FUTURE OF NATURAL RESOURCE MANAGEMENT IN CALIFORNIA

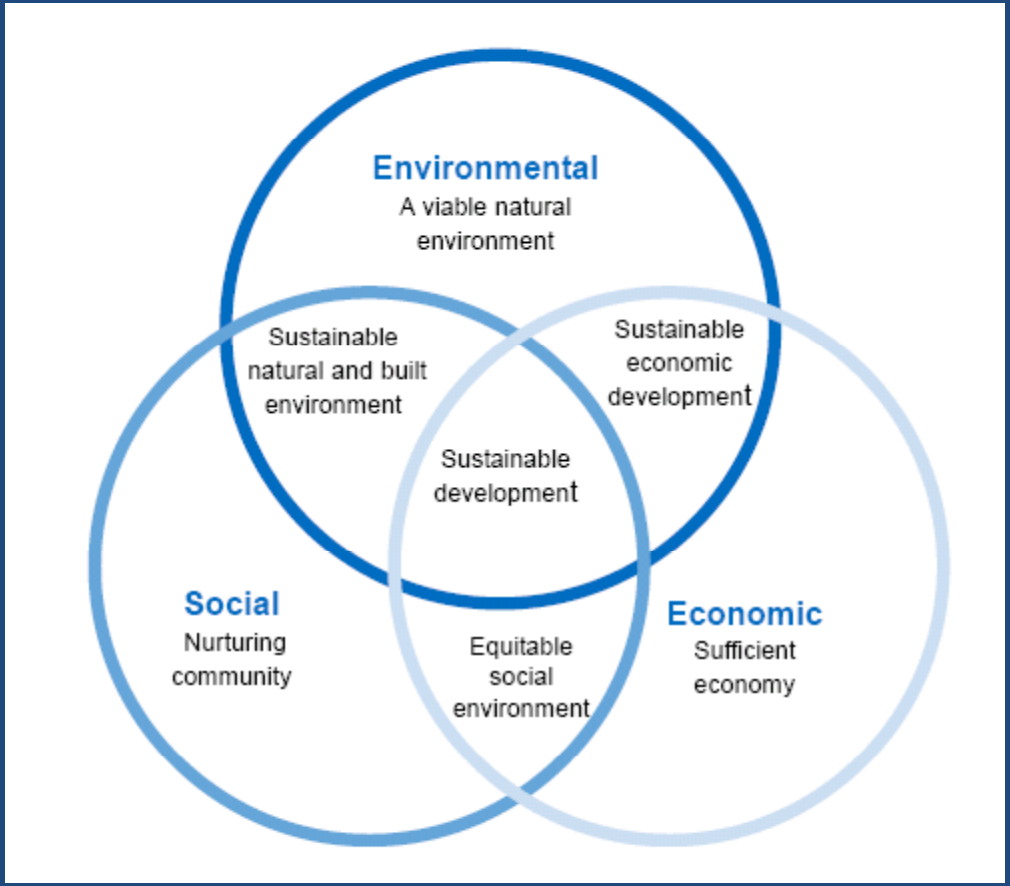
Integrated natural resource management

- A process of managing natural resources in a systematic way, which includes multiple aspects of natural resource use (biophysical, socio-political, and economic) meet production goals of producers and other direct users (e.g., food security, profitability, risk aversion) as well as goals of the wider community (e.g., poverty alleviation, welfare of future generations, environmental conservation). It is focuses on sustainability and at the same time it tried to incorporate all possible stake holders from the planning level itself, reducing the possible conflicts in future. The conceptual basis of INRM has evolved in recent years through the convergence of research in diverse areas such as sustainable land use, participatory planning, integrated watershed management, and adaptive management.

- **Sustainability Defined**

  United Nations: "Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs."

