

# User's Guide: BIOS Online Mapping Tool to access the California Freshwater Species Database

Last updated: December 2017

Tutorial created by:  
The Nature Conservancy

# Topics covered

- Part 1: Exporting a tabular summary of species present within a single watershed
- Part 2: Exporting a tabular summary of species present within multiple watersheds
- Part 3: Creating a species distribution map by selecting watersheds

- The purpose of this user guide is to help you become familiar enough with the BIOS Online Mapping tool that you can get useful data from the California Freshwater Species Database.
- Access BIOS (Biogeographic Information & Observation System) here: <http://www.dfg.ca.gov/biogeodata/bios/>
- Load times vary widely. When adding the California Freshwater Species Database, be ready to wait 2 to 30 seconds until it loads.
- Metadata for the CA Freshwater Species Database of BIOS is found here:  
<https://map.dfg.ca.gov/metadata/ds1197.html?5.36.15>

## DFG GIS LINKS

- » [BIOS Home](#)
- » [Biogeographic Data Branch](#)
- » [IMAPS Map Viewers](#)
- » [CDFW's Data Portal](#)

## Related Links

- » [California Geoportal](#)
- » [CalFish](#)

Department of Fish & Wildlife  
Biogeographic Data Branch

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1700 9th Street, 4th Floor  
Sacramento, CA 95811

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1416 9th Street, Suite 1266  
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[Home](#) » [BDB](#) » BIOS Home

# BIOS

## BIOGEOGRAPHIC INFORMATION & OBSERVATION SYSTEM

BIOS is a system designed to enable the management, visualization, and analysis of biogeographic data collected by the California Department of Fish and Wildlife and its [Partner Organizations](#). In addition, BIOS facilitates the sharing of those data within the BIOS community. BIOS integrates GIS, relational database management, and ESRI's ArcGIS Server technology to create a statewide, integrated information management tool that can be used on any computer with access to the Internet. For additional information about the [CNDDB](#) and [Spotted Owl Observations Database](#), please visit their webpages.

**BIOS 5 Viewers** - Please use [Firefox](#) or [Chrome](#) for best performance.

[Getting Started in BIOS 5 \(pdf\)](#)

**BIOS Viewer (Public & Secure)**

The primary BIOS viewer.

**CNDDB\_GOV / Spotted Owl Viewer**

Password required: for CDFW Staff and Government [CNDDB Subscribers](#).

**CNDDB\_COM / Spotted Owl Viewer**

Password required: for CDFW Staff and Non-Government [CNDDB Subscribers](#).

### \*\*\* MARINEBIOS - A MARINE AND COASTAL MAP VIEWER \*\*\*

**MarineBIOS Map Viewer**

An interactive map for accessing California statewide marine spatial planning data. [News Release](#) (01/18/2012)

More information about [MarineBIOS](#).

### \*\*\* CALIFORNIA HABITAT CONNECTIVITY PROJECTS \*\*\*

Data from the [California Essential Habitat Connectivity](#) project: (download the [GIS Data](#))

**BIOS Habitat Connectivity Viewer**

Open to the public - all connectivity layers are included.

**BIOS Habitat Connectivity Viewer**

Password required - additional secured BIOS layers are included.

Data from the [Northern Sierra Nevada Foothills \(NSNF\) Habitat Connectivity](#) project:

**NSNF Habitat Connectivity Viewer**

Open to the public - all available NSNF connectivity layers are included.

ENTER HERE

## BIOS Layers

Use the 'Add Data: BIOS' Input box to search for and see list of BIOS data. Double click on the list item, or highlight and hit Enter to add a data layer to the map.

## Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

+ ☒ Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

# BIOS

## Biogeographic Information and Observation System

Welcome to the Department of Fish and Wildlife's BIOS map viewer.

The data represented on this site vary in currentness, accuracy, scale, completeness, and extent of coverage, and have been contributed from various sources. We highly recommend reviewing available metadata prior to interpreting these data.

Please visit the [BIOS Website](#) for more info.

ENTER HERE

Login OR

Use Public BIOS

(CDFW staff use your regular network login)

Table

0 50 100mi

esri

# Accessing the California Freshwater Species Database

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: Counties

BIOS Layers

Use the 'Add Data: BIOS' input box at top to search for and see list of BIOS datasets. Double click on the list item, or highlight one and hit Enter to add a data layer to the map.

Reference Layers

Remove All Highlights

► Geolocation References

- + Cities [Go]
- + ☒ Counties [Go]
- + Ecoregion Sections [Go]
- + Calwater HUC8 Watersheds [Go]
- + 24K Quads [Go]
- + Zip Codes [Go]
- + PLSS Sections [Go]
- + CDFW Regions [Go]

► Hydrography

► Natural Resources

► Land\_Ownership

Add Data: BIOS

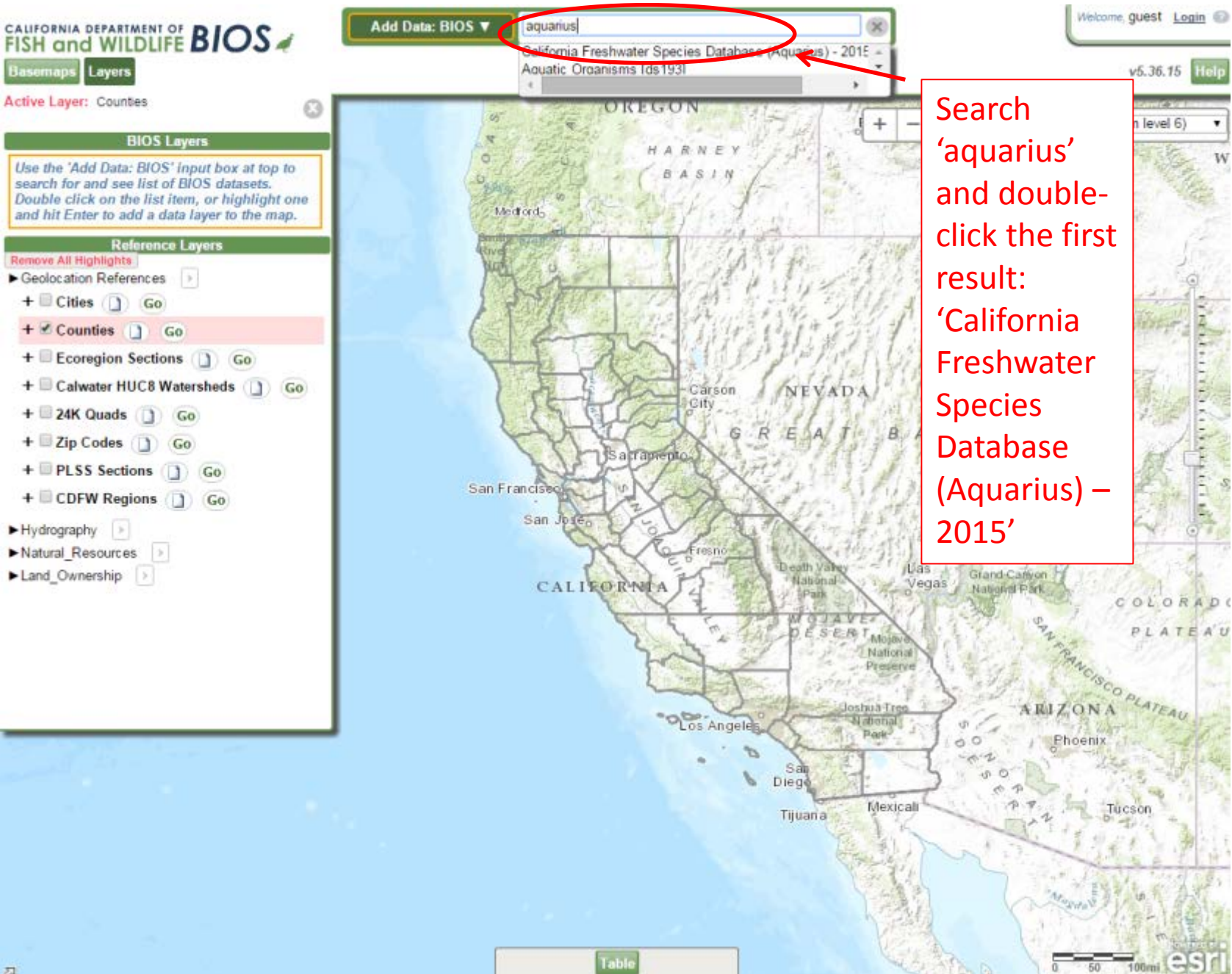
aquarius

California Freshwater Species Database (Aquarius) - 2015

Aquatic Organisms Ids1931

Search 'aquarius' and double-click the first result: 'California Freshwater Species Database (Aquarius) – 2015'

