



California Department of Fish and Wildlife

Marine Biogeographic Information and Observation System

MarineBIOS Data Viewer User Guide

Upon web map viewer startup, a welcome screen provides you with information about the viewer, possible use restrictions and links to additional information.

Project Banner

In the top left corner of the viewer is a banner area that includes the CDFW logo and the project banner.



Clicking on the CDFW logo in the banner will take you to the California Department of Fish and Wildlife homepage.



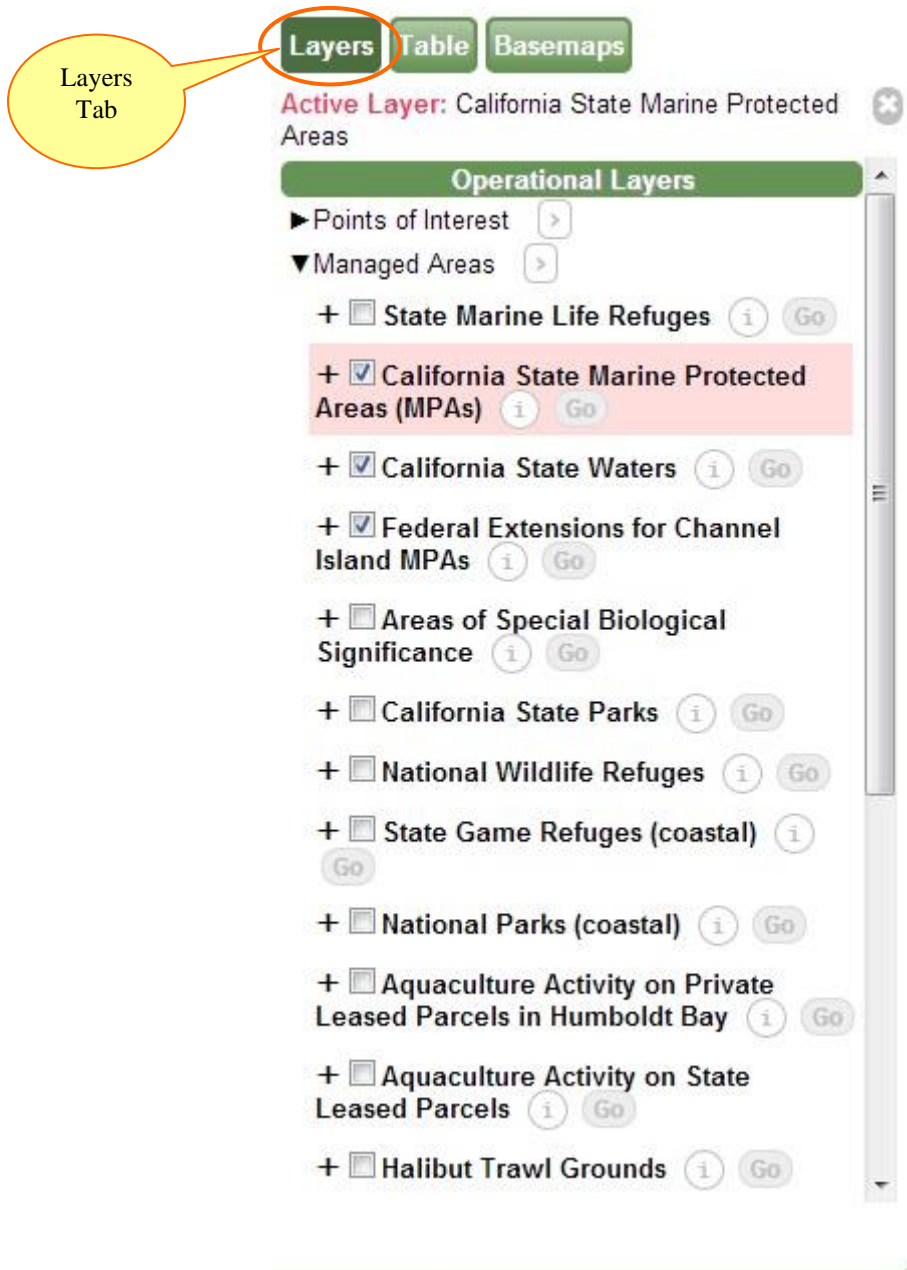
Clicking on the Marine logo in the banner will take you to the Marine Region homepage.

Table of Contents (TOC) - In the left side panel is the Table of Contents. The Table of Contents lists the data layers that are available to the particular viewer by default and the available basemaps. The TOC also provides other map content related functionality, such as displaying the metadata and symbology for your data layers.

If the TOC Panel is collapsed it can be made visible again by clicking on one of the tabs on the toolbar such as the **Layers** tab or the **Basemaps** tab. If it is open and you wish to close it you can do so by clicking on the close (x) button on the upper-right corner of the panel. You can switch the contents of the panel by clicking the different tabs on the toolbar. Clicking on the tab that is already 'on' will close the panel.

The Table of Contents panel may include the following contents:

- **Layers** - This tab is active by default in the TOC panel. It displays a list of all the current map content with the exception of the background map.



