MAPSTER 2.0 Tutorial

Introduction

MAPSTER has been designed to provide easy and intuitive access to fish and fish habitat information for a widely dispersed and diverse group of individuals. With the release of version 2.0, there have been many changes in the appearance and functionality of MAPSTER. To help new or returning users, this tutorial has been prepared to review the application's tools and features.

The tutorial has been divided into four units :

1. Navigating the Map introduces MAPSTER's interface and toolbar while working with different map layers. Basic tools to explore and locate information on the map are also covered.

2. *Creating Data and Maps* covers the use of markup tools to create new datasets. Steps to distribute finished maps using the print and email functions are also presented.

3. *Advanced Features* showcases various methods to access attribute and spatial information from the maps. Users will also work through examples to add CHS charts and shapefiles into the map view.

4. *GIS Maps and Data* provides a description of the web pages found on the HEB GIS Unit website.

Ideally, the application should be accessible while working through the exercises in this tutorial. If you don't already have MAPSTER open, go to the HEB GIS Data & Maps web page at http://www-heb.pac.dfo-mpo.gc.ca/maps/maps-data_e.htm and click on the link, MAPSTER v. 2.0.

Table of Contents

1. Navigating the Map

1.1 MAPSTER Interface

The MAPSTER interface is divided into several frames, indicated in the picture below:

- Tab Frame - contains a number of functions to interact with the map and the map layers. The tab frame also provides access to the application's help file and background information.

- Toolbar Frame - contains several tools used to interact with the map.

- Map Frame - contains the interactive map.

- Information Frame - displays information about the map and allows users to work with map layers. It also displays information about the map and the application.

- Scalebar Frame - contains an editable text box to display and modify the map frame's scale. The active map tool and the active identify layer are also displayed in the scale frame.
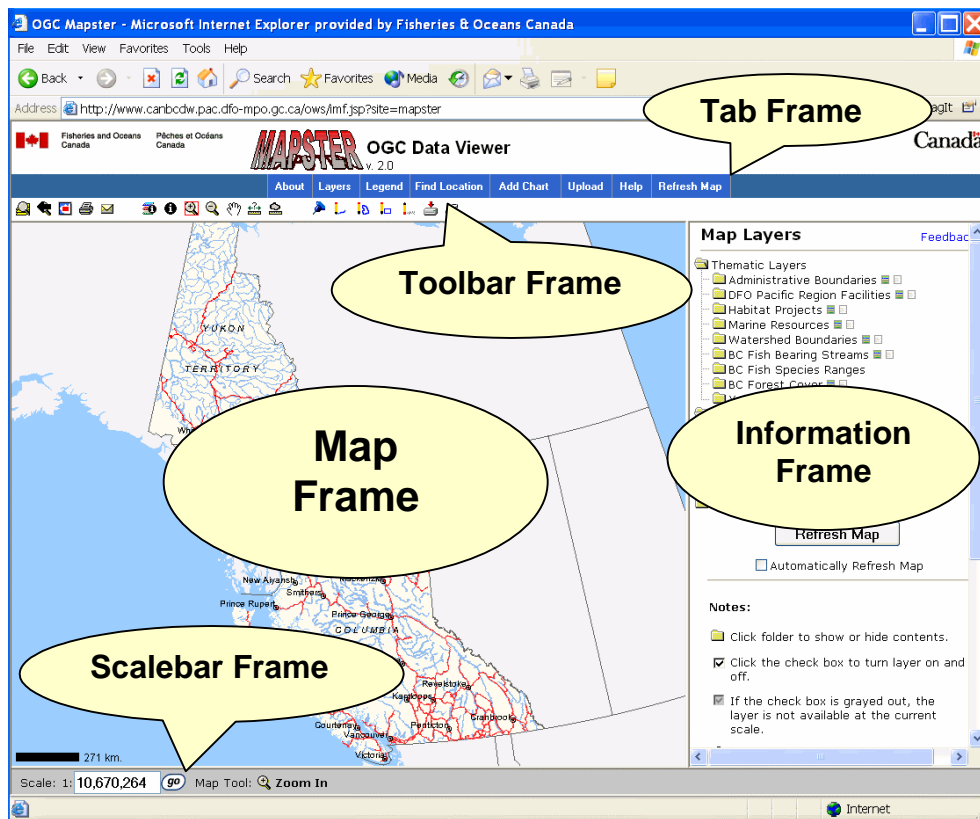
1.2 MAPSTER Toolbar

The toolbar frame in MAPSTER contains several tools, each corresponding to an operation that can be performed on the map. As you pause your cursor over each tool, a label box will appear providing the name of each tool. By default, the Zoom In Tool is the active tool. Note that the Zoom In icon is outlined in red indicating that it is the active tool. The status bar, located in the scale bar frame at the bottom of the application, displays the Zoom In tool's name and icon.