Table






Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

BIOS Layers

Remove All BIOS Layers


+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197]  Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities  Go

- ☒ Counties  Go

+ ☐ Ecoregion Sections  Go

+ ☐ Calwater HUC8 Watersheds  Go

+ ☐ 24K Quads  Go

+ ☐ Zip Codes  Go

+ ☐ PLSS Sections  Go

+ ☐ CDFW Regions  Go

► Hydrography

► Natural\_Resources

► Land\_Ownership

Clicking on the metadata tab provides more information on the CA Freshwater Species Database

California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Abstract

The ranges and abundances of species that depend on freshwater habitats are declining worldwide. Efforts to counteract those trends are often hampered by a lack of information about species distribution and conservation status and are often strongly biased toward a few well-studied groups. We identified the 3,906 vascular plants, macroinvertebrates, and vertebrates native to California, USA, that depend on fresh water for at least one stage of their life history. We evaluated the conservation status for these taxa using existing government and non-governmental organization assessments (e.g., endangered species act, NatureServe), created a spatial database of locality observations or distribution information from ~400 data sources, and mapped patterns of richness, endemism, and vulnerability. Data created for that effort - the California Freshwater Species Database - are summarized within this geodatabase. The analysis units for the summaries presented here are derived from the Watershed Boundary Database (WBD) for the United States (<http://nhd.usgs.gov/wbd.html>). For more information on the California Freshwater

Scroll to the bottom for a "Complete Metadata" button

# California Freshwater Species Database (Aquarius) - 2015 [ds1197]

SDE Feature Class

[Open this dataset in BIOS](#)  
[Download this dataset](#)

Complete  
metadata

## Tags

Freshwater, Species, Conservation, Diversity, Endemism, Hotspots, California.

## Summary

Summary of geospatial species data from the California Freshwater Species Database (Aquarius). The California Freshwater Species Database identifies the 3,906 vascular plants, microinvertebrates, and vertebrates native to California that depend on fresh water for at least one stage of their life history, evaluates their conservation status, and aggregates spatial data of their locality observations or distributions.

## Description

The ranges and abundances of species that depend on freshwater habitats are declining worldwide. Efforts to counteract those trends are often hampered by a lack of information about species distribution and conservation status and are often strongly biased toward a few well-studied groups. We identified the 3,906 vascular plants, macroinvertebrates, and vertebrates native to California, USA, that depend on fresh water for at least one stage of their life history. We evaluated the conservation status for these taxa using existing government and non-governmental organization assessments (e.g., endangered species act, NatureServe), created a spatial database of locality observations or distribution information from ~400 data sources, and mapped patterns of richness, endemism, and vulnerability. Data created for that effort - the California Freshwater Species Database - are summarized within this geodatabase.

The analysis units for the summaries presented here are derived from the Watershed Boundary Database (WBD) for the United States (<http://nhd.usgs.gov/wbd.html>).

For more information on the California Freshwater Species Database, visit [http://scienceforconservation.org/downloads/california\\_freshwater\\_species\\_database\\_v2](http://scienceforconservation.org/downloads/california_freshwater_species_database_v2) or <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0130710>.

## Credits

Kirk Klausmeyer, Kurt Fesenmyer, Jeanette Howard, Scott Morrison. California Freshwater Species Database, Version 2.0.7. The Nature Conservancy, California. 2015. San Francisco, California. For credits for the Watershed Boundary Dataset, see <http://nhd.usgs.gov/wbd.html>

## Use limitations

This database is provided for informational purposes "as-is" and without warranty of any kind. The Nature Conservancy (TNC) is not responsible for the accuracy, completeness, quality or legal sufficiency of this information, nor is TNC responsible for updating the information set forth in this map.

Whenever listing the element names for a given geography, please include the original data provider source citation, and the comments, as referenced in the Source\_Citation field (see below). This database may be redistributed as long as the original source data is included.

The database is a snapshot of observations submitted to various sources listed below. These data have been compiled and reviewed as of April 13, 2015. Published results using these data should be cited as follows:

Kirk Klausmeyer, Kurt Fesenmyer, Jeanette Howard, Scott Morrison. *California Freshwater Species Database, Version 2.0.7*. The Nature Conservancy, California. 2015. San Francisco, California.

## Extent

West -124.409705 East -114.130793  
North 42.009504 South 32.534360

## Scale Range

Maximum (zoomed in) 1:50,000



Part 1: Exporting a tabular summary of species present  
within a single watershed

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: Counties

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] [Go] [X]

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities [Go]

- ☒ Counties [Go]

+ ☐ Ecoregion Sections [Go]

+ ☐ Calwater HUC8 Watersheds [Go]

+ ☐ 24K Quads [Go]

+ ☐ Zip Codes [Go]

+ ☐ PLSS Sections [Go]

+ ☐ CDFW Regions [Go]

► Hydrography

► Natural Resources

► Land\_Ownership

Add Data: BIOS ▼ aquarius

Identify Features ▼ Advanced Tools ▼

Map Scale=1: 9,244,649 (Zoom level 6)

After adding the CA Freshwater Species Database, check to see that it is turned on – click the checkbox next to the layer name to turn it on. The layer take anywhere from 2 seconds to 30 seconds to load.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: Counties

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

+ Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

Identify Features Advanced Tools

Map Scale=1: 9,244,649 (Zoom level 6)

Click to zoom

Add additional reference layers

The screenshot shows the BIOS web application interface. At the top, there's a header with the logo and navigation buttons like 'Add Data: BIOS', 'Identify Features', and 'Advanced Tools'. A search bar contains the word 'aquarius'. On the left, there's a sidebar with 'Active Layer: Counties' and two main sections: 'BIOS Layers' and 'Reference Layers'. The 'Reference Layers' section is circled in red, with an arrow pointing to it from a red box containing the text 'Add additional reference layers'. Below this, a list of reference layers is shown, including 'Geolocation References', 'Cities', 'Counties', 'Ecoregion Sections', 'Calwater HUC8 Watersheds', '24K Quads', 'Zip Codes', 'PLSS Sections', 'CDFW Regions', 'Hydrography', 'Natural Resources', and 'Land Ownership'. The 'Counties' layer is selected. The main map area shows a map of California with various geographical features and labels. A red box with the text 'Click to zoom' has an arrow pointing to the zoom controls in the top right corner of the map. These controls include a '+' sign, a '-' sign, and a dropdown menu showing 'Map Scale=1: 9,244,649 (Zoom level 6)'. The map itself shows California with various geographical features and labels, including 'OREGON', 'NEVADA', 'UTAH', 'ARIZONA', 'SANTA FE PLATEAU', 'SAN FRANCISCO PLATEAU', 'LOS ANGELES', 'SAN JOSE', 'SAN FRANCISCO', 'CARSON CITY', 'SALT LAKE CITY', 'LAS VEGAS', 'PHOENIX', 'TUCSON', 'MEXICALI', 'MEXICO', 'GREAT BASIN', 'SANTA FE PLATEAU', 'SAN FRANCISCO PLATEAU', 'LOS ANGELES', 'SAN JOSE', 'SAN FRANCISCO', 'CARSON CITY', 'SALT LAKE CITY', 'LAS VEGAS', 'PHOENIX', 'TUCSON', 'MEXICALI', 'MEXICO'.

Like Google Maps, you can click and drag the map to move it around. In addition you can zoom in and out using the scroll wheel on your mouse. Alternatively, you can use the zooming tools highlighted on this slide (the '+' sign zooms in, the '-' sign zooms out) or the 'Map Scale' dropdown menu (the greater 'Zoom level' you select, the more zoomed into the map you are). Additional reference layers on the left can help you orient to landmarks or natural features



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

Identify Features Advanced Tools

v5.36.15 Help

Map Scale=1: 9,244,649 (Zoom level 6)

To select a single watershed, start first by clicking on our 'California Freshwater Species Database' layer name on the left menu bar. When the background color behind the layer name is red, it becomes the 'Active Layer'. Next, locate your single watershed through a combination of moving the map around and zooming.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **BIOS**

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ Identify Graphic

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land\_Ownership

Map Scale=1: 2,311,162 (Zoom level 8)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Identified features: 1 Related records: 11

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vulnerable	End
1	Go Sylvania Canyon	160600101005	6	3	0	40611	Spea intermontana	Great Basin Spadefoot	Herps	0	1	
2	Go Sylvania Canyon	160600101005	6	3	0	40612	Spea intermontana	Great Basin Spadefoot	Herps	0	1	
3	Go Sylvania Canyon	160600101005	6	3	0	40613	Spea intermontana	Great Basin Spadefoot	Herps	0	1	

After you locate your watershed of interest click on it. A table with applicable records will rise up from the bottom of the window.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **BIOS**

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ Identify Graphic

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Map Scale=1: 2,311,162 (Zoom level 8)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Identified features: 1 Related records: 11

Print Preview Export

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3	Go Sylvania Canyon	160600101005	6	3	0	40613	Spea intermontana	Great Basin Spadefoot	Herps	0	1	

Note the Export button, which will automatically download a .csv table with all records applicable to your selected watershed.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

- ☒ Identify Graphic

BIOS Layers

Remove All BIOS Layers

- + ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Reference Layers

Remove All Highlights

- Geolocation References
  - + ☐ Cities
  - ☒ Counties
  - + ☐ Ecoregion Sections
  - + ☐ Calwater HUC8 Watersheds
  - + ☐ 24K Quads
  - + ☐ Zip Codes
  - + ☐ PLSS Sections
  - + ☐ CDFW Regions
- Hydrography
- Natural Resources
- Land Ownership

BIOS Exporter - Google Chrome

https://map.dfg.ca.gov/bios/Exporter.aspx

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Generating Export. Close this window after downloading.

