

Sustainable Water Resources Roundtable

At The Top of the Town

John Wells, SWRR Co-Chair

May 30, 2012

Sustainable Water Resources Roundtable



A national collaboration of federal, state, local, corporate, non-profit and academic interests

A committee of the USGS
Advisory Committee on Water
Information

Our Mission

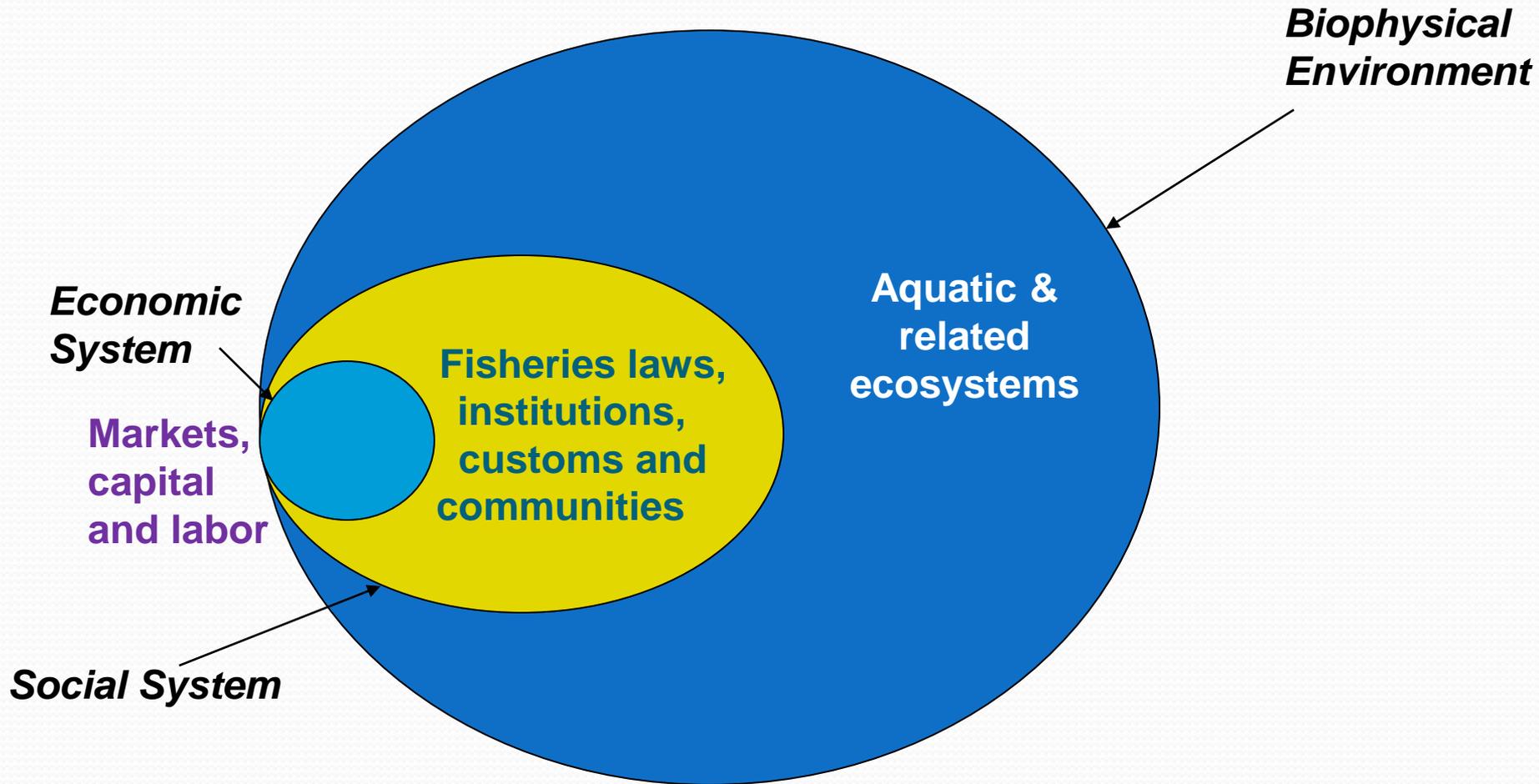
To promote sustainability of the nation's resources through ...

