Navigating the Half-Earth Project Map

The Half-Earth Project Map illustrates where biodiversity exists around the globe, as measured by richness and rarity.

Access the Half-Earth Project Map here: https://map.half-earthproject.org

What does richness mean?
Species richness measures the number of different species in a given region. This quality can be summarized by distinct geographic regions such as countries or protected areas or by equal-area grids to reveal global patterns.

What does rarity mean?
Species rarity is the proportion of a species geographic distribution that is found in a given region, averaged across alls species in that region. Rarity is a measure of how geographically restricted a species is on average, referred to as range-size restrictedness, average range-size rarity, or simply range-size rarity.

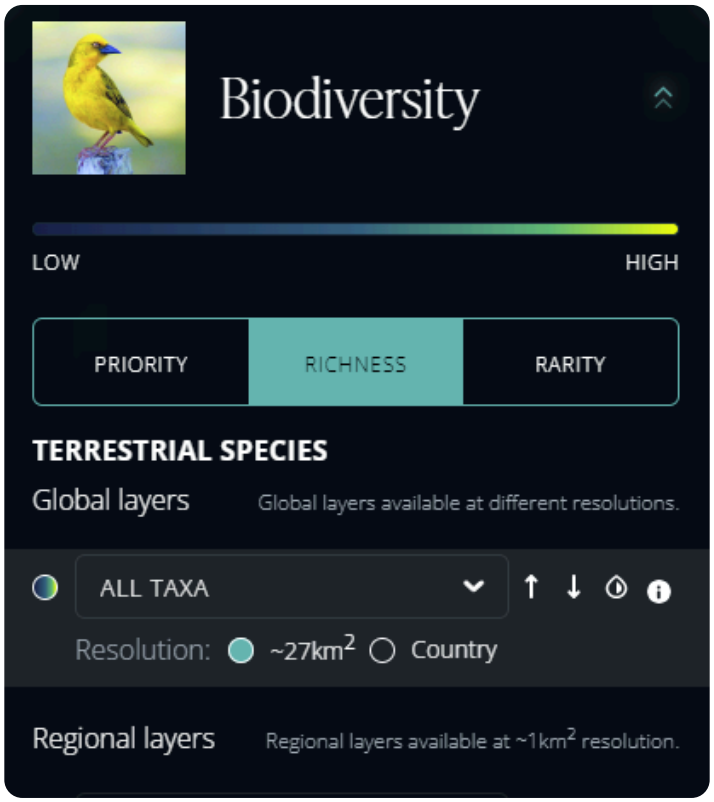
Levels of richness or rarity are displayed on the map through the colors indicated on the key.

- **Yellow = high levels**
- **Dark Blue = low levels**

Using tools on the Half-Earth Project Map, data for richness or rarity can be **filtered by taxa.**