- To draw a data layer, simply check on the small box to the left of the name of the data layer in the Table of Contents. We have some very large and complex datasets in MarineBIOS, so we do not draw them automatically when they are loaded into the map. This gives you a chance to zoom in to your area of interest first improving both the performance of the viewer and the legibility of the data.
- Click on the layer name in the Layers tab of the Table of Contents to **activate** the layer or select it as the current Active Layer. This makes the layer available for use with the

- various tools in MarineBIOS. You will see a pink box appear around the layer indicating that it is active and the name of the layer will show in the Active Layer display.
- You can view the metadata document for the layer by clicking on the **Info (i)** button to right of the layer name.
 - The **Go** button will allow you to quickly zoom the map to the full spatial extent of the Active Layer.
 - A symbology legend is available for each data layer in the Layer tab. Click on the **+** to the left of the Layer name and check box and a drop-down legend will appear below the layer name showing each type of symbol used to display that dataset in the map. Feature symbology is not editable in MarineBIOS at this time.
- **Graphics and Selections** - This section lists any graphics layers that you have created in your map, such as map labels, as well as any selections that you have created while working with the layers and tools.
 - **Reference Layers** - This section lists the general purpose map layers that are provided for geographic reference. These include layers for cities, place names, county boundaries, USGS Quads, and US Township/Range/Sections. By default, the *Point Info* tool uses these layers to display general location information about a point that you clicks on the map.
 - **Basemaps** - You can change the background map to any map available under the Basemap tab in the Table of Contents on the left side of the viewer window. Choices include imagery, street maps, topographic maps and several years of NAIP imagery, among other options. The default basemap that is loaded when the viewer opens is the ESRI Oceans Map.



Table – Between the Layers tab and the Basemaps tab in the Table of Contents you will find the Table tab.



This tab will open and close the collapsible data panel along the bottom border of the viewer. When you search for a layer feature by using the Search Active Layer Quick Tool or select

features using the Select tool, valid results will be displayed in a table format in this Table panel. No more than 300 records will be displayed in the Table panel.

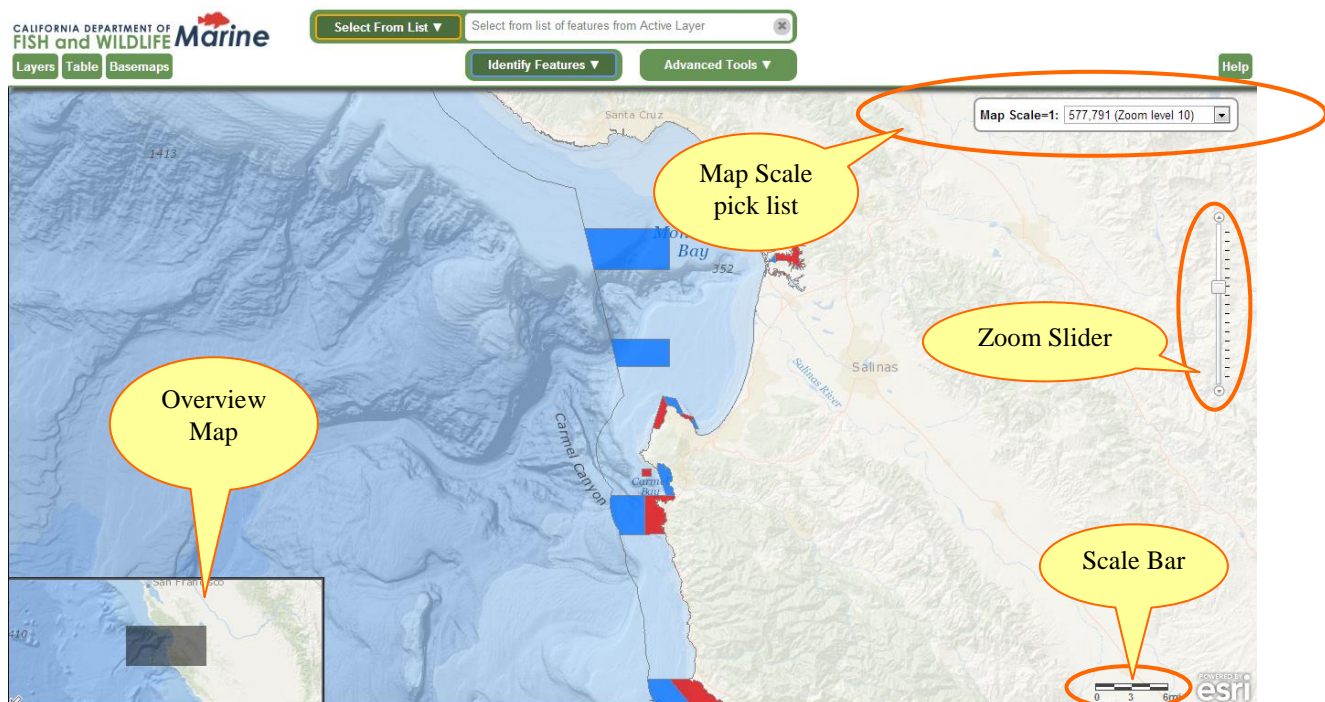
- **Active Layer Display** - Along the top of the Table of Contents panel and just below the Layers tab is a small display showing the currently selected Active Layer.

Active Layer: California State Marine Protected Areas

Tools that interact with the data layers will work only on the Active Layer. To make a layer active you simply click on the layer title. You will see a pink box appear around the layer showing that it is active and the name of the layer will show in the Active Layer display.

Map Canvas

In the center spanning the most of the page height and width is the map canvas. This is where map layer data will be displayed where you can interact with the data by using the tools provided. Panels that run along the side of the viewer (side panels or sidebars) can be closed to reveal a large map area.

