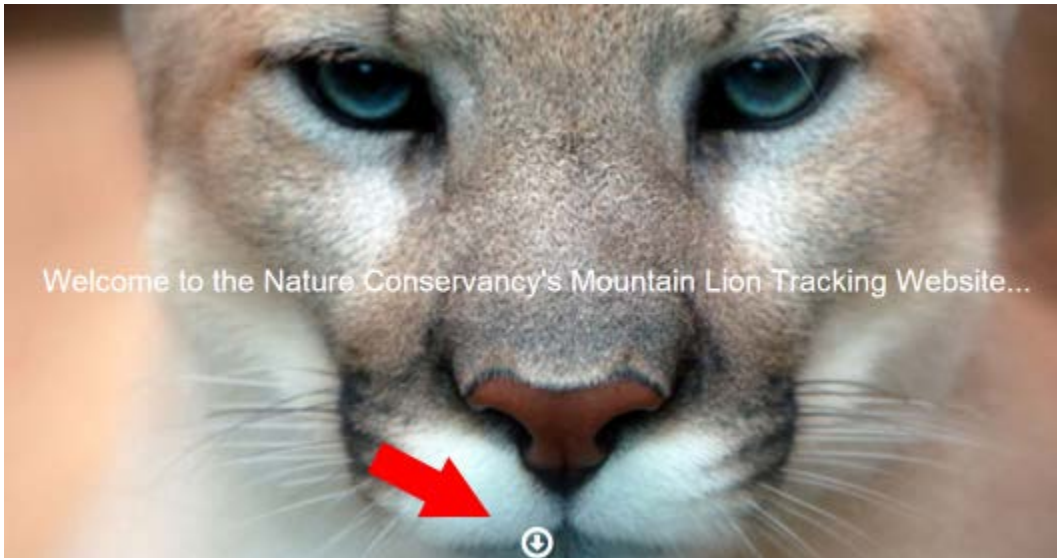# Mountain Lion Tracking Website – User Guide

The website uses historical mountain lion tracking data, from 2001 through 2015 to provide users the ability to perform analysis and to view patterns and trends in the movement of the collared mountain lions.

Access the Website

Click on the website link to view the start pagae.
Locate the down arrow located at the bottom center.

