



The three R's of conservation

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Foundation of conservation biology

Applied science of maintaining biodiversity

Focus on preservation of biodiversity

species

habitats

evolutionary potential

Designing and establishing conservation reserves



Conservation biology

The 3 R's of conservation biology

Representation

Redundancy

Resiliency





Representation

Saving something of everything

Conserve full variety of habitat types

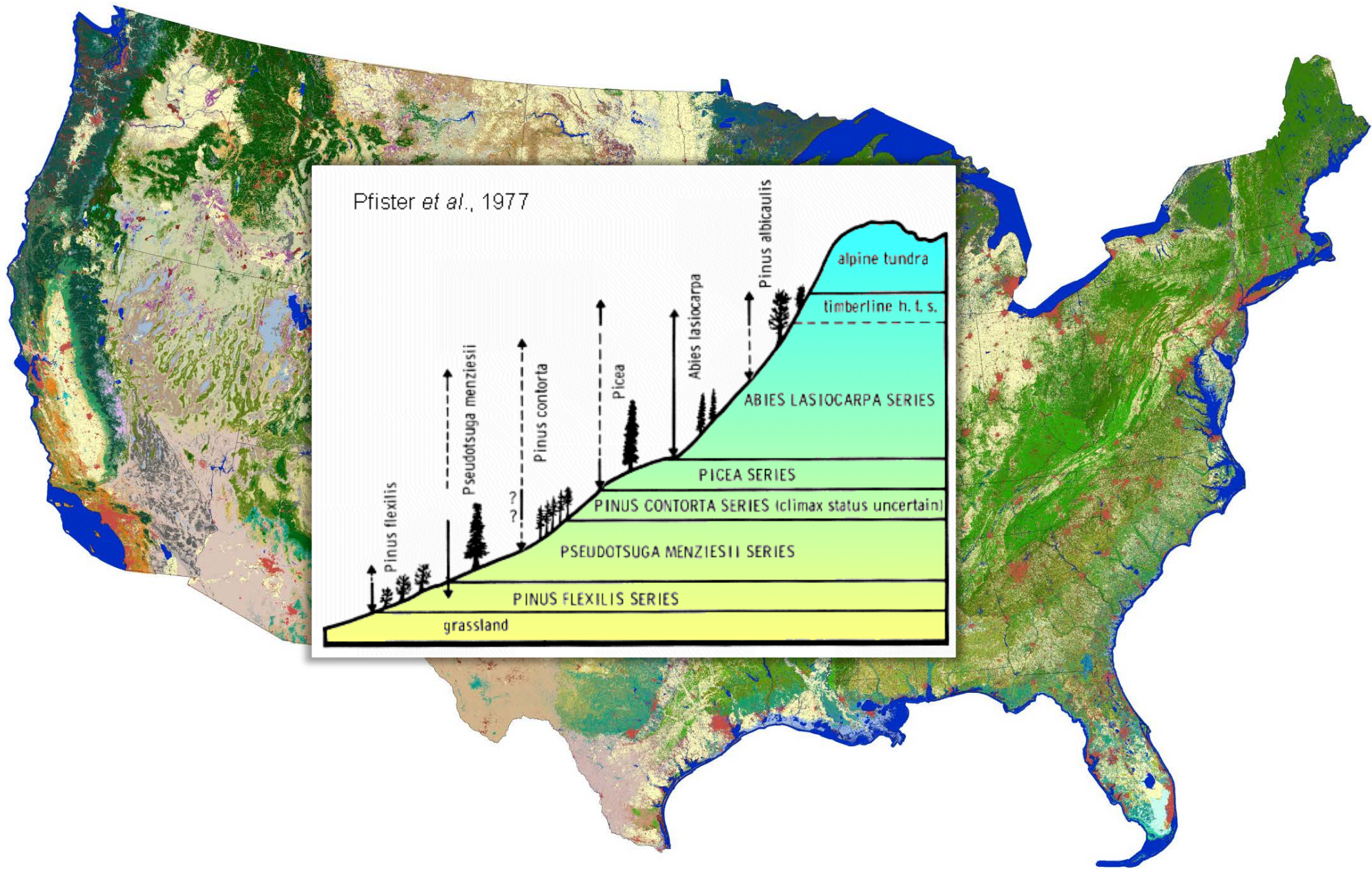
Protects biodiversity under climate change

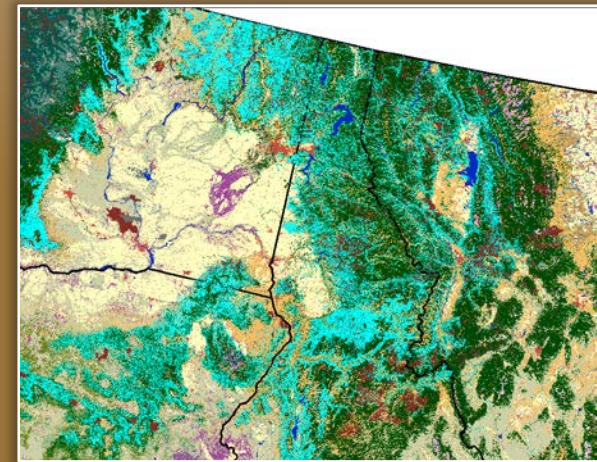


Representation

How can we measure representation?







Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest



Area on federal land

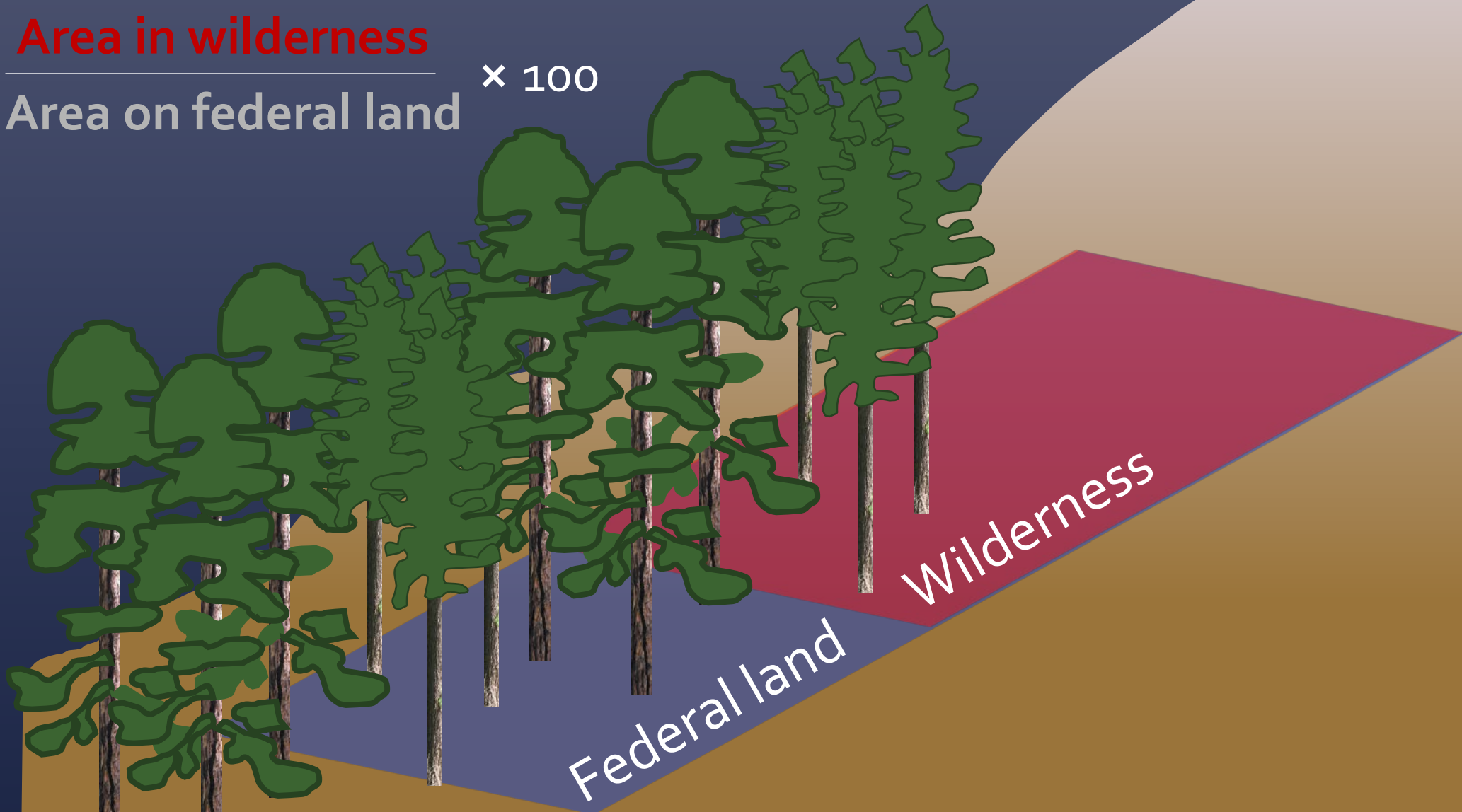


Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

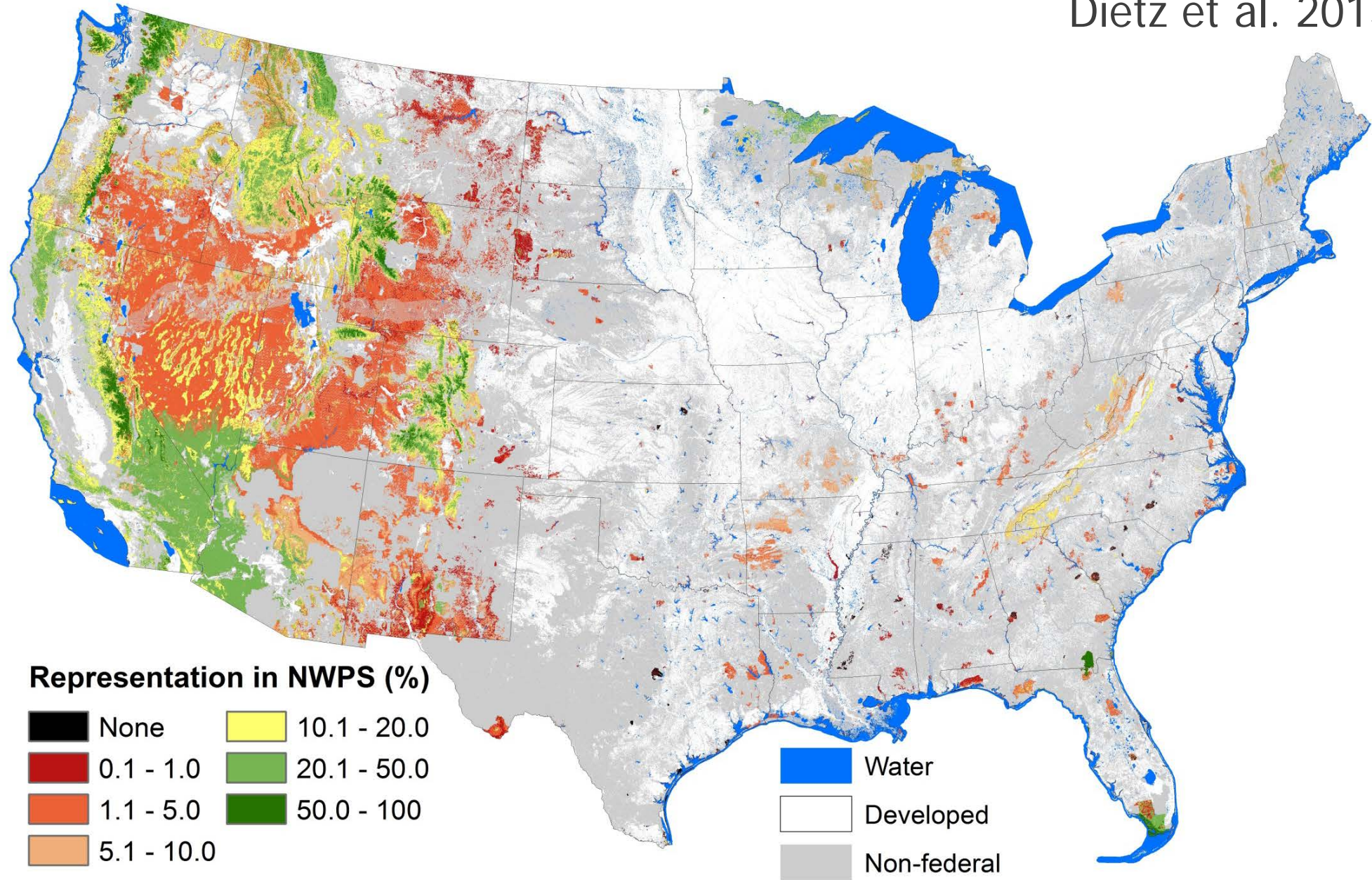
