Accomplishments of the Sustainable Water Resources Roundtable

Top of the Town 2009

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Minnesota Environmental Quality Board
and
Sustainable Water Resources Roundtable

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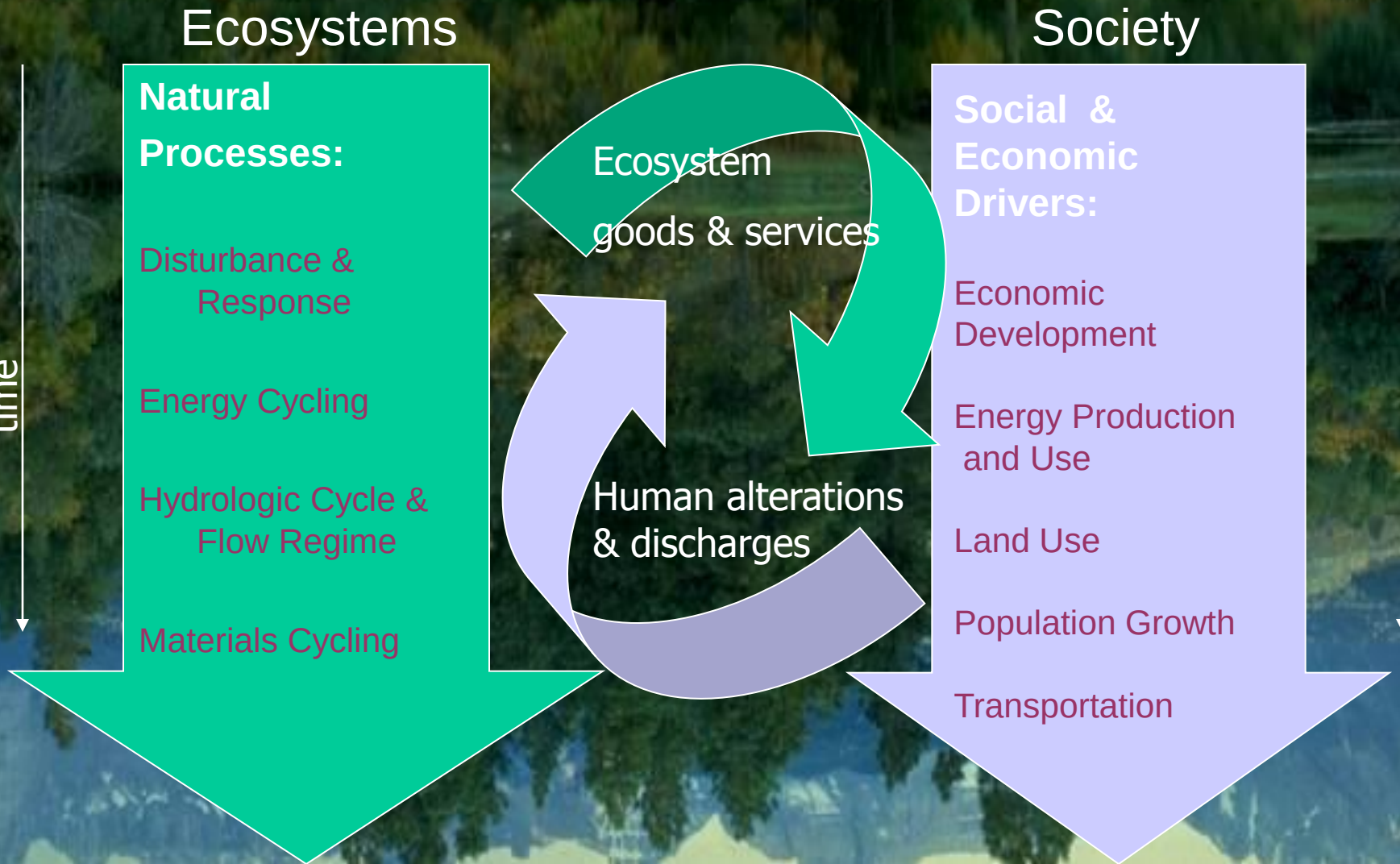
Gaining perspective

- Understanding concepts
- Having a vision
- Recognizing principles
- Testing the waters
- Listening
- Adapting

