



Northwest Straits

COMMISSION

SoundIQ Tutorial

[SoundIQ](#) allows you to visually illustrate our projects on a map in the context of other important natural resource information. Embedded in SoundIQ are links to the data and reports associated with the Northwest Straits Initiative projects. The following is a user-friendly guide to using the information that SoundIQ has to offer.

Welcome to SoundIQ - The Homepage

Open the [SoundIQ](#) application and take a few moments to read “[What can I do with SoundIQ?](#)”

Home

< I want to...

Welcome to SoundIQ!

What can I do with SoundIQ?

SoundIQ allows you to search for Puget Sound-area information and create custom maps. This mapping interface is flexible and should work on desktop, tablet and phone devices.

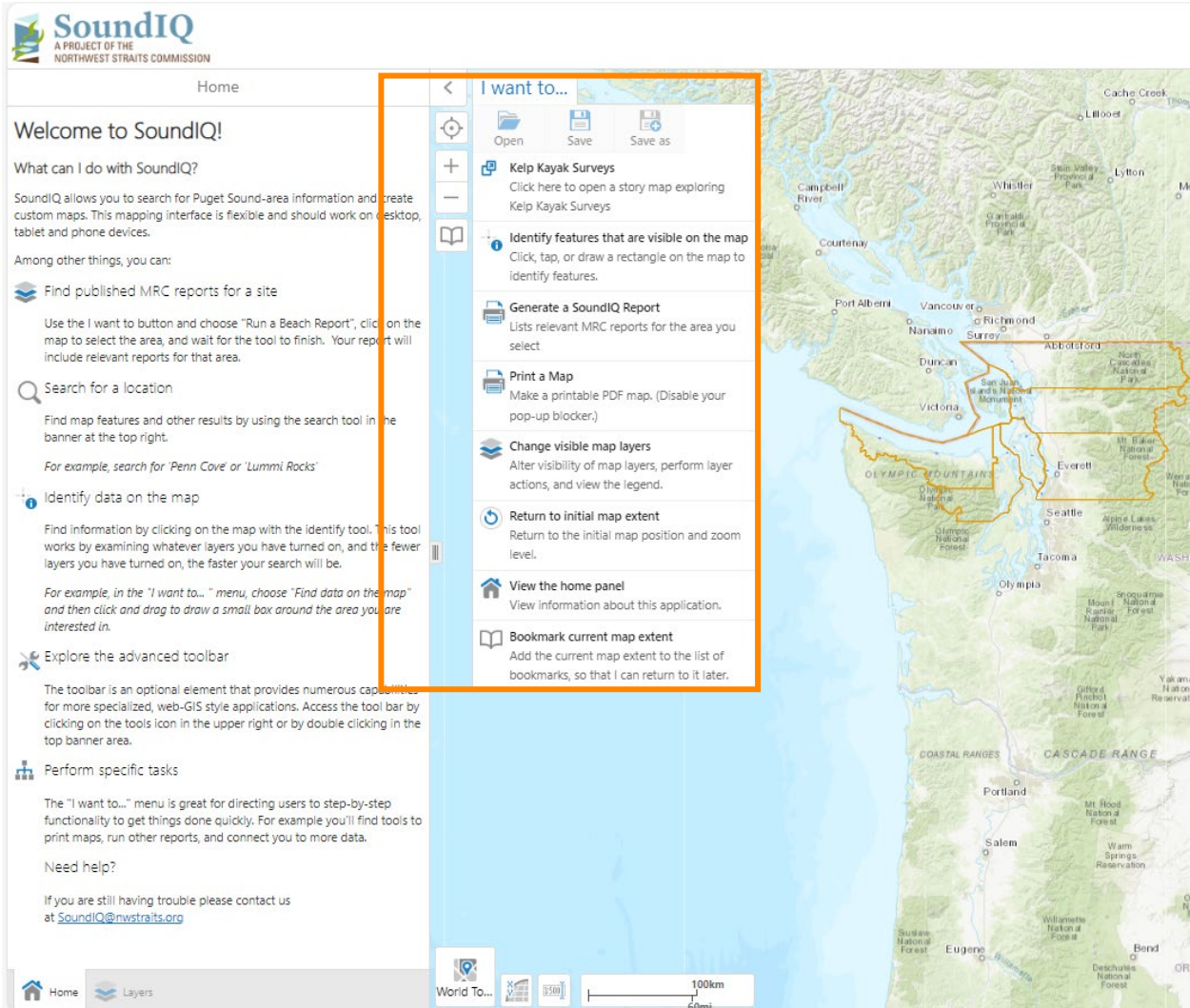
Among other things, you can:

- Find published MRC reports for a site
Use the I want to button and choose "Run a Beach Report", click on the map to select the area, and wait for the tool to finish. Your report will include relevant reports for that area.
- Search for a location
Find map features and other results by using the search tool in the banner at the top right.
For example, search for "Penn Cove" or "Lummi Rocks"
- Identify data on the map
Find information by clicking on the map with the identify tool. This tool works by examining whatever layers you have turned on, and the fewer layers you have turned on, the faster your search will be.
For example, in the "I want to..." menu, choose "Find data on the map" and then click and drag to draw a small box around the area you are interested in.
- Explore the advanced toolbar
The toolbar is an optional element that provides numerous capabilities for more specialized, web-GIS style applications. Access the tool bar by clicking on the tools icon in the upper right or by double clicking in the top banner area.
- Perform specific tasks
The "I want to..." menu is great for directing

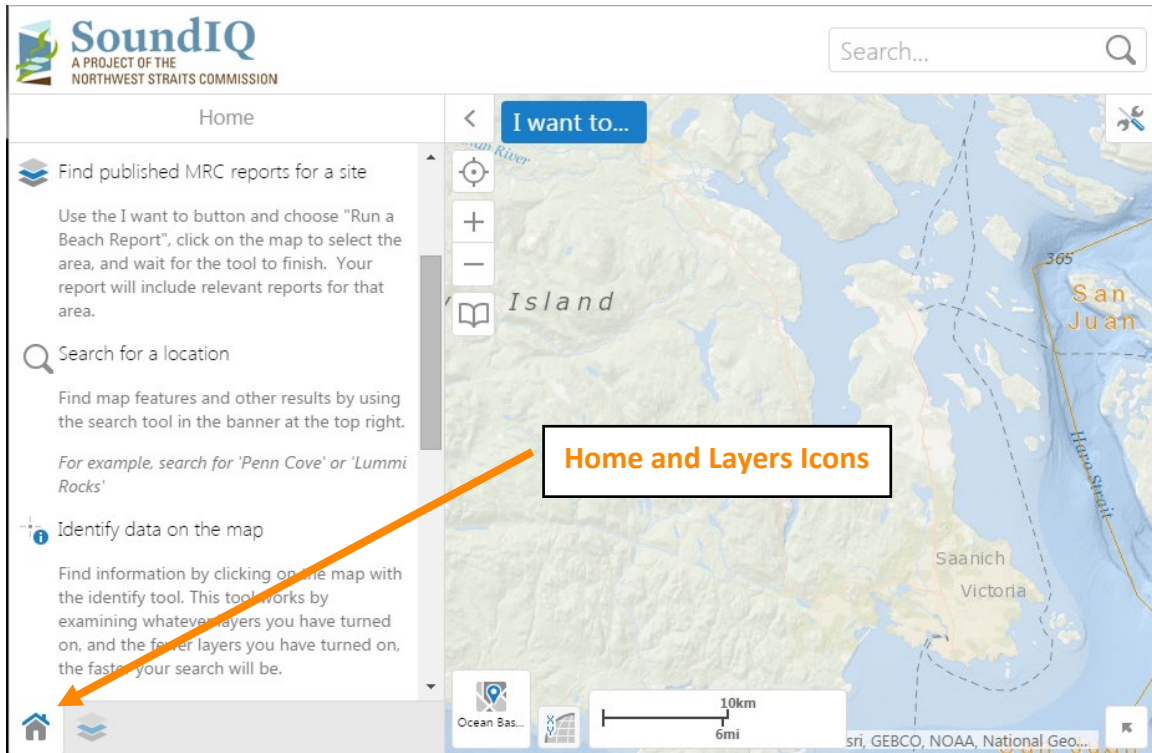
10km
6mi

Sources: Esri, GEBCO, NOAA, National Geographia

Click on the blue highlighted area, **I want to...** to access useful tools such as: Print a Map, Generate a SoundIQ Report, Bookmark current map extent, and several other functions. These functions will be explained in more detail.






On the bottom left of the application are two icons: “Home” which will take you back to the welcome screen and “Layers” where you can select which map layers to display (we will go into further detail later on).



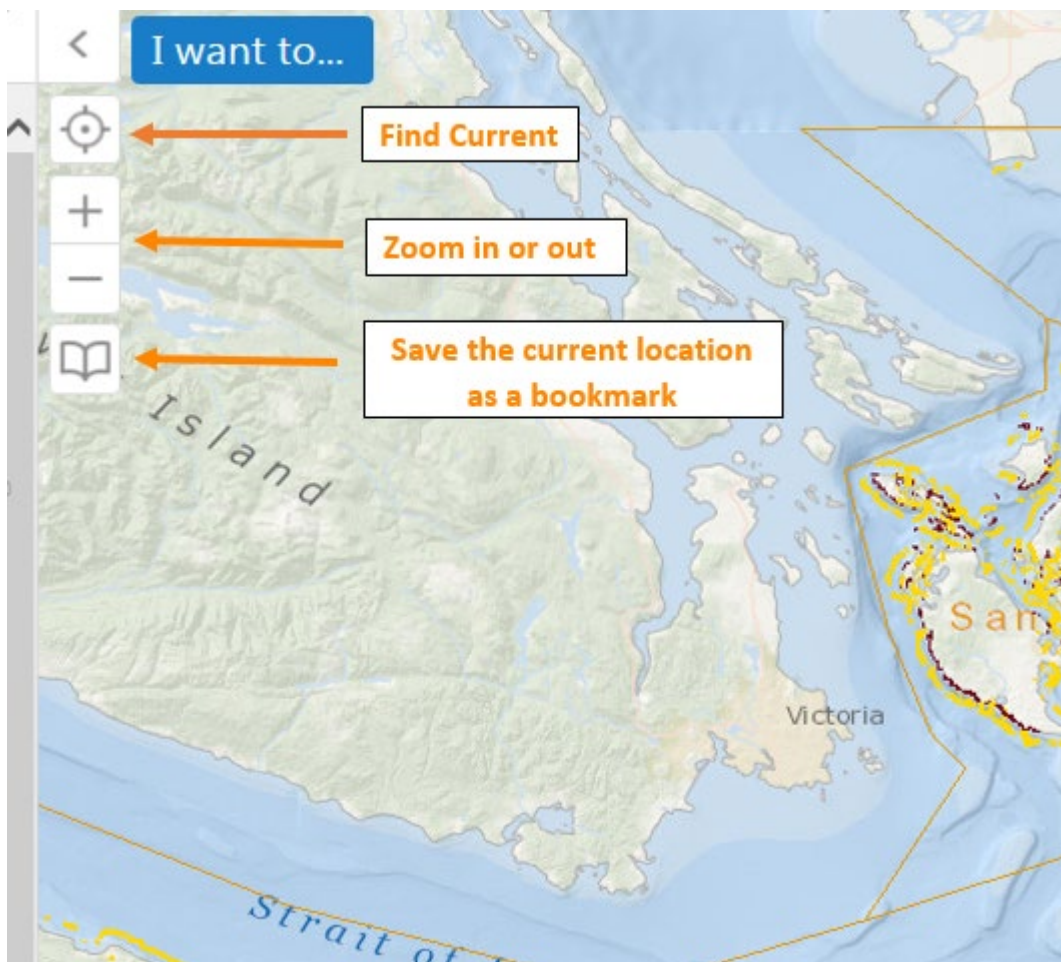
Map Display – Navigating the Map



The left panel can be expanded or collapsed by clicking the arrow < to the left of the **I want to...** tab. Below that arrow are useful quick tools that include:



