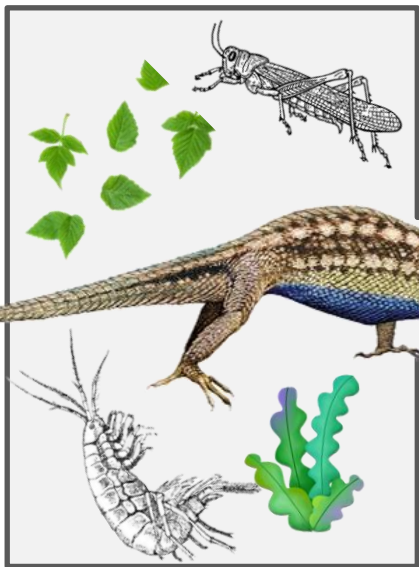
carbon-13



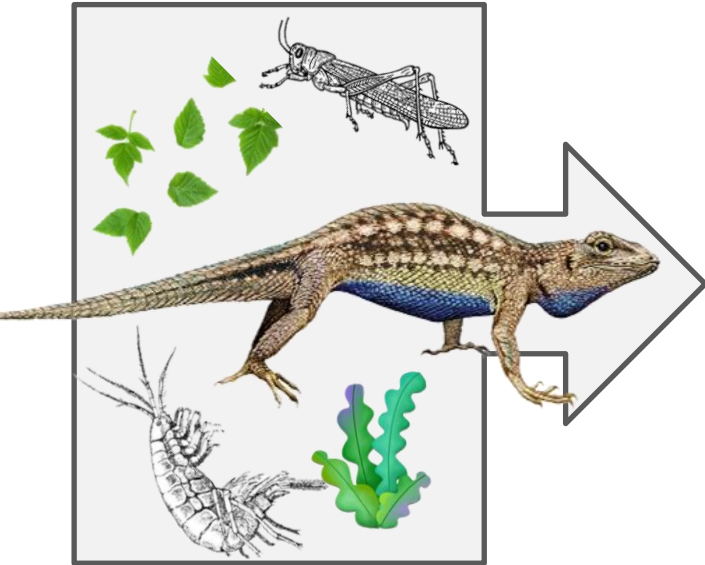
^{13}C

6 protons
7 neutrons
heavy

