

Landscape Profile Tools for Aquatic Resource Managers

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Tahoe Science Conference
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Typical Management Activities

1. Permit issuance
2. Monitoring framework and sampling design development
3. Mitigation and restoration plans
4. Scenario planning
5. No net loss summaries
6. Stream and wetland protection policy
7. Integrated reports
8. Land use planning

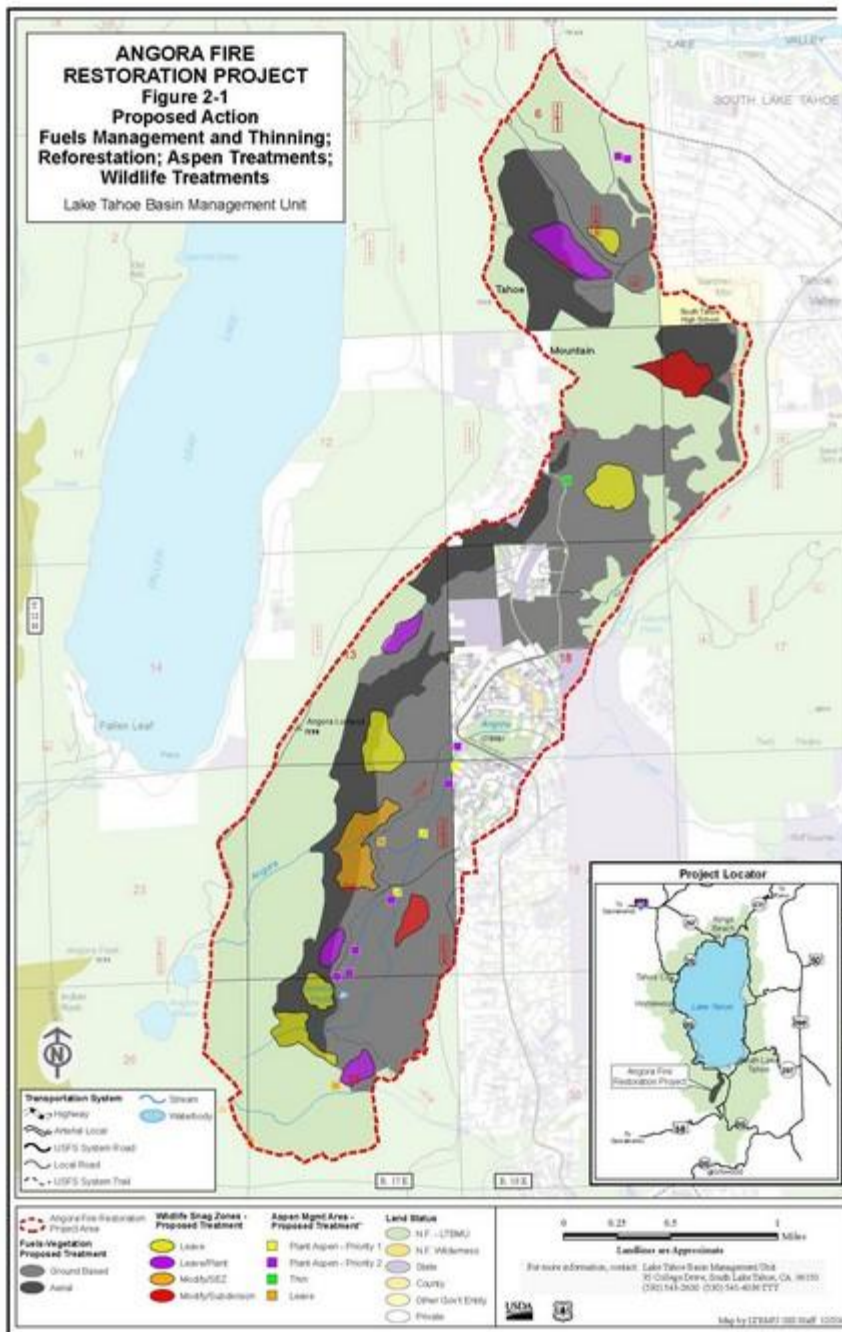
Typical Management Qs

1. How should we prioritize our limited resources?
2. How do I track work performed?
3. Who else is monitoring in our area?
4. Where are the aquatic resources?
5. What is the current abundance of wetland resources?
6. How do watersheds in my area compare to each other?
7. How are resources responding to change, e.g. climate, restoration, etc.?
8. What is the condition of our wetland resources?

Data, data, everywhere

**ANGORA FIRE
RESTORATION PROJECT**
Figure 2-1
Proposed Action
Fuels Management and Thinning;
Reforestation; Aspen Treatments;
Wildlife Treatments

Lake Tahoe Basin Management Unit





CONTAMINANTS IN SPORT FISH FROM THE CALIFORNIA COAST, 2009: SUMMARY REPORT ON YEAR ONE OF A TWO-YEAR SCREENING SURVEY

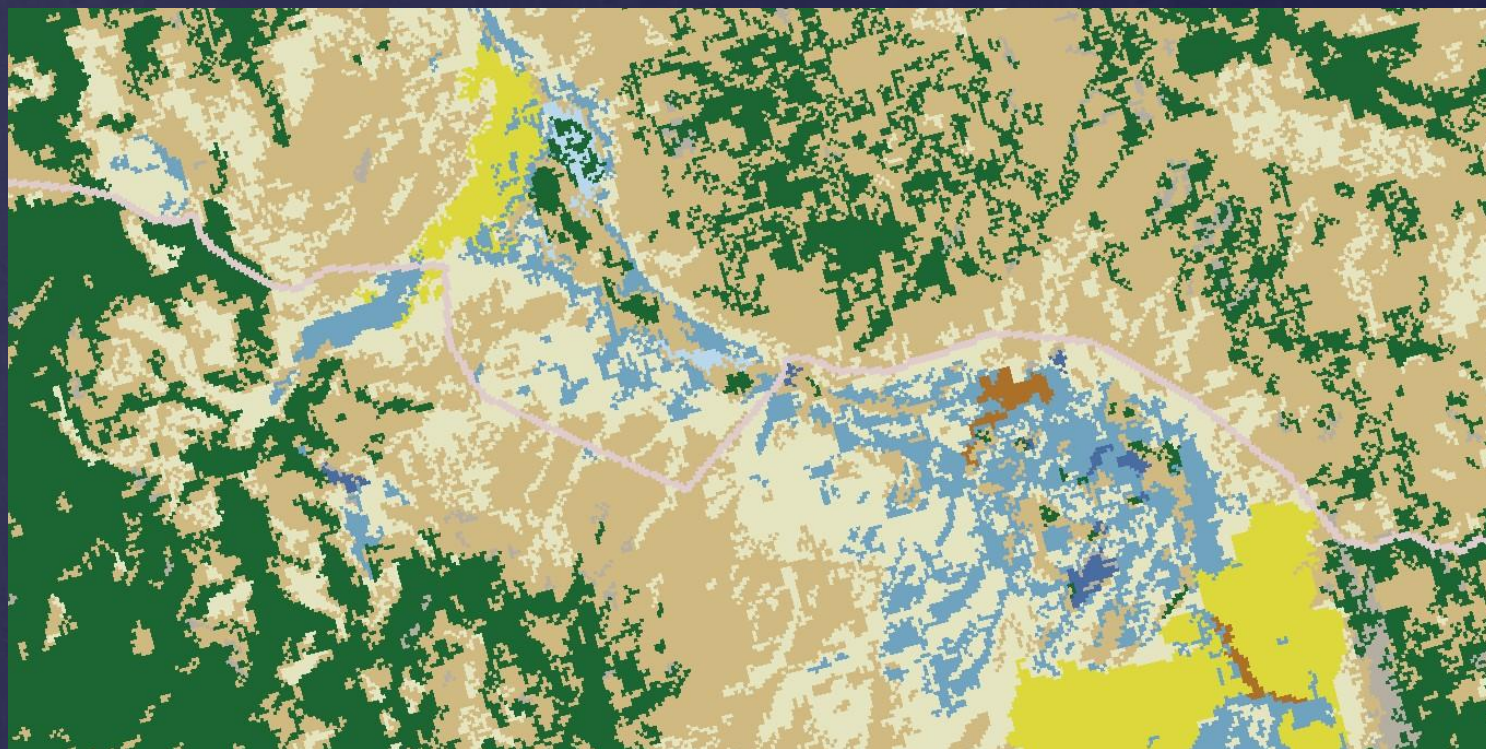
J.A. Davis
K. Schiff
A.R. Melwani
S.N. Bezael
J.A. Hunt
R.M. Allen
G. Ichikawa
A. Bonnema
W.A. Heim
D. Crane
S. Swenson
C. Lamerdin
M. Stephenson