Geolocation icon  (used with on your mobile device) to:


-  Find Me determine your current location
-  Track Me track an area
-  Follow Me follow you on the map

Other quick tools allow you to zoom in and out and save the current location as a bookmark.

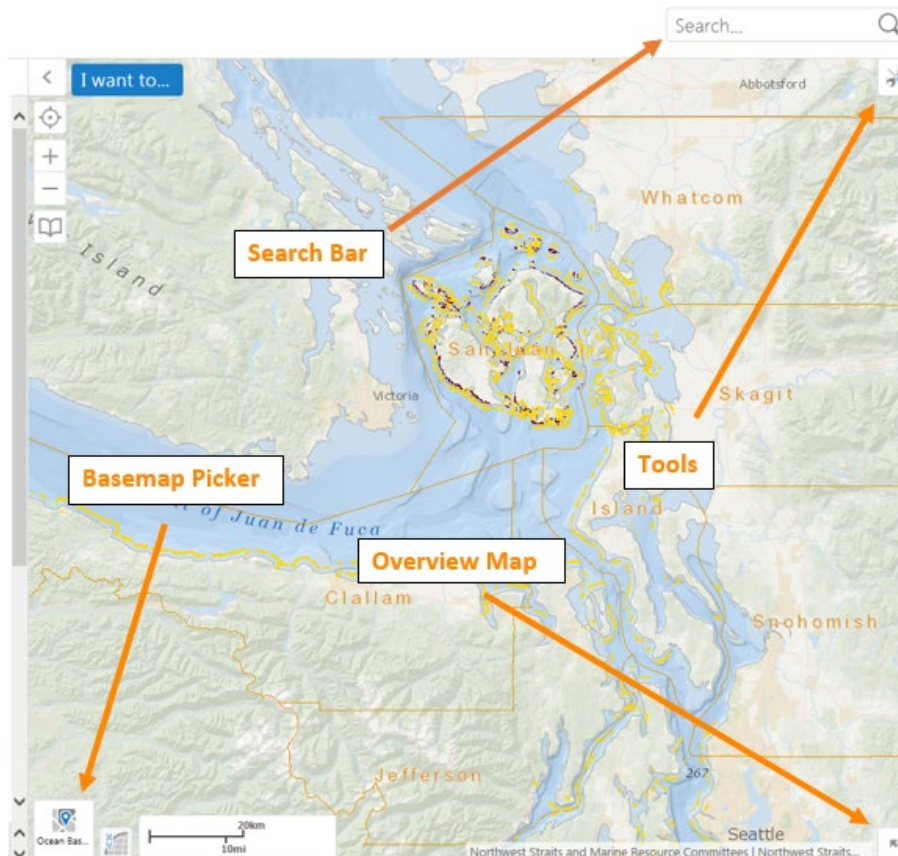


The “**Basemap Picker**” icon  is located next to scale  on the bottom of the map. This can be used to change the type of background being viewed. Click through some of the options which include: WA DOT basemap, topographic, simple light grey base, Ocean floor, and aerial photos.

The “**Overview Map**”, click the arrow on the bottom right of the map , allows the user to focus on a particular region by clicking on and moving the blue box . You can close this box by clicking on the arrow

In the upper right corner, the “**tools**” icon  opens a set of toolbars at the top of the map. These provide variety of tools to view, search, markup and export the map and will be discussed in detail later in this tutorial.

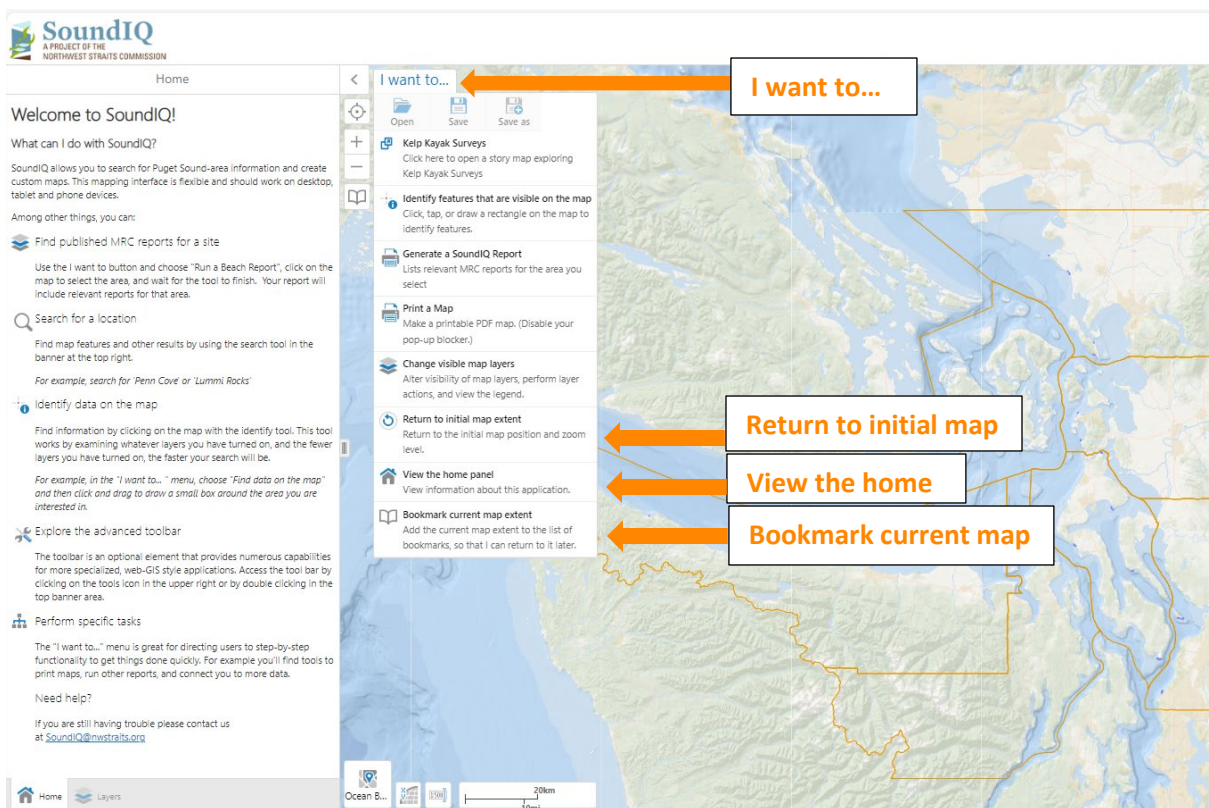
Above the tools icon is the “**Search Bar**”. Enter the name of a place or data item to search for and press enter or click on the magnifying glass. The information on SoundIQ associated with this place will be listed in a new panel on the left and corresponding markers will appear on the map. Click on an item in the search results list to view more information about that item.



I Want to Menu – Detail

When clicked, the “I want to...” button provides a drop down list of useful functions. Some of these basic tools and what they do include:

- “Return to initial map extent”, this will return the map to its initial position and zoom level.
- “View the home panel”, takes you back to SoundIQ’s home screen.
- “Bookmark current map extent” adds the current map extent to the list of bookmarks, so that you can return to it later.

