



The *New* EcoAtlas Information System: Prospectus for 2002

The Bay Area EcoAtlas Information System (EcoAtlas) began in 1995 as an offline computerized planning tool for government agencies that protect and manage San Francisco Bay. Since then, a wealth of new scientific information about the ecology of the Bay, its wetlands, and its watersheds has been added to the EcoAtlas.

The EcoAtlas is gaining recognition. Environmental planners, scientists, teachers, news reporters, and activists are using the EcoAtlas to create their own maps, presentations, lessons, stories, and reports. But many people who might use the EcoAtlas don't know about it, and others who know about the EcoAtlas have been unable to use it because they lacked access to the necessary technology.

Now there is new technology that will make the EcoAtlas widely available for free on the Internet. Imagine calling up the EcoAtlas on your personal computer, zooming into an aerial photo of your neighborhood or where you work, overlaying a map of local creeks, clicking on a creek to get its name, and finding out about the wildlife that lives there. Imagine looking through the photo to another map that shows your neighborhood as it looked 200 years ago, to see where creeks and wetlands still exist between houses and roads. Imagine getting a map of all the salmon streams, Indian village sites, modern land uses, major oil spills and wildfires. Imagine opening a map of all the ecological restoration projects in the Bay Area, clicking on a project and finding out who's in charge and what the project is about. Imagine using the EcoAtlas to compile pollution data from different sources, or to make your own maps for reports and presentations. Imagine being able to easily get the best available scientific information about the Bay, its wetlands and its watersheds. The EcoAtlas could be all of this, and more...

Impetus for creating the EcoAtlas

A wealth of scientific information about the ecology of the Bay Area is not getting to people who could use it. The information is either not available or too difficult to retrieve and compile. The EcoAtlas addresses this problem by making the information easier to discover, view, and obtain.

What the EcoAtlas Is

The EcoAtlas is a not-for-profit, community-based venture of the San Francisco Estuary Institute (SFEI). The EcoAtlas is governed by the Committee of Science Advisors of SFEI and by a Steering Committee that represents major groups of EcoAtlas users and supporters. In practical terms, the EcoAtlas is an independent web site that:

- Provides quantitative environmental data and scientific reports about the ecology of the San Francisco Bay Area. Environmental organizations and programs are referenced as sources of information included in the EcoAtlas.
- Emphasizes clear, intuitive, and attractive interfaces to browse and query for information.

Browsing

The content is organized by subject, not by its institutional origins. For example, to find data about contamination of fishes in the Bay, you don't need to know that the data come from the Regional Monitoring Program for Trace Substances, you just click from "Bay" to "Contaminants" to "Fish." Information within the EcoAtlas can be reached by clicking through a series of simple menus. You can also browse for information about local places, watersheds, and regions of the Bay Area by interacting with maps. For example, information about Alcatraz Island can be obtained from menus that appear when you select the Island from the EcoAtlas base map.

Querying

Tabular data, images, maps, video, and documents can be obtained through a general text-based search. For example, you can get data about contaminated fish at Alcatraz Island by typing that subject into the search engine.

- Limits the content to strictly reviewed information that any organization can rely on to support its activities. All the contents are supported by metadata that indicate the sources and technical limitations of the contents of the EcoAtlas.
- Serves as a portal to Bay Area portions of more extensive data sets, such as the state-wide pesticide use data, stream and river discharge data, and West Coast bird migration data.
- Enables easy downloading of high-quality, report-ready copies of maps, images, graphs, GIS coverages, as well as tabular data.
- Features public technology. All scripts, java code, and other software engineering for the EcoAtlas can be downloaded for public reuse and further development.
- Is free, except for at-cost charges for offline delivery of EcoAtlas contents.

What the EcoAtlas *Is Not*

The EcoAtlas has a unique role in the Bay Area environmental community. Other websites and ventures provide different services that the EcoAtlas will not provide.

