The California Legacy Project – Progress in Indicator Development

CALIFORNIA LEGACY PROJECT

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Where to Invest in Natural Resources?

- 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

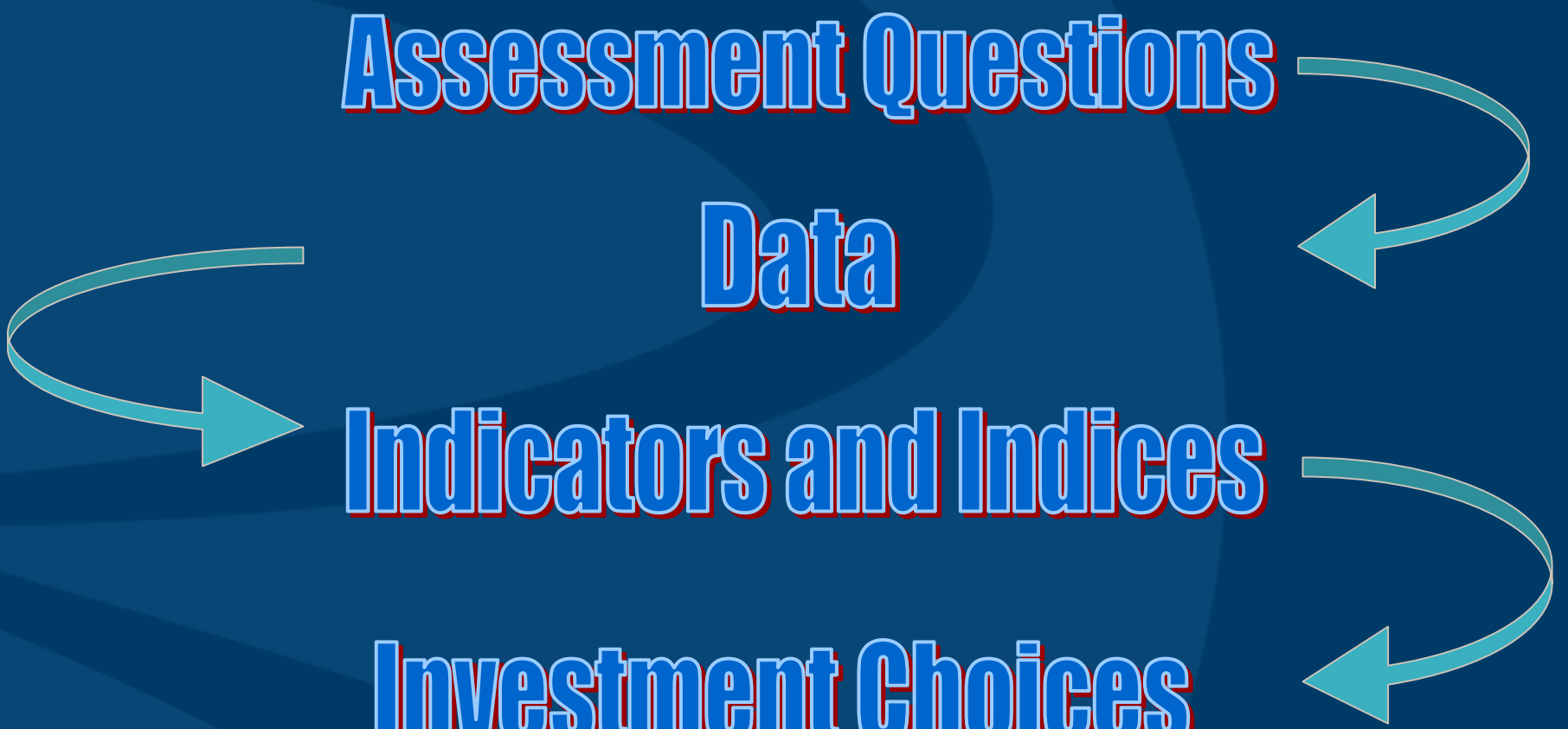
- **Aquatic Biological Diversity and Watersheds**
- **Working Lands (Farms, Range, and Forests)**
- **Terrestrial Biological diversity**
- **Rural Recreation**
- **Urban Open Space**

Landscape and Watershed-level Assessments of Aquatic Biodiversity

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



Terminology

- **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

Data  **Indicators**  **Indices**

Aquatic Data Search and Analysis

A. Framework Data

B. Issue-specific Data

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Georeferenced Framework Data

- 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

- 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 -

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

- **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

- **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:

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