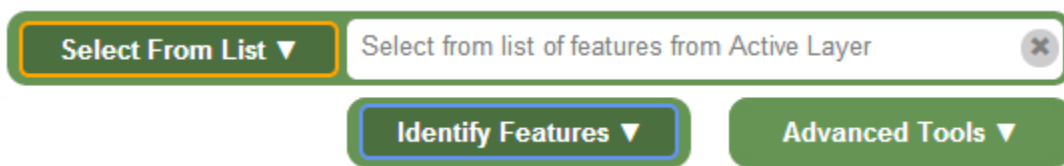


- **Zoom Slider**- Zoom in and out of the map view by clicking on the bar or hold mouse down and drag the slider up or down the bar.
- **Scale Bar** - The map scale bar along the bottom right of the map next to the Esri logo shows the current map scale in miles distance.

- **Overview Map** - The overview map lies on the bottom left corner of the Map Canvas and offers a broader overview of the current map view extent. Upon first opening the map viewer, the Overview map may be hidden. Click on the little arrow at the lower left corner to expand it. The overview map may be hidden by the Table panel when the Table panel is open.

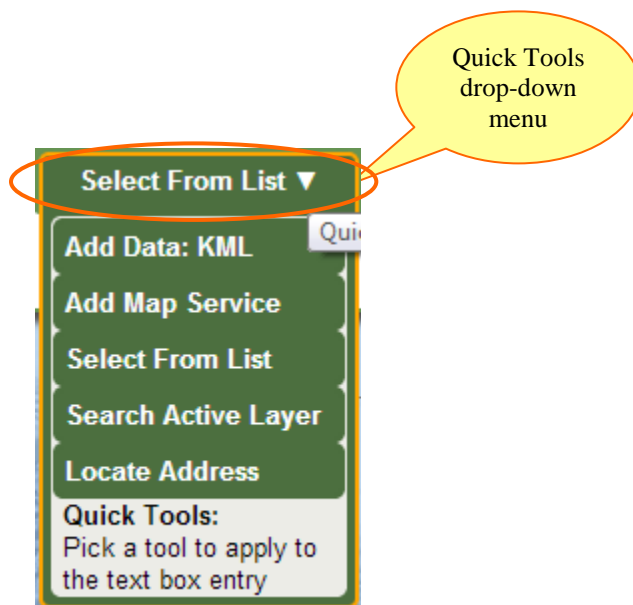
MarineBIOS Tools

All of the tools from the previous version of the MarineBIOS viewer are still available in the new version. They have been arranged into the three drop-down menus that you see at the top of the viewer.



To use a tool in MarineBIOS, you must first select the layer that you want to use the tool on in the Layers tab of the Table of Contents on the left side panel of the viewer, making it the Active Layer. Once you have an Active Layer to work with you can select and use your tool. The current Active Layer is indicated by a solid pink box around the layer name in the Layers list.

Quick Tools Menu



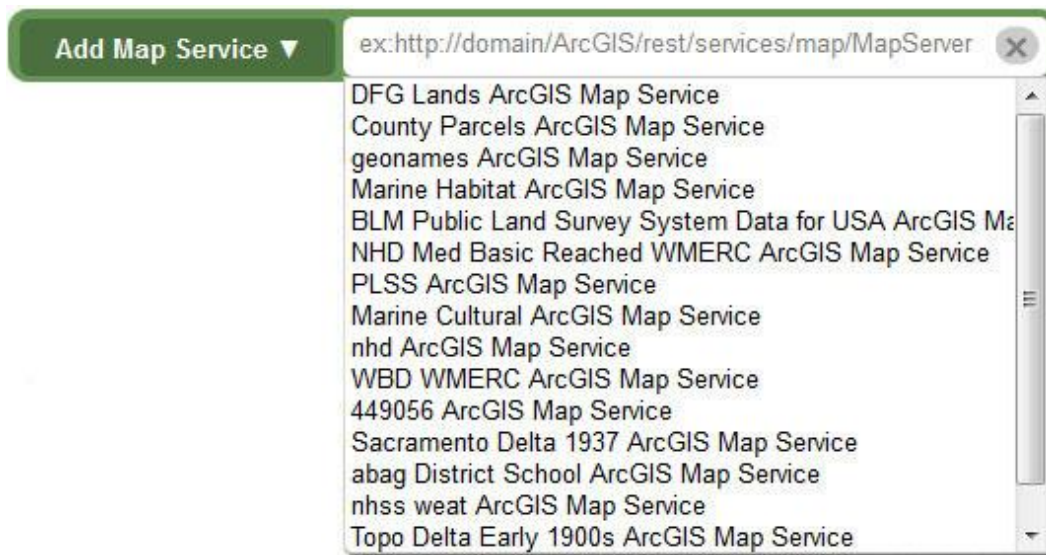
On the top center of the viewer, next to the logo area is the Quick Tools menu. Here you will find tools that interact with the text box to the right of the menu to perform various tasks. Results

may be displayed in an automatic drop-down selection list directly below the input text box. Click on the Quick Tools drop-down to see a list of available tools.

- **Add Data: KML Tool** – This tool allows you to add a publicly accessible dataset that is formatted as KML (Keyhole Markup Language) or KMZ (zipped or compressed KML files) to your BIOS session. Select the Add Data: KML tool and then enter the URL into the Quick Tool menu input box and press the Enter key on your keyboard.

