



The Relevance of Social Indicators in Ecosystem Monitoring

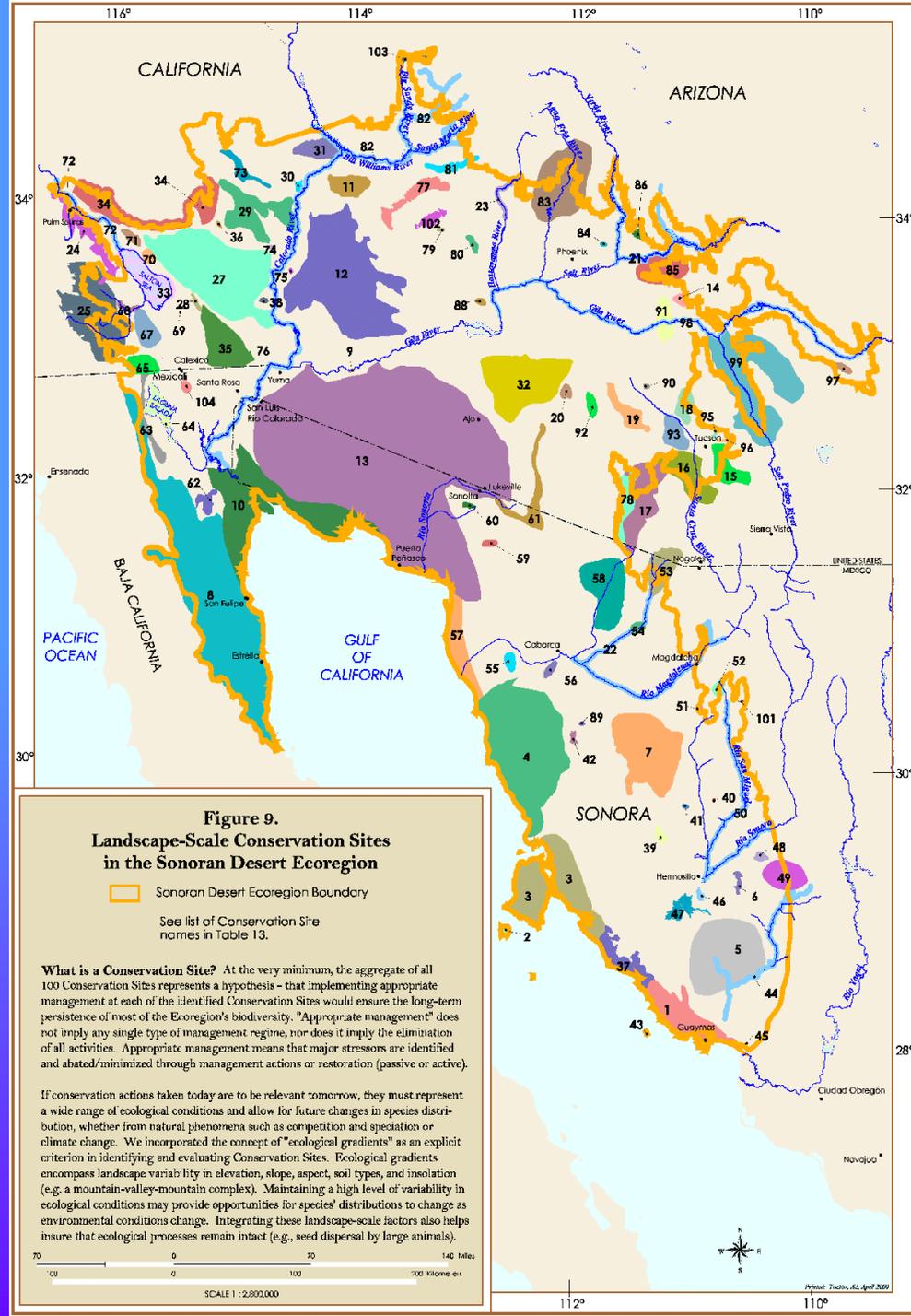
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Sonoran Desert Ecoregion



Sonoran Desert Ecoregion

where we are and how we got here





Social Indicators

- are a set of social, economic, and ecological measures that are useful to ecosystem management decision making
- allow for comparison over an extended period of time and include the identification of:
 - long-term trends
 - periodic changes
 - fluctuations in rate of change
- are practical