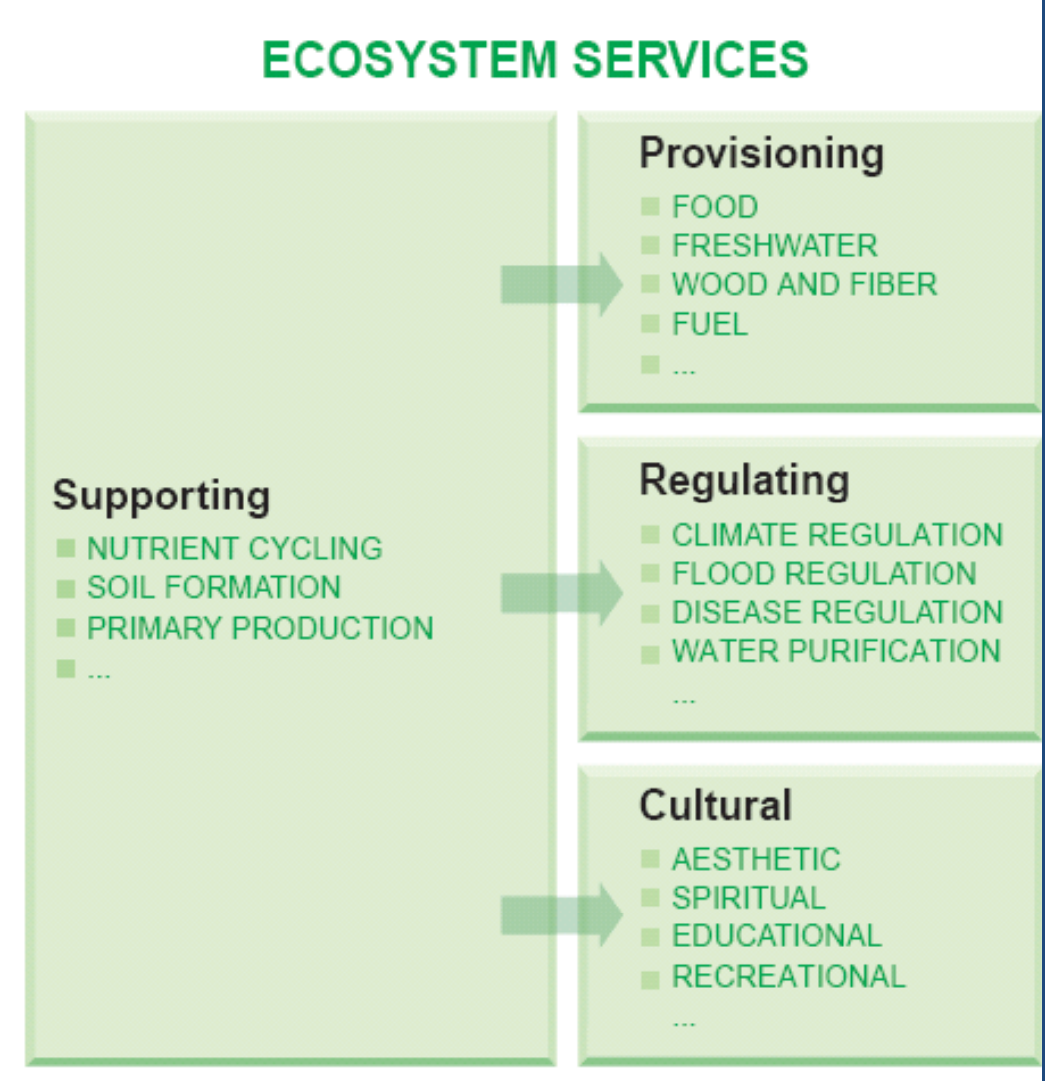
  Simple: A system is sustainable when its operation does not break it down over time. In other words, resources that are consumed are replenished.



- Ecosystem services are the “conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life” (Daily, 1997) by “purifying air and water, detoxifying and decomposing waste, renewing soil fertility, regulating climate, mitigating droughts and floods, controlling pests, and pollinating plants” (Salzman, Thompson, and Daily, 2001).

