

US EPA ARCHIVE DOCUMENT

# The State of the Nation's Ecosystems: An Experiment in Cross-Ecosystem Integration

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## Project Goals

- **Identify strategic indicators of condition and use of U.S. ecosystems**
- **Lay the groundwork for periodic, high-quality, non-partisan reporting**

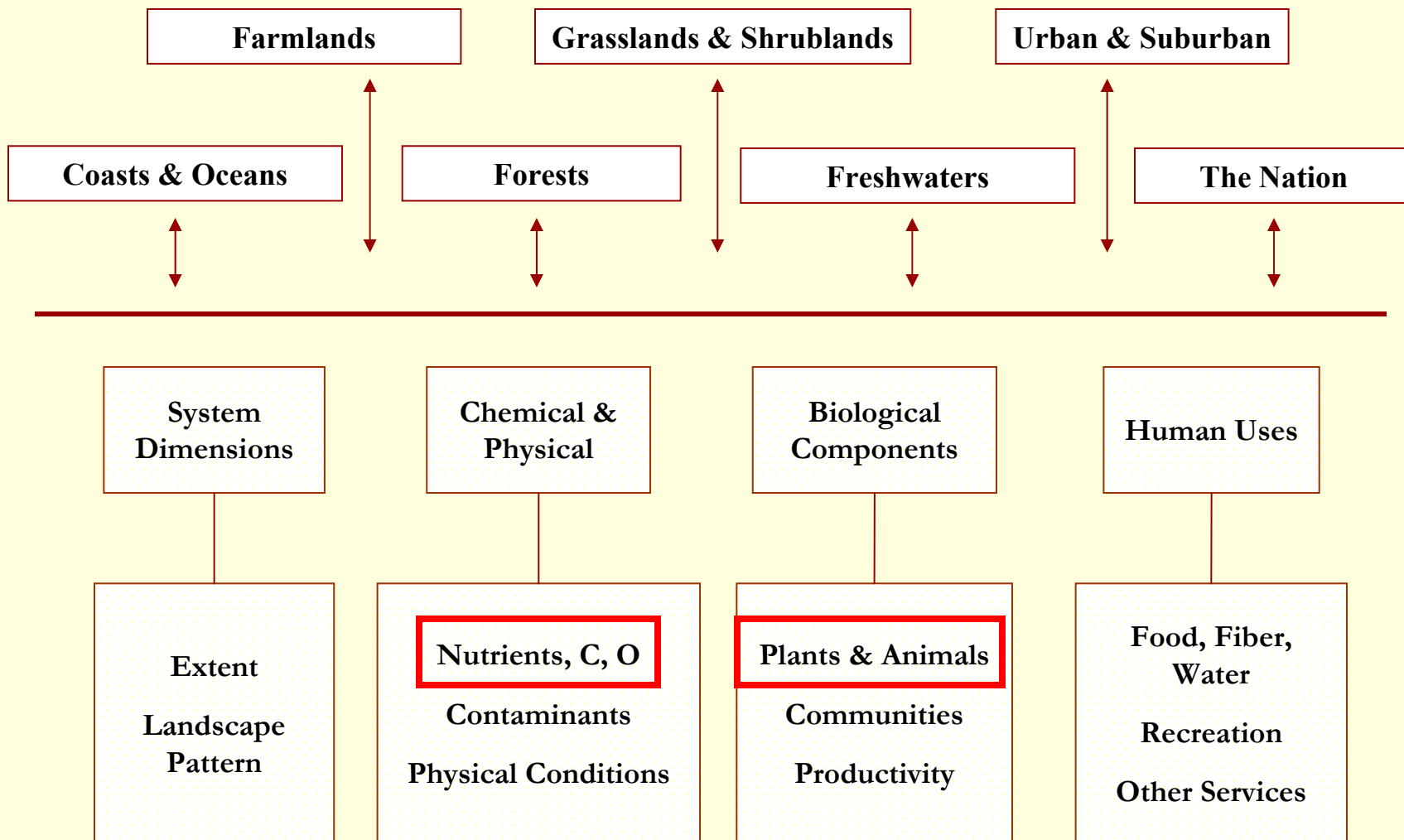


## Key Principles

- **Scientifically excellent**
- **Politically neutral**
- **Policy relevant**
- **Focus on state**
- **Not a one-time report**





