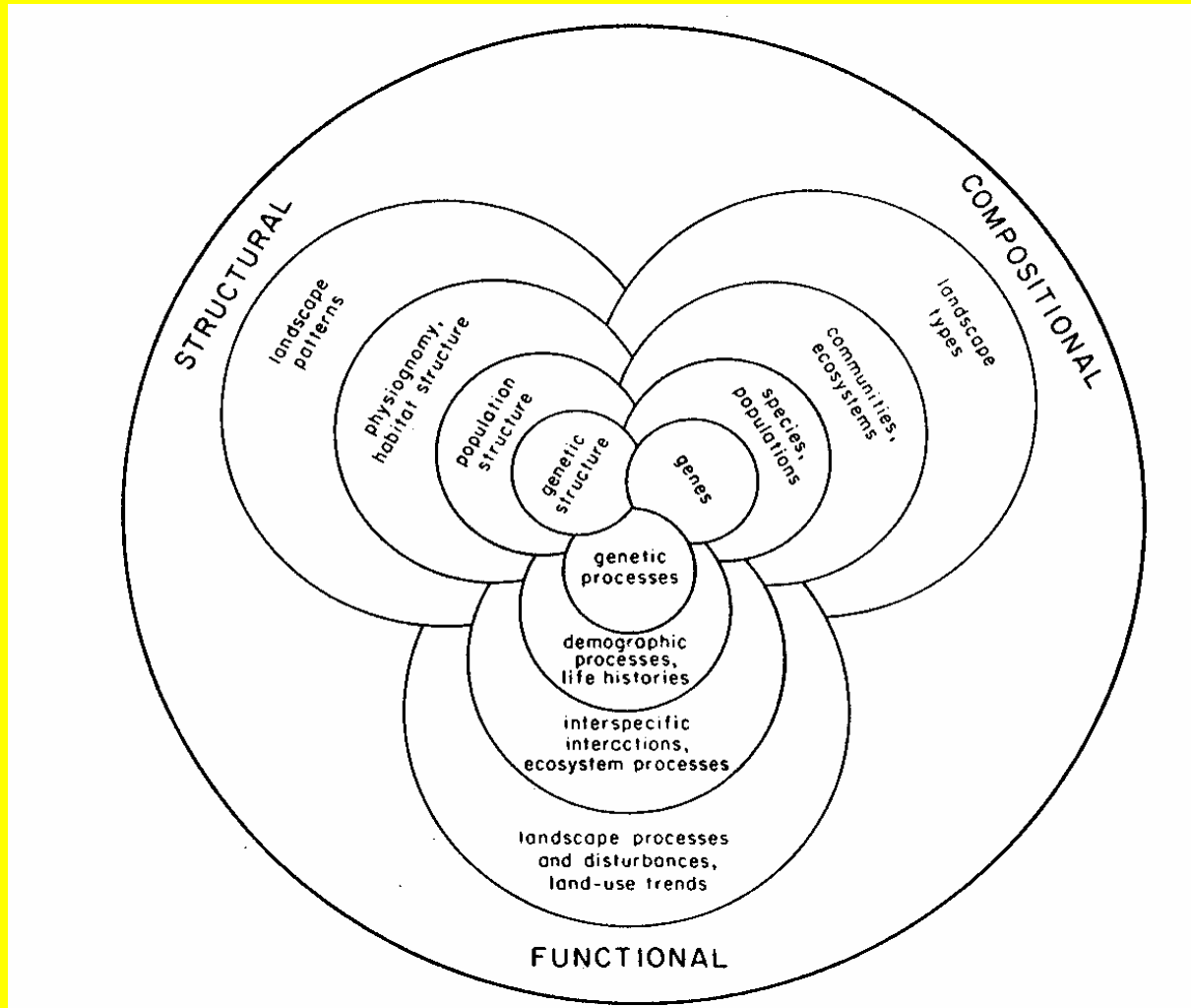


What are we protecting?
Where should we focus our efforts?
When should it take place?