ECOSYSTEM SERVICES

The benefits people obtain from ecosystems



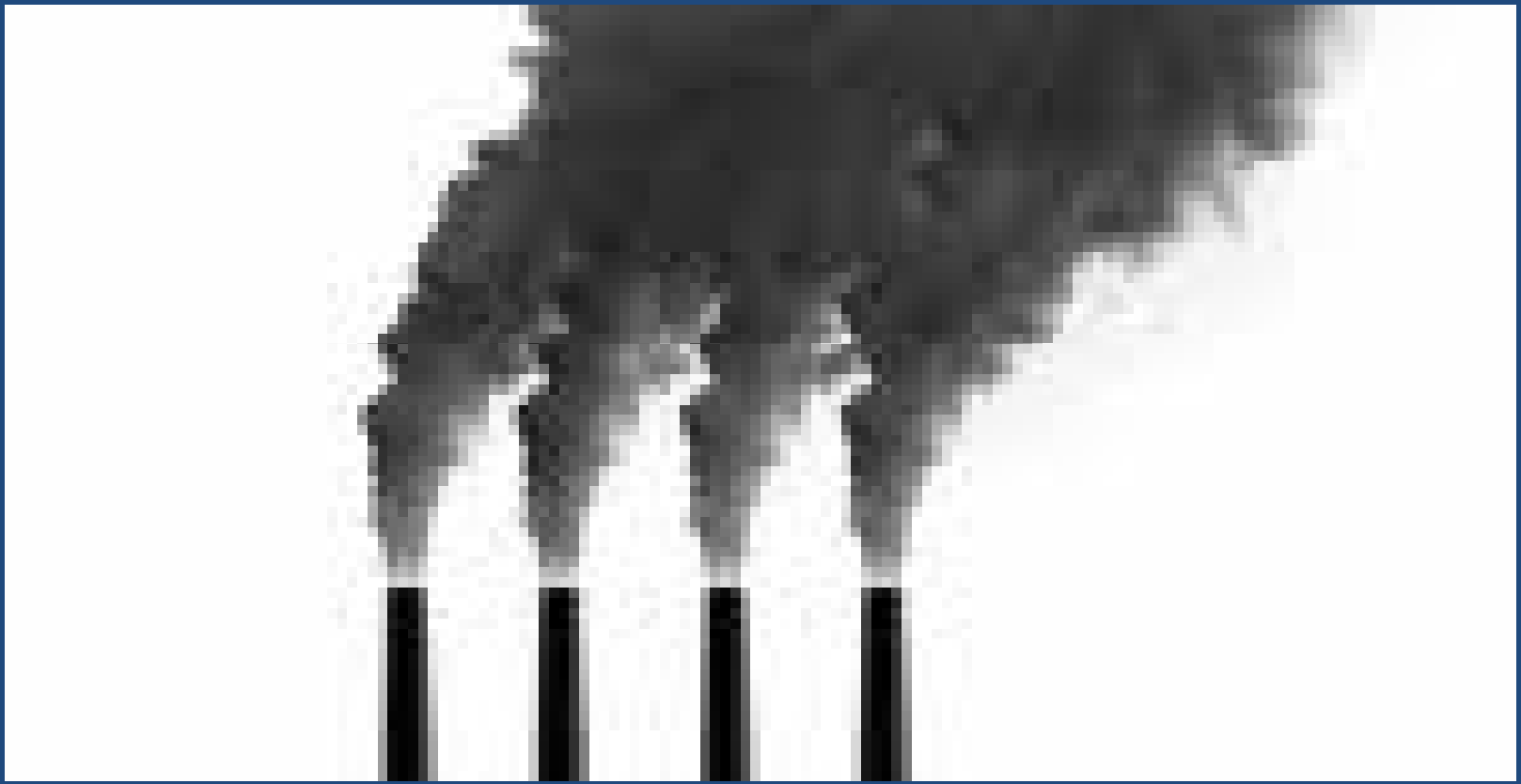
STRONG

DAMS AND PLANTS DESIGN BRANCH
STRUCTURAL SECTION, MAY 7, 1963

STRENGTH THROUGH DIVERSITY

DIVISION OF ENGINEERING 2008

STOVE PIPE APPROACH

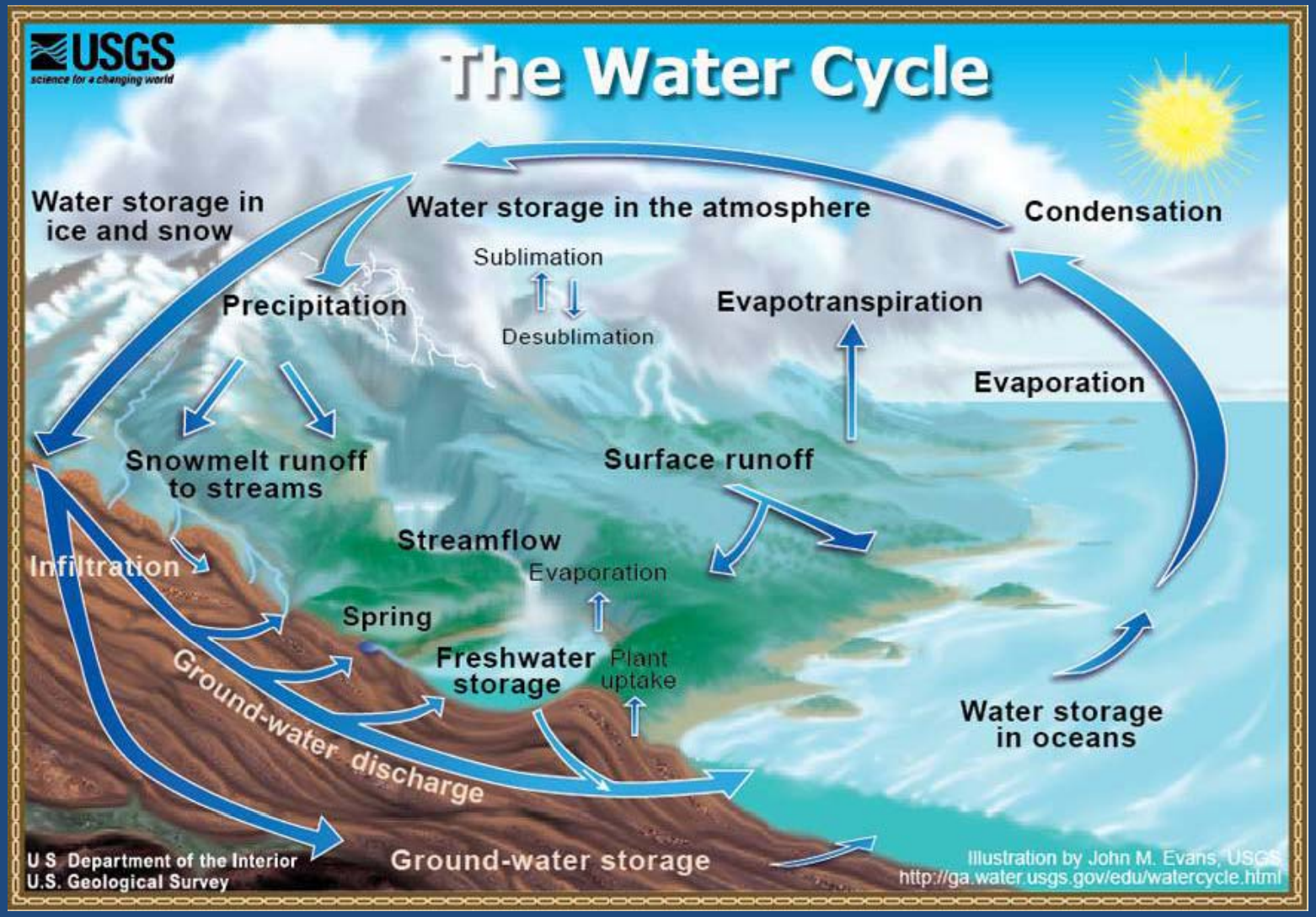


Fish and Game/Air Board/Water Board/Public Health

MULTIPLE RESOURCES APPROACH

MANAGEMENT DECISIONS HAVE CONSEQUENCES

NATURAL SYSTEMS' APPROACH



Integration of Multiple Objectives

- salmonid recovery
- protection & enhancement of beneficial uses of water
  - water supply & quality
  - public health
  - watershed health/green infrastructure
- economic vitality of communities
- local autonomy & intra-regional cooperation
- climate mitigation
  - energy/forest carbon/biomass/fire
- climate adaptation
