

Mapping Pressures on Wild Atlantic Salmon in Scotland

Step by Step Guidance for District Salmon Fishery Boards and Rivers/Fisheries Trusts



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1 Video guides

We have created two videos to accompany the following guidance. It is suggested that you view these first:

Guidance video 1: [How to login and contribute information on pressures at a catchment scale](#)

Guidance video 2: [How to contribute information on pressures at a river segment-scale](#)

2 How to log in

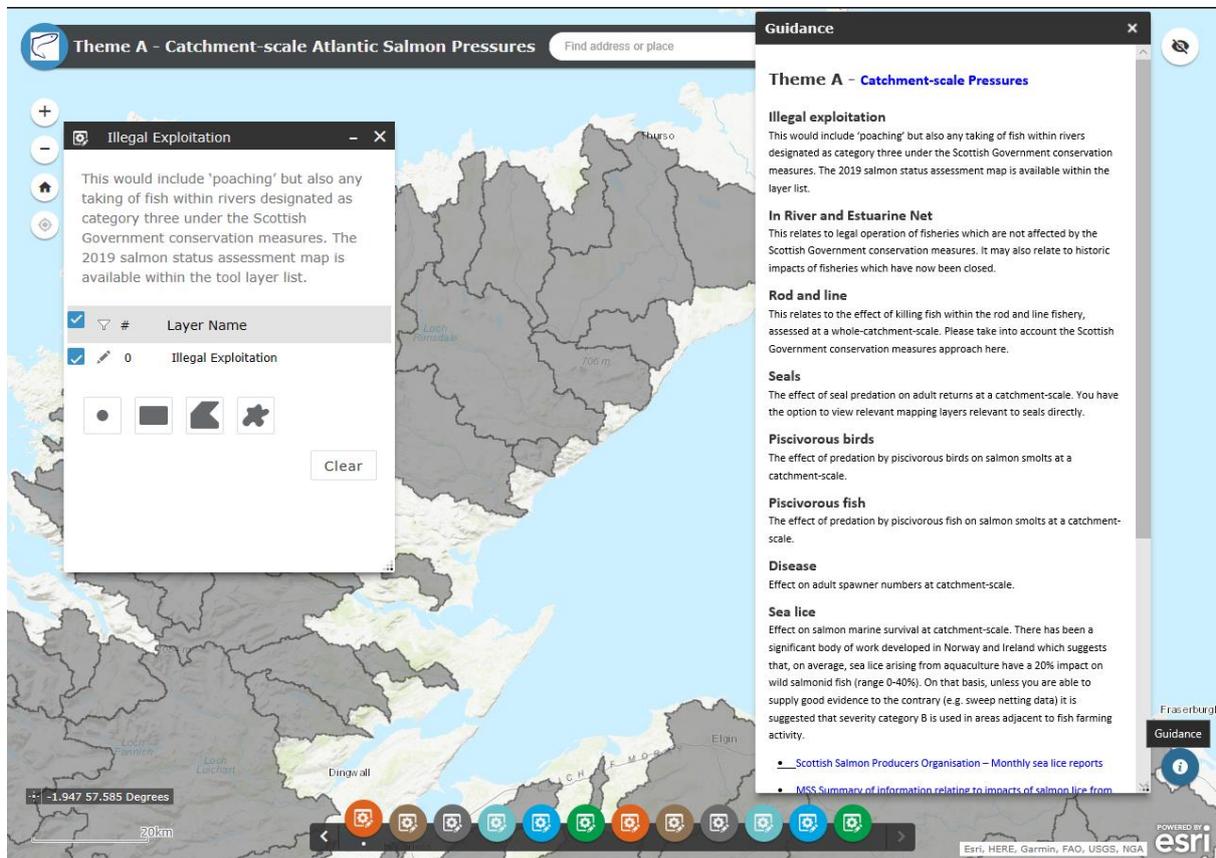
- 2.1 Before clicking on any of the links to tools below, using any internet browser, navigate to <https://www.arcgis.com/index.html#>
- 2.2 Click Sign In then enter your username and password
- 2.3 Click Sign In
- 2.4 Now that you are signed in, please click on any of the links provided below to access the tools. Each tool may be opened in a new internet browser tab or window. The tools may be accessed at any time during the project until the end of January 2020. Information contributed by you can be edited/changed/updated from any computer with an internet connection.

3 Quick links to salmon pressure tools:

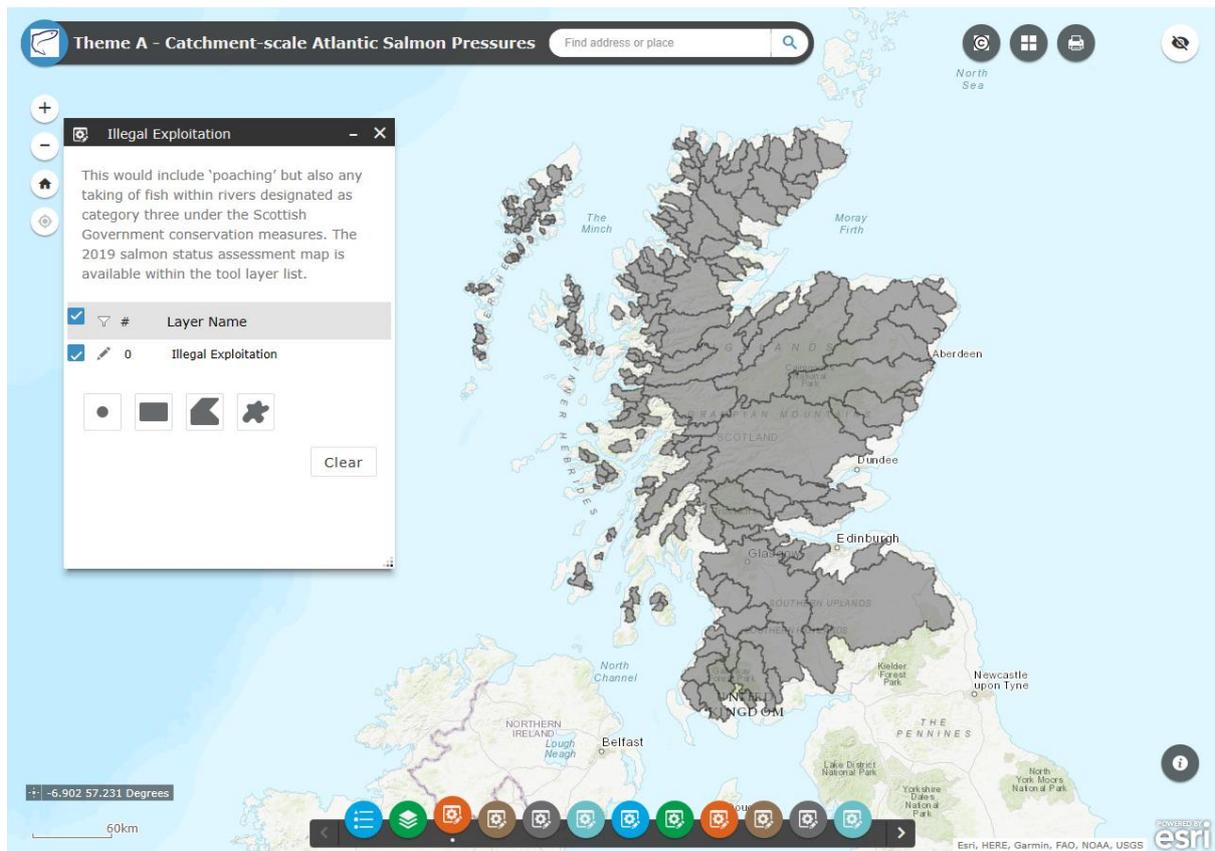
- A [Catchment-scale Pressures](#)
- B [Predation & Stocking](#)
- C [Invasive Non-Native Species](#)
- D [Habitat - Water Quality](#)
- E [Habitat - Water Quantity](#)
- F [Habitat - Thermal](#)
- G [Habitat - Instream & Riparian](#)
- H [Obstacles to Fish Passage](#)
- I [Unknown Salmon Pressures](#)

4 How to contribute information at catchment-scale (Theme A)

- 4.1 After allowing the tool to load, notice the information button in the bottom right of the screen. Clicking on this reveals guidance notes for each of the salmon pressures. The Guidance box may be enlarged, minimised, moved around the screen and closed. Any other boxes that appear as part of the process can be used in the same way.

