

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

Last updated: April 2026

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: <https://wildlife.ca.gov/Data/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>

# Accessing the California Freshwater Species Database

Home > Data > BIOS



BIOS

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# Biogeographic Information and Observation System (BIOS)

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## Overview

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 [CNDDDB](#) and [Spotted Owl Observations Database](#), visit their pages. A full [BIOS 6 User Guide \(PDF\)](#) is available for use, as well as a condensed version of basic functions to [get started \(PDF\)](#). If you have questions about BIOS 6, you can submit them to [BIOS@wildlife.ca.gov](mailto:BIOS@wildlife.ca.gov).

**BIOS Viewers - Use [Edge](#) or [Chrome](#) for best performance.**

ENTER HERE



## BIOS 6 Viewers

[Getting Started in BIOS 6 \(PDF\)](#)

[BIOS 6 Viewer \(Public and Secure\)](#)

The primary BIOS 6 viewer

[CNDDB\\_GOV / Spotted Owl Viewer](#)

**Password required:** for CDFW Staff and Government CNDDDB Subscribers

[CNDDB\\_COM / Spotted Owl Viewer](#)

**Password required:** for CDFW Staff and Non-Government CNDDDB Subscribers

Find address or place



# Biogeographic Information Observation System

## CDFW BIOS Viewer

BIOS is the California Department of Fish and Wildlife's repository of biogeographic spatial data. BIOS enables management, visualization, and analysis of biogeographic data collected by CDFW and its Partner Organizations. In addition, BIOS facilitates the sharing of those data between those organizations and with the public. BIOS integrates GIS, relational database management, and ESRI's ArcGIS Server and ArcGIS Online technologies in a statewide, integrated information management tool that can be accessed through a web browser. Most of the datasets are open to the public while other datasets are secured for limited access.

I agree to the data and privacy policy of this site - [Conditions of Use](#)

Accept

6.25.1210



CLICK ACCEPT



6

1: 9,244,648

200 km  
100 mi

CLICK "+ BIOS Data" to add layers



The screenshot shows the BIOS web application interface. At the top right, there are links for 'Register', 'Login', 'Contents', and '+ BIOS Data' (circled in red). Below these is a 'Tools' icon. On the left, there is a 'Contents' sidebar with a search bar and a list of layer categories: Graphics Layers, External Layers, BIOS Layers, and Reference Layers. The Reference Layers are expanded to show sub-categories: Cultural, Geopolitical, Hydrography, Land Ownership, Maps, and Natural Resources. A note below the sidebar reads: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.' The main area features a map of Mono County, California, with a search bar at the top and a scale bar at the bottom. The 'Add BIOS Layers' panel is open on the right, showing a search bar and two checkboxes: 'Exclude ACE layers' and 'Exclude CWHR Range and Predicted Habitat'. The map shows a scale of 1:9,244,648 and a scale bar for 200 km and 100 mi.

Search “aquarius” and click “+” under “Add” next to the first result:  
‘California Freshwater Species Database (Aquarius) –2015’

Register Login Contents + BIOS Data Tools

Contents

Active Layer: None

Graphics Layers

External Layers

BIOS Layers

+ Add BIOS Layers

Reference Layers

- Cultural
- Geopolitical
- Hydrography
- Land Ownership
- Maps
- Natural Resources

NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for. ✕

Find address or place

+ Add BIOS Layers

Search BIOS Catalog to Add Layers

→ aquarius

Exclude ACE ∞ layers

Exclude CWHR ∞ Range and Predicted Habitat

1 results found for “aquarius”

Add	DSID	Dataset Name	Pub	Feature Type
1 +	1197	California Freshwater Species Database (Aquarius) - 2015 [ds1197]	🔒	polygon

6 1: 9,244,648 200 km 100 mi

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAC

Accessing the California Freshwater Species Database

# Clicking on the “Mini metadata” tab provides more information on the CA Freshwater Species Database. Scroll to the bottom for a “Complete Metadata” button

The screenshot displays the BIOS web application interface. On the left, a sidebar contains a 'Contents' panel with a tree view of layers. The 'BIOS Layers' section is expanded, showing 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' with a 'Mini metadata' icon circled in red. Below this is a 'Reference Layers' section with expandable categories like 'Cultural', 'Geopolitical', 'Hydrography', 'Land Ownership', 'Maps', and 'Natural Resources'. A note at the bottom of the sidebar reads: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.' The main map area shows a map of California with a blue overlay representing species data. A search bar at the top left of the map area contains the text 'Find address or place'. The right side of the interface features a 'Metadata Brief' panel for the 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]'. This panel includes a 'Summary' section with a paragraph of text and a 'Description' section with a longer paragraph. The top of the page has navigation links for 'Register', 'Login', 'Contents', 'BIOS Data', and 'Tools'. The bottom of the page shows a scale bar (1:9,244,648) and a footer with attribution: 'Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS'.

BIOS

Register Login Contents + BIOS Data Tools

Contents

Active Layer: None

Graphics Layers

External Layers

BIOS Layers

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

Add BIOS Layers

Reference Layers

Cultural

Geopolitical

Hydrography

Land Ownership

Maps

Natural Resources

NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.