Capital and System Capacities

- Capital is the capacity to produce value over time
- Environmental, social and economic systems produce value through flows of services, experiences, or goods that meet human and ecosystem needs over time
- We achieve sustainability by maintaining this capital to meet needs

Ecosystem Processes & Societal Drivers



Systems and Information Concepts

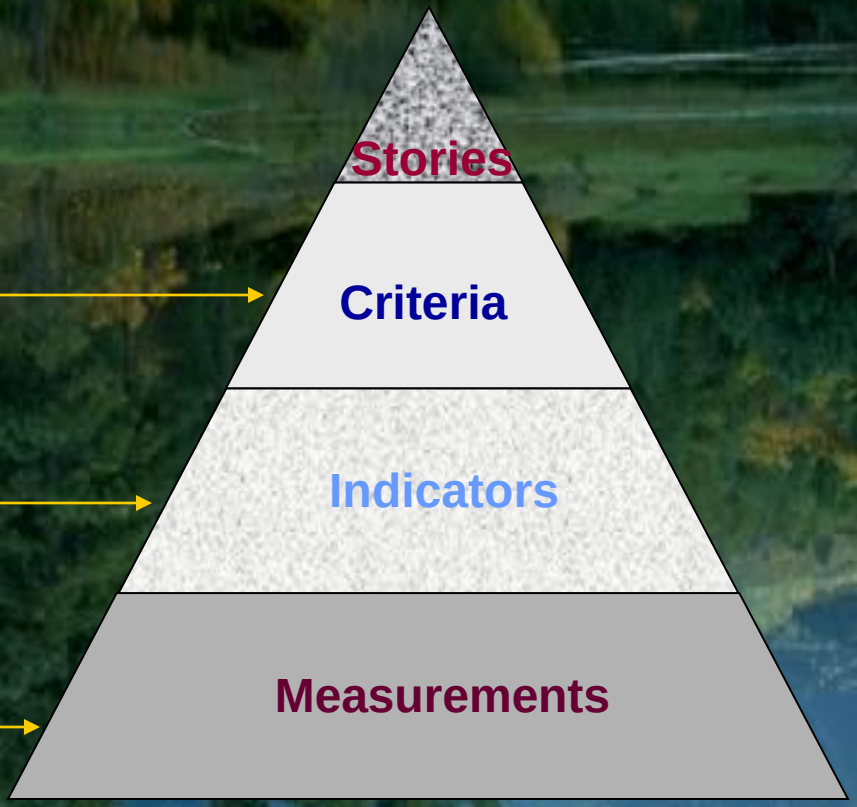
Systems Concepts

Information Concepts

Valued forms of capital

Components of capital and processes affecting them

Measurable phenomena



Indicators

Measures that present trends information relevant to water sustainability in a readily understandable way