The EcoAtlas will:

- Not replace the websites of any data sources. For example, the EcoAtlas draws data from the California State Lands Commission, the US National Oceanic and Atmospheric Association, the US Geological Survey, the US Fish and Wildlife Service, SFEI, and other institutions to maintain an environmental base map of the Bay Area that is only available through the EcoAtlas. The organizations that provide each part of the base map can also be accessed through the EcoAtlas.
- Not provide information without consent and guidance from its authors. During the early stage of developing EcoAtlas on-line, SFEI will use its own data to “work out the bugs” in new information technology through on-line EcoAtlas test sites. In the future, SFEI will rely on the Steering Committee and the Science Advisors to help decide about EcoAtlas contents.
- Not be an exclusive venue for any scientific conclusions, and not advocate for any particular policy or political position. The EcoAtlas will be a reputable source of technical information to advance and inform environmental debates, but it will not take sides and it will not have any political interest in the outcome.

Proposed Online Functions of the EcoAtlas

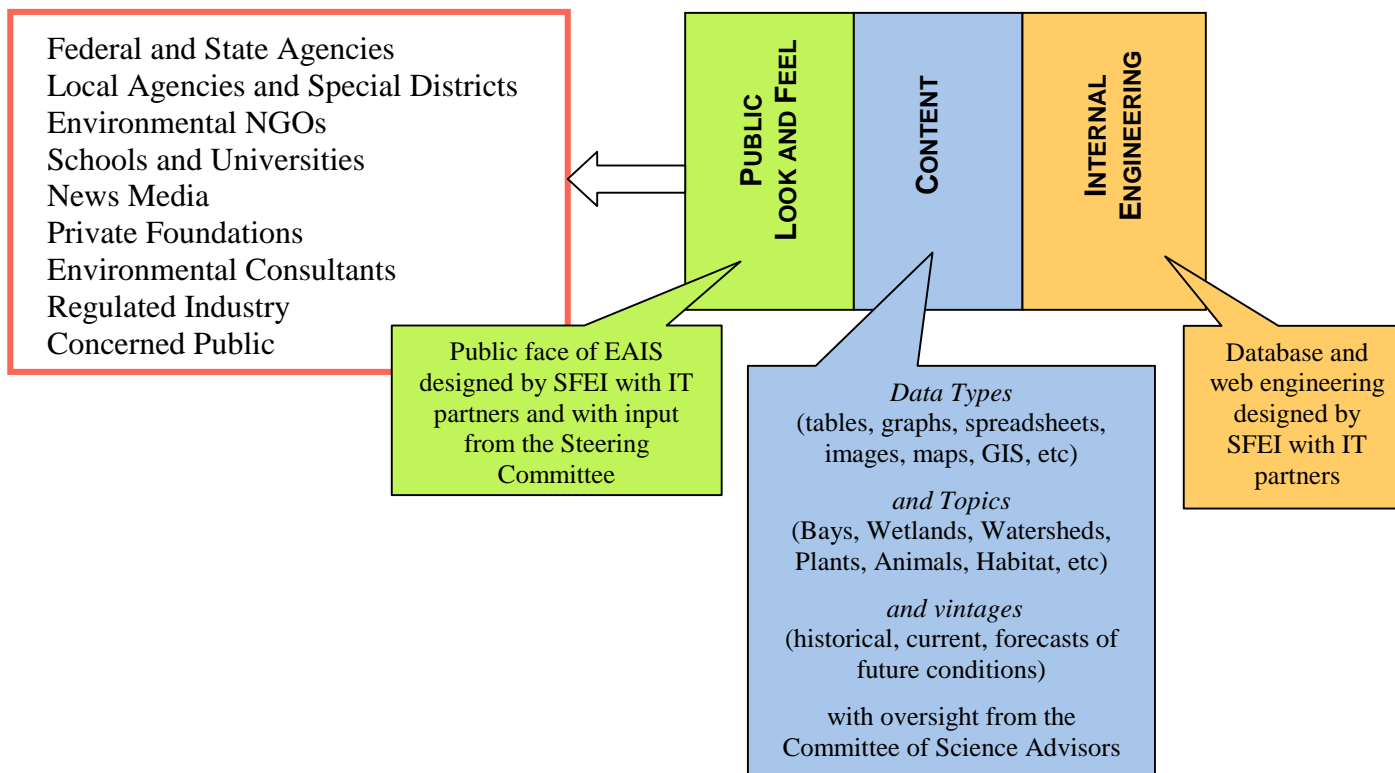
- ✓ Raw tabular data retrieval
Conduct versatile retrieval of tabular data through point-and-click pop-up and draw-down menus
- ✓ Charts
Do on-the-fly charting of selected data; view and download charts from published reports
- ✓ Interactive maps
Zoom and pan GIS coverages and aerial imagery; access tabular data, charts, or other information through clickable maps
- ✓ Prepared maps
View and download original EcoAtlas maps and other maps from published reports
- ✓ Published reports
Conduct text-based searches on all reports in PDF format
- ✓ Photographs and art work
Conduct online tours of habitats and wildlife
- ✓ Information exchange
Share information about places through bulletin boards on maps