  - ecosystem & human community resiliency
- stormwater/flood management
- local land use planning

CLEAN WATER STARTS HERE

Upper Feather River Watershed

County of Los Angeles

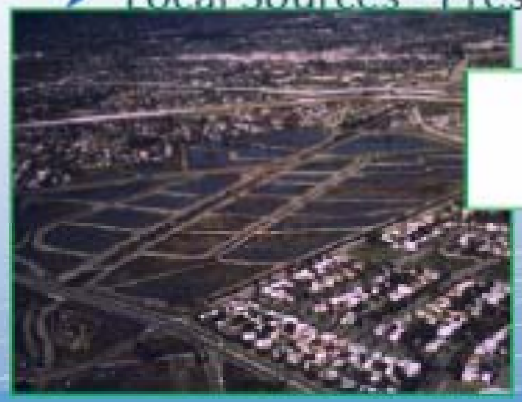
- 10 + million residents – 25% of State CA population
- Total Area 4752 sq. miles
- Density 2,427 people / sq mile
- 88 cities – City of L.A. largest in CA and second largest in US
- Highest Elevation 10,068 feet
- Average Annual Rainfall 15 inches in Downtown LA and 35 inches in the San Gabriel Mountains

Import Supply vs. Local Supply

Colorado River Aqueduct

State Water Project

- Water Imports – Presently support ~ 2/3 of demand
  - ~ 60 % from State Water Project (Delta)
  - ~ 40 % from Colorado River Aqueduct
- Local Sources - Presently support ~ 1/3 of demand