Reed F. Noss
University of Central Florida



Biodiversity: the variety of life at multiple scales and levels of organization



Native Species in Natural and Semi-natural Landscapes





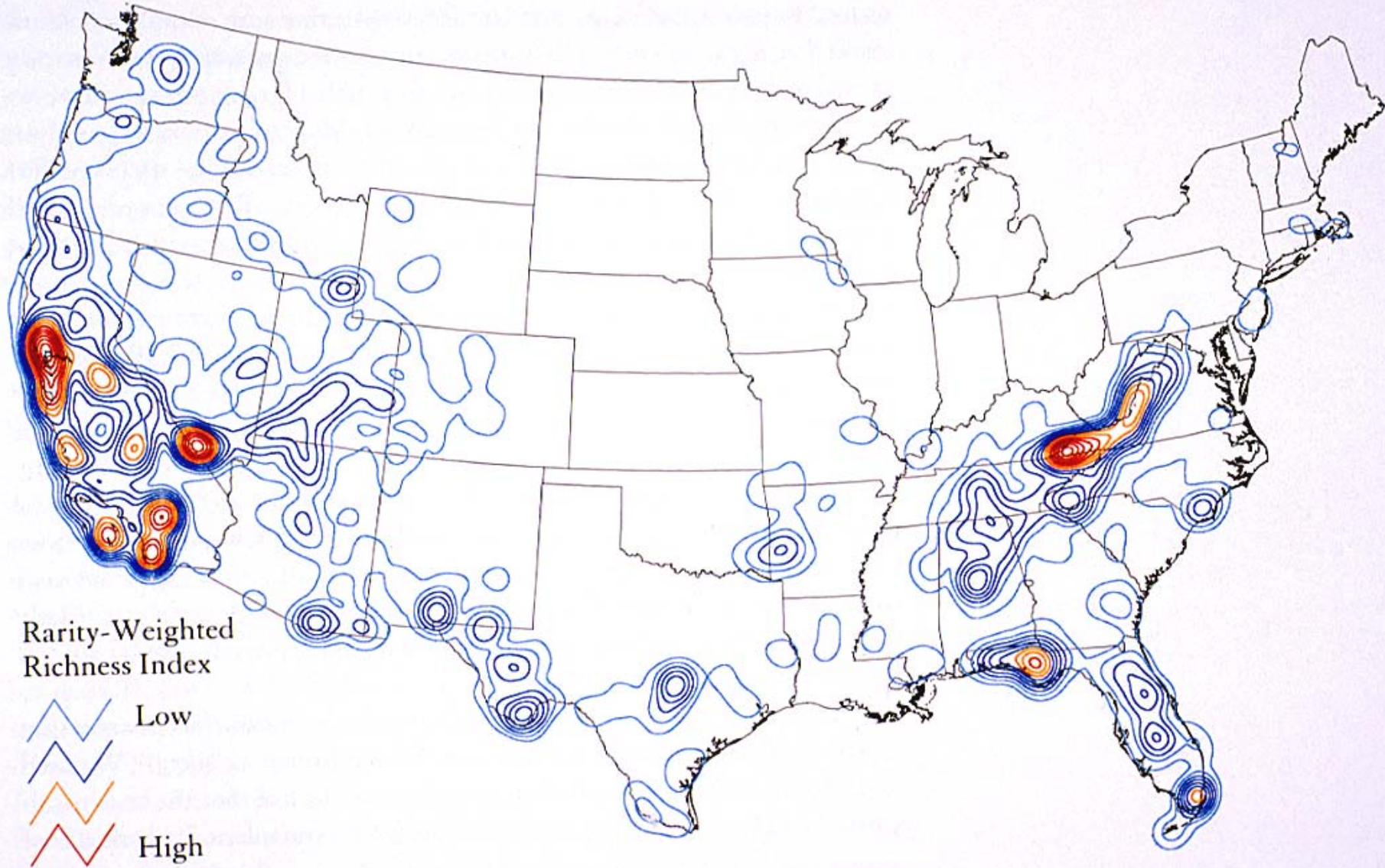
Approaches to Conservation Planning

- Protection of **special elements**—identifying, mapping, and protecting rare species occurrences, imperiled natural communities, and other sites of high biodiversity value
- **Representation** of a full spectrum of habitat types (e.g., vegetation, abiotic habitats, aquatic habitats)
- Conservation of **focal species**—protecting and managing key habitats of species of high ecological importance or sensitivity to disturbance by humans (e.g., T & E species)

