



# *Conserving Biodiversity: Landscape Context*



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October 2006

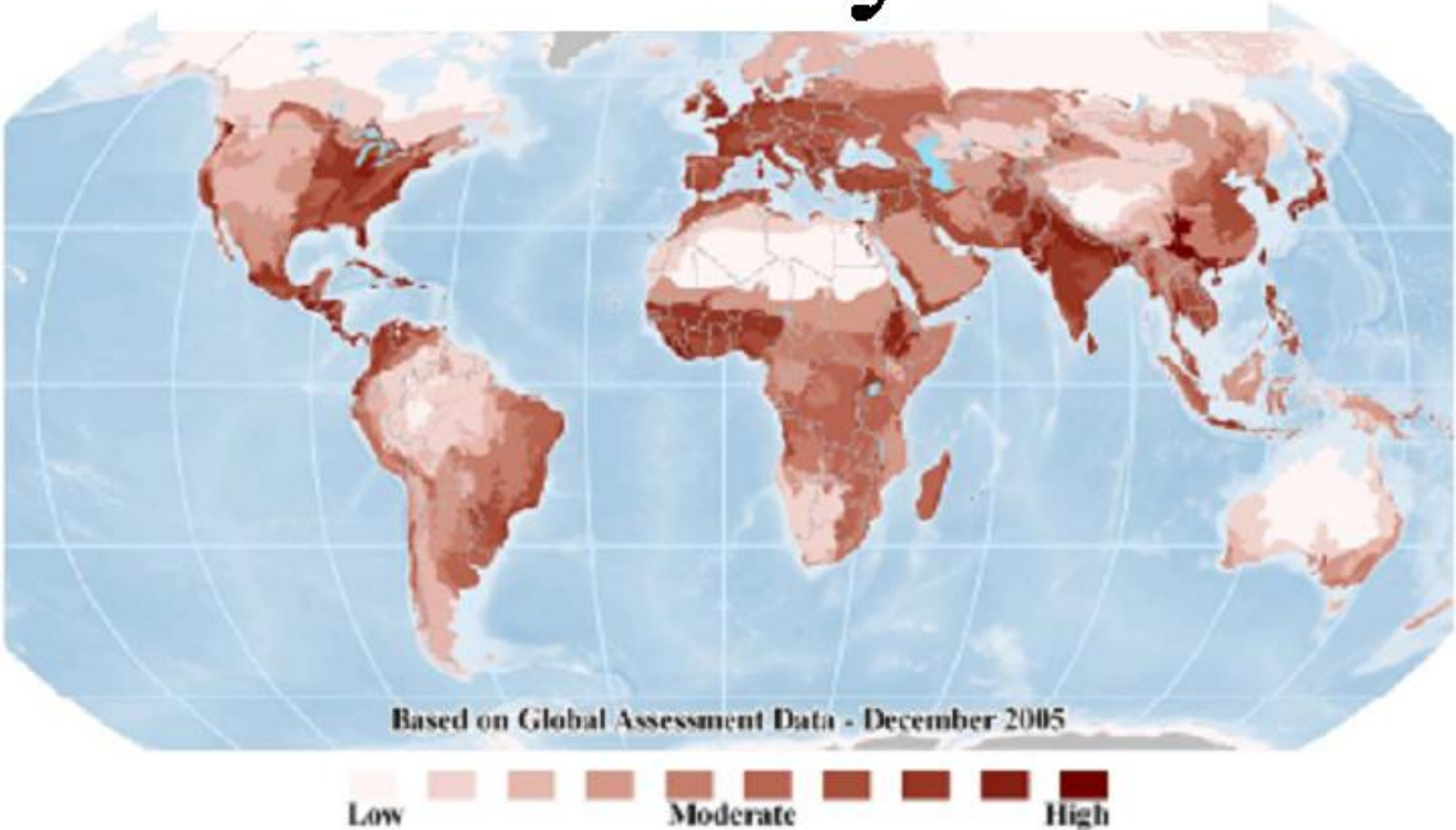




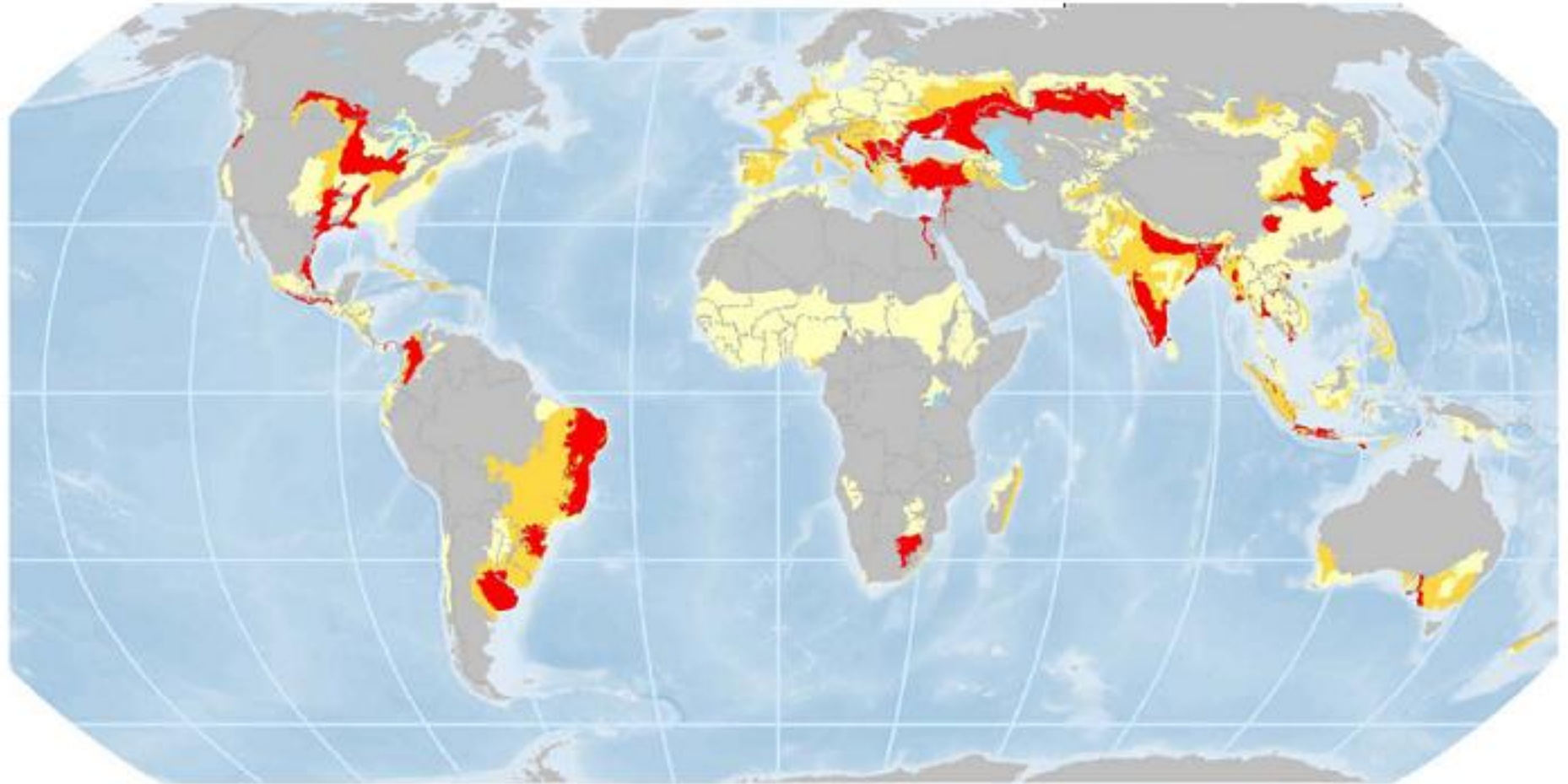
# Objectives

- Overview of the status of biodiversity
- Review the scientific foundation and approaches used in regional planning
- Importance of being strategic in your land protection decisions