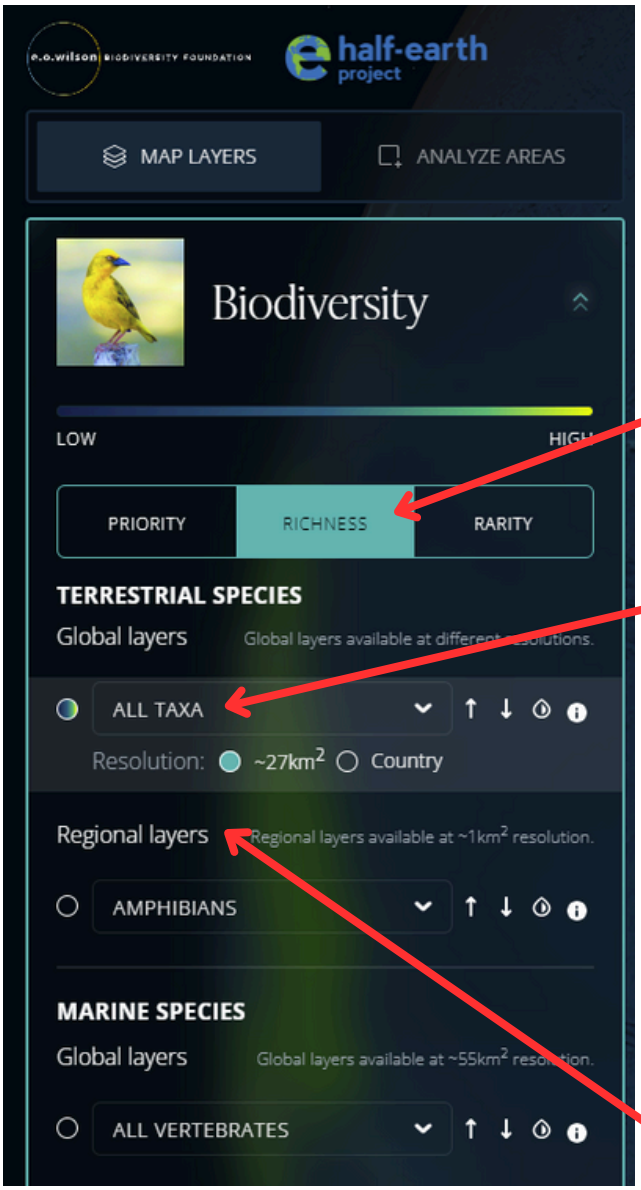
Map data can be filtered to focus on the following vertebrate taxa:

- Amphibians
- Birds
  - Hummingbirds
  - Resident Birds
  - Summer Birds
  - Winter Birds
- Mammals
- Reptiles



Species Richness

If you are interested in identifying places with high levels of species richness, follow the instructions below:

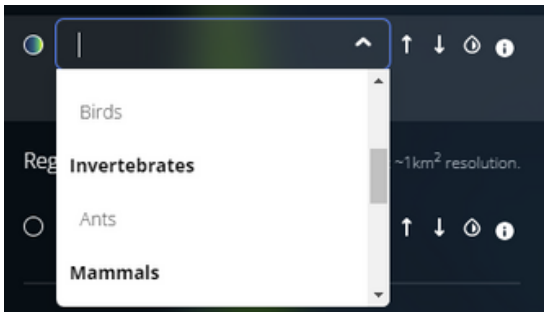


Click on the biodiversity tab to display the drop-down menu.

Click on “RICHNESS” in the top menu to reveal the options on the right.

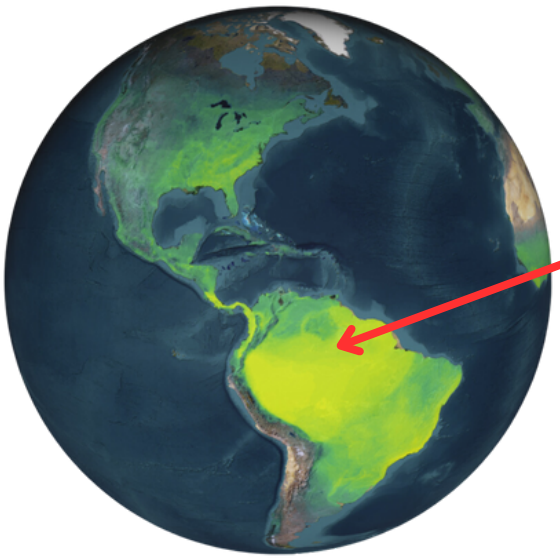
For Terrestrial Species:

You may choose ALL TAXA - which will include all the species of plants and animals on the map, or you can be more specific by clicking on the arrow to reveal another drop-down menu (recommended).