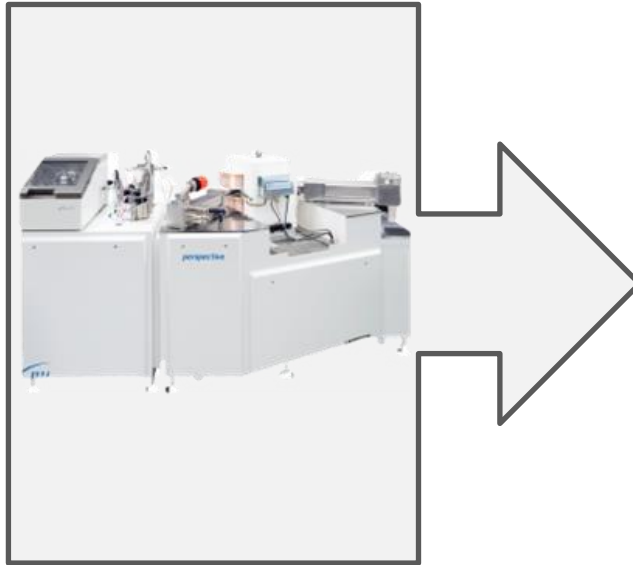
Field sampling across 7 sites



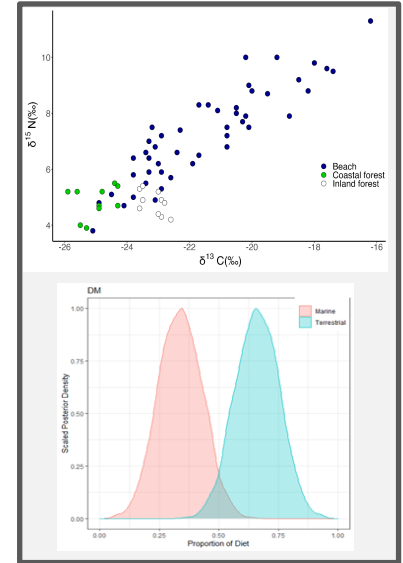
Field sampling
across 7 sites