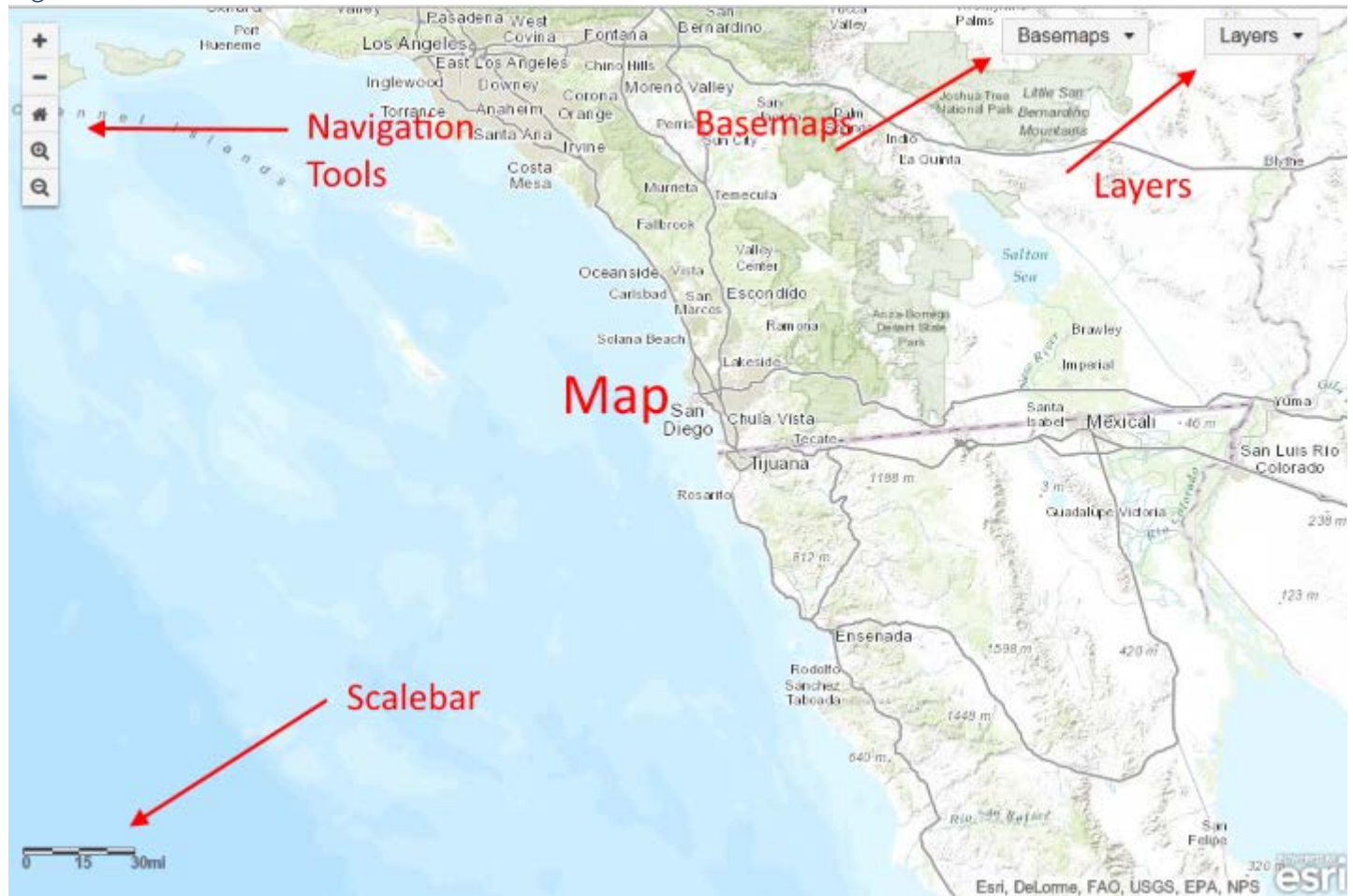Hover over the image until a hand cursor becomes visible.

Click on the down arrow image to display the analysis map page.
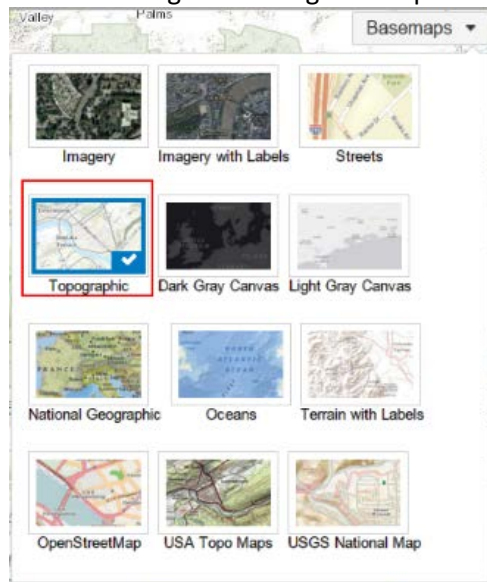
Components

Right Pane

Map

The map takes up the entire right pane with the remaining components of the pane sitting on top of the map. The map contains all the layers needed by the website. It initially loads with a default basemap zoomed into Southern California.

Basemaps

This is a list of basemap layers that can be used by the website. Each contains a thumbnail image of that layer and its name. Clicking on an image will replace the current basemap with the selected basemap.

Layers

This list only appears if the administrator has configured the website to populate this menu with additional layers helpful for analysis.