Pacoima Spreading Grounds

Big Tujunga Reservoir

BUILT ENVIRONMENT/ADAPTATION

Carmel River

Watershed Success through Integration & Partnerships

Trish Chapman

Central Coast Regional Manager

State Coastal Conservancy

tchapman@scc.ca.gov

(510) 286-0749

Donna Meyers

Director of Conservation Programs

Big Sur Land Trust

dmeyers@bigsurlandtrust.org

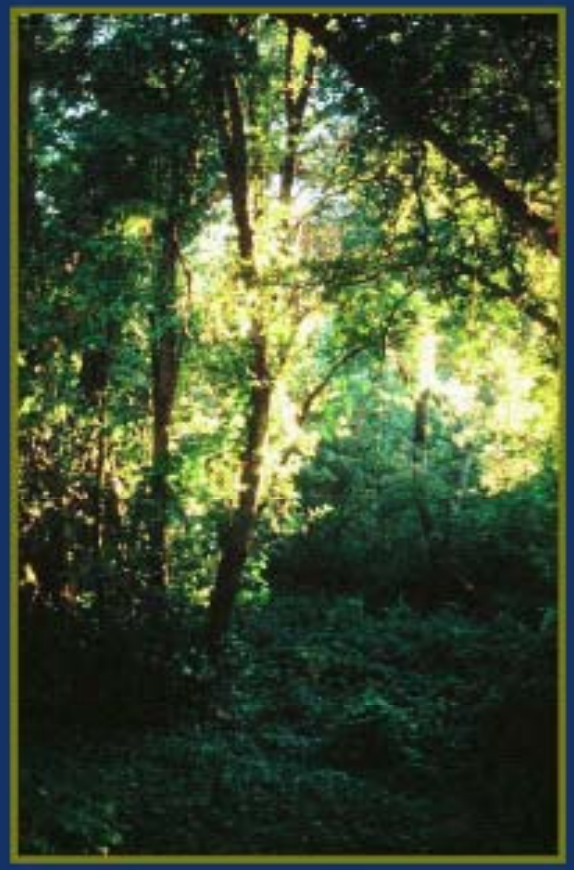
(831) 625-5523 ext. 105

The Watershed: Water Supply, Flooding

- Two water supply dams in the upper watershed: San Clemente and Los Padres Dams
- 21 water supply wells in alluvial floodplain
- River is currently overdrafted and under order from SWRCB to limit diversions
- Watershed produces severe floods every 15-20 years

Key Elements of Integrated Natural Resources Management – Sonoma County Water Agency

- science-based management
- information sharing – reduce organizational fragmentation
