Developing a Statewide Water Quality Data and Analysis System for California

Steven J. Steinberg, Ph.D., GISP

Principal Scientist, Information and Analysis

CEDEN Program Manager

Southern California Coastal Water Research Project

Costa Mesa, CA 92626

(714) 755-3260

steves@sccwrp.org

www.ceden.org

CEDEN's Mission:

To simplify and improve access to California's water resource monitoring data by providing services that **integrate, standardize and display data** from the State's many diverse monitoring and data management efforts.

WHY CEDEN?

CEDEN consolidates California's data in a central location, where it can be easily accessed by resource managers, scientists, citizen groups, and the public for reports and research purposes.
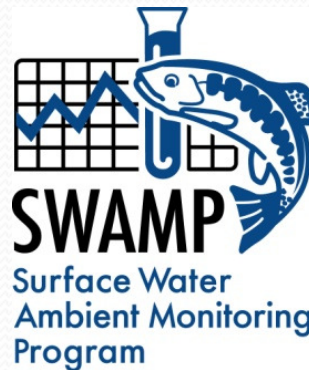
CEDEN is consolidating data from:

- Local, State and Federal Agencies
- Tribal Governments
- Citizen Monitoring Groups
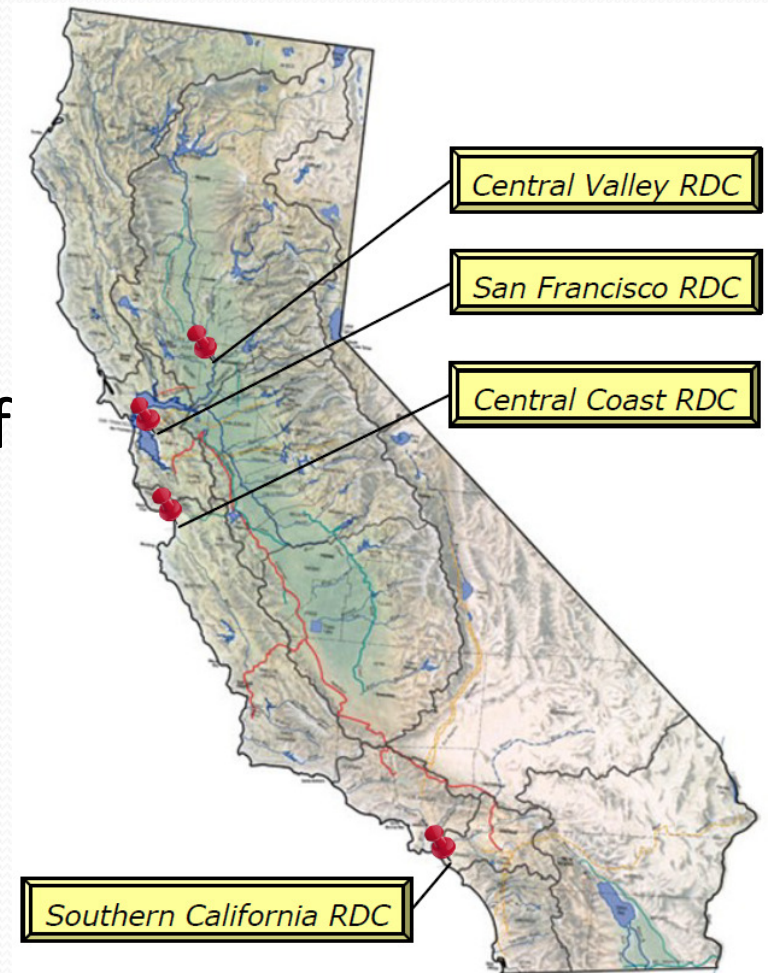- NGO's
- Private firms

