The Living Lands Project

Aimee Weldon

Living Lands Project Manager

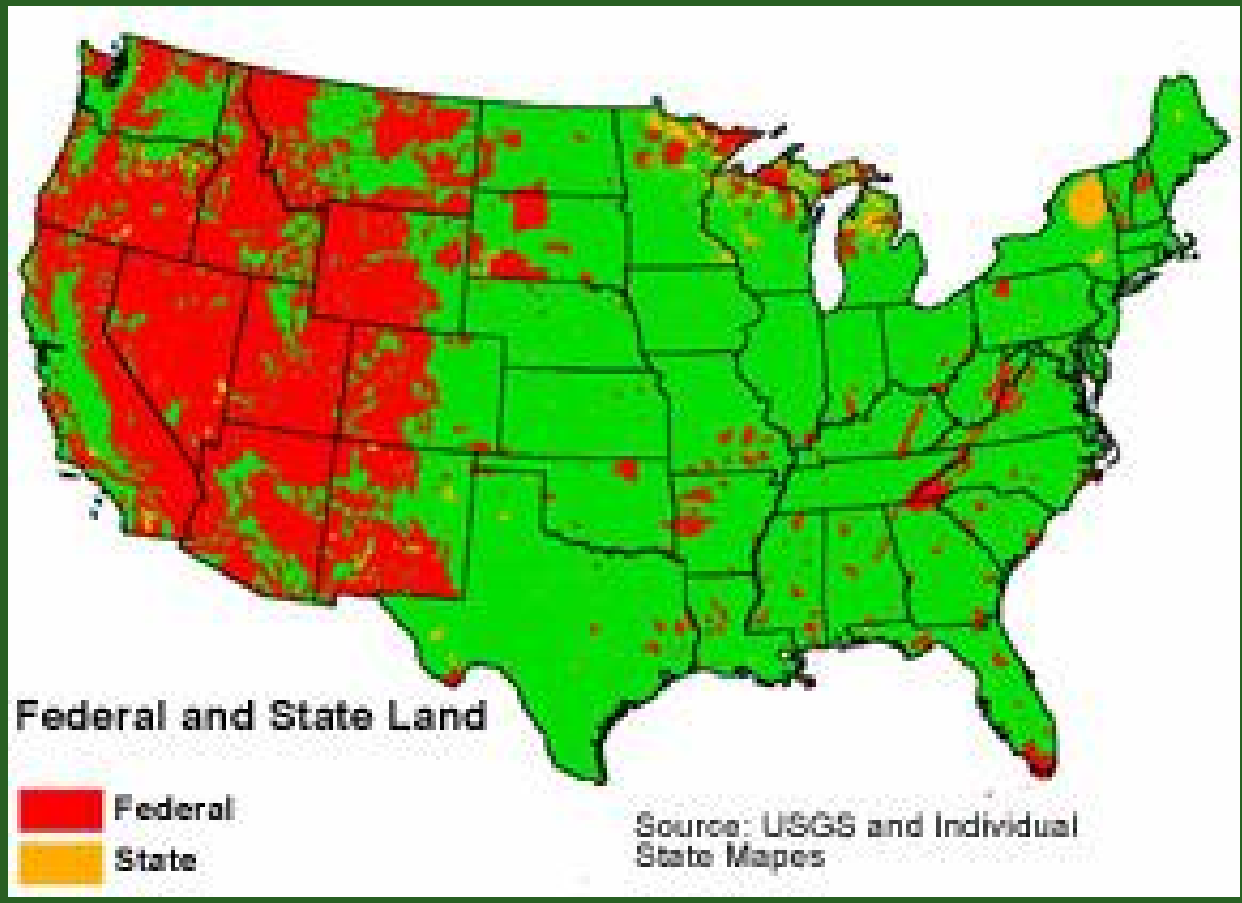
Living Lands Project
Defenders of Wildlife

Our Mission:

To support the work of local land trusts interested in conserving native wildlife and habitat diversity

Land Trusts are Essential

>70% of 1.8 billion acres in private ownership

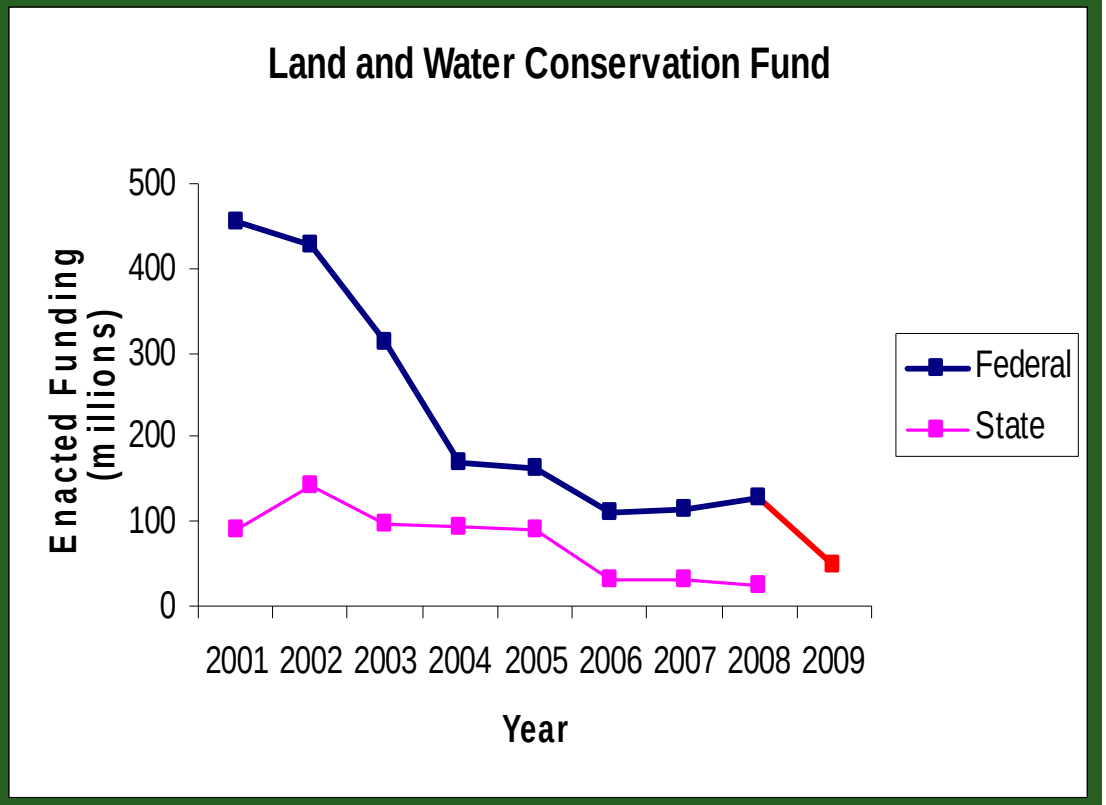


Private Land is Important

- **> 65% of all Threatened and Endangered species rely on private lands**
- **10% found *only* on private lands**

Protected Lands are Insufficient

- **Protected areas are:**
  - **Too small**
  - **Too fragmented**
  - **Too isolated**
- **Federal dollars are drying up**