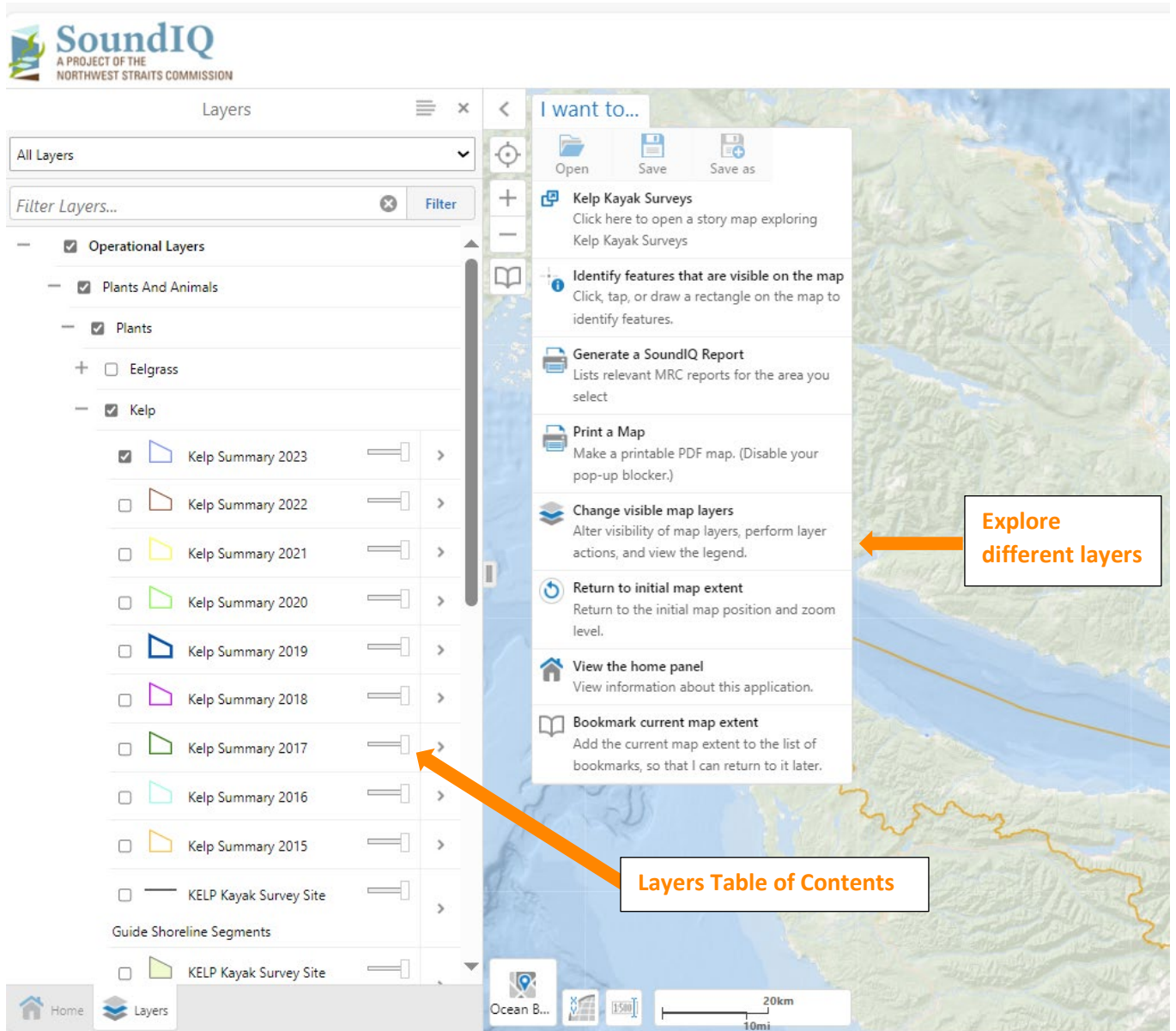


The “Explore a Northwest Straits Initiative Floating Kelp Monitoring Story Map” opens a new tab in the browser, taking you to an interactive Story Map about community science project tracing floating kelp extent in the Northwest Straits Region.

If you would like to print a map of whatever you have navigated to and selected on SoundIQ, click the “I want to...” for the drop down menu, then select “Print a Map”. This will present you with several options for the format that you wish to print, such as the layout, the format it’s in, resolution, type of grid to use, etc.

The screenshot displays the SoundIQ web application interface. On the left, there is a sidebar with a 'Home' button and a 'Layers' panel. The main content area features a 'Welcome to SoundIQ!' message and a list of tasks such as 'Find published MRC reports for a site', 'Search for a location', and 'Identify data on the map'. A top navigation bar includes a 'Home' button and a 'Layers' panel. The 'I want to...' menu is open, showing options like 'Open', 'Save', 'Save as', 'Kelp Kayak Surveys', 'Identify features that are visible on the map', 'Generate a SoundIQ Report', 'Print a Map', 'Change visible map layers', 'Return to initial map extent', 'View the home panel', and 'Bookmark current map extent'. An orange arrow points to the 'Print a Map' option. The 'Print Map' dialog box is open, showing settings for 'Select Layout' (8.5" X 11" Landscape), 'Output Format' (Pdf), 'Resolution' (Low), 'Grid' (None), and 'Map Scale' (Current Scale - 1: 577791). It also includes a text input field for 'Your Title Goes Here' (containing 'SoundIQ') and a text area for 'Your Notes Go Here'. A 'Print' button is located at the bottom right of the dialog box.

Also under the “I want to” button is “Change visible map layers” which will switch you to the “Layers” icon which displays table of contents, the list of data layers that can be turned on or off for display.


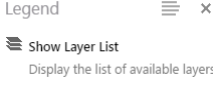


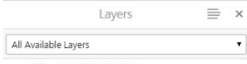
Using the Map Layers

There are five main groups of data under “Operational Layers” which include: “Plants and Animals”, “Management Areas”, “Landforms”, “Human”, and “Coastal Atlas”. You can expand and collapse each group to view the data layers by clicking on the “+” or “-” symbol.

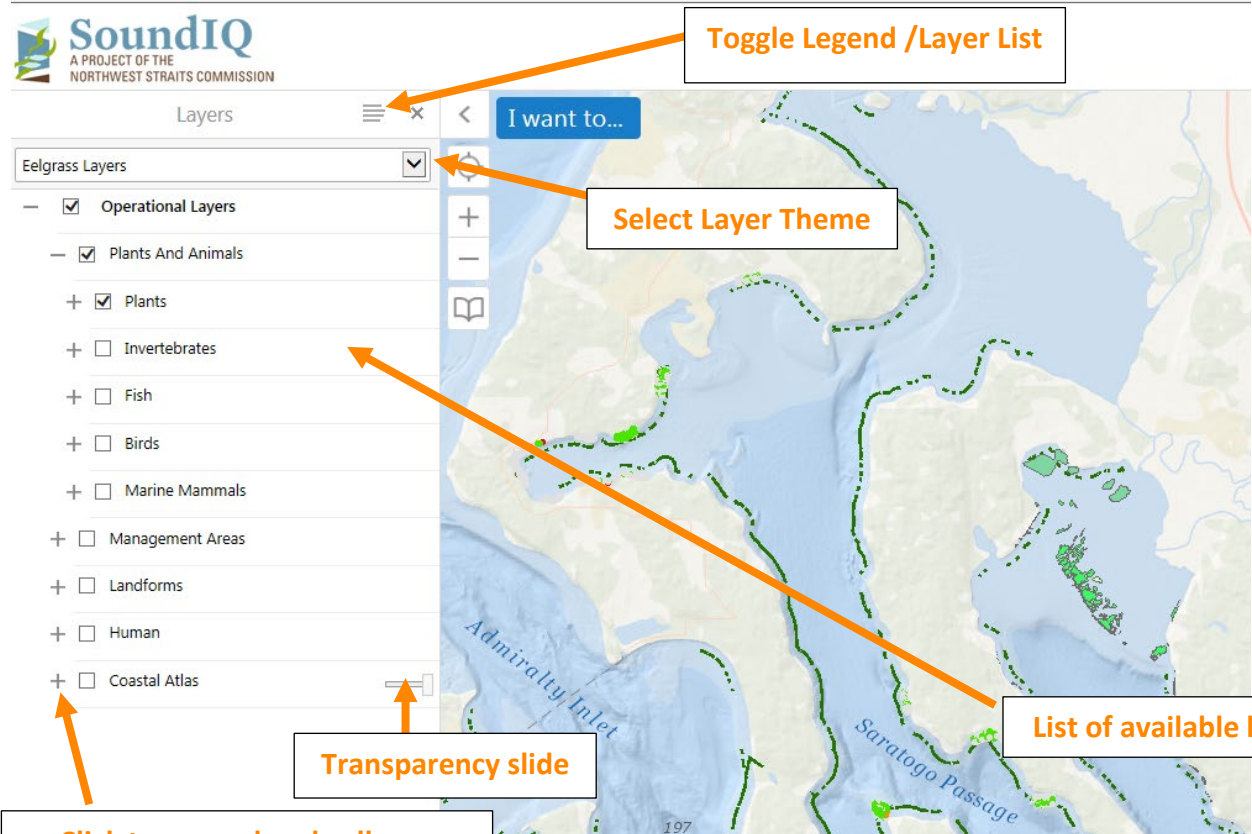
In the upper right of the Layers panel is an icon , click on it and a “Show Legend” option

displays , click on “Show Legend”, the Layer List will change to a legend.

Select the icon  again to display Layer List option  and select “Layer List” to turn layers on and off.

In the “Layers” view is a dropdown option  to turn on multiple layers in one click: “All Available Layers”, “Creatures” (turns on all animal layers), or “Eelgrass Layers” (turns on all eelgrass layers).

The “Coastal Atlas” group includes a “Transparency Slider” tool used to control the transparency of the data display (makes data displayed below the transparency layer easier to see).

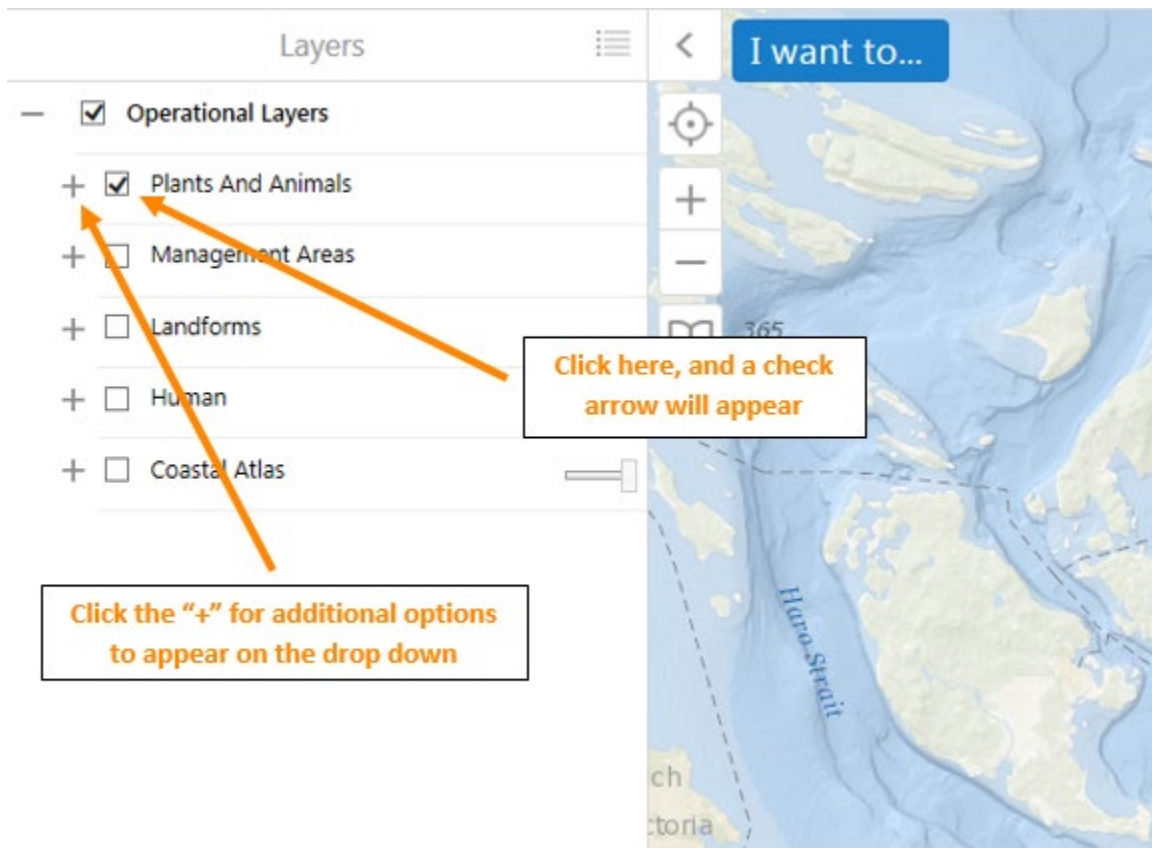


The screenshot shows the SoundIQ map interface with several callouts:

- Toggle Legend /Layer List**: Points to the hamburger menu icon in the top right of the Layers panel.
- Select Layer Theme**: Points to the dropdown menu in the Layers panel.
- List of available layers**: Points to the list of layer groups in the Layers panel.
- Transparency slide**: Points to the slider control for the Coastal Atlas layer.
- Click to expand and collapse**: Points to the plus and minus symbols next to the layer groups.