The Framework

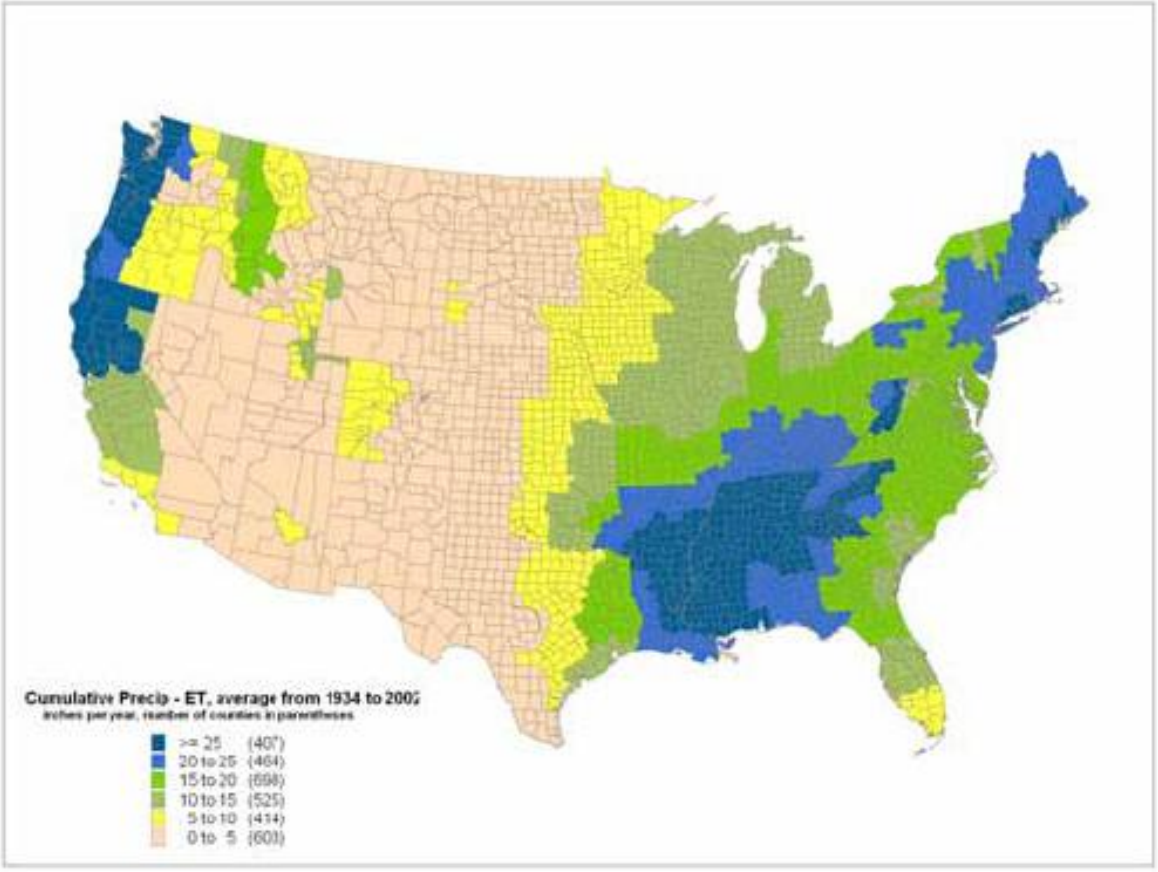
- Water availability
- Water quality
- Human uses and health
- Environmental health
- Infrastructure and institutions

Water Availability

- Renewable water
- Water in the environment after withdrawals for human use
- Water use sustainability

Figure 4.1.1.