Prepared for the Surface Water Ambient Monitoring Program

May 25, 2011



www.waterboards.ca.gov/swamp



CompositeID	StationName	CommonName	CompositeType	SummedResult	DDD(o,p')	DDD(p,p')	DDE(o,p')	DDE(p,p')	DDT(o,p')	DDT(p,p')
C1_20150FARIBOG08BUR	Farallon Islands	Blue Rockfish	normal	1.710	0	0	1.71	0	0	
C1_20150FARIBOG08OGR	Farallon Islands	Gopher Rockfish	normal	2.280	0	0	2.28	0	0	
C1_20150FARIBOG08OLR	Farallon Islands	Olive Rockfish	normal	3.030	0	0	3.03	0	0	
C1_20151SMACBOG08BRS	Southern Marin Coast	Barred Surfperch	normal	12.310.2	1.11	0	10.8	0	0.2	
C1_20151SMACBOG08OWC	Southern Marin Coast	White Croaker	normal	1.30	0	0	1.3	0	0	
C1_20152TBAYBOG08BSH	Tomales Bay	Brown Smooth-hound Shark	normal	1.580	0	0	1.58	0	0	
C1_20152TBAYBOG08OLS	Tomales Bay	Leopard shark	normal	1.660	0	0	1.66	0	0	
C1_20152TBAYBOG08SHS	Tomales Bay	Shiner Surfperch	normal	2.880	0.21	0	2.67	0	0	
C1_20152TBAYBOG08TPS	Tomales Bay	Top Smelt	normal	15.510	0.62	0	14.7	0	0.19	
C1_20152TBAYBOG08WHS	Tomales Bay	White Surfperch	normal	1.140	0	0	1.14	0	0	
C1_20153NMRCBOG08BRR	Northern Marin Coast	Brown Rockfish	normal	2.210	0	0	2.21	0	0	
C1_20153NMRCBOG08BUR	Northern Marin Coast	Blue Rockfish	normal	0.670	0	0	0.67	0	0	
C1_20153NMRCBOG08OLR	Northern Marin Coast	Olive Rockfish	normal	0.70	0	0	0.7	0	0	
C1_20245SMATBOG08BLR	San Mateo Coast	Black Rockfish	normal	2.650	0.15	0	2.5	0	0	
C1_20245SMATBOG08BUR	San Mateo Coast	Blue Rockfish	normal	1.570	0	0	1.57	0	0	
C1_20245SMATBOG08OGR	San Mateo Coast	Gopher Rockfish	normal	3.340	0	0	3.34	0	0	
C1_20245SMATBOG08OLR	San Mateo Coast	Olive Rockfish	normal	4.630	0.23	0	4.21	0	0.19	
C1_20246PPTHBOG08BLS	Pillar Point Harbor	Black Perch	normal	1.690	0.15	0	1.54	0	0	
C1_20246PPTHBOG08OWC	Pillar Point Harbor	White Croaker	normal	3.380	0.29	0	3.09	0	0	
C1_20246PPTHBOG08SHS	Pillar Point Harbor	Shiner Surfperch	normal	130.13	0.77	0	12.1	0	0	
C1_20246PPTHBOG08TPS	Pillar Point Harbor	Top Smelt	normal	15.810	1.26	0	14.3	0	0.25	
C1_20246PPTHBOG08WHS	Pillar Point Harbor	White Surfperch	normal	6.860	0.53	0	6.16	0	0.17	
C1_20247HMBCBOG08BRR	Half Moon Bay Coast	Brown Rockfish	normal	1.970	0	0	1.97	0	0	
C1_20247HMBCBOG08BRS	Half Moon Bay Coast	Barred Surfperch	normal	2.710	0	0	2.71	0	0	
C1_20247HMBCBOG08BUR	Half Moon Bay Coast	Blue Rockfish	normal	0.980	0	0	0.98	0	0	
C1_20247HMBCBOG08OGR	Half Moon Bay Coast	Gopher Rockfish	normal	1.390	0	0	1.39	0	0	
C1_20247HMBCBOG08OLC	Half Moon Bay Coast	Lingcod	normal	12.110	0.21	0	11.9	0	0	
C1_20248PACCBOG08BUR	Pacifica Coast	Blue Rockfish	normal	3.330	0.19	0	3.14	0	0	
C1_20248PACCBOG08OGR	Pacifica Coast	Gopher Rockfish	normal	1.660	0	0	1.66	0	0	
C1_20248PACCBOG08OLC	Pacifica Coast	Lingcod	normal	9.980	0.29	0	9.51	0	0.18	
C1_20249SSFCBOG08BRS	San Francisco Coast	Barred Surfperch	normal	21.70.28	1.62	0	18.6	0	1.2	
C1_20249SSFCBOG08OWC	San Francisco Coast	White Croaker	normal	3.240	0.14	0	3.1	0	0	

Overview Map

+ Zoom In - Zoom Out Identify

Zoom to State(s)

MAP LAYERS

MAP KEY

FIND

Redraw Map

Your First Map

Clear Layers

Basic Maps

- ☒ Cities and Towns
- ☐ Counties
 - ☐ County Names
- ☒ Latitude/Longitude
- ☐ Roads
 - ☐ Interstate Highway Labels
 - ☐ US Highway Labels
- ☒ States
 - ☐ State Capitals
 - ☐ State Names
- ☒ Streams and Waterbodies