# Biodiversity Risk



# Crisis Ecoregions



**Critically  
Endangered**

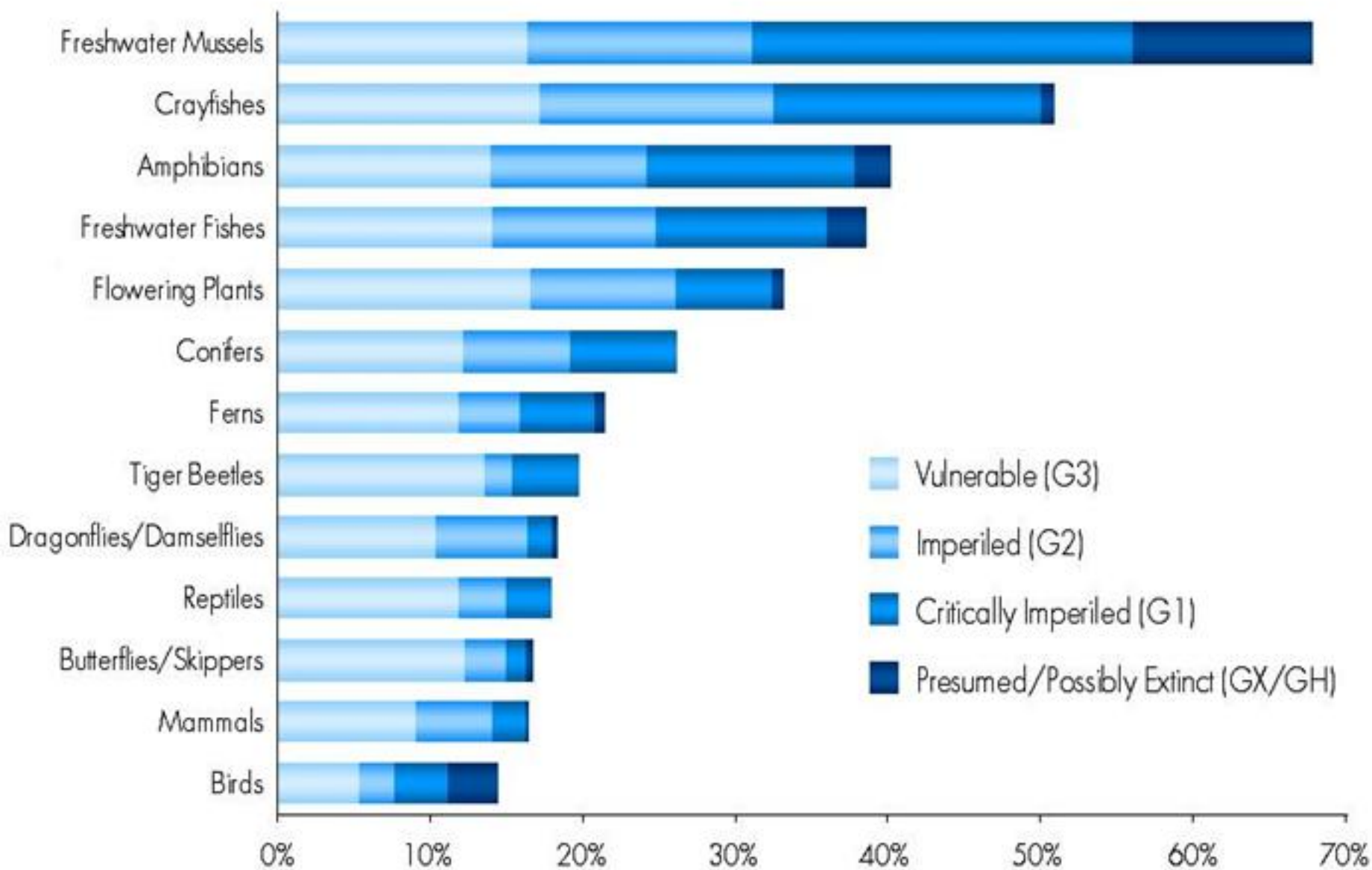


**Endangered**



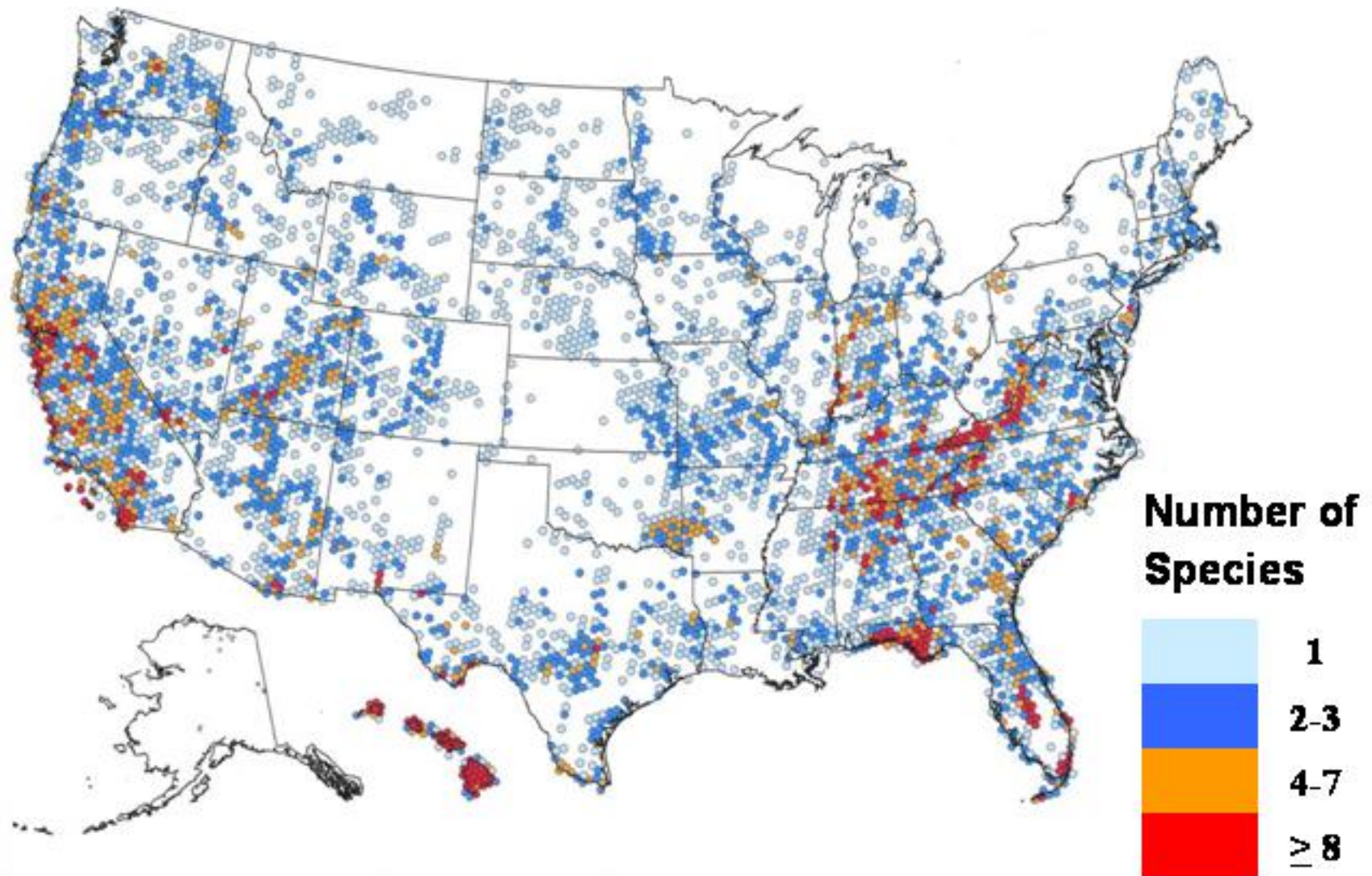