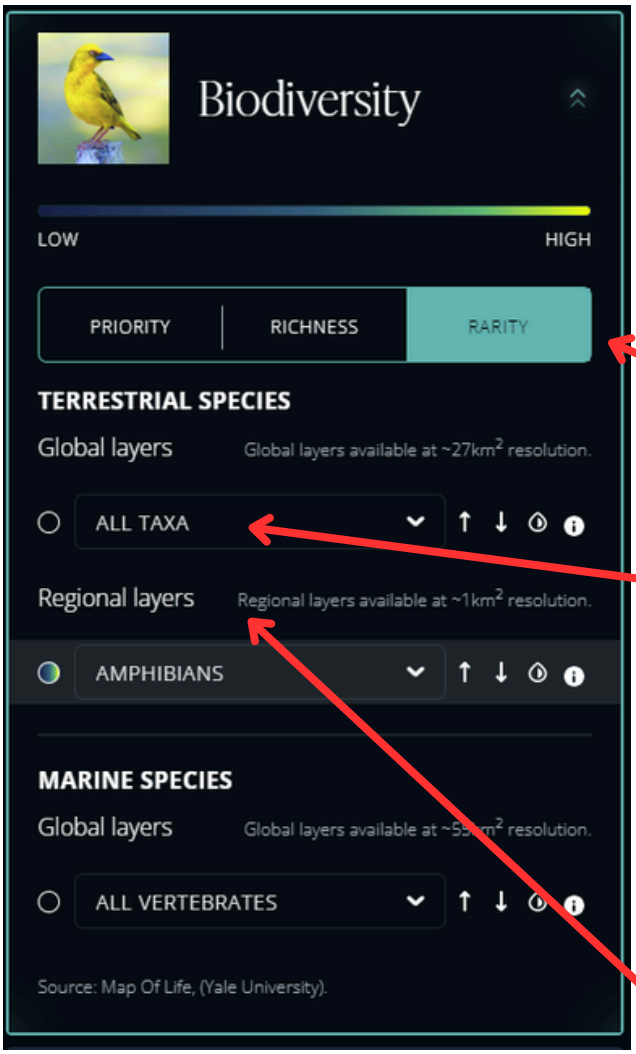
Scroll down and make a selection. Hint: You can only click on the gray terms.

For some Taxa (birds, invertebrates, plants) more regional data may be available at a higher resolution.



After you have made your selection, areas of the globe will change to blue, green, or yellow to indicate the species richness in the area. (If the map doesn’t automatically configure, refresh the page by clicking on the address bar.

If you are interested in identifying places with high levels of species rarity, follow the instructions below:



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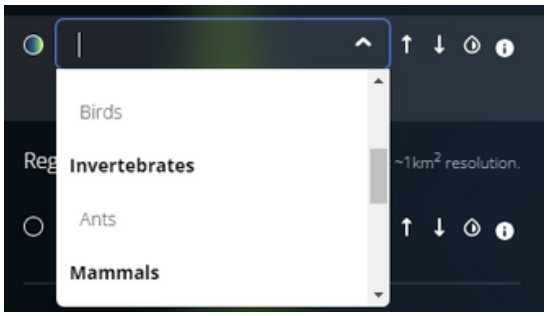