Ecosystem representation = 30%

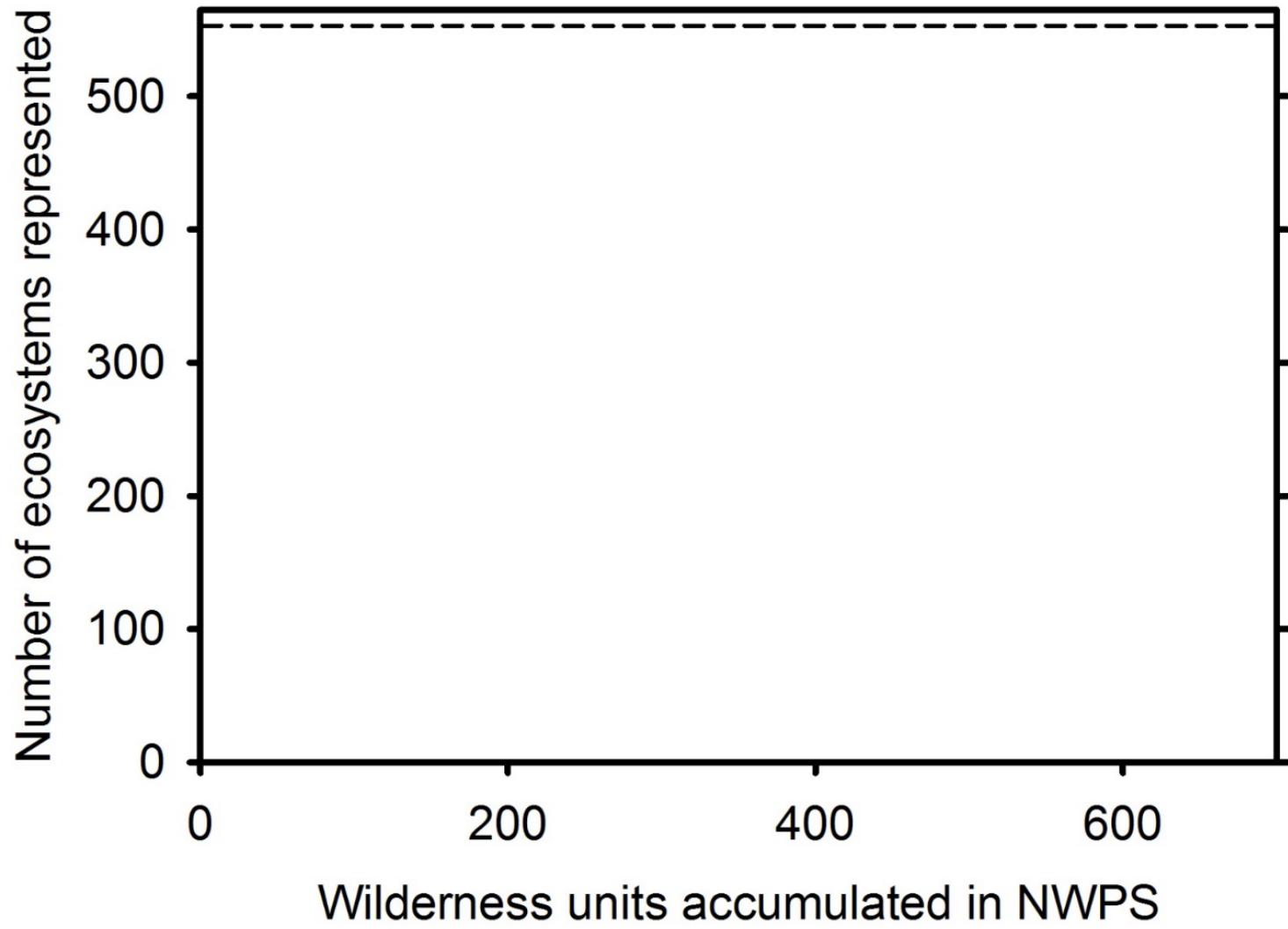
Area in wilderness

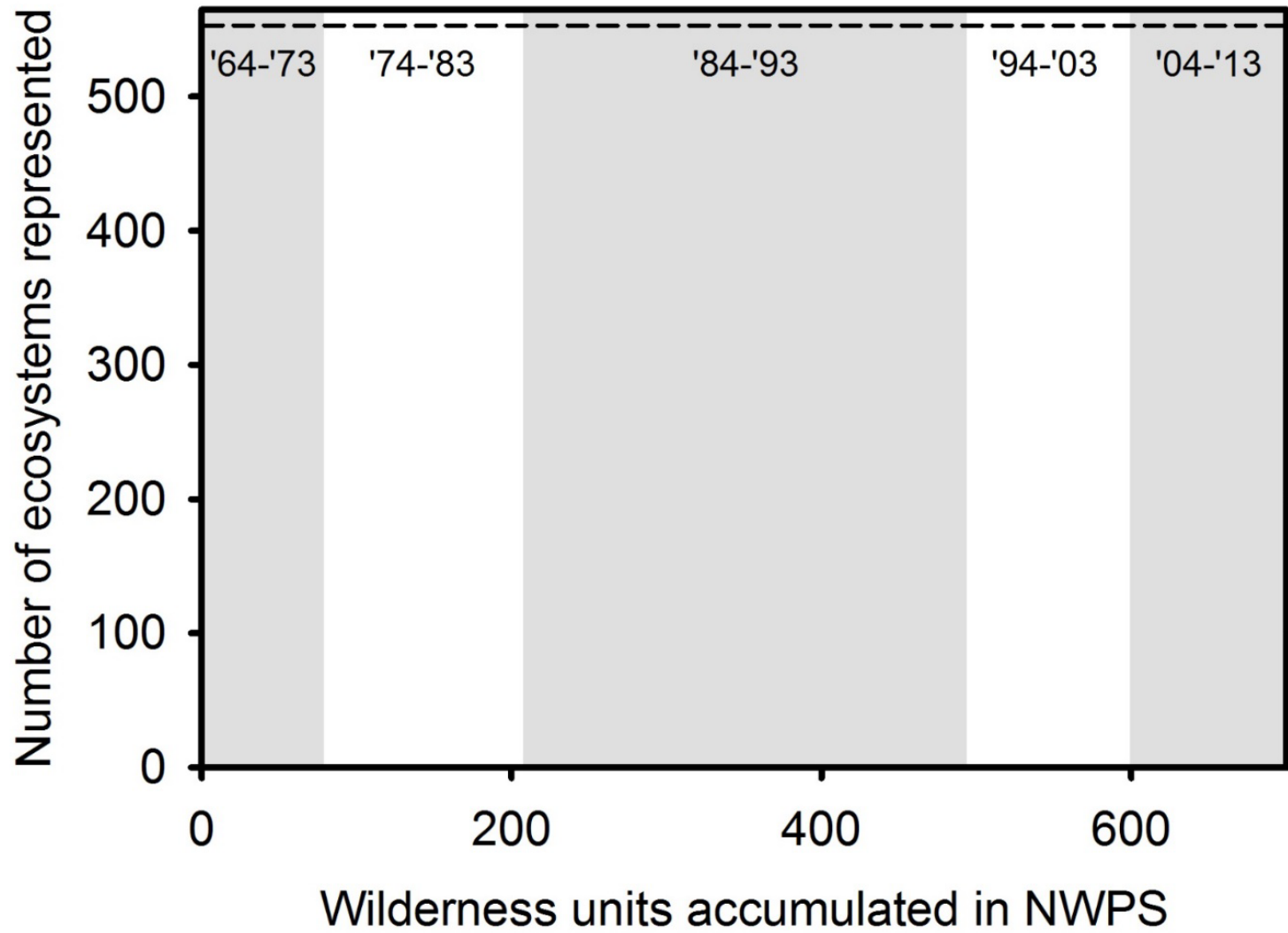
$$\frac{\text{Area on federal land}}{\text{Area on federal land}} \times 100$$