When available checking the check box before the layer name, loads that layer onto the map. Unchecking the checkbox, removes that layer from the map.
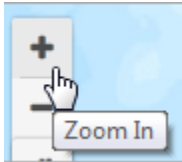
Scalebar

The scalebar is located in the bottom left corner of the map. It show the scale in miles for the current view of the map. The scale changes each time the map is zoomed in or out.
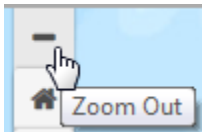
Navigation Controls

Zoom In (by scale level) Button

Clicking this button causes the map to zoom in to the next scale level of the map keeping the center point of the map the same.
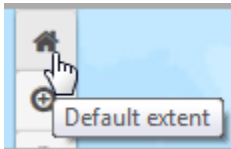
Zoom Out (by scale level) Button

Clicking this button causes the map to zoom out to the next scale level of the map keeping the center point of the map the same.
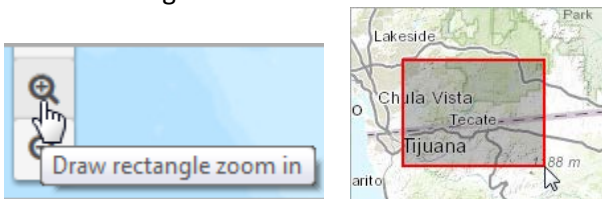
Home Button

Clicking this button causes the map to return to the same scale and center point it had when the it was originally loaded. This is known as the *default extent*.

Zoom In (draw rectangle) Button

Clicking this button allows the user to draw a rectangle on the map which when the mouse is released will cause the map to zoom in to that rectangle. The larger the rectangle, the less zooming will occur. The smaller the rectangle, the more zooming will occur.
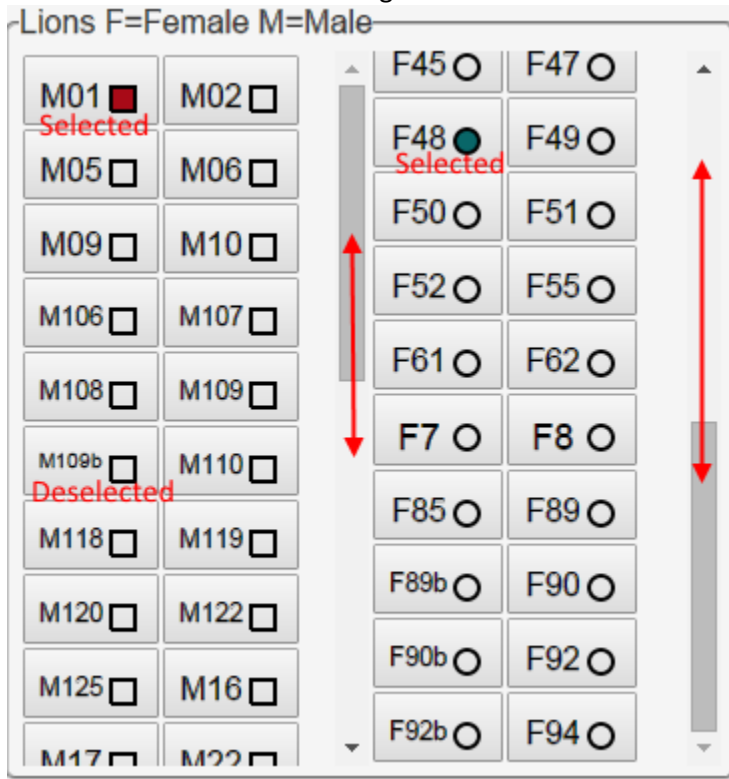
Lion Selectors

There are two columns of lion selectors, each with two columns. The left column contains the selection buttons for the male lions represented by square symbols and the right selector contains the selection buttons for the female lions represented by circle symbols.

Clicking a selector button once makes that lion "selected" and thereby included in the search for tracks to be drawn on the map. When the button becomes "selected", the symbol receives a color. When the button is clicked again the lion become "deselected" and the symbol color is removed. If the user wants to change the color, the user should click on the button multiple times until an acceptable color appears. Since there are many lions and space is limited, the user must use the scroll bar to the right of each selector to view all the lions available in that particular group.
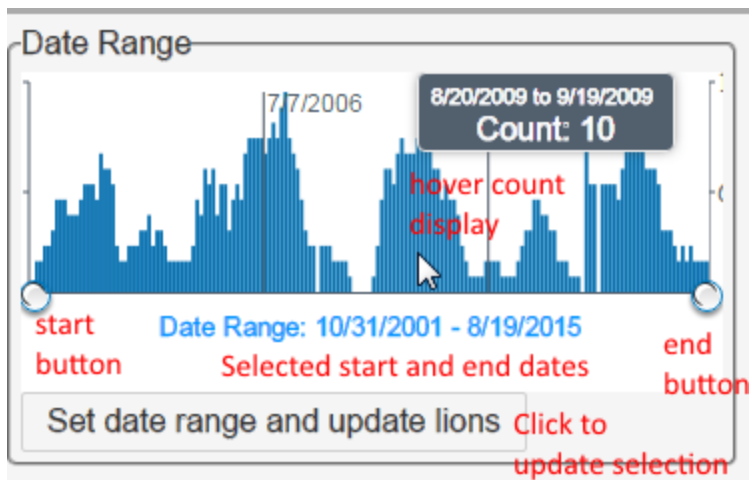