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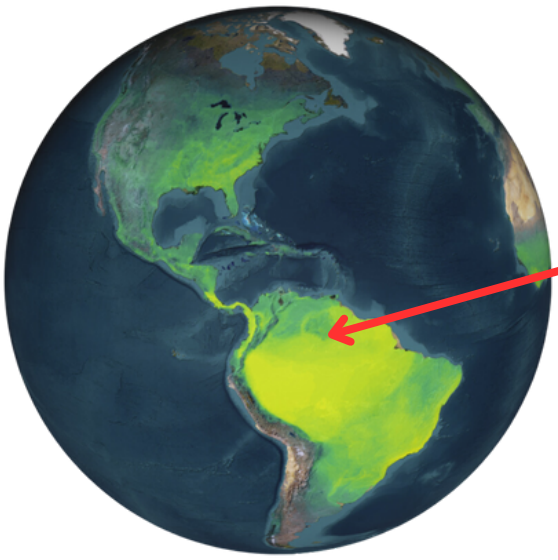
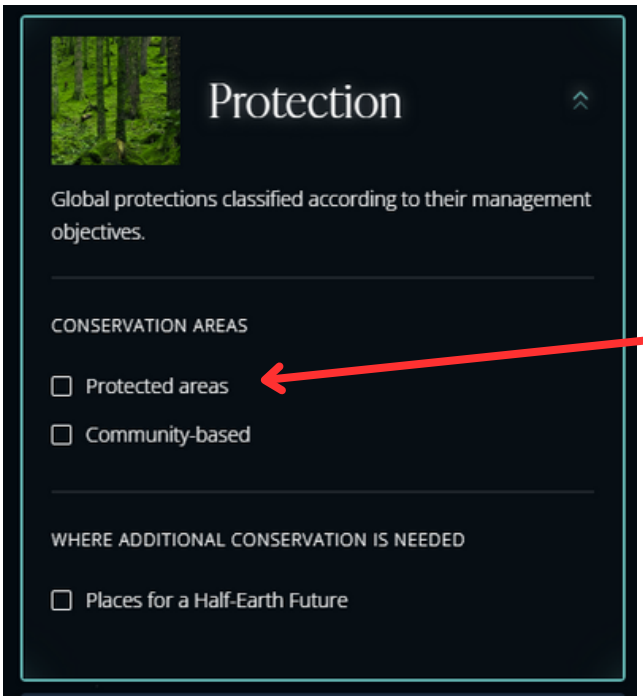


After you have made your selection, areas of the globe will change to blue, green, or yellow to indicate the species rarity in the area. (If the map doesn’t automatically configure, refresh the page by clicking on the address bar.

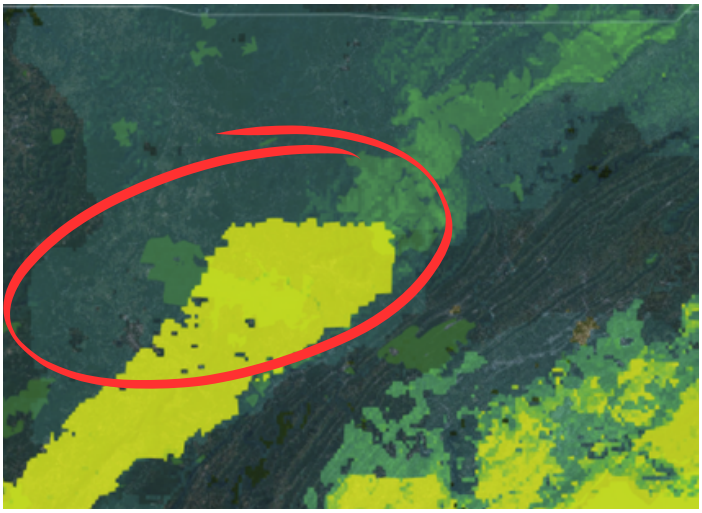
To add a layer to identify protected areas, follow the instructions below.



Click on the protection tab to display the drop-down menu.

Select the box next to protected areas.

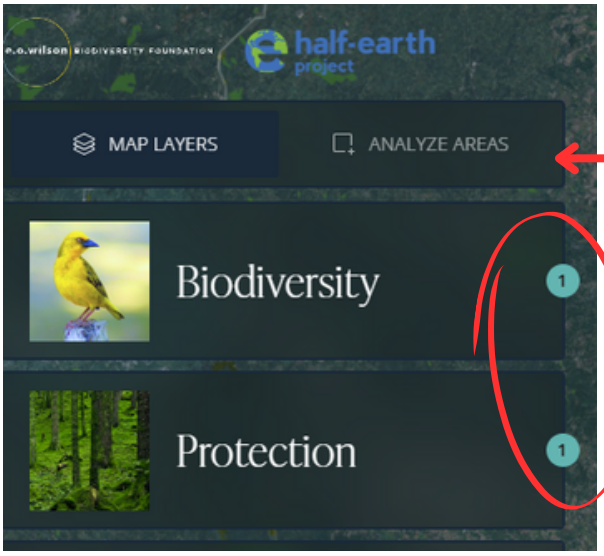
After you have selected, protected areas around the globe will be indicated by dark green shapes.