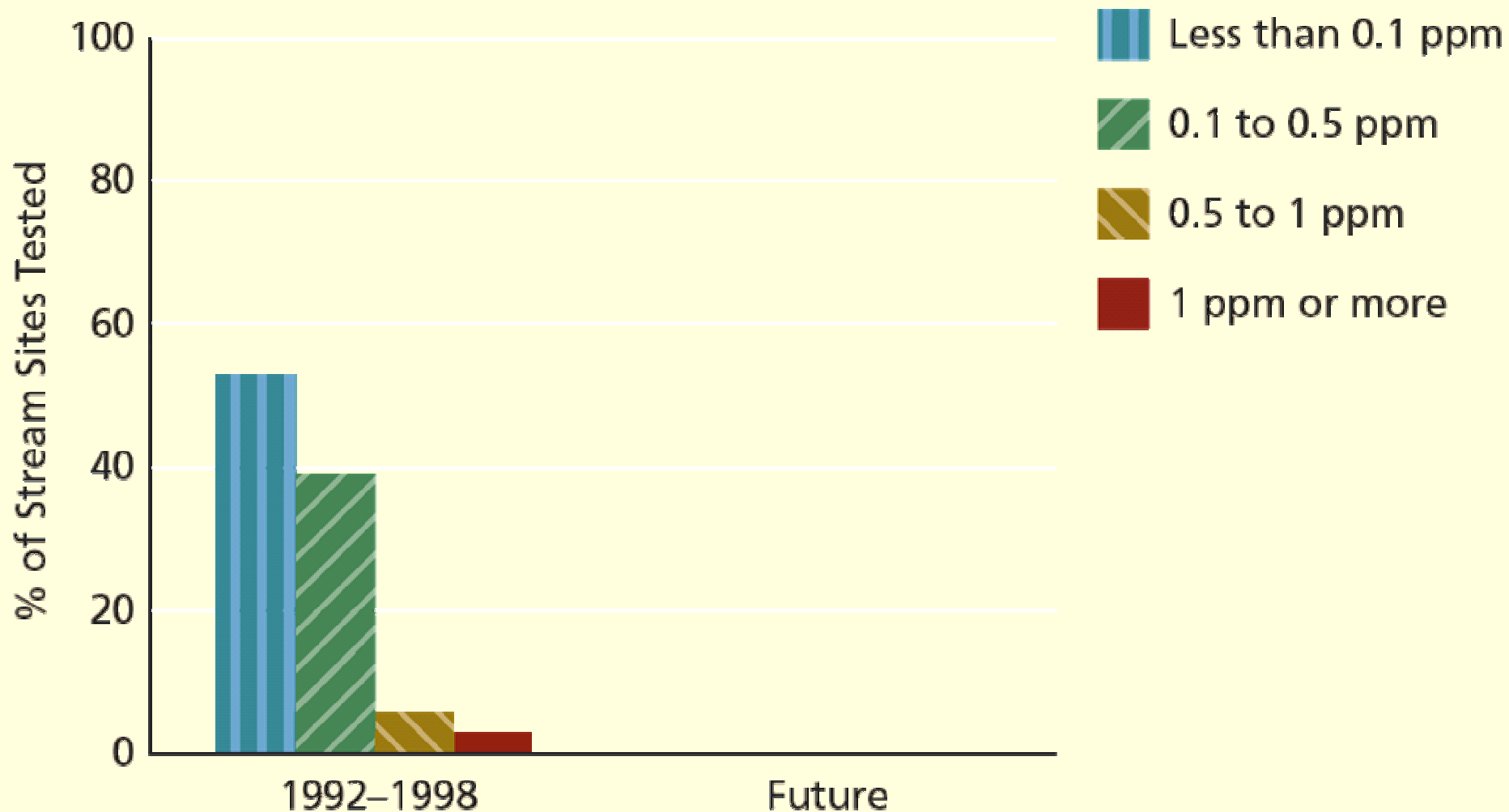


## Nutrients:

- Concentrations of N in waters by ecosystem
- Concentrations of P in waters by ecosystem
- Total loadings to coastal regions