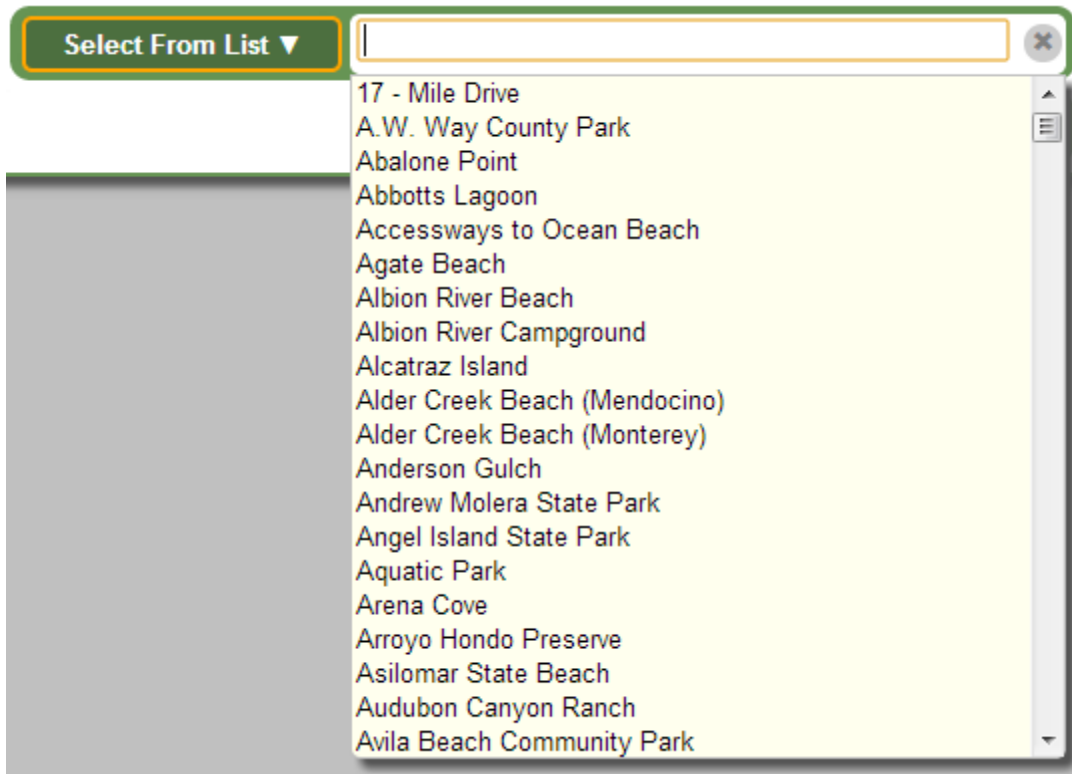


- **Add Map Service Tool** – This tool allows you to add any publicly accessible ad hoc map data source in the format of an ArcGIS Server REST Map Service. Select the Add Map Service tool, enter the URL into the Quick Tool menu input box and press the Enter key on your keyboard. The Map Service will be added to the Layers tab in the Table of Contents and will draw in the Map Canvas.



- NOTE: Some functionality will be limited if the map service coordinate system / spatial reference is not in Web Mercator (*wkid=102100*, conforming to *ArcGIS.com/Bing/Google Maps*).

- **Select from List (of Feature Names) Tool** - This tool queries the current active layer for a list of feature names and returns them as a list. If the immediate result for the entire feature layer is less than 500 features, then all of the names are listed in a drop-down list under the quick text box.



You can also type something directly into the quick input box and the list will be dynamically filtered to match the search term that you have entered. Click on a feature in the list and the map will zoom to it and display the corresponding attribute information for that feature in a pop-up window in the Map Canvas.

- **Search Active Layer Tool** – This tool allows you to search for features in the current Active Layer by attribute values.

Search Active Layer: natural bridges

Identify Features | Advanced Tools

Map Scale: 1: 18,056 (Zoom level 15)

Active Layer: California State Parks

- Ecological Reserves
- ☒ California State Parks
- National Wildlife Refuges
- State Game Refuges (coastal)
- National Parks (coastal)
- Aquaculture Activity on Private Leased Parcels in Humboldt Bay
- Aquaculture Activity on State Leased Parcels
- Halibut Trawl Grounds
- Kelp Administrative Bed Boundaries
- CDFG Marine Districts
- California Recreational Fishery

Search Active Layer:

ZoomTo	UNITNAME (undefined)	Found Field	Found Value
1	Go	Name	Natural Bridges SB

First you must activate a feature layer and choose the Search Active Layer tool from the Quick Tools menu. Then type in a search term in the text box and press the Enter key on your keyboard to run the tool. You can type in a partial search term if you are not certain of the full term. For example a search of the California Marine Protected Areas dataset for “reserve” returns all records with a value of “State Marine Reserve”.

A record for each of the features selected will be listed in the Table panel along the bottom of the viewer. The corresponding features will be highlighted yellow in the Map Canvas. Click on the Go button in the ZoomTo field to zoom to a particular feature listed in the table.

- **Locate Address Tool** - Type a full or partial street address, zip code, city or place name into the search box and press the Enter key on your keyboard. A geocoding service will locate the address entered on the map and the map will zoom to the location of the closest match results.