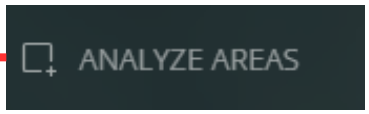
To find protected areas that include the biodiversity criteria you established in the previous step, look for yellow areas that overlap or are in close proximity to the green squares. To identify these areas, zoom in by scrolling upward on your mouse or selecting the magnification tool in the upper right corner of the screen.

Analyzing Protected Areas

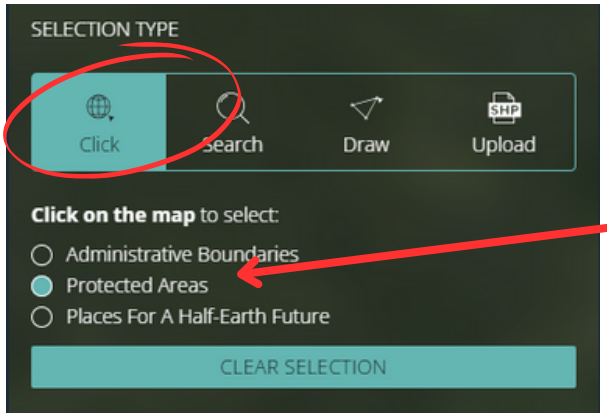
To identify and analyze protected areas, follow the instructions below.



At the top of the menu, click on Analyze Areas



Notice, the numbers by the biodiversity and protection tabs indicate filters are applied.

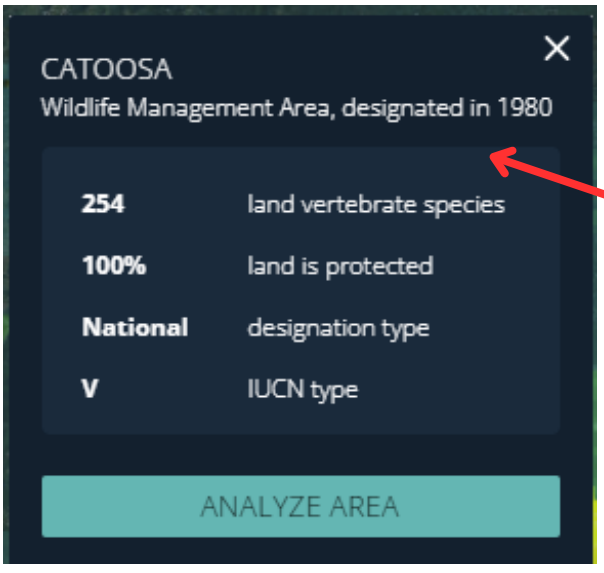


In the analyze areas menu, ensure “click” is selected in the top menu.

Click on the circle next to ‘Protected Areas” so that it becomes solid.

As you hover your mouse over the map, protected areas will be outlined in bright green.

Once you have identified the area, you want to investigate, click on it.

