

Wetlands Restoration Regional and State Boards:

Accomplishments

Opportunities

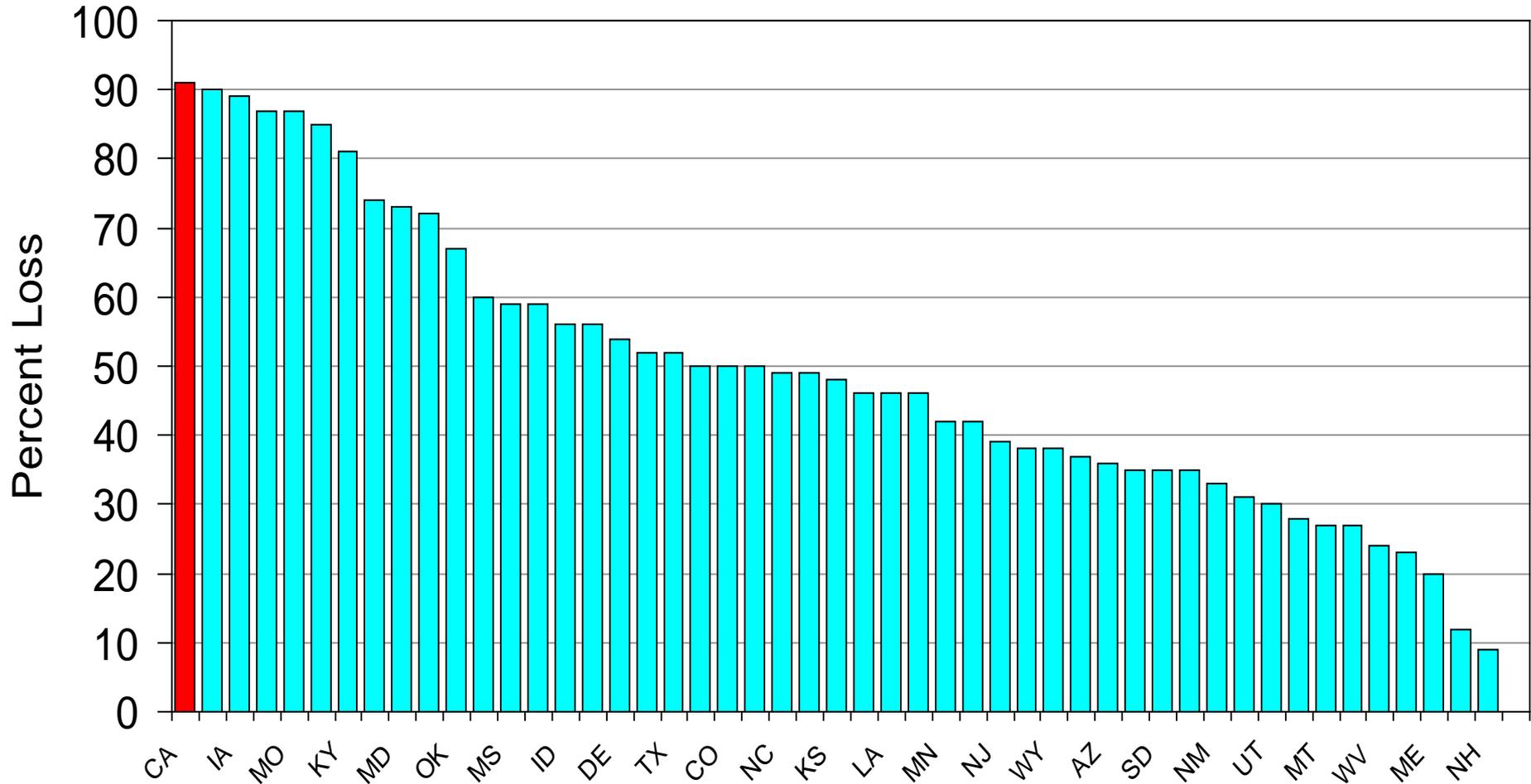
Challenges

**Henry Abarbanel, Region 9
WQCC October, 2015**

**Next few slides are from Rich Ambrose,
UCLA August 3, 2015**

The Problem

Wetland loss in U.S. over last 200 years



Source: Dahl and Johnson 1991

Wetland functions and services

- Primary productivity
- Nutrient cycling
- Wildlife habitat
- Migratory birds
- Flood control
- Groundwater recharge
- Water quality improvement
- Erosion control
- GHG Sequestration



Why and how do we restore wetlands?