Available Precipitation



Source: S. Roy, K. Summers and R. Goldstein

Ground Water Levels in the High Plains

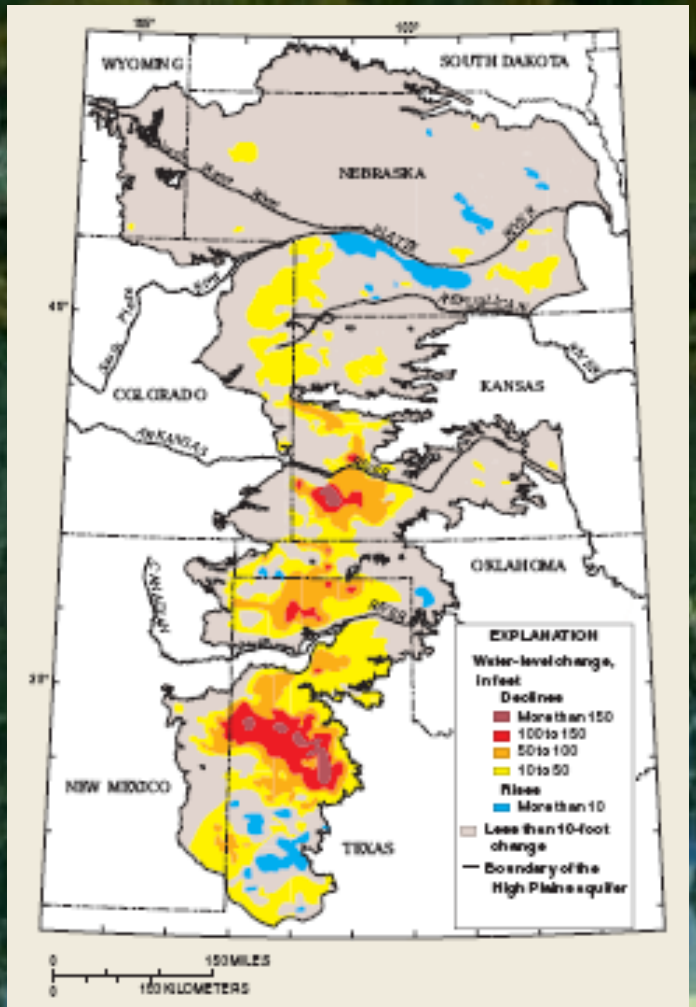
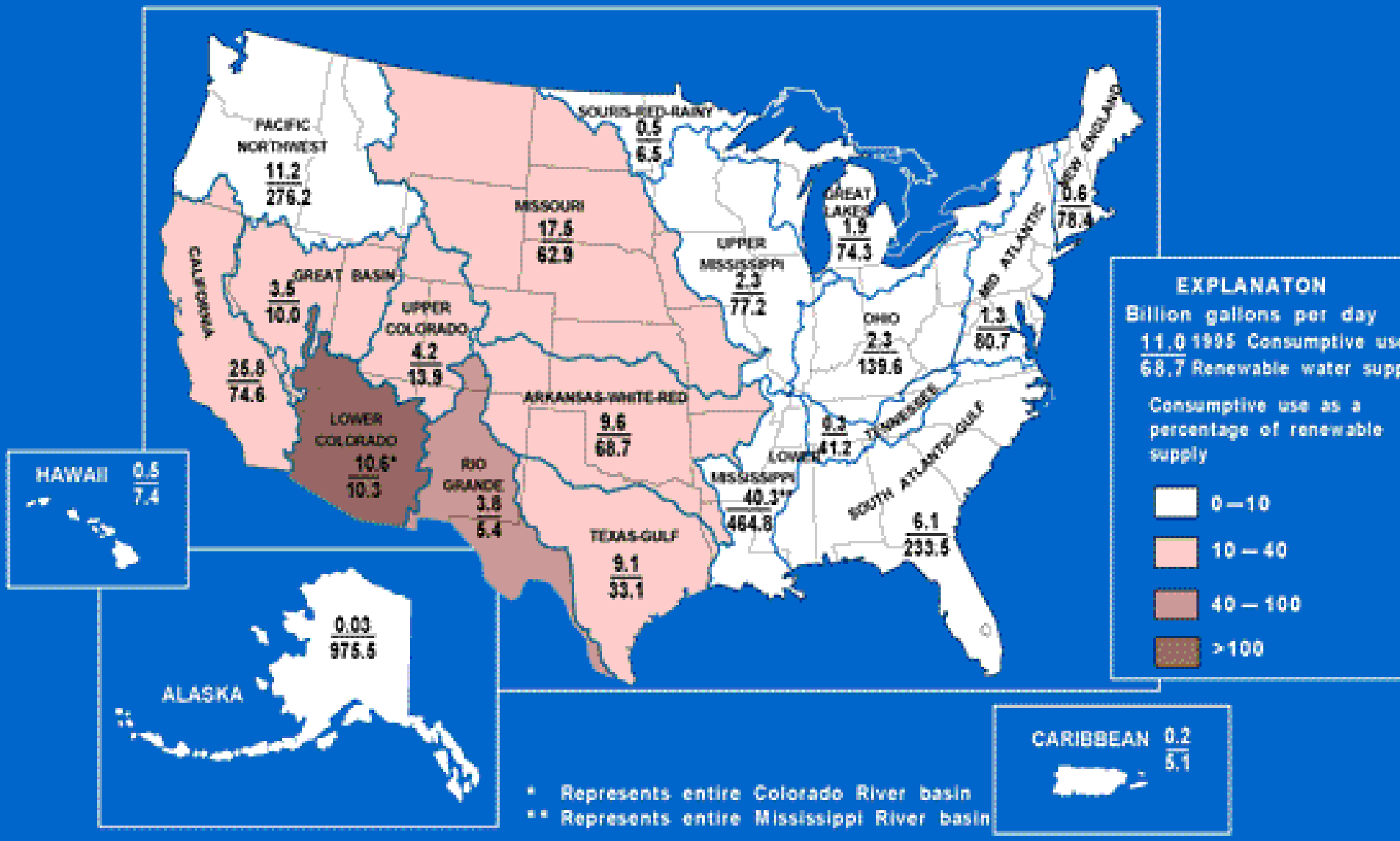