Find address or place

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

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

6 1: 9,244,648 200 km 100 mi

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

# Complete metadata

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

SDE Feature Class

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

### 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

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 takes anywhere from 2 seconds to 30 seconds to load.

The screenshot displays the BIOS web application interface. On the left, a sidebar contains a 'Contents' panel with a search bar and a list of layers. The 'Active Layer' is set to 'None'. Under 'BIOS Layers', the 'California Freshwater Species Database (Aquarius) - 2015 [ds1197] ...' is checked and active. Below this are 'Reference Layers' including Cultural, Geopolitical, Hydrography, Land Ownership, Maps, and Natural Resources. The main map area shows a topographic map of California and surrounding regions, with the active layer overlaid as a dense blue network. The map includes labels for various geographical features and cities. At the bottom left, there is a scale bar showing 200 km and 100 mi, and a page number '6'. The bottom of the page contains a footer with attribution: 'Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS' and 'Powered by Esri'.

Register Login Contents + BIOS Data Tools

Contents

Active Layer: None

Graphics Layers

External Layers

BIOS Layers

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

Reference Layers

- Cultural
- Geopolitical
- Hydrography
- Land Ownership
- Maps
- Natural Resources

Find address or place

Scale: 1: 9,244,648

200 km / 100 mi

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Powered by Esri

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 (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.

The screenshot displays the BIOS web application interface. At the top left is the BIOS logo. The top right contains navigation links: Register, Login, Contents, BIOS Data, and Tools. A left sidebar contains a 'Contents' panel with a search bar and a list of layers. The 'Active Layer' is 'Cities'. Under 'Reference Layers', 'Cultural' is expanded, and 'Cities' is selected. The main map area shows California with a blue overlay representing the 'Cities' layer. The map includes labels for states (Oregon, Nevada, Utah, Arizona, Wyoming, Colorado, New Mexico), major cities (Medford, Boise, Salt Lake City, Carson City, San Francisco, San Jose, Los Angeles, San Diego, Phoenix, Tucson), and geographical features (Harney Basin, Great Basin, Rocky Mountains, Colorado Plateau, Sonoran Desert). A scale bar at the bottom indicates 200 km and 100 mi. The bottom of the map shows the text 'Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS' and 'Powered by Esri'.

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 blue, it becomes the ‘Active Layer’. Next, locate your single watershed through a combination of moving the map around and zooming.

**BIOS**

Register Login Contents + BIOS Data Tools

Contents

Active Layer: **California Freshwater Species Database\_Aquarius\_2015 [ds1197]**

Graphics Layers

External Layers

BIOS Layers

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

Reference Layers

- Cultural
- Geopolitical
- Hydrography
- Land Ownership
- Maps
- Natural Resources

Find address or place

Scale: 1: 9,244,648 | 200 km | 100 mi

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Powered by Esri

After you locate your watershed of interest select the feature by using the “Identify” tool in the “Tools” panel.

The screenshot displays the BIOS web application interface. The top navigation bar includes links for Register, Login, Contents, BIOS Data, and Tools (highlighted with a red box). The left sidebar contains a Contents panel with a search bar and a list of layers, including the active layer: California Freshwater Species Database (Aquarius) - 2015 [ds1197]. The main map area shows a topographic map of Mono County, California, with watersheds overlaid in various shades of blue. The right sidebar contains a Tool List panel with the Identify Features tool highlighted by a red box. The bottom of the map shows a scale bar (1:1,155,581) and a page number (9).

Register Login Contents + BIOS Data **Tools**

**Contents**

Active Layer: **California Freshwater Species Database\_Aquarius\_2015 [ds1197]**

▼ Graphics Layers

► External Layers

▼ BIOS Layers

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

+ Add BIOS Layers

▼ Reference Layers

► Cultural

► Geopolitical

► Hydrography

► Land Ownership

► Maps

► Natural Resources

Find address or place

Tool List

Help

Basemap Gallery

+ Add BIOS Layers

+ Add External Data

BIOS Bookmarks

CNDDDB QuickView

GeoFind Location

**Identify Features**

Layer Display

Legend

Map Notes

Measurement

Metadata Brief

Quick Print

Select By Attributes

Select By Location

Result Table

Waypoints (CSV)

About Viewer

9 1: 1,155,581 20 km 20 mi

Esri, CGIAR, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA,

After you click on your watershed a table with applicable records will rise up from the bottom of the window.

The screenshot shows the BIOS web application interface. At the top left is the BIOS logo. The top right contains navigation links: Register, Login, Contents, BIOS Data, and Tools. On the left is a 'Contents' sidebar with a search bar and a list of layers. The main area is a map of California watersheds, with one watershed highlighted in yellow. On the right is an 'Identify Features' panel showing the selected watershed name and its coordinates. At the bottom is a table of species records for the selected watershed.