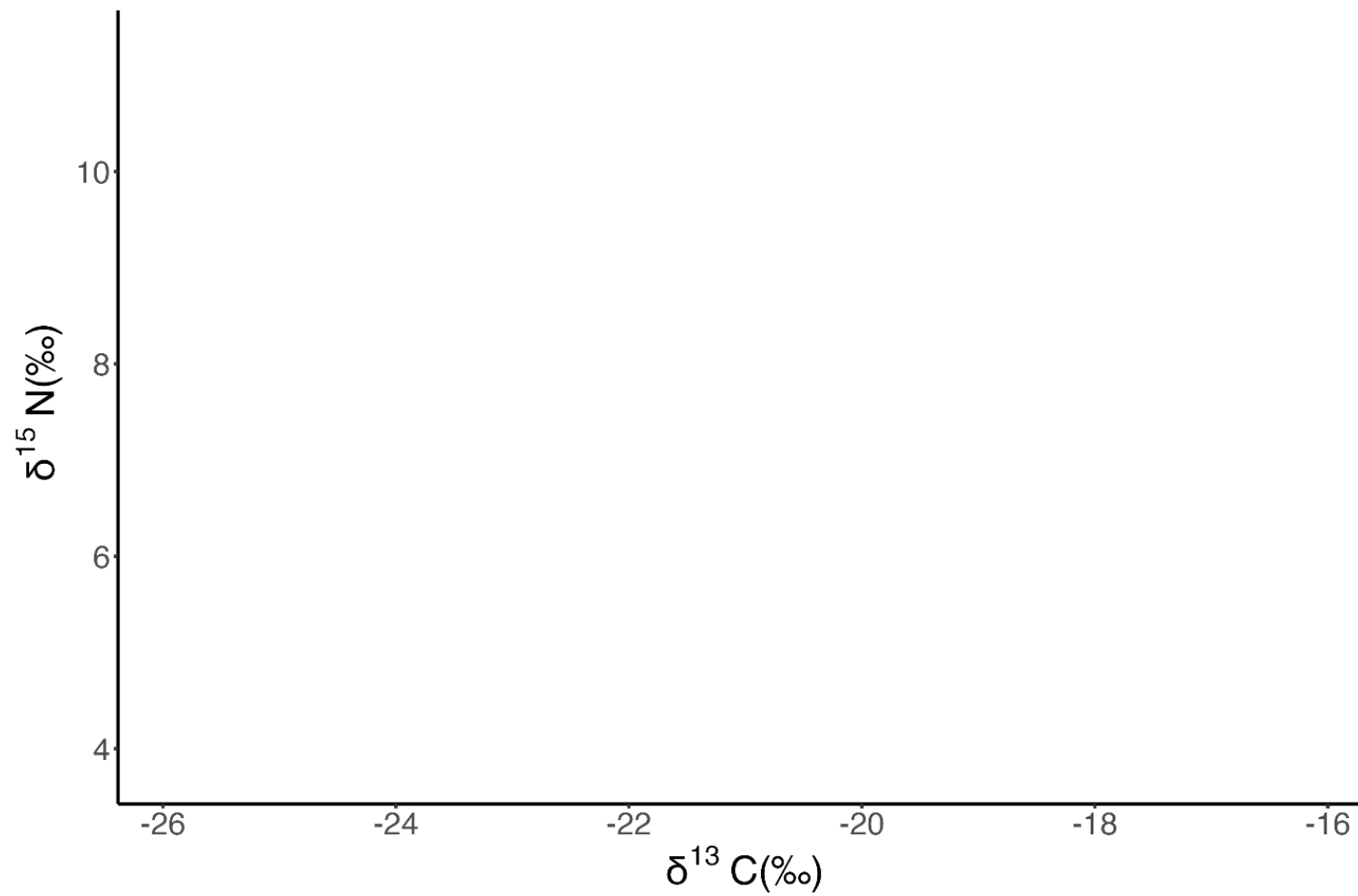


$\delta^{13}\text{C}$ and $\delta^{15}\text{N}$

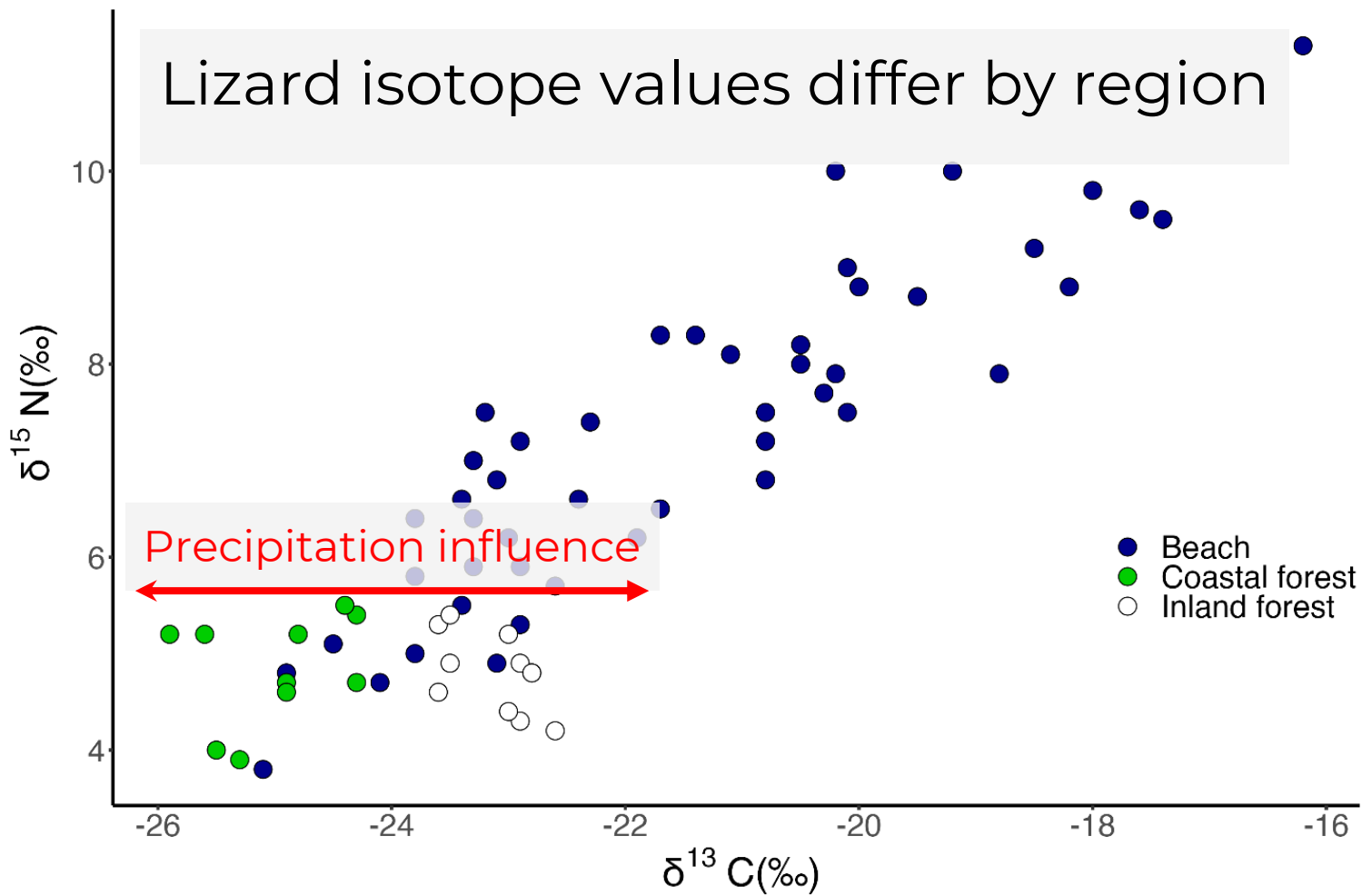


Estimate
marine diet