The easiest way to use the Zoom In Tool is to use the mouse to click and drag a box shape around the area you would like the map to zoom in to. Click the Zoom In tool if it is not already active. Click over the north end of Vancouver Island and holding the left mouse button down, drag a rectangle down to Courtenay. Release the mouse button. The map will take a couple of seconds to redraw. Note that the detail of the features on the map (e.g. rivers) increases.
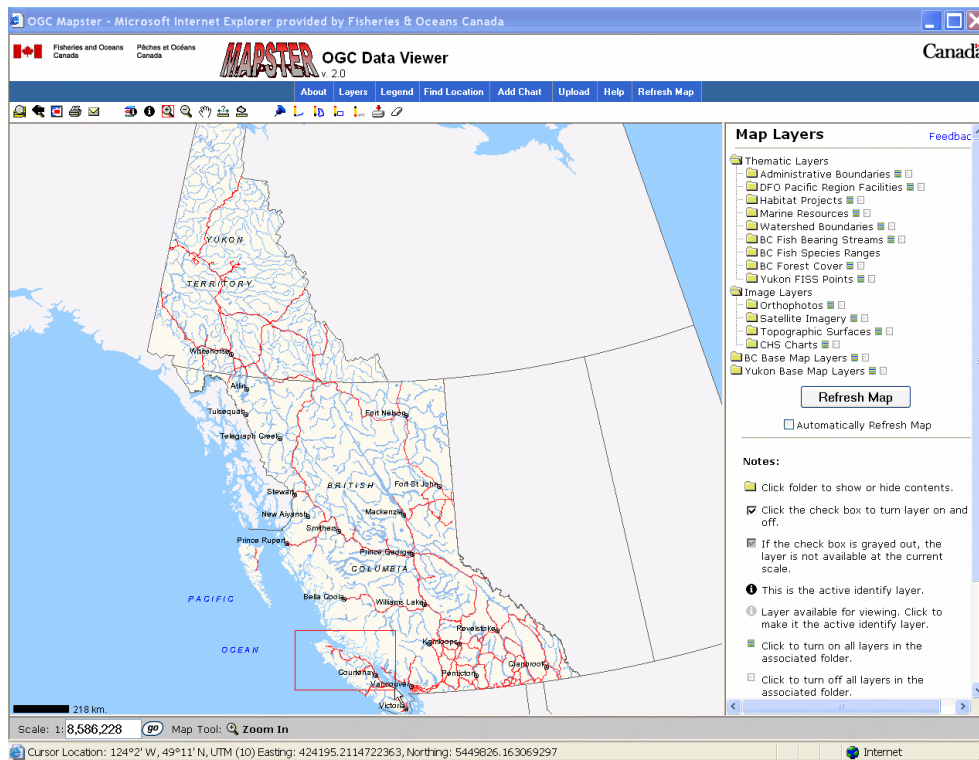

Another way to use the Zoom In Tool is to click once on the map. The map will center on the click point, and zoom in by a factor of two. Click the mouse once on Courtenay. The map zooms in further.

The Zoom Out tool operates in a similar manner. Activate the Zoom Out icon , and then click the mouse on Campbell River. The map zooms out around the click point by a factor of two.

4

Once you have zoomed in to the desired scale, the map may be moved in any direction with the pan tool.