**Vulnerable**

# Proportion of US Species At-Risk



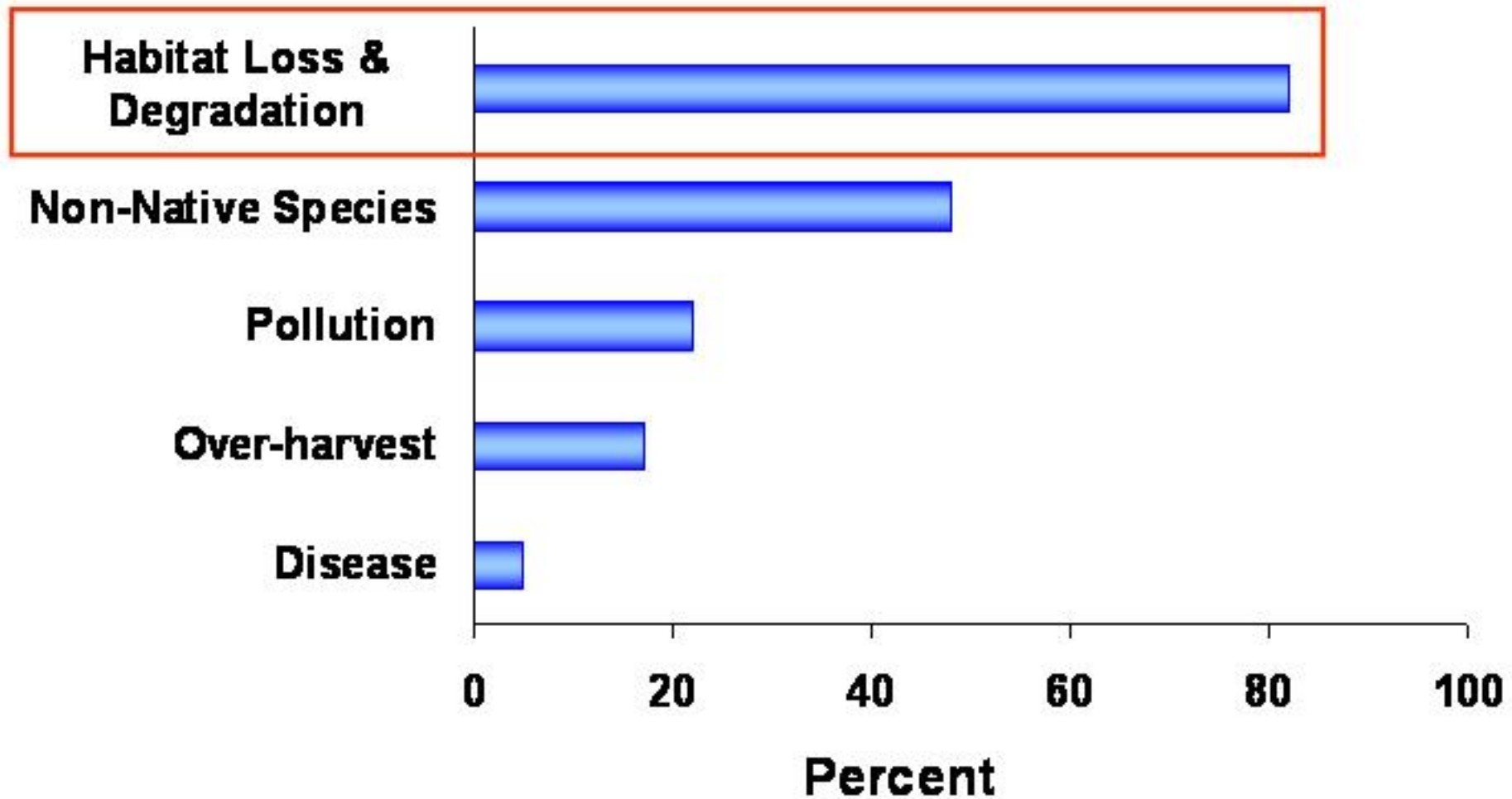
(Stein and Flack 2000)

# Distribution of Imperiled Species



(Stein et al. 2000)