- Evaluation of information
- Development & use of indicators
- Targeting of research
- Engagement of people & partners

Outreach

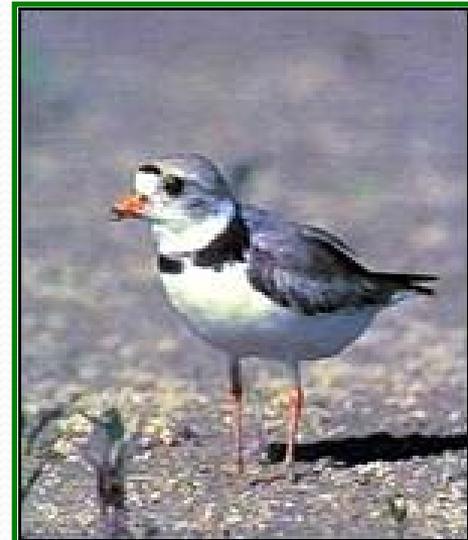
- More than 600 participants from federal, state and local governments; corporations; nonprofits and academia
- Meetings in California; Colorado; Maryland; Michigan; Minnesota; Virginia; Washington, D.C.
- Web site <http://acwi.gov/swrr/index.html>
- 2005 Preliminary Report
http://acwi.gov/swrr/Rpt_Pubs/prelim_rpt/index.html
- 2010 SWRR Report
http://acwi.gov/swrr/Rpt_Pubs/SWRRReportMarch2010.pdf