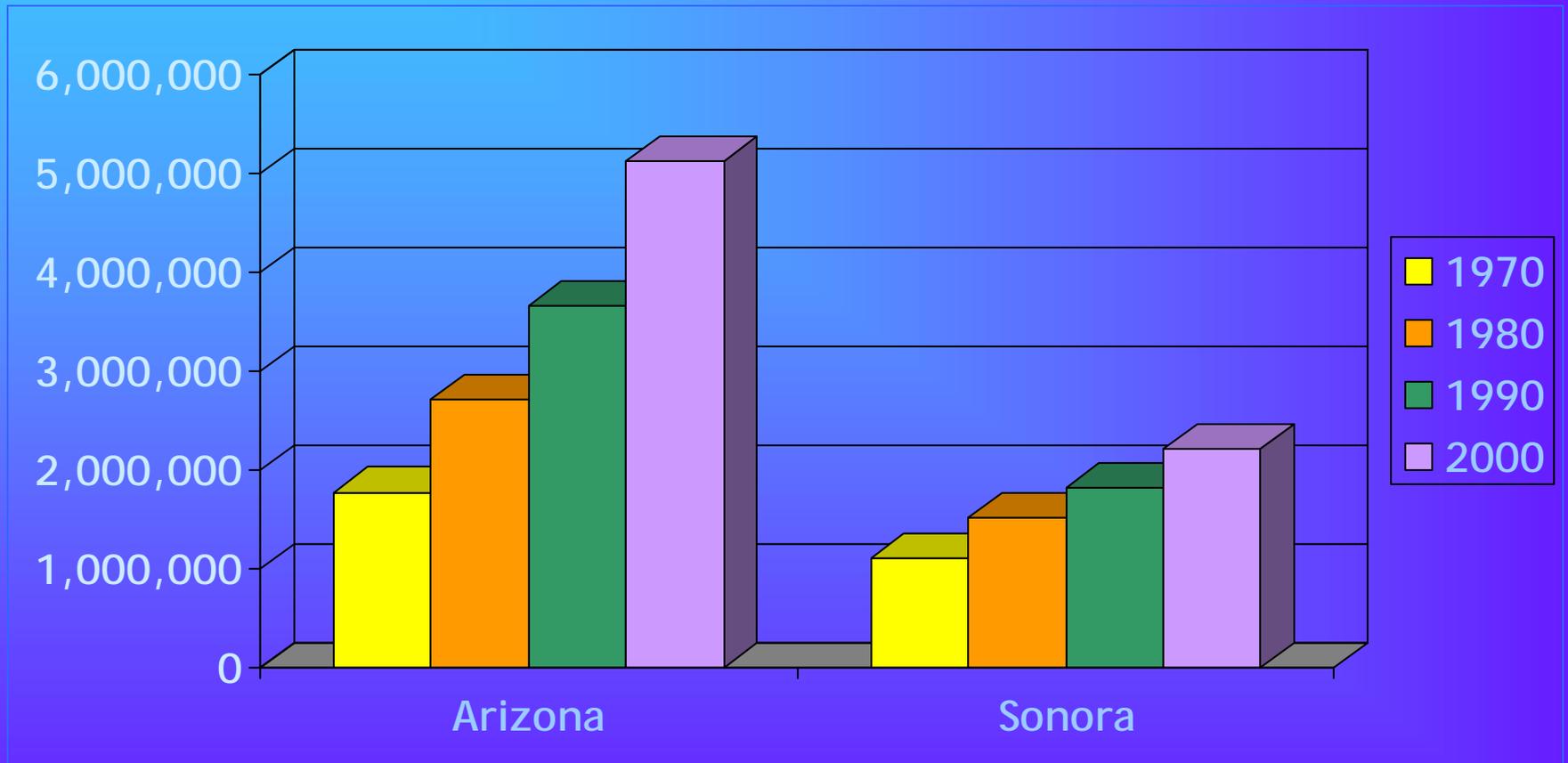
Characteristics of Human Communities at Different Spatial Scales

As with biological studies, scale matters. Trends in social indicators may be examined at different spatial scales:

Regional	Sonoran Desert, Arizona-Sonora
Sub-regional	multiple counties, Arizona
Intermediate	county
Local	community