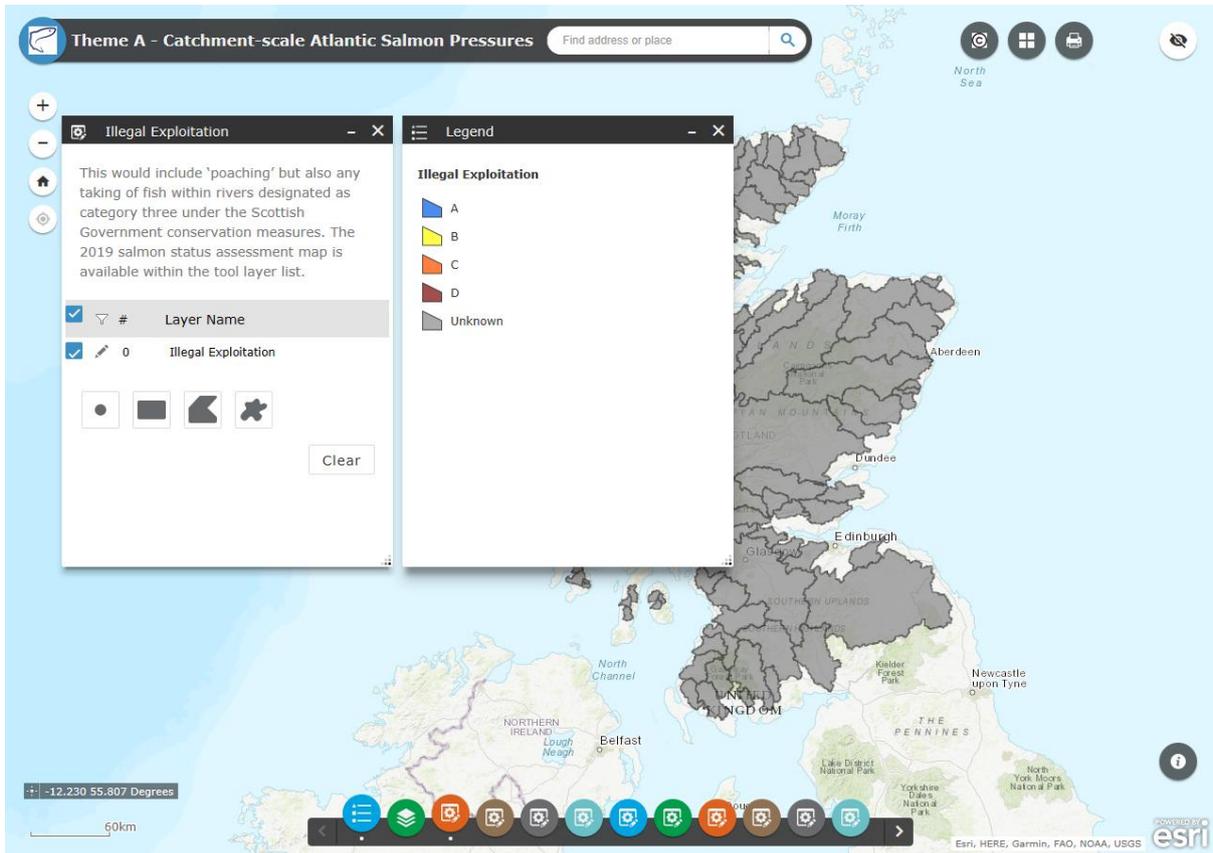


- 4.2 Using the mouse scroll wheel or the +/- buttons in the top left, zoom in to your district of interest.

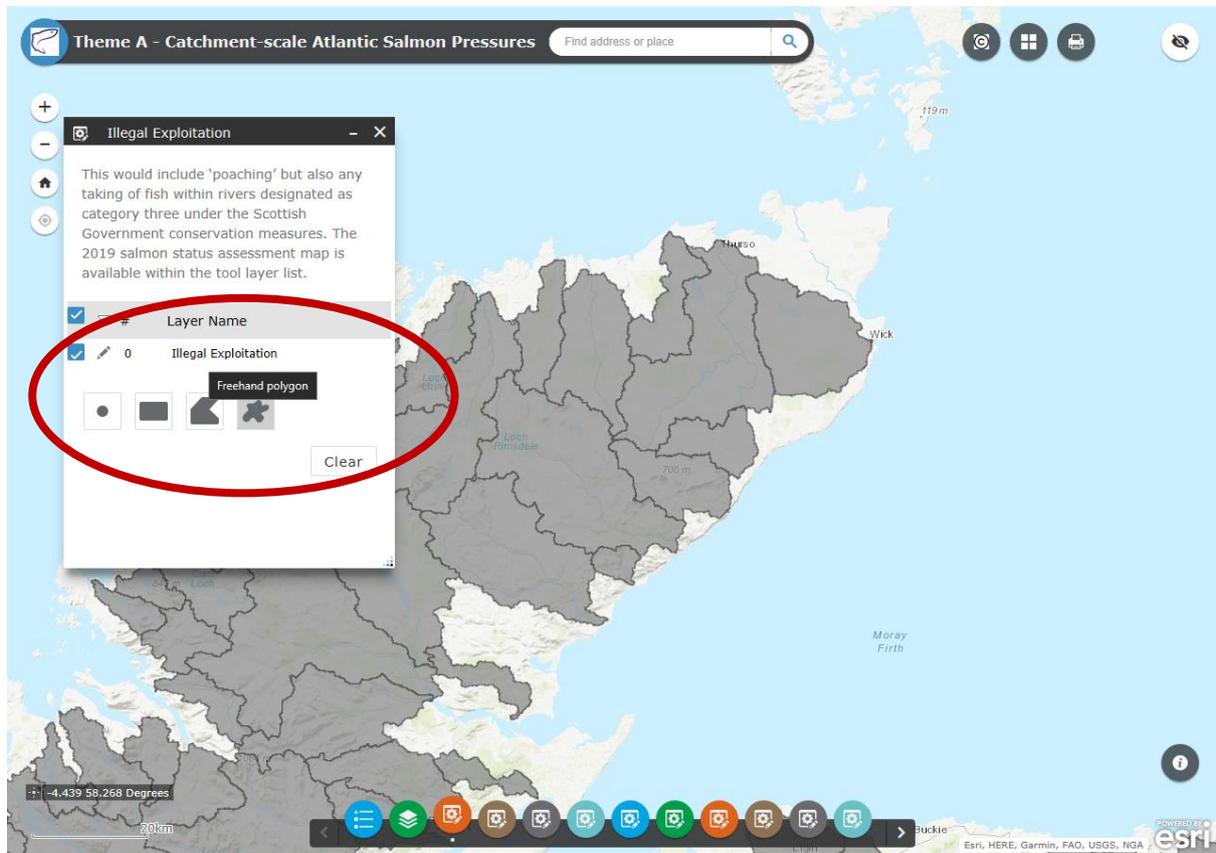


- 4.3 Note that the map for contributing information on any illegal exploitation pressures opens automatically.

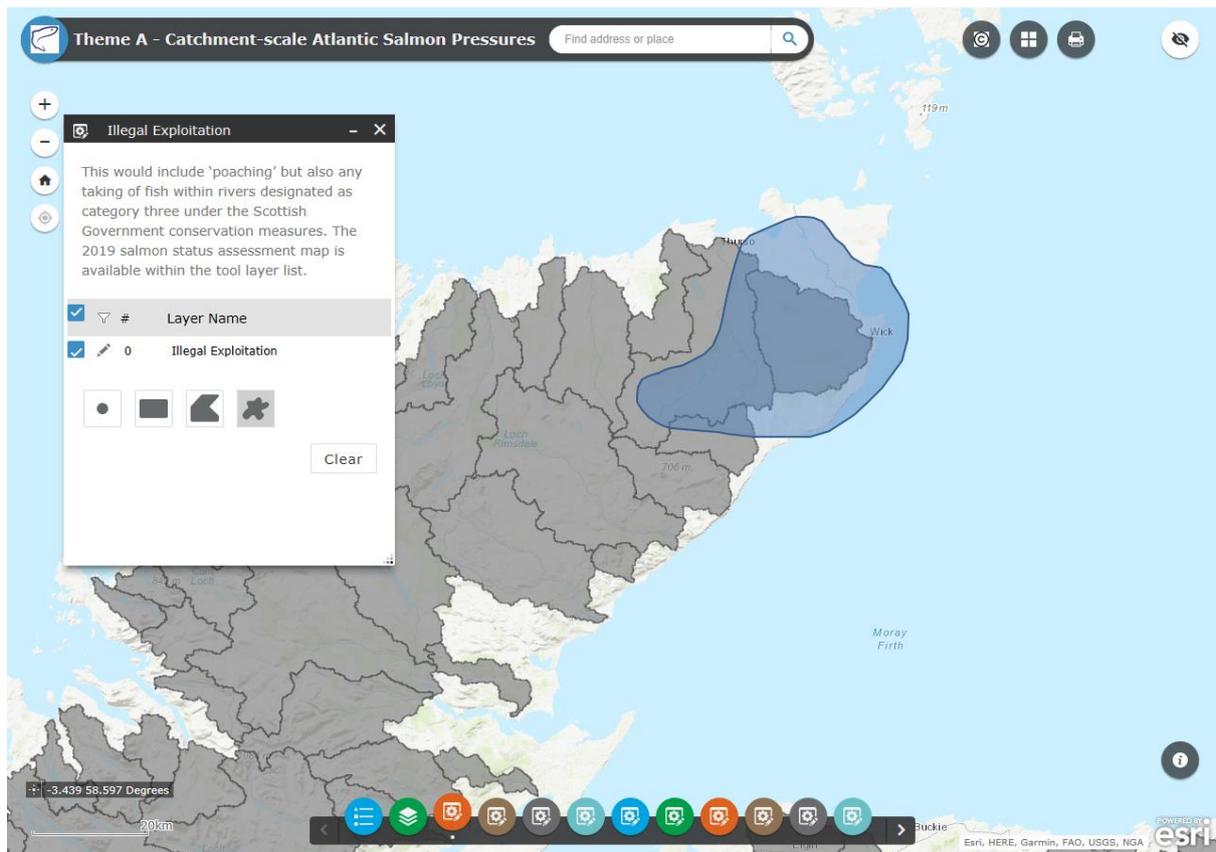
- 4.4 Clicking on the blue Legend button in the bottom left reveals the map colour scheme (showing pressure severity) as shown in the image below. Take some time to explore the interface and the options available to you.
- 4.5 After zooming in to your area of interest, hover over the salmon pressure buttons in the menu bar at the foot of the screen to display the individual pressures these refer to. Close down the Legend box by clicking the X in the top right of the box.