Special Elements: the fine filter



Hot Spots Defined by Richness and Rarity



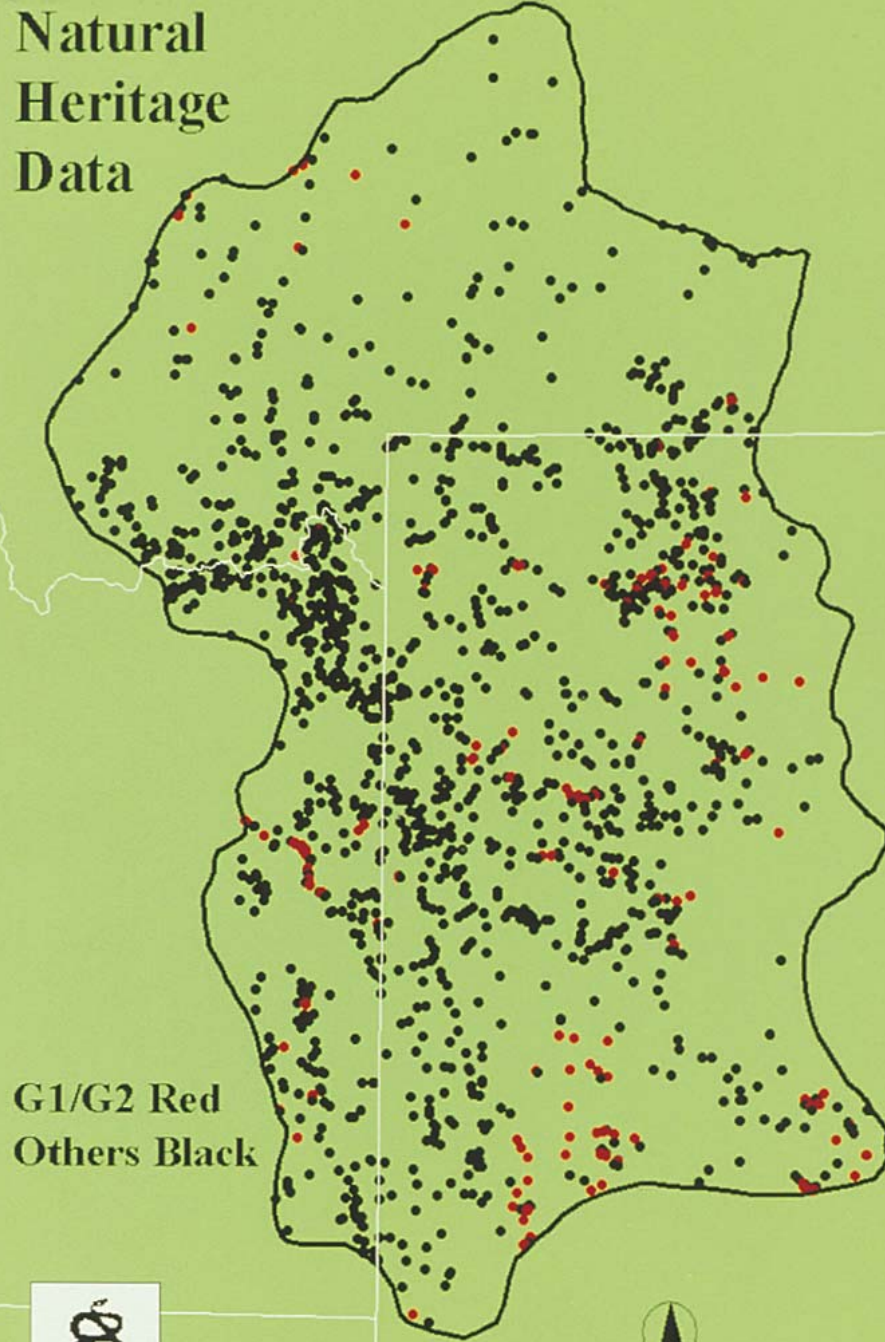
From: Stein et al. (2000)