Basic EcoAtlas Structure

An information system is technology, content, and the people who develop and use the System

Categories of User Groups and Potential Sponsors

EcoAtlas On-line Technology



Existing Content

(partial list of EcoAtlas content for 2002 from SFEI and its partners)

Bay Area County Boundaries	Modern Tidal Marsh Pannes, ca 1997
PCB Concentrations in Bay Sediment	Modern Watershed Habitats, ca 1997
Sediment Quality Sample Sites of the RMP	Modern Baylands, ca 1997
Water Quality Sample Sites of the RMP	Example High-Resolution IR Photos
Bay Area Stream Fishes Data and Maps	Bay Segments Map of the RMP
Historical Napa Marsh Channels	Detailed Bay Bathymetry
Invasive Spartina Maps and Data	Simplified Bay Bathymetry
24K National Hydrology Database	Land Use Types, Circa 1995
Present-day Rivers and Streams	Water Quality Monitoring Programs
Bayside Storm Drains	Regional Watersheds Boundaries
High Resolution Stream Map for Crow Creek	State Coastline Map
North Bay Wetland Projects Maps and Data	County-wide Digital Ortho Quadrangles
Historical Rivers and Streams, ca 1800	10-m node Regional Digital Terrain Map
Historical Tidal Marsh Pannes, ca 1800	Regional Shaded Relief Map
Historical Watershed Habitats, ca 1800	Historical Napa Valley Air Photos, ca 1940
Historical Baylands, ca 1800	Historical Napa Marsh Channels, ca 1852

Expected New Content

(partial list of new content coming into the EcoAtlas through SFEI in FY 2002-03)

State-wide Pesticide Use Data	South Bay Wetland Projects Maps and Data
Historical Tidal Marsh Maps, ca 1851-58	Wetland Monitoring Data of US EPA

Available Content

(partial list of existing public domain ecological information available to EcoAtlas)

Modern Geological Maps (USGS)	Indian Shell Mounds maps (UCB and SSU)
Regional Landslide Maps (USGS)	Historical Vegetation Maps (USFS)
Historical and Modern Soils Maps (USNRCS)	Modern Vegetation Maps (CDFG and CDF)
Environmental History Maps (USEPA)	Sudden Oak Death Maps and Data (UCB)
Shoreline Sensitivity Maps (NOAA)	Aerial Photo Library (Agencies and NGOs)
Habitat Support Functions Data (Goals Project)	Mosquito Monitoring Data (MADs)
Natural Diversity Database (CDFG)	US Census Maps and Data (USCB)
Regional Winds and Tides Data (USGS)	Urban Forests Maps and Data (Cities)
Stream Flow Data (DWR and Local Agencies)	Open Space Maps and Data (Special Districts)
Aquifer Maps and Data (SFBRWQCB)	Volunteer Monitoring Data (eg., Audubon) *
New Bay Bathymetry (NOAA USGS)	
Bay Water and Sediment Quality Data (SFEI)	
Bathymetric Change Maps and Data (USGS)	

* Not always public domain but probably obtainable