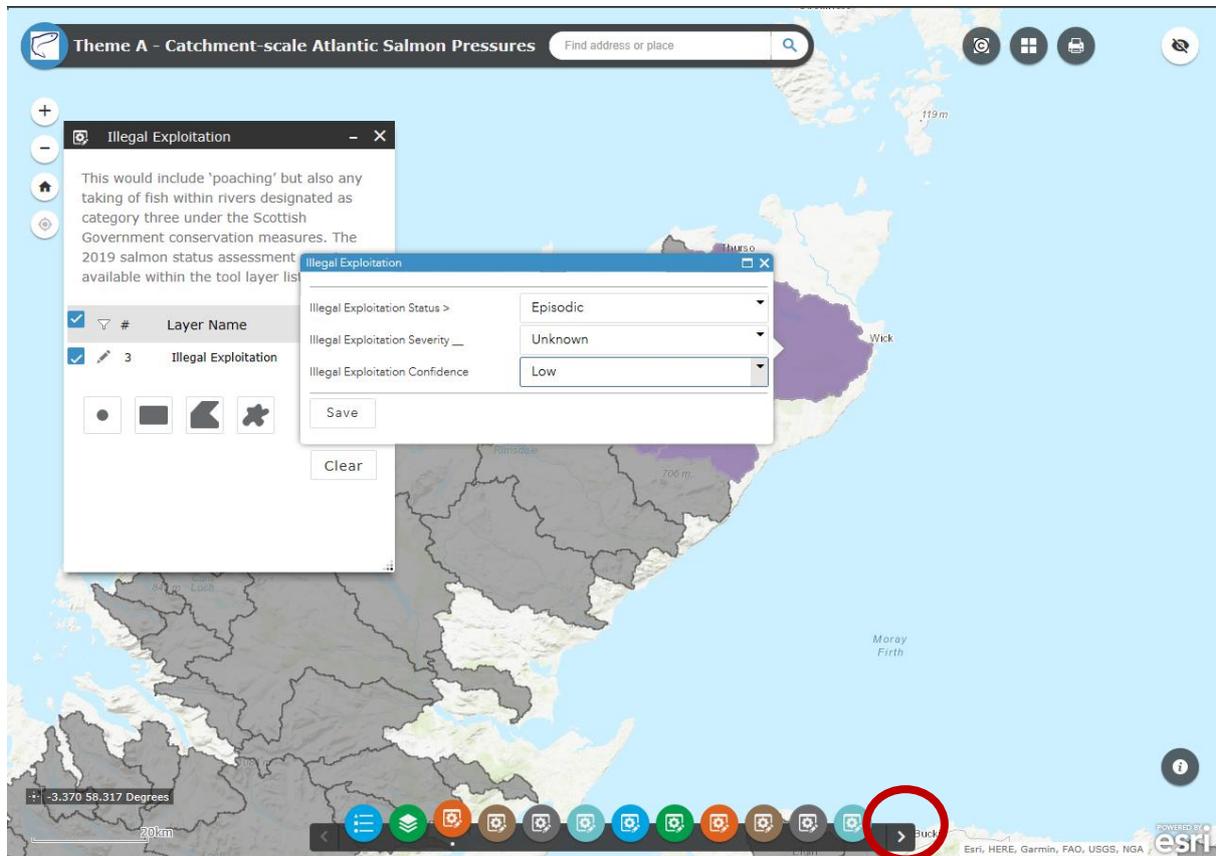
- 4.6 Salmon pressure information is assigned by selecting one or more catchments at once, allowing information to be entered. Selecting catchments is done by clicking one of the selection icons identified below. Please ensure that you do not select, and add data to, a catchment outwith your area.



4.7 Freehand polygon used to select multiple catchments at once.



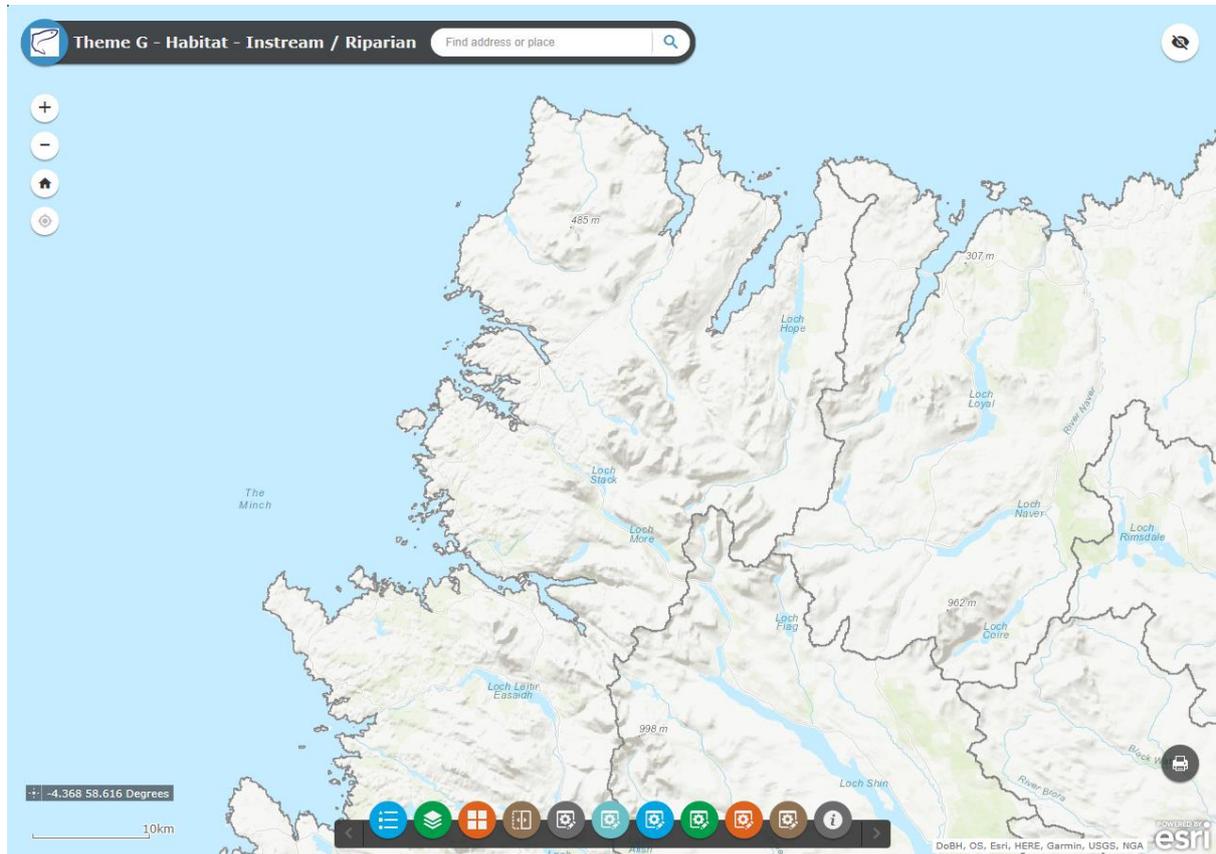
- 4.8 The Illegal exploitation 'poaching' data entry box opens allowing **Status**, **Severity** and **Confidence** values to be chosen from the drop-down menus. Click **Save** to assign your information. After saving the colour of the catchments will automatically update.



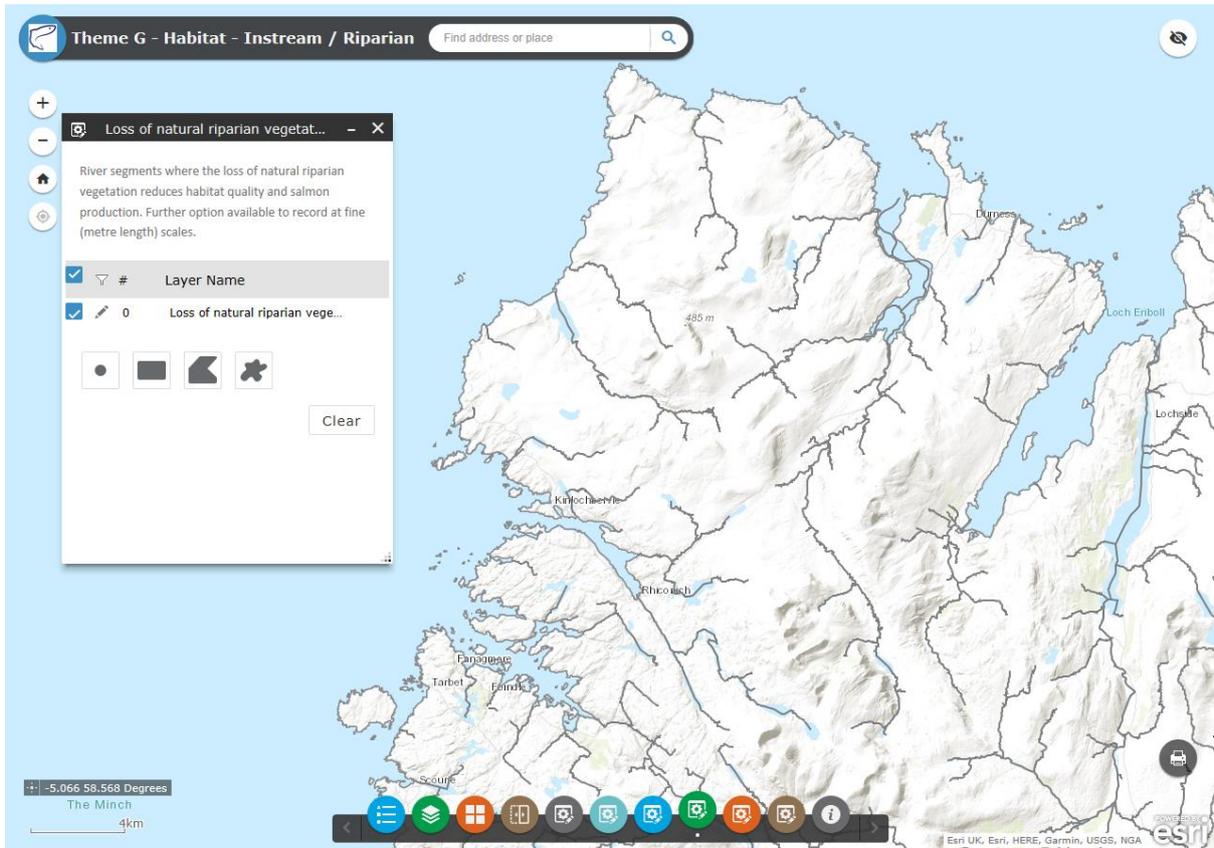
- 4.9 Repeat the above for all catchments in your area of interest and for each of the different pressures within the tool. There are 11 possible pressures contained in the catchment-scale tool. Please note that depending on the size of your computer screen, you may have to press the arrow in the bottom right of the menu bar to reveal more pressure options. Please note if no information is entered for a particular catchment, we will assume Severity = **Unknown** and Status = **Not Applicable**. After clicking **Save** you may close the internet browser window.