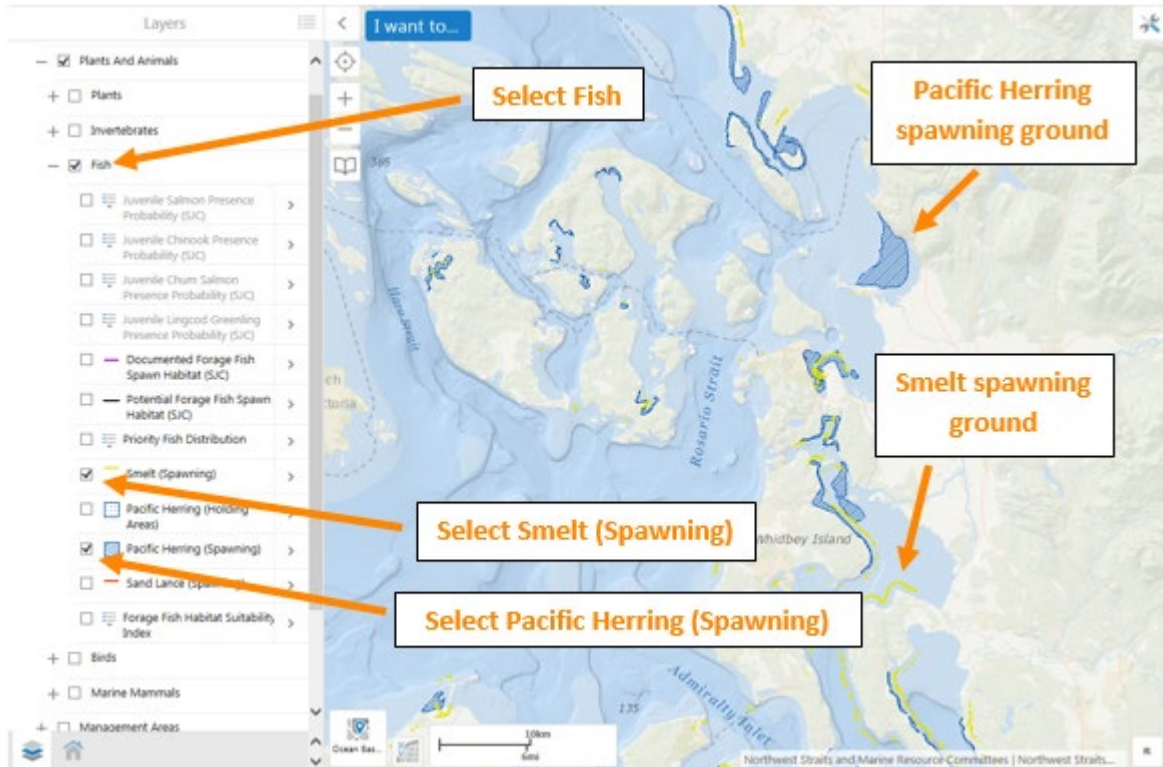
Now let's navigate through the map layers section with a specific objective in mind.

Say that I wanted to know about the fish spawning areas of Smelt and Pacific Herring, specifically to see if they overlap each other and where. On the drop down "I want to..." tab click "Change visible map layers". Check the box next to "Plants and Animals", then click the "+" to the left to expand the view of additional options.



Check the box next to “Fish” since we are trying to view Smelt and Pacific Herring, then click the “+” next to “Fish” to view additional options just like in the previous step. Note, make sure all other group layers (i.e. “Plants”) are not checked so no other data displays except “Fish” layers.

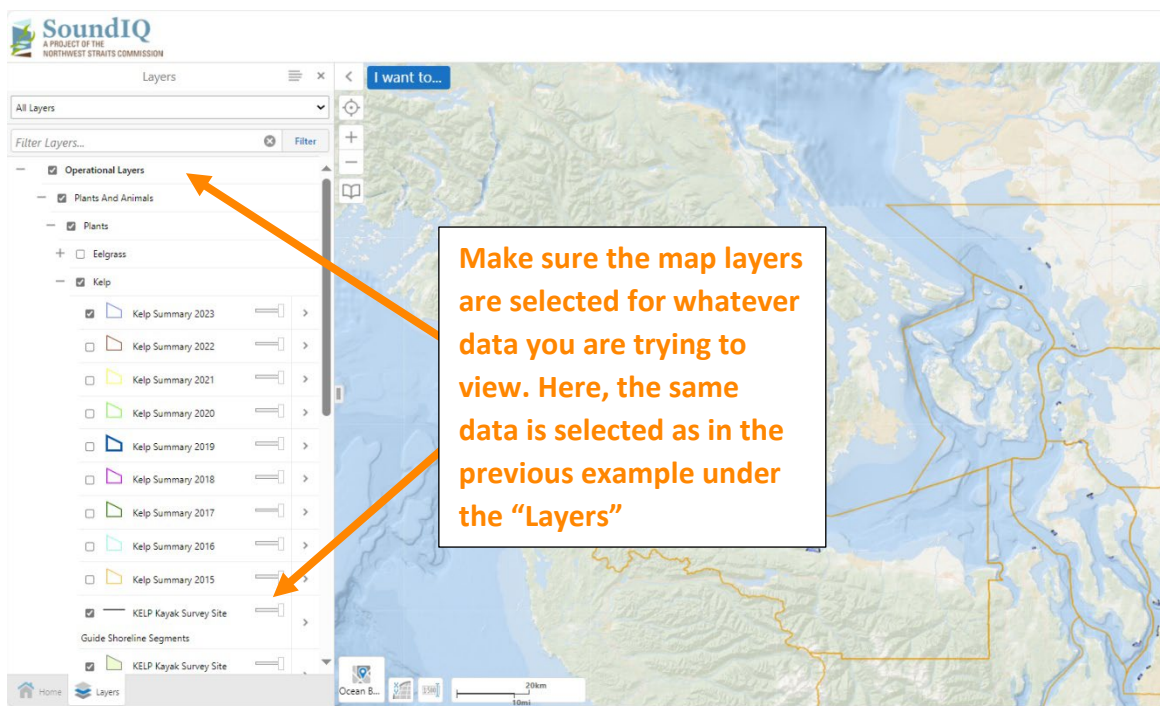
In the next menu, look down the list until you see “Smelt (Spawning)” and “Pacific Herring (Spawning)”, and select both boxes. The legend for each appears next to the name, and after selecting both, you can view their distributions on the map.



Finding Data on the Map – Identifying Features

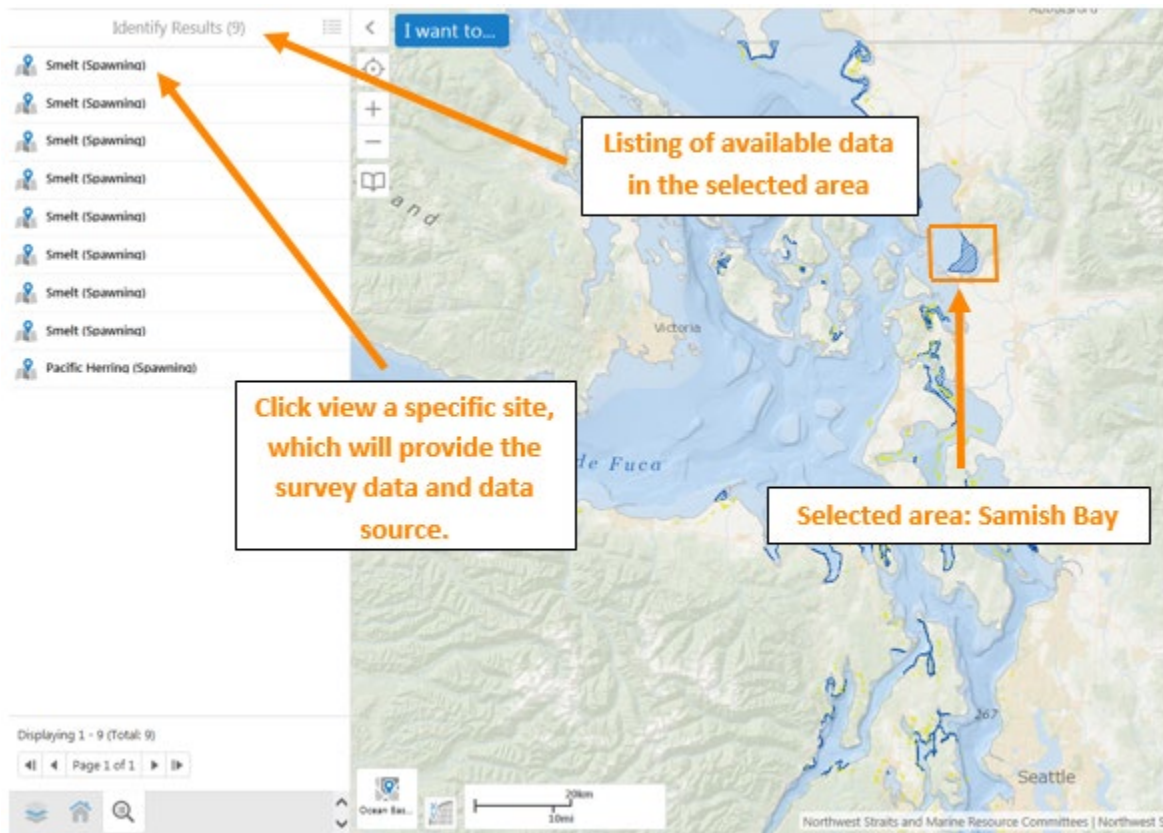
Now that you are familiar with changing and using the map layers, you can find data on the map in a more specific area. On the “I want to...” button, click “Identify features that are visible on the map”. Then either click on a point, or draw a rectangle over a larger area to view attribute information about the data displayed.