# Major Threats to Biodiversity



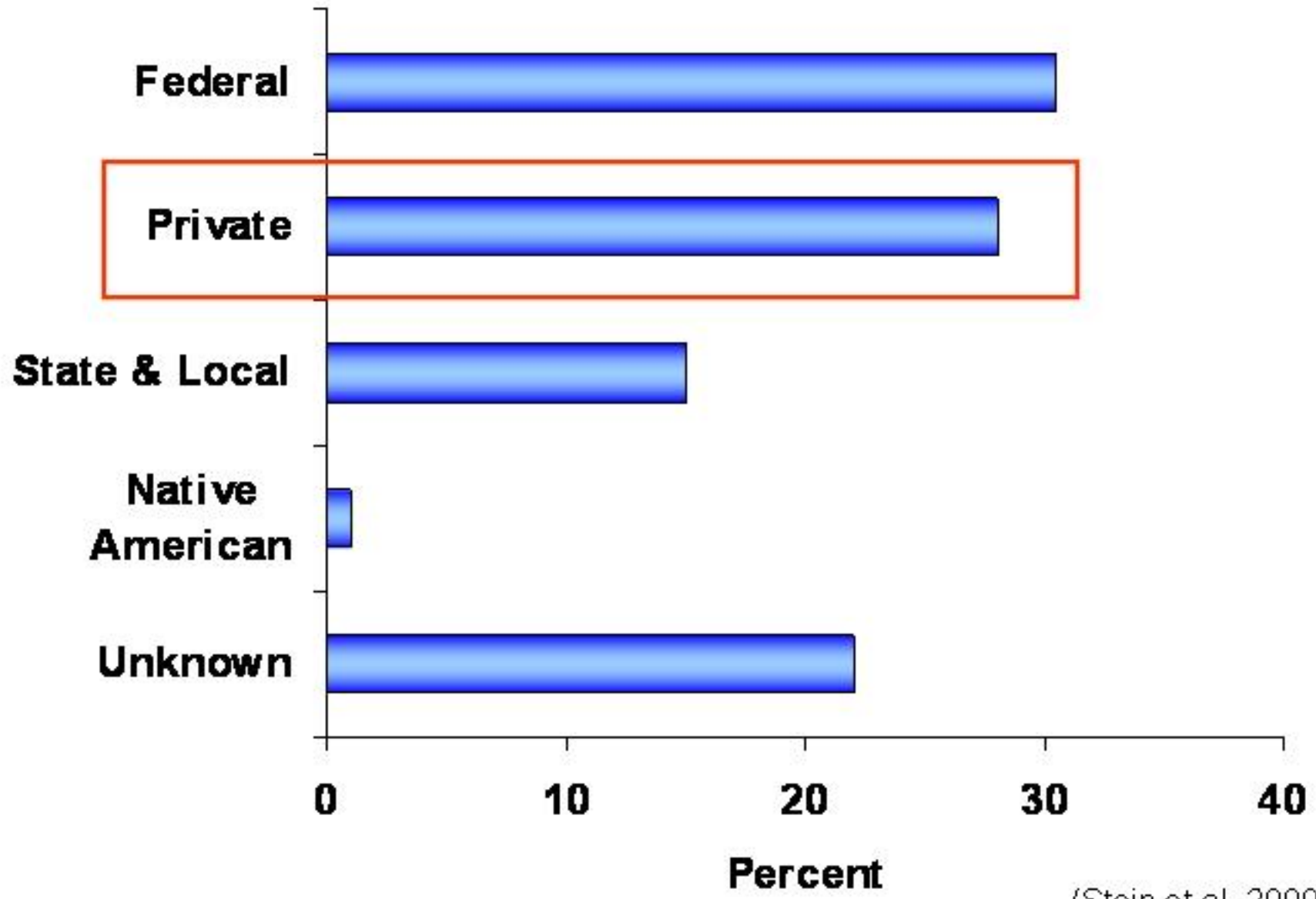




# Operating Assumption

- Actively managed network of lands dedicated to conservation
- Surrounded by semi-natural matrix lands, managed compatibly with conservation goals, and
- Supported by practices and regulations that keep overall conditions relatively healthy