contribution

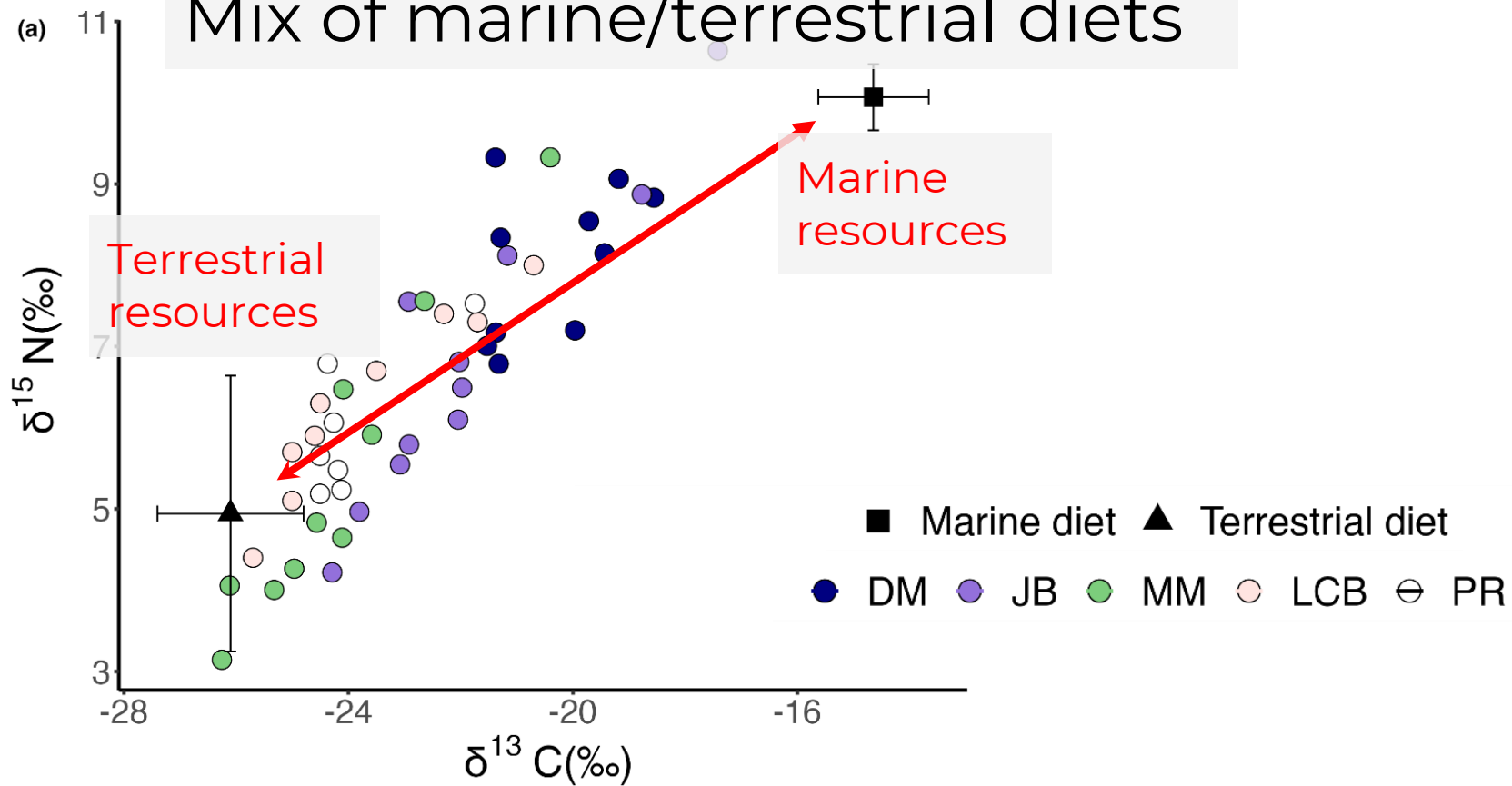




Lizard isotope values differ by region



Mix of marine/terrestrial diets