To use this feature, any data that you want to view must be turned on (with the check box) in the “Change visible map layers” on the left. In this example, I will select the same data as above (Smelt Spawning and Pacific Herring Spawning). In the example below we’re selecting kelp survey sites extents.

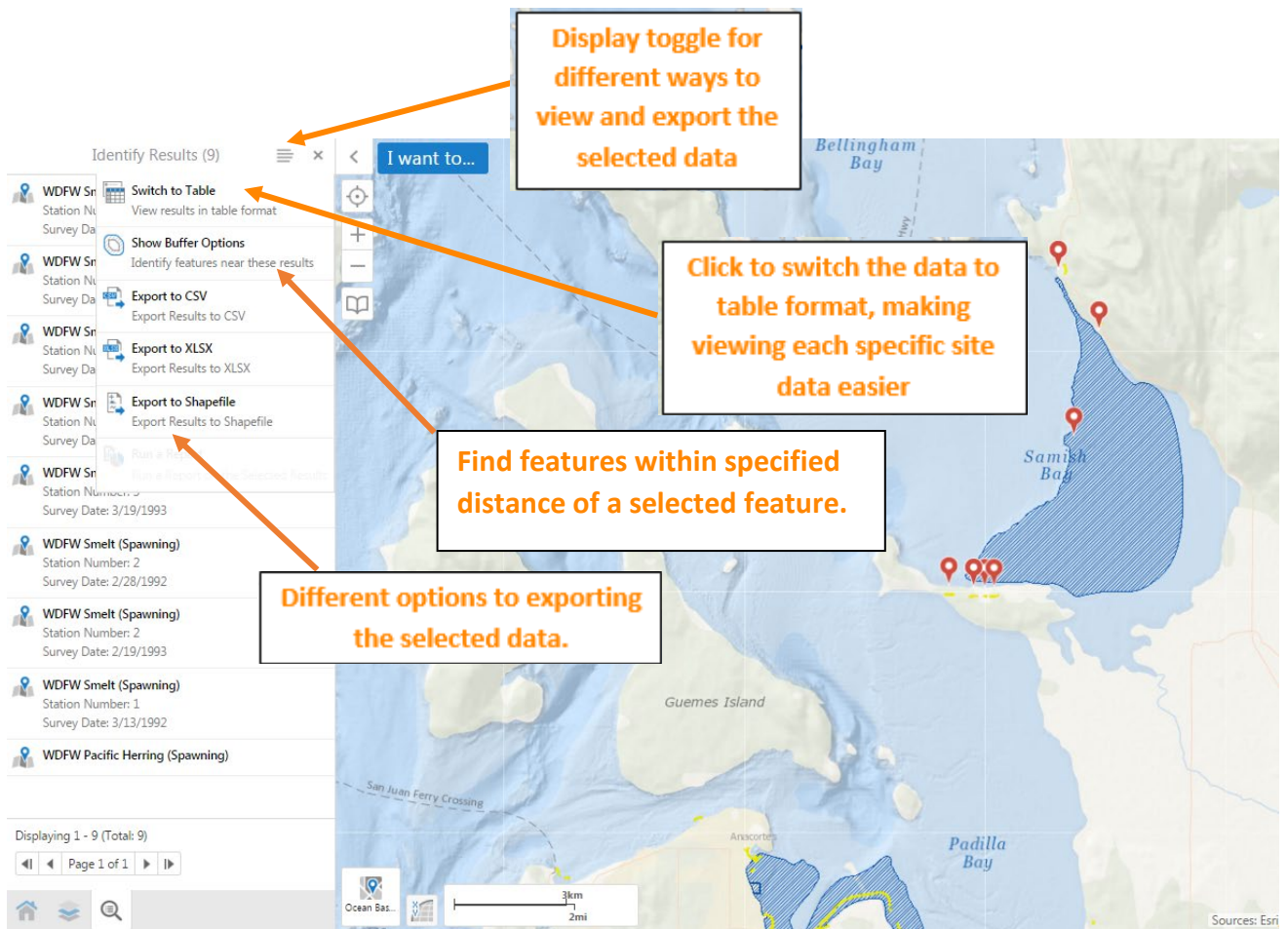


Now that the data layers have been selected under the “Layers” tab, let’s identify features in the Samish Bay area of the map by clicking “Identify features that are visible on the map” (under I want to), then drawing a rectangle over the region. The data that is available for the selected area will show up on the left side of the screen under “Identify Results”.

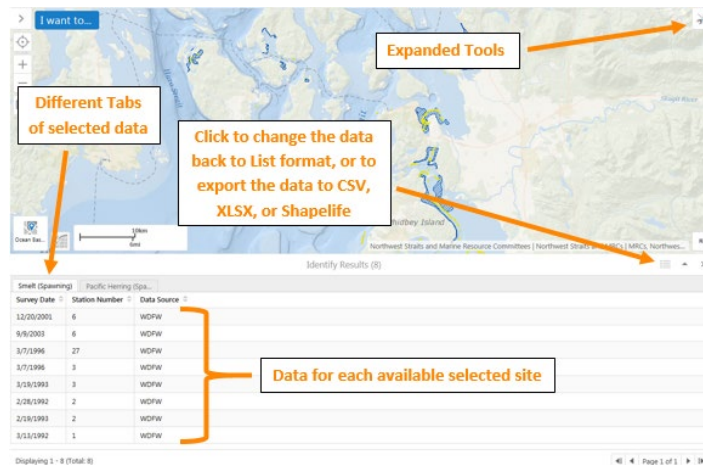
You can view each specific spawning site by clicking on it (in the list on the left side of the page), this will then zoom in to the exact area that it is located in the map on the right and the information for only that site will appear on the left (in this case: survey date, station number and data source).



The selected data can also be viewed in a **Table** format, which provides the details for all selected sites at once. You can view this table to clicking on the icon  to the right of "Identify Results". This also displays options to export the data to CSV, XLSX, and Shapelife format. Use the  icon to return to Layer view (from Identify Results) or to close the table.

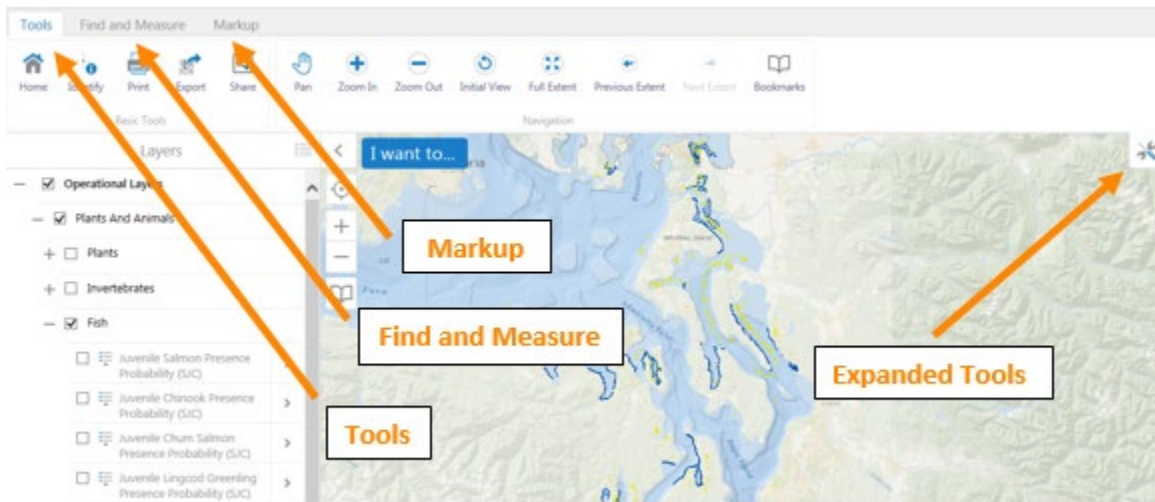


Let's click on the "Switch to Table" option and view the data in a more comprehensive manner. This will open up a table, with a separate tab at the top for each "Layer" that is being viewed. In this case, the layers are Smelt Spawning and Pacific Herring Spawning. You can now click any site (record in the table) and the map zooms to the exact location. To go back and view the information in the previous list form, select the ☰ icon on the right side of the table, from the dropdown list click on "Switch to List". Use the X icon to close table view and to

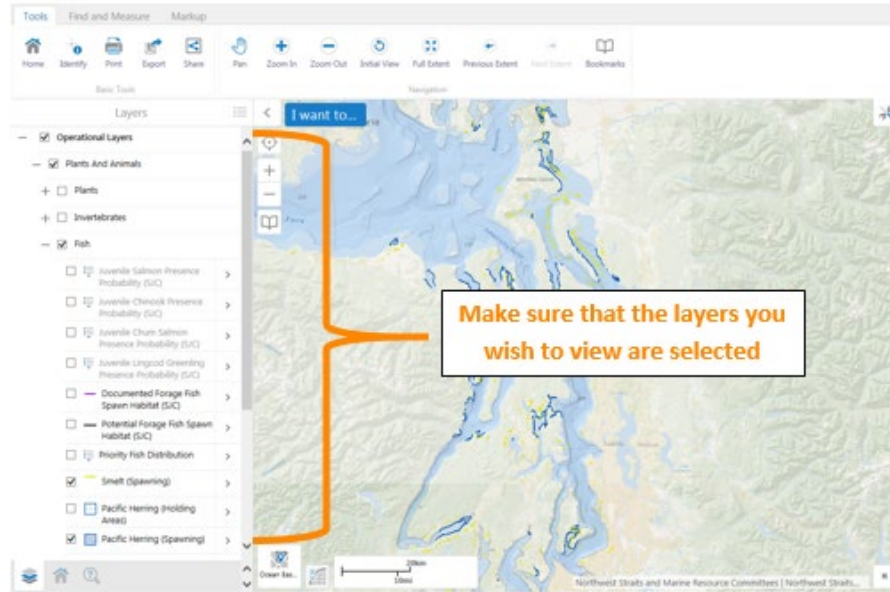


In the upper right of the map is an "Open toolbars" icon, clicking this will present an array of tools that can be used to examine and manipulate the selected data (tip – you can also double click the blank space beside the SoundIQ logo to open/close the toolbars).

Once you click on the expanded tools icon, three tabs will appear on the upper left of the screen: “Tools”, “Find and Measure”, and “Markup”. Each of these tabs provides many different options for examining and manipulating the map.