Agriculture

Biology

Boundaries

Climate

Environment

Geology

Government

History

Map Reference

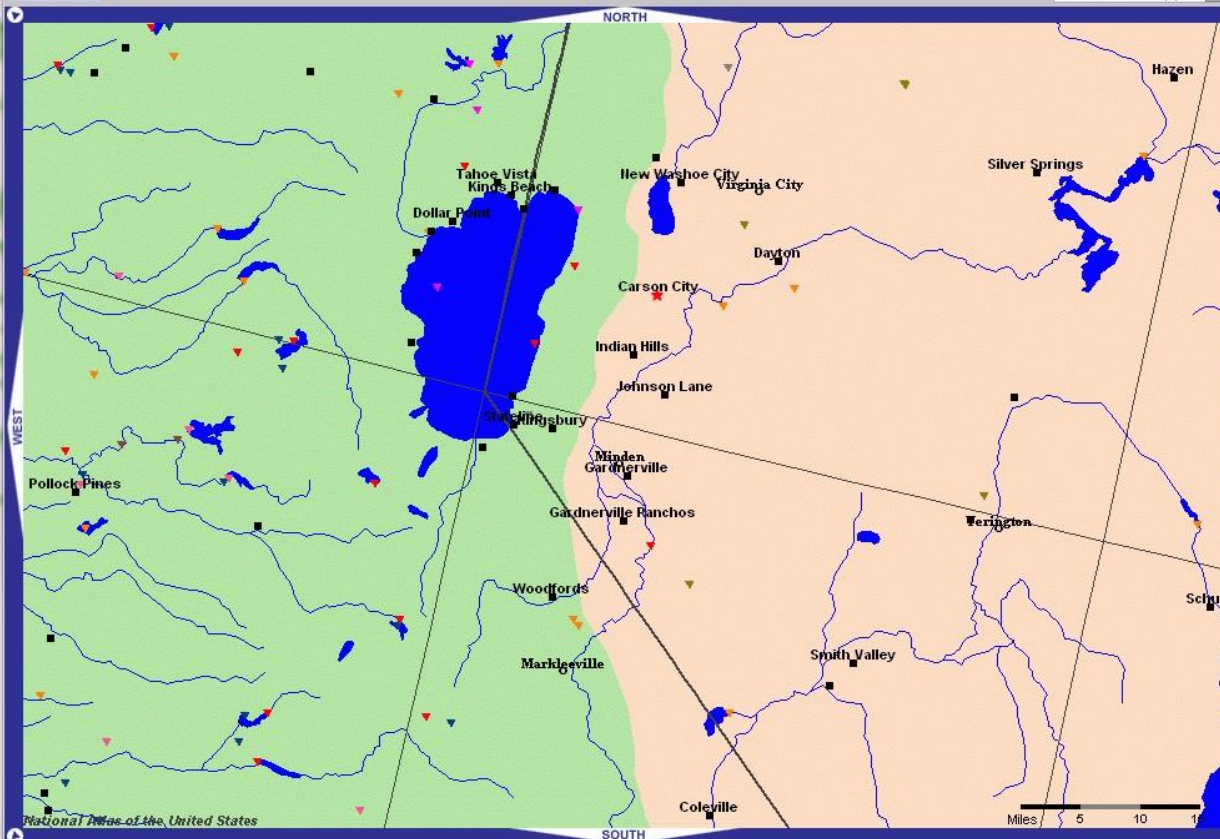
People

Transportation

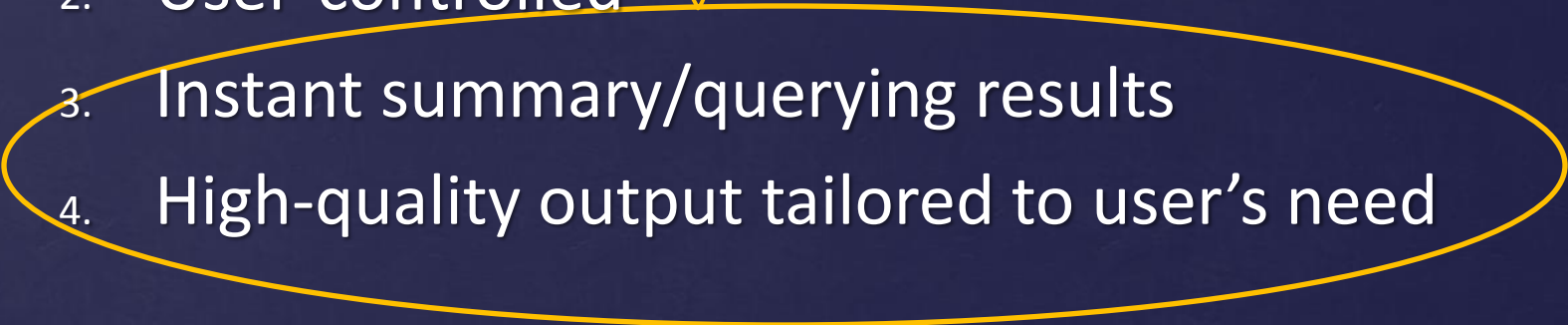
Water

Aquifers

- ☐ Arsenic in Ground Water
- ☒ Dams



What's missing?

1. Data rich ✓
 2. User-controlled ✓
 3. Instant summary/querying results
 4. High-quality output tailored to user's need
- 