Click on the Pan icon 🖐. Note that the Pan icon is now outlined in red, and the Status Frame reads "Map Tool Pan". Click on the top edge of the map, and holding the mouse button down, drag the map down several centimetres. The map redraws at the new extent.
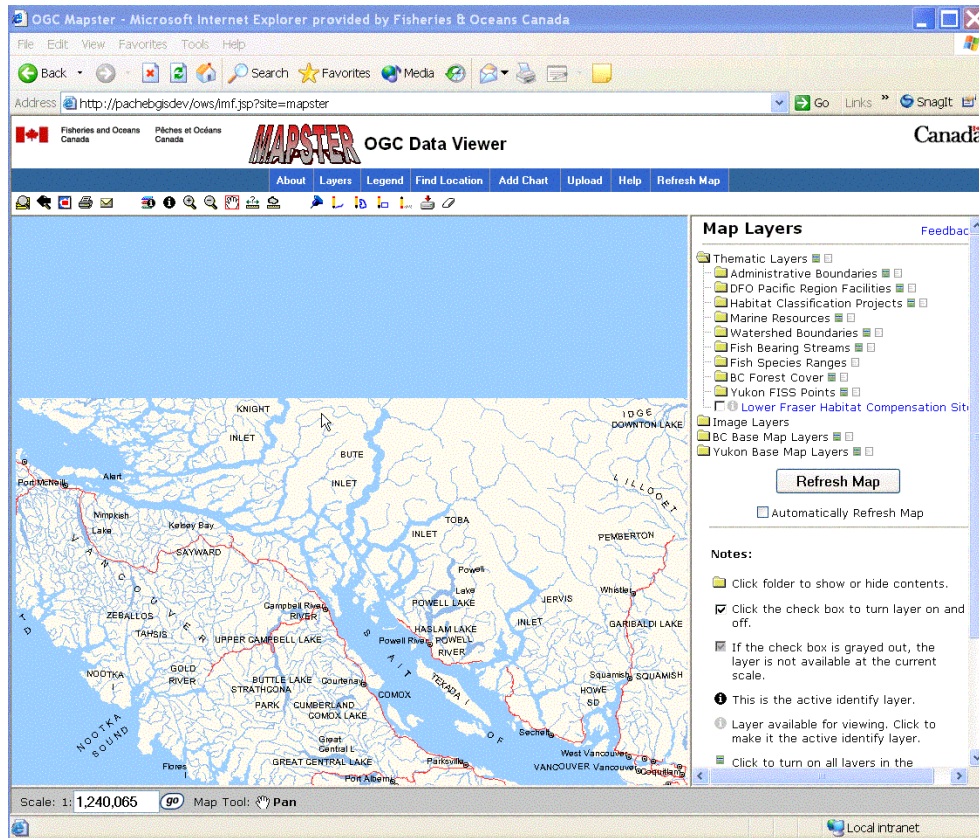
To return the map to the previous extent, click the Zoom Previous icon 🔙. The map zooms back to the previous extent. Note: The Zoom Previous tool will consecutively go back to the previous extent several times in a row.

The index map shows the location of the current map extent within the Pacific Region. It can be used to quickly shift the view of the map to a new location.