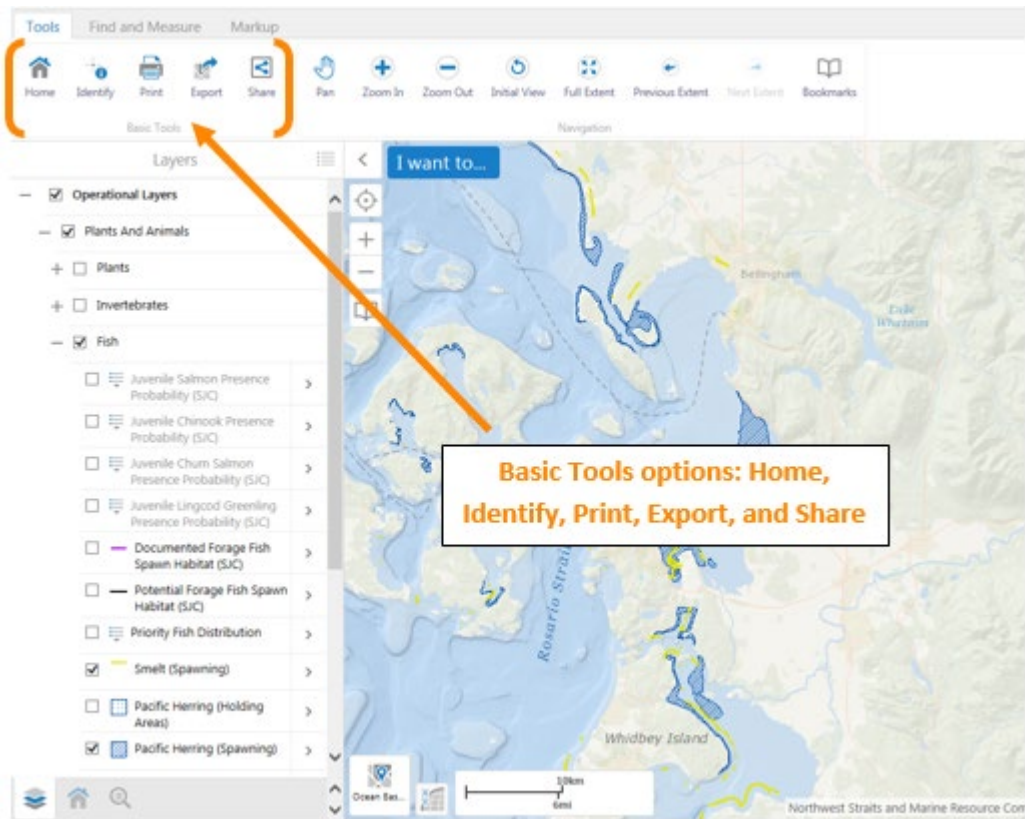


For the sake of explaining these expanded tools options, let’s keep on the layers selected that have been used in the previous examples (Operational Layers>Plants and Animals>Fish>Smelt Spawning & Pacific Herring Spawning).



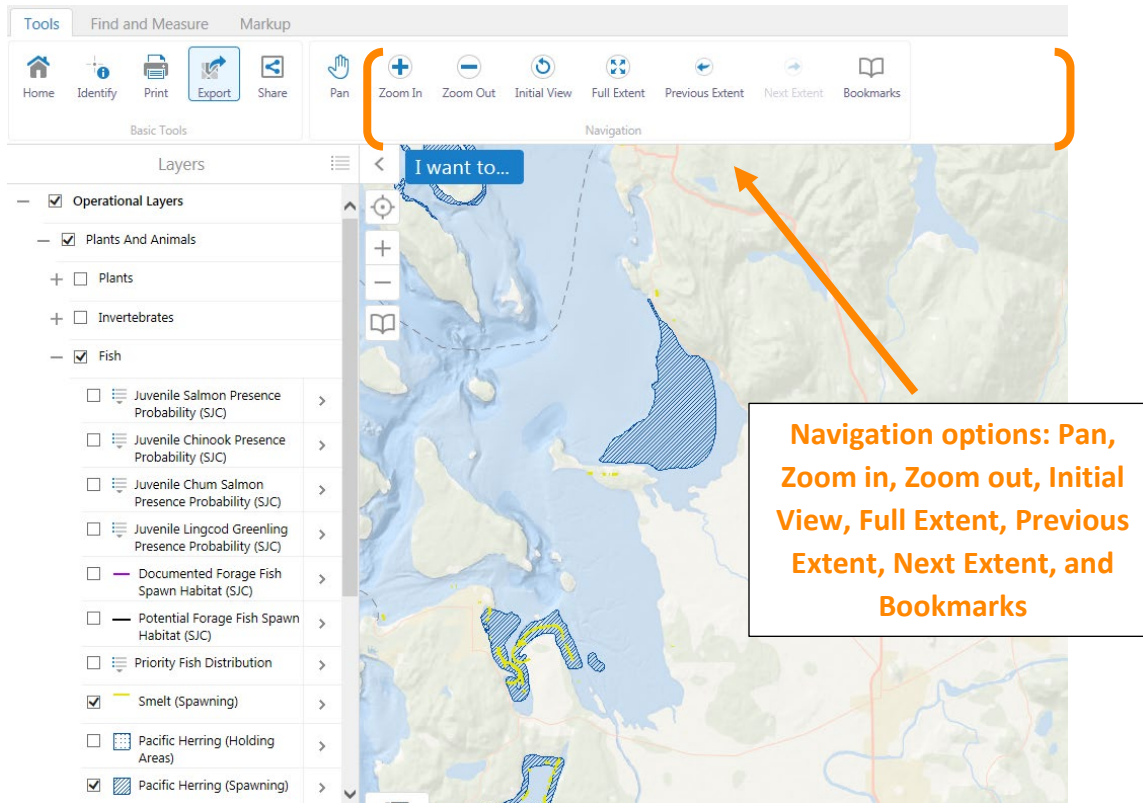
The first tab, “Tools”, presents about a dozen different options for the user to manipulate their map. The “Basic Tools” include “Home” which will revert back to the home screen for SoundIQ, “Initial View” which zooms map out to the NW Straits area, “Identify” which allows you to click on any location on the map to view what is there, “Print”, “Export”, and “Share” which allows the user to share a link to their map as it is currently displayed. The link below was obtained

through the “Share” option, which can be shared on social media including Facebook, Twitter, LinkedIn, and Google+ or simply emailed.

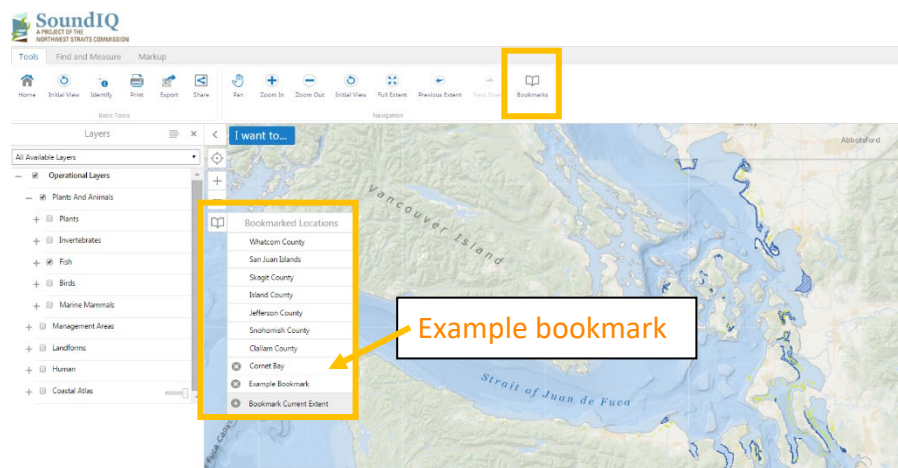


<https://www.iqmap.org/geviewer/Html5Viewer/Index.html?viewer=SoundIQ&layerTheme=null&scale=577790.554289&layers=3Q0h%2FM2Eer%2B838tnIn1g0LiT008Mfu3YGWuD1pPLk72YwUyS1LMsvN3c1VpE20PgDf¢er=-13699777.99354045%2C6164468.996732365>

Also under the Tools tab is the “Navigation” section, which provides useful ways for maneuvering around the map. The “Pan” option allows is the default mouse control in which the user clicks and drags to move the map. You can draw a box in which to zoom with the “Zoom In” tool or draw a box with the “Zoom Out” tool to zoom out. “Initial View” will zoom the map back out to the original view of the NW Straits area. “Full Extent” will zoom to full extent of all data layers displayed. “Previous Extent” returns the map to the previously viewed extent and the “Next Extent” zooms you forward to the extent that you were on before hitting “Previous Extent”. Try them out to get familiar with zooming to extent tools.

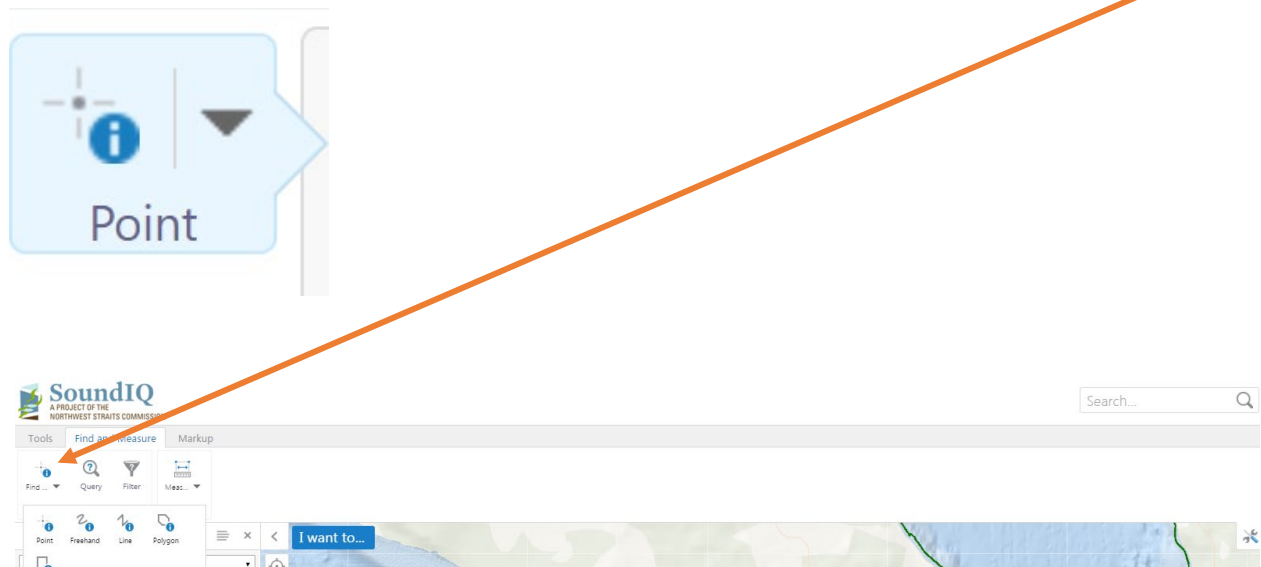


The Bookmarks tool creates a bookmark similar to a web page bookmark and gets saved to the list of Bookmarked Locations for the current session of SoundIQ you are working in only.