Current Approach

- Regulatory requirements
 - Clean Water Act (§404 and §401)
 - Waste Discharge Requirements
- Ecosystem improvement
 - Coastal Conservancy, The Nature Conservancy, Ducks Unlimited, Wetland Recovery Project

Accomplishments over the 2014-15 year

Regions and State Board Engaged together

Specific Projects developed by Regions

Cooperation with other State Agencies

Opportunities

Recognition that “No Net Loss” (from President George H. W. Bush, 1987 and embodied in 1993 Governor Pete Wilson Ex Order) changed the Paradigm of “Drain it and Build” to “No Net Loss”

Yet, that is not enough.

It grandfathers in all previous wetlands destruction.

Did not mention monitoring results.

Opportunities

The Clean Water Act (and of course, Porter-Cologne even earlier) adopted a similar paradigm change to clean it up, not to accept the destruction to date, to achieve beneficial uses,

We have the opportunity now to change the wetlands paradigm to “meaningful net gain”.

If we agree on this change from “passive preservation of loss” to “active restoration of beneficial uses”, then we need to find a modality through which to achieve it.

Opportunities

Leaving the “no net loss” policy in place would be equivalent to the Clean Water Act having said:

“we will maintain the polluted status quo and hold the line at an unacceptable level.”

Instead the Clean Water Act gave us the tools to remove destruction and work toward preventing its recurrence.

We can, and should, move to a higher wetlands standard.