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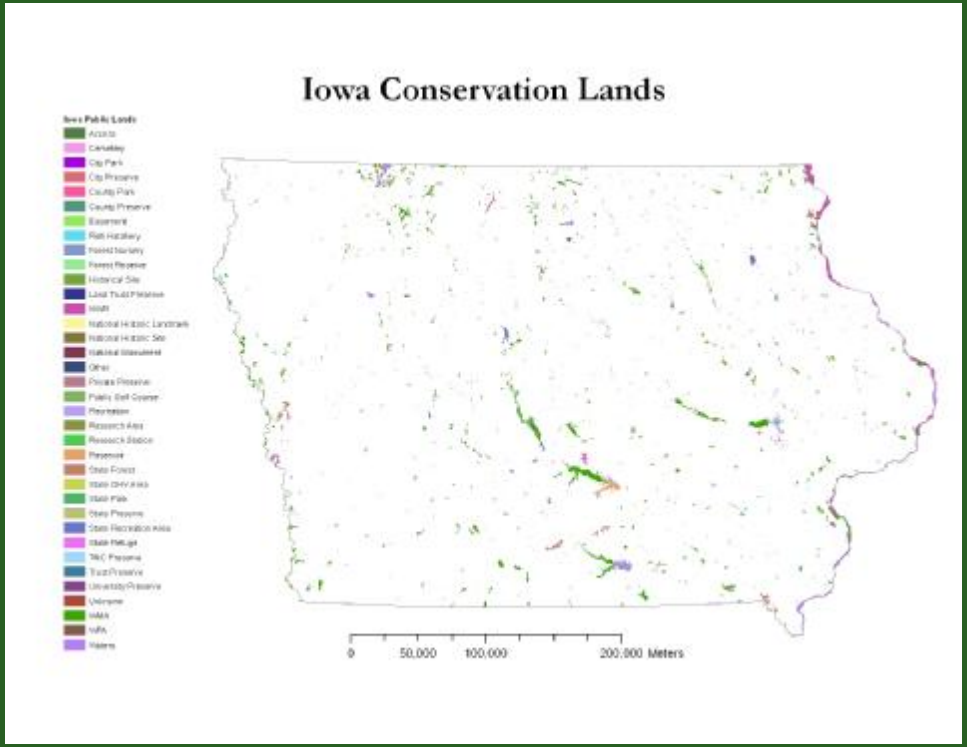
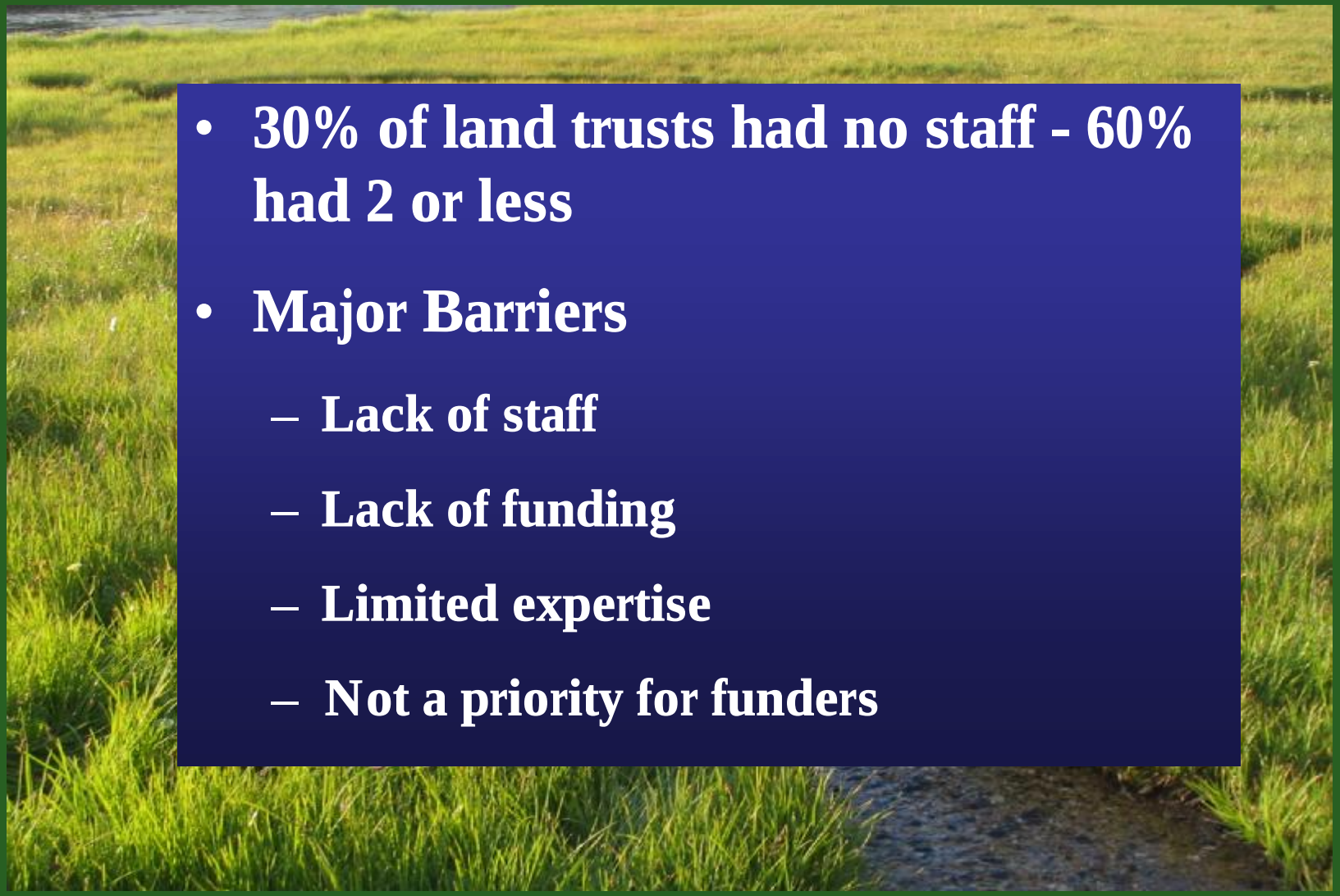
- **Climate Change??**



Land Trusts Care about Habitat

- Total response: 135 land trusts
- Mission includes habitat: 97%
- Protect agricultural lands: 71%
- Want to increase capacity for biodiversity conservation: 89%

Land Trust Barriers



- 30% of land trusts had no staff - 60% had 2 or less
- Major Barriers
  - Lack of staff
  - Lack of funding
  - Limited expertise
  - Not a priority for funders

What we Offer: Biodiversity Grants

- Annual awards of up to $10,000
- Funded projects:
  - Habitat restoration
  - Development of wildlife monitoring and management plans
  - Community forums
  - Carbon sequestration and working forest easement models

Teton Regional Land Trust restoration project

Nisqually Land Trust protection project

What we Offer: Capacity Building and Training Opportunities

- Workshops
  - Biodiversity Track at Rally
  - Regional conferences
- Chesapeake Bay watershed opportunity
- Funding expertise
- Educational resources:

www.defenders.org/livinglands

What we Offer: Wildlife Volunteer Corps

Questions?

Contact:

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Defenders of Wildlife

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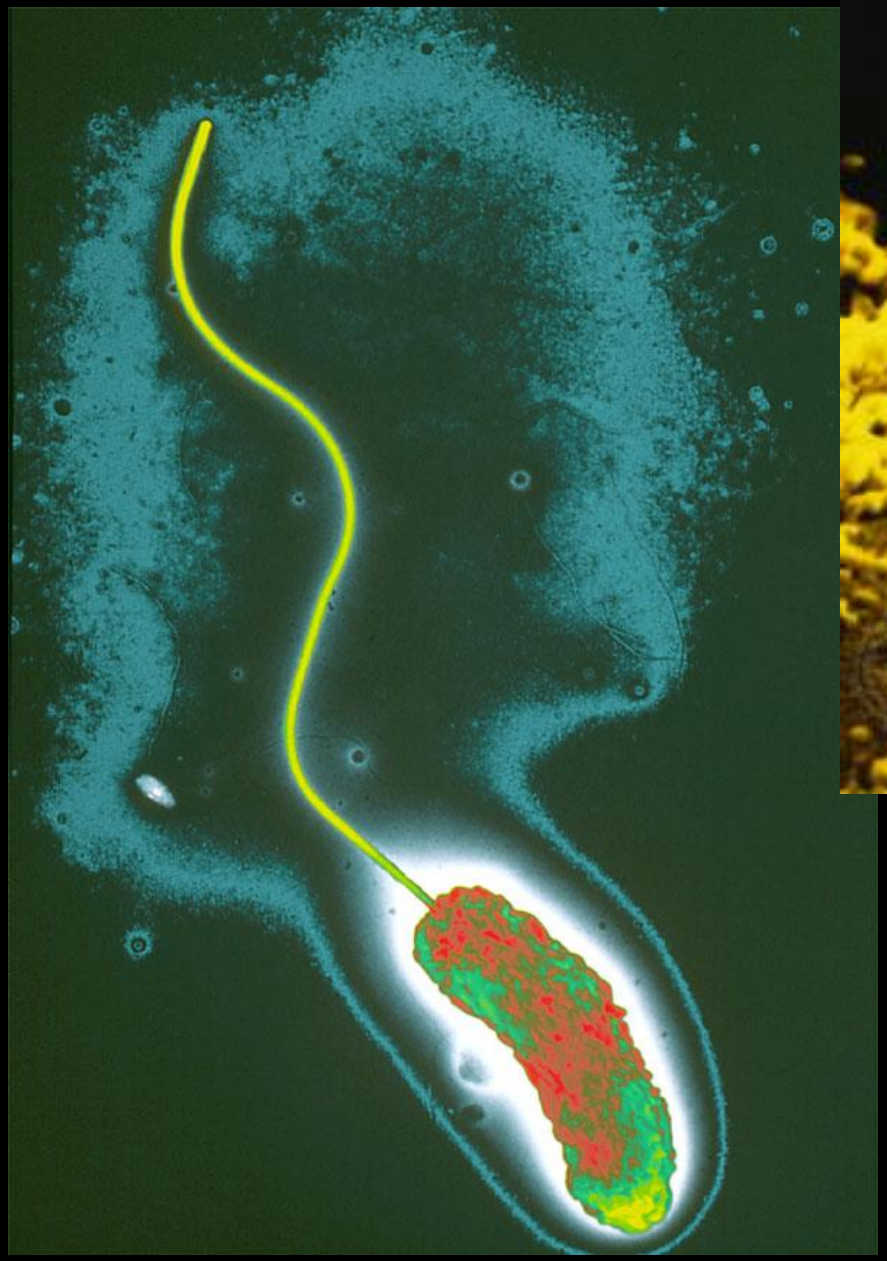
What's Biodiversity Got to Do With It?

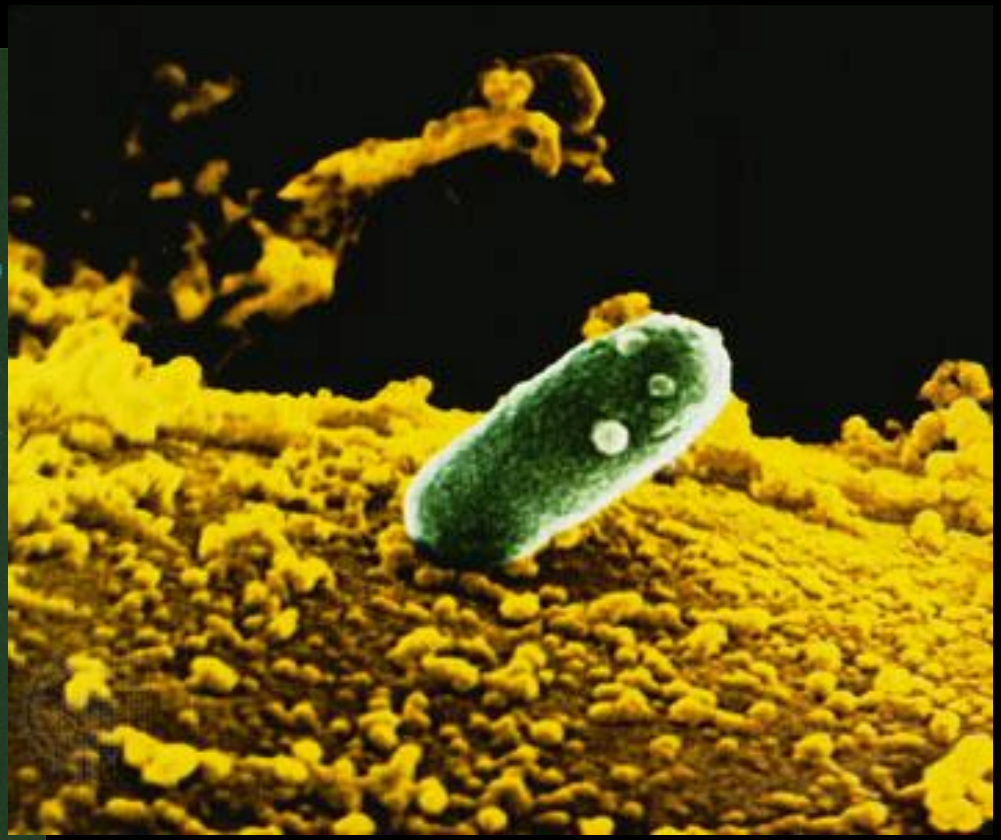
Bruce A. Stein

Biodiversity for Dummies Workshop
Land Trust Alliance Rally
September 20, 2008

Biodiversity

Life on Earth



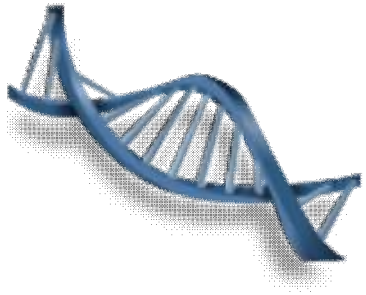


Levels of Biodiversity

Ecosystems

Species

Genes



Components of Biodiversity

- Composition
  - The different types of things (e.g., species, communities, genes)
    - “diversity” or richness (number of different things)
- Structure
  - Physical patterns (e.g., forests, grasslands)
- Function
  - Processes, both ecological and evolutionary
    - fire, flooding, gene flow, etc.
    - “you can't hug a biogeochemical cycle"

Etymology

(not entomology – that's bugs)

- Shortened from "biological diversity"
- First use of "biodiversity" attributed to EO Wilson as part of 1986 conference hosted by National Research Council
- Rapid adoption, particularly post Earth Summit (1992)
  - ...but grandmothers universally have no clue what it means!

Definitions

- No universally adopted definition
- Convention on Biological Diversity
  - ". . . the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."
- My working definition
  - the variety and variability of life on Earth, from genes to ecosystems, together with the ecological and evolutionary processes that sustain it.
  - or, most simply: The variety of life on Earth