**Contents**

Active Layer: **California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]**

**Graphics Layers**

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

**External Layers**

**BIOS Layers**

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

**Reference Layers**

- Cultural
- Geopolitical
- Hydrography

**Identify Features**

California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]

Clear Identified

Identify Results

- Lat-Lon:[37.9029, -118.5820]

**California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] (1 features) (47 related records)**

OBJECTID	Watershed (huc12) Name	Watershed (huc12) ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	Scientific Name	Common Name	Group	Listed	Vulnerable	Endemic	Apparently Secure
1	3393 Antelope Lake-Adobe Valley	180901010609	18	6	0	Schoenoplectus acutus occidentalis	Hardstem Bulrush	Plants	0	0	0	1
2	3393 Antelope Lake-Adobe Valley	180901010609	18	6	0	Spartina gracilis	Alkali Cordgrass	Plants	0	1	0	0

Note the “Download Table” button, which will automatically download a .csv table with all records applicable to your selected watershed. The table you download will be in your browser’s applicable “Downloads” folder.

**BIOS** Register Login Contents + BIOS Data Tools

**Contents** Find address or place

**Active Layer:** California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]

**Graphics Layers**

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

**External Layers**

**BIOS Layers**

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

**Reference Layers**

- Cultural
- Geopolitical
- Hydrography

**Identify Features**

California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]

Clear Identified

Identify Results

Lat-Lon:[37.9029, -118.5820]

**California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] (1 features) (47 related records)**

OBJECTID	Watershed (huc12) Name	Watershed (huc12) ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	Scientific Name	Common Name	Group	Listed	Vulnerable	Endemic	Apparently Secure
1 3393	Antelope Lake-Adobe Valley	180901010609	18	6	0	Schoenoplectus acutus occidentalis	Hardstem Bulrush	Plants	0	0	0	1
2 3393	Antelope Lake-Adobe Valley	180901010609	18	6	0	Spartina gracilis	Alkali Cordgrass	Plants	0	1	0	0

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

The image shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	OBJECTID	Watershed_Nan	Watershec	Freshwater	Vulnerable	Listed_Spe	Scientific_	Common_	Group_	Listed	Vulnerable	Endemic	Apparently	Not_Evalu	Observatic	Origin	Source_Cit	Elm_ID	Species_ID		
2	3393	Antelope Lake-A	1.81E+11	18	6	0	Schoenopl	Hardstem	Plants	0	0	0	1	0	Unknown	Inside nath	Consortiur	11927	59023		
3	3393	Antelope Lake-A	1.81E+11	18	6	0	Spartina gr	Alkali Cord	Plants	0	1	0	0	0	Unknown	Inside nath	Consortiur	59572	59572		
4	3393	Antelope Lake-A	1.81E+11	18	6	0	Spartina gr	Alkali Cord	Plants	0	1	0	0	0	Unknown	Inside nath	Consortiur	59572	59572		
5	3393	Antelope Lake-A	1.81E+11	18	6	0	Physa spp.	Physa spp.	Mollusks	0	0	0	0	1	Unknown	Inside nath	Hovingh, P	81091	-999		
6	3393	Antelope Lake-A	1.81E+11	18	6	0	Hydrobiida	Hydrobiida	Mollusks	0	0	0	0	1	Unknown	Inside nath	Hovingh, P	90351	-999		
7	3393	Antelope Lake-A	1.81E+11	18	6	0	Cyprinodoi	Amargosa	Fishes	0	1	1	0	0	Current ob	Inside nath	California l	101	50116		
8	3393	Antelope Lake-A	1.81E+11	18	6	0	Potamoget	Slender Po	Plants	0	0	0	1	0	Current ob	Inside nath	Calflora. 2	11128	60016		
9	3393	Antelope Lake-A	1.81E+11	18	6	0	Potamoget	Slender Po	Plants	0	0	0	1	0	Current ob	Inside nath	University c	11128	60016		
10	3393	Antelope Lake-A	1.81E+11	18	6	0	Potamoget	Slender Po	Plants	0	0	0	1	0	Current ob	Inside nath	Consortiur	11128	60016		
11	3393	Antelope Lake-A	1.81E+11	18	6	0	Schoenopl	Hardstem	Plants	0	0	0	1	0	Current ob	Inside nath	University c	11927	59023		
12	3393	Antelope Lake-A	1.81E+11	18	6	0	Schoenopl	Hardstem	Plants	0	0	0	1	0	Current ob	Inside nath	Consortiur	11927	59023		
13	3393	Antelope Lake-A	1.81E+11	18	6	0	Schoenopl	Three-squ	Plants	0	0	0	1	0	Current ob	Inside nath	University c	11937	59031		
14	3393	Antelope Lake-A	1.81E+11	18	6	0	Schoenopl	Three-squ	Plants	0	0	0	1	0	Current ob	Inside nath	Consortiur	11937	59031		
15	3393	Antelope Lake-A	1.81E+11	18	6	0	Thamnoph	Sierra Gart	Herps	0	0	0	1	0	Current ob	Inside nath	University c	51014	51014		
16	3393	Antelope Lake-A	1.81E+11	18	6	0	Thamnoph	Sierra Gart	Herps	0	0	0	1	0	Current ob	Inside nath	Museum of	51014	51014		
17	3393	Antelope Lake-A	1.81E+11	18	6	0	Thamnoph	Sierra Gart	Herps	0	0	0	1	0	Current ob	Inside nath	Museum of	51014	51014		
18	3393	Antelope Lake-A	1.81E+11	18	6	0	Limnephil	A Caddisfly	Insects & c	0	1	0	0	0	Current ob	Inside nath	California l	52450	52450		
19	3393	Antelope Lake-A	1.81E+11	18	6	0	Pyrgulopsi	Wong's Spi	Mollusks	0	1	0	0	0	Current ob	Inside nath	California l	52754	52754		
20	3393	Antelope Lake-A	1.81E+11	18	6	0	Pyrgulopsi	Wong's Spi	Mollusks	0	1	0	0	0	Current ob	Inside nath	Sada, D. 2	52754	52754		
21	3393	Antelope Lake-A	1.81E+11	18	6	0	Senecio hy	Great Swai	Plants	0	0	0	1	0	Current ob	Inside nath	Calflora. 2	54146	54146		
22	3393	Antelope Lake-A	1.81E+11	18	6	0	Senecio hy	Great Swai	Plants	0	0	0	1	0	Current ob	Inside nath	University c	54146	54146		
23	3393	Antelope Lake-A	1.81E+11	18	6	0	Senecio hy	Great Swai	Plants	0	0	0	1	0	Current ob	Inside nath	Consortiur	54146	54146		
24	3393	Antelope Lake-A	1.81E+11	18	6	0	Spartina gr	Alkali Cord	Plants	0	1	0	0	0	Current ob	Inside nath	Calflora. 2	59572	59572		
25	3393	Antelope Lake-A	1.81E+11	18	6	0	Spartina gr	Alkali Cord	Plants	0	1	0	0	0	Current ob	Inside nath	University c	59572	59572		