Date Range Selector

This component is a histogram slider displays the lion track counts for each month within the available data set.

The text at the bottom of shows the start and end dates for the current range. This date range is determined by the location of the round white buttons at the bottom of the histogram.

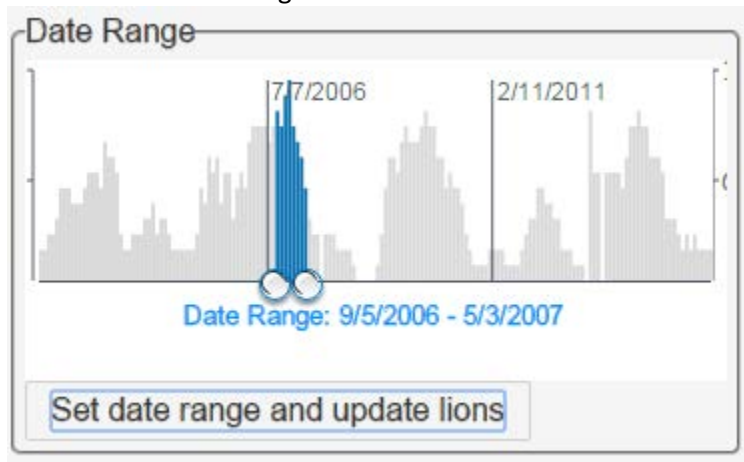Hovering over the bars of the histogram causes a popup to appear displaying the date range and the and the counts of tracks withing that period of time.

When the website loads, the "selected" date range is the full period of the lion tracks data set. To change the selected date range move either or both white buttons and click on the "Set date range and update lions" button.

Default Date Range:

User Defined Date Range

Time Options

Intervals

The selected interval determines the time step for the track player to use. For the six hour interval the system will display all the tracks for the selected lions from the beginning of the selected date range to six hours since the last step. For example the start date is March 1, 2005 at 8AM and the last step was for March 4, 2005 at 8AM the next step is data collection is for selected lion tracks from March 1, 2005 at 8AM until March 1, 2005 at 2PM. See the Lion Tracking Layers section for more information on how this data is displayed on the map. This is the only time option that cannot be changed once the selections have been refreshed.

Sunlight Synchronization

This option determines if the sunlight synchronization is enabled or disabled for the track player. When "Yes" is selected the opacity of the map changes to simulated the time of day for the currently displayed date. This option can be changed after the selection have been made and refreshed. It is recommended to pause the slider first before making the change.

Speed

The speed slider determines the speed at which the track player runs. This can also be changed at any time after the selections have been made and refreshed.

This track player is only visible after selections have been made the "Apply & Refresh" button clicked. The track player consists of a slider with a play button, step forward button, step backward button and a label underneath showing the currently selected date and time.
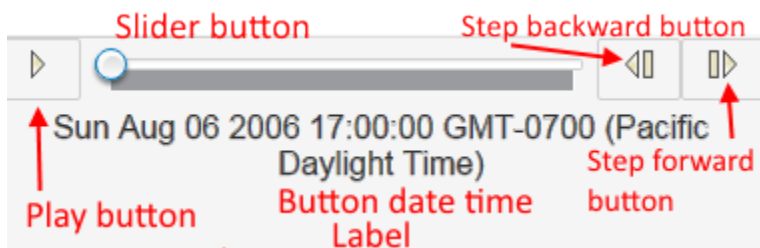
Depending on the density track data available for the selected date range, the individual steps may or may not appear visible. If not visible, these appear as a single wide gray line.