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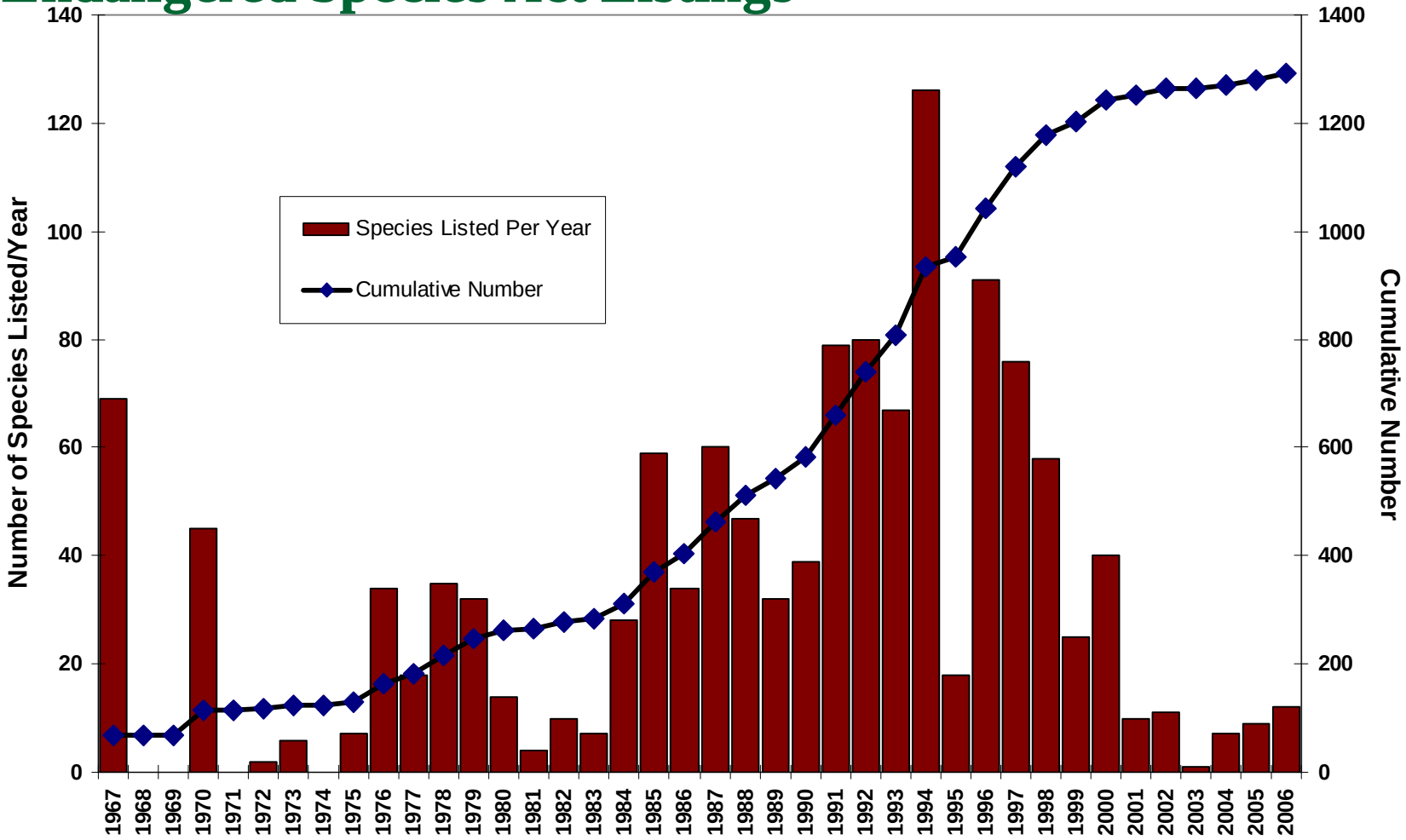
Other Commonly Used Terms (some interchangeable, some not)

- Wildlife
- Fish and Wildlife
- Plants and Animals
- Species and Ecosystems
- Habitats
- Nature

How are U.S. Species Faring?

Endangered Species Act Listings



1,310 U.S. species listed (2/07) under ESA
566 animals and 744 plants

Source: USFWS TES database

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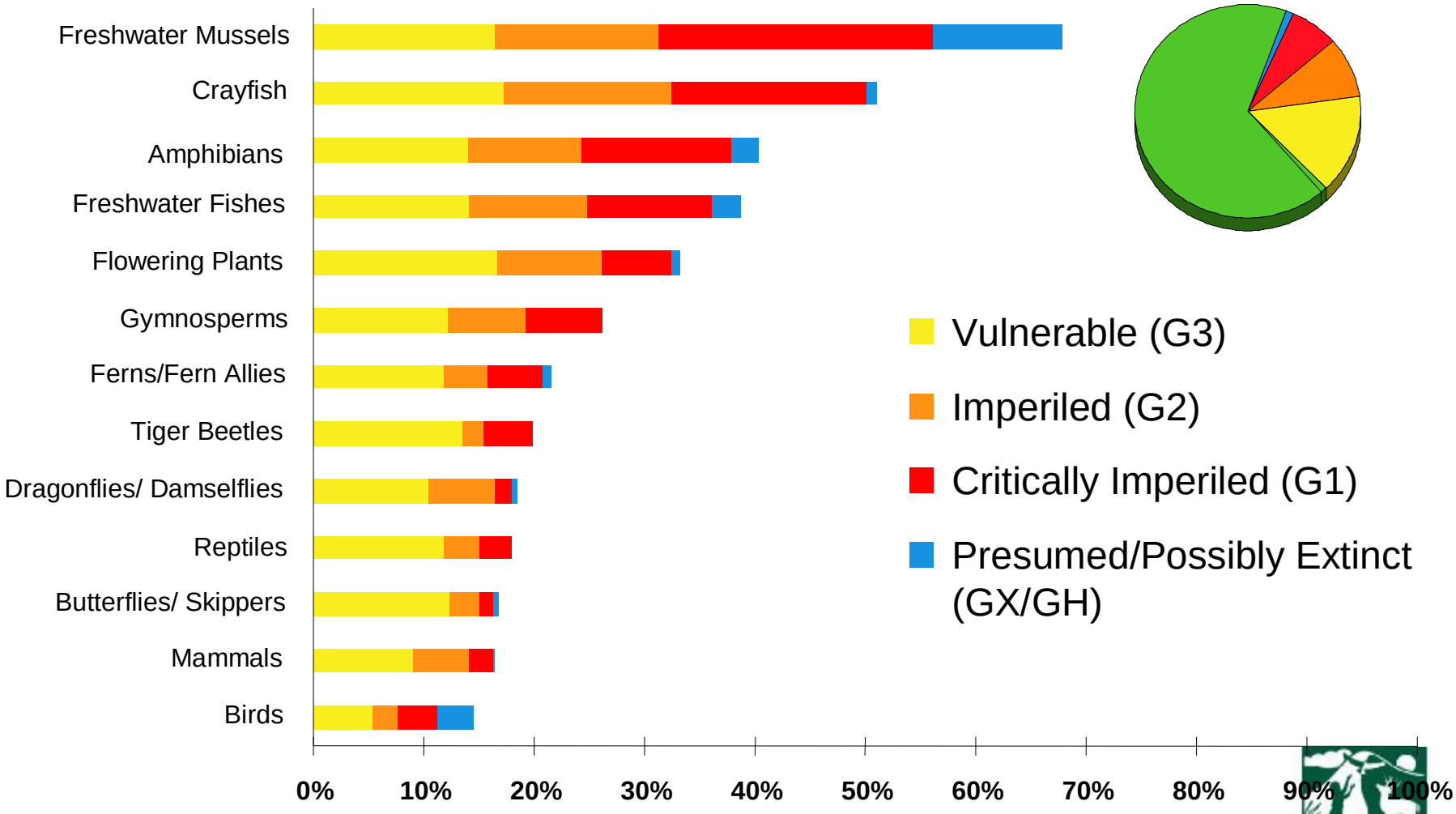
NatureServe Status of U.S. Species