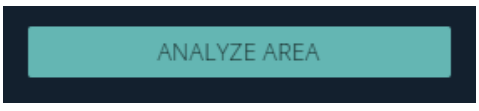


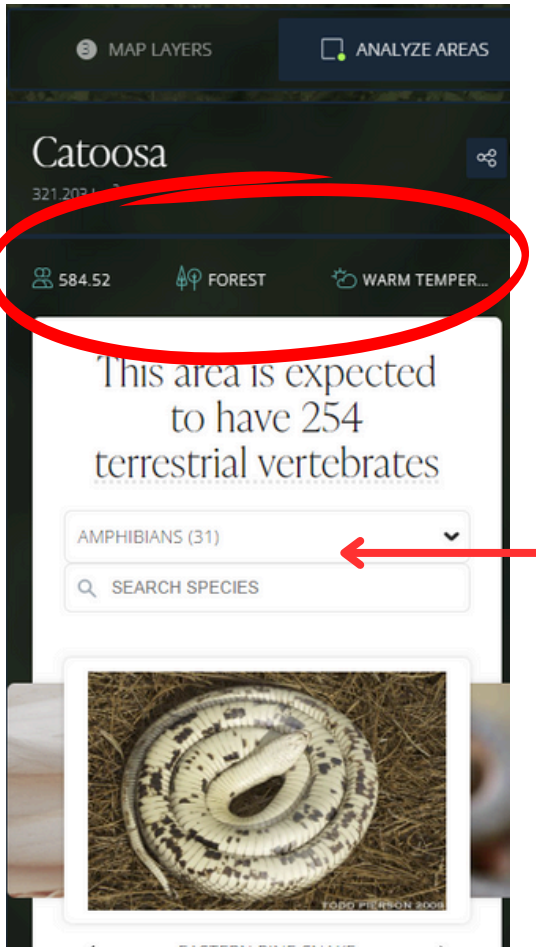
Once selected, an overview of the area will appear on the screen.

This menu provides:

- Name of protected area
- Type of protected area
- Number of land (terrestrial) vertebrate species
- Percent Protected

To get more information about the area, select “ANALYZE AREA”

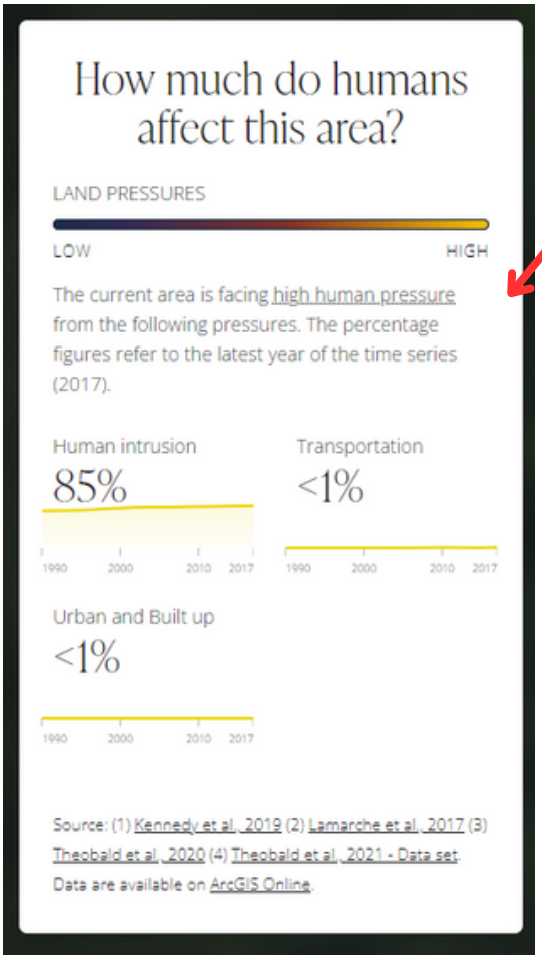




This screen provides the following information about the area :

- Size in km2
- Human Population
- Land cover
- Climate

To explore the animals in the area, filter by Taxa and click through the images. More information about specific species will be available on the Map of Life in the next part of this activity.



Scroll down to find out how much humans access and impact the area.

If the area is facing low human pressure, additional information will not appear.

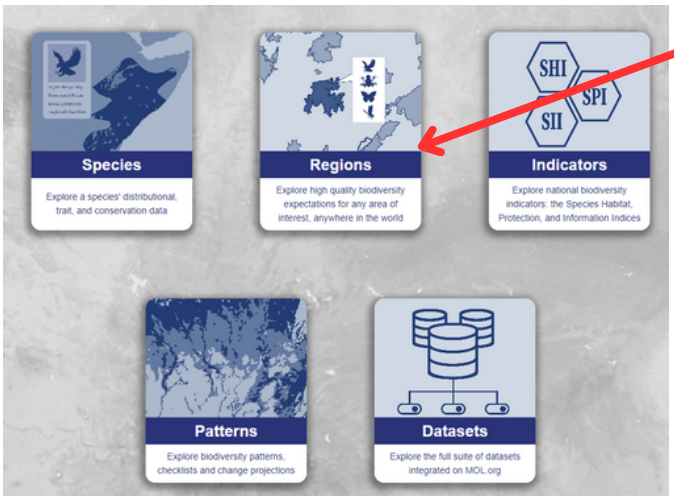
What does human intrusion mean?
Human intrusion pressure represents the degree of human modification in areas along roads, rails, and off-road areas that are accessible to humans by walking off-trail.