Figure 4.3.1

CONSUMPTIVE USE AND RENEWABLE WATER SUPPLY, BY WATER-RESOURCES REGION

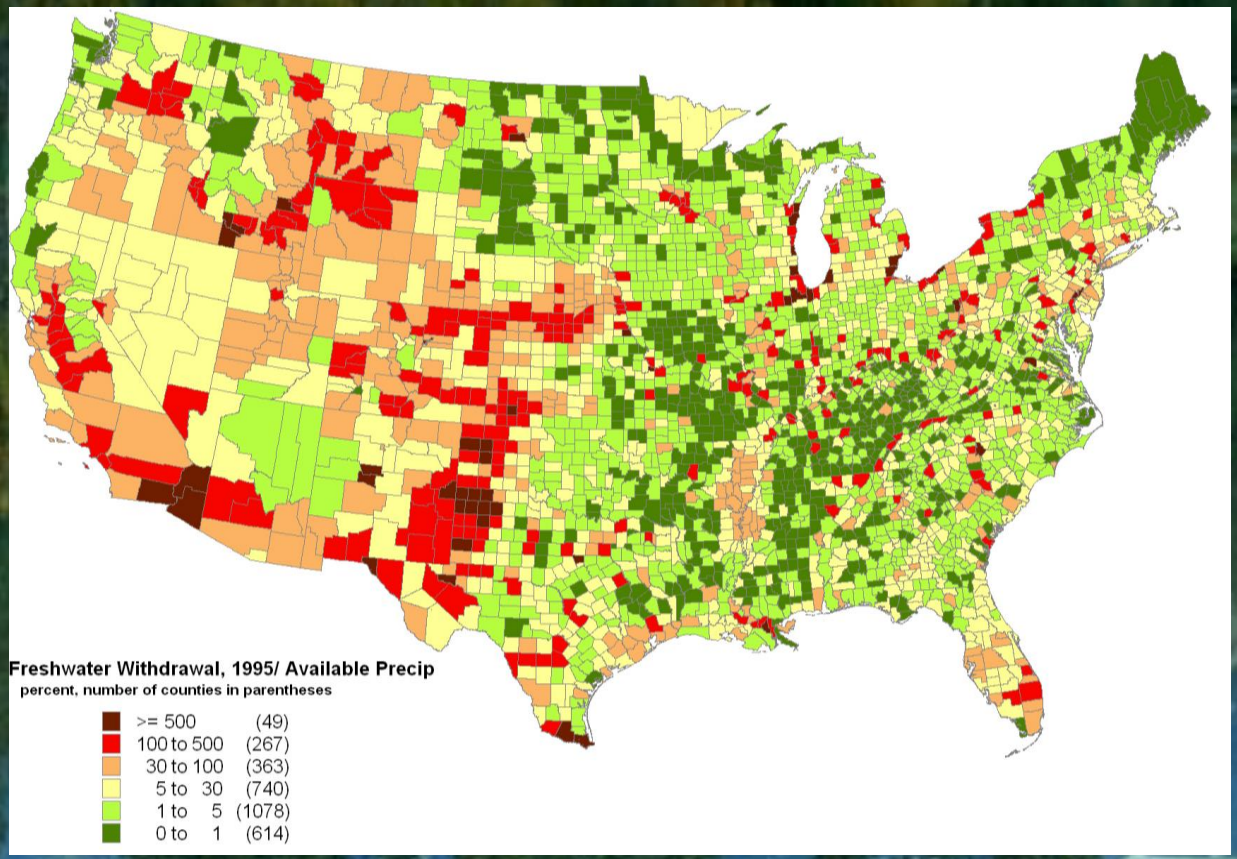


USGS

Figure 4.16.1

Water Use Sustainability

Withdrawals as a percent of available precipitation, 1995



Source: S. Roy, K. Summers and R. Goldstein

Water Quality

- Quality of water for human uses
- Quality of water in the environment
- Water quality sustainability

Human Uses and Health

- Withdrawal and use of water
- Human uses of water in the environment
- Water-dependant resource use
- Human health

Water Withdrawals

USGS (2000)