Close

BIOSExport (2).csv

Show all downloads...

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Identified features: 1 Related records: 11

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vulnerable	End
1	<a href="#">Go</a> Sylvania Canyon	160600101005	6	3	0	40611	Spea intermontana	Great Basin Spadefoot	Herps	0	1	
2	<a href="#">Go</a> Sylvania Canyon	160600101005	6	3	0	40612	Spea intermontana	Great Basin Spadefoot	Herps	0	1	
3	<a href="#">Go</a> Sylvania Canyon	160600101005	6	3	0	40613	Spea intermontana	Great Basin Spadefoot	Herps	0	1	

When you click the Export button, a window should pop up and the download should begin. The table you export will be in your browser's applicable Downloads folder.

Watershed_Name															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Watershed	Watershed	Freshwater	Vulnerable	Listed_Species	XID	Scientific_Name	Common_Name	Group	Listed	Vulnerable	Endemic	Apparently	Not_Evaluated	Comments
2	Sylvania Co	1.61E+11	6	3	0	40611	Spea inter	Great Basi	Herps	0	1	0	0	0	0
3	Sylvania Co	1.61E+11	6	3	0	40612	Spea inter	Great Basi	Herps	0	1	0	0	0	0
4	Sylvania Co	1.61E+11	6	3	0	40613	Spea inter	Great Basi	Herps	0	1	0	0	0	0
5	Sylvania Co	1.61E+11	6	3	0	126078	Setophaga	Yellow Wa	Birds	0	1	0	0	0	0
6	Sylvania Co	1.61E+11	6	3	0	128876	Icteria vire	Yellow-bre	Birds	0	1	0	0	0	0
7	Sylvania Co	1.61E+11	6	3	0	449184	Setophaga	Yellow Wa	Birds	0	1	0	0	0	0
8	Sylvania Co	1.61E+11	6	3	0	449185	Setophaga	Yellow Wa	Birds	0	1	0	0	0	0
9	Sylvania Co	1.61E+11	6	3	0	518169	Anaxyrus t	Boreal To	Herps	0	0	0	1	0	0
10	Sylvania Co	1.61E+11	6	3	0	518170	Spea inter	Great Basi	Herps	0	1	0	0	0	0
11	Sylvania Co	1.61E+11	6	3	0	543346	Castor can	American I	Mammals	0	0	0	1	0	0
12	Sylvania Co	1.61E+11	6	3	0	543347	Sorex palu	American I	Mammals	0	0	0	1	0	0
13															
14															
15															
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28															
29															
30															
31															
32															

This is an example of what you will see when you open the exported table.



Part 2: Exporting a tabular summary of species  
present within multiple watersheds

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ Identify Graphic

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

Identify Features Advanced Tools

Map Scale=1: 2,311,162 (Zoom level 8)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Identified features: 1 Related records: 11

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vulnerable	End
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Use the “Identify Features” tool

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **BIOS**

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

- ☒ Identify Graphic

BIOS Layers

Remove All BIOS Layers

- ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Reference Layers

Remove All Highlights

Geolocation References

- ☐ Cities
- ☒ Counties
- ☐ Ecoregion Sections
- ☐ Calwater HUC8 Watersheds
- ☐ 24K Quads
- ☐ Zip Codes
- ☐ PLSS Sections
- ☐ CDFW Regions

Hydrography

Natural Resources

Land Ownership

Add Data: BIOS aquarius

Identify Features

- Identify Features
- Point Info
- Measure
- Add Label
- Select...

Map Tools: Pick a tool to interact with map or features

Advanced Tools

Map Scale=1: 2,311,162 (Zoom level 8)

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Identified features: 1 Related records: 11

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vulnerable	End
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3	Sylvania Canyon	160600101005	6	3	0	40613	Spea intermontana	Great Basin Spadefoot	Herps	0	1	

Use the “Identify Features” tool -> “Select...”



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

BIOS Layers

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land\_Ownership

Add Data: BIOS aquarius

Select... Advanced Tools

v5.36.15 Help

Map Scale=1: 2,311,162 (Zoom level 8)

Select features from California Freshwater Species Database (Aquarius) - 2015 [ds1197]

By...

Method

Rectangle (drag a box)

**Polygon**

Point Buffer (click on map)

• Buffer Radius: 10 Miles

To make a graphic selection, click on a Method above.

Clear Selection (Select None)

Operations

**New Selection**

Select from Set (within Selection)

The screenshot shows the BIOS web application interface. On the left, there are navigation panels for 'Graphics and Selections' and 'Reference Layers'. The main map area displays a map of California with a blue-shaded region. On the right, a 'Select features from' panel is open, showing the 'Method' section with 'Polygon' selected and the 'Operations' section with 'New Selection' selected. Red arrows point to these two options.

Under the 'Method' section, we recommend the Polygon Method over the Rectangle Method. The Polygon method is more precise. Make sure under 'Operations' you select 'New Selection'.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

BIOS Layers

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

Select... Advanced Tools

v5.36.15 Help

Map Scale=1: 1,155,581 (Zoom level 9)

Select features from  
California Freshwater Species Database (Aquarius) - 2015 [ds1197]  
By...

Method

Rectangle (drag a box)

Polygon

Point Buffer (click on map)

• Buffer Radius: 10 Miles

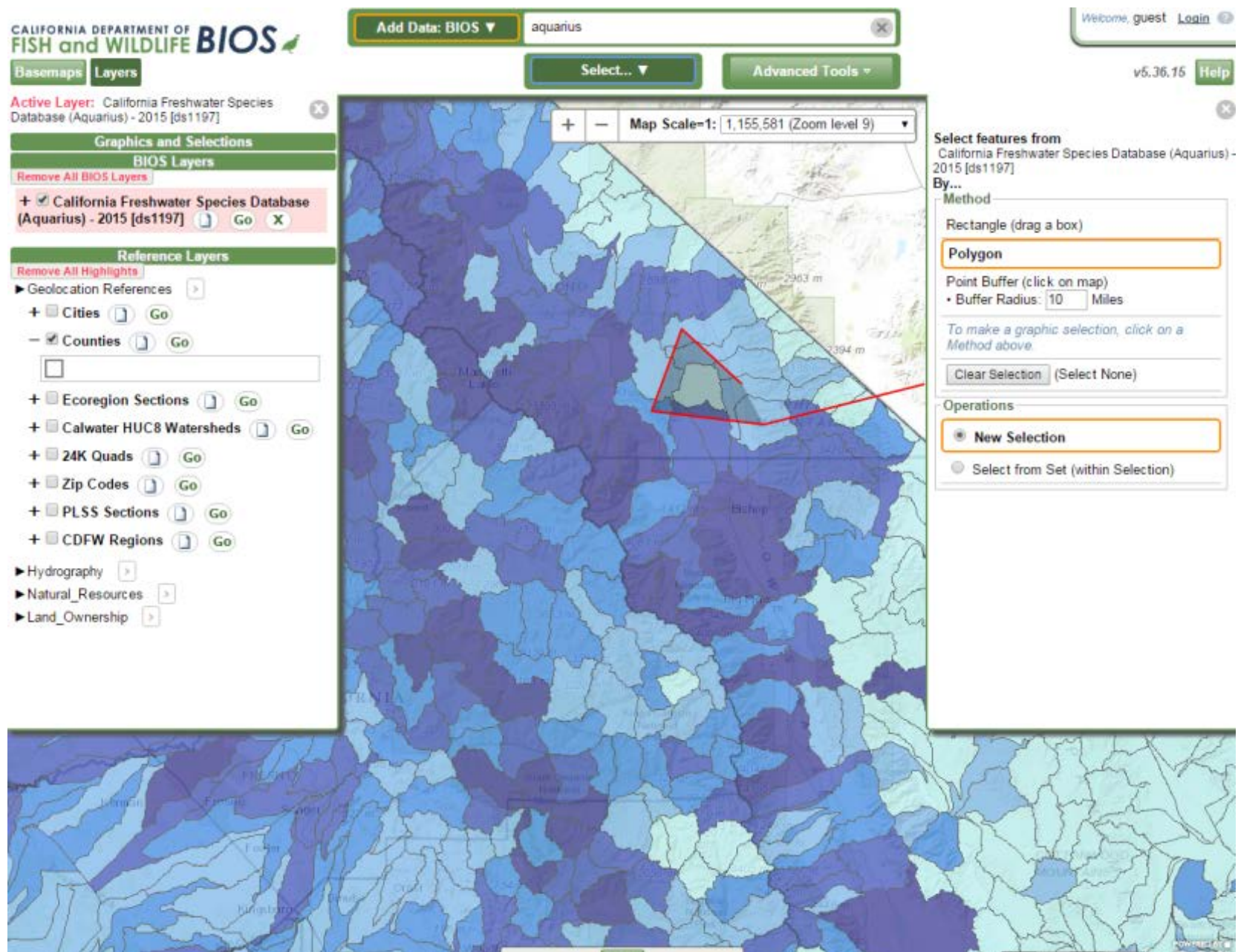
To make a graphic selection, click on a Method above.

