EcoAtlas and the California Aquatic Resources Inventory (CARI)

Update from the California Wetland Monitoring Workgroup

Eric Stein, Meredith Williams, Josh Collins, Cristina Grosso, Steve Steinberg
Topics for Today

• What is the scope of EcoAtlas?

• What is the California Aquatic Resources Inventory and how does it relate to EcoAtlas?

• Working with the Data Management workgroup

• Questions
Background on EcoAtlas

• Feb 2010 Monitoring Council endorsed WRAMP and advised CWMW to begin implementation

• Q: What does that mean? A: Apply WRAMP tools
  – Mapping
  – Assessment
  – Coordinate among programs

• Q: How do we do that? A: EcoAtlas (info mgmt)

• EcoAtlas release for CWMW review in September
  – Basemap (CARI) + assessment data + information management
Purpose/definition

- A system for data management and visualization of information on the extent and condition of aquatic resources

- Map-enabled tool to answer questions regarding where aquatic resources are and how they are doing

- Main information management system for wetlands monitoring and assessment
What is the Intent of the EcoAtlas?

Different policies dictate different approaches …

Based on a standard tool kit …

And data and information management …

- State of State’s Wetlands
  - Wetland status/trends

- CWA 401/WDR
  - project monitoring in ambient context

- CWA 305(b)
  - Integrated assessment

EcoAtlas serves as the User Interface for WRAMP

EcoAtlas
- CARI
- Project Tracking
- eCRAM
- web query tools
- watershed profiles
- data summaries
Where are the wetlands and how are they doing?

What's being done to improve the health of our wetlands? The Wetland Tracker is designed to provide detailed information about wetlands throughout the state. Three types of information are accessible through Tracker:

- **Habitat information** — information about wetland extent throughout the state can be viewed with interactive maps. Special habitats of regional interest are also posted to Tracker.
- **Project information** — information about restoration projects includes maps, plans, contact information, and a file library of relevant information.
- **Condition information** — data from wetland assessments using the California Rapid Assessment Method (CRAM) are viewable through Tracker.

North Coast

- Projects
- Map
- Summaries

Bay Area

- Projects
- Map
- Summaries

Central Coast

- Projects
- Map
- Summaries

South Coast

- Projects
- Map
- Summaries

Central Valley

- Projects
- Map
- Summaries

Colorado River Valley

- Projects
- Map
- Summaries

Statewide

- Projects
- Map
- Summaries

Lahontan

- Projects
- Map
- Summaries

Interactive map page
Key Features

• Common aquatic resources base map (CARI)

• Project information across agency programs

• Ambient assessment data and reference site data

• Ability to generate project-specific reports

• User-defined queries to support regional & statewide reporting
California Aquatic Resource Inventory (CARI)

Comprehensive maps of wetlands, lakes, rivers and streams, and riparian areas

– Basis for assessing aquatic resource extent and change
– Base map to support condition assessment

Uses USGS NHD and USFWS NWI as the starting point
– Intensified with additional detail and resolution
– Increased accuracy
– Can accommodate different resolutions/level of detail

Includes standard mapping protocols, QA measures and classification
**CARI Status**

**CARI v.0**
- “Best Available” statewide dataset
  - Local intensifications
- September 2012 release on EcoAtlas

**CARI v.1**
- Enhance the datasets nearest to CARI standards to the standard (2013)
CARI Technical Advisory Team

• Began work in mid-2011
• Standards completed
• Classification completed
• Alignment with Wetlands S&T work
• Representatives from local, regional, state and federal agencies
  – USGS, National Hydrography Dataset
  – USGS, Interagency Watershed Mapping Committee
  – USFWS, National Wetland Inventory
  – State Water Quality Control Board
  – State Coastal Commission
  – CA Dept of Fish and Game
  – CA Dept of Water Resources
  – Bay Conservation and Development Commission
  – So Cal Coastal Watershed Research Program
  – San Francisco Estuary Institute
  – Marin County Planning Department
  – CSU Northridge
EcoAtlas Data:
Display of Habitat and Project Spatial Layers
EcoAtlas Data: Landscape Profile Summary

Area: 191,504 acres
Aquatic Resources
BAARI Non-Tidal Wetlands: 67 acres

BAARI Tidal Wetlands:

- Open Water: 16.4%
- Slope: 8.0%
- Vegetated: 80.6%
EcoAtlas Data: 
**Project Information + CRAM Data**

Watershed scale summaries of key information: aquatic resource extent, project activity, and associated data sets (e.g. CNNDDB species info, land use info, other environmental monitoring data)
EcoAtlas Functionality Priorities

**EcoAtlas will focus on the following wetland agency needs:**

1. Incorporating wetlands and riparian areas into Integrated Reporting under Sections 305(b) of the CWA

2. Coordinating mitigation planning under the Federal CWA and the State Porter Cologne Water Quality Act and Wetland Policy

3. Tracking the effect of grant-funded wetland restoration projects

4. Reporting on the status of the State Wetlands Conservation Policy via the State of the State’s Wetlands Report

• Full report and demonstration to Monitoring Council in November
The DMWG possesses the technical expertise to facilitate a working group to assess/develop standards.

- Provide workgroups with methodologies for assessing data needs and making them known.
- Recommend best practices for development of structured data formats, methods and web services facilitating development within and among portals.
- Identify data that cuts across multiple themes and that therefore should be coordinated.
- Evaluate and recommend data management strategies that comply with appropriate national and state guidelines.
- Serve as a resource to workgroups for communicating data management recommendations in support of individual themes’ data management efforts.
DMWG response to memo

• The DMWG received and reviewed the May 24\textsuperscript{th} memo from the Wetland Workgroup.
  – Meredith Williams gave presentation to the DMWG at the June 6\textsuperscript{th} meeting.
  – Additional discussion was conducted at the August 1\textsuperscript{st} meeting.

• Given a lack of a specific question or direction from the Council on what sort of response was desired, the DMWG saw its role as being to evaluate the data needs and technological approaches of the Wetland Workgroup.
  – There was general agreement that the Wetland Workgroup has selected standards-based technologies appropriate to their objectives and compatible with other workgroups.
Recommendations

• Because the Wetland workgroup’s efforts will benefit multiple stakeholders, the DMWG makes the following recommendations:
  – Continued efforts around these tools and data should be coordinated with the DMWG.
  – The DMWG should facilitate additional communication between and among Council workgroups to ensure others benefit from these efforts.