- promote local solutions
- involve diverse stakeholders
- invest in outreach & education
- seek partnerships to achieve mutual benefits & leverage funding



San Joaquin River Restoration

Opportunities of an Integrated Natural Resource Management Approach

The San Joaquin River Restoration Program (SJRRP) is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining Chinook salmon fishery while reducing or avoiding adverse water supply impacts. SJRRP was authorized by the San Joaquin River Restoration Settlement Act, part of the Omnibus Public Land Management Act of 2009.

CEQA CHALLENGES

CEQA Section 15333- Small Habitat Restoration Projects

Restoring of Natural Function

Pre-Project Last Chance Creek, Alkali Flat, 2003

Restoring Natural Function

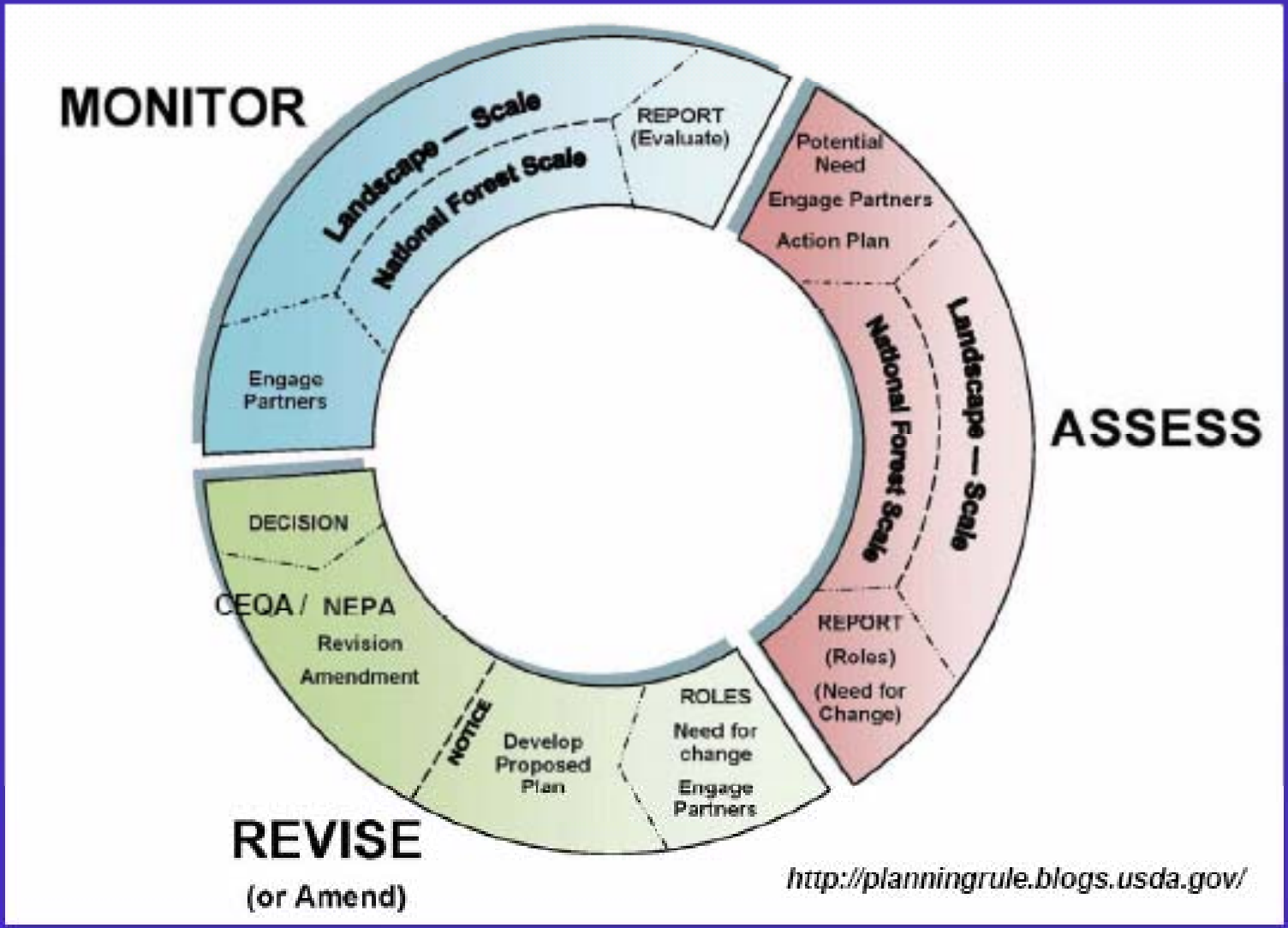
Post-Project Last Chance Creek, Alkali Flat, May 2005