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



Under the 'Draw a shape to select by' section, we recommend the Polygon Method over the Rectangle Method. The Polygon method is more precise.

The screenshot displays the BIOS web application interface. The main map shows a geographical area with various colored regions. The 'Select By Location' panel is open on the right side, highlighting the 'Draw a shape to select by' section. This section includes a 'Select by Shape' button and several shape icons: a point, a rectangle, a circle, and a polygon. The 'Or Enter Coordinates' section is also visible, with a text input field containing '35.44,-119.65' and a 'Select By Coordinates' button. The 'Select By Features' section has a dropdown menu showing '--SELECTED FEATURES--'. The 'Add Optional Buffer' section has a text input field with '1' and a 'miles' dropdown, along with an 'Apply Buffer' checkbox. At the bottom of the panel, there are 'Clear Graphics' and 'Clear Selection' buttons. The left sidebar shows the 'Contents' panel with the active layer 'California Freshwater Species Database\_Aquarius\_2015 [ds1197]'. The top navigation bar includes 'Register', 'Login', 'Contents', 'BIOS Data', and 'Tools'. The bottom of the map shows a scale bar for 20 km and 20 mi, and a page number '9'.

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.

The screenshot displays the BIOS web application interface. The main map area shows a watershed delineation in shades of blue and green over a topographic background. A pink polygon is drawn on the map, outlining a specific area of interest. The interface includes several panels:

- Contents Panel (Left):** Lists layers including 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' and various reference layers like 'Cultural', 'Geopolitical', and 'Natural Resources'.
- Search Bar (Top):** A search box with the text 'Find address or place'.
- Select By Location Panel (Right):** Contains options for drawing a shape, entering coordinates, and selecting by features. The 'Select by Shape' button is highlighted.
- Map Controls (Bottom):** Includes a scale bar showing 20 km and 20 mi, and a page number '9'.

At the bottom of the map, the following text is visible: Esri, CGIAR, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land

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

The screenshot displays the BIOS web application interface. On the left, the 'Contents' panel is expanded to show 'Graphics Layers', where the 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' is selected. Below this, 'External Layers' and 'BIOS Layers' are visible, with the selected layer also appearing under 'BIOS Layers'. The 'Reference Layers' section is collapsed. The main map area shows a watershed group highlighted in yellow. On the right, the 'Select By Location' panel is open, showing options to 'Draw a shape to select by' (with a 'Select by Shape' button) and 'Or Enter Coordinates' (with a 'Select By Coordinates' button). The 'Select By Features' section is currently empty. The 'Add Optional Buffer' section is set to 1 mile. At the bottom of the map, there are navigation and scale tools, including a scale bar for 20 km and 20 mi, and a page number '9'. The footer text reads: 'Esri, CGIAR, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land'.

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.