Activate the index tool 🔲. Depending on the extent of your current map view, you will see a red box or pushpin on the index map displayed in the information frame. On the index map, click once on the Haida Gwaii/Queen Charlotte Islands. The red box/pushpin on the index map will shift to this new location. The main map will also shift and redisplay in this new location.
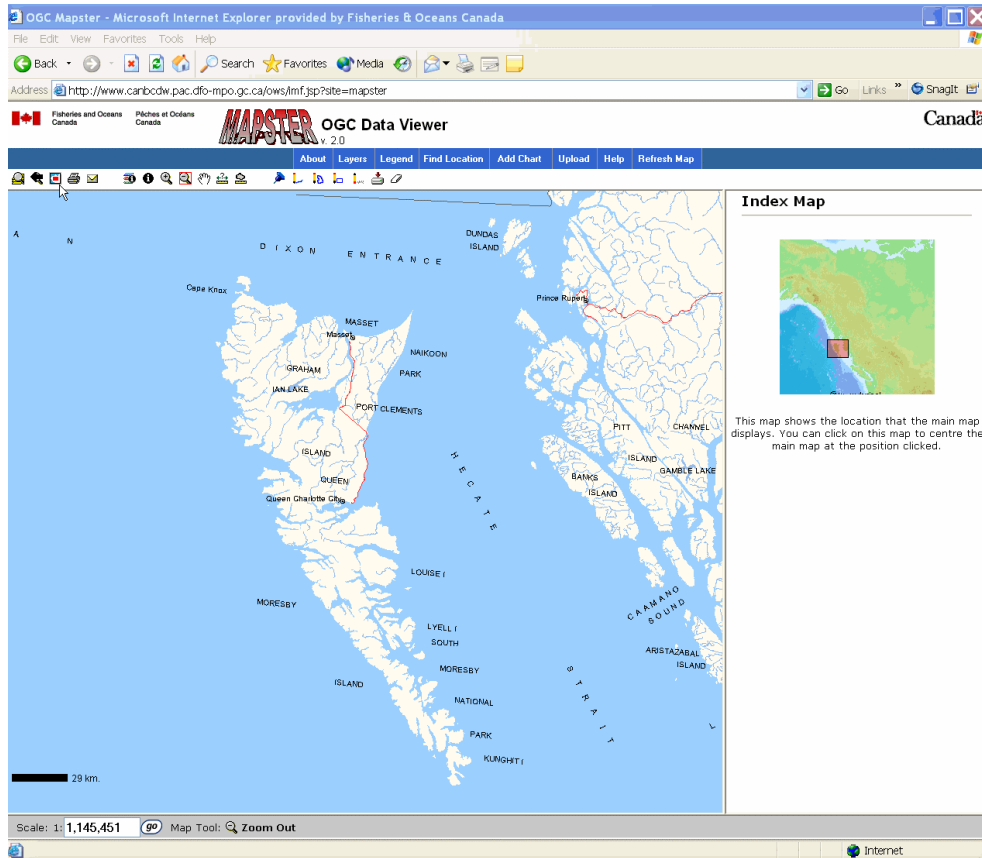

The quickest way to return the map to its full extent is with the Fullview tool. Click on the Fullview tool 🔲. The map returns to the full extent of the Pacific Region.

1.3 MAPSTER Scalebar

Another method for navigating the map is with the scale bar located below the map frame. The scale bar serves two purposes: to display a scale reading of the current map view and to provide users with an interactive method to change the map view to a desired scale.

Click on the Zoom In tool and draw a box around the Vancouver/Lower Mainland region. In the scale bar frame, type 250 000 into the map scale's edit box and hit <Enter> or click on the Go button located to the right of the edit box.
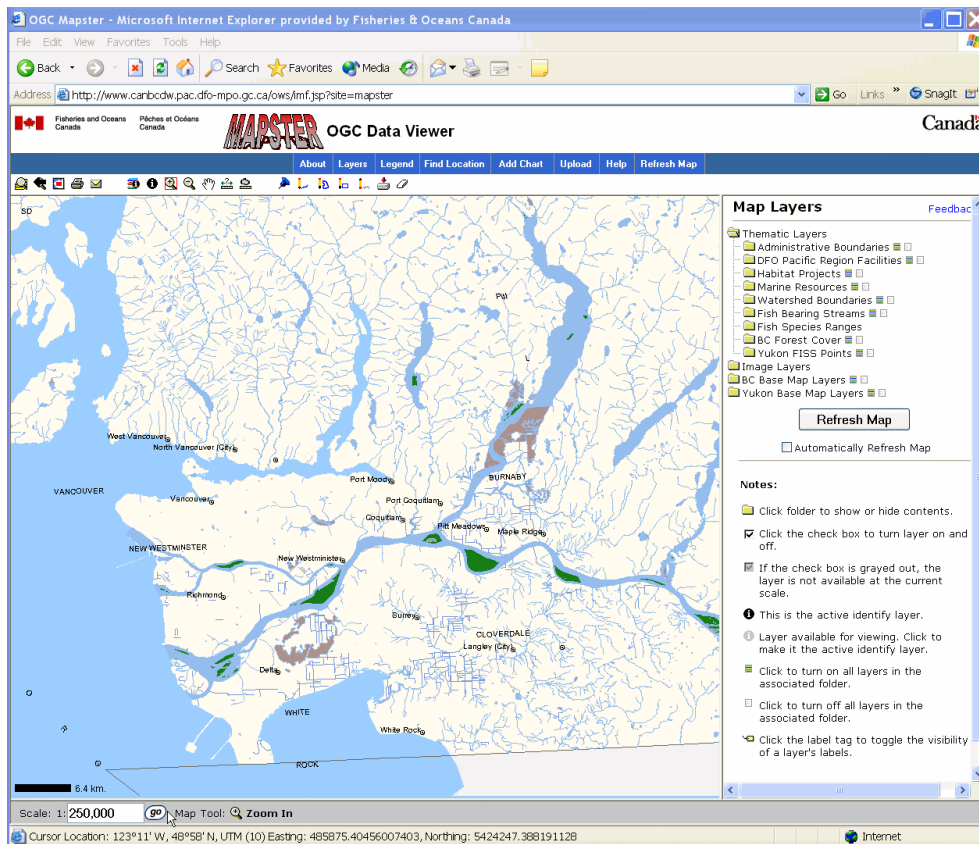
When the map view has refreshed, repeat theses steps to change the scale to 1:50 000 and finally 1:20 000. As you zoom in, you will notice that different layers are visible at various scales. In MAPSTER, many layers are scale dependent to improve the map display's appearance and performance.