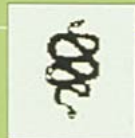


Liatris ohlingerae

Natural Heritage Data

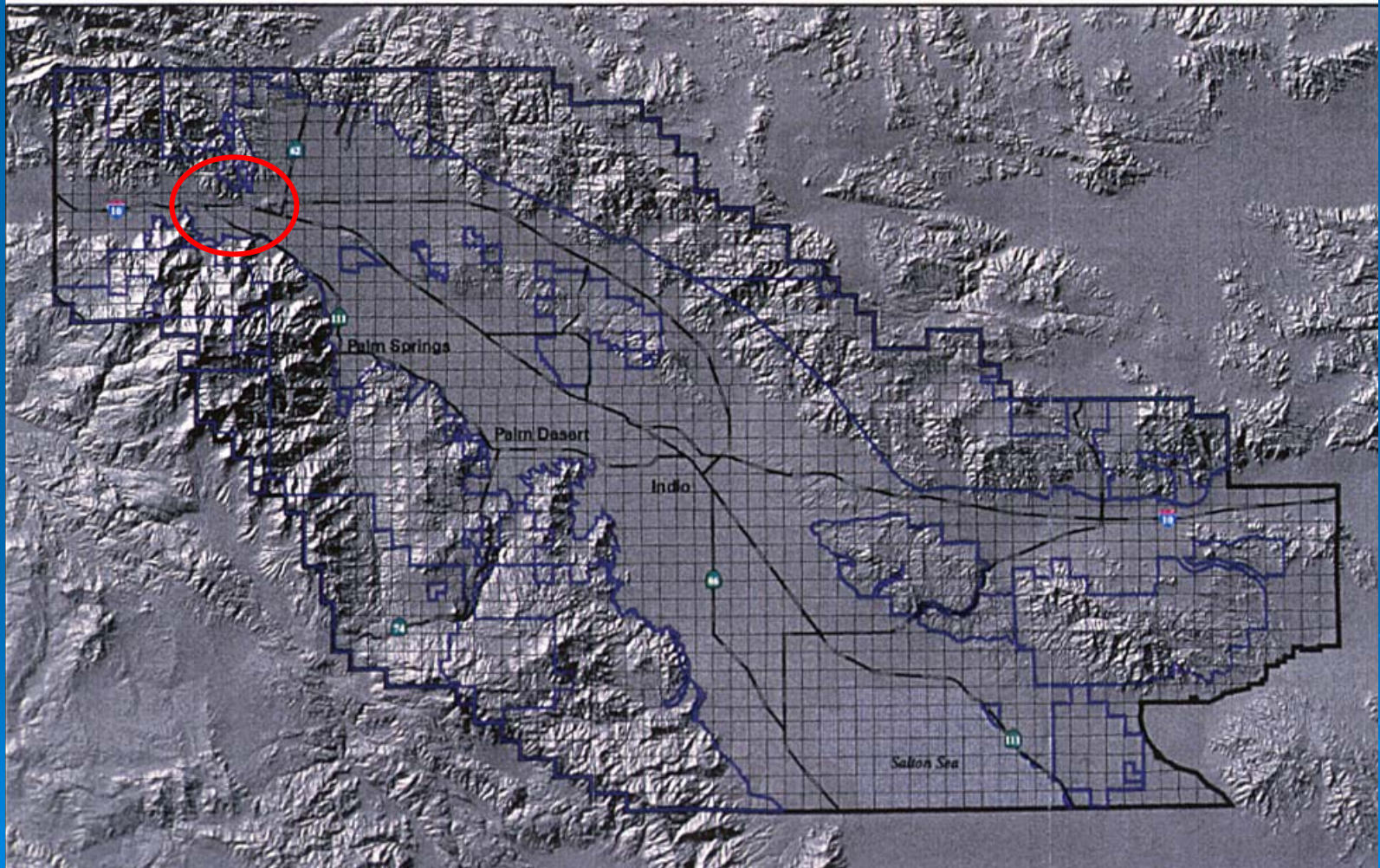


G1/G2 Red
Others Black