5 How to contribute information at river segment-scale (Themes B-I)

- 5.1 The process for assigning pressures to river segments is broadly the same as for catchments. Open one of the themes **(B-I)** using the hyperlinks provided above. After the map loads, using the mouse scroll wheel or the +/- button in the top left, zoom in to your district of interest. The interface and options available to you are the same as for the catchment-scale salmon pressures tool.

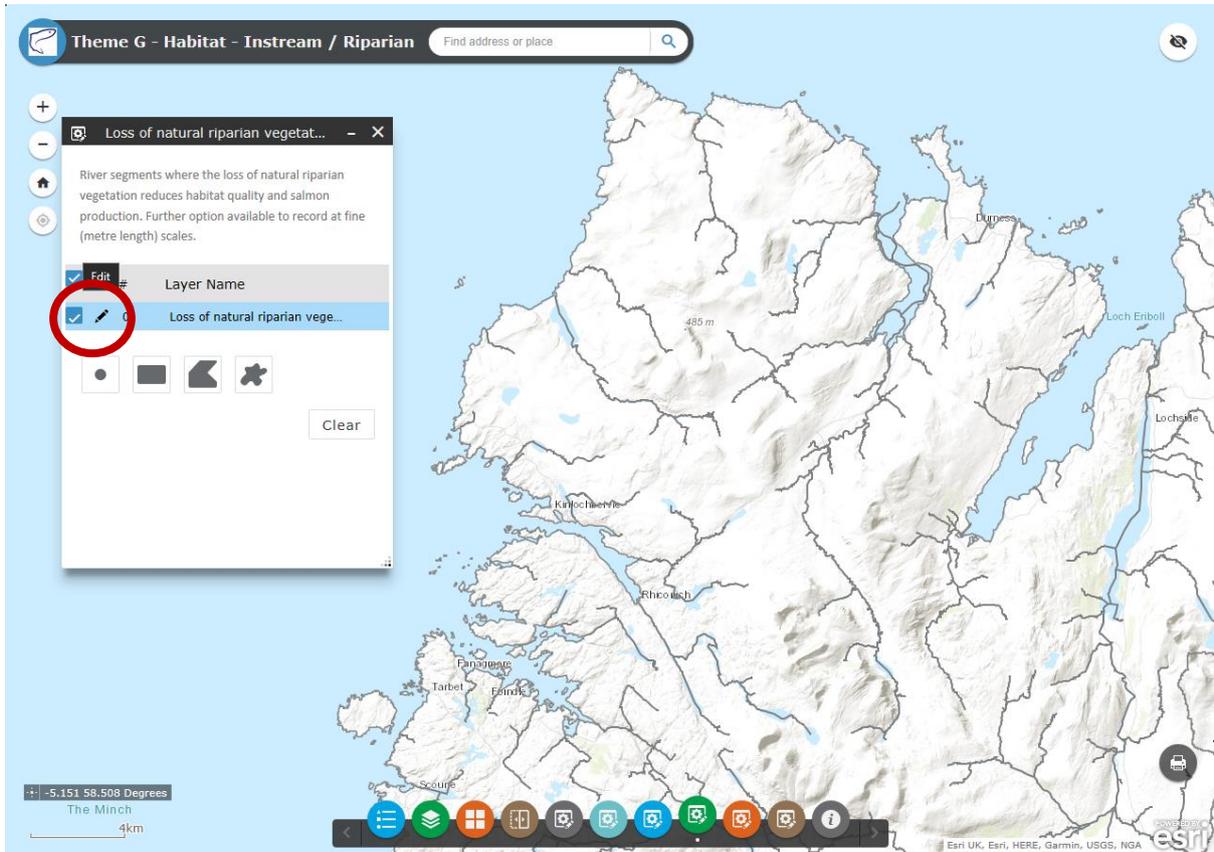


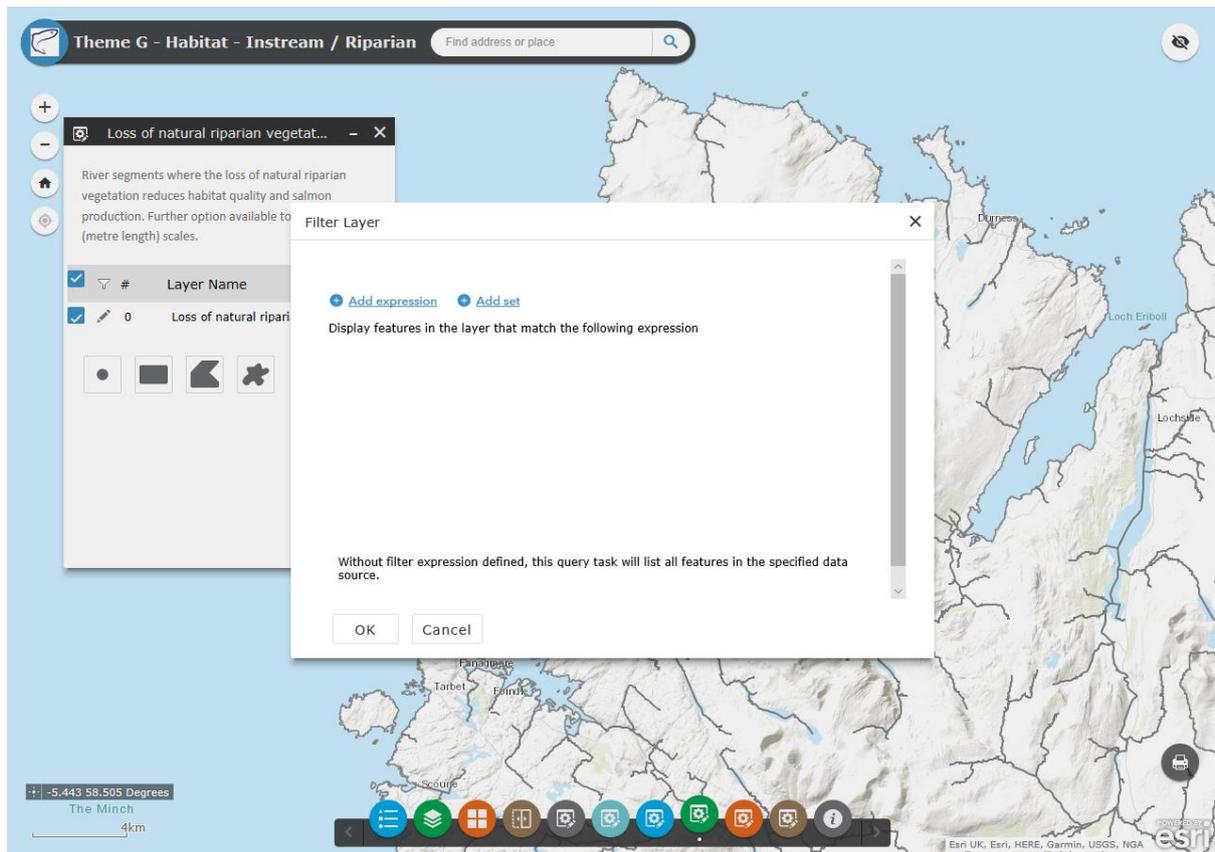
5.2 After zooming in hover over the pressure buttons at the bottom of the screen to display the individual pressure they represent. Click on one of your choice to begin.