Find and Measure

The “**Find and Measure**” tab presents different ways to get info on data displayed on the map, as well as to make distance and area measurements. To “**Find Data**” you can use the “**Info**”



feature. Click on the icon crosshairs and the “i”, it will dropdown a display of a variety of other selection shape options such as rectangle or polygon. Grab a tool and click anywhere data exists on the map to learn more about it. The “**Freehand**” option allows you to encircle an area free hand on the map to view what data is there. Similarly the “**Line**”, “**Polygon**” and “**Rectangle**” options allow you to draw a shape on the map, which will show any available data inside of it.

“**Query**” tool provides a basic query builder to select data from a layer that meet certain conditions. Click the “**Query**” tool and select an active data layer to query it for information in its data table. For example, select Kelp (WA DNR) (be sure the layer is turned on and that you select WADNR not an MRC layer). Then ‘Find results in Klep (WA DNR) where:’ “**Bull Kelp**” “does not contain” ‘ABSENT’. Spatial filter is ‘None’.

Another condition could be added but we’ll keep this query simple.

Tools Find and Measure Markup

Find Data Query Filter Measure

Find Data Query Filter Measure

Query

Layer: Kelp (WA DNR)

- Dirk Cells 3
- Dirk Cells 4
- Eelgrass & Surf Grass (CC)
- Eelgrass (WA DNR)
- Eelgrass Outer Extent (SIC)
- Eelgrass Presence (SIC)
- Eelgrass Presence 2009 (IC)
- Eelgrass Presence 2010 (IC)
- Eelgrass Presence 2011 (IC)
- Eelgrass Presence 2012 (IC)
- Eelgrass Presence 2013 (IC)
- Eelgrass Presence 2014 (IC)
- Eelgrass Species (SnoCo)
- Eelgrass Video Points (IC)
- Forage Fish Spawn Survey Sites 1972-March 2008 (WDPW/FOG/NOSOC/MRC)
- Forage Fish Spawn-Habitat Suitability (NWSI)
- Grass Areas 2008 (CC)
- Grass Areas 2009 (CC)
- Invertebrates (NAOO/ESI)
- Kelp (WA DNR)

Tools Find and Measure Markup

Find Data Query Filter Measure

Find Data Query Filter Measure

Query

Layer: Kelp (WA DNR)

Find results in **Kelp (WA DNR)** where:

Bull Kelp does not contain ASCENT

- All Kelp
- Bull Kelp
- Chocolate Brown
- Floating Kelp
- Giant Kelp
- Non Floating Kelp
- Soft Brown

Search

Tools Find and Measure Markup

Find Data Query Filter Measure

Find Data Query Filter Measure

Query

Layer: Kelp (WA DNR)

Find results in **Kelp (WA DNR)** where:

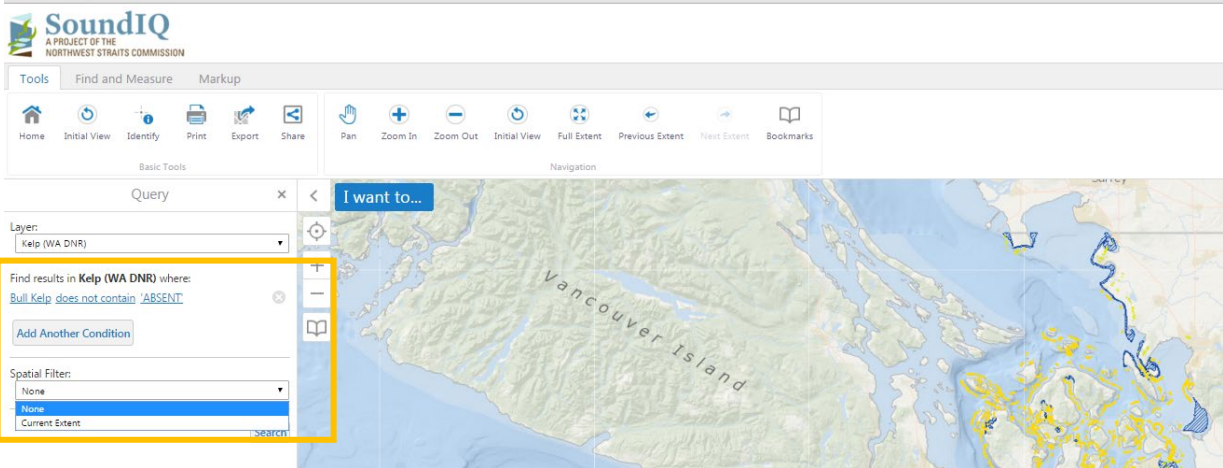
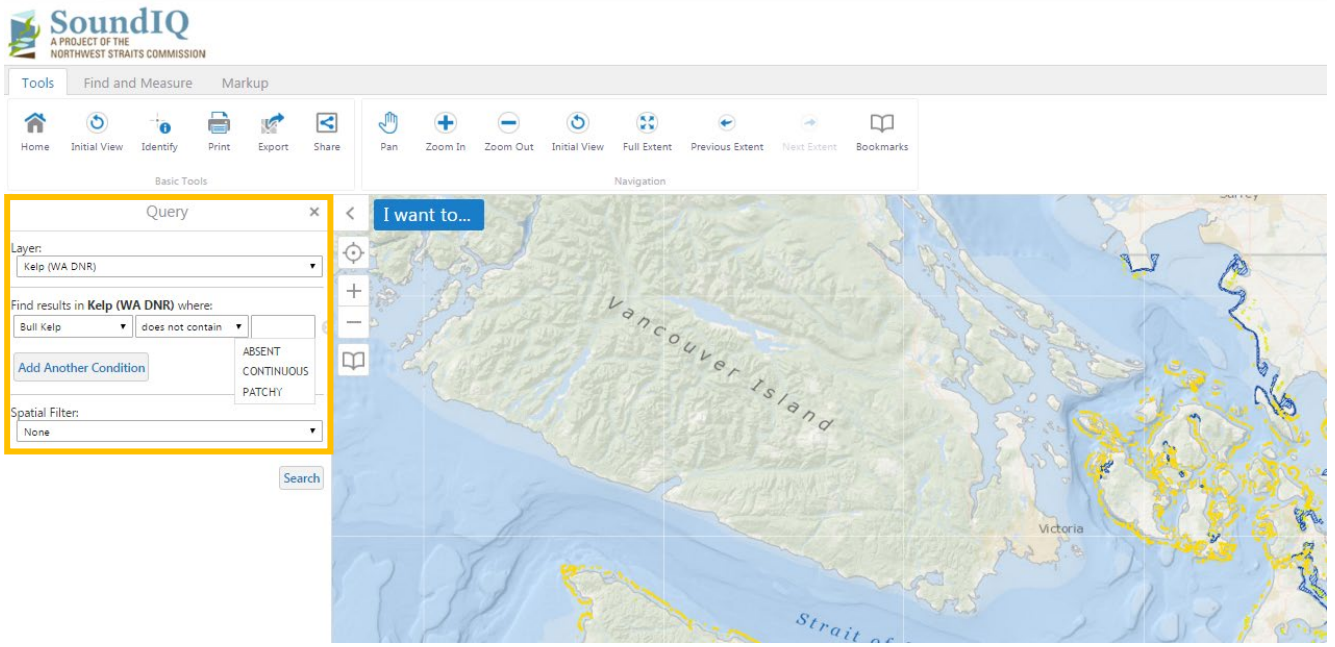
Bull Kelp does not contain ASCENT