**BIOS** Register Login Contents + BIOS Data Tools

**Contents**

Active Layer: **California Freshwater Species Database\_Aquarius\_2015 [ds1197]**

**Graphics Layers**

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

**External Layers**

**BIOS Layers**

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

**Reference Layers**

- Cultural
- Geopolitical
- Hydrography

**Select By Location**

Find address or place

Draw a shape to select by:

Select by Shape

Or Enter Coordinates

35.44,-119.65 Select By Coordinates

Select By Features

--SELECTED FEATURES--

Add Optional Buffer

1 miles

Apply Buffer

**California Freshwater Species Database (Aquarius) - 2015 [ds1197]** (19 features) (1494 related records)

OBJECTID	Watershed (huc12) Name	Watershed (huc12) ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	Scientific Name	Common Name	Group	Listed	Vulnerable	Endemic	Apparently Secure
1 198	Upper Huntoon Creek	160600100701	3	2	0	Setophaga petechia	Yellow Warbler	Birds	0	1	0	0
2 198	Upper Huntoon Creek	160600100701	3	2	0	Setophaga petechia	Yellow Warbler	Birds	0	1	0	0
3 198	Upper Huntoon Creek	160600100701	3	2	0	Aquarius	Boreal Toad	Amph	0	0	0	1

From here you can export the associated records. You'll find your exported data in a new window, or in your browser's 'Download' folder.

The screenshot displays the BIOS web application interface. On the left, there is a 'Contents' sidebar with a tree view of layers. The main area shows a map of California watersheds with a yellow boundary highlighting a specific region. On the right, a 'Select By Location' panel is open, showing options to draw a shape or enter coordinates. Below the map, a table displays the data for the selected features.

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

OBJECTID	Watershed (huc12) Name	Watershed (huc12) ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	Scientific Name	Common Name	Group	Listed	Vulnerable	Endemic	Apparently Secure
198	Upper Huntoon Creek	160600100701	3	2	0	Setophaga petechia	Yellow Warbler	Birds	0	1	0	0
198	Upper Huntoon Creek	160600100701	3	2	0	Setophaga petechia	Yellow Warbler	Birds	0	1	0	0
198	Upper Huntoon Creek	160600100701	3	2	0	Aquarius	Basal Trout	Fish	0	0	0	1

# Your exported table should contain data from all selected watersheds.

The screenshot displays the Microsoft Excel interface with a data table. The ribbon at the top includes tabs for File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, Automate, Help, and Acrobat. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The data table has the following columns: OBJECTID, Watershed\_Name, Watershec, Freshwater, Vulnerable, Listed\_Spe, Scientific, Common, Group, Listed, Vulnerable, Endemic, Apparently, Not\_Evalu, Observati, Origin, Source\_Cit, Elm\_ID, and Species\_ID. The table contains 33 rows of data, with the first row being the header and the subsequent rows listing various watersheds and their associated species.

OBJECTID	Watershed_Name	Watershec	Freshwater	Vulnerable	Listed_Spe	Scientific	Common	Group	Listed	Vulnerable	Endemic	Apparently	Not_Evalu	Observati	Origin	Source_Cit	Elm_ID	Species_ID
2	198 Upper Huntoon Creek	1.61E+11	3	2	0	Setophaga Yellow Wa	Birds		0	1	0	0	0	Range (cur	Inside nati	Schoenig, :	50607	50607
3	198 Upper Huntoon Creek	1.61E+11	3	2	0	Setophaga Yellow Wa	Birds		0	1	0	0	0	Historical i	Inside nati	Schoenig, :	50607	50607
4	198 Upper Huntoon Creek	1.61E+11	3	2	0	Anaxyrs b Boreal Toa	Herps		0	0	0	1	0	Modeled h	Inside nati	California I	50194	50194
5	198 Upper Huntoon Creek	1.61E+11	3	2	0	Spea interr	Great Basi	Herps	0	1	0	0	0	Modeled h	Inside nati	California I	50222	50222
6	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix booth	Booth's Wi	Plants	0	0	0	1	0	Current ob	Inside nati	Rancho Sa	57664	57664
7	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix booth	Booth's Wi	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	57664	57664
8	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix exigui	Narrowlea	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	57672	57672
9	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix geyer	Geyer's Wi	Plants	0	0	0	1	0	Current ob	Inside nati	New York E	57673	57673
10	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix geyer	Geyer's Wi	Plants	0	0	0	1	0	Current ob	Inside nati	Rancho Sa	57673	57673
11	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix geyer	Geyer's Wi	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	57673	57673
12	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Salix lemm	Lemmon's	Plants	0	0	0	1	0	Current ob	Inside nati	New York E	57679	57679
13	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Lepidostor	A Caddisfly	Insects & c	0	1	1	0	0	Range (cur	Inside nati	NatureSer	52382	52382
14	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Setophaga Yellow Wa	Birds		0	1	0	0	0	Range (cur	Inside nati	Schoenig, :	50607	50607
15	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Setophaga Yellow Wa	Birds		0	1	0	0	0	Historical i	Inside nati	Schoenig, :	50607	50607
16	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Castor can	American	Mammals	0	0	0	1	0	Modeled h	Inside nati	California I	50864	50864
17	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Sorex palu	American	Mammals	0	0	0	1	0	Modeled h	Inside nati	California I	50964	50964
18	200 Middle Creek-Chiatovich Creek	1.61E+11	8	2	0	Sorex palu	American	Mammals	0	0	0	1	0	Modeled h	Inside nati	Boykin, K, e	50964	50964
19	3373 Dry Creek	1.81E+11	15	5	2	Alopecuru	Short-awn	Plants	0	0	0	1	0	Unknown	Inside nati	Consortiur	2970	59104
20	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	California	4469	58796
21	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	University	4469	58796
22	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	University	4469	58796
23	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	California	4469	58796
24	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	4469	58796
25	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	4469	58796
26	3373 Dry Creek	1.81E+11	15	5	2	Carex aqu	Water Sed	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	4469	58796
27	3373 Dry Creek	1.81E+11	15	5	2	Sphenosci	Swamp Wf	Plants	0	0	0	1	0	Current ob	Inside nati	University	53280	53280
28	3373 Dry Creek	1.81E+11	15	5	2	Sphenosci	Swamp Wf	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	53280	53280
29	3373 Dry Creek	1.81E+11	15	5	2	Gentianop	One-flowe	Plants	0	0	0	1	0	Current ob	Inside nati	University	55931	55931
30	3373 Dry Creek	1.81E+11	15	5	2	Gentianop	One-flowe	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	55931	55931
31	3373 Dry Creek	1.81E+11	15	5	2	Salix exigui	Narrowlea	Plants	0	0	0	1	0	Current ob	Inside nati	California	57672	57672
32	3373 Dry Creek	1.81E+11	15	5	2	Salix exigui	Narrowlea	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	57672	57672
33	3373 Dry Creek	1.81E+11	15	5	2	Salix exigui	Narrowlea	Plants	0	0	0	1	0	Current ob	Inside nati	Consortiur	57672	57672