EcoAtlas *formerly Wetland Tracker*

www.californiawetlands.net

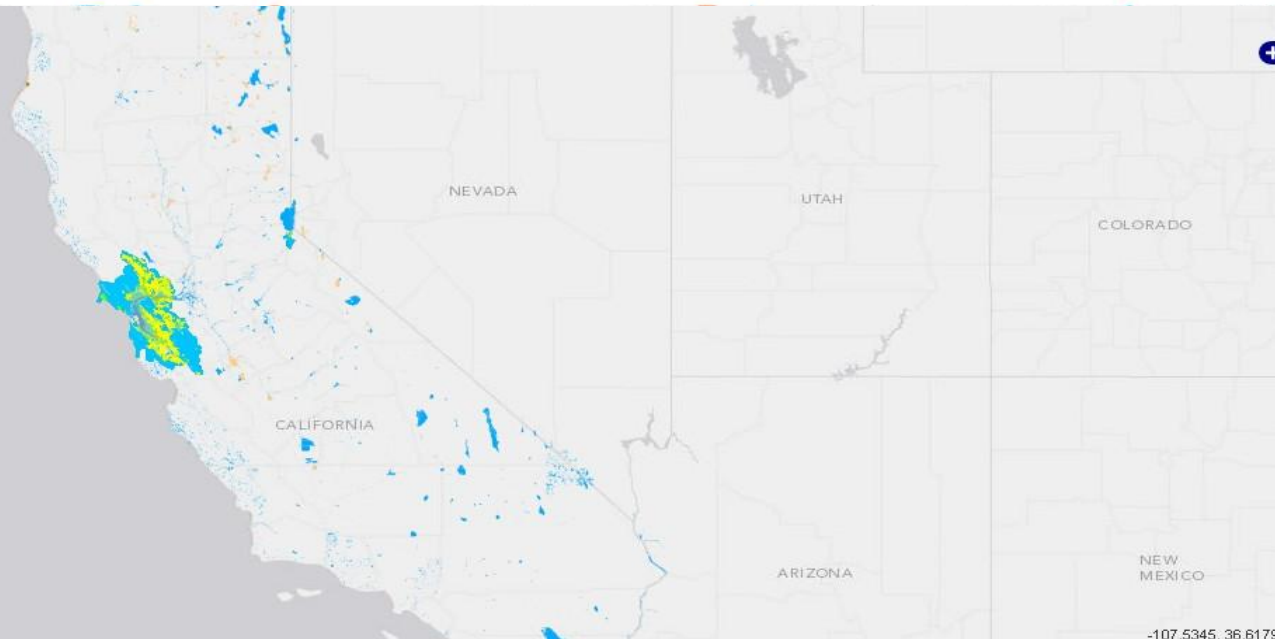
EcoAtlas

Layers ▾ Legends ▾ Background ▾ Overlays ▾

Filter Tools



100 km
100 mi

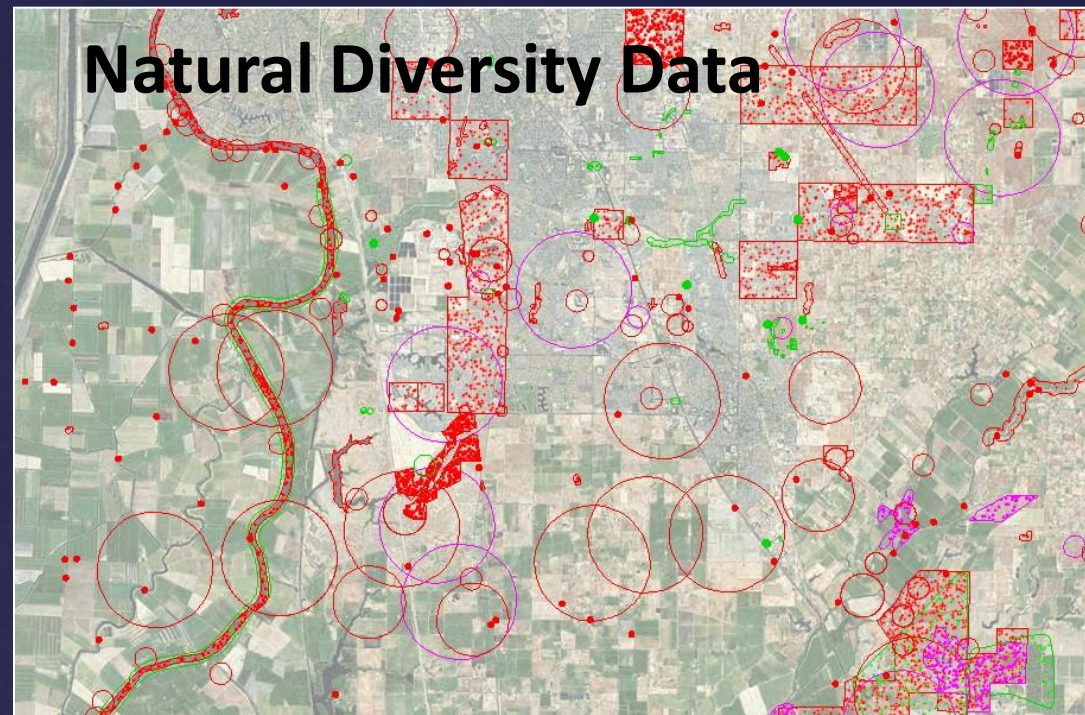


Make it useful

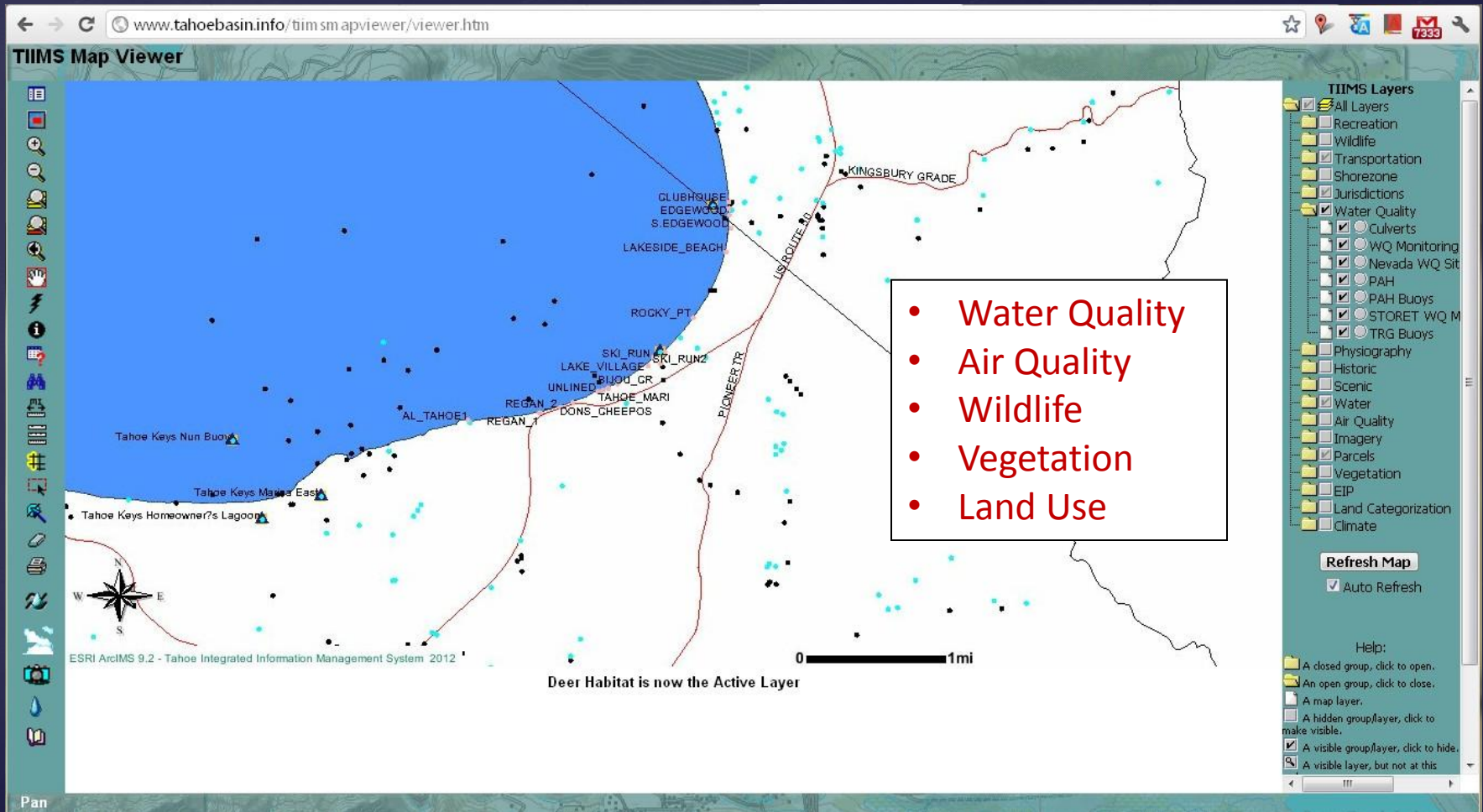
1. Mash up of disparate data from disparate sources
 - Habitat, Condition, Project data
2. User-controlled
 - Targeted layers, filters, dynamic queries (spatial and tabular)
3. Instant results
 - On-the-fly web report
4. High-quality output
 - Format-able PDF report

Data smart

House what we need to.
Serve what we don't.



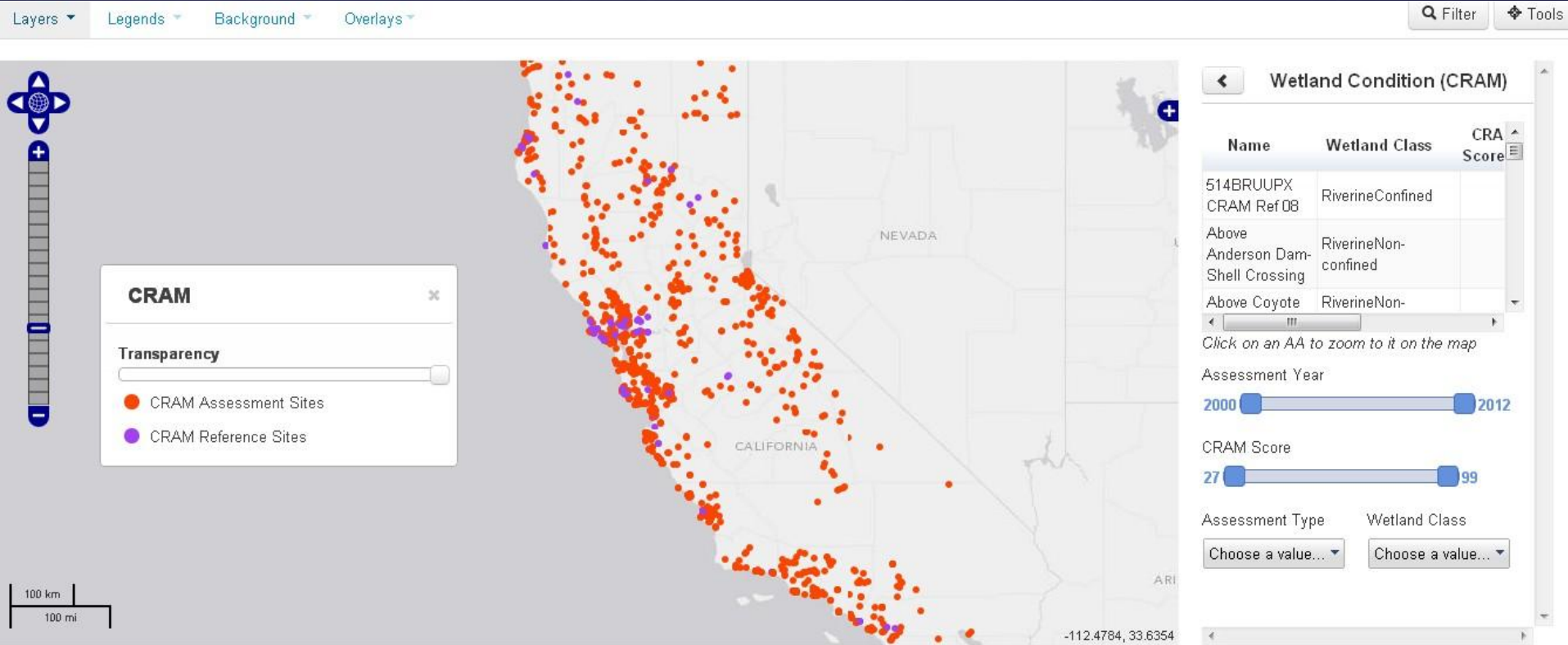
Tahoe Integrated Information Management System