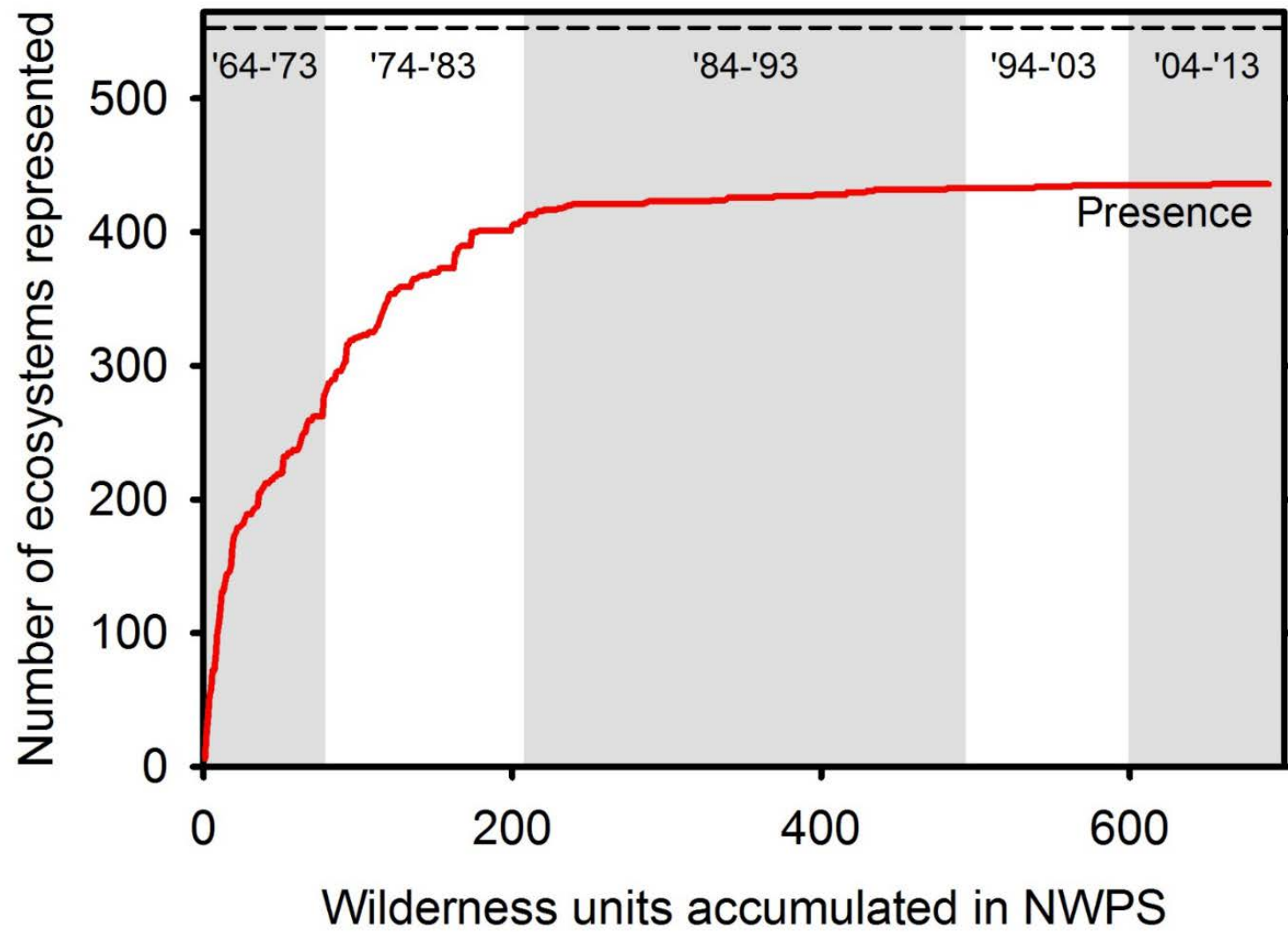


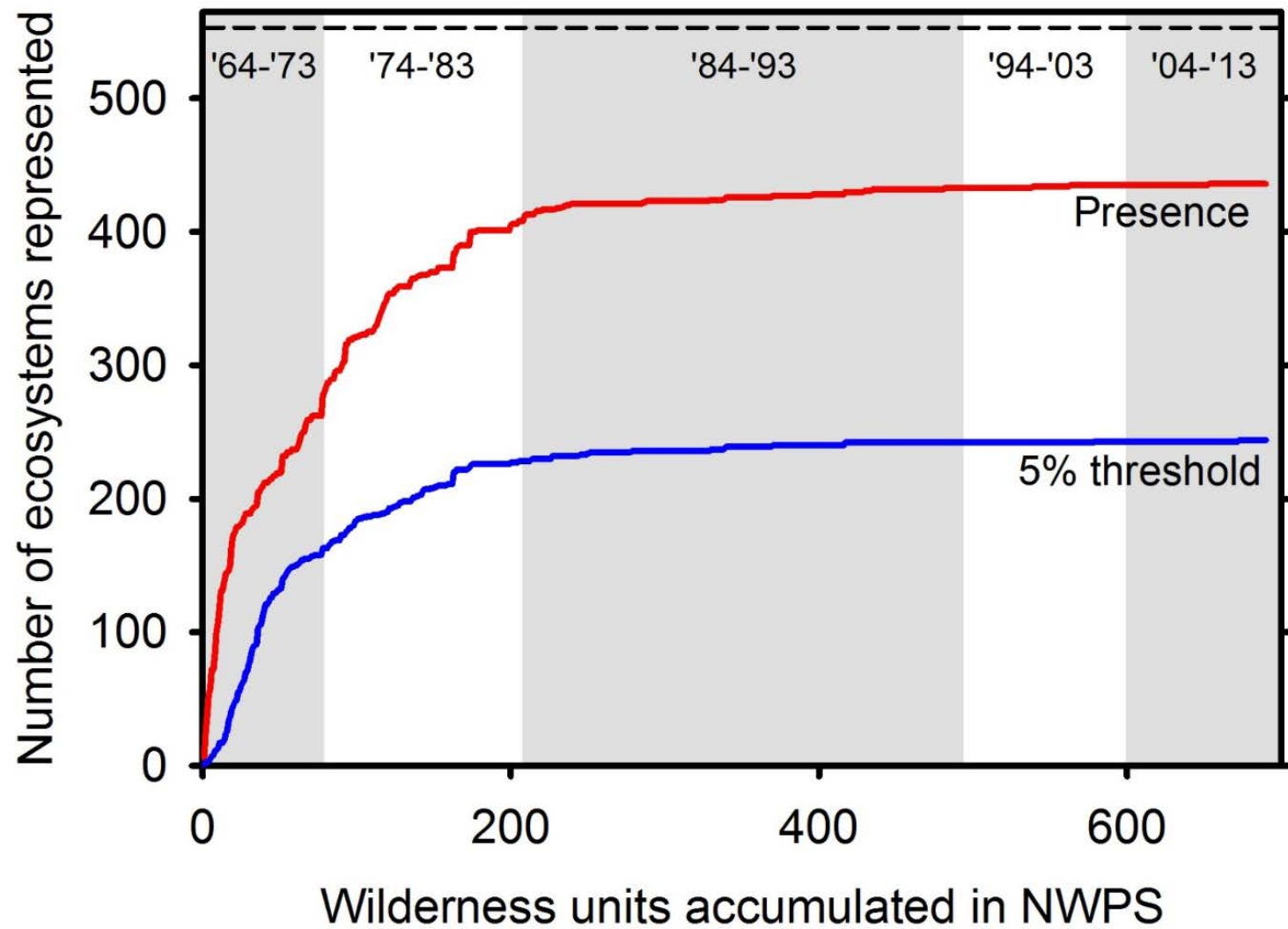
Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