Analysis includes 20,897 species. Source: Stein et al. 2000

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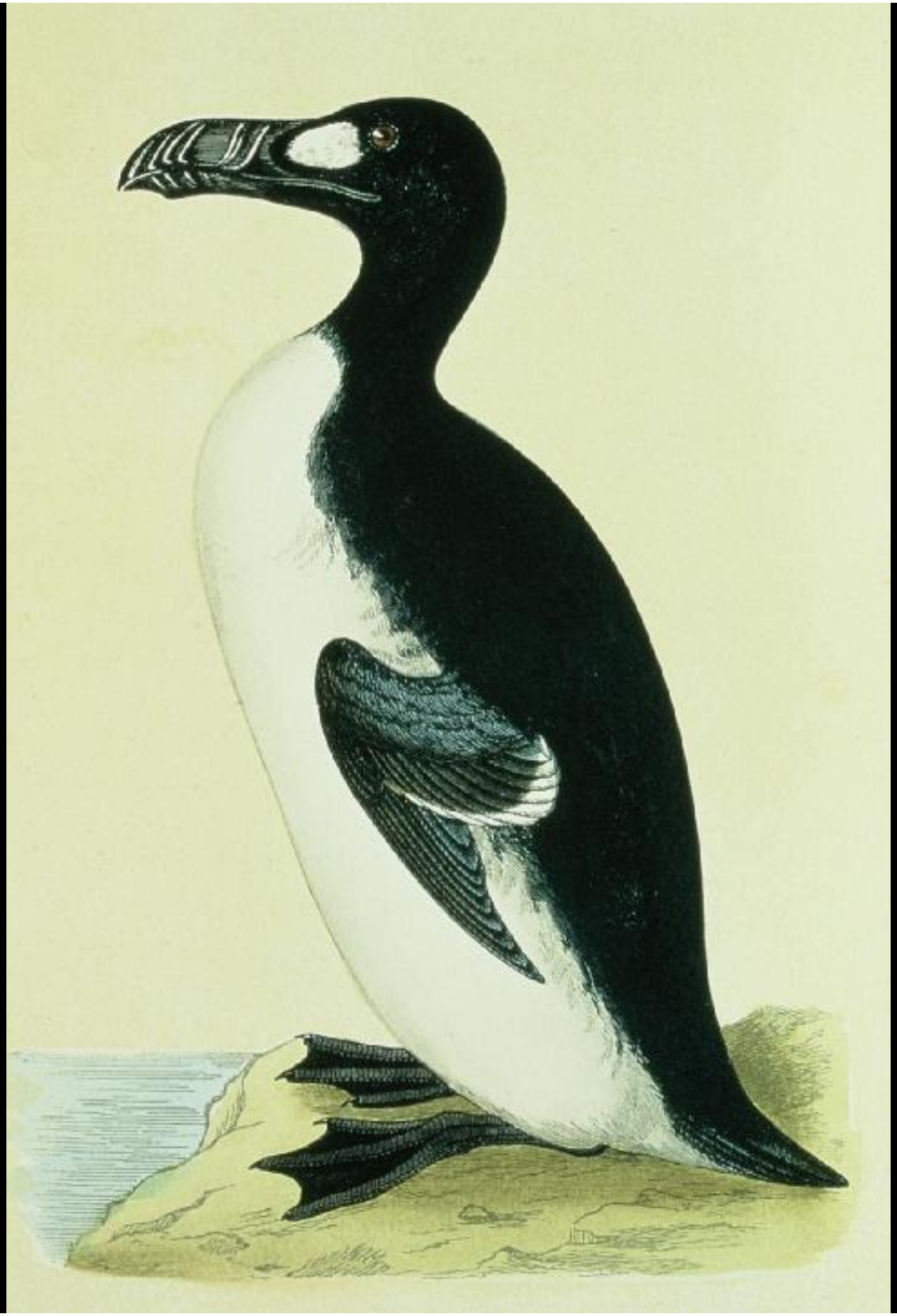
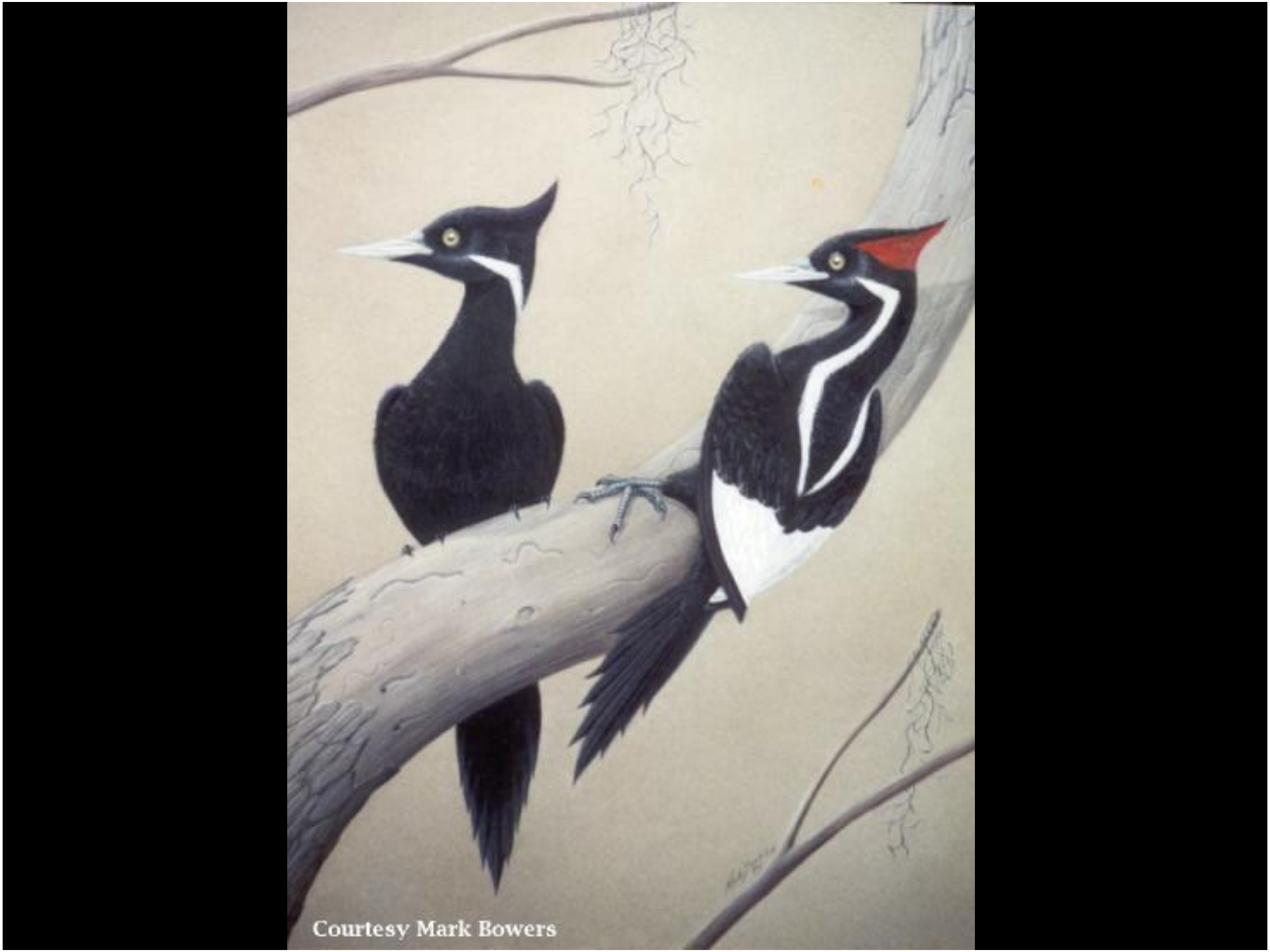
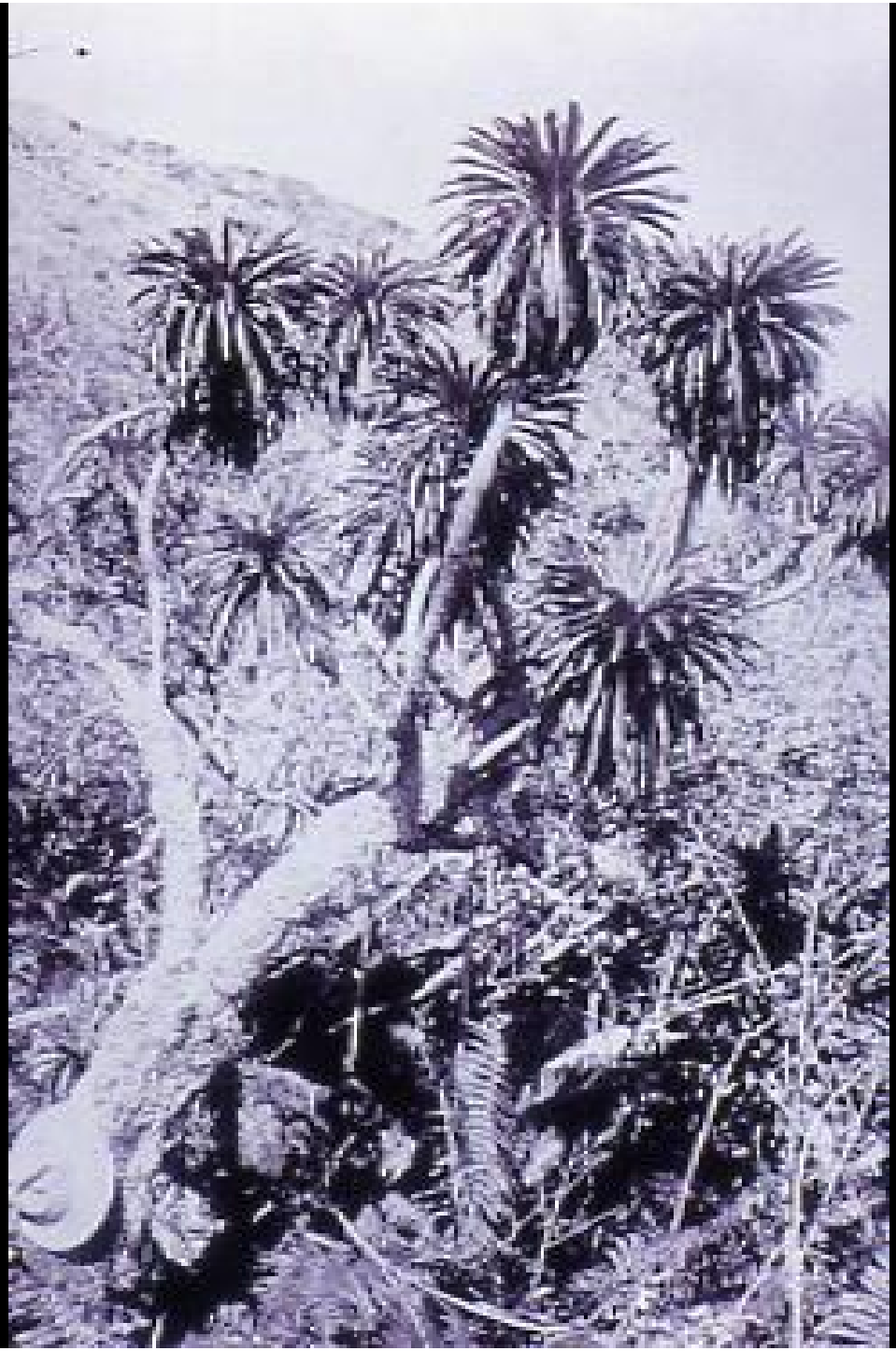
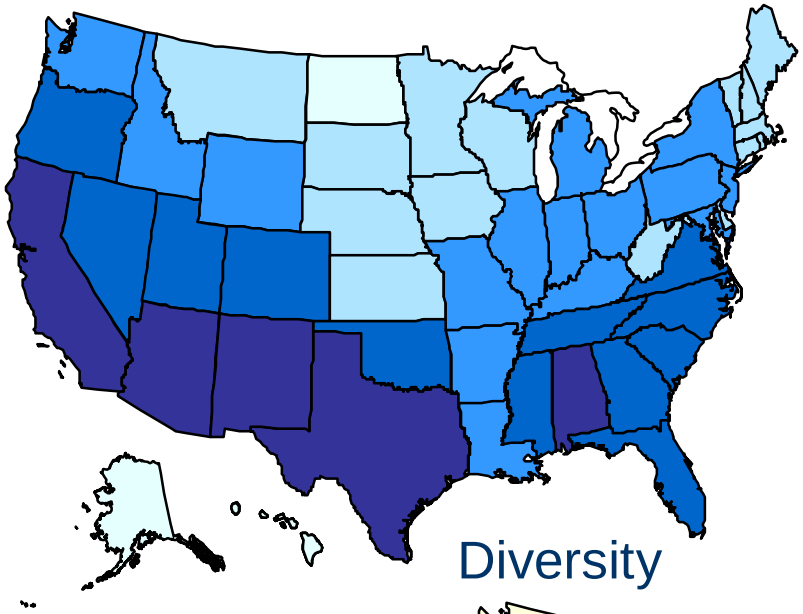