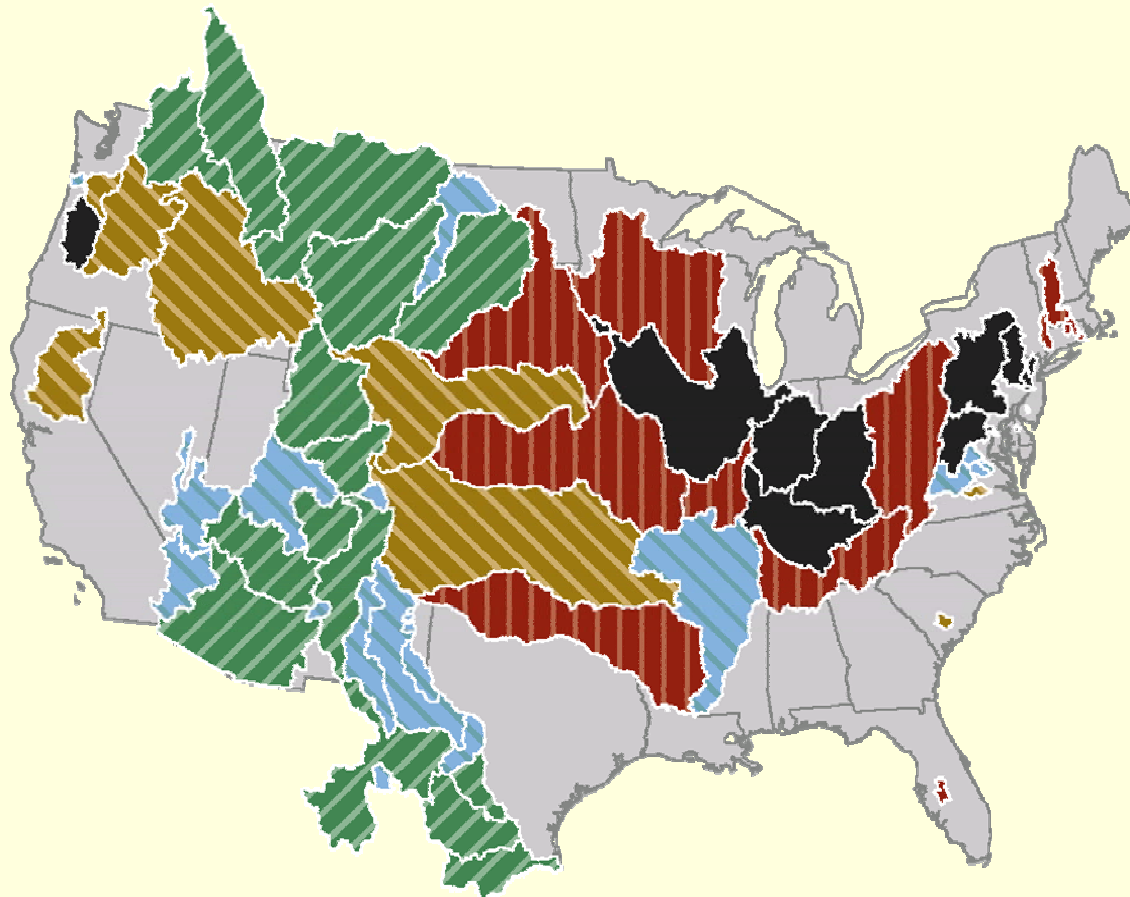


# Nitrate in Forest Streams



*Data Source: USGS National Water Quality Assessment. Coverage: lower 48 states. Each sampling area was sampled intensively for approximately 2 years during 1992-1998.*

## Yield of Total Nitrogen from Major Watersheds (1996–1999)

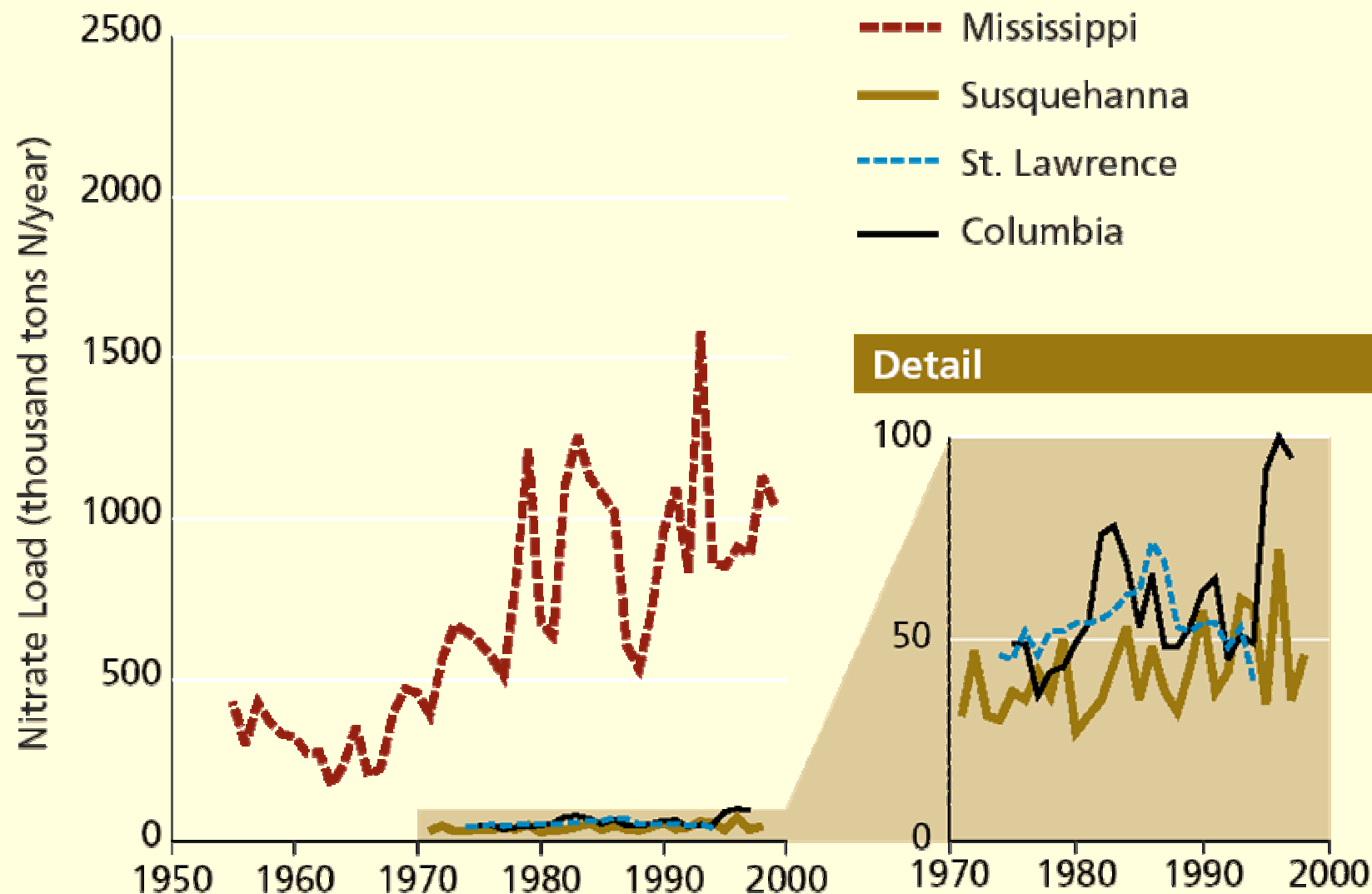


**Total Nitrogen (pounds of nitrogen per sq. mile per year)**



*Data Source: U.S. Geological Survey National Stream Quality Network (NASQAN), National Water Quality Assessment (NAWQA), and Federal–State Cooperative Program. Coverage: selected areas of lower 48 states.*