Essential Relationships of Sustainability with Fisheries

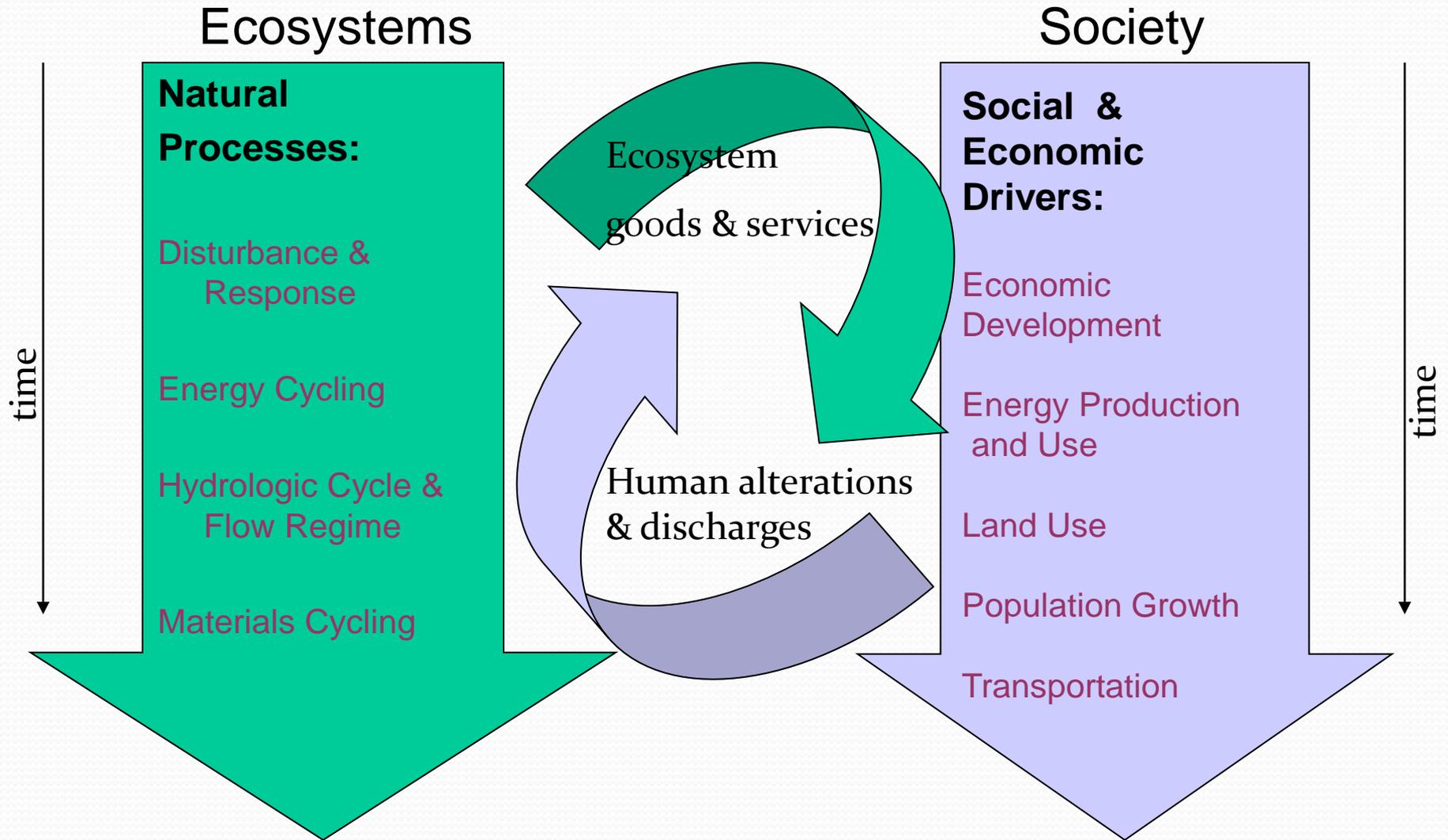


Capital and System Capacities

- **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 capital to meet needs**