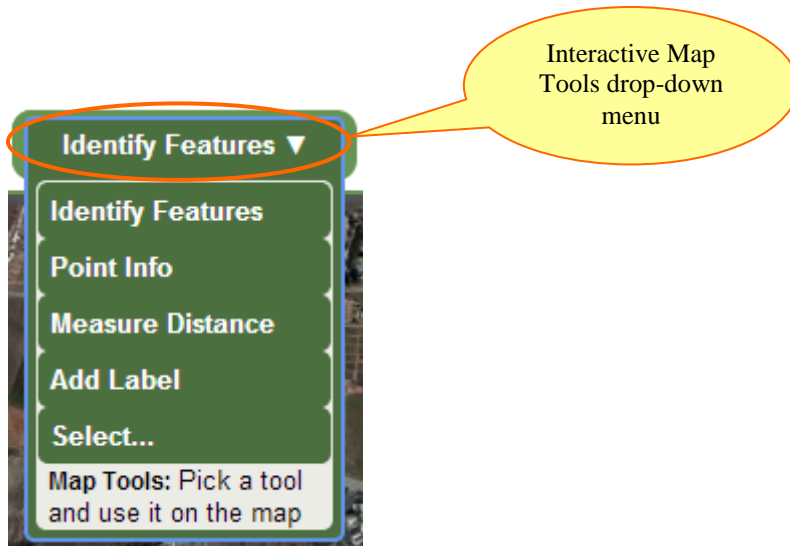
Locate Address

Enter street address, city or zipcode

Additional Tools

Above the map area and just below the banner and the Quick Tools menu you will find additional tools grouped into two drop-down menus. These are the Interactive Map Tools. and the Advanced Tools.

Interactive Map Tools Menu– These tools interact directly with the map canvas. Select a tool from the drop-down menu and click on the map to perform the desired task.

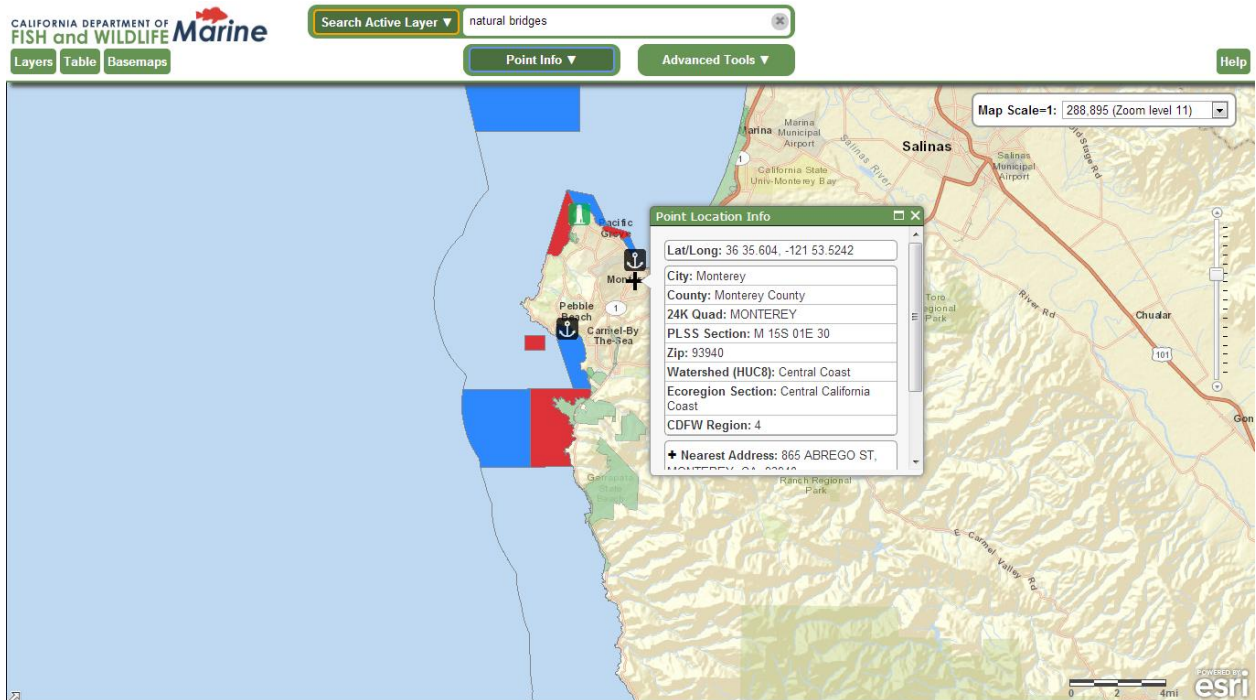


- **Identify Features Tool** - This is the default Interactive Map Tool and also the most familiar to most users. Select the tool and click on a feature in the Active Layer and the attribute data for the feature identified is displayed in a pop-up Info Window.