Wind Corridor to Coachella Valley

COACHELLA VALLEY MULTIPLE SPECIES HABITAT CONSERVATION PLAN

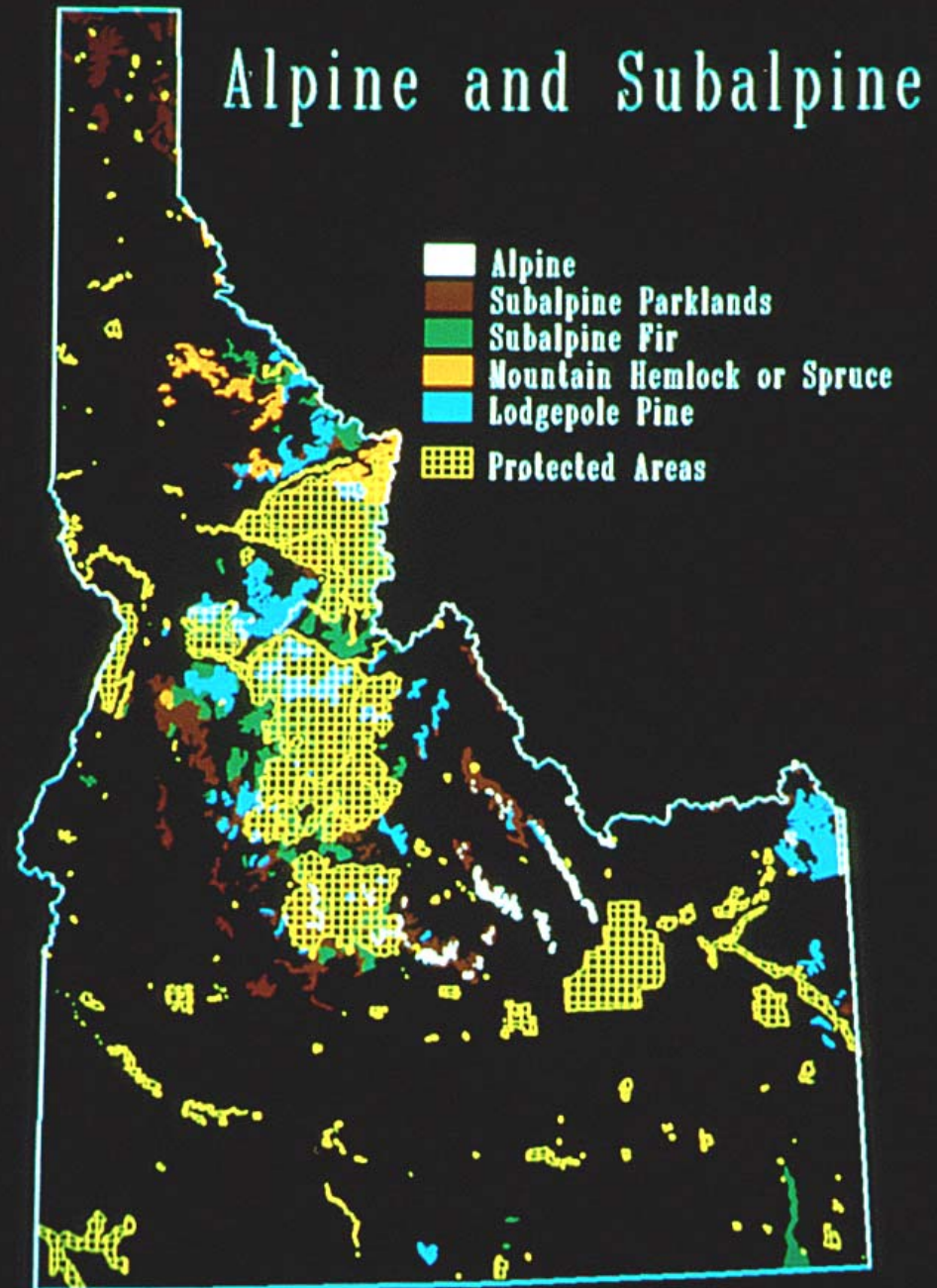