# Nitrate Load Carried by Major Rivers



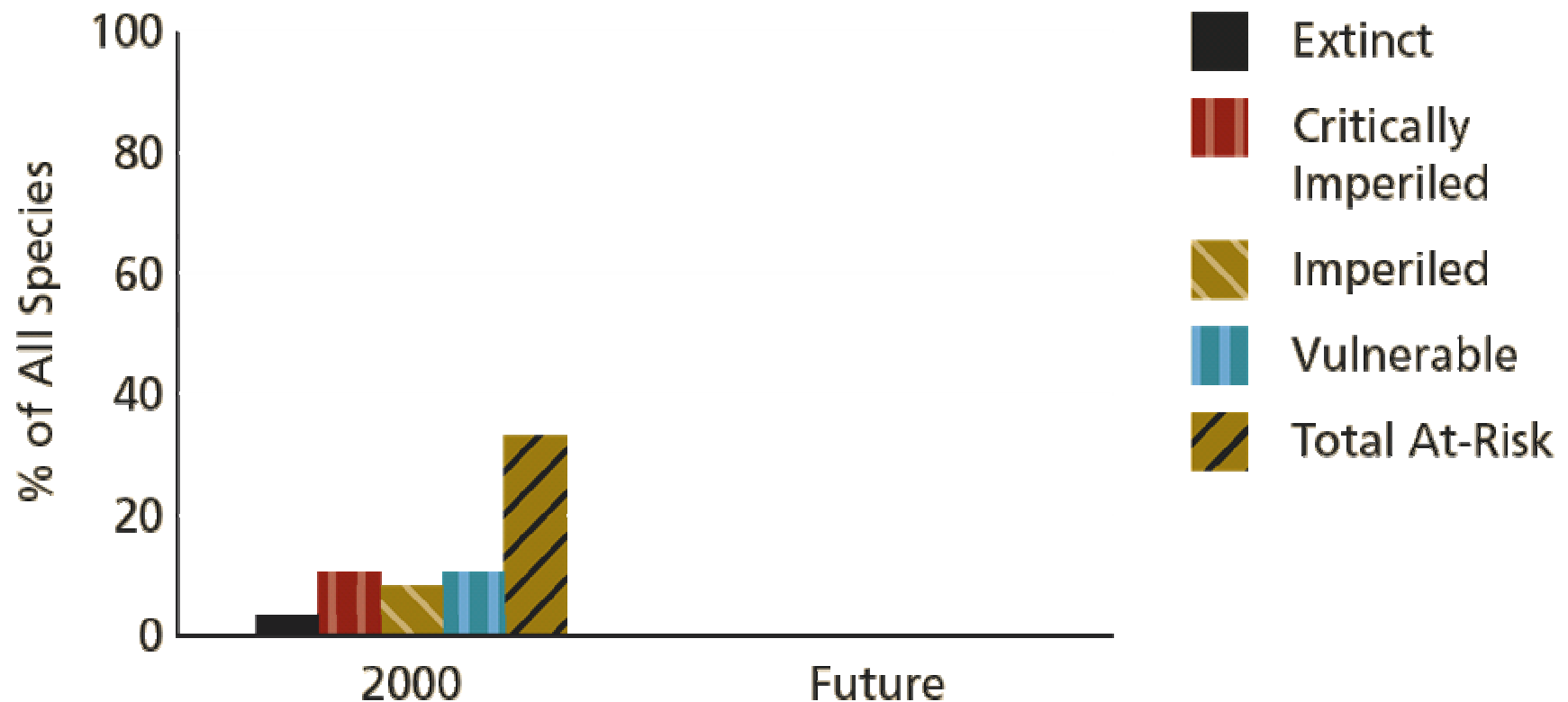
*Data Source: U.S. Geological Survey National Stream Quality Network (NASQAN), National Water Quality Assessment (NAWQA), and Federal-State Cooperative Program. Coverage: selected major rivers.*