- contains
- does not contain
- starts with
- ends with
- =
- !=

Add Another Condition

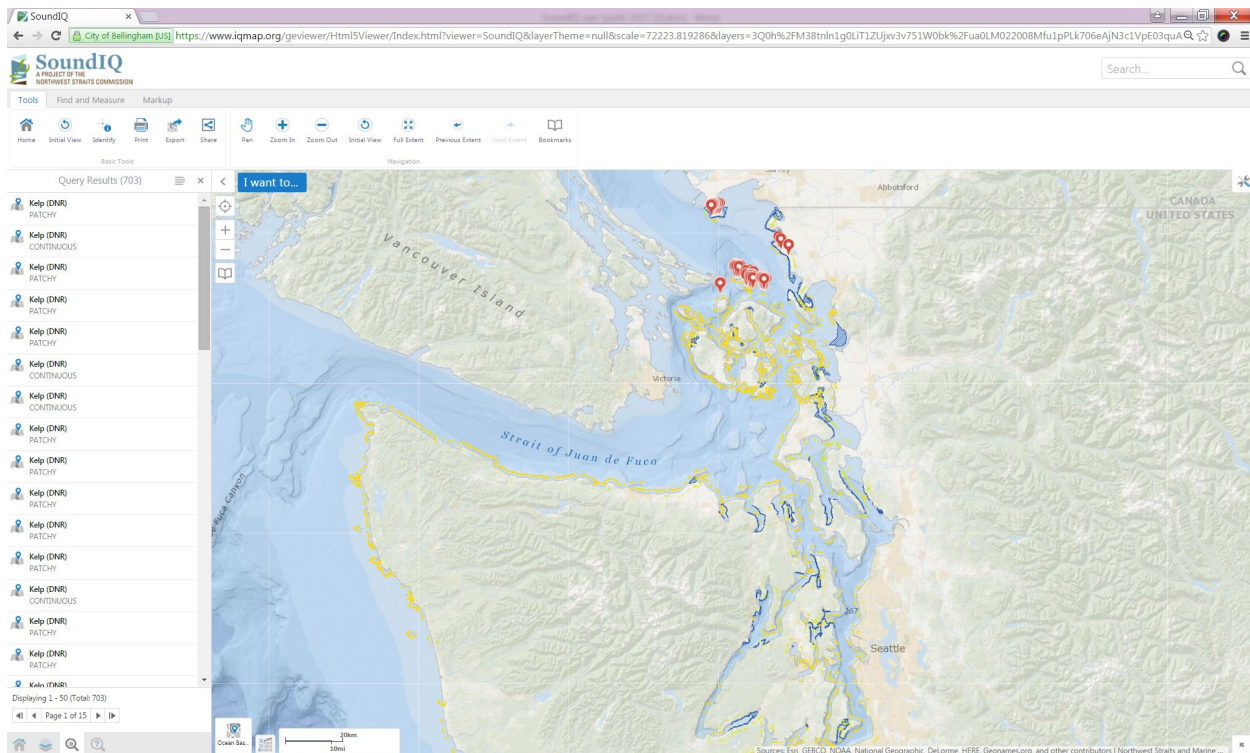
Spatial Filter: None

Search



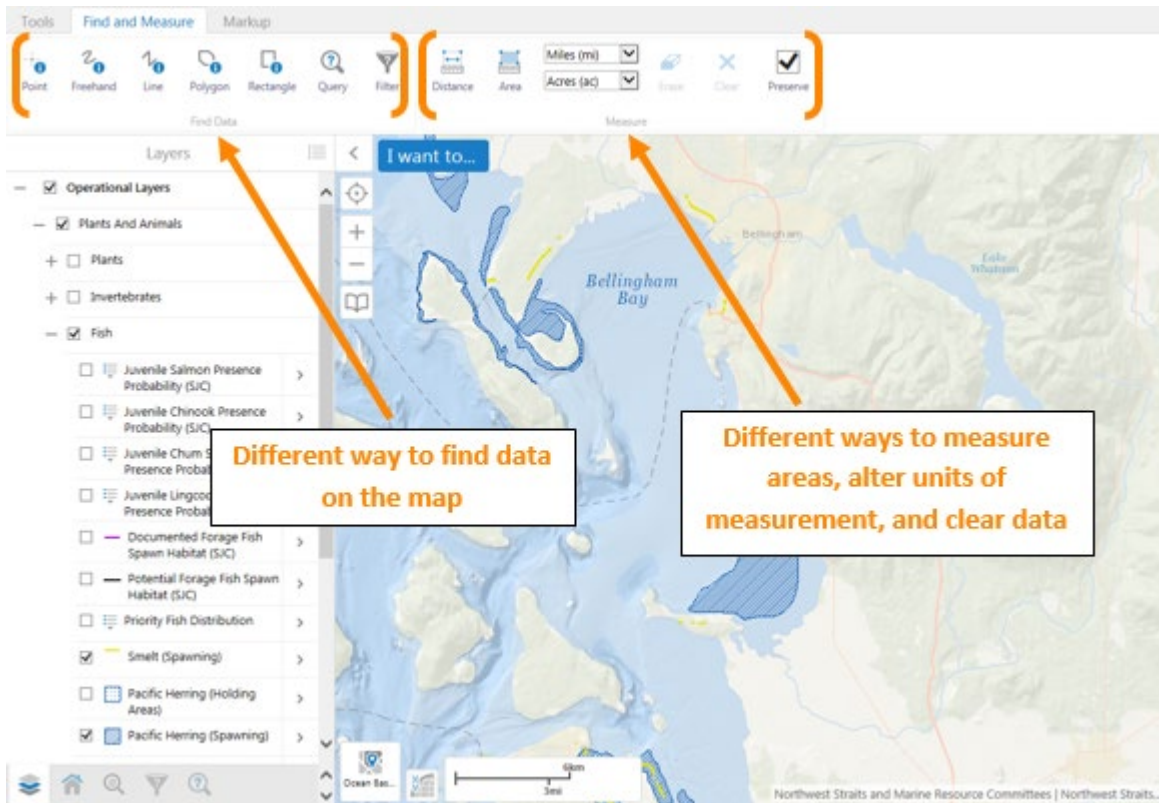
Query results show on the map where 'Bull kelp is Not Absent' with small red balloon markers

Click on a record in the Query Results on the left (in the TOC) to zoom into where that feature is located and get detailed info on it to display there in the TOC.

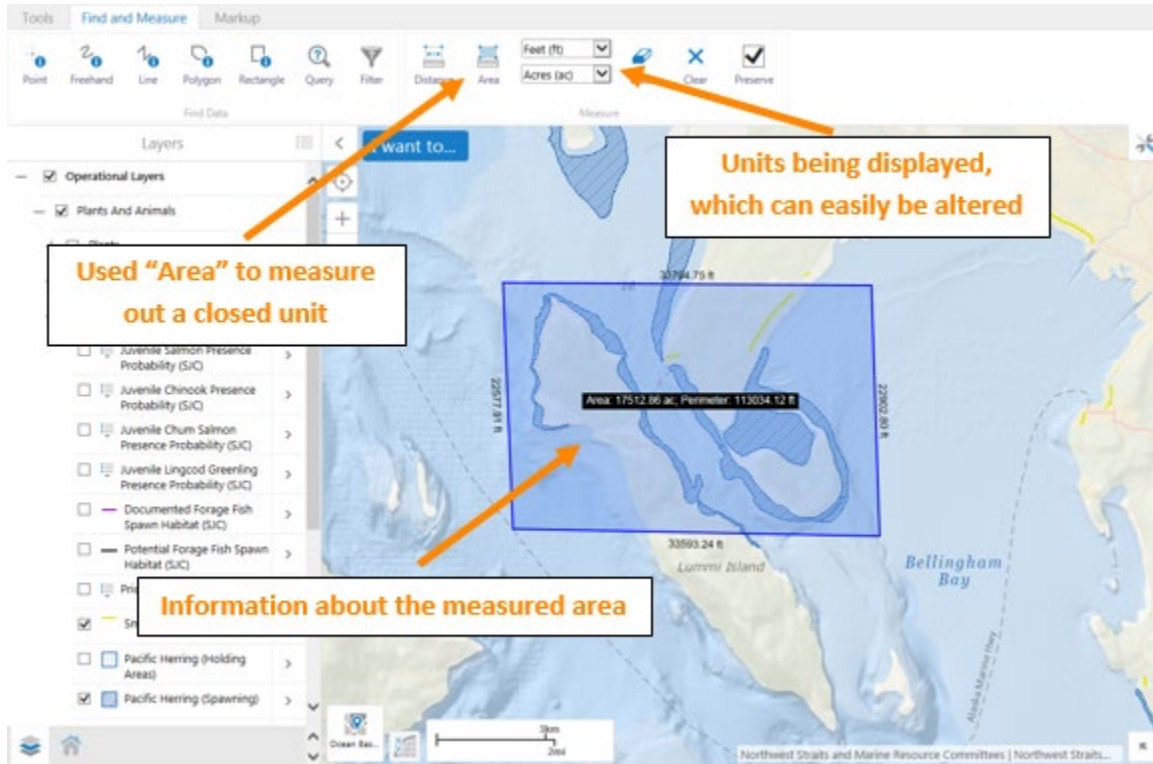


“Filter”

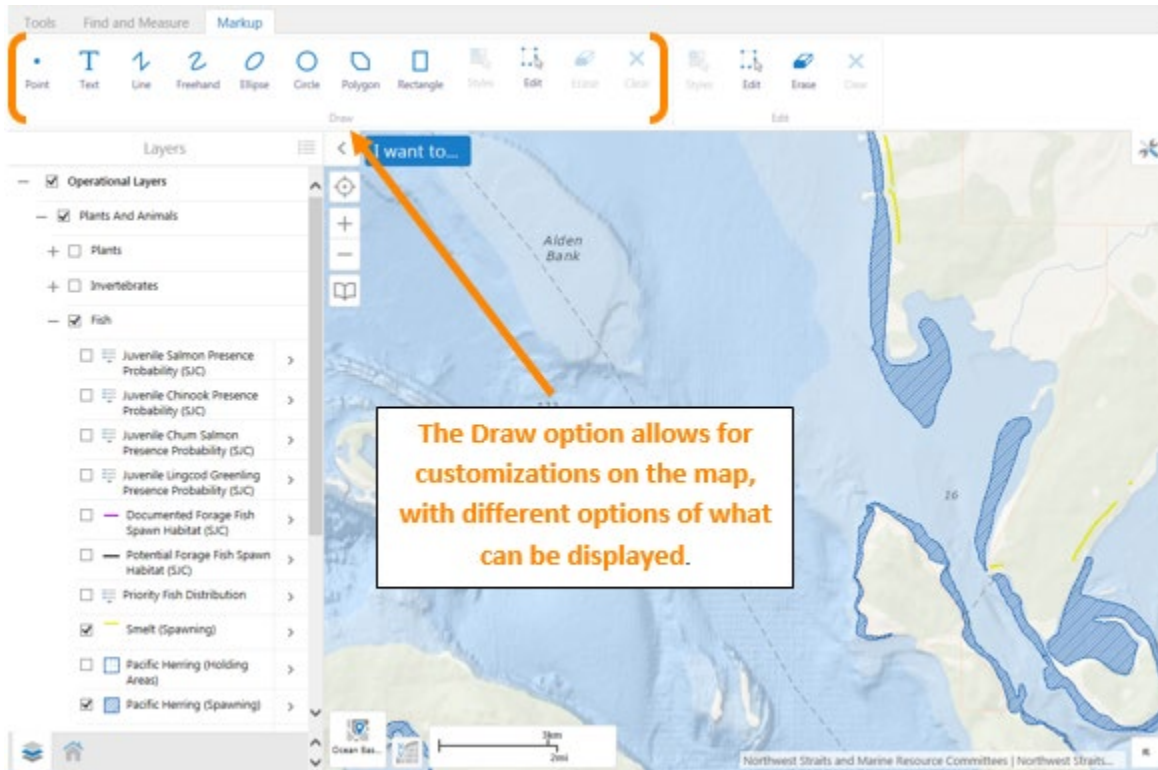
The “Measure” section provides different ways to measure the data on the map. The “Distance” tool lets you measure the distance between two points, or it can be continuously used to mark and measure as many connected distances as desired. “Area” allows you to draw a multi-sided shape and find the area within that space. The units for both of these tools can be changed, as “Distance” allows you to measure in feet, yards, meters, kilometers, miles, and nautical miles, and “Area” can be measured in feet², yard², kilometer², mile², nautical mile², acre², or hectares². The “Erase” option will delete any measured distance or area, simply by clicking on the measured line/area. The “Clear” option is an all-inclusive erase option, which will permanently erase all measured calculation currently on the map. “Preserve”



In an example, let's measure the area of the Smelt and Pacific Herring Spawning ground in the Bellingham Bay and Lummi Island Area. Click the "Area" option and draw four connecting lines around the area on the map, double clicking when you are done. The area will appear with each side labeled in the units that are being used, as well at the total area and perimeter being displayed inside the box. To clear this information, simply click the "Erase" option, and click on the outlined area. To close the Extended Tools section, simply click on the tools icon in the upper right of the map.



The "Markup" tab allows the user to customize the map by including text, shapes, specific points, or lines wherever they want. This is a good way to make the map your own, or for a situation where you want to present or share the information with others. The "Styles" option allows for even more customizable options, as you can change the color or style of whatever features are included on the map.



If you have feedback in regards to missing or bad data, or need help, send your comments to SoundIQ@nwstraits.org.