What does transportation include?
Transportation pressure represents the degree of human modification caused by power lines, infrastructure, roads, and railways.

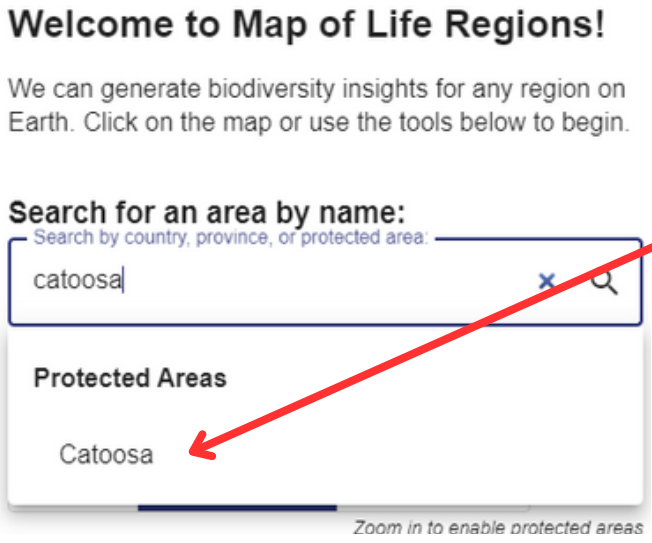
What is urban and Build-up pressure?
Urban and built-up pressure represents the degree of human modification of areas dominated by residential, commercial, and industrial land uses.

The Map of Life provides species-level data for selected regions.

To access the Map of Life go to: https://mol.org



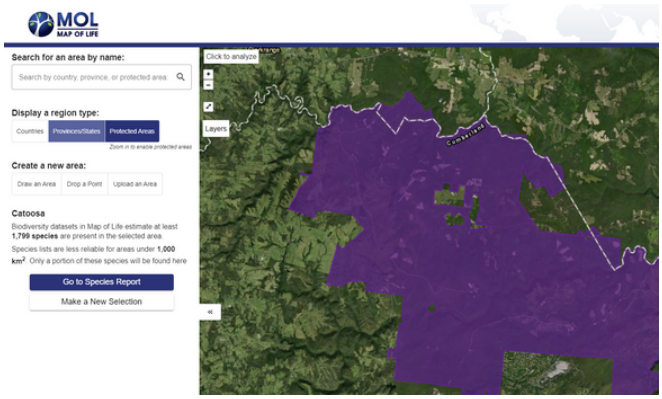
Click the “Regions” icon

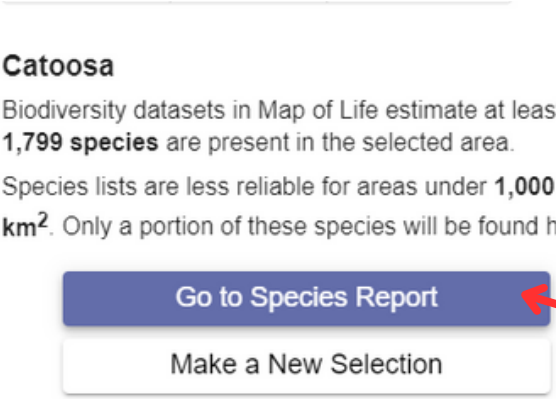


Type the name of the protected region you identified from the Half-Earth Project Map in the text box.