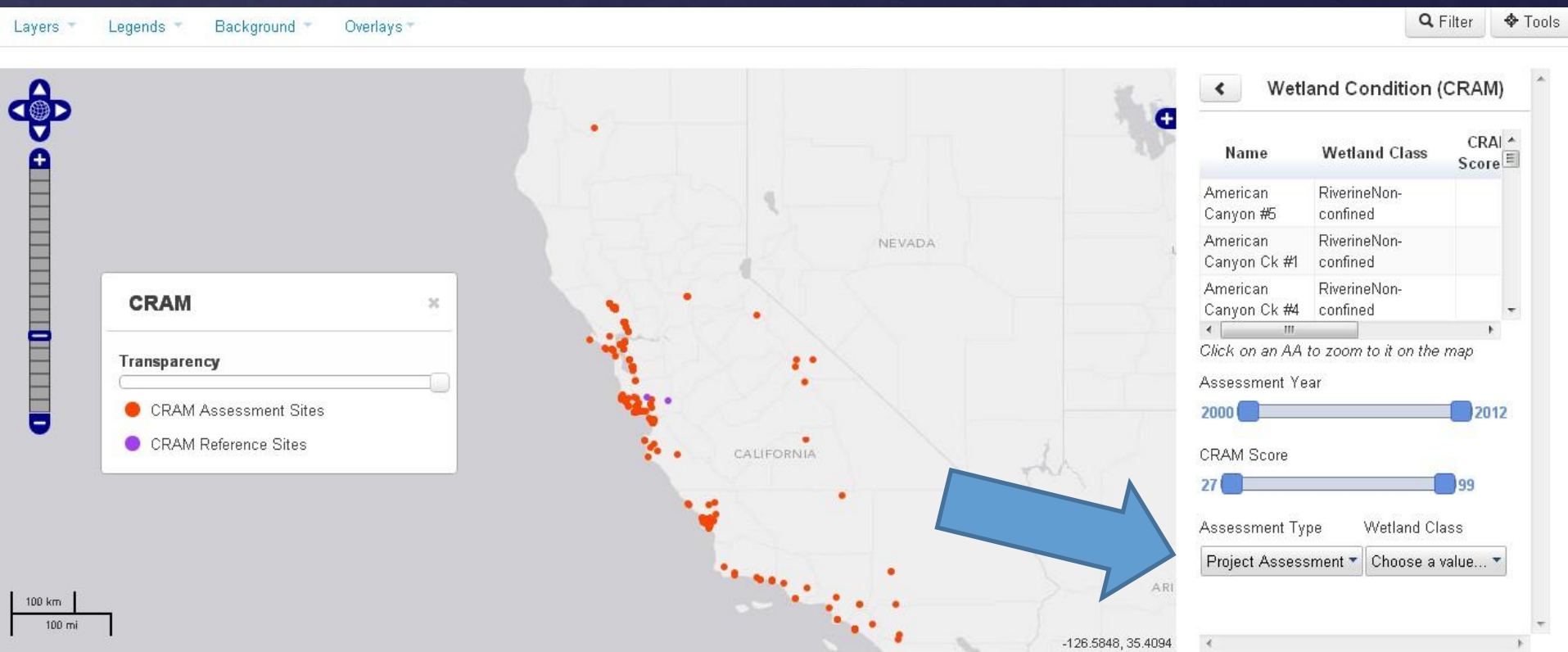
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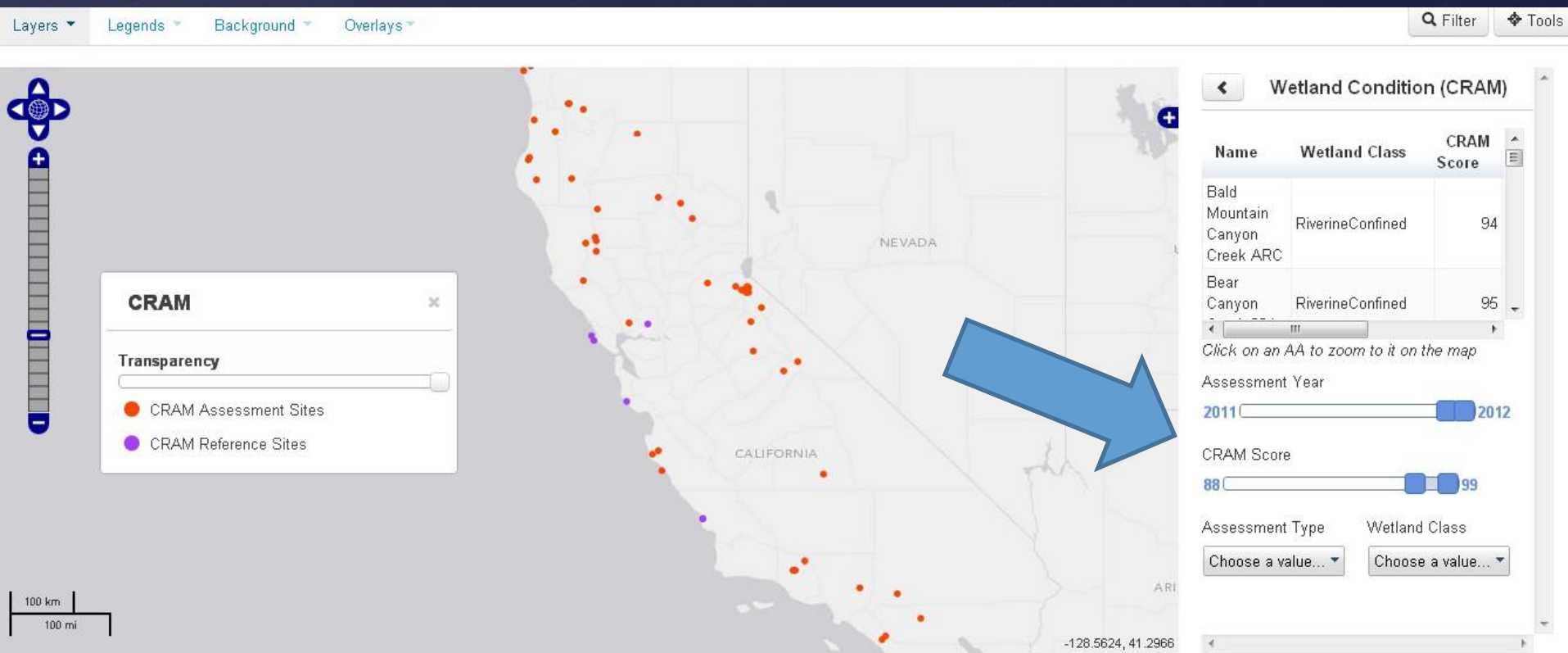
Filters and Tabular Queries



Filters and Tabular Queries



Filters and Tabular Queries



Watershed Delineation Tool

Layers ▾ Legends ▾ Background ▾ Overlays ▾ Filter Tools

Landscape Profiles

Delineate Basins using USGS Streamstats Web Service?

Note: Clicking **No** will clear existing basins.
Click on basin polygon for stats

User-defined Area Profile:

☐ Draw Your Own Polygon - then click on it to get landscape statistics

☐ Clear Your Drawn Polygon

Regional Landscape Profile

☒ None

☐ Hydrologic Regions (HUC8)

☐ Counties

1000 m
2000 ft

-120.0334, 38.7628

1 -

2 -

3 -

Watershed Delineation Tool

Layers ▾ Legends ▾ Background ▾ Overlays ▾ Filter Tools

Auto-delineate basin based on topography

1000 m
2000 ft

-119.9948, 38.7218

Landscape Profiles

Delineate Basins using USGS Streamstats Web Service?