Representation: the coarse filter

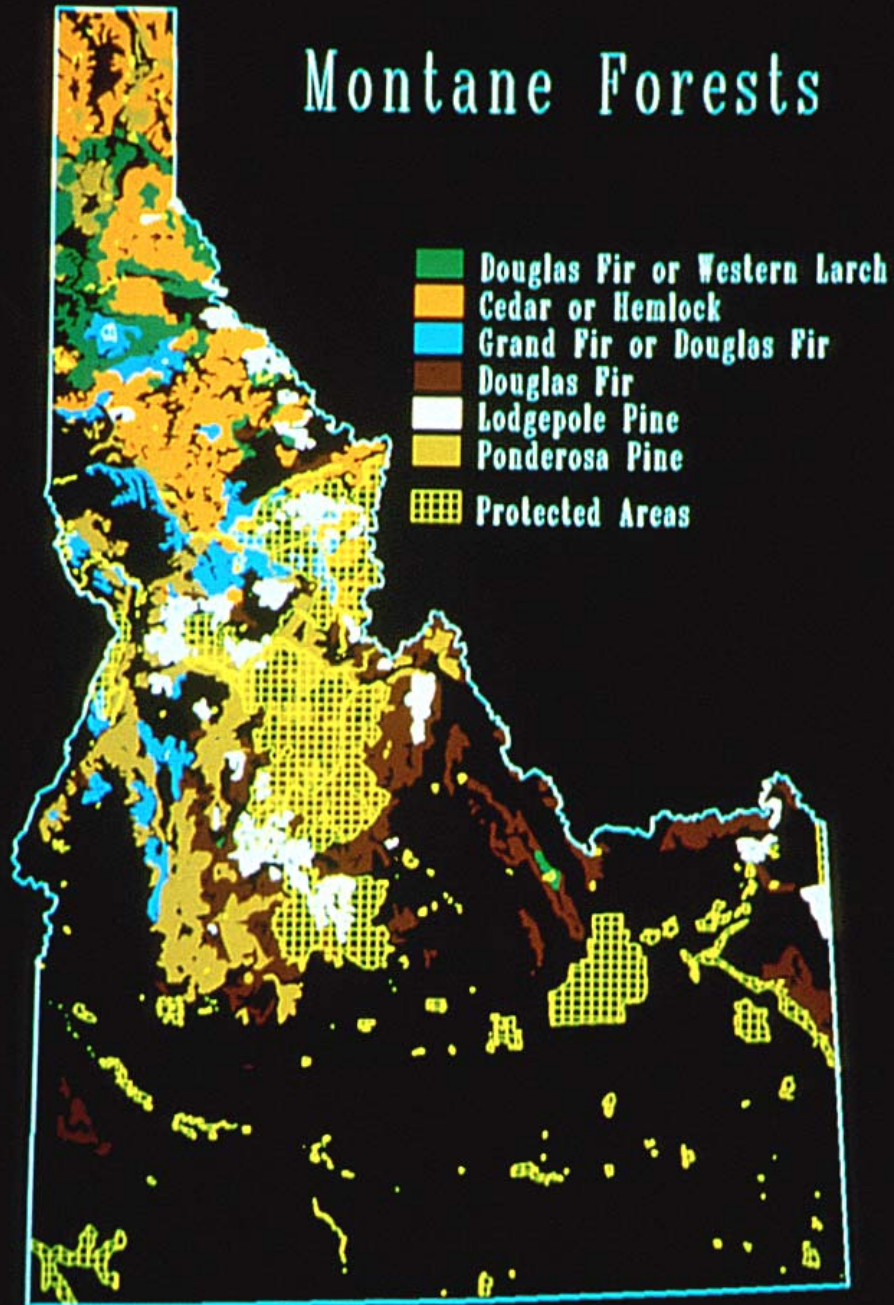


Gap Analysis

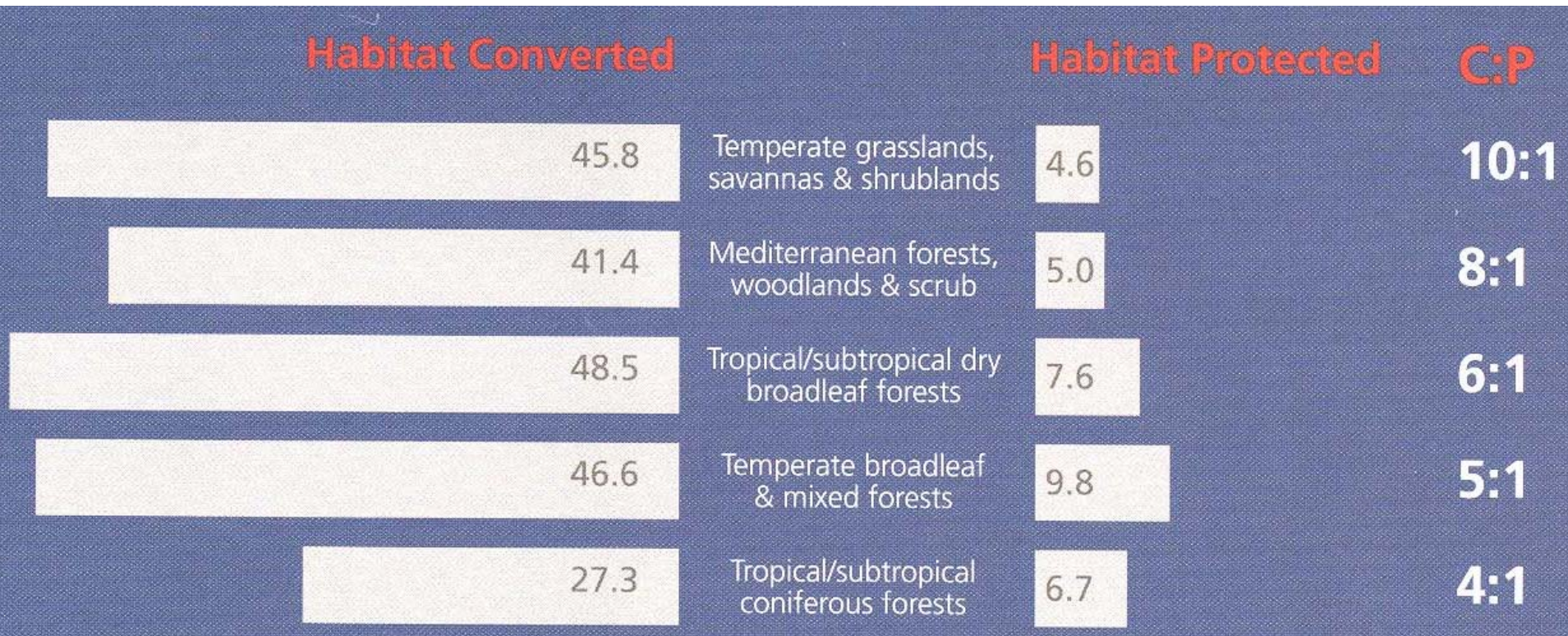
(e.g., Scott et al.
1993)