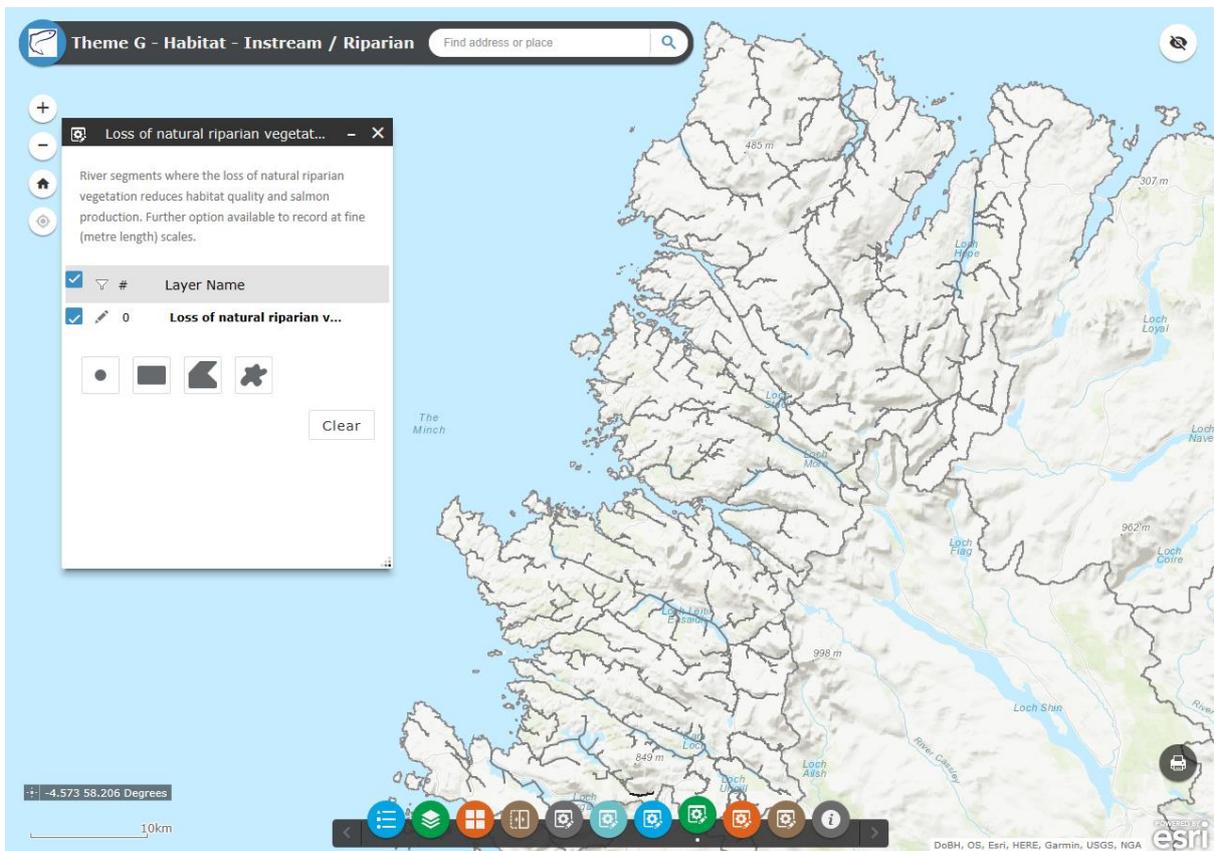
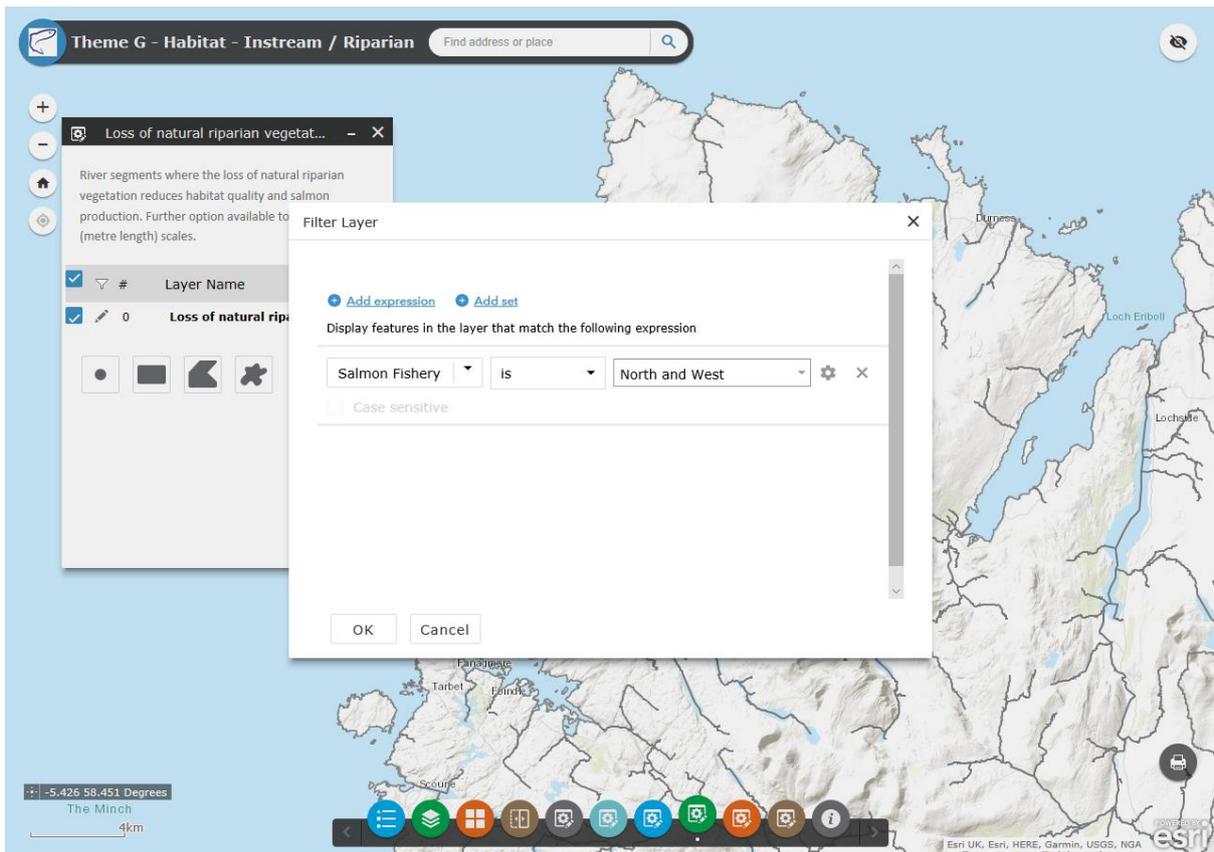
Map showing the river network for 'loss of natural riparian vegetation' pressure.

- 5.3 To improve load times and clarity it is possible to hide rivers from neighbouring Districts from view. To do this, after the river network loads, hover over to the left of the Loss of natural riparian... text in the box and click the pencil icon that appears.



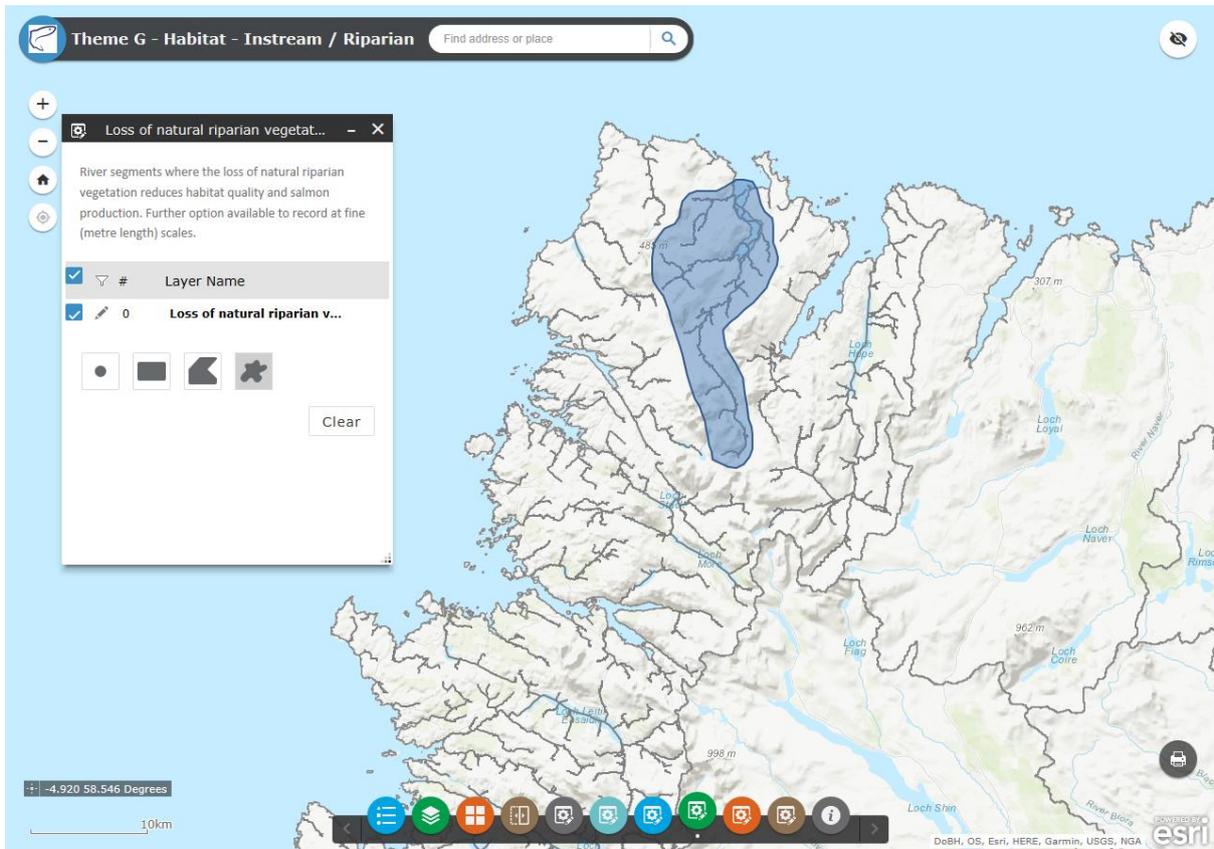


- 5.4 Click **Add Expression** and select Salmon Fishery District from the first drop-down menu. You may either type the exact name of your District or click the cog to the right of the District name box then click **Unique** before choosing your District from the drop-down that appears. Click **OK** and wait for the tool to remove all other rivers outside your District from view.

