

# The California Legacy Project – Progress in Indicator Development

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CALIFORNIA LEGACY PROJECT



# Where to Invest in Natural Resources?

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- What's important?
- What criteria or factors help locate important areas?
- What information/data can help locate these areas?
- How to best analyze the data?



# Scope of Resources Addressed

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- **Aquatic Biological Diversity and Watersheds**
- Working Lands (Farms, Range, and Forests)
- Terrestrial Biological diversity
- Rural Recreation
- Urban Open Space



# Landscape and Watershed-level Assessments of Aquatic Biodiversity

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## Key Assessment Questions

- **Where are remaining, relatively intact watersheds throughout the state?**
- Which rivers and associated flood plains, wetland complexes, lakes, and other aquatic habitats are under greatest threat or risk?
- **Where are rare and unique aquatic systems located?**
- Where can we build on already protected areas?
- **How do we better integrate incentive-based and regulatory environmental programs?**

# Aquatic Resources Assessment Framework

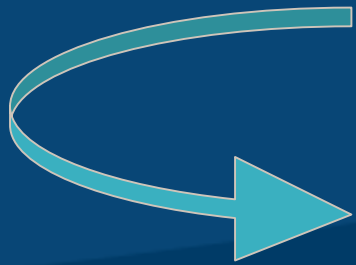
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**Assessment Questions**

**Data**

**Indicators and Indices**

**Investment Choices**



# Terminology

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- **Indicator –**

A value presenting the status of, and trends in, environmental parameters/data and conveying complex information in an easily understood format. *An indicator has significance extending beyond the associated data from which it is derived.*

- **Index –**

A set of aggregated or weighted indicators or measures



# Aquatic Data Search and Analysis

A. *Framework Data*

B. *Issue-specific Data*

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# Georeferenced Framework Data

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- Hydrology, Geomorphology, and Hydrography★★
- Watershed Yield, Surface and Groundwater Uses★
- Land Use★★★
- Vegetation Cover★★
- Transportation and Other Infrastructure★★
- Soils★
- Land Ownership★★★
- Water Rights★★★



# Issue-specific Data

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- **Rare and Unique Aquatic Habitats and Species**
- **Riparian Zones**
- **Wetland Types and Occurrences**
- **Fish Species Ranges**
- **Watershed Processes**
- **Ecosystem-altering Invasive Species Distributions**
- **Water and Sediment Toxicity**

# Improving the Quality of Information -

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## First Steps: Framework Data on Condition, Stressors, and Management Response

- Current and emerging conservation plans
- Public land ownership data
- Nonprofit land ownership data
- Statewide wetlands and riparian data
- Urban growth projections and infrastructure
- Statewide vegetation & land cover data, including farmlands
- Fisheries data



# Emerging Indicators for Watershed-level Assessments

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- Existing Catchment Disturbance

Data requirements: *imperviousness, other land disturbance, pollutant loading, aquatic habitat-altering invasive spp. distributions*

- Projected Catchment Disturbance

Data requirements: *urban growth projections, likely use of newly registered synthetic organics without persistence and bioaccumulation data*

- Instream Flow Disturbance

Data requirements: *water diversions, impoundments, levees and flood plain alterations*

# Emerging Indicators for Watershed-level Assessments - continued

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- **Fish Biodiversity Hotspots**

Data requirements: *native species diversity, endemism, rarity*

- **Bioregional Aquatic Habitat Protection Index**

Data requirements: *Number and extent of rare and unique habitats, land ownership and easements, water rights, aquifer capacity and use*

## Next Steps:

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### Conservation partners need more specific tools:

- Broadly agreed-upon indicators (a.k.a. performance measures)
- Better access to data, indicators, and indices
- Strategic locator tool – what areas have the highest value resources for your specific criteria?
- Legacy Conservation Checklist – How does this project area compare to other proposed project areas? How important is this project in a statewide, regional, and watershed context and what benefits is it expected to contribute?

# Improving the Accessibility of Data

The screenshot displays the California Digital Conservation Atlas web application. At the top, a browser window shows the address <http://atlas.resources.ca.gov/cadca/cadca.htm>. The application header includes "California Home" and "Feedback" links. A main banner reads "Welcome to California Digital Conservation Atlas" with a "select active layer" dropdown menu. Below the banner, a navigation bar contains icons for "Zoom In", "Zoom Extents", "Measure", "Map Information", "Select Features", "Map Analysis", "Print Save", and "Data Download".

The left sidebar contains a menu with the following categories and items:

- Terrestrial Biodiversity**
- Aquatic Biodiversity and Watersheds** (selected)
- Urban Open Space and Rural Recreation
- Working Landscapes
- Stressors
- Zoom to County or Zip Code
- Aquatic Biodiversity**
  - National Wetlands Inventory
  - Seasonal Wetlands
  - Tidal Salt
  - Intertidal
  - Salt Ponds
  - Riparian Woodland
  - Farmed Wetlands
  - Lakes and Ponds
  - Open Water
  - Miscellaneous
  - In Progress
  - Phase 1
  - Phase 2
  - Phase 3
- Conservation Related**
- Water Quality**
- Water Related**
- Hydrology**
- Transportation**
- Land Ownership and Use**
- Political Boundaries**
- Imagery Map Grids**

The main map area shows a map of California with various colored overlays representing different data layers. A scale bar at the bottom right indicates a distance of 210437m. The footer contains navigation links: "Resources Agency Home", "Legacy Home", "CaSIL Home", "Statewide Data", "OEHHA Home", and "Help".