Montane Forests



The biome crisis: global disparities of habitat loss and protection

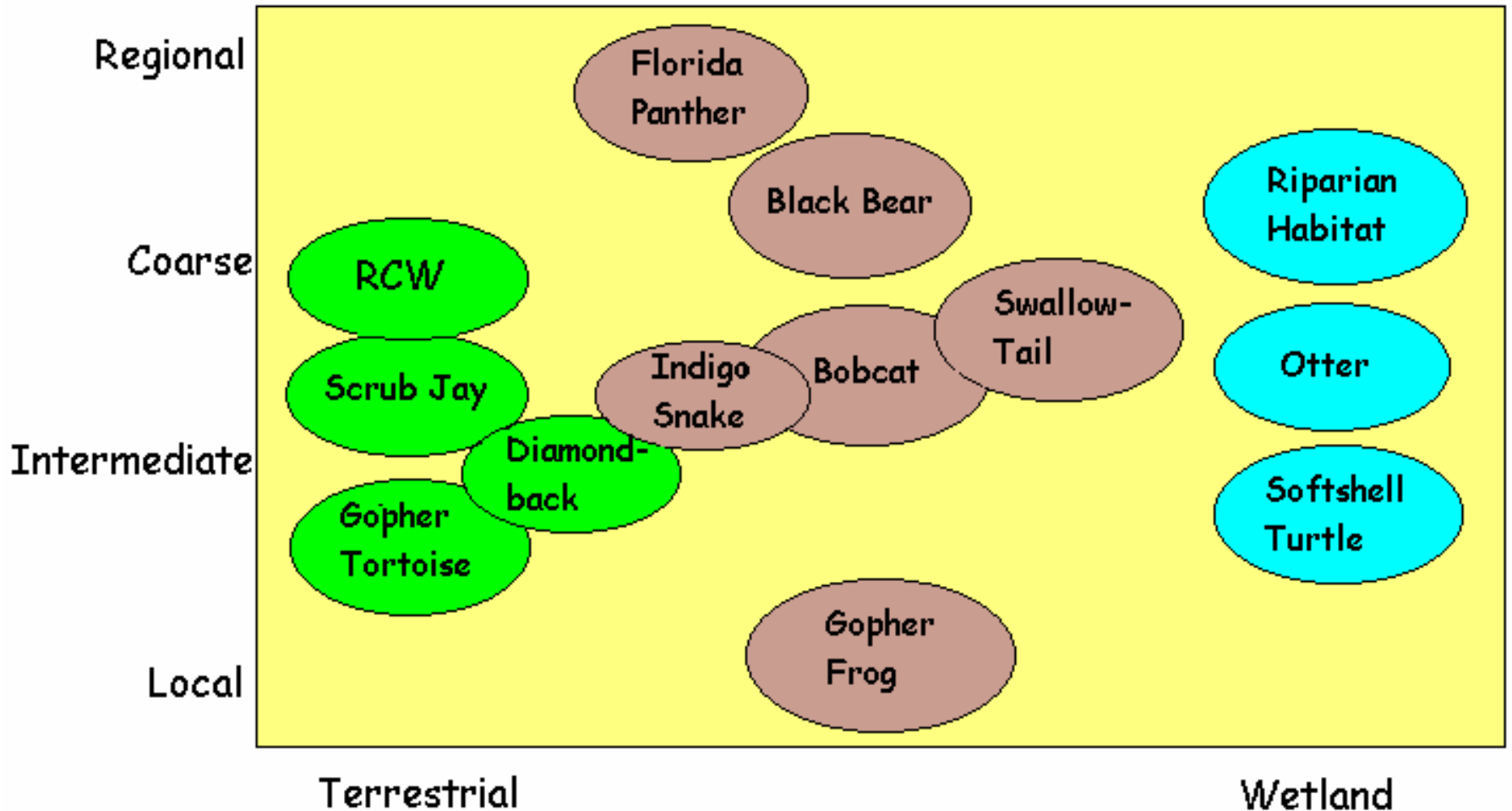


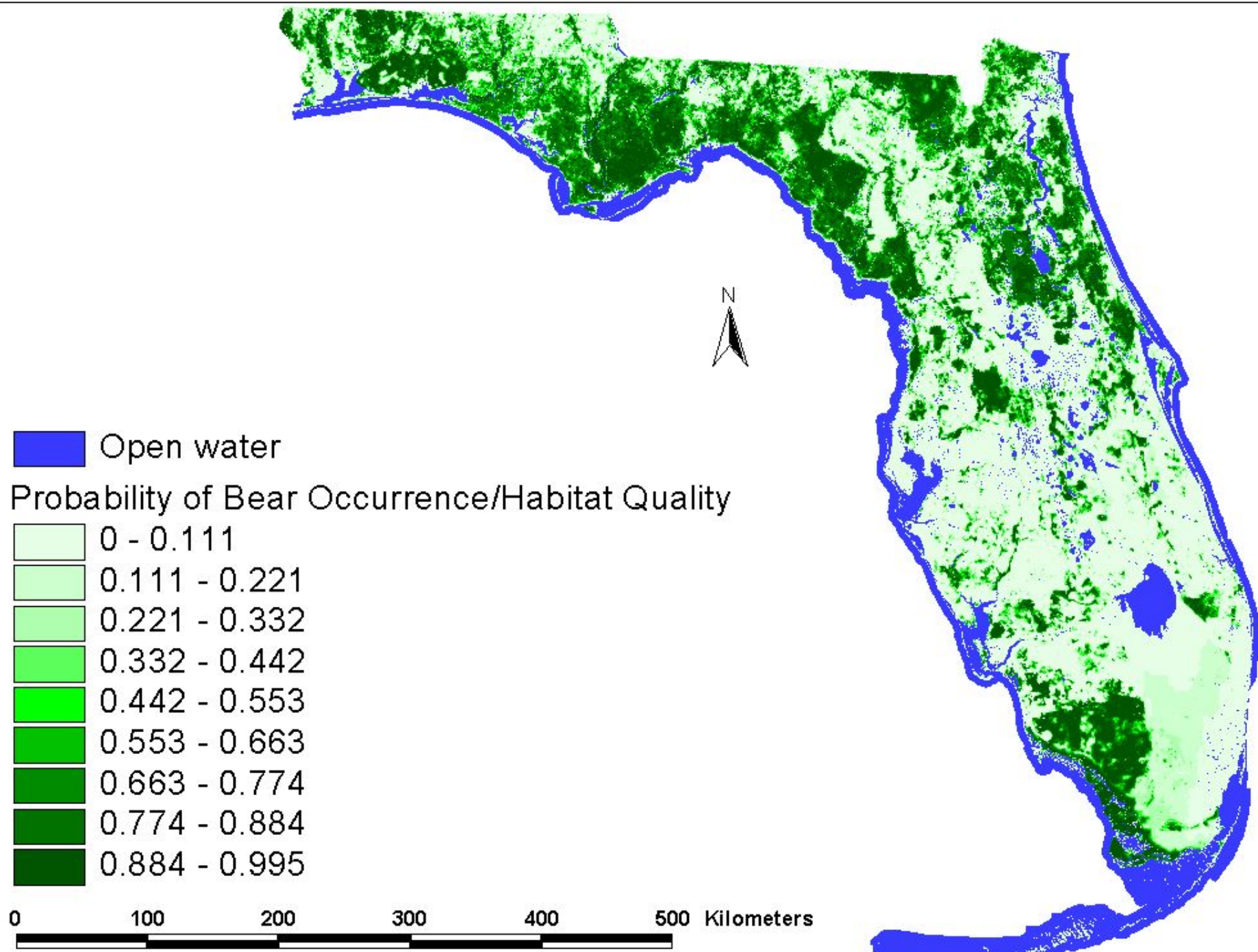
Adapted from: Hoekstra et al. (2005)

Focal Species: addressing issues of area and configuration



Focal Species for Different Scales of Planning in Florida





Florida Scrub-Jay





Artificial Firebreaks →

Disrupted Connectivity of Fire →

Increased Connectivity of Forest →

Reduced Connectivity of Scrub →

Reduced Functional Connectivity for Scrub-Jay

Focal Species at a Meso Scale: Large Snakes and Turtles:



Apalone ferox



Crotalus
adamanteus

In order to be comprehensive, conservation planning must be:

- Systematic (not opportunistic or biased)
- Scientifically rigorous
- Interdisciplinary
- Consider protected areas in addition to a well-managed landscape matrix
- Concerned with sustainability of natural, social, and economic capital
- Transparent and public

The Exurban Problem

- Over 80% of housing development in the U.S. over the past decade was in rural areas, with nearly 60% of homes on lots \geq 4 acres
- One of worst effects of such development: increases in road density and traffic volume (greater than effect of habitat loss)
- In some landscapes, exurban development is changing the wildland-urban gradient to an abrupt wildland-urban interface
- In all cases, exurban development limits future conservation options

Solutions?

- Planning must be proactive, not merely reactive, to avoid crossing critical thresholds of population viability and ecosystem function
- Planning must occur at multiple spatial and temporal scales and jurisdictions
- Growth cannot be endlessly accommodated; sooner or later, growth must cease