## Species At Risk

- **Numbers of “at risk” species (Heritage) by ecosystem and region**



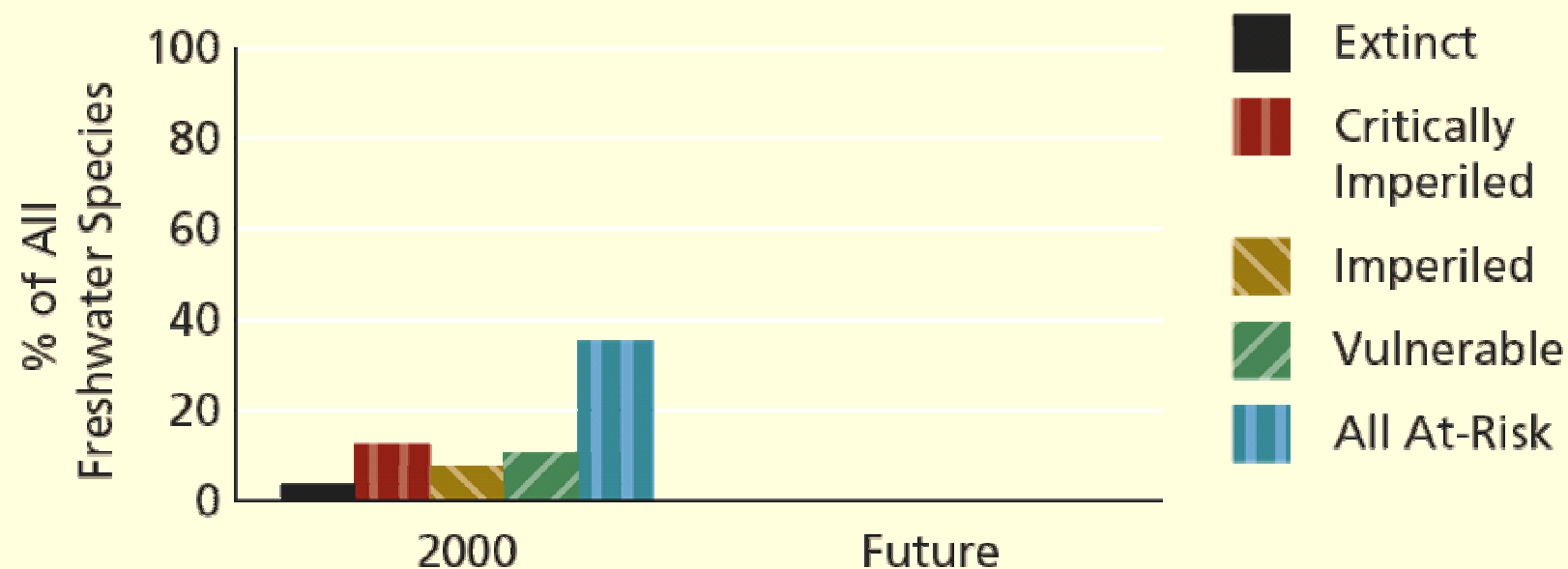
## Partial Indicator Data: Land Animals, Freshwater Animals



*Source: NatureServe and its natural heritage member programs.  
Coverage: all 50 states.*

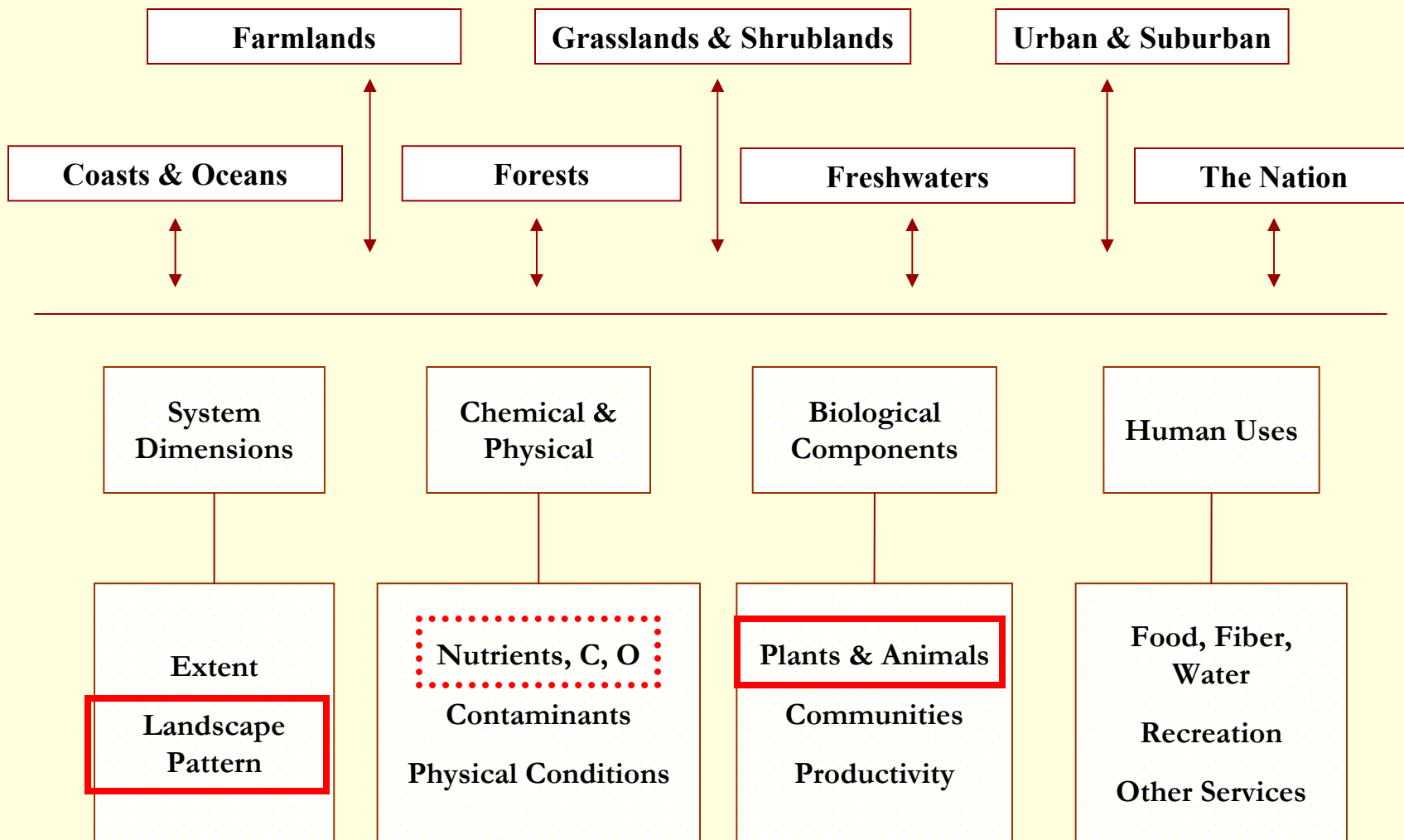
# At Risk Species – Freshwater – By Risk Category