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

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

**BIOS**

Register Login Contents + BIOS Data Tools

Contents

Active Layer: **California Freshwater Species Database\_Aquarius\_2015 [ds1197]**

Graphics Layers

External Layers

BIOS Layers

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

Add BIOS Layers

Reference Layers

- Cultural
- Geopolitical
- Hydrography
- Land Ownership
- Maps
- Natural Resources

NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.

Find address or place

Scale: 200 km / 100 mi

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Powered by Esri

# Go to “Tools” and click on “Select By Attributes”

The screenshot displays the BIOS web application interface. At the top left is the BIOS logo. The top right contains navigation links: Register, Login, Contents, BIOS Data, and Tools. The main map area shows a map of California with a blue overlay representing the 'California Freshwater Species Database (Aquarius) - 2015' layer. The left sidebar contains a 'Contents' panel with sections for Graphics Layers, External Layers, BIOS Layers (with the active layer selected), and Reference Layers (Cultural, Geopolitical, Hydrography, Land Ownership, Maps, Natural Resources). A note at the bottom of the sidebar reads: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.' The right sidebar is the 'Tool List', which includes various tools such as Help, Basemap Gallery, Add BIOS Layers, Add External Data, BIOS Bookmarks, CNDDDB QuickView, GeoFind Location, Identify Features, Layer Display, Legend, Map Notes, Measurement, Metadata Brief, Quick Print, **Select By Attributes** (highlighted with a red box), Select By Location, Result Table, Waypoints (CSV), and About Viewer. The bottom of the map shows a scale bar (1: 9,244,648) and a scale in kilometers (200 km) and miles (100 mi). The footer text reads: 'Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS'.

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'.

**BIOS** Register Login Contents + BIOS Data Tools

Contents

Active Layer: **California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]**

Graphics Layers

External Layers

BIOS Layers

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

Add BIOS Layers

Reference Layers

Cultural

Geopolitical

Hydrography

Land Ownership

Maps

Natural Resources

NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.

Find address or place

Select By Attributes

FROM **California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]** WHERE

Build Query Expression

--SELECT ATTRIBUTE FIELD--

--SELECT RELATED COLUMN--

?field data type

--OPERATOR--

--FIELD VALUE(S)--

Find/Filter field values by

--CONNECTORS--

CLEAR SQL EXPRESSION

Make Selection

Limit Query to View Extent

Query New Selection Query Within Selection

Clear Selection

Apply Filter

Filter Layer Selection As Filter

Remove Filter

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

# Under “Build Query Expression” click the “—Select Related Column—” option

The screenshot displays the BIOS web application interface. On the left, a 'Contents' panel lists various layers, with 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' selected. The main map area shows California with a blue overlay representing the selected layer. On the right, the 'Select By Attributes' panel is open, showing a query expression: 'FROM California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] WHERE'. Under the 'Build Query Expression' section, the '--SELECT RELATED COLUMN--' option is selected, and the '--OPERATOR--' dropdown is highlighted with a red box. Below this, there are options for 'Find/Filter field values by', '--CONNECTORS--', and a 'CLEAR SQL EXPRESSION' button. Further down, the 'Make Selection' section includes a 'Limit Query to View Extent' checkbox and buttons for 'Query New Selection', 'Query Within Selection', and 'Clear Selection'. The 'Apply Filter' section at the bottom has buttons for 'Filter Layer', 'Selection As Filter', and 'Remove Filter'. The bottom of the interface shows a scale bar (1:9,244,648) and a footer with attribution to Esri, USGS, and other organizations.