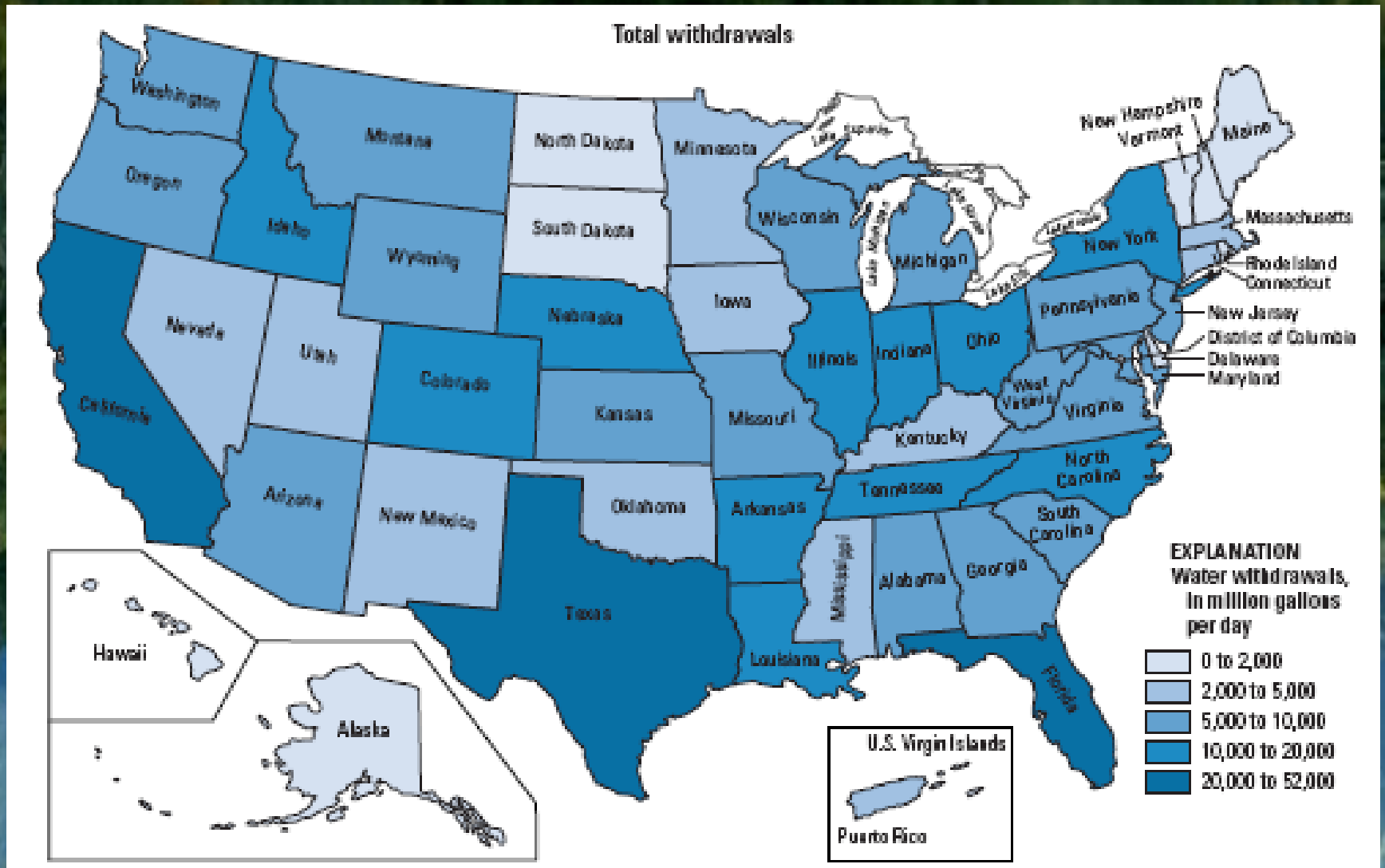