## Partial Indicator Data: Freshwater Animals



*Source: NatureServe and its natural heritage member programs.  
Coverage: all 50 states.*





## Landscape Pattern / Fragmentation

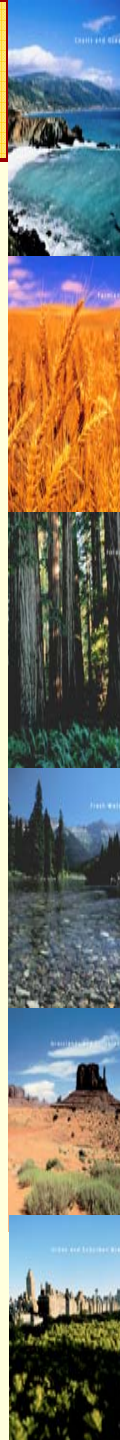
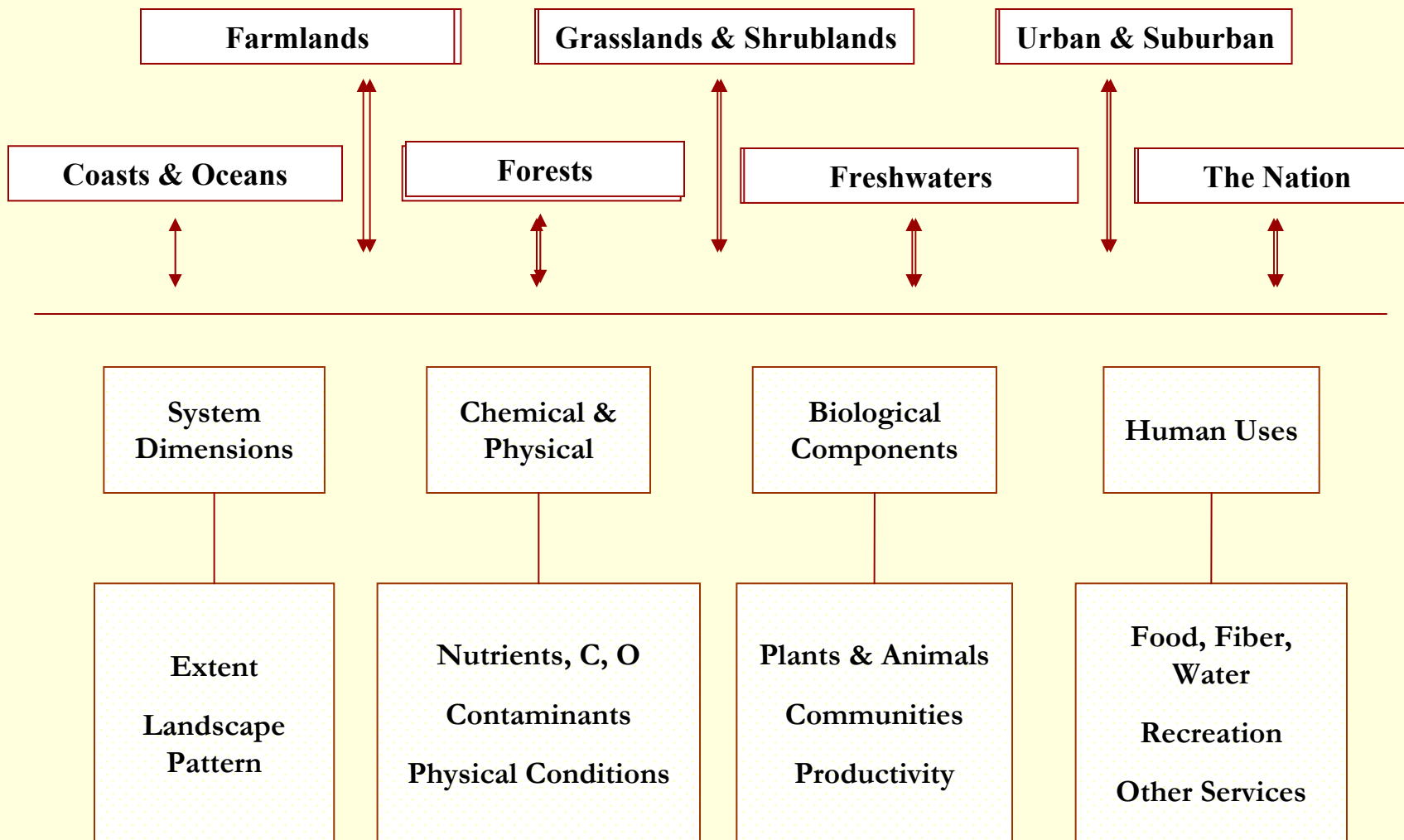
- Contiguity of croplands and development
- Edge:area ratio of farmland “natural” patches
- Forest / non-forest “neighborhood”
- Area, size of grass/shrub patches
- Area, size of urban “natural” patches