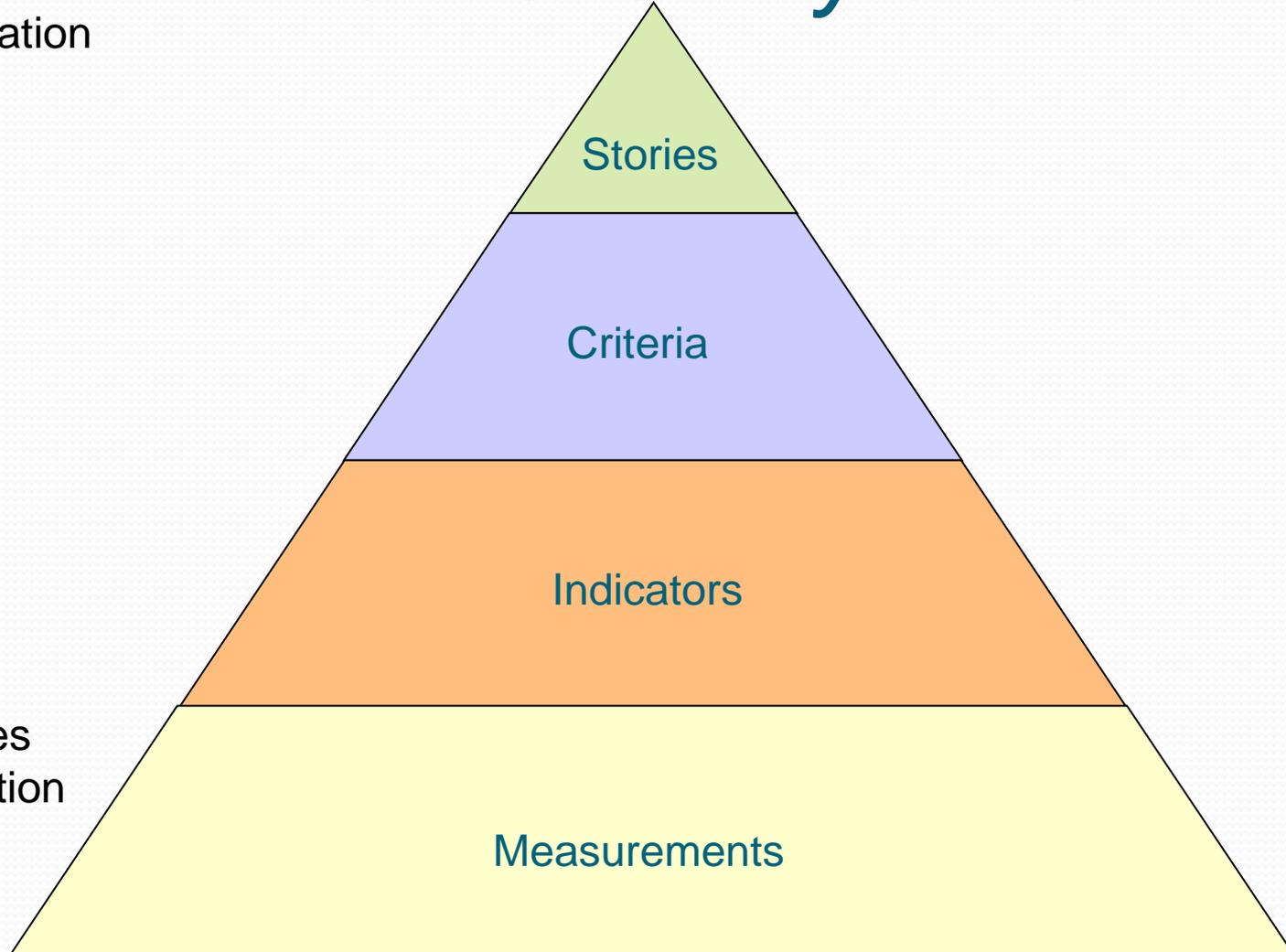


Ecosystem Processes & Societal Drivers





Information Pyramid



Fewer Pieces
Of Information



Stories

Criteria

Indicators

Measurements

More Pieces
Of Information

Indicators

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