Click on the Fullview tool to return the map to the full extent of the Pacific Region.

1.4 MAPSTER Tabs

The functions performed by tabs initiate immediate action when you click them with the mouse. The Find Location tab displays a page with various methods to perform searches for geographic locations of features. This tab enables users to locate features where only the name is known. The Find Location tab performs searches based on the following criteria:

- Latitude/Longitude

- UTM Coordinate

- Personal Bookmark

- Canadian Place Name

- Watershed Code

- DFO Statistical Area

- Hatchery

- Enhancement

- Road Name

Click on the Find Location tab. In the information frame, select the Canadian Place Name link. A new frame will open up entitled "Zoom to Place Name". In the text box beneath the "place name" prompt, enter the text "bella coola". In the drop down boxes, select "British Columbia" as the province and "25 kilometers" for the map extent. Finish by clicking on the "OK" button.

Zoom To Place Name

Enter a name of a place in Canada that you wish to display on the map, then press the OK button. The CGDI Gazetteer will be searched, and a list of places matching your request will be displayed for you to choose from.

Place Name:

bella coola

Province or Territory

British Columbia

Select the zoom map width:

25 kilometres

OK

A list of choices containing the text "Bella Coola" will appear. Select the item listed as type "Community". The map redraws, showing the area 25 kilometres around the community of Bella Coola
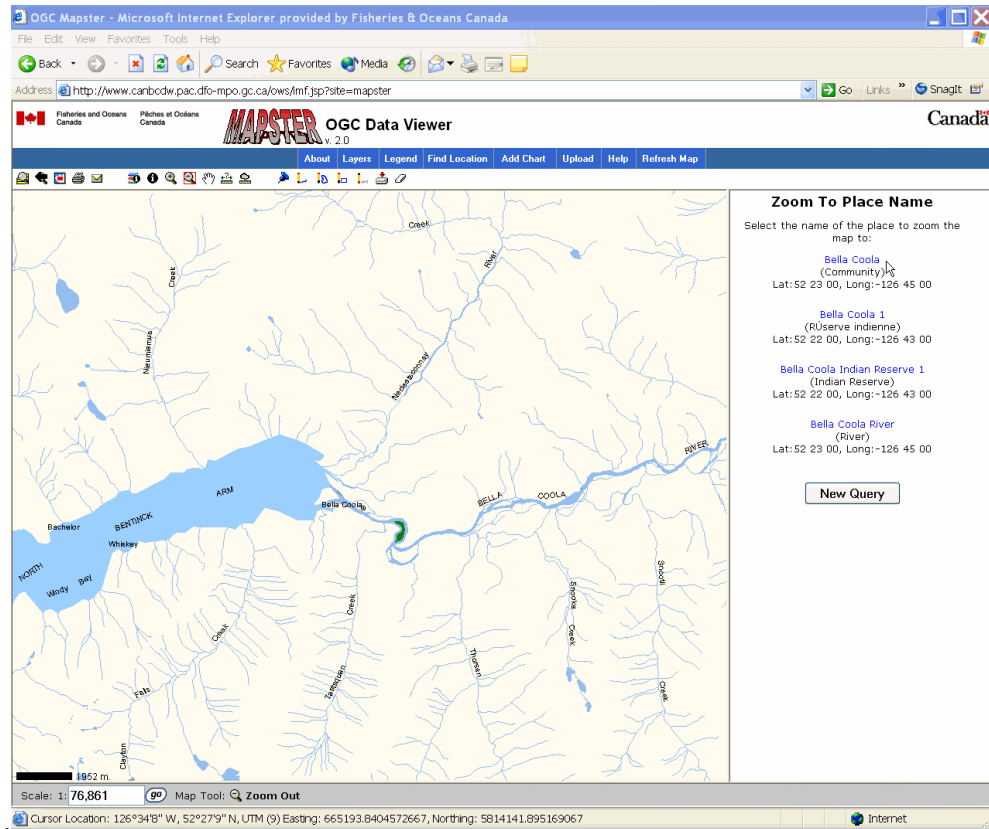
(Note: If the location or feature selected is outside the Pacific Region, the map view will display as solid blue. If this happens again, type in a new place name within the Pacific Region.)