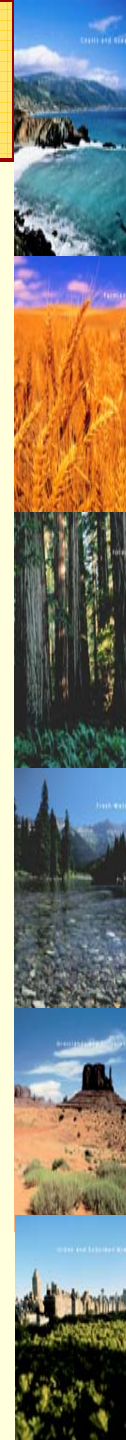
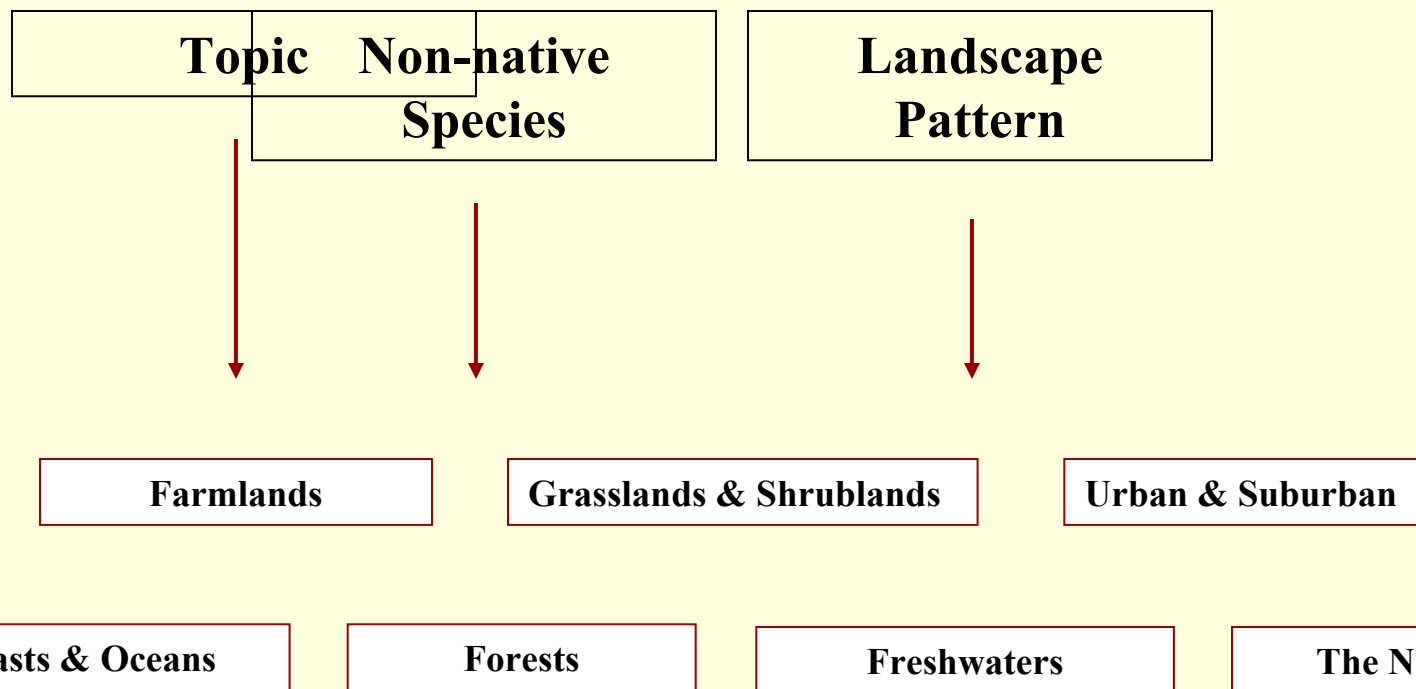


## Non-native Species

- **Plant cover (3)**
- **# species combined with species cover**
- **# species per watershed**
- **Population trends (invasive/non-invasive)**
- **“Disruptive” (native + non-native)**







## Landscape Pattern / Fragmentation

- Roads
- Contiguity

## Non-Native Species

- Frequency of occurrence (all taxa, all ecosystems)
- Taxa (not ecosystem) specific