Integrated Regional Water Management Success Story

Recommendations

Partnerships	Funding	Integration
• Identify Federal partners early and identify common objectives • Private partnerships deserve meaningful consideration • Recognize "critical mass" of efforts early and promote for more comprehensive approaches and communications with partners	• Consider special status for projects to receive longer grant contract periods and collective funding agreements among agencies • Create multi-agency funding pools to eliminate extensive applications and coordinate application processes across agencies and funding sources • Reduce grant review periods and processes and allow decisions at PM level • Project planning & design needs more funding sources – create a role for this somewhere	• Watershed coordinators could be key to integration success • Without leadership integration is always compromised •Provide models for legal partnership agreements • Successful projects and partnerships let natural resource and other objectives (ie., recreation) guide approach to project outcomes – funders can help by recognizing these multiple objectives

Recommendation #1: Scale up civic science, adaptive management, and inter-governmental coordination to address regional and statewide natural resource problems.



North Coast Integrated Regional Planning
lessons learned/suggestions for the future

- green infrastructure = ideal for integration
- substantial incentives work
  - meeting multiple state & federal objectives
  - changing HOW people work together – integration is a way of working
- capacity building is key
  - flexible block grants
  - secure source of long term funding that can attract other funding
- economies of scope and scale – integrated regional approach = bang for buck/ROI

Integrated Natural Resources Management

Sonoma County & North Coast Green Infrastructure Initiatives

What Do We Need Moving Forward?

- support local leadership
- future bonds & legislation – incentivize integration of multiple objectives/consider other factors in addition to population
- flexible, secure, long term funding
- integrate natural resource management into local and general plans
- integrated planning offsets need for regulation
- importance of Integrated Natural Resources Management in rural communities

FOR MORE INFORMATION

CALIFORNIA NATURAL RESOURCE AGENCY WEBSITE:

http://www.resources.ca.gov/meeting_regarding_the_future_of_natural_resources_management.html

Brian R. Leahy
Assistant Director
Department of Conservation
Division of Land Resource Protection
801 K Street, MS 18-01
Sacramento, CA 95814
916-322-0194
brian.leahy@conservation.ca.gov
www.conservation.ca.gov/dlrp

CALIFORNIA CONSERVATION