Return to the map's full extent by clicking on the Fullview icon.

1.5 Folders and Layers

One of the most powerful aspects of MAPSTER is its ability to combine layers of geographic data, building a map of many themes. The next section of this tutorial will cover the Layers and Legend tabs.

Start by clicking on the layers tab. The folder directory tree, which is similar to Windows Explorer, becomes visible in the Information Frame. MAPSTER 2.0 contains datasets which have been organized into folders under four broad categories:

- Thematic Layers

- Image Layers

- BC Base Map Layers

- Yukon Base Map Layers

Single click on the Thematic Layers folder and open the DFO Pacific Region Facilities folder. There are currently six layers in this category. Detailed information describing each data set (i.e. metadata) can be viewed by clicking on the layer name, which is hyperlinked to the metadata. Click on the Small Craft Harbour layer name. A smaller window appears displaying metadata for the Small Craft Harbour data layer.
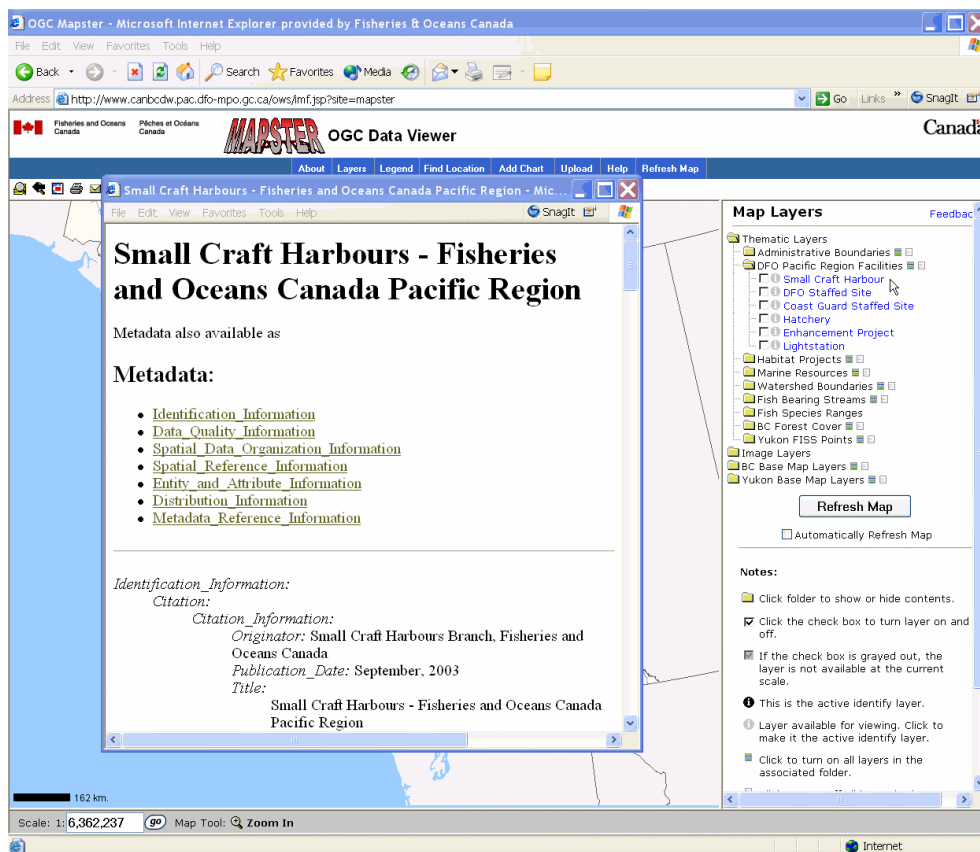
Close the metadata window.