# Ownership of Imperiled Populations



(Stein et al. 2000)



# Essential Questions

- Where should we work?
- What should we do when we get there?



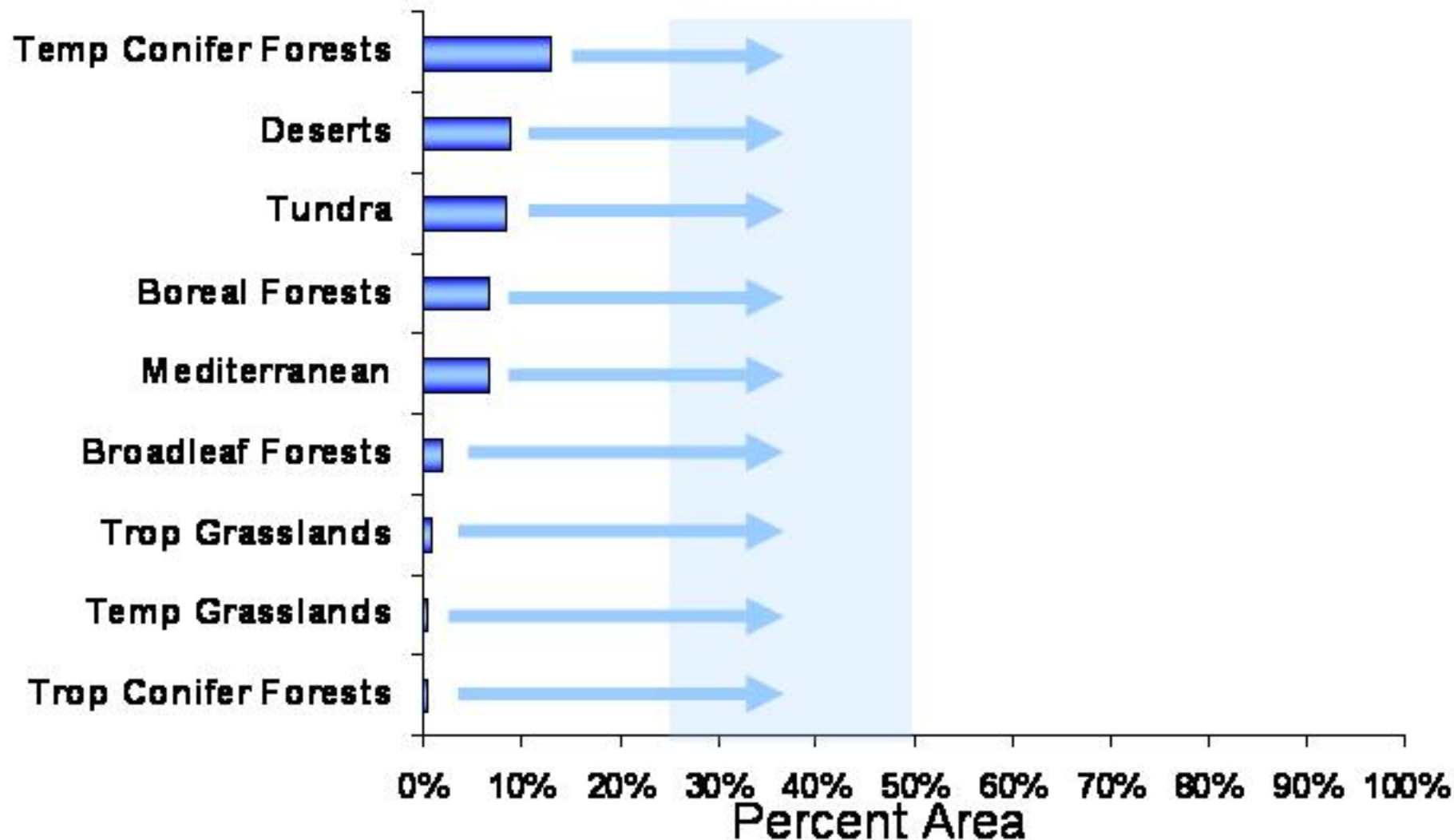
# Essential Questions

- **Where should we work?**
- What should we do when we get there?