CEDEN

A brief background

- Evolved out of the SWAMP program
  - A means to deliver SWAMP data
  - Objective: be larger than SWAMP providing access to data from a wide variety programs/providers
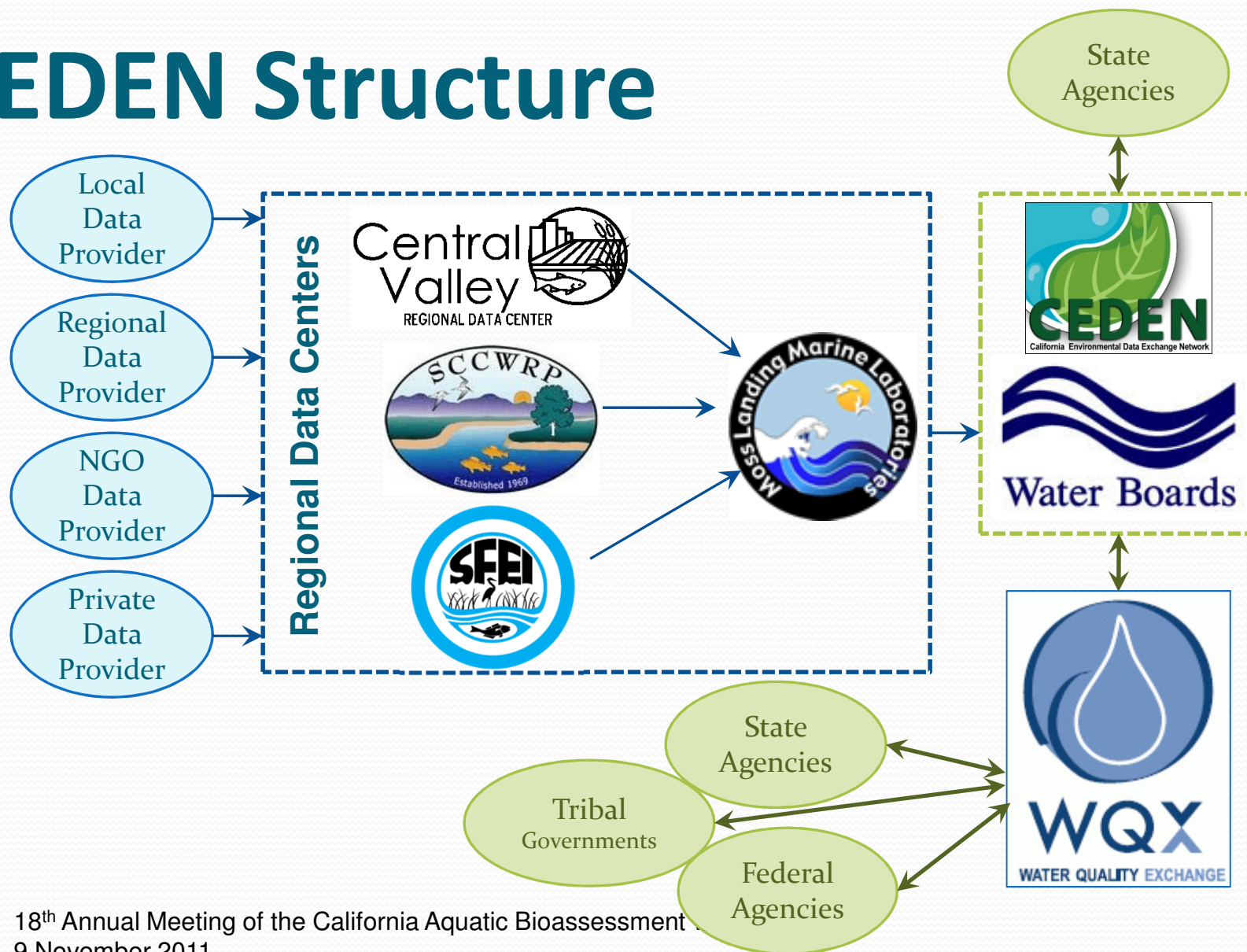
Regional Data Centers

- Provide local, user-centric support to data providers.
  - RDCs built upon known/trusted organizations
  - Leverage existing expertise of the data centers re: data types/methods
  - Templates to support a variety of data types
  - CEDEN help desk

Central Valley RDC

San Francisco RDC

Central Coast RDC

Southern California RDC

CEDEN Structure

Data templates/structures

- Provide consistency across a variety of data types
  - Benthic Template
  - Field Collection and Results
  - Chemistry Data
  - Toxicity Data
  - Tissue Data
  - Taxonomic Data

Metrics of success

- Our primary metric of success:
  - CEDEN is the definition of **readily available data** for the Integrated Report [303(d) & 305(b)]
  - Provide everyone access to the **same data** the State Board uses in their decision making

- Our primary clients are:
  - Water Board Staff making 303(d) decisions
  - Data providers (who's participation is essential to success)
  - People interested in a transparent 303(d) process

Better tools for data analysis

- Provide documented tools for data analysis and reporting

- Visualization tools

- What-if's

- Transparency to view data as the State Board does
  - What data was used?
  - What calculations/assessment were done?
  - Documented processes programmed into tools

How will CEDEN be used?

- A variety of applications "Powered by CEDEN"
  - Data filtering tools to facilitate spatial, temporal and attribute based queries
  - Analytical tools to provide assessments and calculated indices
  - Additional council portals are being developed
    - Are our aquatic ecosystems healthy?
    - Is it safe to eat fish and shellfish from our waters?
    - Is our water safe to drink?

What's next for CEDEN?

- Focus on integrating more data types into CEDEN

- Continue to support bringing in additional data providers

- Develop additional tools to support filtering and query of data

- Work with agencies, NGO's and private firms to develop applications "Powered by CEDEN"