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 SWRR Indicator Framework

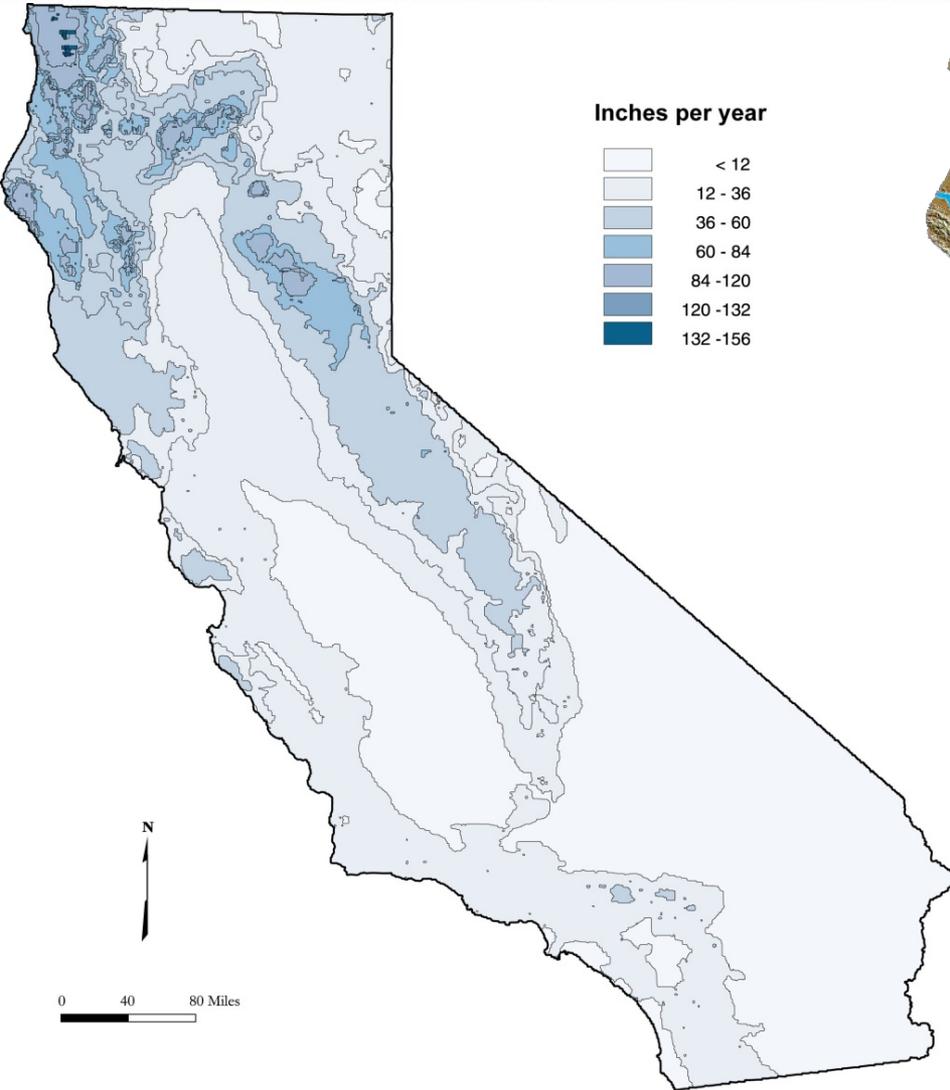
- Water availability
- Water quality
- Human uses and health
- Environmental health
- Infrastructure and institutions