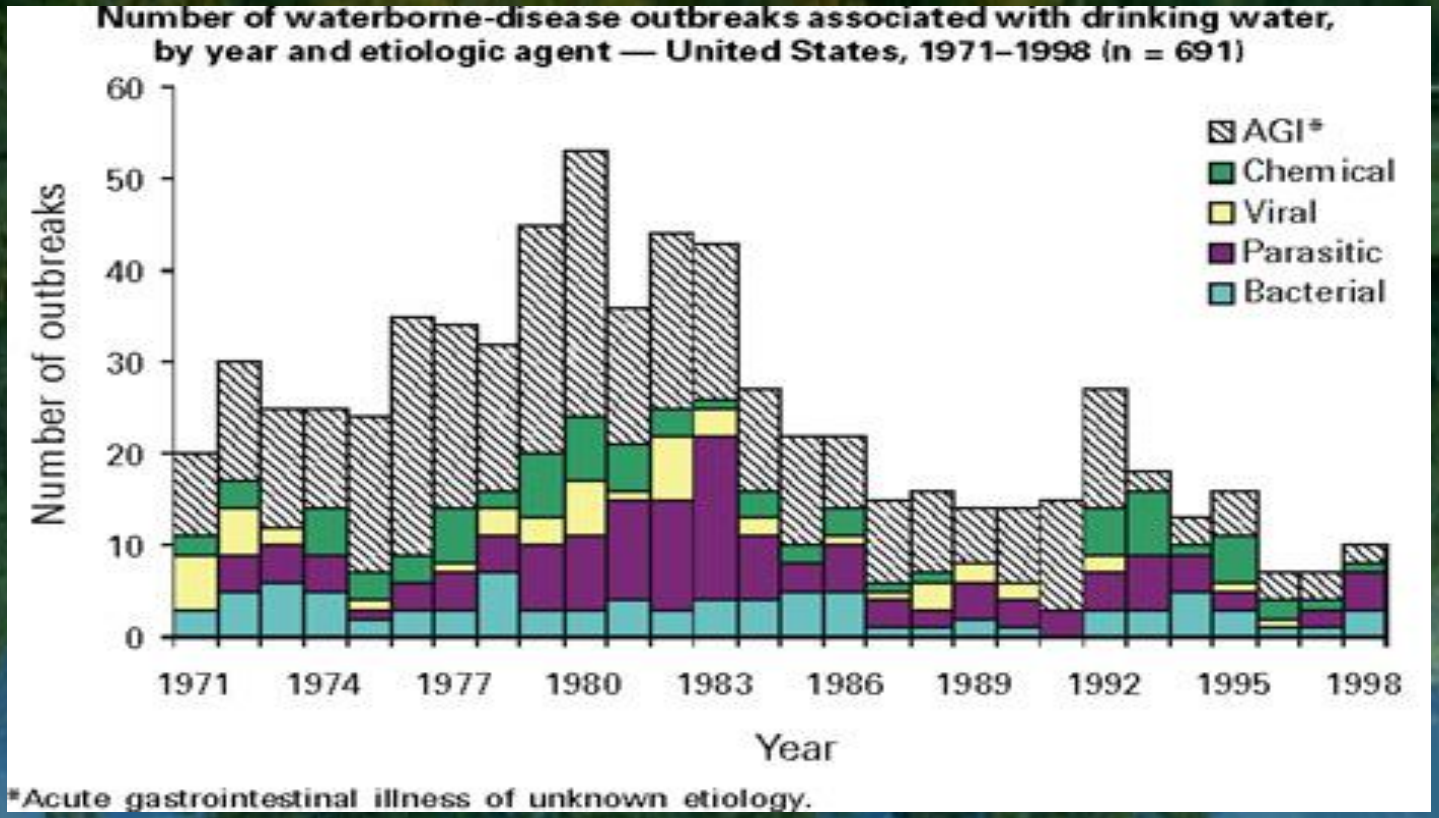