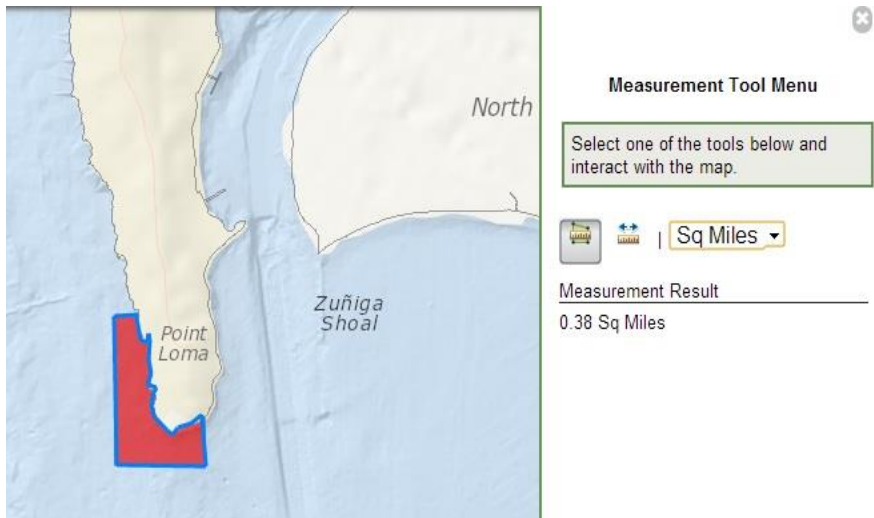
If the Identify Features tool finds multiple features at a location a record for each feature will be made available in the pop-up window.

Point Info Tool - Select this tool and click on the map to get some basic location information about a location in the map.



NOTE: The basic geographic reference information displayed below the potential street address found comes from data layers limited by the California state boundary, so results may be incomplete or unavailable if you click on a map point outside of California.

- **Measure Distance Tool** - This tool allows you to perform length and area measurement within the Map Canvas. As you select this tool a Measurement Tools menu will open in the right panel of the viewer.



Select either the Line Measurement tool or the Polygon measurement to and select the measurement unit from the drop-down menu. As you click point in the Map Canvas you will see you line or polygon drawn in blue. Measurement Results will be displayed below the Measurement Tools in the right side panel of the viewer.

- **Add Label Tool** – You can use this tool to click in the Map Canvas and manually place labels. Select the Add Labels tool from the Interactive Tools menu, enter your text in the pop-up box and click the Add button to place the label on the map.



To remove a label click on it and then click the Remove Label button in the pop-up box.



To remove all of your labels at once click on the Remove all Labels button in the Graphics and Selections section of the Table of Contents.



- **Select Tool** – When you choose this tool from the Interactive Tools menu a panel will open on the right side of the viewer offering you a choice of selection methods. Click on the radio button to the left of the selection method that you would prefer to use.

California Department of FISH and WILDLIFE Marine

Search Active Layer: natural bridges

Layers Table Basemaps

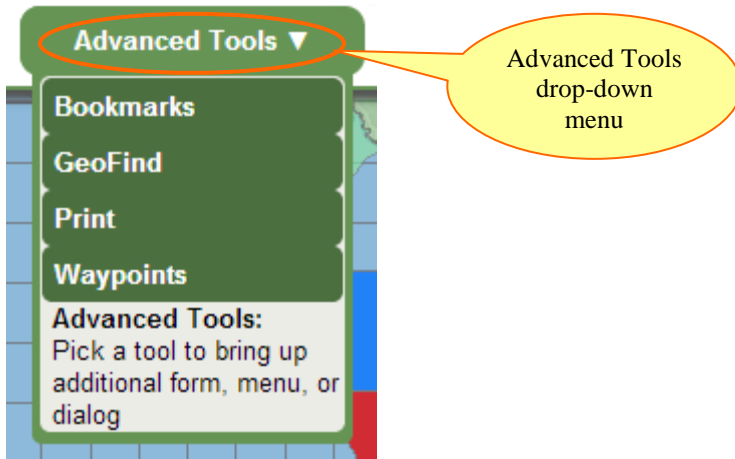
Active Layer: California Recreational Fishery Survey Blocks (1)

California Recreational Fishery Survey Blocks (1) Query Results: 20 feature(s)

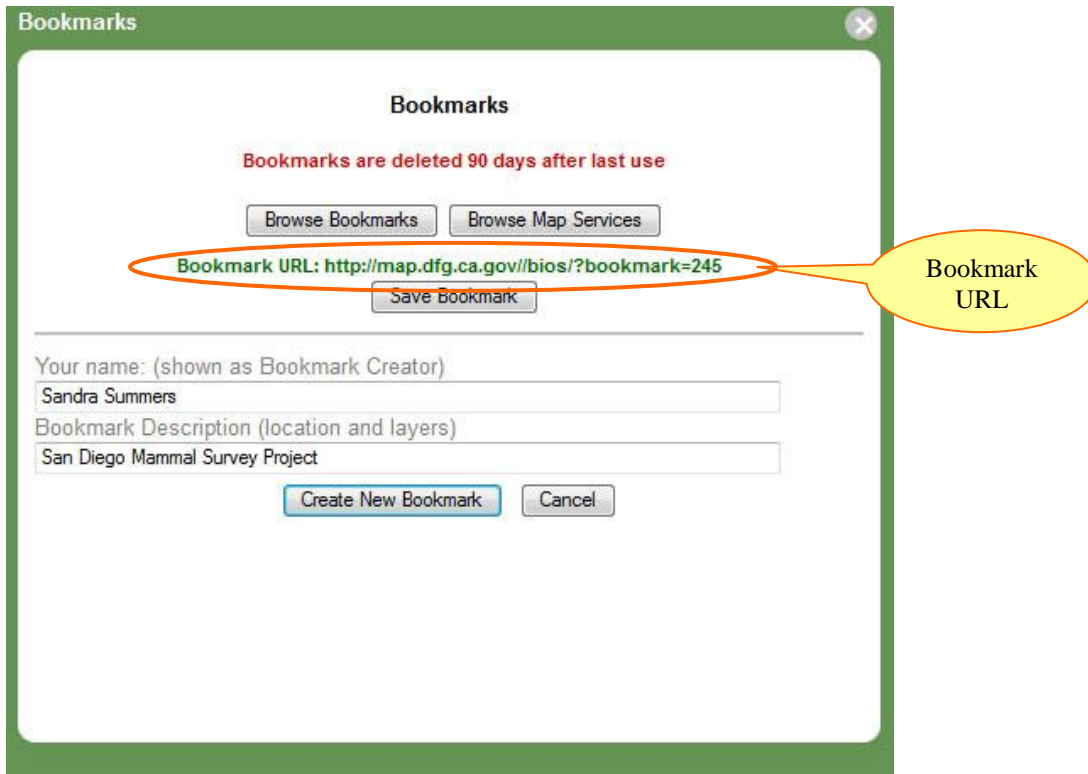
Zoom	Go	CalTrawl Block	Sub Block Number	CRFS Block Code
1	Go		549	56 549-56
2	Go		549	57 549-57
3	Go		549	58 549-58
4	Go		549	59 549-59
5	Go		548	50 548-50
6	Go		549	46 549-46
7	Go		549	47 549-47