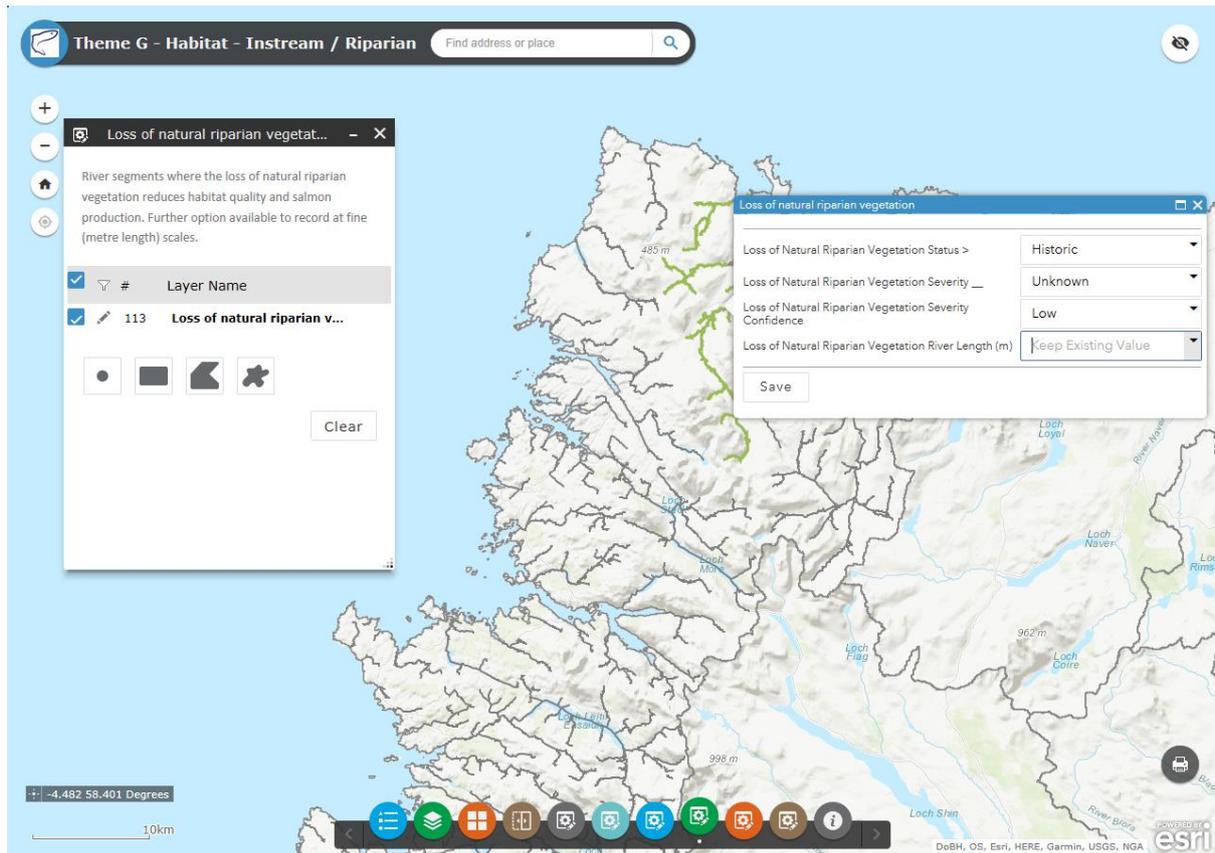


Map showing the North and West District rivers only.

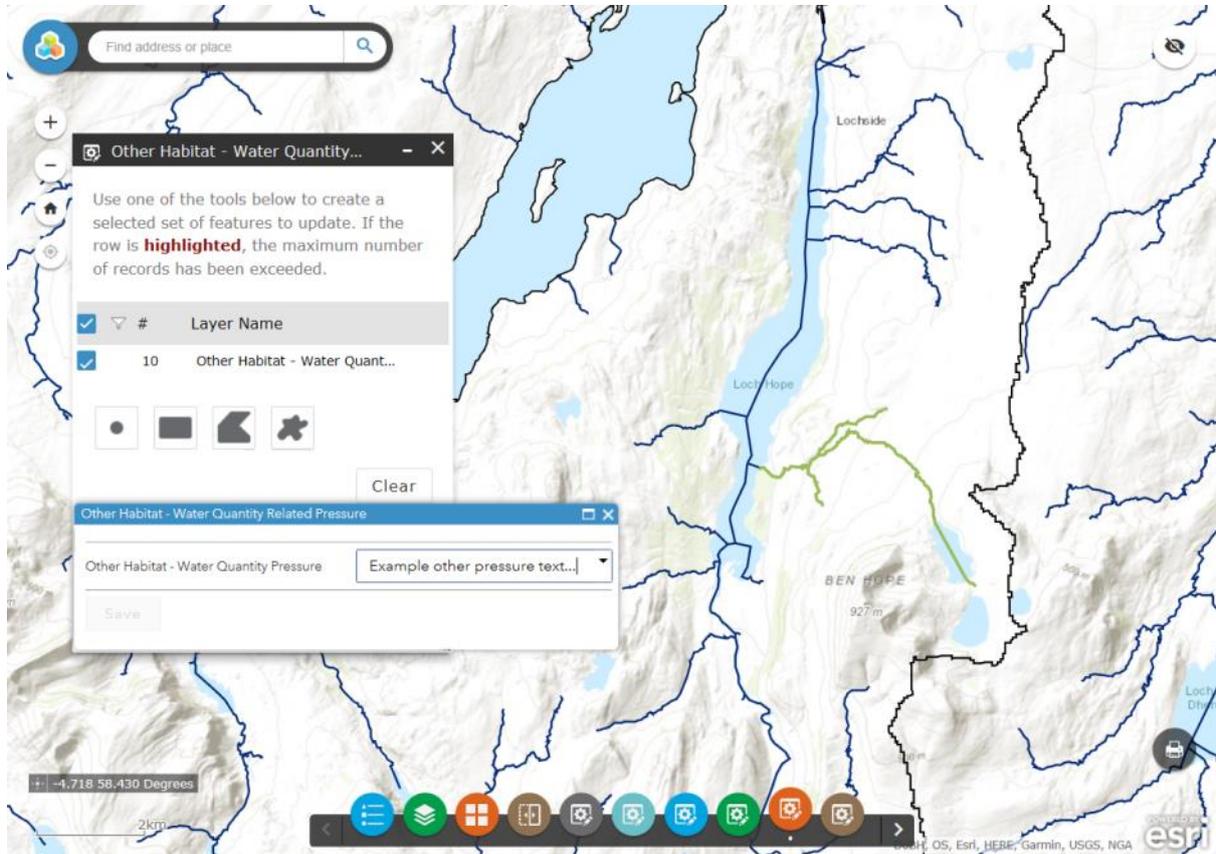
5.5 Now click the **Freehand polygon** button  before drawing round a river or whole catchment as shown.



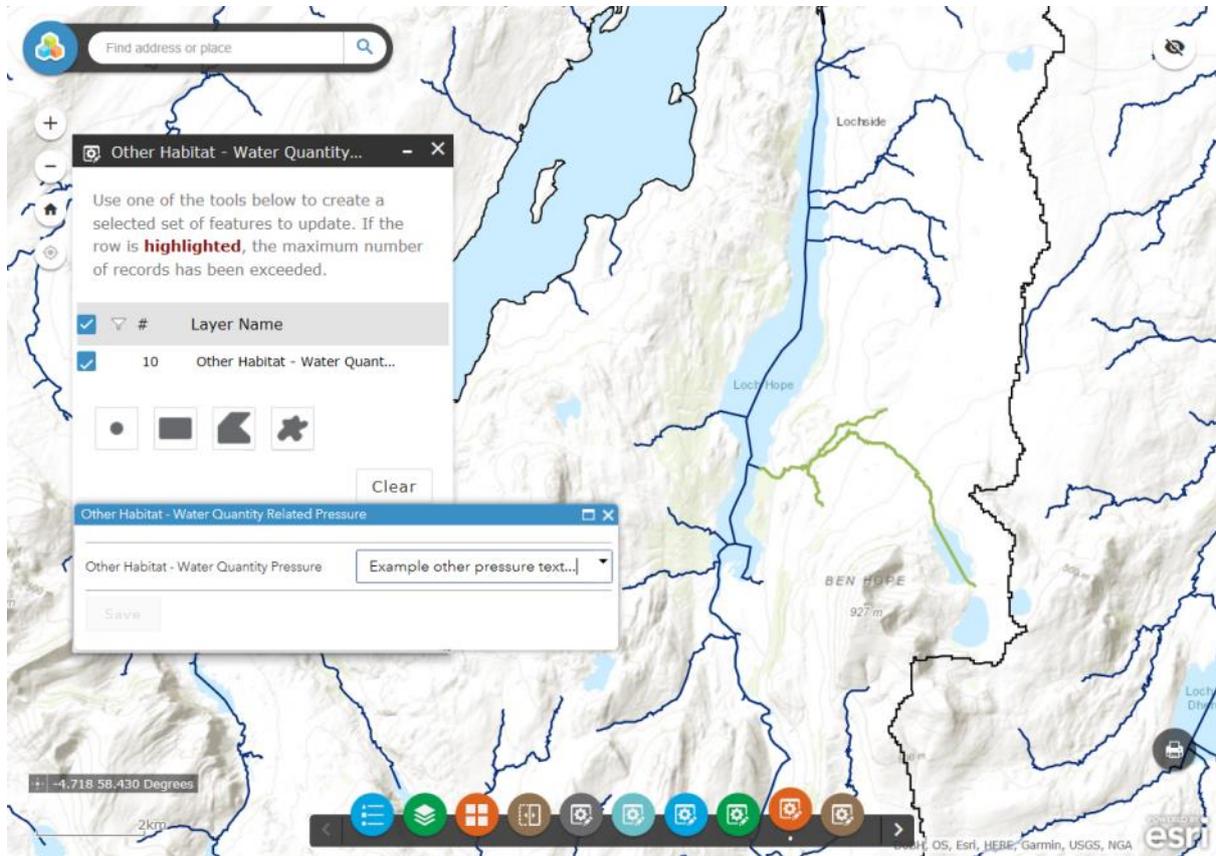
- 5.6 In the box that appears contribute salmon pressure information for the **Severity, Status** and **Confidence** fields before clicking **Save** as shown below.
- 5.7 Please note that if you wish to contribute information at a very fine spatial scale (when the individual Ordnance Survey river network segments are deemed too large), for certain pressures a river length value (in metres) can also be entered. This should only be done while selecting one individual river segment at once.
- 5.8 Click on the blue legend button and the river lines should now have changed colour to display based on Severity.