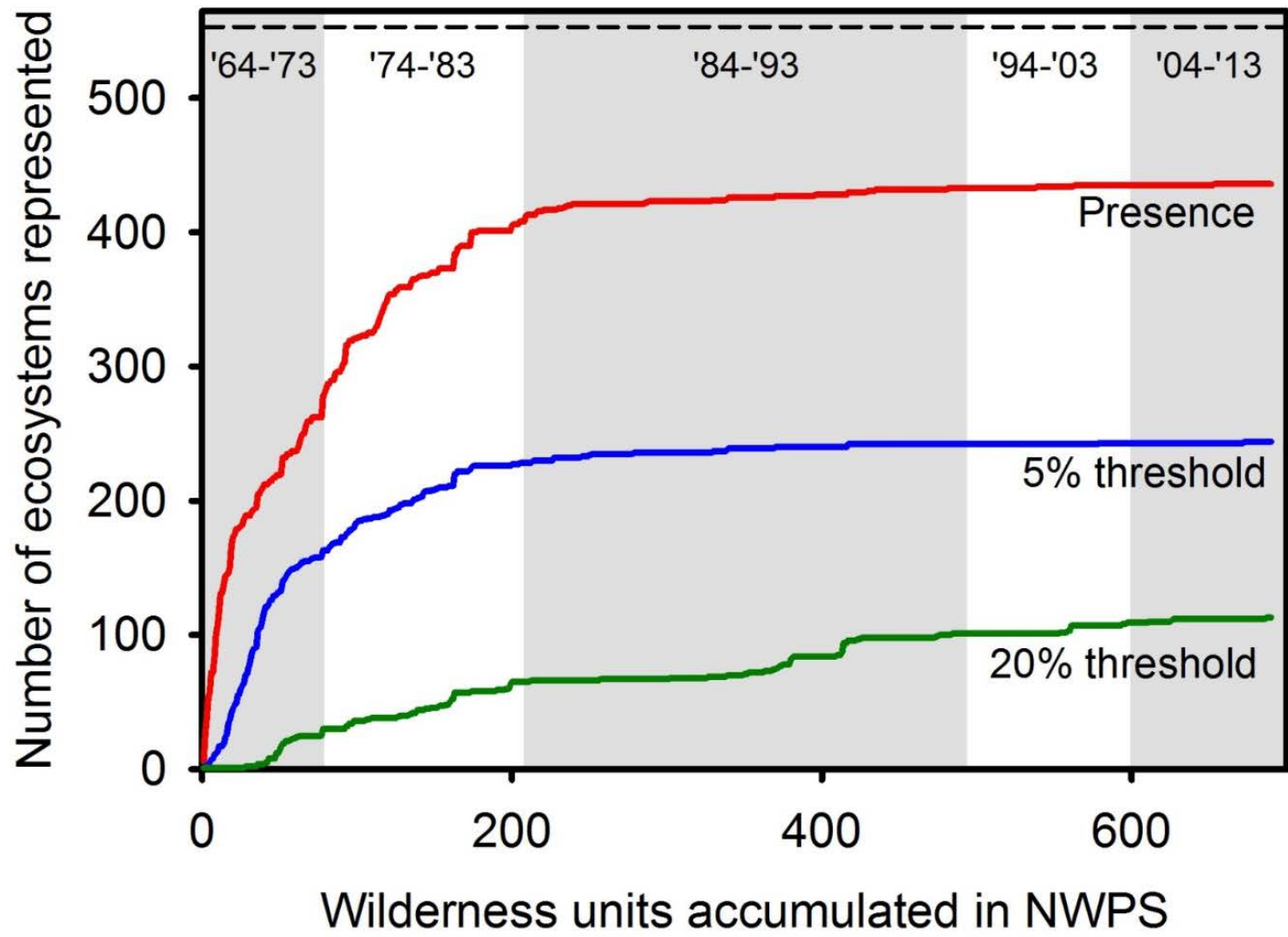










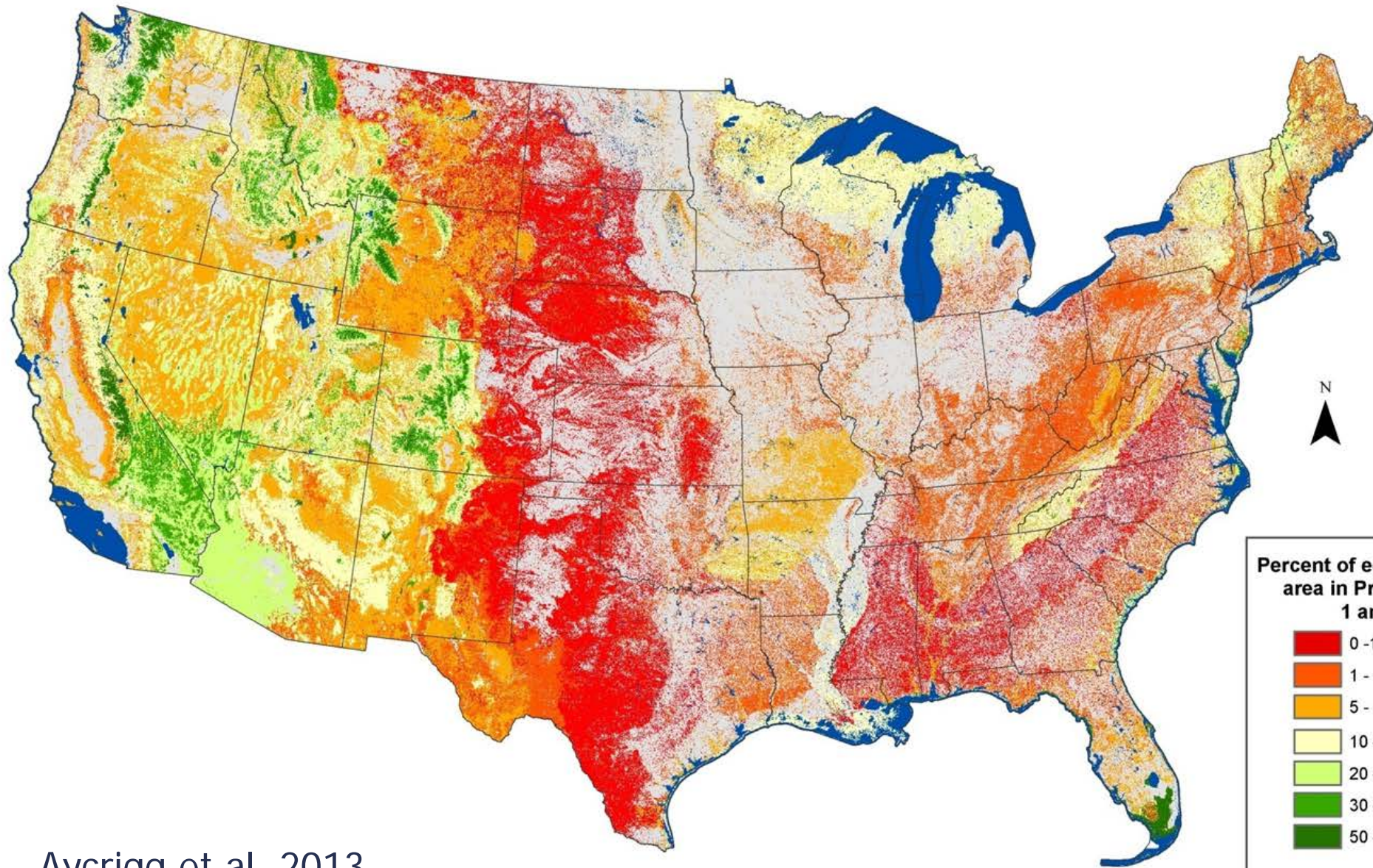




Sonora-Mojave Creosotebush-White Bursage Desert Scrub



Inter-Mountain Basins Big Sagebrush Shrubland



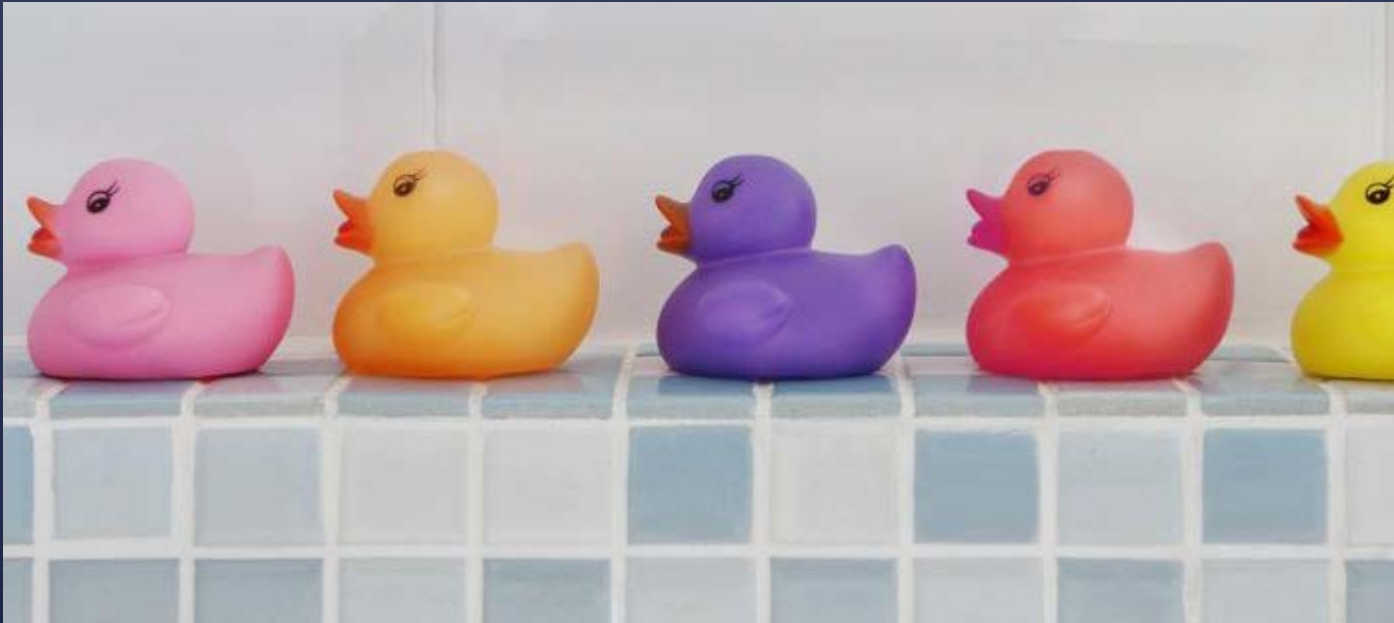
Aycrigg et al. 2013

0 100 200 400 600 800 Miles