California Water Plan

Blueprint for Integrated Water Management & Sustainability

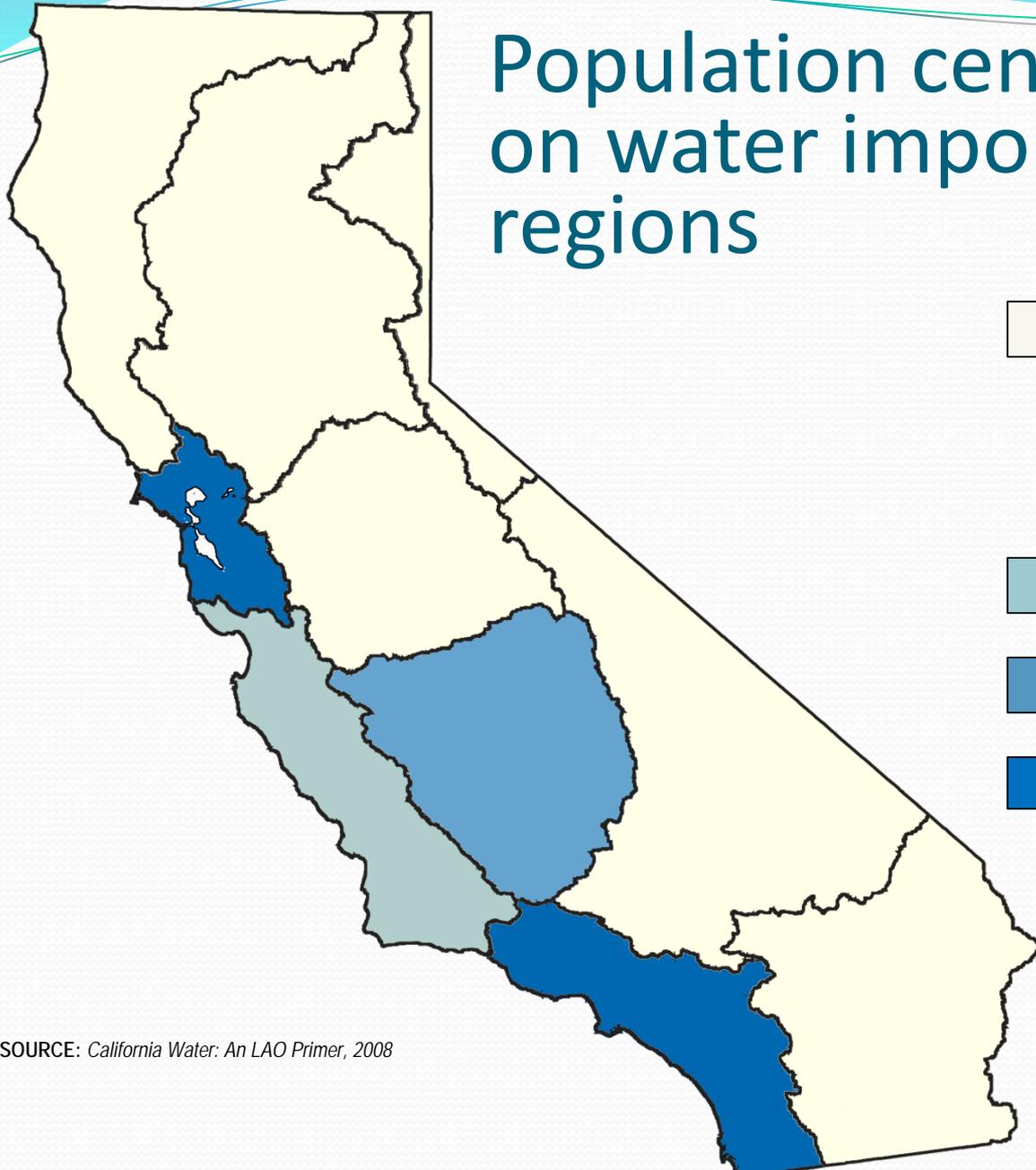


California Water



Mean annual precipitation in California, 1951 to 1990

Population centers rely heavily on water imported from other regions



Net Exporters*

Net Importers

Percent urban & agricultural water use from Imports

Less than 30%

30 to 60%

More than 60%

* While the Colorado River is a net exporter of water within California, its main source of water is imported from the Upper Colorado Basin

Imperative to Act

**The *Entire* System –
water & flood facilities,
watersheds & ecosystems**

**– has lost resilience and is
changing in undesirable
ways.**



Imperative to Act to Keep Pace w/ Changes



- Population growth & movement
- Shift to permanent crops
- Increasing flood risk
- Declining Delta & watersheds
- Impaired water bodies
- Climate Change profoundly impacting water systems
- Aging water & flood systems challenged by legal remedies & regulatory protections
- Growing economic & societal consequences of declining water reliability and degraded quality of surface & groundwater supplies

Sustainability Objective	Related CWP Objective and RMS	Example Indicators	Relevance to Sustainability Objective
1. Improve water use efficiency, increase water recycling, and increase water conservation in order to improve water supply reliability, reduce energy demand, and restore and maintain aquatic ecosystems and processes.	CWP Objective 2, 9; RMS Reduce demand	Energy required per unit of clean drinking water	Reduce energy demand for providing water
		Average water use per household,/capita, 20% reduction by 2020	Increase water conservation
		Sufficient flows and timing of flows for maintaining historically-present native aquatic fauna	Restore and maintain native ecosystems