Clear Selection (Select None)

Operations

New Selection

Select from Set (within Selection)



Using single mouse clicks on the map, outline a desirable shape that overlaps all watersheds you are interested in selecting. To finish your outline, double click your mouse on the map.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

- ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection Go T

BIOS Layers

Remove All BIOS Layers

- + ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

- Geolocation References
  - + ☐ Cities Go
  - ☒ Counties Go
- + ☐ Ecoregion Sections Go
- + ☐ Calwater HUC8 Watersheds Go
- + ☐ 24K Quads Go
- + ☐ Zip Codes Go
- + ☐ PLSS Sections Go
- + ☐ CDFW Regions Go

- Hydrography
- Natural Resources
- Land Ownership

Map Scale=1: 1,155,581 (Zoom level 9)

Select features from California Freshwater Species Database (Aquarius) - 2015 [ds1197]

By...

Method

- Rectangle (drag a box)
- Polygon
- Point Buffer (click on map)
  - Buffer Radius: 10 Miles

To make a graphic selection, click on a Method above.

Clear Selection (Select None)

Operations

- ☒ New Selection
- ☐ Select from Set (within Selection)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selected features: 8 Related records: 1563

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vuln
1	Lake Crowley-Owens River	180901020209	150	30	7	16088	Pedicularis attollens	NA	Plants	0	
2	Lake Crowley-Owens River	180901020209	150	30	7	27972	Physa spp.	Physa spp.	Mollusks	0	

The selected watershed group will be highlighted and will appear as a new selection in the 'Graphics and Selections' submenu on the left.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

- ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection Go T

BIOS Layers

Remove All BIOS Layers

- + ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

- Geolocation References
  - + ☐ Cities Go
  - ☒ Counties Go
- + ☐ Ecoregion Sections Go
- + ☐ Calwater HUC8 Watersheds Go
- + ☐ 24K Quads Go
- + ☐ Zip Codes Go
- + ☐ PLSS Sections Go
- + ☐ CDFW Regions Go

- Hydrography
- Natural Resources
- Land Ownership

Map Scale=1: 1,155,581 (Zoom level 9)

Select features from California Freshwater Species Database (Aquarius) - 2015 [ds1197]

By...

Method

- Rectangle (drag a box)
- Polygon
- Point Buffer (click on map)
  - Buffer Radius: 10 Miles

To make a graphic selection, click on a Method above.

Clear Selection (Select None)

Operations

- ☒ New Selection
- ☐ Select from Set (within Selection)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selected features: 8 Related records: 1563

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vuln
1	Lake Crowley-Owens River	180901020209	150	30	7	16088	Pedicularis attollens	NA	Plants	0	
2	Lake Crowley-Owens River	180901020209	150	30	7	27972	Physa spp.	Physa spp.	Mollusks	0	

Much like the single watershed selection, once you make a multiple watershed selection using the Polygon Method, an applicable table of associated records for the selected watersheds should appear. From here you can export the associated records.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection Go T

BIOS Layers

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

Select... Advanced Tools

v5.36.15 Help

BIOS Exporter - Google Chrome

https://map.dfg.ca.gov/bios/Exporter.aspx

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Generating Export. Close this window after downloading.

Close

BIOSExport (3).csv Show all downloads...

Select features from California Freshwater Species Database (Aquarius) - 2015 [ds1197]

By...

Method

Rectangle (drag a box)

Polygon

Point Buffer (click on map)

• Buffer Radius: 10 Miles

To make a graphic selection, click on a Method above.

Clear Selection (Select None)

Operations

☒ New Selection

☐ Select from Set (within Selection)

Table

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selected features: 8 Related records: 1563

Print Preview Export

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vuln
1 Go	Lake Crowley-Owens River	180901020209	150	30	7	16088	Pedicularis attollens	NA	Plants	0	
2 Go	Lake Crowley-Owens River	180901020209	150	30	7	27972	Physa spp.	Physa spp.	Mollusks	0	
3 Go	Lake Crowley-Owens River	180901020209	150	30	7	28002	Helisoma spp.	Helisoma spp.	Mollusks	0	

You'll find your exported data in a new window, or in your browser's Download folder.



Watershed_Name														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Watershed	Freshwater	Vulnerable	Listed_Spe	XID	Scientific	Common	Group	Listed	Vulnerable	Endemic	Apparently	Not_Evalu	C
2	Lake Crow	1.81E+11	150	30	7	16088	Pedicularis	NA	Plants	0	0	0	1	0
3	Lake Crow	1.81E+11	150	30	7	27972	Physa spp.	Physa spp.	Mollusks	0	0	0	0	1
4	Lake Crow	1.81E+11	150	30	7	28002	Helisoma s	Helisoma s	Mollusks	0	0	0	0	1
5	Lake Crow	1.81E+11	150	30	7	32014	Juncus pha	Brown-hex	Plants	0	0	0	0	1
6	Lake Crow	1.81E+11	150	30	7	33020	Mimulus p	Primrose	Plants	0	0	0	1	0
7	Lake Crow	1.81E+11	150	30	7	43609	Aix sponsa	Wood Duc	Birds	0	1	0	0	0
8	Lake Crow	1.81E+11	150	30	7	44936	Anas acuta	Northern F	Birds	0	0	0	1	0
9	Lake Crow	1.81E+11	150	30	7	44937	Anas acuta	Northern F	Birds	0	0	0	1	0
10	Lake Crow	1.81E+11	150	30	7	46826	Anas amer	American	Birds	0	0	0	1	0
11	Lake Crow	1.81E+11	150	30	7	46827	Anas amer	American	Birds	0	0	0	1	0
12	Lake Crow	1.81E+11	150	30	7	48565	Anas clype	Northern S	Birds	0	0	0	1	0
13	Lake Crow	1.81E+11	150	30	7	48566	Anas clype	Northern S	Birds	0	0	0	1	0
14	Lake Crow	1.81E+11	150	30	7	50156	Anas crecc	Green-win	Birds	0	0	0	1	0
15	Lake Crow	1.81E+11	150	30	7	50157	Anas crecc	Green-win	Birds	0	0	0	1	0
16	Lake Crow	1.81E+11	150	30	7	51772	Anas cyano	Cinnamon	Birds	0	0	0	1	0
17	Lake Crow	1.81E+11	150	30	7	51773	Anas cyano	Cinnamon	Birds	0	0	0	1	0
18	Lake Crow	1.81E+11	150	30	7	52541	Anas disco	Blue-wing	Birds	0	0	0	1	0
19	Lake Crow	1.81E+11	150	30	7	56548	Anas platy	Mallard	Birds	0	0	0	1	0
20	Lake Crow	1.81E+11	150	30	7	56549	Anas platy	Mallard	Birds	0	0	0	1	0
21	Lake Crow	1.81E+11	150	30	7	56550	Anas platy	Mallard	Birds	0	0	0	1	0
22	Lake Crow	1.81E+11	150	30	7	58586	Anas strep	Gadwall	Birds	0	0	0	1	0
23	Lake Crow	1.81E+11	150	30	7	58587	Anas strep	Gadwall	Birds	0	0	0	1	0
24	Lake Crow	1.81E+11	150	30	7	59748	Anser albif	Greater W	Birds	0	0	0	1	0
25	Lake Crow	1.81E+11	150	30	7	60917	Aythya aff	Lesser Sca	Birds	0	0	0	1	0
26	Lake Crow	1.81E+11	150	30	7	60918	Aythya aff	Lesser Sca	Birds	0	0	0	1	0
27	Lake Crow	1.81E+11	150	30	7	61737	Aythya am	Redhead	Birds	0	1	0	0	0
28	Lake Crow	1.81E+11	150	30	7	61738	Aythya am	Redhead	Birds	0	1	0	0	0
29	Lake Crow	1.81E+11	150	30	7	63356	Aythya col	Ring-neck	Birds	0	0	0	1	0
30	Lake Crow	1.81E+11	150	30	7	63357	Aythya col	Ring-neck	Birds	0	0	0	1	0
31	Lake Crow	1.81E+11	150	30	7	63358	Aythya col	Ring-neck	Birds	0	0	0	1	0
32	Lake Crow	1.81E+11	150	30	7	64127	Aythya ma	Greater Sca	Birds	0	0	0	1	0