- The **Rectangle (drag-a-box)** option allows you to select features from the Active Layer by using the mouse to click on or to drag a box around features in the map. The selected features will be highlighted yellow in the map and their attribute information will appear in the Table panel at the bottom of the viewer window.
- The **Point Buffer (click on map)** option selects features from the Active Layer that are within a distance of a point that you specify by clicking in the map. You can adjust the size of the buffer that will be used to select the features by changing the buffer radius before clicking in the map. The selected features will be highlighted yellow in the map and their attribute information will appear in the Table panel at the bottom of the viewer window.

Advanced Tools Menu - These tools open a pop-up window requesting user input for more advanced analysis. Tools such as the Query Builder tool, the Layer Filter tool and the Waypoint tool can be found in this menu.



- **Bookmarks Tool** - This tool saves the location and layer information for the current map session. The bookmarked BIOS map session can be reloaded at a later time or on a different computer by using this tool or by opening the URL provided after the Bookmark is created. The map extent, layer info (on/off, order, etc.), and any labels that you have added to the map are all saved in the Bookmark.



- **GeoFind Tool** – This tool provides a number of options for finding a location in the map.
 - **Coordinates:** Find a location in the map by entering coordinates in Geographic (Latitude/Longitude) or UTM formats. Click the Find button and the map will redraw zoomed in to the specified location.
 - **Address:** This option allows you to enter a partial or complete street address and zoom to it in the map.
 - **Township and Range (PLSS):** Select your Township, Range and Section values and specify the appropriate meridian using the drop-down lists. When you click the Find button a list of results matching your criteria will open in the Table. You can zoom the map to one of the locations listed by clicking the **Go** button in the ZoomTo field.
 - **Geographic Name:** This option will allow you to search for a place or geographic feature by searching the USGS Geographic Names Information System (GNIS) database. This database contains location references to all text that appears on all USGS quad maps. A record for each result that matched your search criteria will be displayed in the Table panel at the bottom of the viewer window. You can zoom the map to one of the features listed by clicking the **Go** button in the ZoomTo field.
 - **USGS Quad** – Choose from a list of 1:24,000-scale (24K), 7.5-minute by 7.5-minute Quadrangle maps from the U.S. Geological Survey and zoom to the boundary of the specified Quad.
 - **City** – Select a city of interest from the drop-down list provided and zoom to it by clicking the Find button.
 - **County** – Select a county of interest from the drop-down list provided and zoom to it by clicking the Find button.
 - **DFG Facilities** – Choose from a drop-down list of California Department of Fish and Wildlife offices and facility locations and zoom to it by clicking the Find button.

- **DFG Owned Lands** – Choose from a drop-down list of properties that are owned and/or administered by the California Department of Fish and Wildlife. Click the Find button to redraw the map zoomed in to the specified property.
- **Calwater(HU)** – Use this option to select a watershed boundary at the Hydrologic Unit (HU, major rivers) level from a list compiled from the California Interagency Watershed Map. Click the Find button to zoom the map in to the specified Hydrologic Unit.
- **Ecoregions** – Use this option to select an Ecoregion from a list derived from Ecological Unit Sections for the state of California as described by ECOMAP (1993), United States Department of Agriculture, Forest Service. Click the Find button to zoom the map in to the specified Ecoregion.

The image shows a software window titled "GeoFind" with a green border and a close button in the top right corner. Inside the window, on the left, is a "Locate By:" section with a list of search methods: "Coordinates", "Address" (which is highlighted with a green background), "Township & Range", "Geographic Name", "USGS Quad", "City", "County", "DFG Facilities", "DFG Owned Lands", "Calwater(HU)", and "Ecoregions". To the right of this list is a form titled "Address" in green text. The form contains four input fields: "Street:" with the text "20 Lower Ragsdale Dr.", "City:" with the text "Monterey", "State:" with the text "CA", and "Zip:" with the text "93940". A "Find" button is located at the bottom right of the form area.