The slider has a button that can be moved manually with the mouse or will move automatically when the play button is clicked.
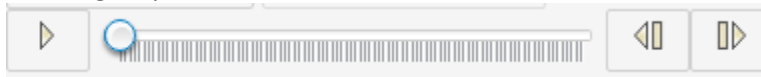
The play button automates the display of lion track data, moving through time at the interval and speed set by the user.

The step forward button moves the slider time forward one interval step.

The step backward button moves the slider time back one interval step.
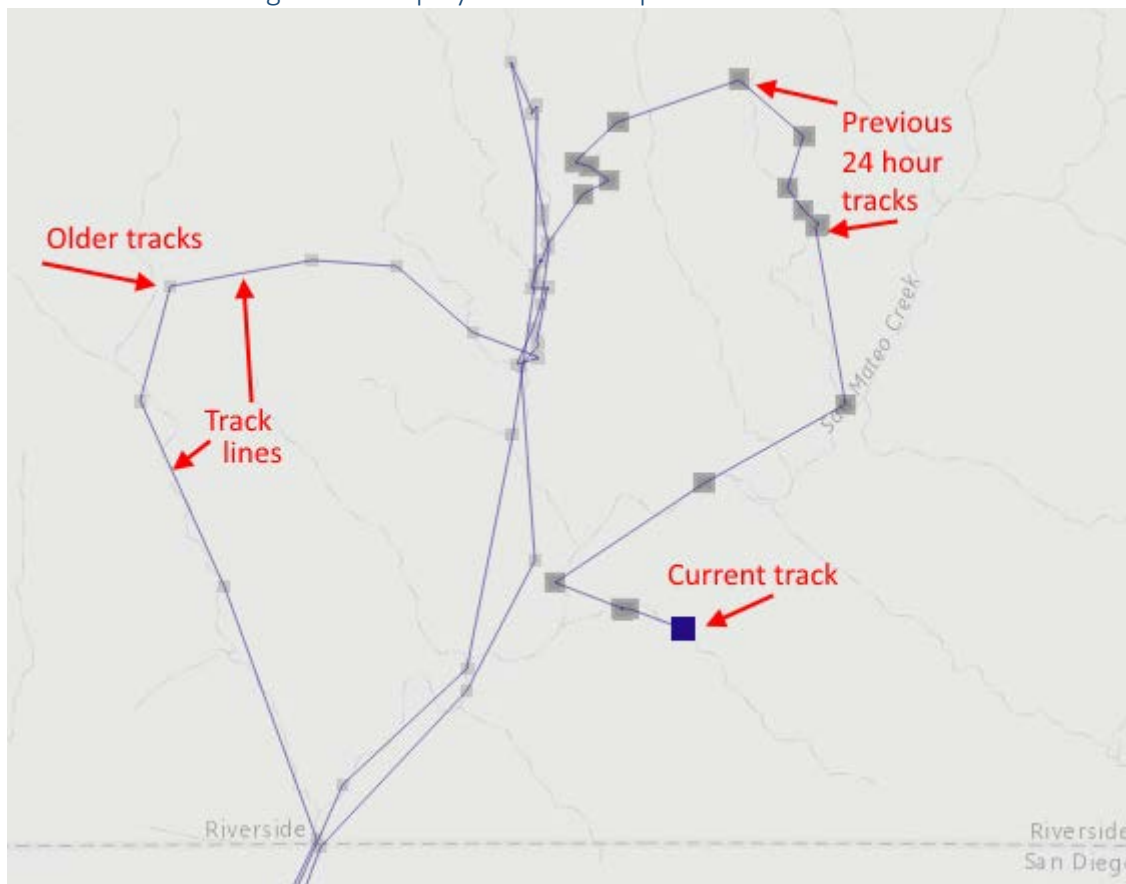

Showing Steps:

Lion Tracking Layers

How the lion tracking data is displayed on the map

Current track symbol

This is the symbol seen on the selected lion button. It is a circle symbol for females and a square symbol for males.