Note: Clicking **No** will clear existing basins.

Click on basin polygon for stats

User-defined Area Profile:

- ☒ Draw Your Own Polygon - then click on it to get landscape statistics
- ☐ Clear Your Drawn Polygon

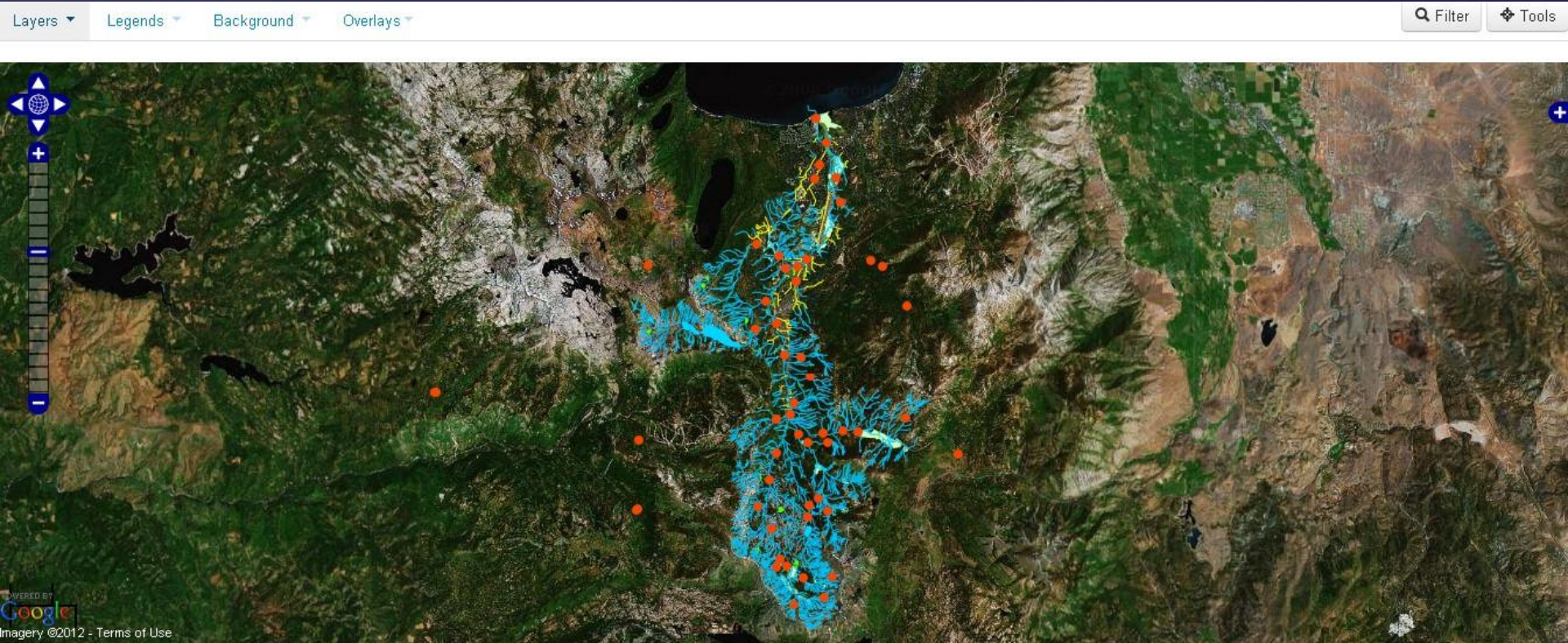
Regional Landscape Profile

- ☒ None
- ☐ Hydrologic Regions (HUC8)
- ☐ Counties

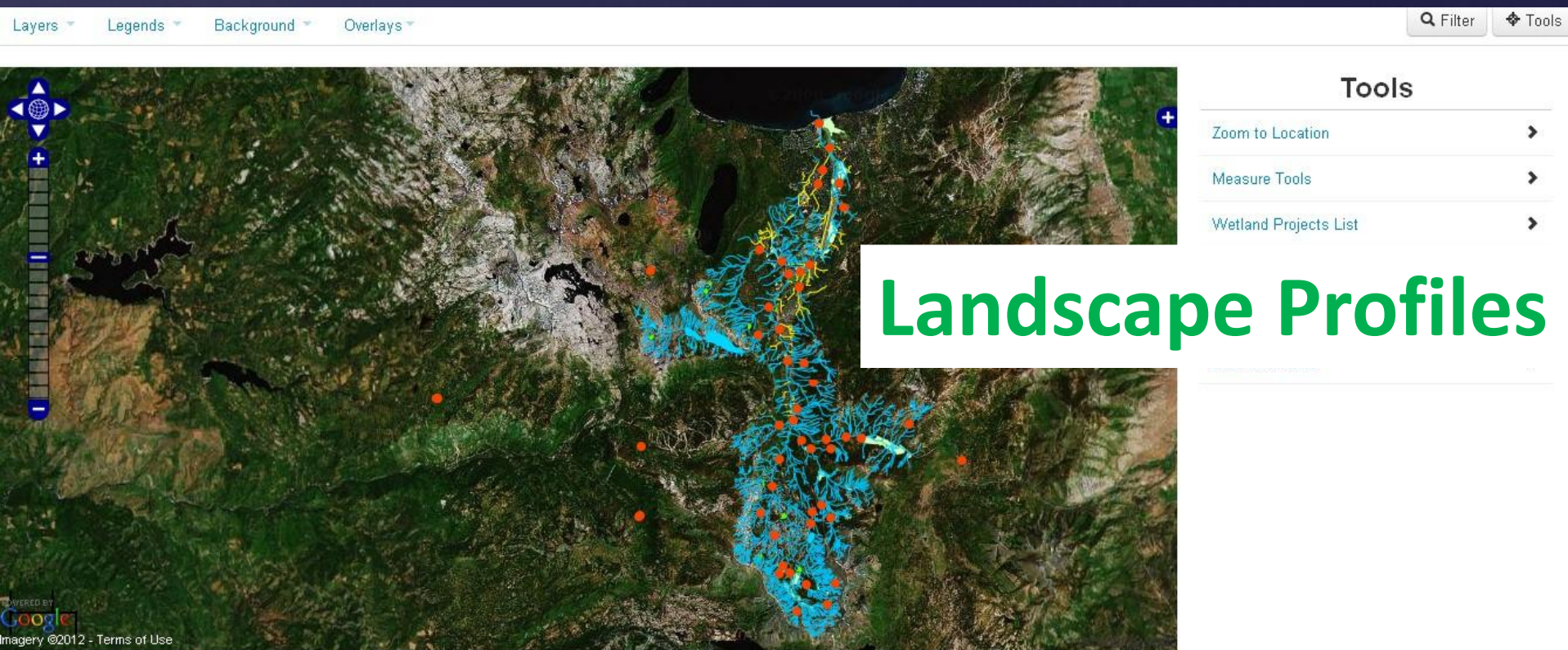
Make it useful

1. Mash up of disparate data from disparate sources
 - Habitat, Condition, Project data
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3. Instant results
 - On-the-fly web report of Landscape Analysis
4. High-quality output
 - Format-able PDF report of Landscape Analysis