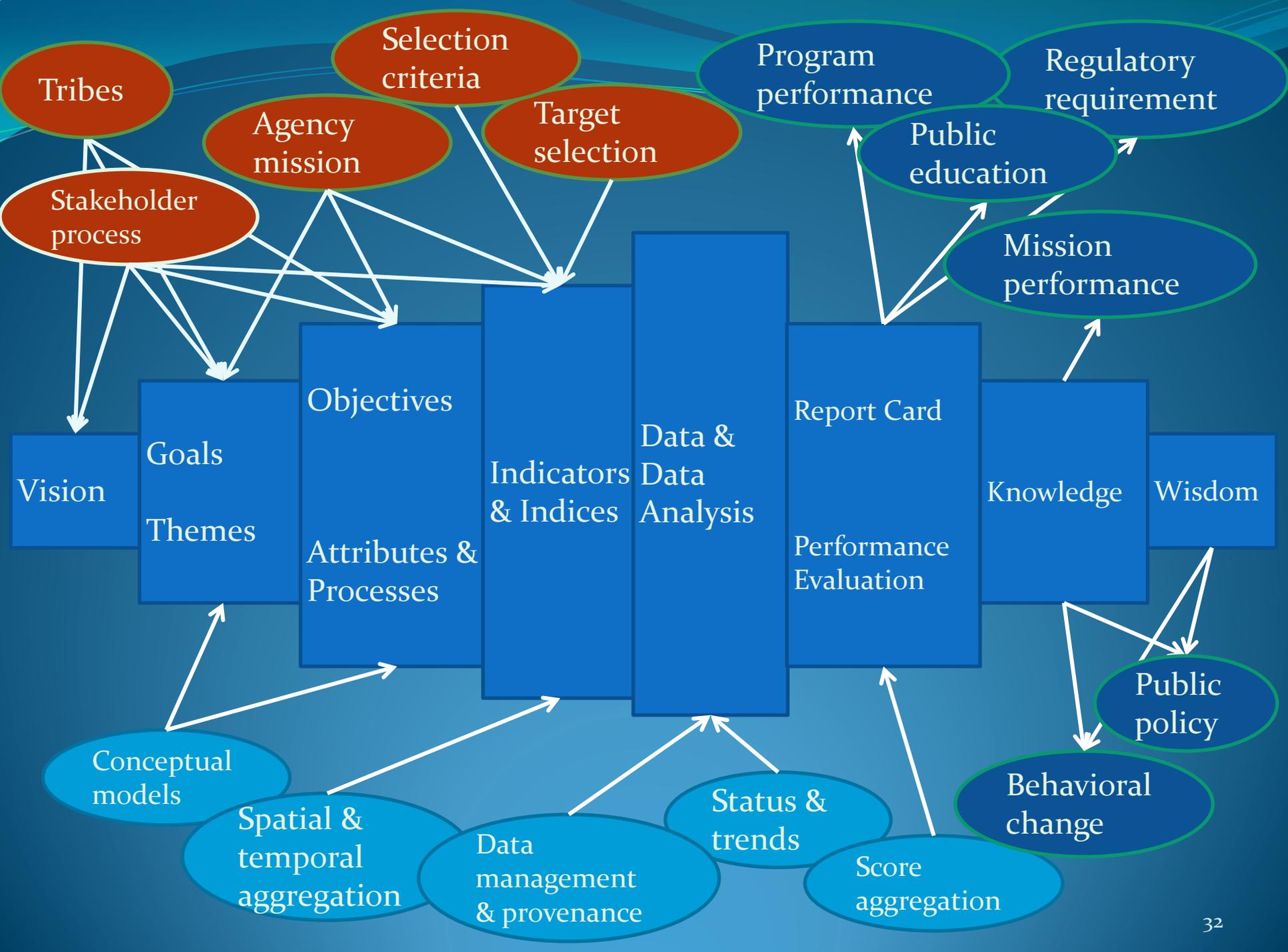
Sustainability Objective	Related CWP Objective and RMS	Example Indicators	Relevance to Sustainability Objective
4. Protect and restore surface water and groundwater quality and the natural systems that maintain these services in order to safeguard human and environmental health and secure California water supplies.	CWP Objective 4; RMS on water quality; chapter 4 discussion of water quality sustainability indicators	Ratio of observed to expected native aquatic species	Protect and restore water quality for environmental health
		Surface-water Water Quality Index	Surface water quality to safeguard human and environmental health
		Groundwater Water Quality Index	Ground water quality to safeguard human health

CA Water Plan Update 2013

Water Sustainability Indicators

Objective

Help monitor progress to meeting water sustainability objectives through the development and application of an analysis framework



Next Steps for the SWRR

- Continuing roundtable outreach
 - Building regional connections
 - Adding new private, nonprofit & public sector partners
- Refining the roundtable's sample indicators
 - Addressing sustainability and scale
 - Linking to national and regional indicator sets
- Collaborating with the National Water Census and other indicator initiatives across the nation
- Assisting agencies in describing the need for programs to collect indicator information



Contact Information

SWRR Co-Chairs

- Rick Swanson, US Forest Service, rswanson@fs.fed.us
- Robert Wilkinson, Bren School of Environmental Science and Management, University of California, Santa Barbara, wilkinson@es.ucsb.edu
- John Wells, John R. Wells and Associates, jrwells2411@gmail.com

SWRR Manager and Facilitator

- David Berry, 703-741-0791, davidberry@aol.com
- Sustainable Water Resources Roundtable
<http://acwi.gov/swrr>