Your exported table should contain data from all selected watersheds.

Part 3: Creating a species distribution map by  
selecting watersheds which include observations of a  
species

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

BIOS Layers

Remove All BIOS Layers

California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land Ownership

Add Data: BIOS aquarius

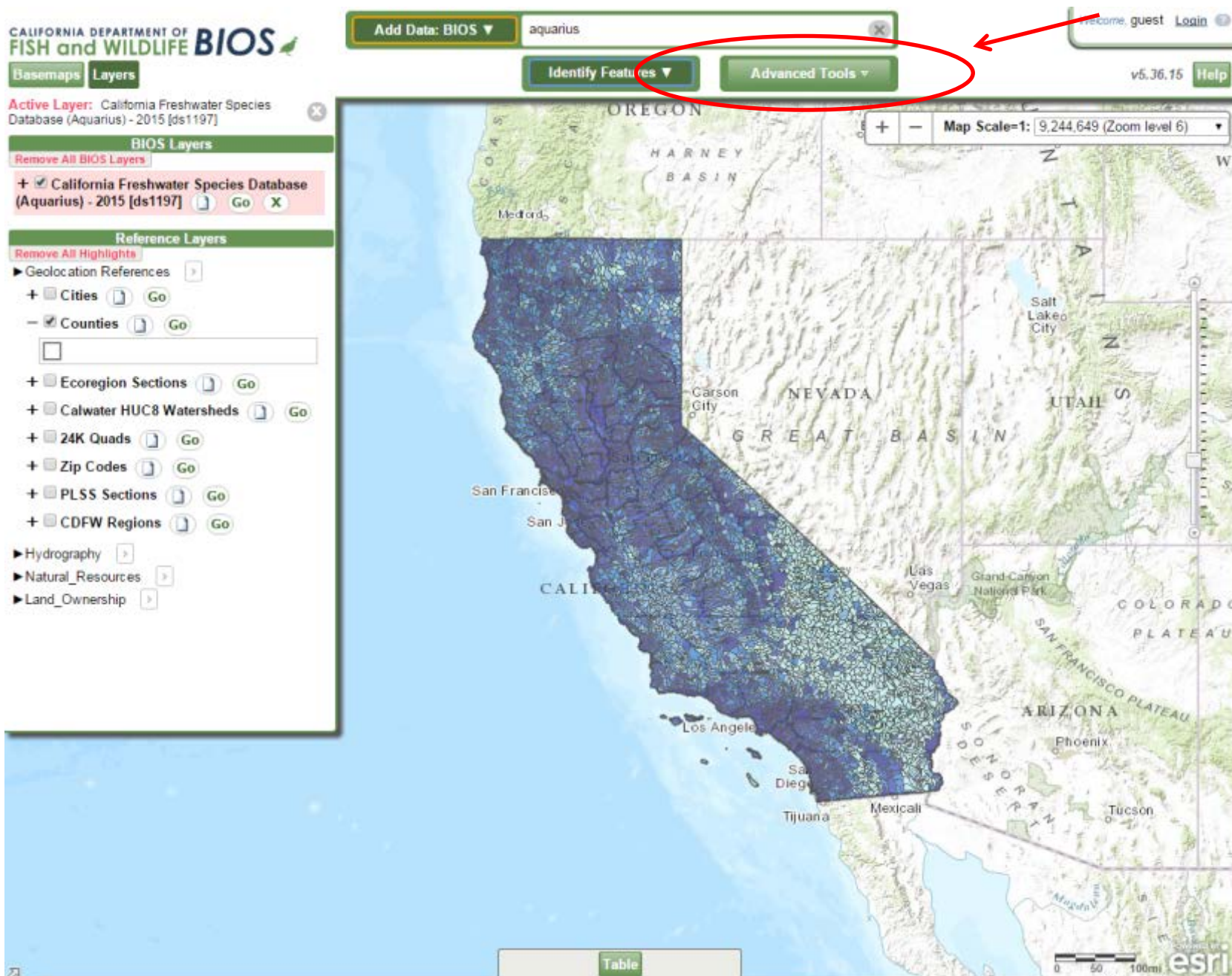
Identify Features Advanced Tools

Map Scale=1: 9,244,649 (Zoom level 6)

esri

Using the same layer you started with, make sure it's the 'Active' layer. If it is 'Active', then the background behind it is red.





Go to "Advanced Tools"

Click on “Query Builder”



CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Add Data: BIOS aquarius

Map Tools Query Builder

v5.36.15 Help

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land\_Ownership

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

A.Catchment\_ID

A.Watershed\_Name

A.Watershed\_ID

A.Freshwater\_Species\_C

Operators

( ) NOT

< > LIKE

> < AND

< > OR

IsNull IsNotNull IN

List Values in Selection

--(search/filter values)--

SELECT \* FROM Active Layer WHERE Clear

New Query Query from Set

Execute Query Done

Map Scale=1: 9,244,649 (Zoom level 6)

Los Angeles San Diego Tijuana Mexicali

Las Vegas Grand Canyon National Park

Salt Lake City

UTAH

ARIZONA

SONORA

COCHISE

COLORADO PLATEAU

SAN FRANCISCO PLATEAU

Phoenix Tucson

Mogilem

Double check to make sure your Query is enacted upon our layer of interest. If it's not, simply click the California Freshwater Species Database layer again to make it 'Active'.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

+ ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

► Land\_Ownership

Add Data: BIOS aquarius

Map Tools

Query Builder

v5.36.15 Help

Map Scale=1: 9,244,649 (Zoom level 6)

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

A.OBJECTID

A.Watershed\_Name

A.Watershed\_ID

A.Freshwater\_Species\_C

Operators

( ) NOT

< > LIKE

> < AND

< > OR

IN IN

List Values in Selection

--(search/filter values)--

SELECT \* FROM Active Layer WHERE Clear

New Query Query from Set

Execute Query Done

Scroll down until you find 'B.Common\_Name', which refers to a species common name. If you prefer to use the scientific name use 'B.Scientific\_Name'. Double-click on either. Note how your selection appears in the query text box below (shown on next slide).

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural Resources

► Land\_Ownership

Add Data: BIOS aquarius

Map Tools Query Builder

v5.36.15 Help

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

B.OBJECTID

B.Scientific\_Name

B.Common\_Name

B.Group

R.Listed

Operators

( ) NOT

= <> LIKE

> <= AND

< <= OR

Is Null Is Not Null IN

List Values in Selection

--(search/filter values)--

SELECT \* FROM Active Layer WHERE Clear

B.Common\_Name

New Query Query from Set

Execute Query Done

Map Scale=1: 9,244,649 (Zoom level 6)

Salt Lake City

UTAH

ASIN

Las Vegas

Grand Canyon National Park

COLORADO

SAN FRANCISCO PLATEAU

ARIZONA

Phoenix

Tucson

Los Angeles

San Diego

Tijuana

Mexicali

Mexico

0 50 100mi

esri

Table

Next, single-click the '=' sign under the 'Operators' section...



CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural\_Resources

► Land\_Ownership

Add Data: BIOS aquarius

Map Tools

Query Builder

Map Scale=1: 9,244,649 (Zoom level 6)

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

B.OBJECTID

B.Scientific\_Name

B.Common\_Name

B.Group\_

B.Listed

4

Operators

( ) NOT

= <> LIKE

> >= AND

< <= OR

IsNull IsNotNull IN

List Values in Selection

SELECT \* FROM Active Layer WHERE

B.Common\_Name =

New Query Query from Set

Execute Query Done

Los Angeles San Diego Tijuana Mexicali

Las Vegas Grand Canyon National Park

Salt Lake City

UTAH

ARIZONA

PHOENIX

TUCSON

MEXICO

COLORADO PLATEAU

SAN FRANCISCO PLATEAU

With 'B.Common\_Name' selected under the 'Fields' section, click the 'List' button highlighted here. This will give you a list of all applicable species common names that can be found in the dataset.



CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural\_Resources

► Land\_Ownership

Add Data: BIOS aquarius

Map Tools Query Builder

Map Scale=1: 9,244,649 (Zoom level 6)

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

B.OBJECTID

B.Scientific\_Name

B.Common\_Name

B.Group

B.Island

Operators

( ) NOT

\* <> LIKE

> >= AND

< <= OR

IsNull IsNotNull IN

List values in Selection

Dytiscidae fam.

Dytiscus spp.

Eagle Lake rainbow trout

Eagle Lake tui chub

Freshwater

Search filter values

SELECT \* FROM Active Layer WHERE

B.Common\_Name = 'Eagle Lake rainbow trout'

New Query Query from Set

Execute Query Done

Double-click the species you wish to locate by watershed, in this case Eagle Lake rainbow trout. Your finished query should be visible in the query text box as:  
B.Common\_Name = 'Eagle Lake rainbow trout'

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Remove All BIOS Layers

+ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ Cities Go

- Counties Go

+ Ecoregion Sections Go

+ Calwater HUC8 Watersheds Go

+ 24K Quads Go

+ Zip Codes Go

+ PLSS Sections Go

+ CDFW Regions Go

► Hydrography

► Natural\_Resources

► Land\_Ownership

Add Data: BIOS aquarius

Map Tools Query Builder

v5.36.15 Help

Map Scale=1: 9,244,649 (Zoom level 6)

Query Builder

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Fields

B.OBJECTID

B.Scientific\_Name

B.Common\_Name

B.Group

B.Locate

Operators

( ) NOT

\* <> LIKE

> >= AND

< <= OR

IsNull IsNotNull IN

List Values in Selection

Dytiscidae fam.

Dytiscus spp.

Eagle Lake rainbow trout

Eagle Lake tui chub

Eared Grebe

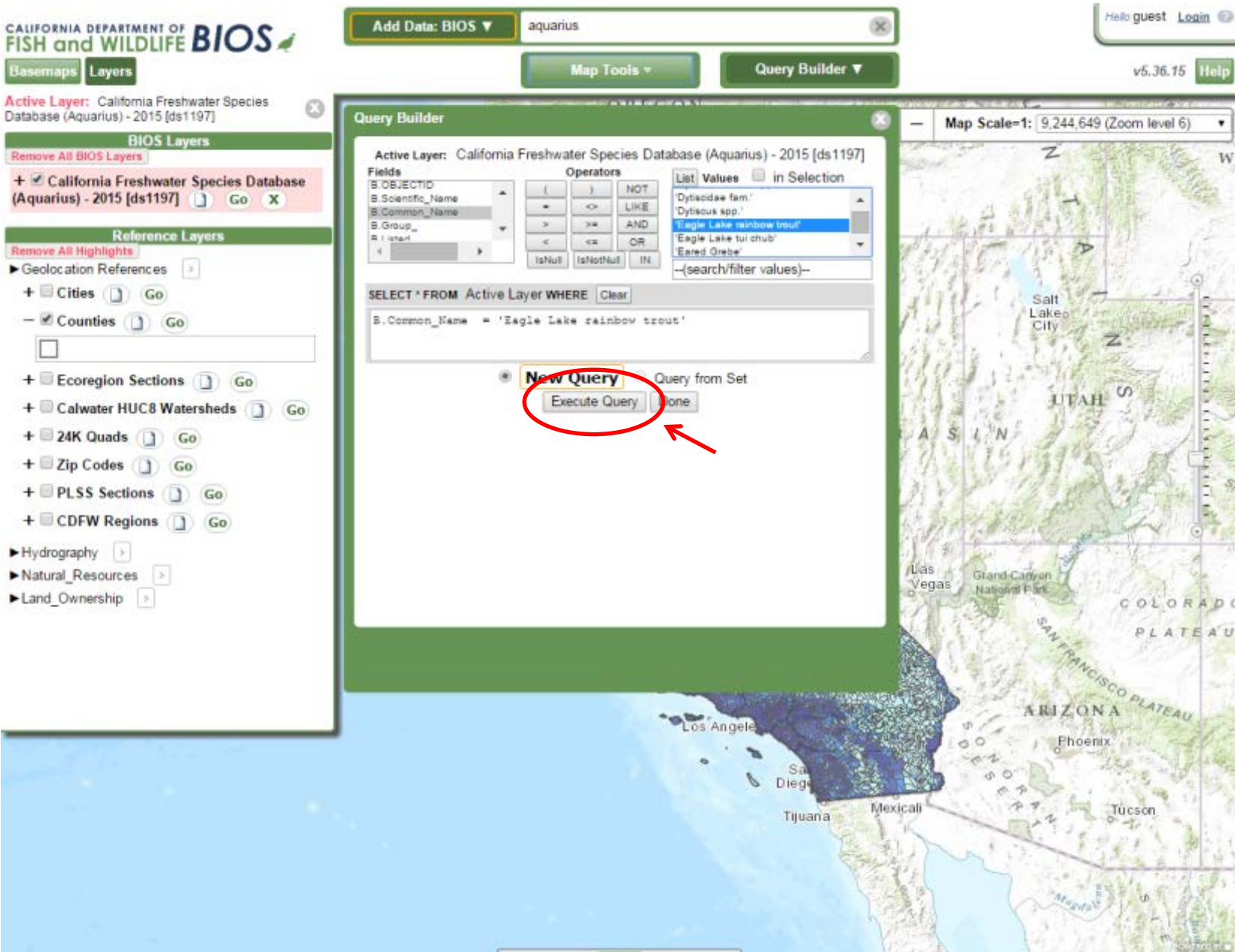
--(search/filter values)--

SELECT \* FROM Active Layer WHERE Clear

B.Common\_Name = 'Eagle Lake rainbow trout'

New Query Query from Set

Execute Query None



Finally, enact your query by clicking the 'Execute Query' button. Additional fields in the CA Freshwater Species Database allow for querying by Observation Type, Source, and other fields



CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection [Go](#) [T](#) [X](#)

BIOS Layers

[Remove All BIOS Layers](#)

☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] [Go](#) [X](#)

Reference Layers

[Remove All Highlights](#)

► Geolocation References

+ ☐ Cities [Go](#)

- ☒ Counties [Go](#)

+ ☐ Ecoregion Sections [Go](#)

+ ☐ Calwater HUC8 Watersheds [Go](#)

+ ☐ 24K Quads [Go](#)

+ ☐ Zip Codes [Go](#)

+ ☐ PLSS Sections [Go](#)

+ ☐ CDFW Regions [Go](#)

► Hydrography

► Natural Resources

► Land\_Ownership

Map Scale=1: 9,244,649 (Zoom level 6)