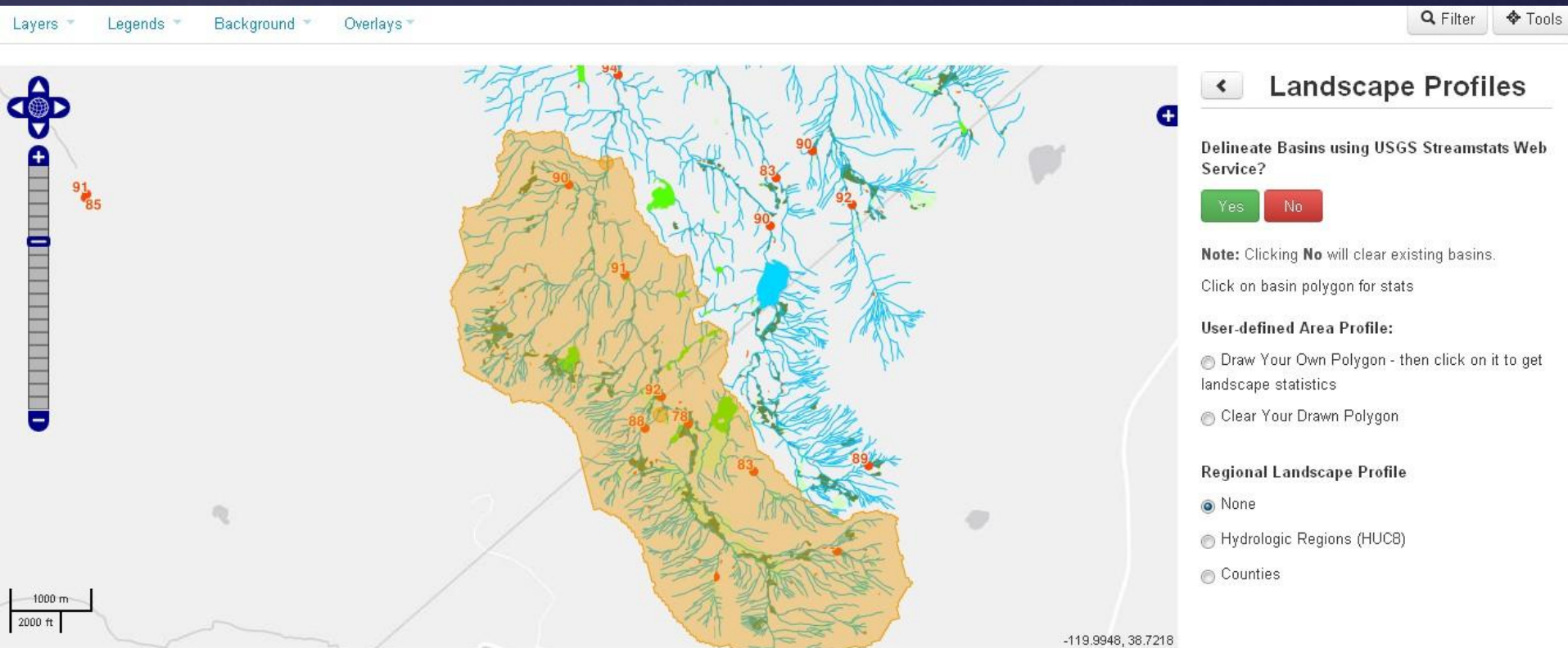
Data rich, Meaningful information



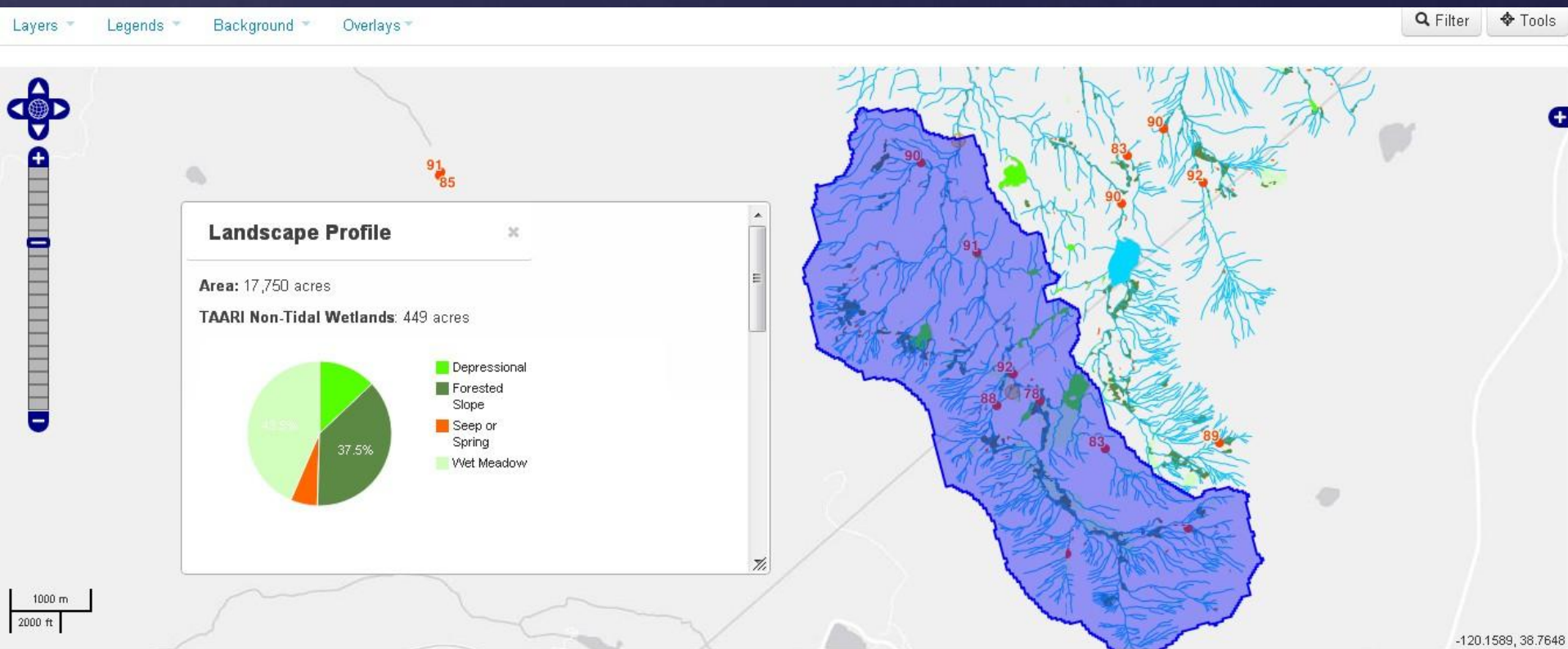
Data rich, Meaningful information



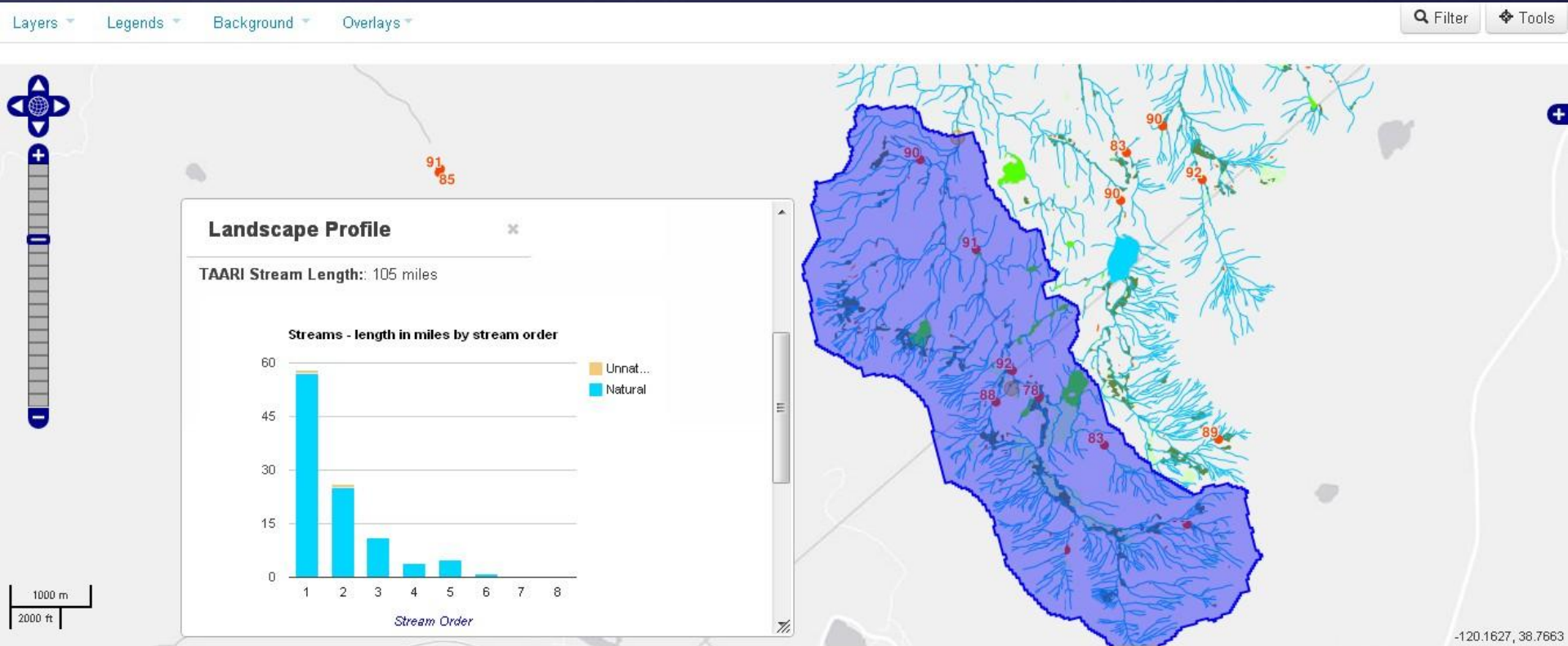
Data rich, Meaningful information



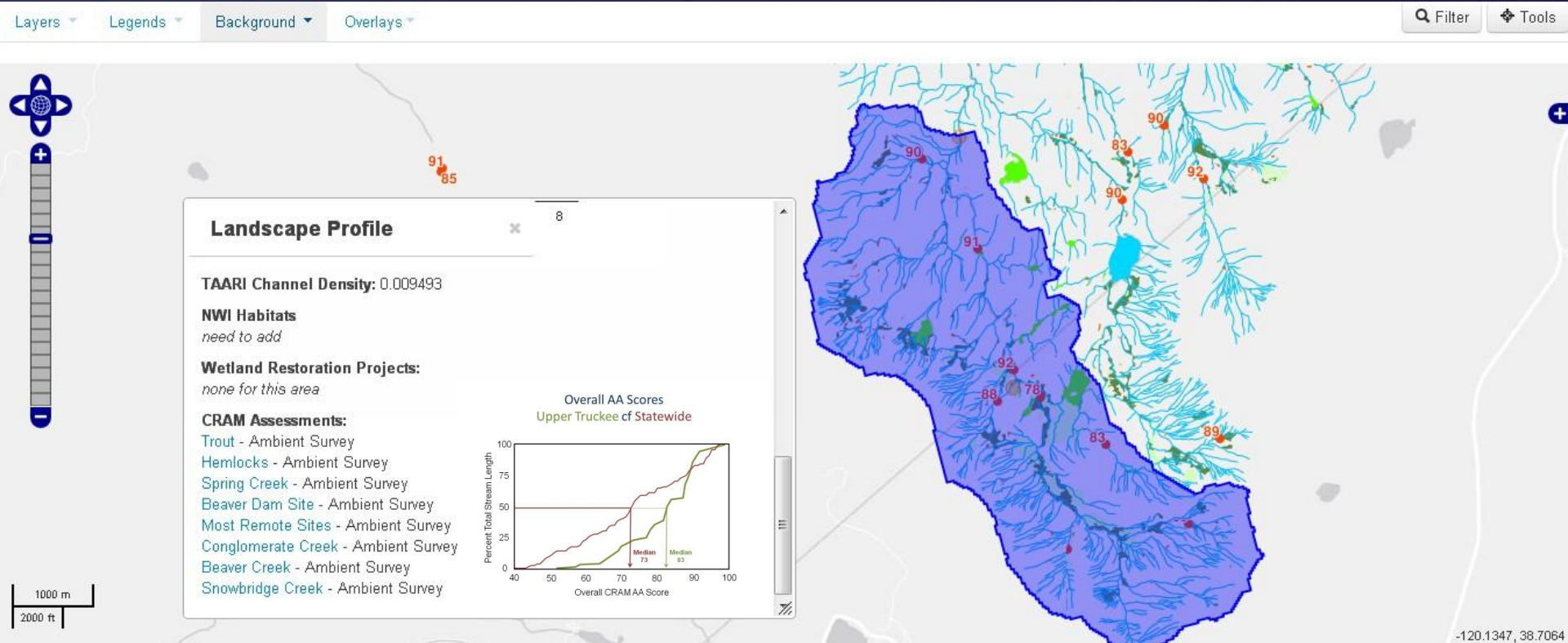
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Data rich, Meaningful information



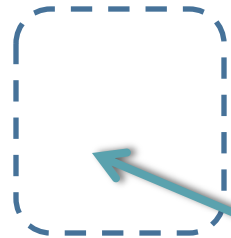
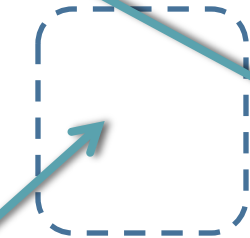
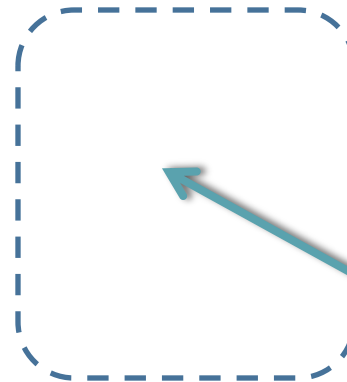
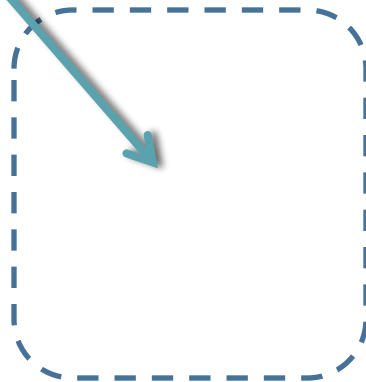
Data rich, Meaningful information



Make it useful

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 - **Format-able PDF report**

Third Creek Watershed



Citations

Project Information

Purpose

Date

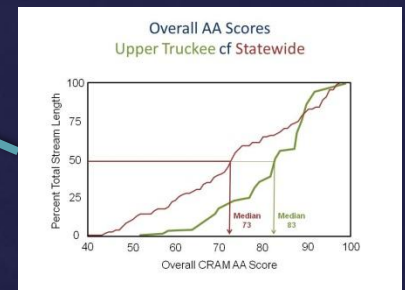
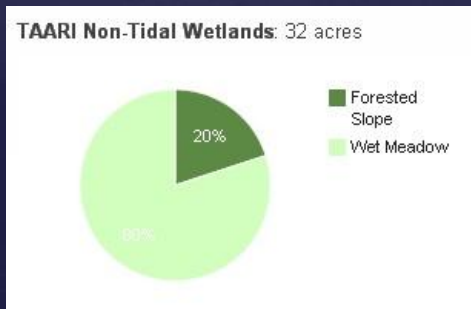
Location

Agency/Org

Permit #

HCP name

Etc.



Typical Management Qs

1. How should we prioritize our limited resources?
2. How do I track work performed?
3. Who else is monitoring in our area?
4. Where are the aquatic resources?
5. What is the current abundance of wetland resources?
6. How do watersheds in my area compare to each other?
7. How are resources responding to change, e.g. climate, restoration, etc.?
8. What are the condition of my aquatic resources?

A satellite map of a mountainous region, likely in the Sierra Nevada. The terrain is rugged with green vegetation on the lower slopes and brownish, rocky peaks. A large, irregular area in the center is completely blacked out, obscuring the landscape beneath it. Several smaller, dark, irregular shapes are scattered across the map, possibly representing smaller lakes or forest fires.

Thank you.

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