EcoAtlas

ECOATLAS.ORG
Visualize condition and extent
of California's aquatic resources

Visualizing and Aggregating Intensive Datasets to Better Understand Cumulative Effects

This project is visualizing large datasets to aggregate the data with other datasets to facilitate common understanding of individual and cumulative effects of data.

The USEPA's 3-level framework provides guidance for conducting monitoring and assessment. Levels range in effort from brief inventories to qualitative assessment methods to more in-depth quantitative monitoring.

LEVEL 1 LANDSCAPE ASSESSMENT

Level 1 includes maps and inventories of environmental information and landscape assessments. The California Aquatic Resource Inventory is a tool used for conducting Level 1 assessments.

LEVEL 2 RAPID ASSESSMENT

Level 2 includes rapid field assessments of habitat condition. Most Level 2 methods are qualitative or semi-quantitative. The California Rapid Assessment Method for wetlands and streams (CRAM) is an example of a Level 2 method.

LEVEL 3 INTENSIVE ASSESSMENT

Level 3 includes intensive data assessments and methods to quantify one or more aspects of environmental condition or stress. The California Stream Condition Index (CSCI) is an example of Level 3 data.

Key Benefits of Data Visualization

There are numerous benefits to visualizing data, including providing access to key information, adding value to data, understanding cumulative effects on the landscape, and informing management decisions.
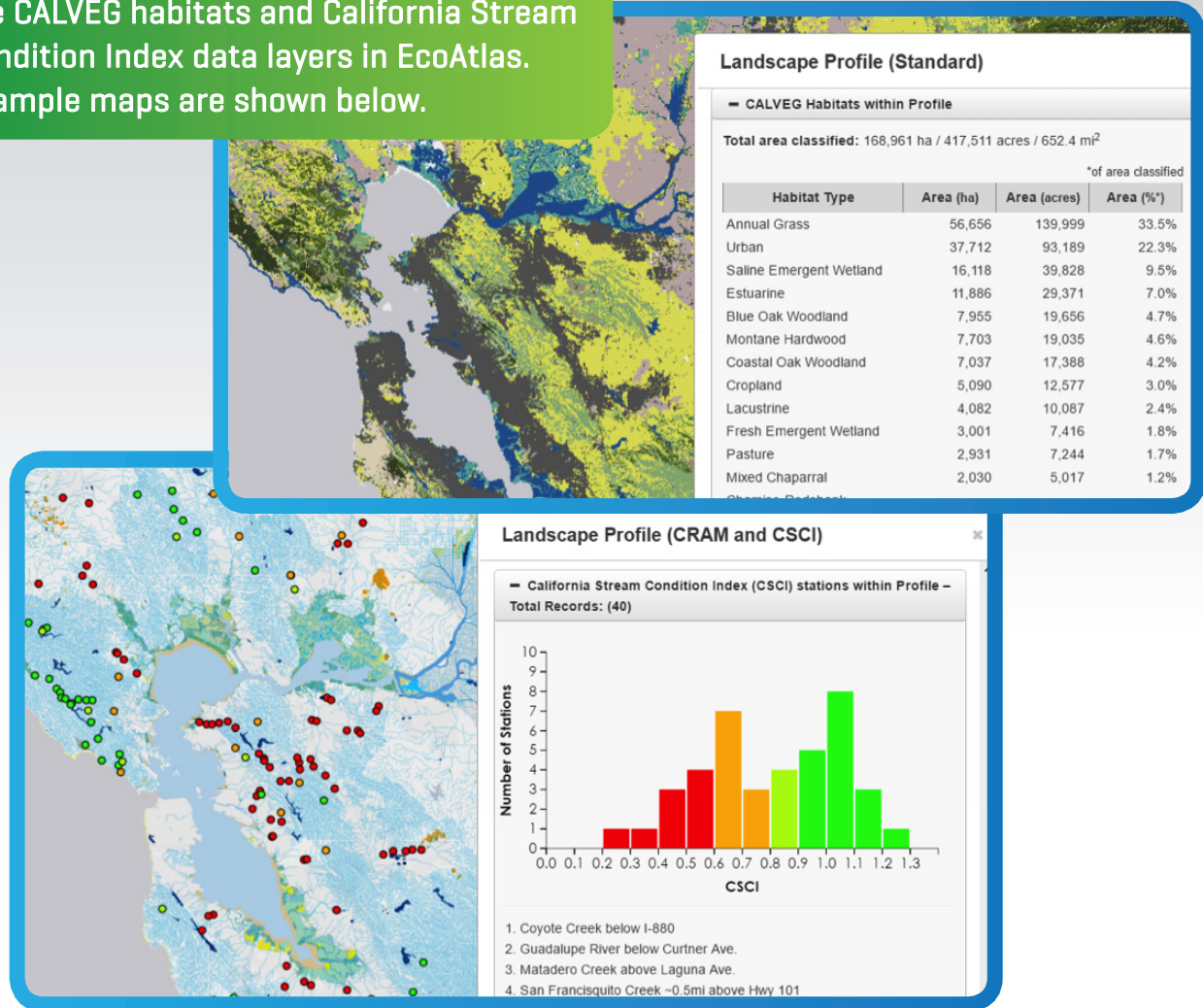
→ Increase access to key information by displaying data in a dynamic, geospatial landscape context that will facilitate a broader, shared understanding of resource condition