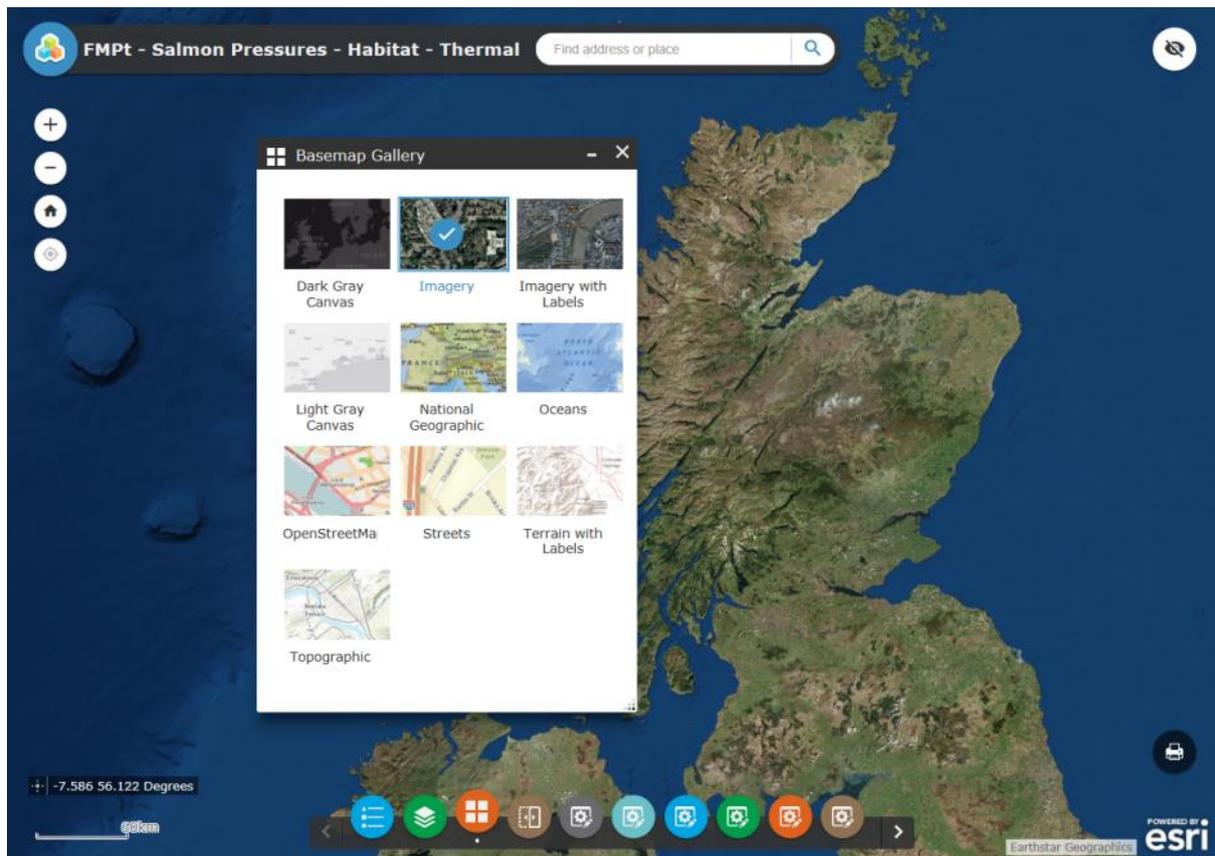
- 5.9 Repeat the above for all areas of your District. Please note that where you do not have any information on a particular pressure, or where no information has been entered in to the tool then it is assumed that **Severity = Unknown** and **Status = Not Applicable**. Please note that the maximum number of river segments (chunks) that can be selected at any one time is 2000.
- 5.10 Follow the above process for all of the river segment-scale pressure theme tools B-I.



- 5.11 If a pressure does not exist in the list of available options it can be added as free text with a character limit of 100.
- 5.12 Where data show a pressure is acting on salmon but the pressure is unknown, it can be entered in **tool I – Unknown Salmon Pressures**.