Click on the check box beside the Small Craft Harbour layer, and then click the "Refresh Map" button in the information frame. Users can also refresh the map by clicking on the Refresh Map tab. The map redraws with the locations of Small Craft Harbours, maintained and operated by DFO. Note: More than one layer can be added at a time by clicking on additional check boxes.
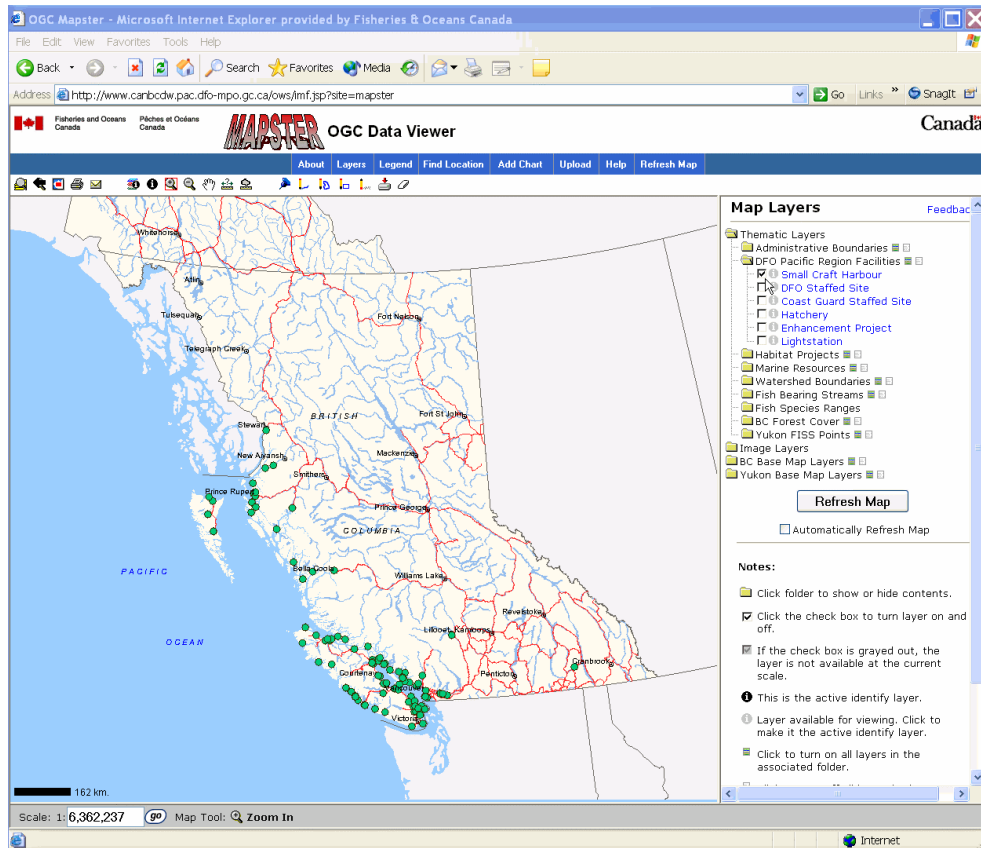
As the map refreshes, the map legend will also update to include the Small Craft Harbour symbol. To check this, click on the Legend tab to display the legend.

Legend

Borders

Lakes (1:6mil)

Rivers (1:6mil)

Yukon Lakes (1:2mil)

Yukon Rivers (1:2mil)

Highways (1:2mil)

Cities

Yukon Settlements

Small Craft Harbour

Similarly, users can remove one or more layers from the map by unselecting them and refreshing the map. Users can also choose to have map layers automatically displayed or removed as each layer is selected without using the Refresh Map button/tab. Place a checkmark in the "Automatically Refresh Map" check box located below the Refresh Map button to enable this feature.

As mentioned previously, some layers are only visible at certain scales. If the check box is greyed out, the layer is not visible at the current scale. To access these layers, users will have to rescale the map.

Press 'Control and F5' on your keyboard to refresh the application.