→ Extend the value of data by visualizing and aggregating it with other datasets using modern data exchange technologies

→ Facilitate a common understanding of the individual and cumulative effects of activities on the landscape

→ Discover trends and spot outliers that affect management actions to better guide monitoring and assessment

The project goals are to:

- summarize landscape-scale habitat metrics through customized views to help guide restoration project planning and better meet reporting needs

- make these data available to a broad audience on EcoAtlas

- visualize Level 3 data relevant to scientific inquiry and decision-making

Visualize New Data Layers

This project enabled the visualization of the CALVEG habitats and California Stream Condition Index data layers in EcoAtlas. Example maps are shown below.

Landscape Profile (Standard)

CALVEG Habitats within Profile

Total area classified: 168,961 ha / 417,511 acres / 652.4 mi²

Habitat Type	Area (ha)	Area (acres)	Area (%*)
Annual Grass	56,656	139,999	33.5%
Urban	37,712	93,189	22.3%
Saline Emergent Wetland	16,118	39,828	9.5%
Estuarine	11,886	29,371	7.0%
Blue Oak Woodland	7,955	19,656	4.7%
Montane Hardwood	7,703	19,035	4.6%
Coastal Oak Woodland	7,037	17,388	4.2%
Cropland	5,090	12,577	3.0%
Lacustrine	4,082	10,087	2.4%
Fresh Emergent Wetland	3,001	7,416	1.8%
Pasture	2,931	7,244	1.7%
Mixed Chaparral	2,030	5,017	1.2%

*of area classified

Landscape Profile (CRAM and CSCI)

**California Stream Condition Index (CSCI) stations within Profile –
Total Records: (40)**

1. Coyote Creek below I-880
2. Guadalupe River below Curtner Ave.
3. Matadero Creek above Laguna Ave.
4. San Francisquito Creek ~0.5mi above Hwy 101

California Stream Condition Index (CSCI)

CSCI scores translate complex data about individual benthic macroinvertebrates living in a stream into an overall measure of stream health. With this new data layer, users are able to:

➔ Generate charts that show the distribution of CSCI scores for an area of interest

➔ Use the new Landscape Profile Tool to display CRAM and CSCI data visualizations

➔ View CSCI data managed by SWAMP (http://www.waterboards.ca.gov/water_issues/programs/swamp/bioassessment/) on a map with other landscae-scale data layers

CALVEG Habitats

While CARI is used as the base map to evaluate water quality improvement, CALVEG is the appropriate base map for evaluating wildlife habitat conservation. With this new data layer, users are able to:

➔ Visualize CALVEG habitat types with links to CDFW's Wildlife Habitat Relationships (WHR) classifications

➔ Summarize acres by habitat type for an area of interest