Lion path symbol

This symbol is a narrow line, the same color as the symbol, that connects all the track points.
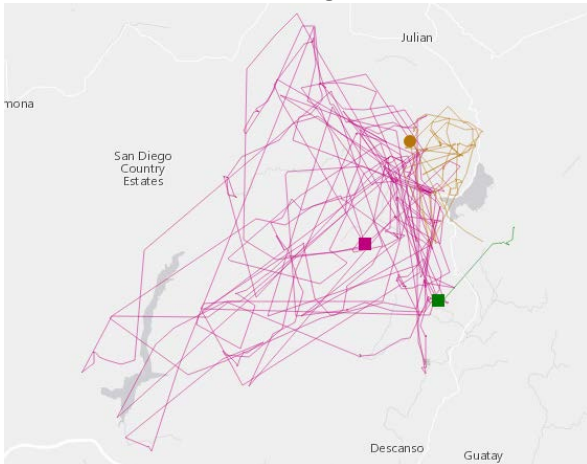
Previous 24 hour tracks symbol

This symbol is a medium gray symbol, a circle for females and a square for males,slightly smaller than the colored current track symbol. If the track time is within 24 hours of the current symbol, this symbol is displayed.

Tracks older than 24 hours symbol

A light gray symbol, a circle for females and a square for males, much smaller than the current track symbol and slightly smaller than the 24 track symbol. If the track time is older than 24 hours, this symbol is displayed.

Initial Selection Display

When the "Apply & Refresh" button is clicked, the map zooms to the full area of all the track symbols for all the selected lions. The current symbol is most recent track for the lions within the selected date range. The lines, show the paths for all entire selected date range.

Play Display

Clicking on the play button resets the map display to show all the tracks from the selected step in the track player. If the user hasn't moved this button manually, this will be the first time in the date and time in the date range. As the player moves forward, the current lion track symbols will flicker as they are updated to the new time and paths and older track points will be displayed. The older track symbols and the paths do not flicker.

Slider Selection Display

The slider can also be used to give snapshot views of the lion tracks over time. When the slider button is manually moved, the entire display will adjust to the date and time of the selected step.

Tracking point popups

Clicking on any point symbol will cause a popup to be display with lion name plus the date and time of track. If points are stacked on top of one another, an arrow will display at the top of the popup to view information about all the tracks.

Workflows

Determine lion data available within a specific date range

1. Move the start and end buttons of the date range selector.
2. Click the "Set date range and update lions" button.

The buttons for the lions that have no data for this time period will become disabled. If a lion button was previously selected and does not have data for the time period, the button will also become deselected.

See the *Data Availability* video to see how this is done.

Get tracks by lion selection

1. Select the lion button(s).
2. Make certain that the full date range is used. On the intial load of the website and each time the user clears the options, this is the date range. This can also be done by moving the date selector buttons to the furthest point left and the furthest point to the right and clicking on the "Set date range and update lions" button.
3. Change the existing time options, if desired.
4. Click the "Apply & Refresh" button.

The website will display a wait graphic so that the user cannot interupt the process until data has all been returned from the server.

The map will zoom to the extent of all the track points within the enter dataset. All the latest tracks and the track paths will be displayed.

The time slider will then be displayed.

The user can interact with the time slider by clicking the various buttons and by dragging the slider button to the desired time.

See the *Tracks by Lion* video to see how this is done.

Get tracks by date range

1. Drag the start and end buttons on the date selector to the desired date range.
2. Click the "Set date range and update lions" button.
3. The only lion buttons that are selectable are the lions with tracks during the selected date range. All other lion buttons are disabled.
4. Select the lion buttons desired.
5. Change the time options settings as desired.
6. Click the "Apply & Refresh" button.

The website will display a wait graphic so that the user cannot interupt the process until data has all been returned from the server.

The map will zoom to the extent of all the track points within the enter dataset. All the latest tracks and the track paths will be displayed.

The time slider will then be displayed.

The user can interact with the time slider by clicking the various buttons and by dragging the slider button to the desired time.

See the *Tracks by Date and Lion* video to see how this is done.