# History of Land Protection



# Percentage of Habitat Designated for Conservation



(The Nature Conservancy 2006)



# Systematic Multi-Species Planning

- Driven by wildlife biologists
- Informed by research in landscape ecology and conservation biology
- Aided by new technologies

# Key Background Work

- Margulus and Uscher (1981)
- Pressey (1993)
- Noss and Cooperrider (1994)
- Margulus and Pressey (2000)
- Groves (2003)



# Regional Conservation Plans

- Clearly identification of planning targets
- Set explicit goals
- Strive for efficiency
- Use simple, explicit methods
- Identify priorities
- Address long-term conservation needs

(Margulus & Pressy 2000)

# Regional Planning Process

- Identify biodiversity
- Assemble data
- Assess existing conservation network
- Set Goals
- Evaluate the viability of the occurrences
- Analyze data to select a network of conservation areas
- Assess threats and set priorities



# Important Characteristics of Regional Conservation Networks

- Representative
- Resilient
- Redundant
- Restorative

(Groves 2003)



# Important Characteristics of Regional Conservation Networks

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(Groves 2003)



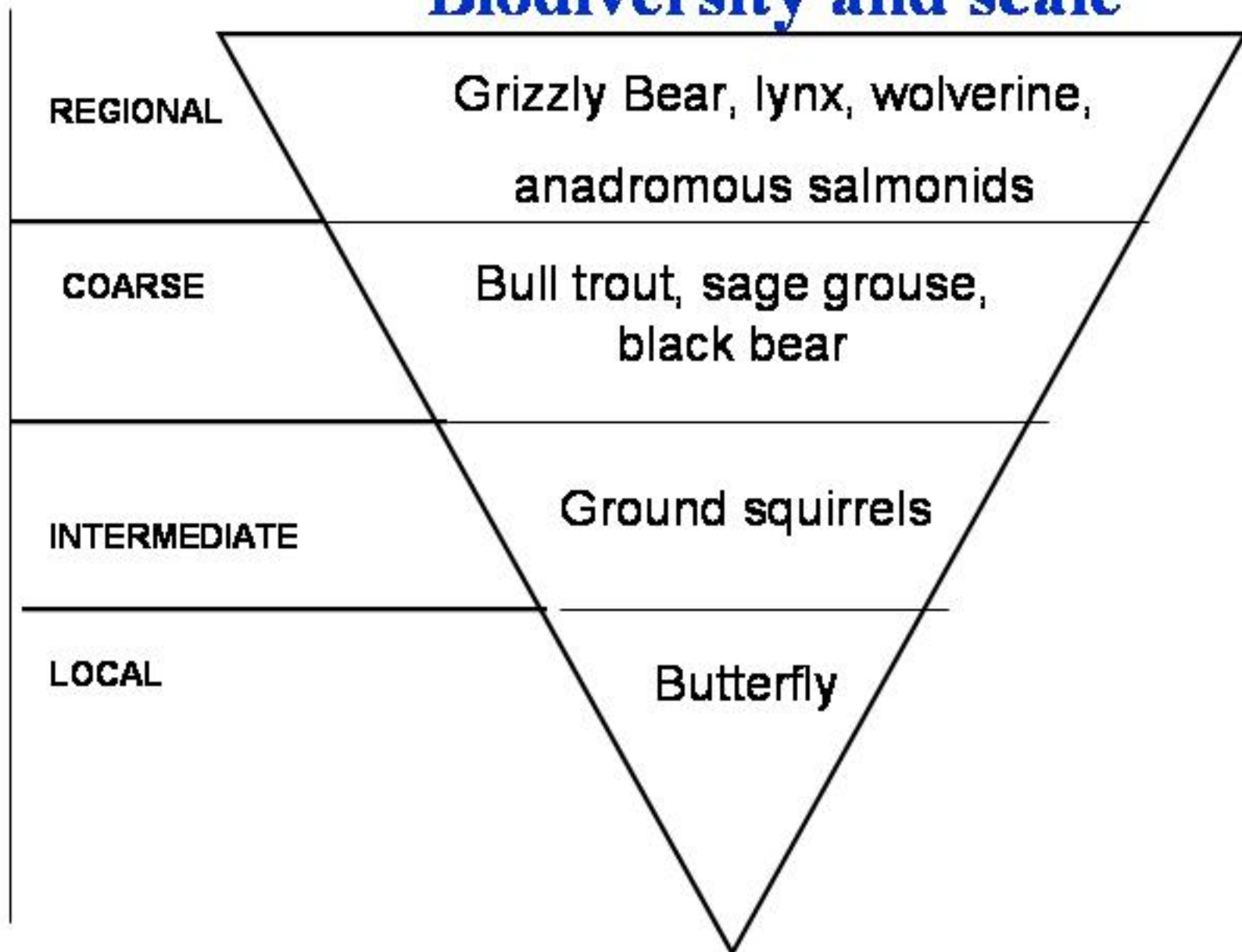
# Representative

*Capture the diversity of the planning area*

- Imperiled, declining and endemic species
- Ecological systems
- Individual plant communities
- Important aggregation sites