Table

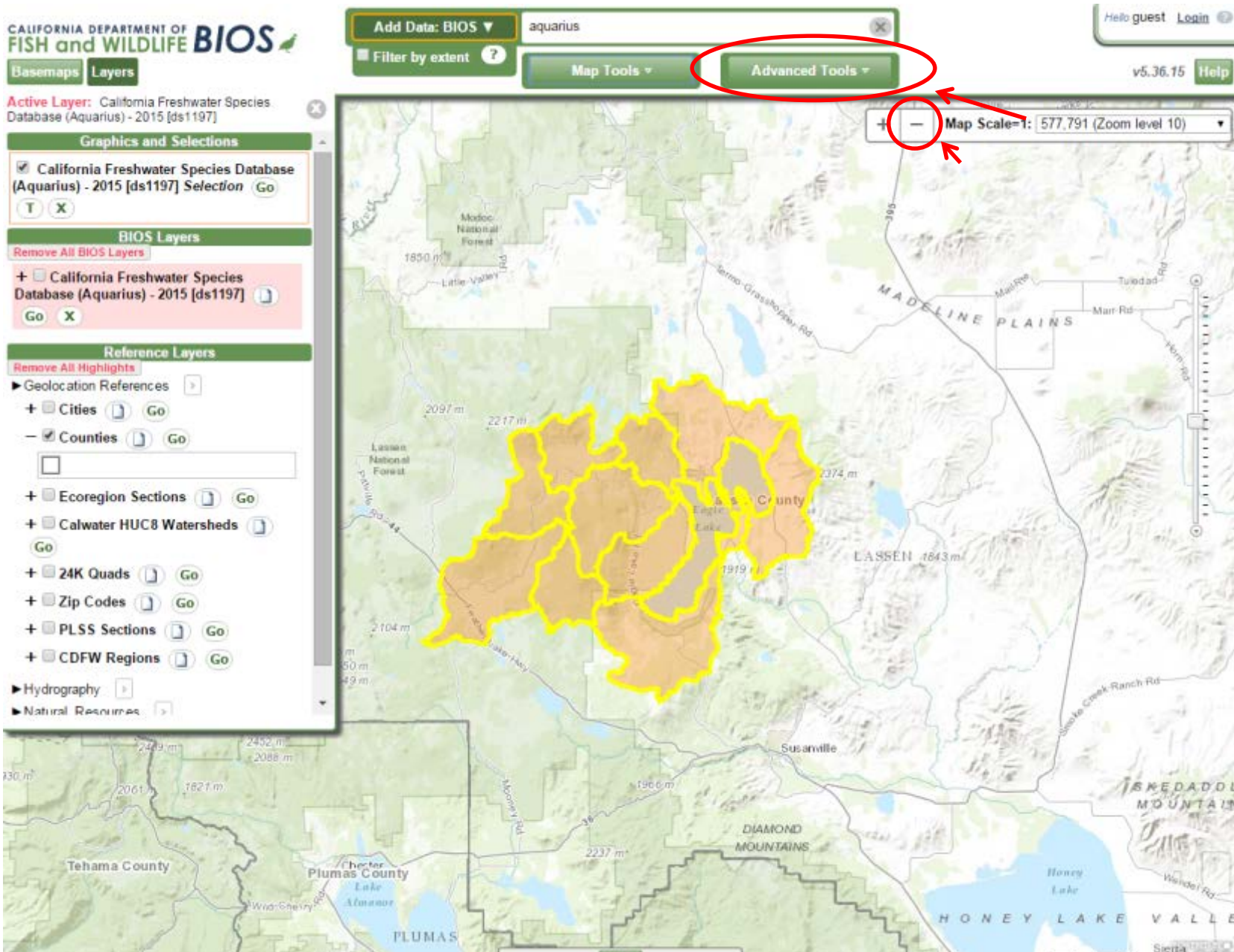
California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selected features: 11 Related records: 25

[Print Preview](#) [Export](#)

Zoom	Watershed Name	Watershed ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	XID	Scientific Name	Common Name	Group	Listed	Vulnerable	Endem
1	<a href="#">Go</a> Martin Creek	180800030102	31	5	2	480154	Oncorhynchus mykiss aquilarum	Eagle Lake rainbow trout	Fishes	0	1	
2	<a href="#">Go</a> Pine Creek Valley-Pine	180800030103	73	17	3	480145	Oncorhynchus mykiss	Eagle Lake rainbow trout	Fishes	0	1	

To create a suitable map of the species extent, turn off our original layer using the checkbox next to it's name (1). Then click the 'Go' button next to the selection our query created, found under the 'Graphics and Selections' submenu (2).





For an optimal map, zoom out one step by using the '-' highlighted here. Next, open up the 'Advanced Tools' menu.

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **BIOS**

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection Go

BIOS Layers

Remove All BIOS Layers

+ ☐ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go X

Reference Layers

Remove All Highlights

► Geolocation References

+ ☐ Cities Go

- ☒ Counties Go

+ ☐ Ecoregion Sections Go

+ ☐ Calwater HUC8 Watersheds Go

+ ☐ 24K Quads Go

+ ☐ Zip Codes Go

+ ☐ PLSS Sections Go

+ ☐ CDFW Regions Go

► Hydrography

► Natural Resources

Add Data: BIOS aquarius

Filter by extent ?

Map Tools

Advanced Tools

Bookmarks

CNDDDB QuickView

GeoFind

Layer Filter

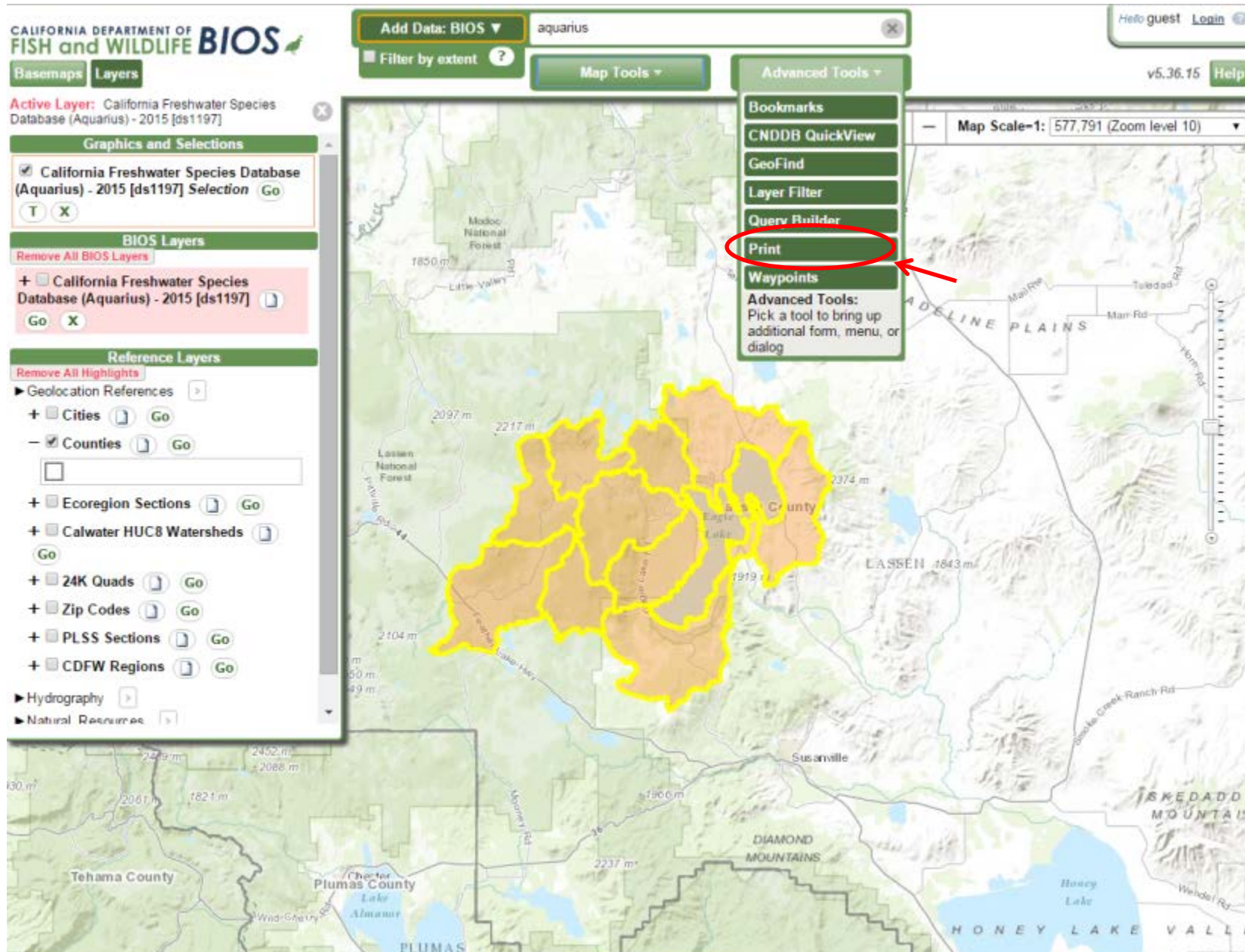
Query Builder

**Print**

Waypoints

Advanced Tools: Pick a tool to bring up additional form, menu, or dialog

Map Scale-1: 577,791 (Zoom level 10)



Next click the 'Print' button to generate a PDF file of our current view of the map. Make sure you do not have a pop-up blocker turned on, as it may block the generation of the PDF file.



CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS

Basemaps Layers

Active Layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]

Graphics and Selections

- ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Selection Go

BIOS Layers

Remove All BIOS Layers

- ☒ California Freshwater Species Database (Aquarius) - 2015 [ds1197] Go

Reference Layers

Remove All Highlights

- Geolocation References
  - ☐ Cities Go
  - ☒ Counties Go
  - ☐ Ecoregion Sections Go
  - ☐ Calwater HUC8 Watersheds Go
  - ☐ 24K Quads Go
  - ☐ Zip Codes Go
  - ☐ PLSS Sections Go
  - ☐ CDFW Regions Go
- Hydrography
- Natural Resources

Add Data: BIOS aquarius

Filter by extent ?