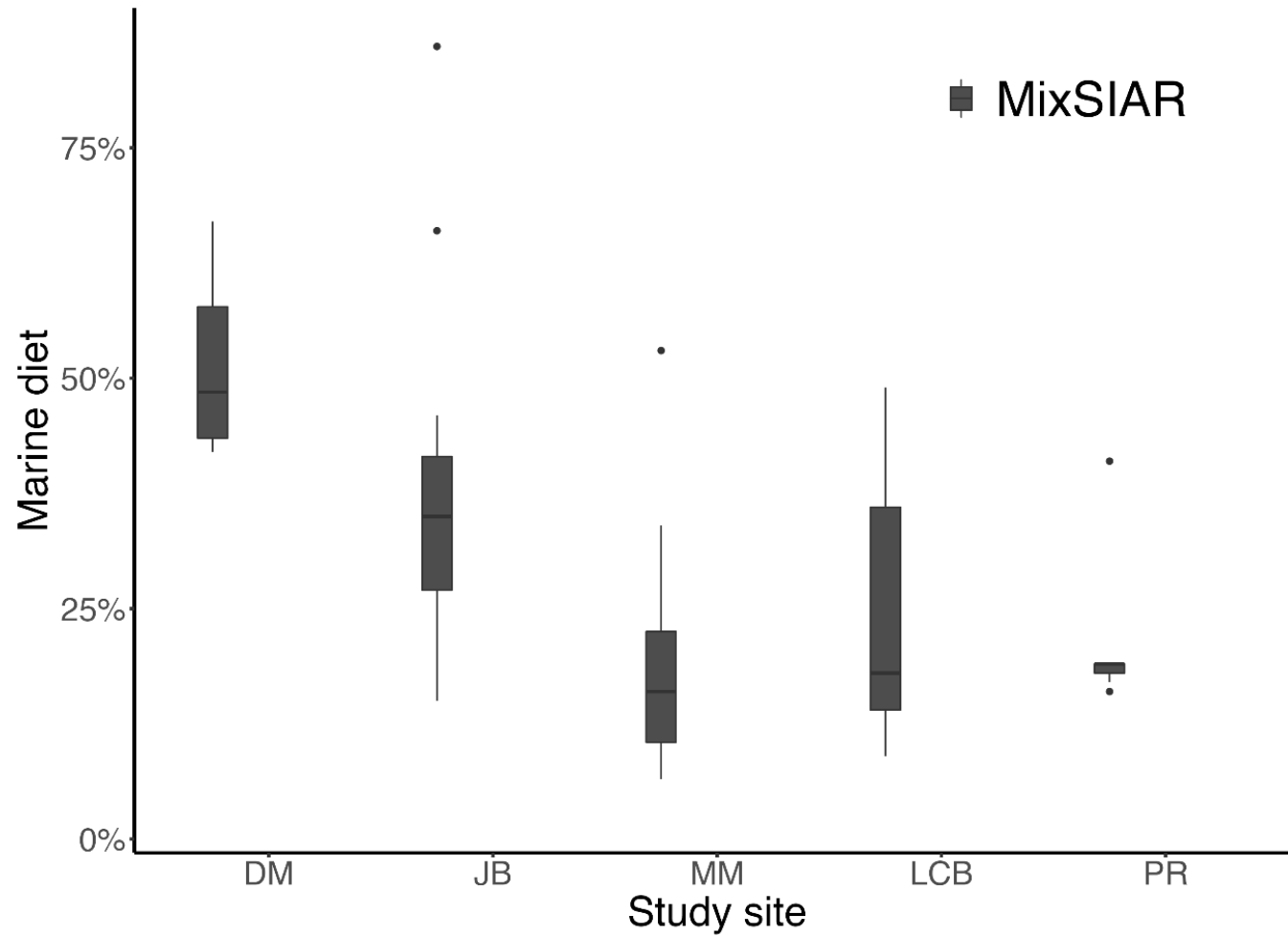


Despite proximity...

No marine diets at coastal forest site

What is causing lizard diet variation?