# Ecosystems

Coasts & Oceans  
Farmlands

Forests

Freshwater

Grass/Shrub

Urban/Suburban

Core National

Indicator Topics

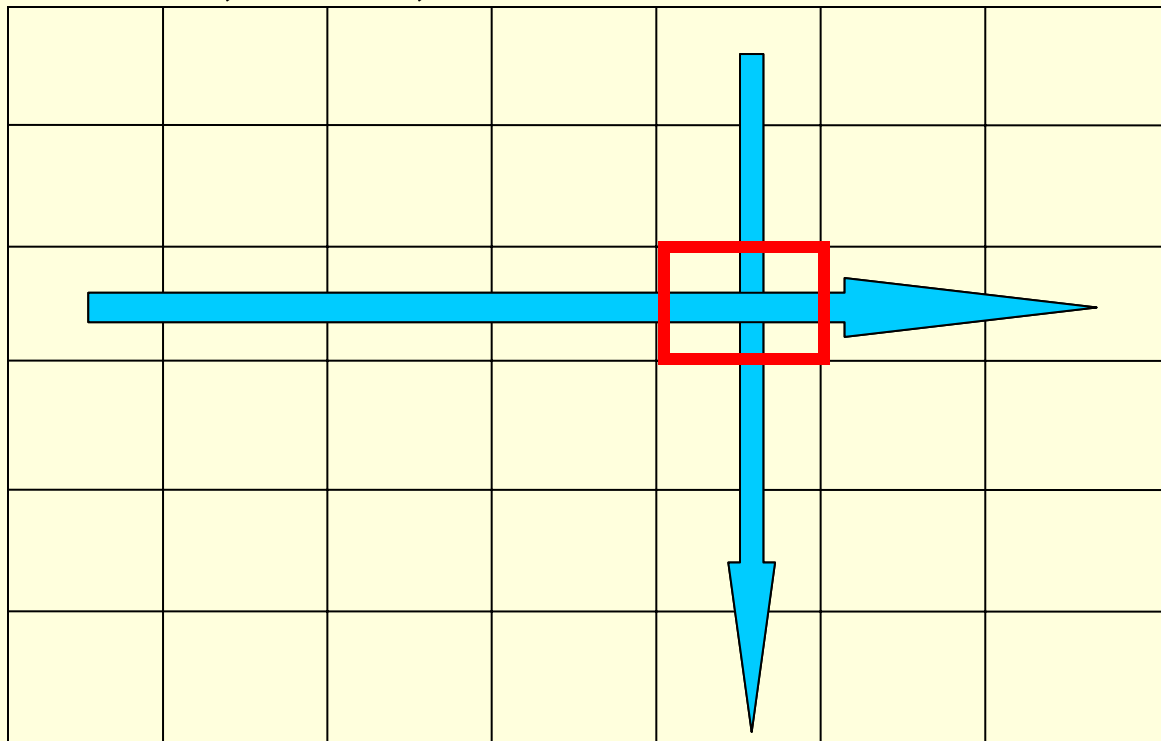
Non-native  
Species

Landscape  
Pattern

Etc.

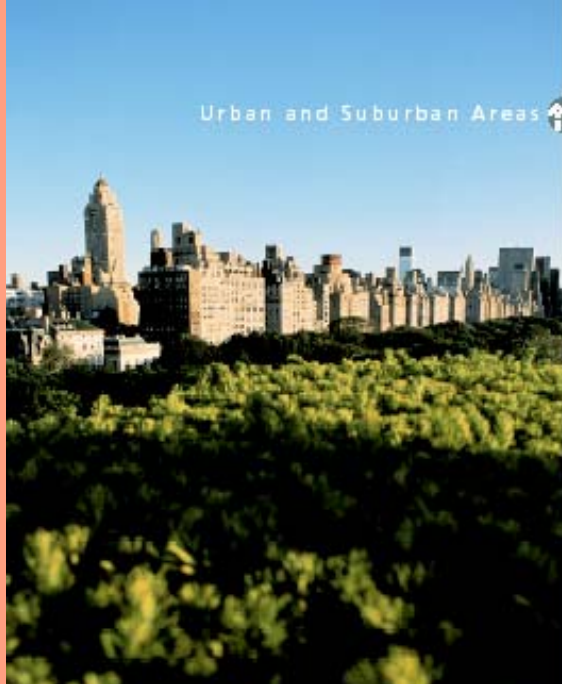
Etc.

Etc.





Urban and Suburban Areas



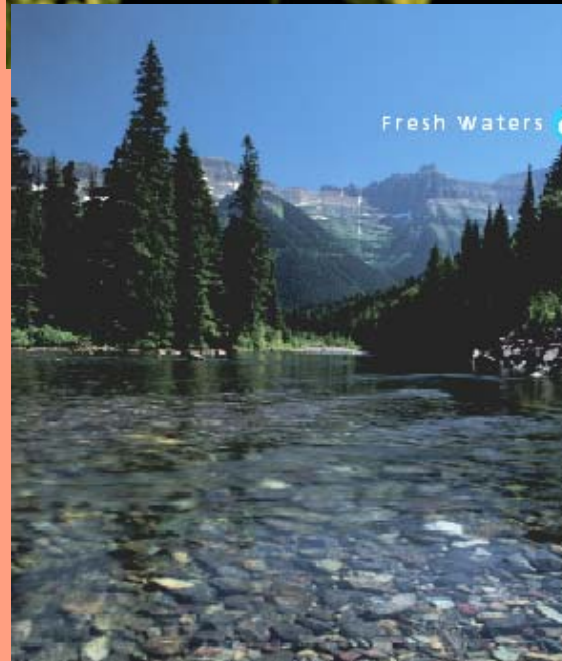
Farmlands



Grasslands and Shrublands



Fresh Waters



Forests



Coasts and Oceans