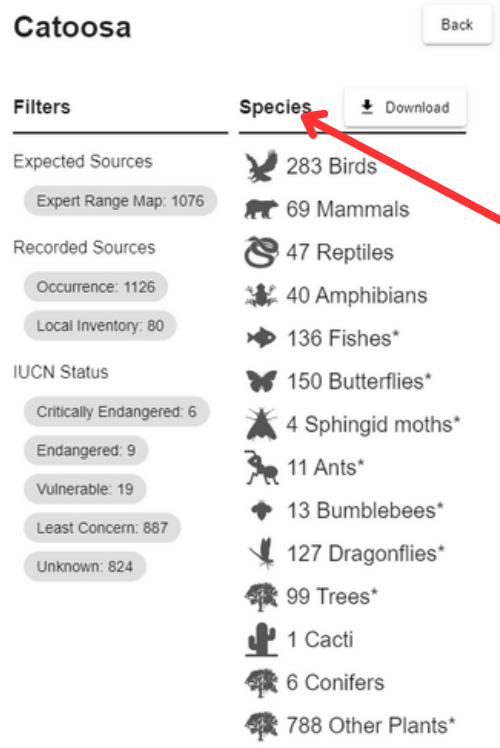
When the name of the protected areas appear, click on it.

A new map will appear on the right side of the screen.





On the menu click on “Go to Species Report’

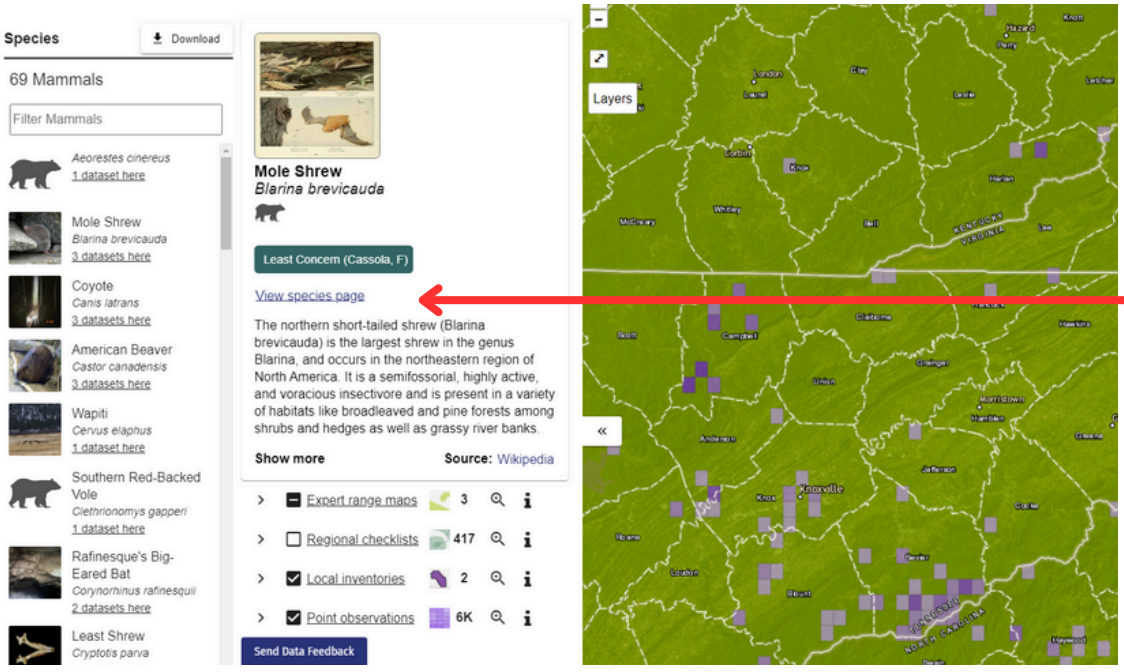


Organisms can be filtered by taxa, data source, or protected (IUCN) status.

A species list will appear with an inventory of all the probable species living within the protected area.

After clicking the filters, species will appear.

By clicking on individual species, you can obtain more information about them. Including a map that displays range map, regional checklists, local inventories, and point observations



Need more information? select: View Species Page