HOW TO USE BIOS TO ACQUIRE DATA TO ASSESS SWAP TARGET STATUS

BIOS (Biogeographic Information and Observation System) is CDFW's proprietary data viewing and download program. It is a basic Geographic Information System with the ability to navigate to particular locations and identify relationships between different layers, among other things. These instructions are limited to what is necessary to find a site and get information from a layer of data. For more about how to use BIOS click on the "Help" menu at the upper right corner of the BIOS window or take a class which is offered regularly by CDFW. To download the data for use in a GIS, See "Open BIOS, Load and Activate Data". These instructions will also work for ACE v 3.0. The data will be pre-loaded in ACE.

Open BIOS, Load and Activate Data.

1) Go to https://www.wildlife.ca.gov/Data/BIOS . Click "BIOS Viewer – Public and Secure". Click on the "Use Public BIOS" login button.
2) Type "SWAP" into the "Add Data" box in BIOS.
3) Both the "SWAP Terrestrial Targets" and "SWAP Aquatic Targets" (as well as "State Wildlife Action Plan Provinces") should appear below the box (you may need to scroll down to get to the Provinces). Double-click on your selected data set to load it.
4) The data will appear in the "BIOS Layers" menu at the left. If the data appear in the window but do not appear on the map, check the box to the left of the name of the data set.
5) You can't work with the data until it is the Active layer. To make a layer active, click on the name in the "BIOS Layers" window. The layer name will be encased in pink, indicating that it is the active layer. You can change active layers at any point my clicking on another layers name.
6) If you wish to view the legend, click on the "+" to the left of the data. The legends in these data sets are not designed to help you navigate, just to help you distinguish between different points. The useful data will be in tables. Click the "-" to close the legend.
7) To see more information about the data or find a download link, click on the metadata button to the left of the "Go" button" (the metadata button looks like a piece of paper). This will open a window that shows the metadata Summary and Description. If you scroll to the bottom of this window, you will find contact information, a link to the complete metadata, and a download button. The downloaded data will be named with its database name (ds###). You should make note of that name before downloading so you don't lose track of the file. It is in brackets to the right of the name under "BIOS layers". Use the "X" in the upper right hand corner of the metadata window to close the window.

Navigate to a particular site. You have a number of options, depending on what information you have about your site. For most purposes, "Coordinates" (lat/long) or Township and Range are probably the most useful. It is a good idea to turn off the SWAP Target layers before searching for your site, so you can see the underlying topographic features clearly. Do this by clicking on the check mark in the box to the left of the layer name in the BIOS Layers and Reference windows.

1) Open the "Geofind" tool from the "Advanced Tools" menu on the right beneath the "Add Data" box.
2) You have various options for finding your site, including lat/long coordinates, Township & Range, HUC8, Geographic Name or USGS Quad.
    a. Select the selection option under "Locate By:"
    b. Enter the value in the box or select it from the dropdown menu. Click "Find".
    c. In some cases, the system will automatically zoom to the selected feature and put an appropriate shape around it or a small circle at the feature location.
    d. If a table opens, select the appropriate item and Click "Go" under "ZoomTo". The map will center and mark the feature.
3) If you want to change the basemap you are using to find your site, click on "Basemaps" to the left of the "Layers" button at the top left corner of the screen. You will see a selection of basemaps to choose from. "USA Topo

Maps" will give you USGS Quadrangles. The default basemap generally draws the fastest, so you may want to zoom fairly close to your site using that map before changing to another basemap. Click back on the "Layers" button so you can continue to work with the data.

4) If you need additional reference information to identify your site, go to "Reference Layers" beneath the "BIOS Layers" window and check boxes next to useful layers (such as "WBD HUC12 Watersheds" under "Hydrography"). You can turn on as many of these layers as you want, but they will tend to obscure each other. If you want additional information about features in these layers, make them active and then click on the feature of interest with the "Identify Features" tool selected. Click "Go" on the table that opens to zoom to the feature.

5) Scroll and "click and drag" to zoom in to the extent of your site. You can also zoom using the "Map Scale" window at the upper right. What level you use will depend on the size of your project. For an example, "Zoom Level 15" will take you to a level at which about 1 1-mile square "section" is visible.

6) To temporarily make the "GeoFind" location shape disappear, click the check mark in the box next to "PointInfo/GeoFind Selection" in the "Graphics and Selections" window at the left. To permanently remove it, click on the "X" to the right.

Once you have identified and zoomed to the extent of your site or region:

Get data from the SWAP Terrestrial Targets layer at that site. This is a "raster" (pixel) based layer, which means that you have fewer BIOS options and that you can only select one point (pixel) at a time.

1) Make your data (SWAP Terrestrial Targets) layer active by clicking on the name (it will be in a pink box) and visible (the box to the left of the name will have a check mark). If necessary, turn off any other layers that are visible and not being used.

2) Once the layer is turned on, colors will appear on your map. These colors represent possible targets. If you do not have a color on your site, you may still have a target - the non-colored cells have information you can use to identify if you have a non-mapped target. See the Instructions for how to assess Terrestrial SWAP data (link below) for further information.

3) If it is not already selected, choose the "Identify Features" tool from the menu at the left beneath the "Add Data" box.

4) Click on any point in your data set. A box and a table will appear with information. This box represents a point on the map, not a range of pixels. You can only select one point/pixel at a time. If you have multiple colors on your project site you will need to collect data from all of them, plus the blank area.

5) Using the data in the table, follow instructions from the link at "https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=149561" to find the target status and, if applicable, strategies for that point.

Get data from the SWAP Aquatic Targets layer at that site. This is a vector (polygon) based layer. This means that you can select multiple features at a time. For the purpose of this exercise, you will only select one feature at a time.

1) Make your data (SWAP Aquatic Targets) layer active (it will be in a pink box) and visible (the box to the left of the name will have a check mark). If necessary, turn off any other layers that are visible and not being used.

2) If your project is in a target area, it will be colored. If not, it is not a target. See the instructions below for what to do if it is not a target. Click on your project site using the "Identify Feature" tool.

3) Using the data in the table, follow instructions from the link at "https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=149562" to find the target status and, if applicable, strategies for that site.