Challenges

Funding

Monitoring

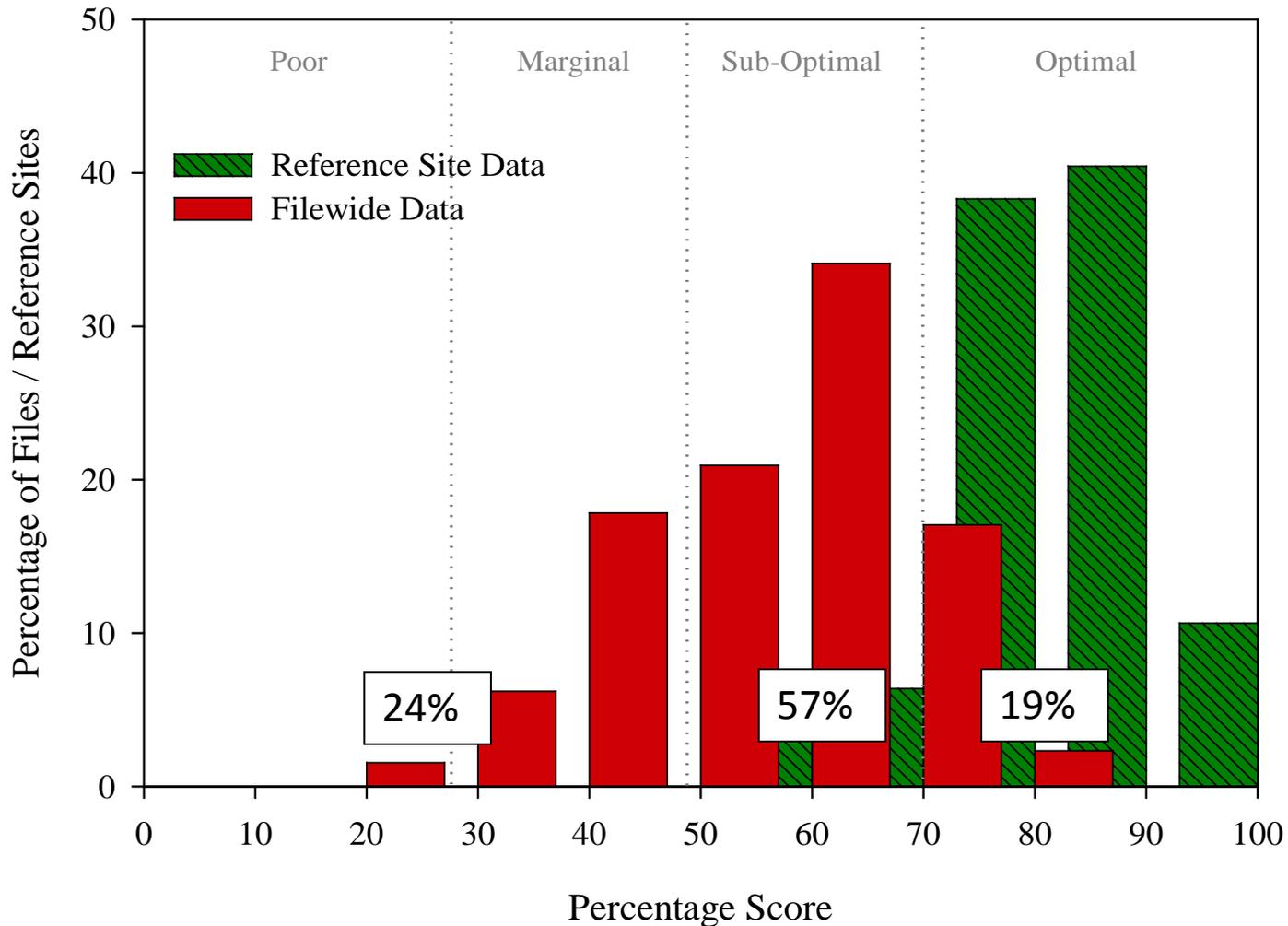
Trust, but Verify

How well does wetland restoration work?

It depends on the type of project and its goals

- Few compensatory mitigation wetlands function as well as natural wetlands
 - Mitigation wetlands need to replace lost functions and values (and services)
 - Mitigation wetlands should function like natural wetlands

Summary of CA Compensatory Mitigation Study



Where are the aquatic resources and how are they doing?

EcoAtlas

[About EcoAtlas](#)

California EcoAtlas provides access to information for effective wetland management. The maps and tools can be used to create a complete picture of aquatic resources in the landscape by integrating stream and wetland maps, restoration information, and monitoring results with land use, transportation, and other information important to the state's wetlands.

- **Projects:** Restoration project maps, plans, contact information, and a library of project files.
- **Resource Extent:** Maps of aquatic resource extent and special habitats of interest.
- **Condition:** Assessment and monitoring data including relevant water quality and California Rapid Assessment Method (CRAM) data.

- Compilation of different databases
- Ability to add new project information



Statewide



Map

Projects

Summaries

Ecoregions

Water Board Regions

- 📍 🌐 📊 Klamath/North Coast
- 📍 🌐 📊 Bay/Delta
- 📍 🌐 📊 Central Coast
- 📍 🌐 📊 Modoc
- 📍 🌐 📊 South Coast
- 📍 🌐 📊 Sierra
- 📍 🌐 📊 Sacramento Valley
- 📍 🌐 📊 Mojave
- 📍 🌐 📊 San Joaquin Valley
- 📍 🌐 📊 Colorado Desert

Monitoring Challenges

Cost

- Monitoring can be expensive, and there is always a desire to maximize the restoration effort
- Need to develop low-cost monitoring protocols
 - Standardized protocols
 - New approaches (e.g., aerial assessments)
- Need to be strategic about what is monitored where
 - Develop sampling schemes for representative sites

Conclusions (Ambrose)

- Need a state-wide monitoring strategy
- Implement tiered monitoring
 - Core monitoring at all projects
 - Acreage and Basic conditions
 - Flexible additional monitoring
- Need to be innovative
 - Centralized independent monitoring, funding
 - Develop new monitoring approaches, sampling designs
 - Actually implement adaptive management

A modest suggestion:

Form a Regional/State Board One Year Term Working Group on Wetlands Restoration to

❖ **Follow proposed Regional Projects to assure they are initiated, funded, and properly monitored**

❖ **work with the Ambrose(s) of California to identify and implement an effective monitoring protocol. **Trust, but verify.****

❖ **identify funding mechanisms for wetlands restoration which achieve the beneficial uses identified above**

Report back to all of us at 2016 WQCC where we stand.

Many thanks

Time to get to work

Why do we restore wetlands?

New Opportunities

- Regulatory requirements
 - Clean Water Act (§404 and §401)
 - Stormwater management
 - Water quality trading credits
 - SEPs
- Ecosystem improvement
 - Coastal Conservancy, The Nature Conservancy, Ducks Unlimited
 - Payment for [Ecosystem Services](#)
 - Carbon sequestration