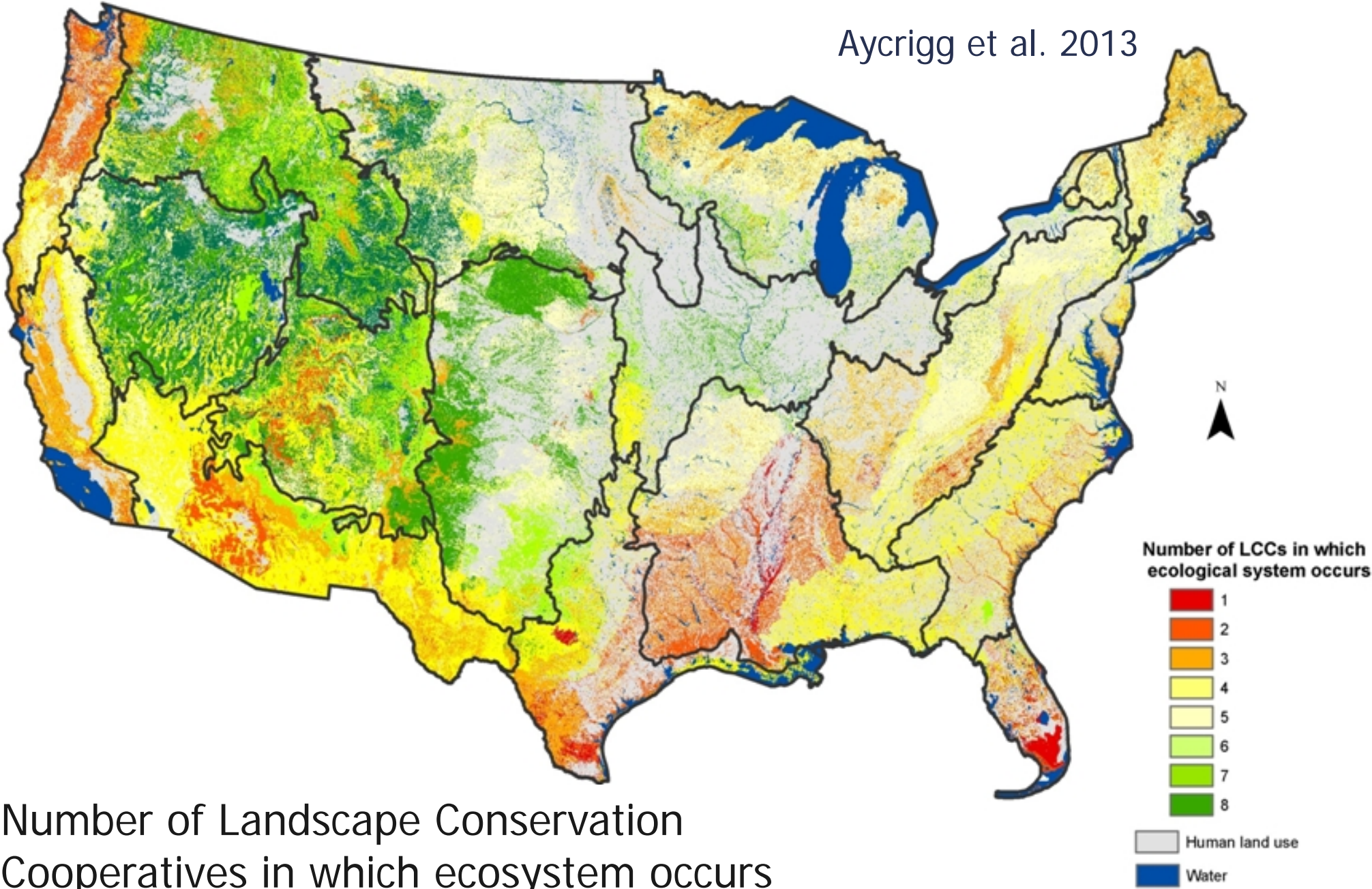
Redundancy

Keep backups to guard against complete loss of species or habitat

A hedge against the failure of any individual species population or habitat type



Aycrigg et al. 2013



Number of Landscape Conservation Cooperatives in which ecosystem occurs

Resiliency