Scroll down until you find 'Common Name', which refers to a species common name. If you prefer to use the scientific name use 'Scientific Name'. Single-click on either. Note how your selection appears in the SQL Expression text box.

The screenshot displays the BIOS web application interface. On the left, the 'Contents' panel shows the active layer as 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]'. The main map area shows a map of California with a blue overlay representing the species database. On the right, the 'Select By Attributes' panel is open, showing the following SQL expression:

```
FROM California Freshwater Species Database _  
Aquarius _ 2015 [ds1197] WHERE  
Common Name
```

The 'Build Query Expression' section shows the 'Common Name' attribute selected. Below this, the 'string data type' and 'Find/Filter field values by' sections are visible. The 'Common\_Name' text box is highlighted in red, indicating the selected attribute. At the bottom of the panel, there are buttons for 'Query New Selection', 'Query Within Selection', 'Clear Selection', 'Apply Filter', and 'Remove Filter'.

Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Next, single-click the 'Equals' option under the 'OPERATORS' drop-down menu

The screenshot displays the BIOS web application interface. On the left, a 'Contents' sidebar lists various layers, with 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' selected. The main map area shows a map of California with a blue and green species distribution layer. The right sidebar features a 'Select By Attributes' panel with the following configuration:

- FROM California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] WHERE
- Build Query Expression
  - SELECT ATTRIBUTE FIELD--
  - Common Name
  - string data type
  - OPERATOR--
  - SELECT FROM 1747 VALUES--
  - Find/Filter field values by
  - CONNECTORS--
  - Common\_Name
  - CLEAR SQL EXPRESSION
- Make Selection
  - Limit Query to View Extent
  - Query New Selection
  - Query Within Selection
  - Clear Selection
- Apply Filter
  - Filter Layer
  - Selection As Filter
  - Remove Filter

At the bottom of the map, a scale bar indicates 200 km and 100 mi, and a coordinate display shows 6 1: 9,244,648. The footer text reads: 'Esri, USGS | Mono County, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS'.

With 'Common Name' selected, click the '--Select from 1457 Values--' drop down menu to view all applicable species common names that can be found in the dataset.

The screenshot displays the BIOS web application interface. On the left, the 'Contents' panel shows the active layer as 'California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197]'. The main map area shows a map of California with a blue overlay representing the species database. On the right, the 'Select By Attributes' panel is open, showing a query expression: 'FROM California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] WHERE'. The 'Build Query Expression' section has 'Common Name' selected as the attribute field, with the operator set to 'Equals'. The value field is set to '--SELECT FROM 1747 VALUES--', which is highlighted with a red box. Below the query expression, there are options to 'Make Selection' (Limit Query to View Extent, Query New Selection, Query Within Selection, Clear Selection) and 'Apply Filter' (Filter Layer, Selection As Filter, Remove Filter). The bottom of the interface shows the Esri, USGS logo and a scale bar.

Select 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:  
**Common\_Name = 'Eagle Lake rainbow trout'**

The screenshot displays the BIOS web application interface. On the left, the 'Contents' panel shows the active layer as 'California Freshwater Species Database - Aquarius - 2015 [ds1197]'. The main map area shows a map of California with a blue-shaded region representing the watershed for Eagle Lake rainbow trout. On the right, the 'Select By Attributes' panel is open, showing a query expression: 'Common\_Name = 'Eagle Lake rainbow trout''. The query is built using the 'Common Name' field, set to 'Equals', with the value 'Eagle Lake rainbow trout'. Below the query, there are buttons for 'Query New Selection', 'Query Within Selection', 'Clear Selection', 'Apply Filter', 'Filter Layer', and 'Remove Filter'. The bottom of the interface shows a scale bar and a note: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.'

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

The screenshot displays the BIOS web application interface. On the left, a navigation pane shows the 'Contents' menu with 'California Freshwater Species Database (Aquarius) - 2015 [ds1197]' selected. The main map area shows a map of California with a blue overlay representing the species database. On the right, the 'Select By Attributes' panel is open, showing a query expression: 'FROM California Freshwater Species Database \_ Aquarius \_ 2015 [ds1197] WHERE Common Name = 'Eagle Lake rainbow trout''. Below the query panel, there are buttons for 'Query New Selection', 'Query Within Selection', 'Clear Selection', 'Apply Filter', and 'Remove Filter'. The 'Query New Selection' button is highlighted with a red box. At the bottom of the map, there is a scale bar and a note: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.'

To create a suitable map of the species extent, click the three dots next to the selection our query created, found under the 'Graphics Layers' submenu, and click on the 'Zoom to selected' icon

The screenshot shows the BIOS web application interface. The main map displays California with a yellow highlight on a specific location. The interface includes a 'Contents' sidebar on the left, a 'Select By Attributes' panel on the right, and a data table at the bottom.