# Biodiversity and scale

Geographic scale



# Redundancy

- Populations/occurrences
- Distribution of occurrences
- Habitat area

# Efficiency

- Existing conservation network
- How to best build on that network
  - Cost of conservation
  - Threats



# Data Assembly

**Vegetation**



**Species**



**Ownership**



**Protected Areas**



**Suitability**



# Assembling the Portfolio



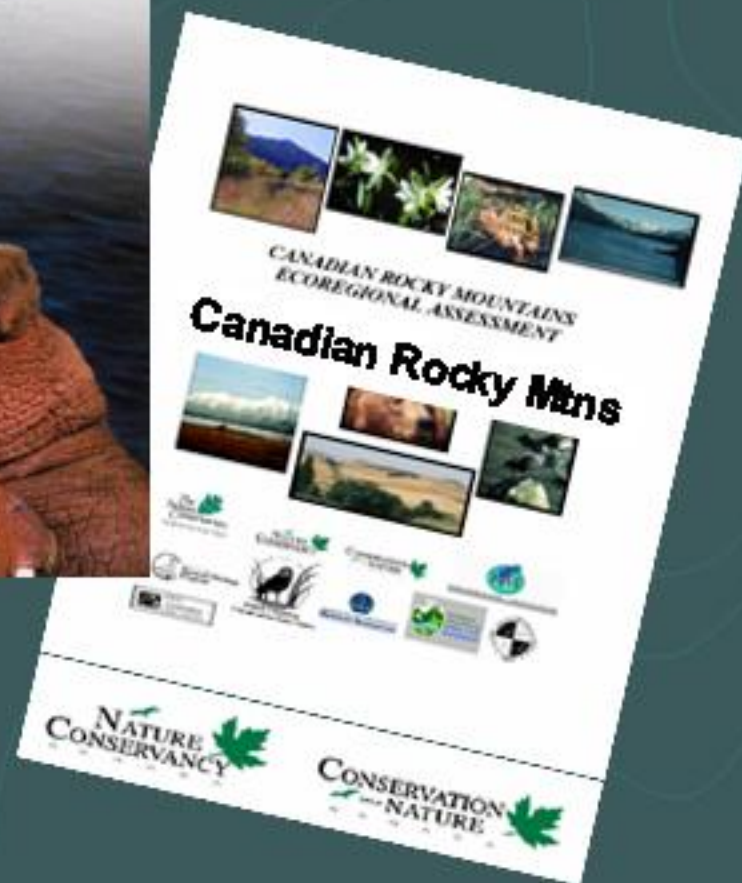
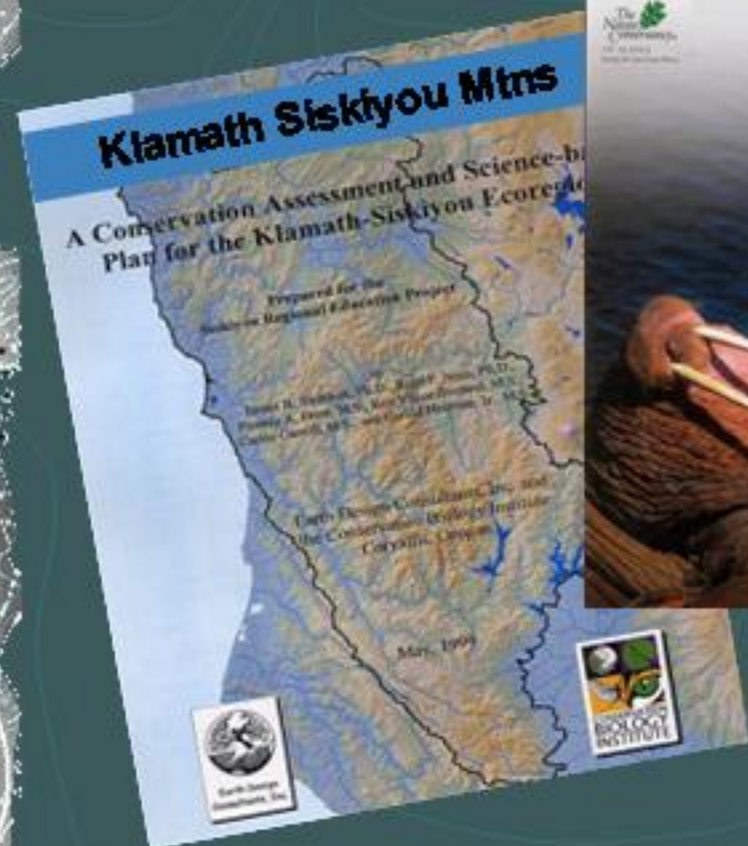
Data Analysis