Every component of ecosystem is essential

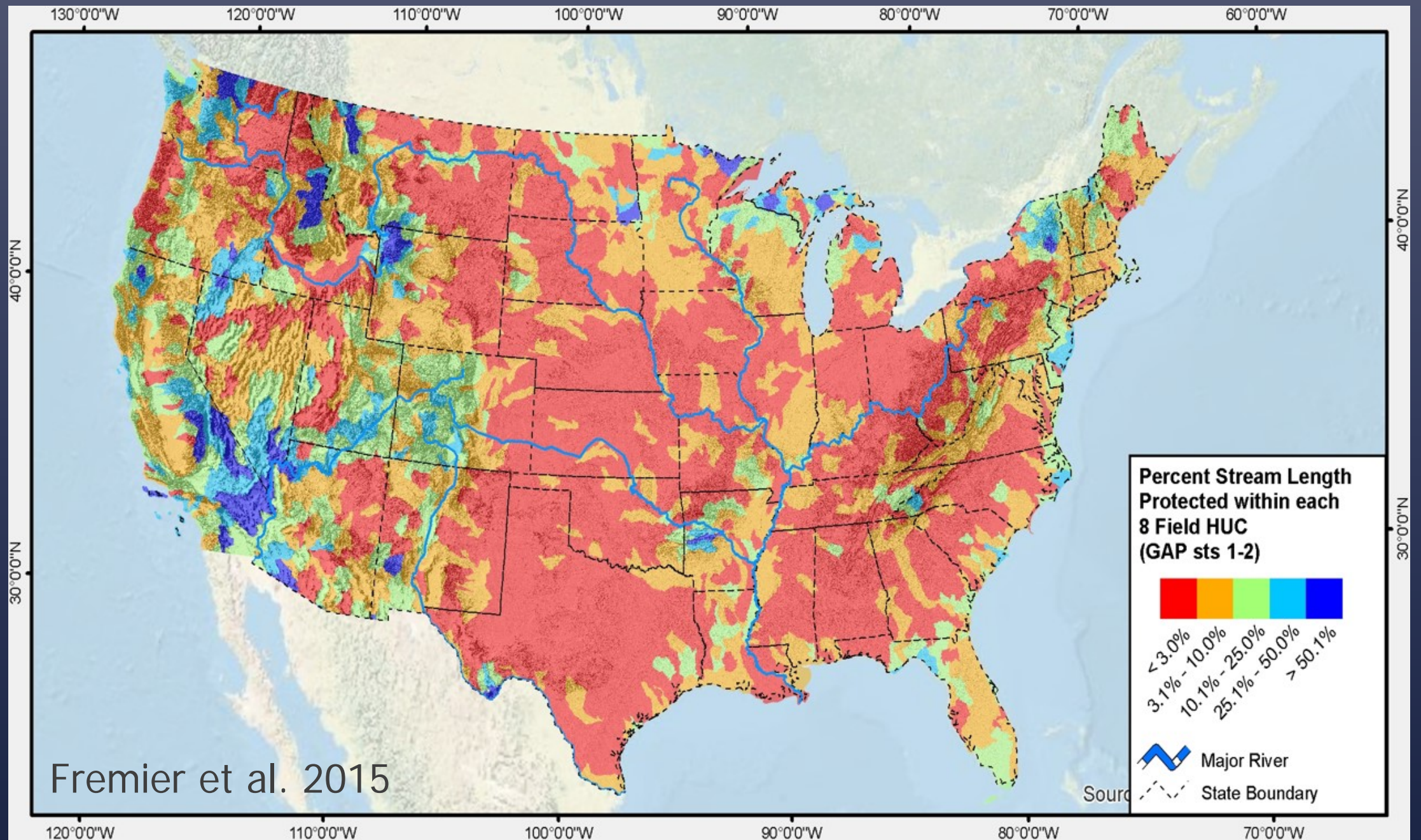
Capacity of ecosystem to respond to perturbation by resisting, recovering or transforming

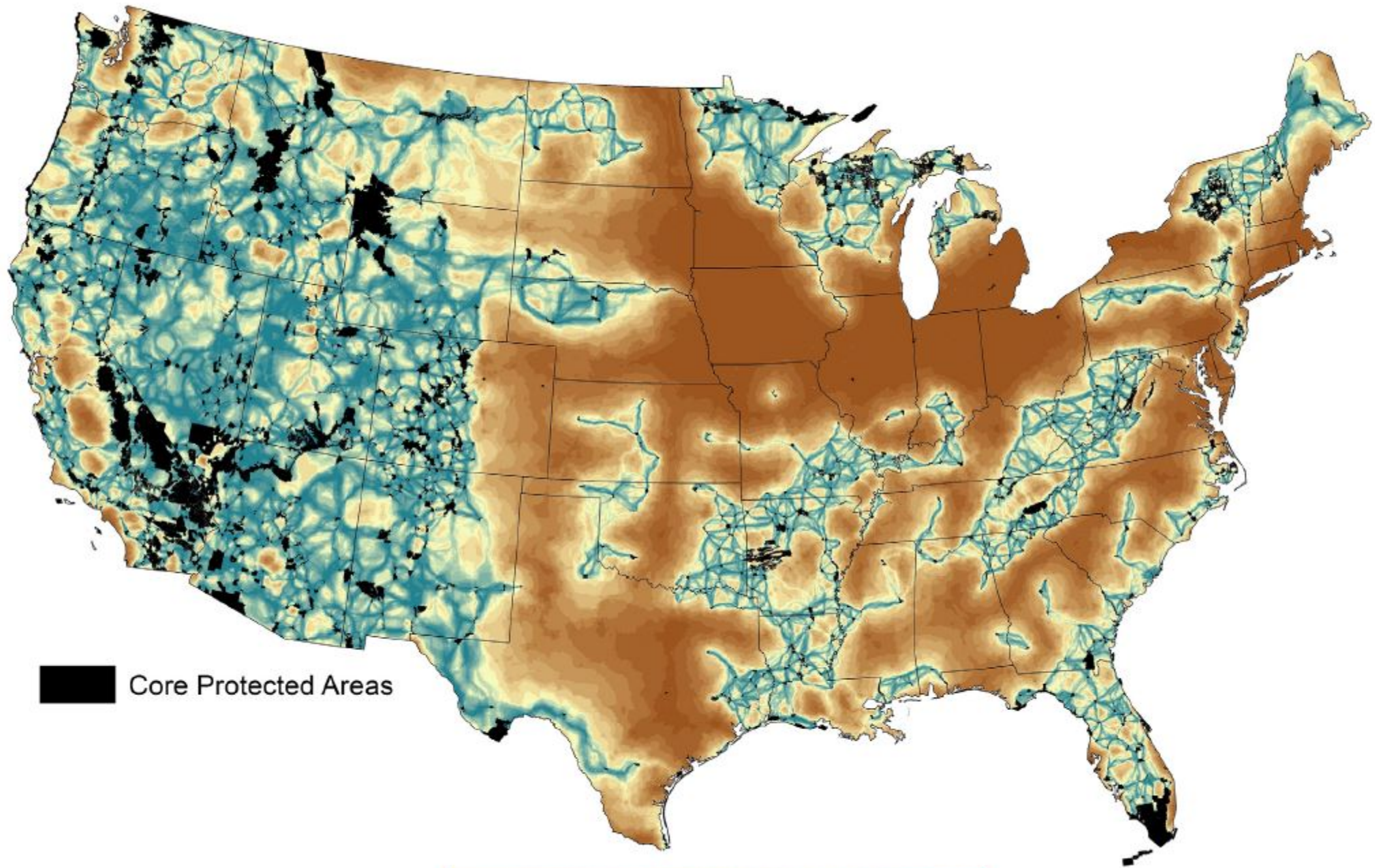


Resiliency

How can we build the capacity to deal with change across landscapes?







Core Protected Areas

Low Composite corridor value High

Belote et al. 2016

What opportunities exist for Clark County Desert Conservation Program?

Assess representation of habitats
within county-owned lands
throughout county

Assess redundancy of
species
habitats

Determine resiliency
of what?
to what?





Thank you!