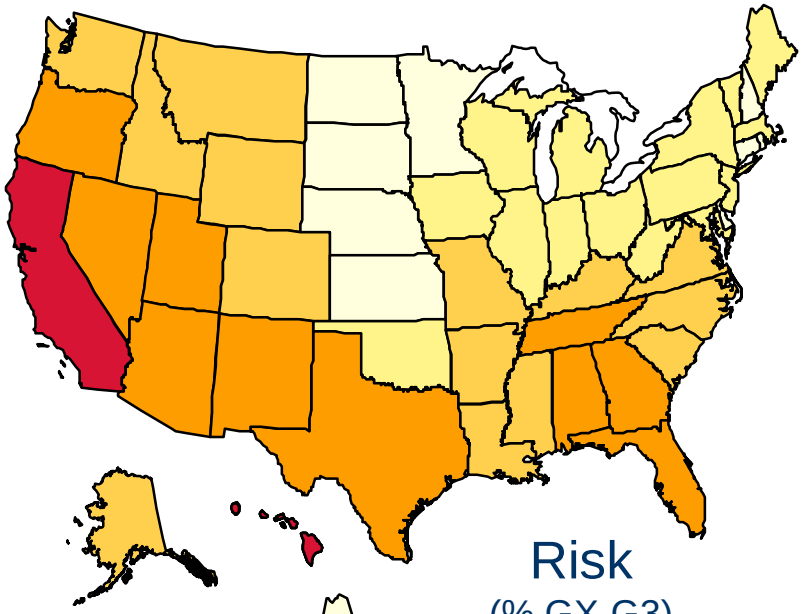

Courtesy Mark Bowers



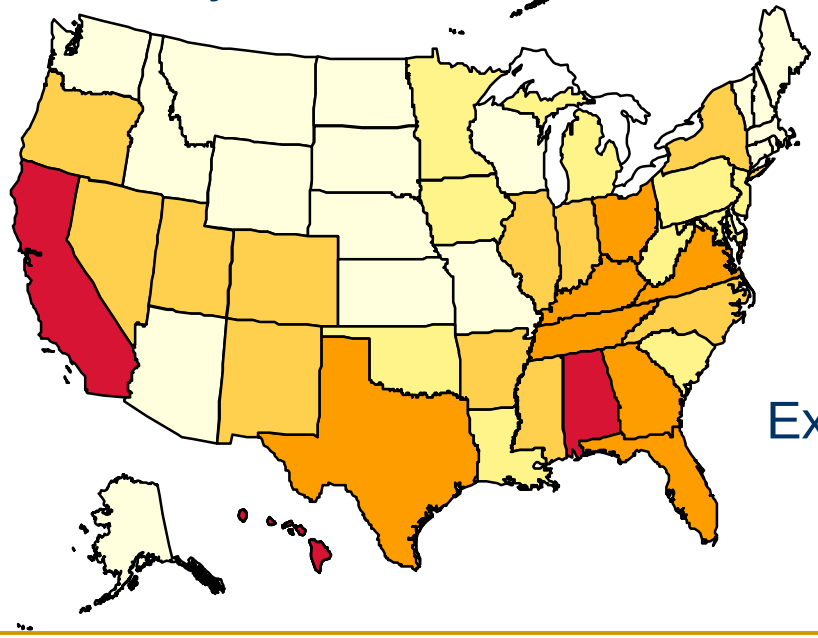
State Patterns of Diversity and Risk



Diversity



Risk
(% GX-G3)