Conservation Network

# Final Portfolio

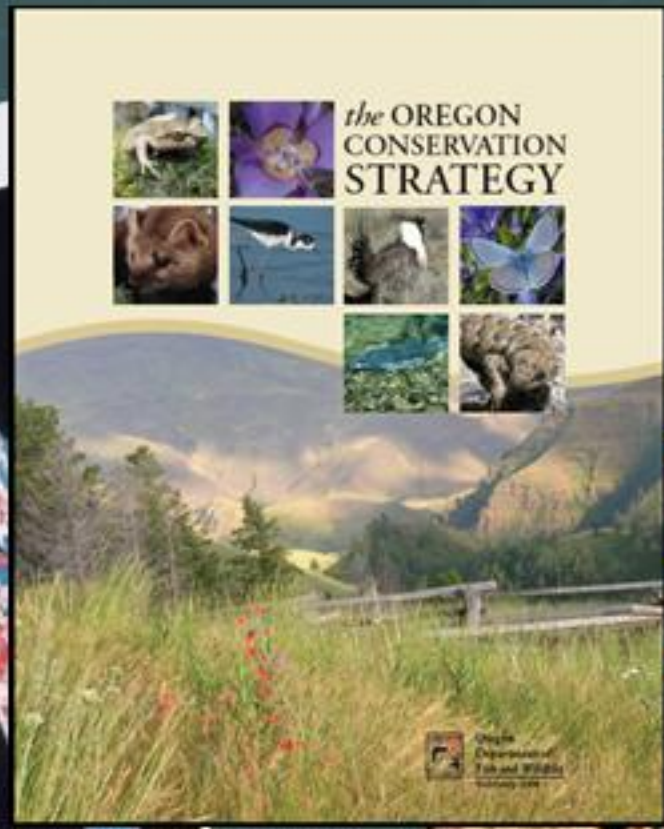


# Ecoregional Plans



# State Conservation Strategies

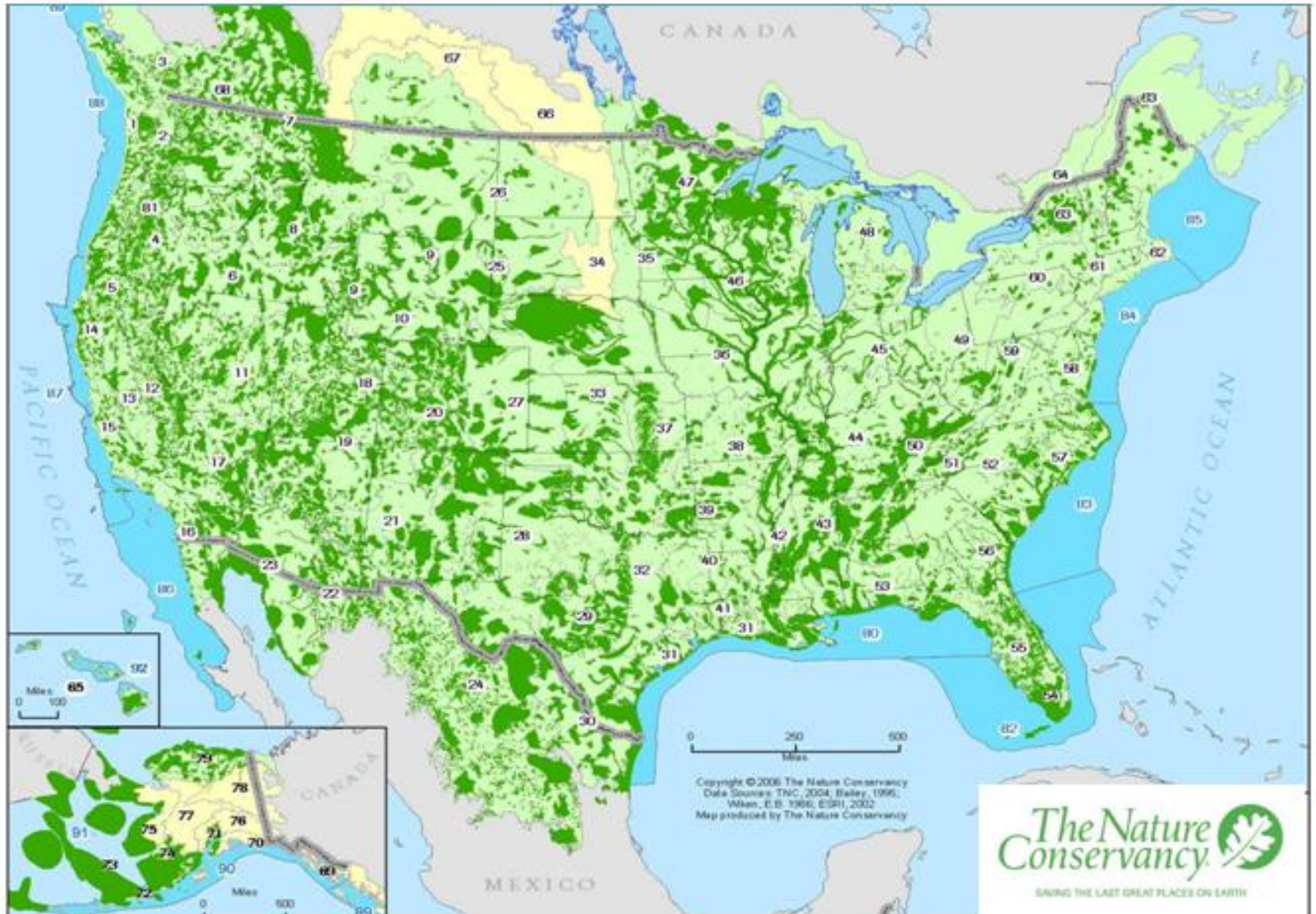
**Florida: Closing the Gaps**



Washington's  
Comprehensive  
Wildlife  
Conservation  
Strategy



# Areas of Biodiversity Significance



# Development Stages of a Land Trust

| <b>Stage</b>    | <b>Activity</b>                | <b>Approach</b>             | <b>Scale</b>   |
|-----------------|--------------------------------|-----------------------------|----------------|
| <b>Forming</b>  | Need easement to prove concept | Opportunistic               | Local          |
| <b>Progress</b> | Criteria to accept easements   | Opportunistic/<br>Proactive | Service Area   |
| <b>Mature</b>   | Accept and Seek Easements      | Proactive                   | Service Area + |
| <b>Advanced</b> | Use diverse tools              | Strategic                   | Regional       |