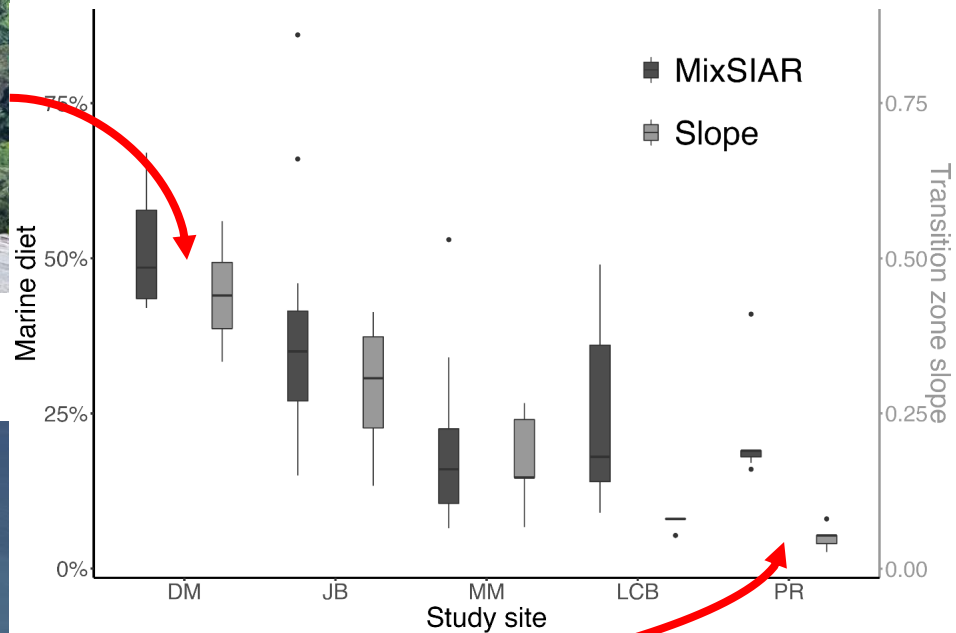




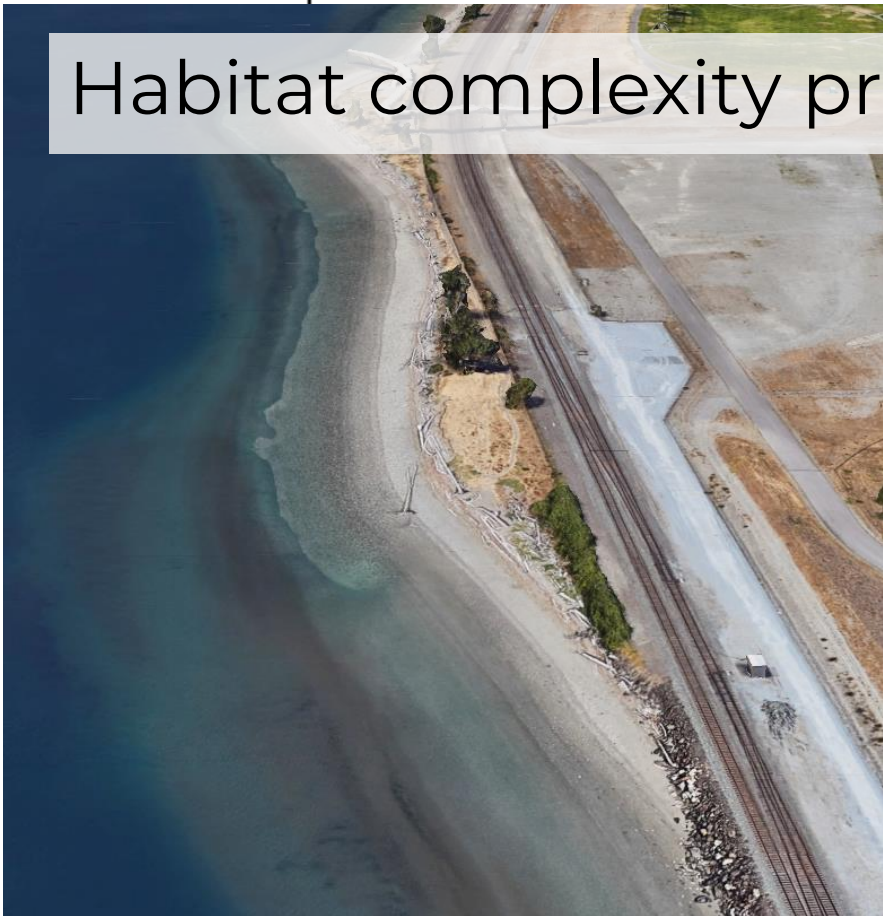
Steeper = marine diet*



Flatter = terrestrial diet*

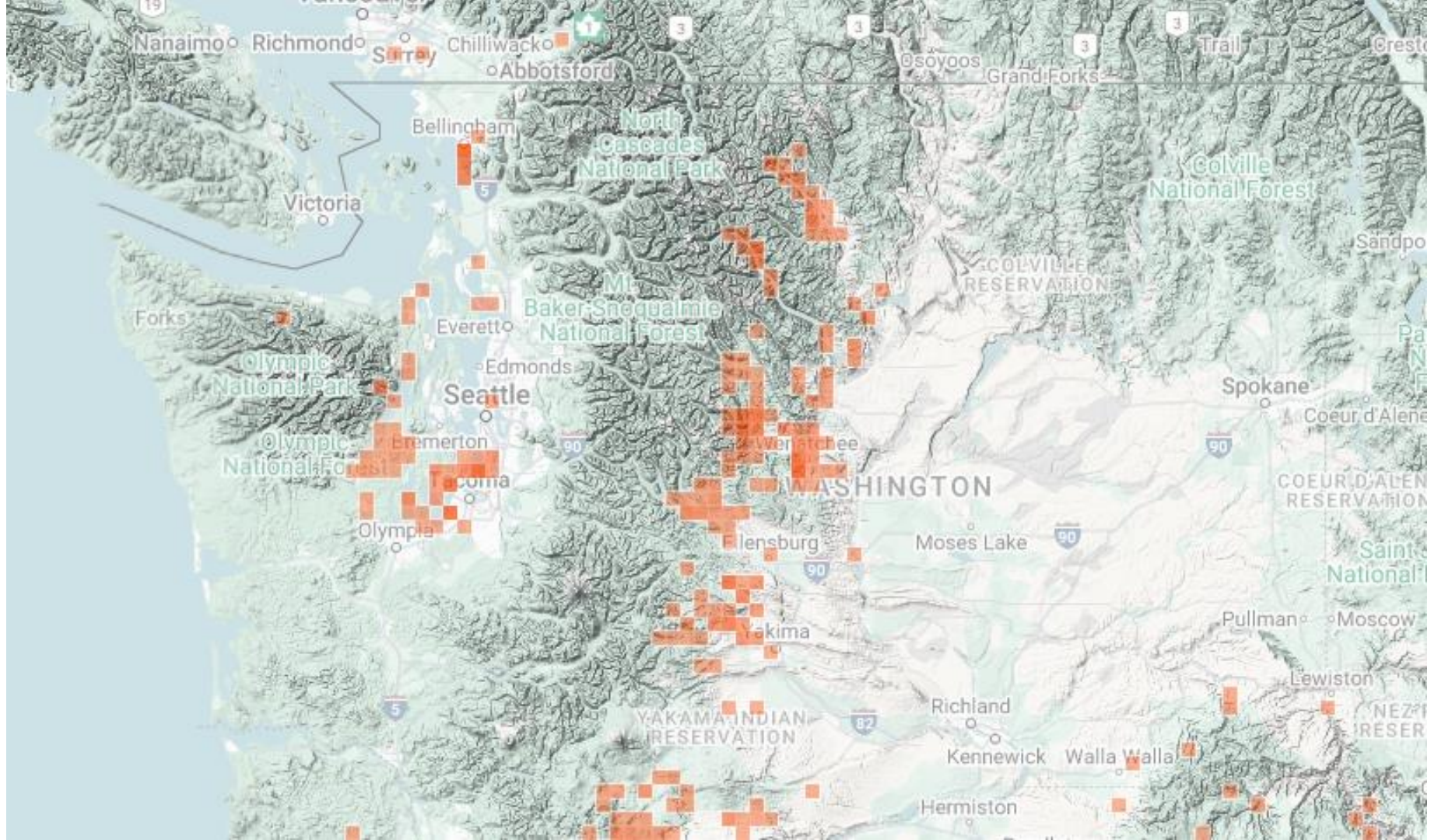


Habitat complexity promotes diet complexity



Landscape variation







< After | Before >





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Inter- and intrapopulation resource use variation of marine subsidized western fence lizards

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