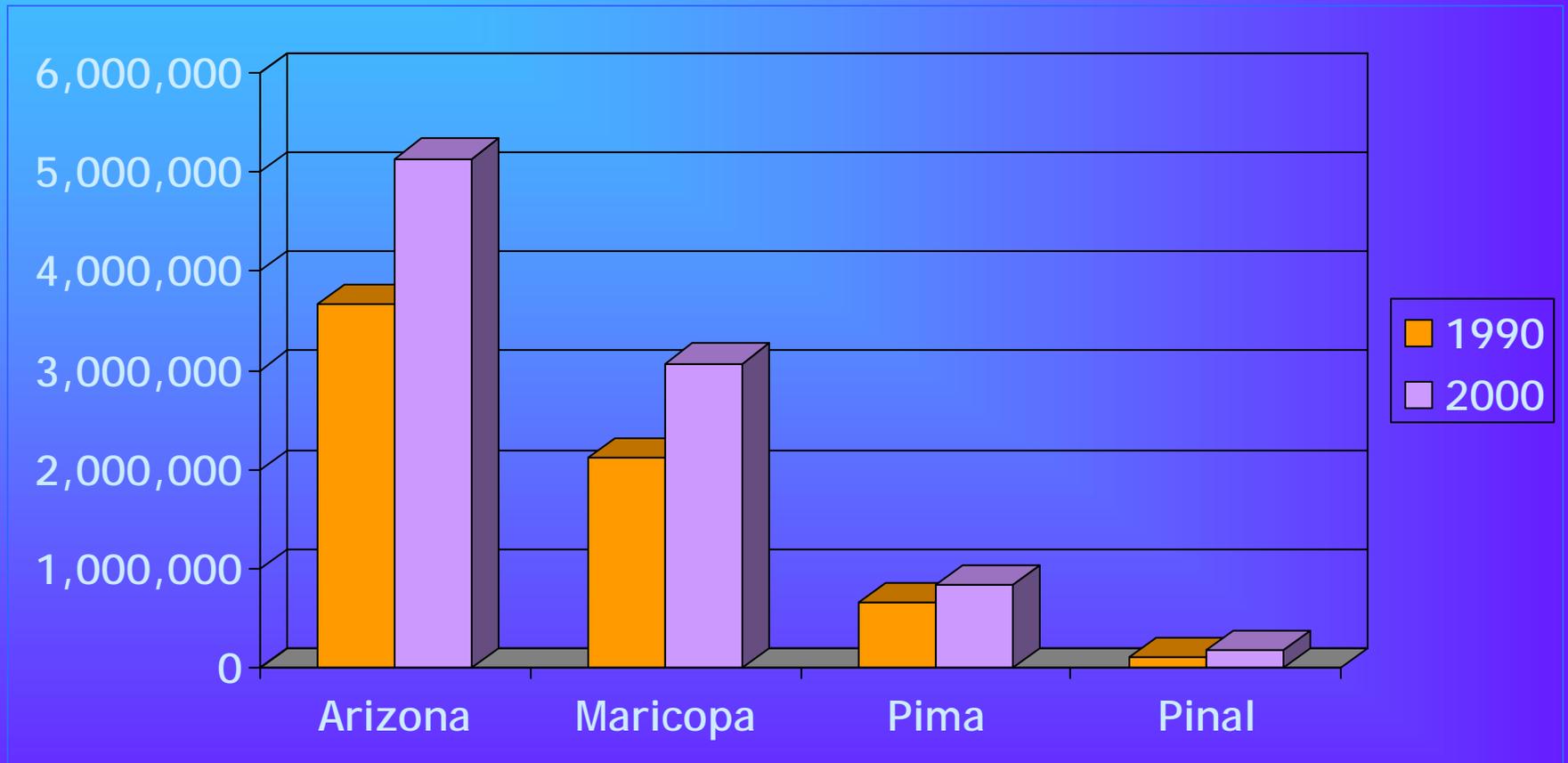


An Example of Population Change at Various Spatial Scales: Regional



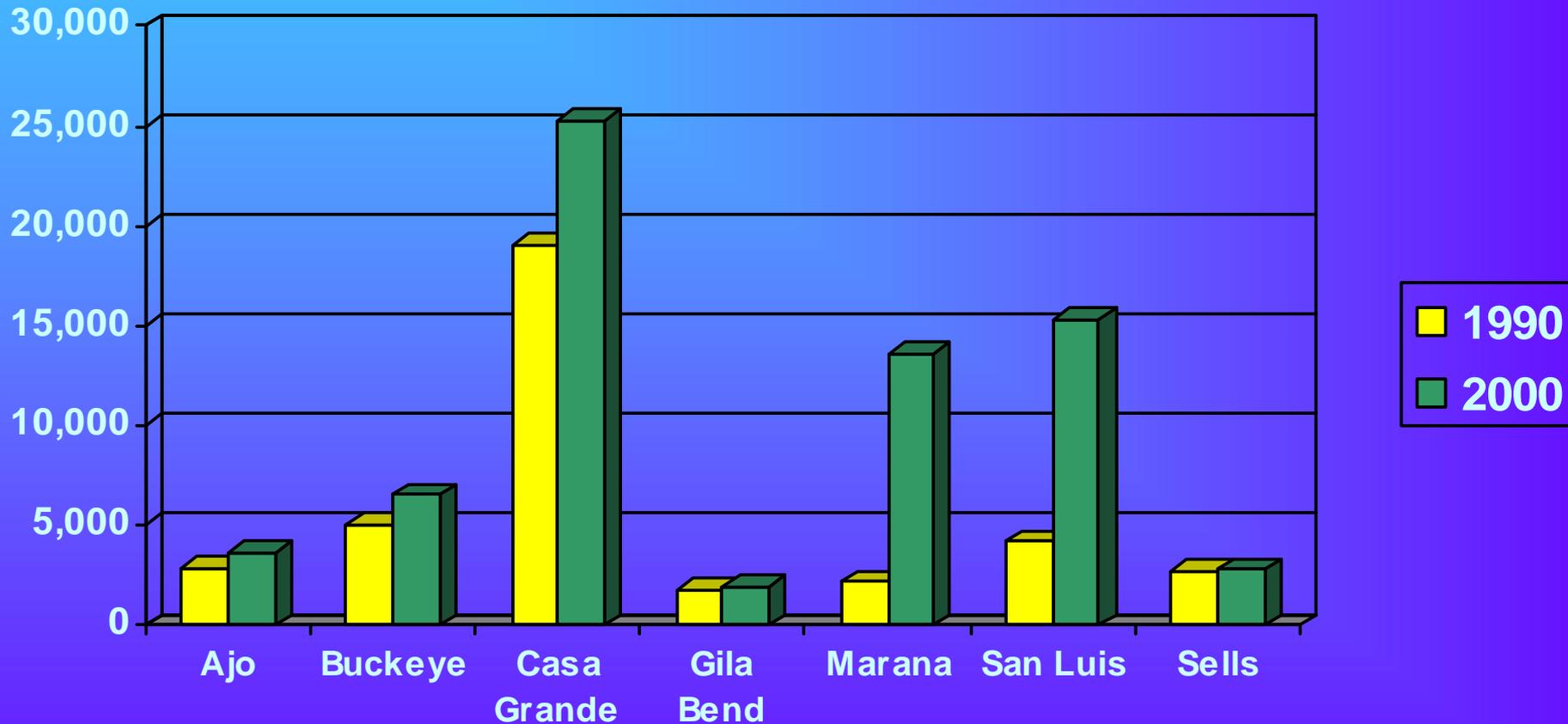


An Example of Population Change at Various Spatial Scales: Sub-regional





An Example of Population Change at Various Spatial Scales: Community





Contextual Indicators that Describe the Characteristics of Human Communities

- population (change in numbers, shift in demographics, attitudes and perceptions)
- economy (employment, income, sectors)
- education (attainment and quality)
- health and safety (crime, access to care)
- recreation (opportunities available, access)
- land use and land tenure (land conversion)



Example of Stress-based Use of Integrated Social and Biological Indicators

Valley Bottom Flood Plain

- roads (location, extent, use)
- recreation (use and access to roads, washes)
- UDA traffic (numbers, locations, impact)
- invasive species (locations, extent)
- surrounding farmland (extent, water use)
- livestock grazing (condition, no. of permits)



How Social Information may Inform Issue-specific Management Decisions

- Who will be directly and indirectly affected by the decision?
- What are the characteristics and attitudes of these groups?
- How are they likely to react to the decisions?
- How can the message of the decision be communicated in a way more likely to be accepted?
- How can human behaviors be encouraged to change to be compatible with the management decision?



Benefits of Social Indicators in Ecosystem Monitoring

- provide a more complete description of the Sonoran Desert human ecosystem
- provide a baseline description and helps monitor trends in social conditions affecting resources
- describe the conditions of human communities and their impacts on natural lands
- involve a range of institutions and communities