GeoFind

Locate By:

- Coordinates
- Address**
- Township & Range
- Geographic Name
- USGS Quad
- City
- County
- DFG Facilities
- DFG Owned Lands
- Calwater(HU)
- Ecoregions

Address

Street: 20 Lower Ragsdale Dr.

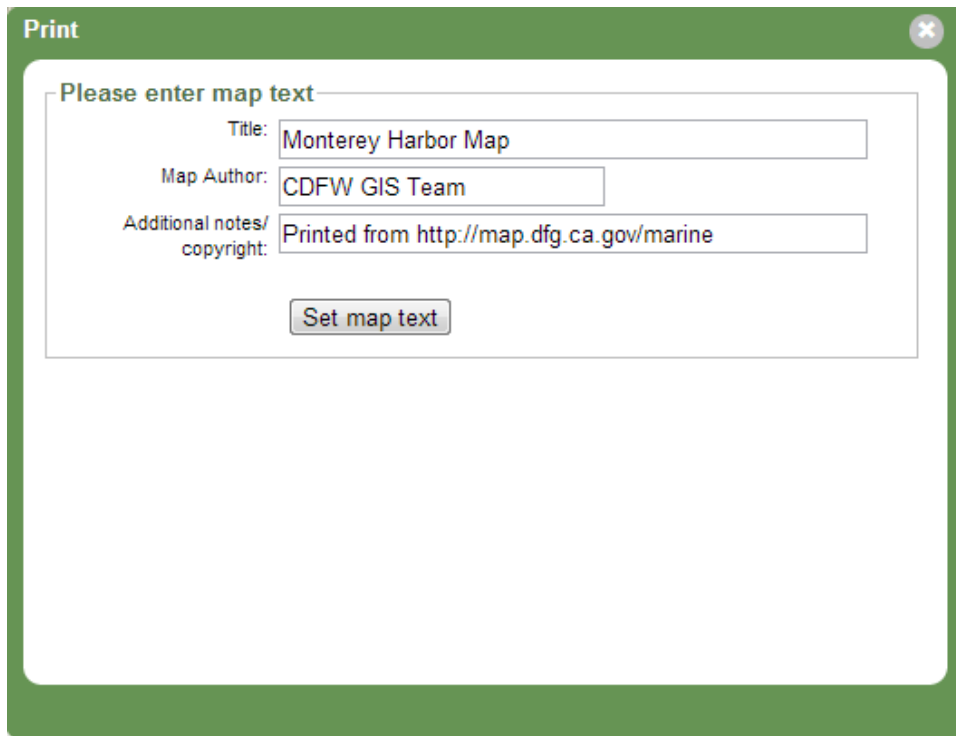
City: Monterey

State: CA

Zip: 93940

Find

- **Print Tool** – The Print tool allows you to print your current map. A pop-up box will open allowing you to enter a title, author and brief notes to be included in your printed map.



Print

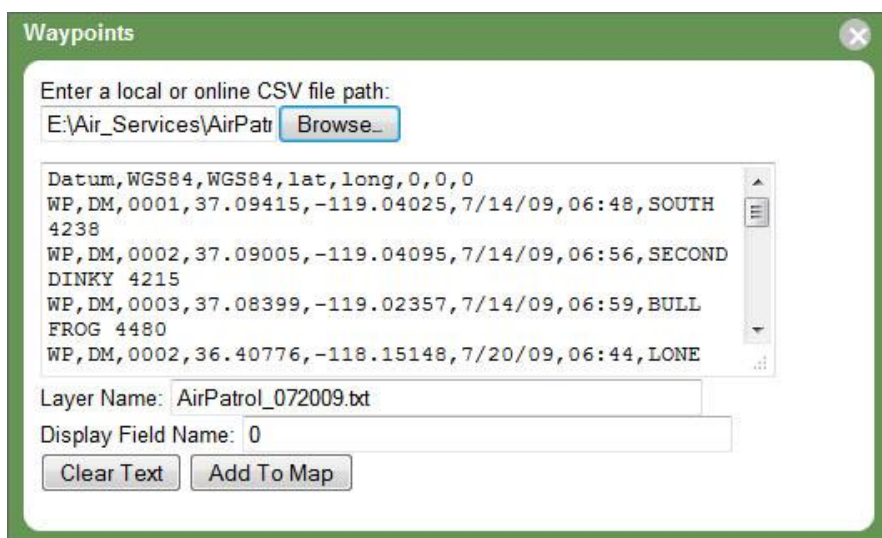
Please enter map text

Title:

Map Author:

Additional notes/
copyright:

- **Waypoints Tool** - you can load your GPS waypoints into the map using the Waypoints tool in the Advanced Tools drop-down menu. They must be stored in a comma separated values (CSV) format on your computer in order for the tool to load them.



Waypoints

Enter a local or online CSV file path:

E:\Air_Services\AirPatr

```
Datum,WGS84,WGS84,lat,long,0,0,0
WP,DM,0001,37.09415,-119.04025,7/14/09,06:48,SOUTH
4238
WP,DM,0002,37.09005,-119.04095,7/14/09,06:56,SECOND
DINKY 4215
WP,DM,0003,37.08399,-119.02357,7/14/09,06:59,BULL
FROG 4480
WP,DM,0002,36.40776,-118.15148,7/20/09,06:44,LONE
```

Layer Name:

Display Field Name:

Thank you for using MarineBIOS. Please email any comments or questions that you may have to: bios@wildlife.ca.gov or mr_gis@wildlife.ca.gov