**Contents Sidebar:**

- Active Layer: California Freshwater Species Database\_Aquarius\_2015 [ds1197]
- Graphics Layers
  - SELECTED California Freshwater Species Database (Aquarius) - 2015 [ds1197]
- External Layers
- BIOS Layers
  - California Freshwater Species Database (Aquarius) - 2015 [ds1197]
- Reference Layers
  - Cultural
  - Geopolitical
  - Hydrography
  - Land Ownership

**Select By Attributes Panel:**

FROM California Freshwater Species Database\_Aquarius\_2015 [ds1197] WHERE

Build Query Expression

--SELECT ATTRIBUTE FIELD--

Common Name

string data type

Equals

Eagle Lake rainbow trout

Find/Filter field values by

--CONNECTORS--

Common\_Name = 'Eagle Lake rainbow trout'

CLEAR SQL EXPRESSION

**Data Table:**

OBJECTID	Watershed (huc12) Name	Watershed (huc12) ID	Freshwater Species Count	Vulnerable Species Count	Listed Species Count	Scientific Name	Common Name	Group	Listed	Vulnerable	Endemic	Apparently Secure	No
1 3312	Houseman Camp Reservoir-Frontal Eagle Lake	180800030302	27	9	2	Oncorhynchus mykiss aquilarum	Eagle Lake rainbow trout	Fishes	0	1	1	0	0
2 3313	Cleghorn Creek-Frontal Eagle Lake	180800030303	47	11	3	Oncorhynchus mykiss aquilarum	Eagle Lake rainbow trout	Fishes	0	1	1	0	0

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

The screenshot displays the BIOS web application interface. At the top left is the BIOS logo. The top right contains navigation links: Register, Login, Contents, BIOS Data, and Tools. A search bar with the text "Find address or place" is located above the map. The left sidebar contains a "Contents" panel with a search icon and a close button. It lists the active layer as "California Freshwater Species Database (Aquarius) - 2015 [ds1197]". Below this are sections for "Graphics Layers", "External Layers", "BIOS Layers", and "Reference Layers". The "BIOS Layers" section is expanded, showing "California Freshwater Species Database (Aquarius) - 2015 [ds1197]". The "Reference Layers" section is also expanded, listing categories like Cultural, Geopolitical, Hydrography, Land Ownership, Maps, and Natural Resources. A note at the bottom of the sidebar reads: "NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for." The main map area shows a blue-toned map of California with a yellow boundary highlighting a specific region. A toolbar on the left side of the map contains icons for zooming in (+), zooming out (-), home, and location. At the bottom left of the map is a scale bar showing 10 km and 10 mi, and a scale of 1:577,790. The bottom of the page contains a footer with attribution: "Esri, CGIAR, USGS | California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS" and "Powered by Esri".

Next, click the 'Quick Print' tool to generate a PDF of our current view of the map. In the right panel, select your desired map image for print style and click 'Preview Quick Print'. Make sure you do not have a pop-up blocker turned on, as it may block the generation of the PDF file.

The screenshot displays the BIOS web application interface. At the top left is the BIOS logo. The top right contains navigation links: Register, Login, Contents, BIOS Data, and Tools. The main content area is a map of California with a yellow boundary highlighting a specific region. The left sidebar contains a 'Contents' panel with a search bar and a list of layers: Active Layer (California Freshwater Species Database), Graphics Layers (SELECTED California Freshwater Species Database), External Layers, BIOS Layers (California Freshwater Species Database), and Reference Layers (Cultural, Geopolitical, Hydrography, Land Ownership, Maps, Natural Resources). A note at the bottom left of the sidebar reads: 'NOTE: Please toggle open the Reference Layers thematic groups to find the layer you are looking for.' The bottom of the map shows a scale bar (10 km, 10 mi) and a zoom level of 1:577,790. The bottom right corner contains the text: 'Esri, CGIAR, USGS | California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS'. On the right side, a 'Quick Print' panel is open, containing instructions: 'Click the button below to open the Preview page. Enter your map title and comments directly in the page. Then hit Ctrl+P or use browser Print menu to print the map view or save it to a PDF file'. It also includes options: 'Show Active Layer Legend Only (BETA)' (unchecked), 'Choose map image style for print (BETA)' with 'Wider' (unchecked) and 'Regular' (checked) radio buttons, and a 'Preview Quick Print' button.

Change the map text (Title, etc.) as appropriate directly on the page and then hit Ctrl+P or use the browser Print menu to print the map view or save it to a PDF file.

4/9/26, 4:48 PM BIOS Viewer@CDFW

### Eagle Lake Rainbow Trout Watershed Extent



11 km 7 mi 4/9/2026

(Map of Eagle Rainbow trout watersheds in California using data from California Freshwater Species Database.)

#### Map Legend

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

**Print**  
Total: 3 sheets of paper

Printer: Microsoft Print to PDF

Copies: 1

Layout:  Portrait  Landscape

Pages:  All  Odd pages only  Even pages only  e.g. 1-5, 8, 11-13

Color: Color

More settings

**Print** Cancel

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.