Extinction

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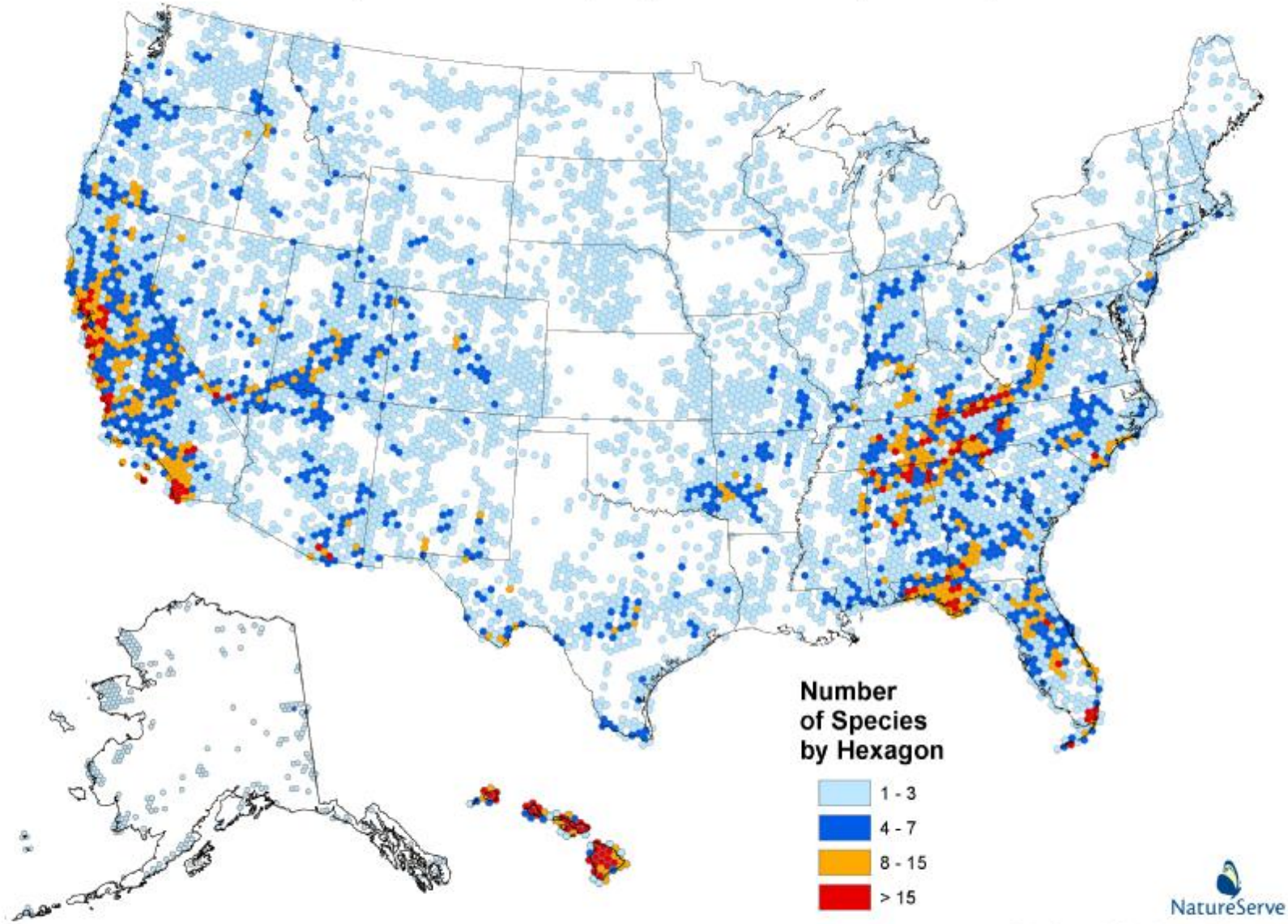
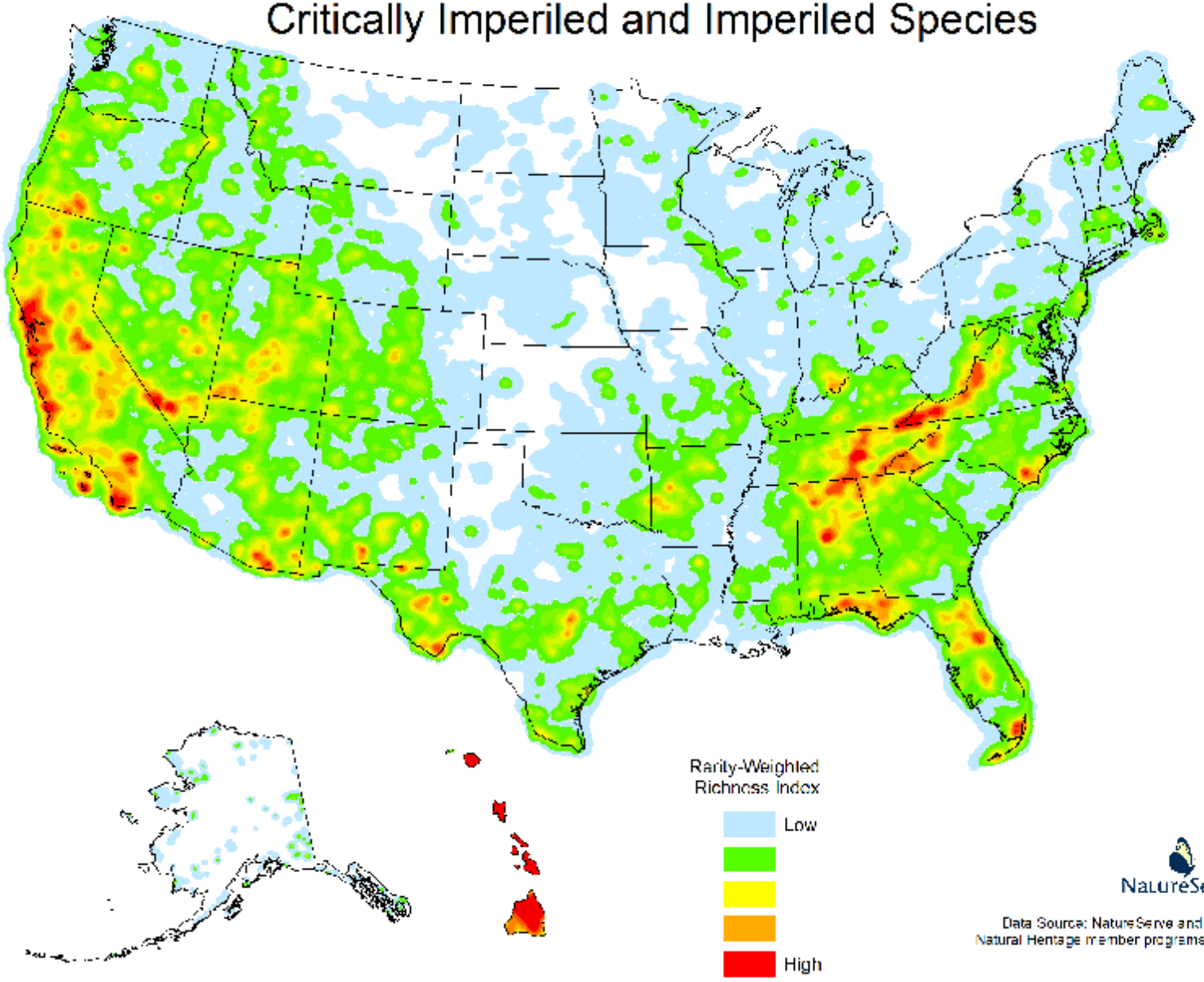
Hot Spots for Critically Imperiled and Imperiled Species