Map Tools

Print

v5.36.15 Help

Map Scale=1: 577,791 (Zoom level 10)

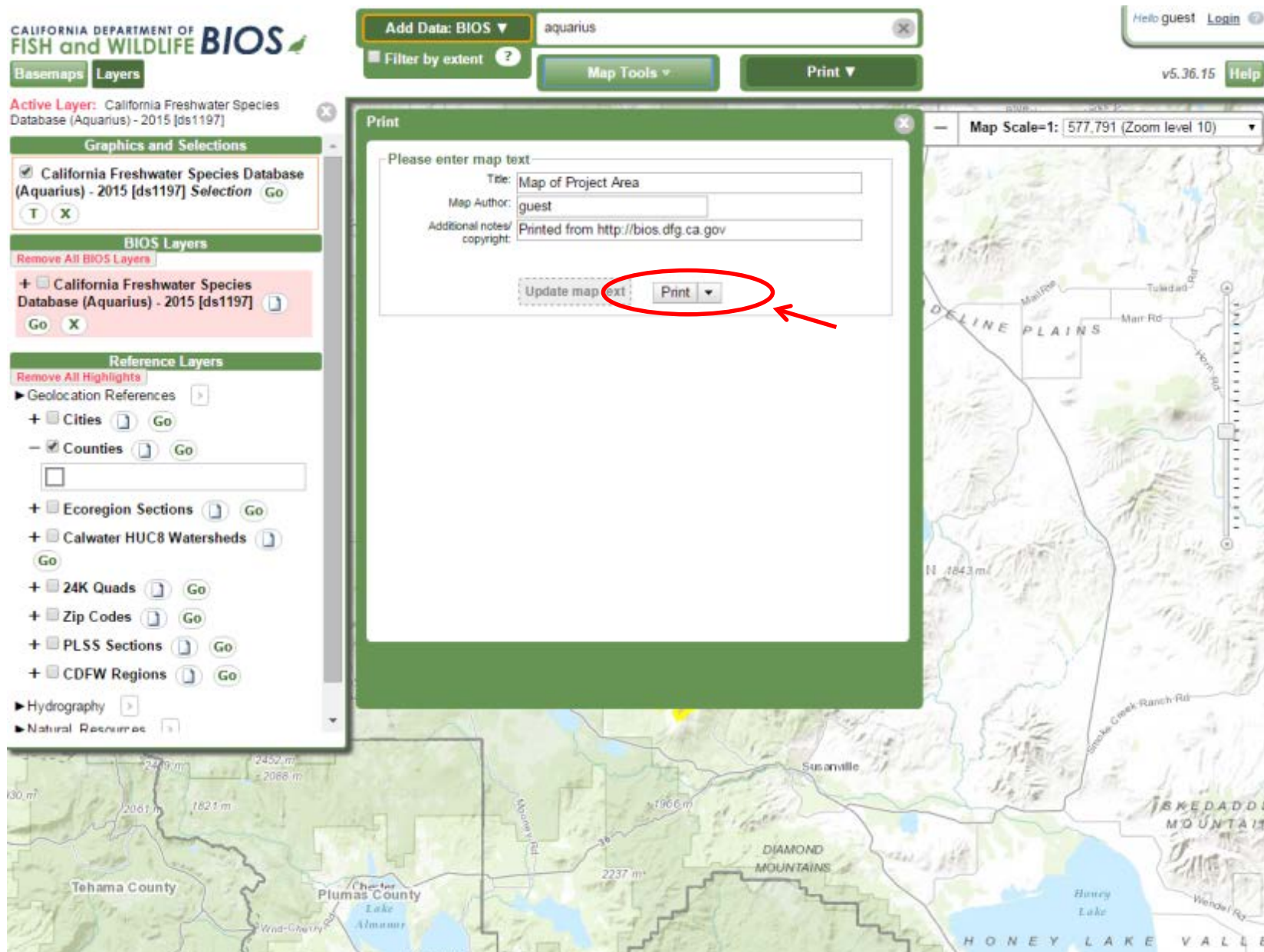
Please enter map text:

Title: Map of Project Area

Map Author: guest

Additional notes/ copyright: Printed from http://bios.dfg.ca.gov

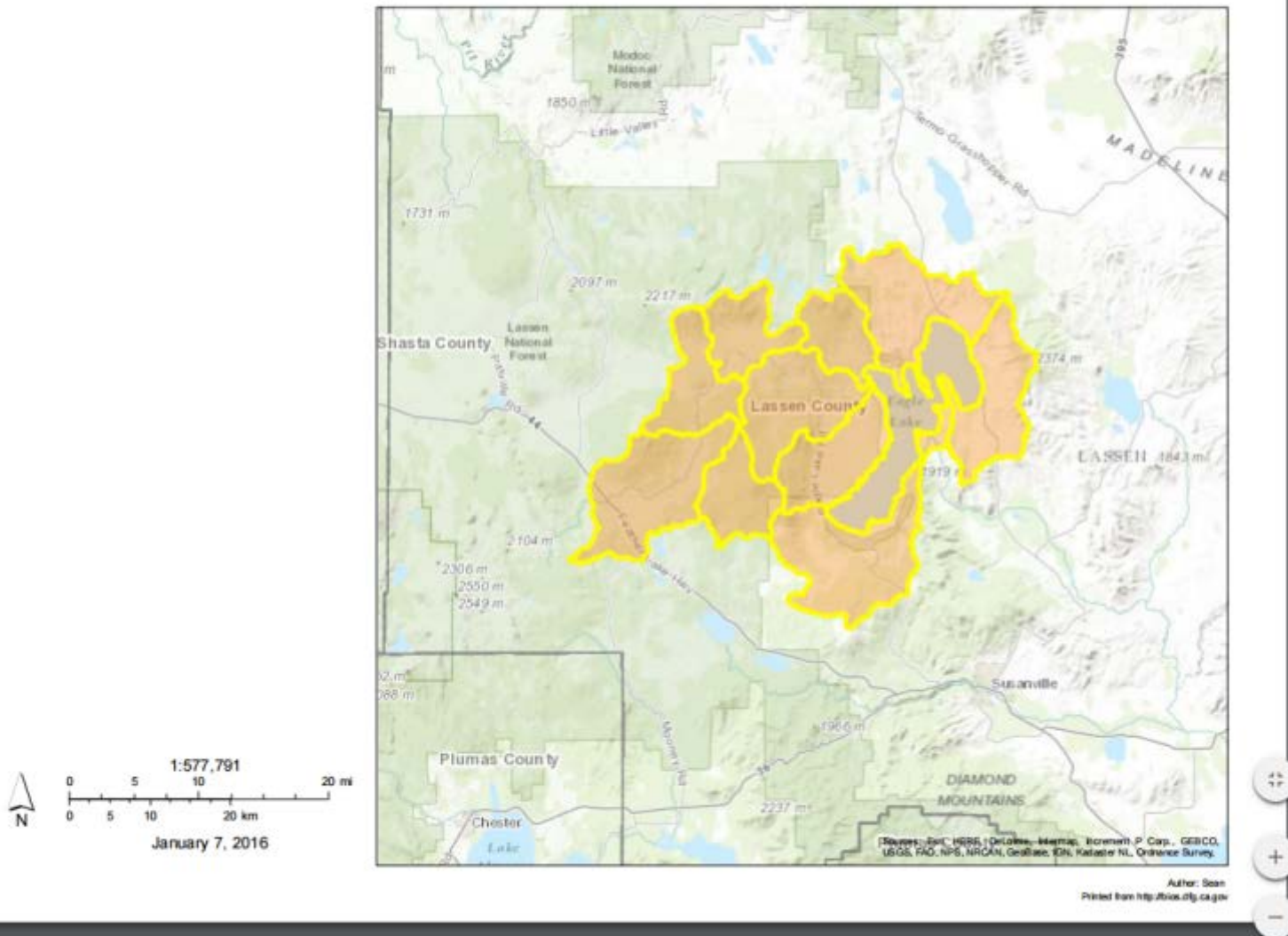
Update map text Print



Change the map text (Title, etc.) as appropriate and click the 'Update map text' button, then click the highlighted 'Print' button as seen here. If you click the little down arrow next to this 'Print' button, you can get a few more options on how the PDF is formatted and oriented.



## Eagle Lake Rainbow Trout Watershed Extent



Please note that the map PDF creation time may vary, from 1 second to 10 seconds. Depending on your browser, the PDF may open in a separate window or tab, which you may then save to an appropriate folder on your computer.