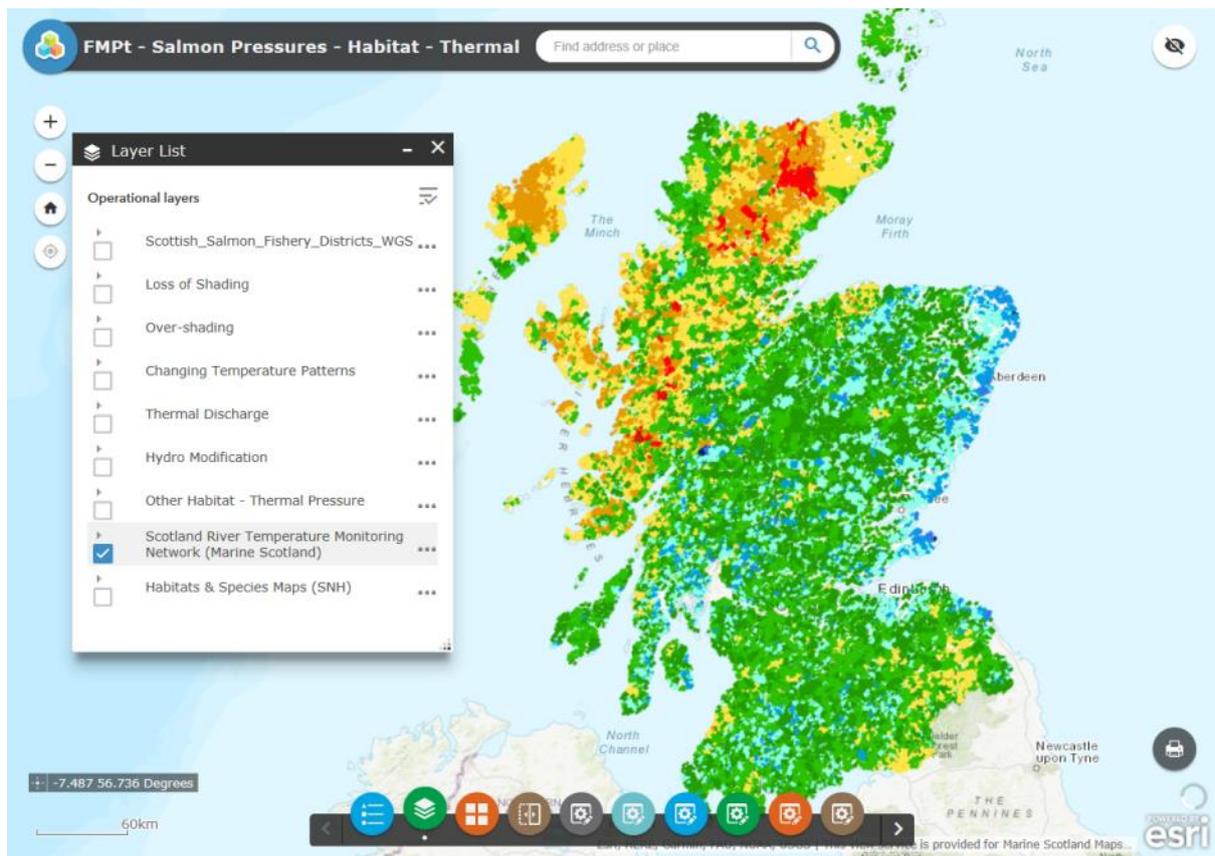


6 How to change the background map

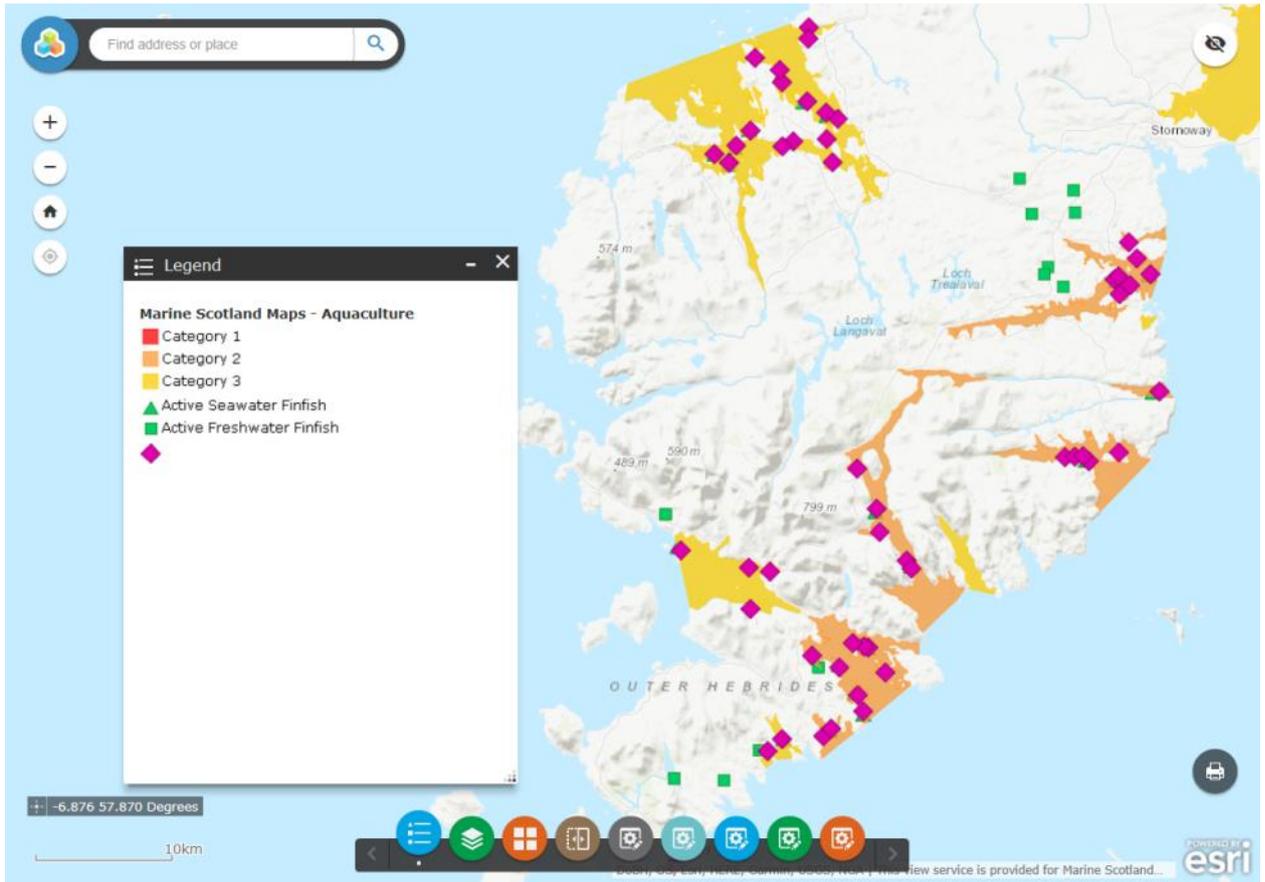


The basemap can be changed at any point in the process by choosing from the list shown in the image.

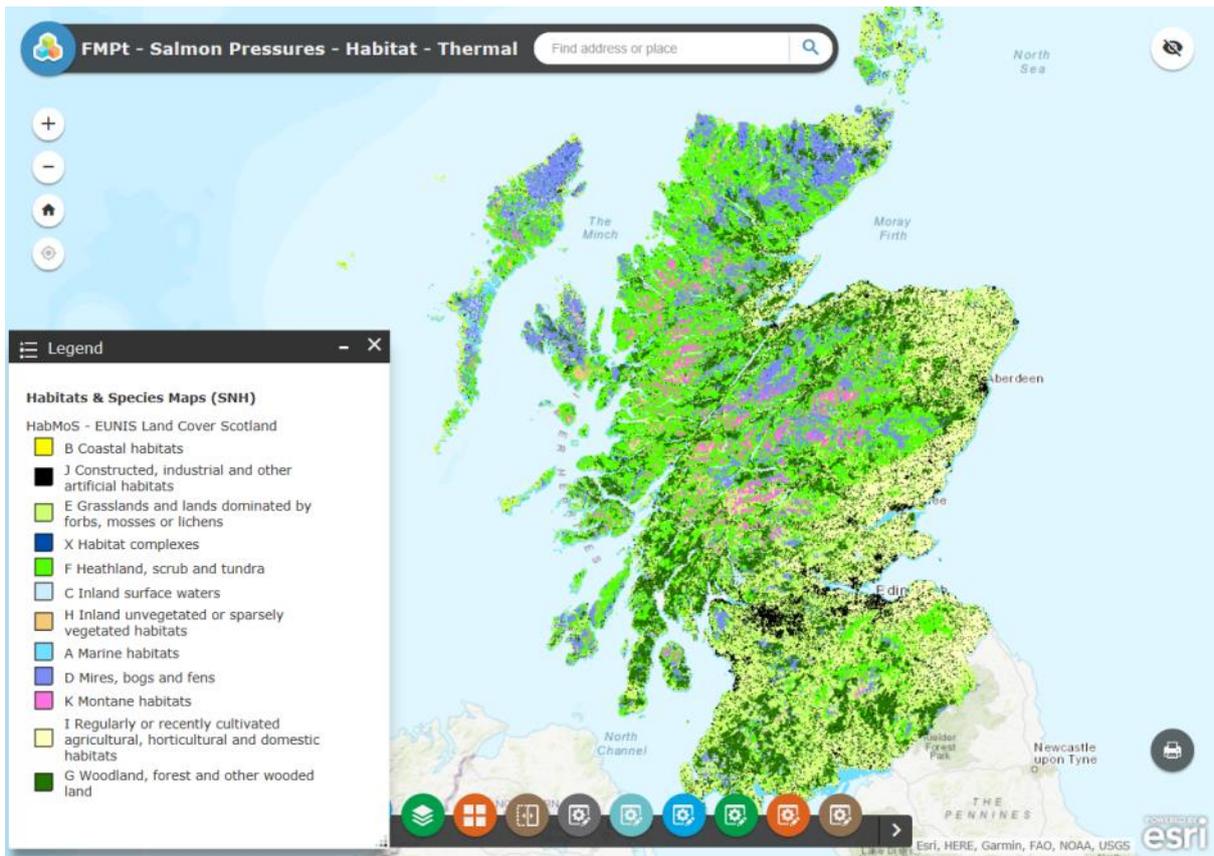
7 How to view maps from external sources



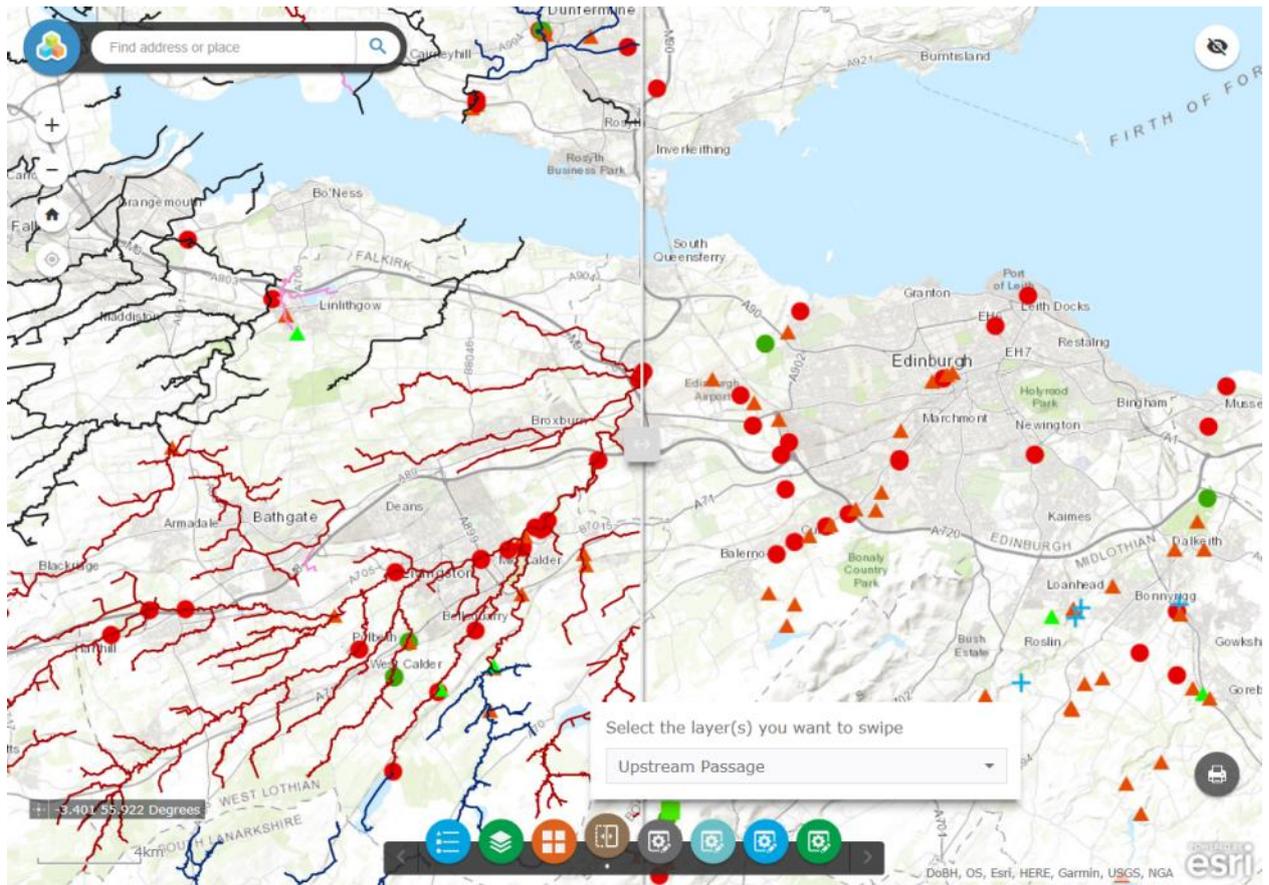
Map showing a Scotland River Temperature Monitoring Network Layer. If available, additional supporting data layers can be found in the Layer List (green button).



Aquaculture layers displayed for the Outer Hebrides.



Map showing the legend displayed for the Habitat Map of Scotland (SNH).



The swipe tool allows you to visualise supporting information on one side of the screen and the rivers holding salmon pressure information on the other. By moving the slider across the screen you can compare between two different layers. The above image shows the swipe tool being used to view Obstacles to Fish Passage (right half of screen) and the Upstream Passage salmon pressure layer (left half of screen).