Figure 4.11.2

Reported Incidence of Waterborne Disease

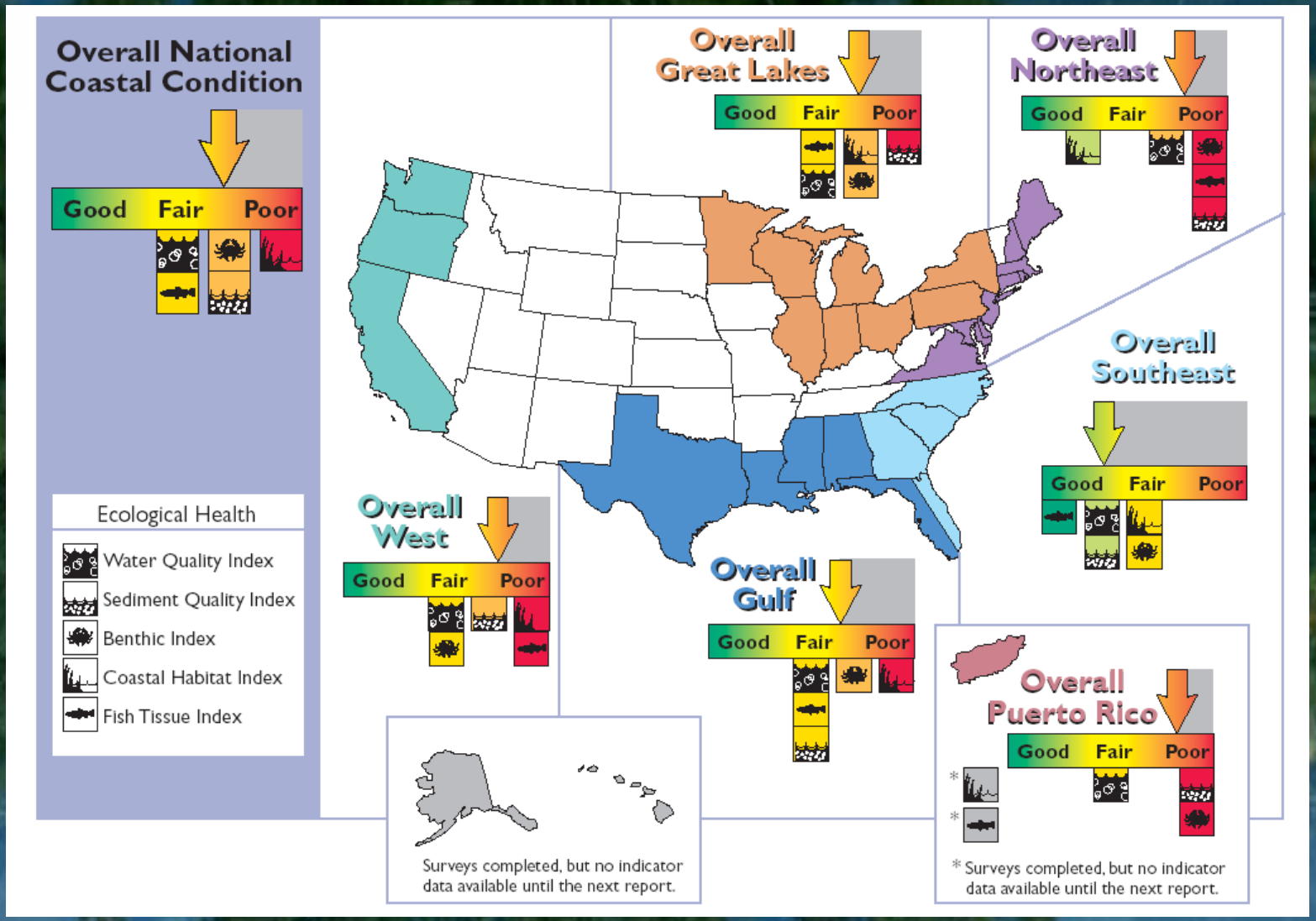


Source: Surveillance for Waterborne Disease Outbreaks - US, 1997-1998

Environmental Health

- Indices of biological condition
- Amounts and quality of living resources

Environmental Conditions



Overall national and regional coastal condition between 1997 and 2000

Source: U.S. EPA, December 2004. National Coastal Condition Report II. Office of Research and Development/Office of Water. EPA-620/R-03/002.

Infrastructure and institutions

- Capacity and reliability of infrastructure
- Efficacy of institutions

Factors

- Condition & capacity of ecological, social and economic systems
- A focus on what's most relevant to sustainability
- Appropriate time horizons and scale
- Information integrity
- Understandability

The Work Ahead

- Complete, revise and refine the SWRR indicator package
  - Understand the scalability of indicators to national, state, regional and local levels
- Assist agencies
  - Communicate the need
- Increase representation
  - Expand relationships with the scientific and business communities
  - Connect with regional water management programs
- Expand outreach

It's easy enough to list the characteristics of ideal indicators. It's not so easy to find those that actually meet these ideal characteristics…

Donella Meadows