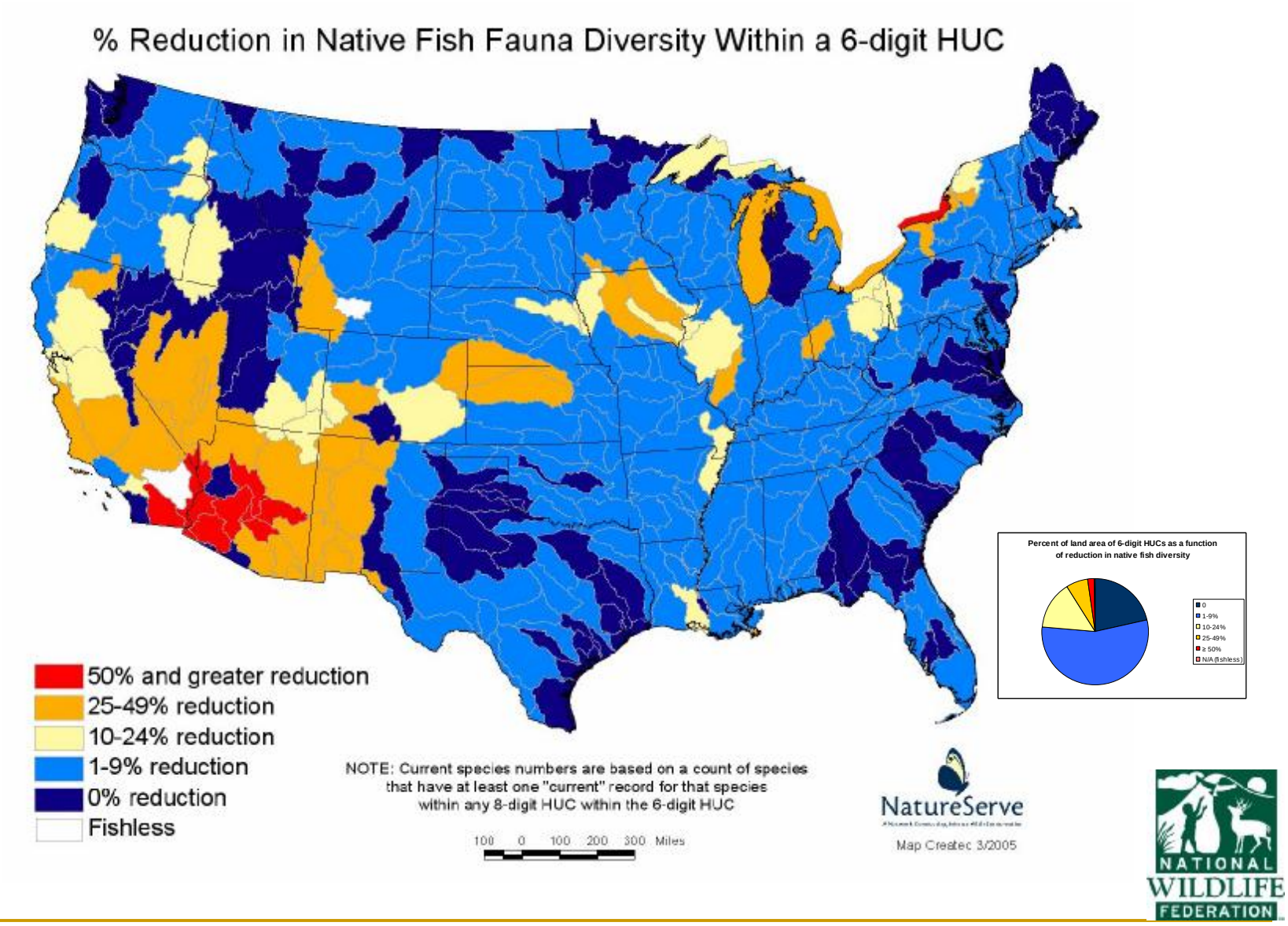


Data Source: NatureServe and its
Natural Heritage member programs, 2008.

Hot Spots of Rarity-Weighted Richness for Critically Imperiled and Imperiled Species



Declines in Native Fish



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Key Threats to Biodiversity

- Habitat Loss
- Invasive species
- Altered ecosystem functions
  - fire regimes
  - hydrologic flows
- Emerging diseases
- Climate change

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Sea Level Rise

- Atlantic and Gulf sea level rose 5-6 inches in last century
- IPCC estimates from .6 to 2 feet rise in next century
- Other studies suggest possibility of rises of 5 feet or more

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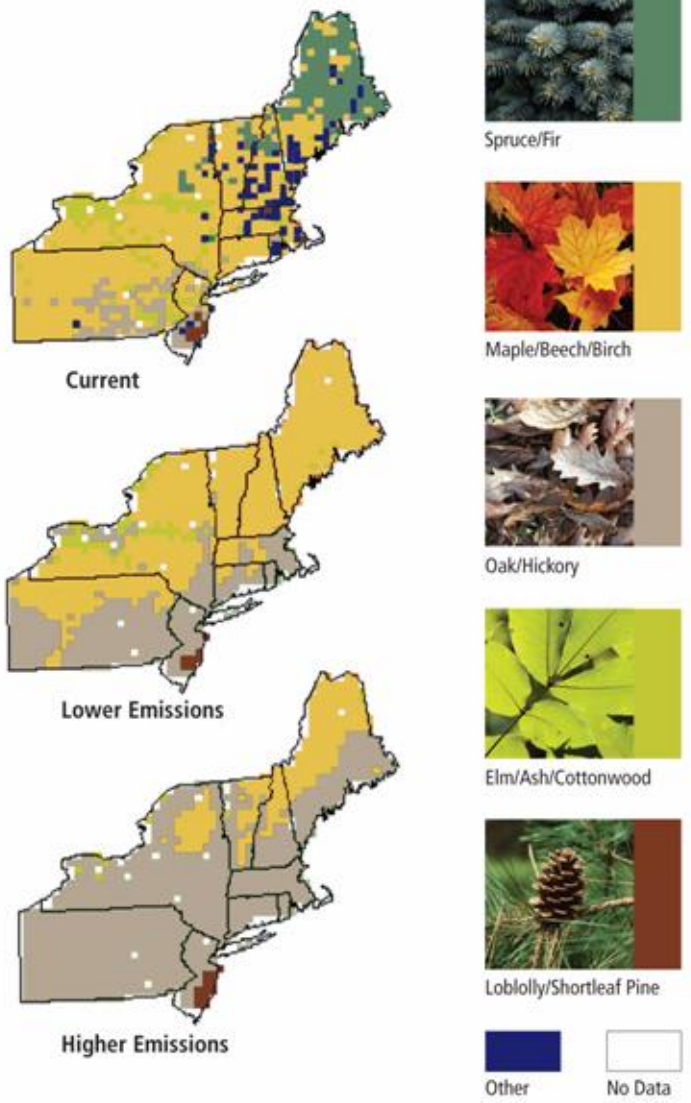
Habitat Shifts

- Change in habitat suitability for different forests by late century
- Species will move (or not) at varying rates; not as entire communities



Source: Union of Concerned Scientists

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Ecosystem Services:

A New Paradigm for Valuing Biodiversity

Photo: Flickr (CarbonNYC)

New Products and Technologies

Risk Reduction

Bolivar Penninsula, Texas before and after Hurricane Ike

Ecosystem Services

- Supporting Services
  - Nutrient cycling, soil formation, primary productivity
- Provisioning Services
  - Food, fiber, fresh water, biochemicals
- Regulating Services
  - Pollination, hazard reduction, water regulation and purification, climate regulation
- Cultural Services
  - Aesthetic and spiritual values, recreation