2. Creating Data & Maps

2.1 Using Markup Tools

In MAPSTER 2.0, users now have the option to create their own data using a number of markup tools. These tools allow users to create point, line and polygon features which can then be downloaded to the user's local workstation in ESRI's shapefile format.

1. Point Features

Using the Zoom In tool, draw a box around Vancouver Island. Activate the Pushpin tool and click on a location on the north side of Vancouver Island. The information frame will then update to allow users to select a colour for the pushpin along with the option to label the pushpin. Select a colour and complete the text box (e.g. North Vancouver Is.). Click the "Add Pushpin" button. A pushpin and label will be drawn in location that you have clicked on.

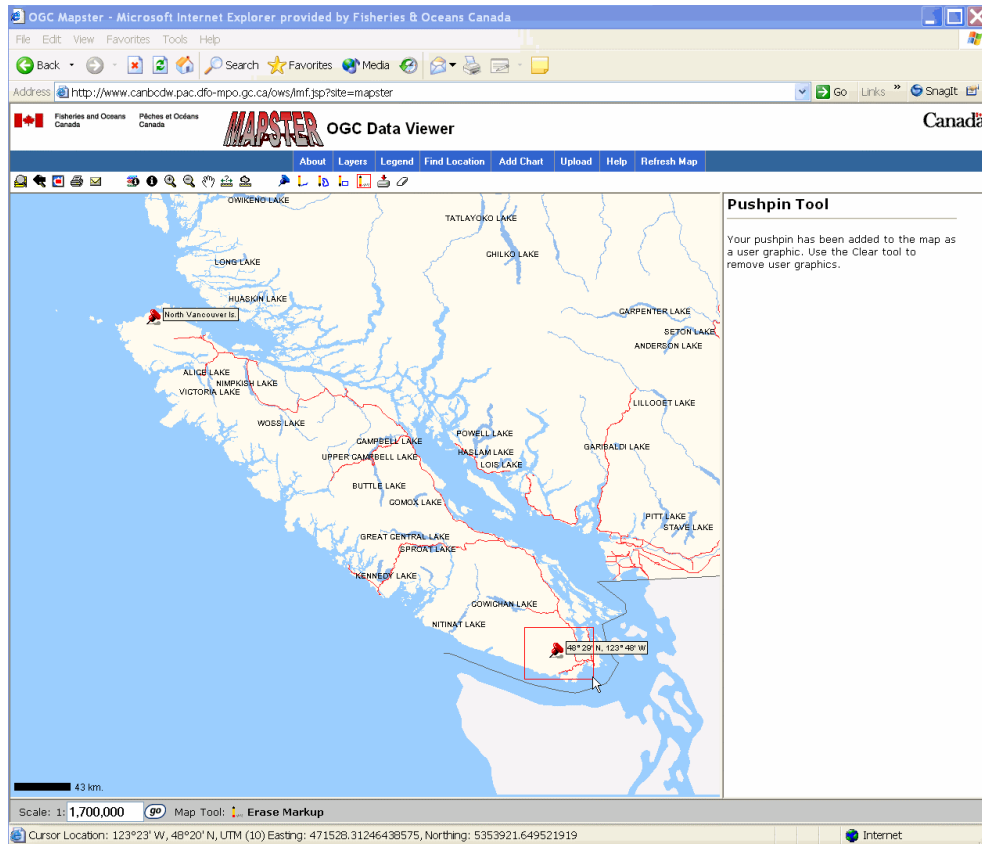With the pushpin tool still activated, click on a location on the south of Vancouver Island. In the information frame, choose a different pushpin colour, select the option to "Label with map coordinate" and click the "Add Pushpin" button. The new pushpin will appear on the map, labelled with the location's latitude/longitude coordinates.

To remove an individual feature from the map, click on the Erase Markup tool. On the map, draw a box around the pushpin labelled with the location coordinates. The pushpin will be removed and the information frame will be updated to inform the user that the feature has been

2. Line Features

To draw a line feature, select the Line Markup tool . Click a series of points on the map to draw a line on the west coast of Vancouver Island. After each point clicked, the information frame will be updated to inform the user how many points have been added to the line. If you would like to add more points to your line, continue clicking on the map. When you are finished, click the OK button. If you would like to redo the line that you have drawn, click the Clear button and redigitize your line.
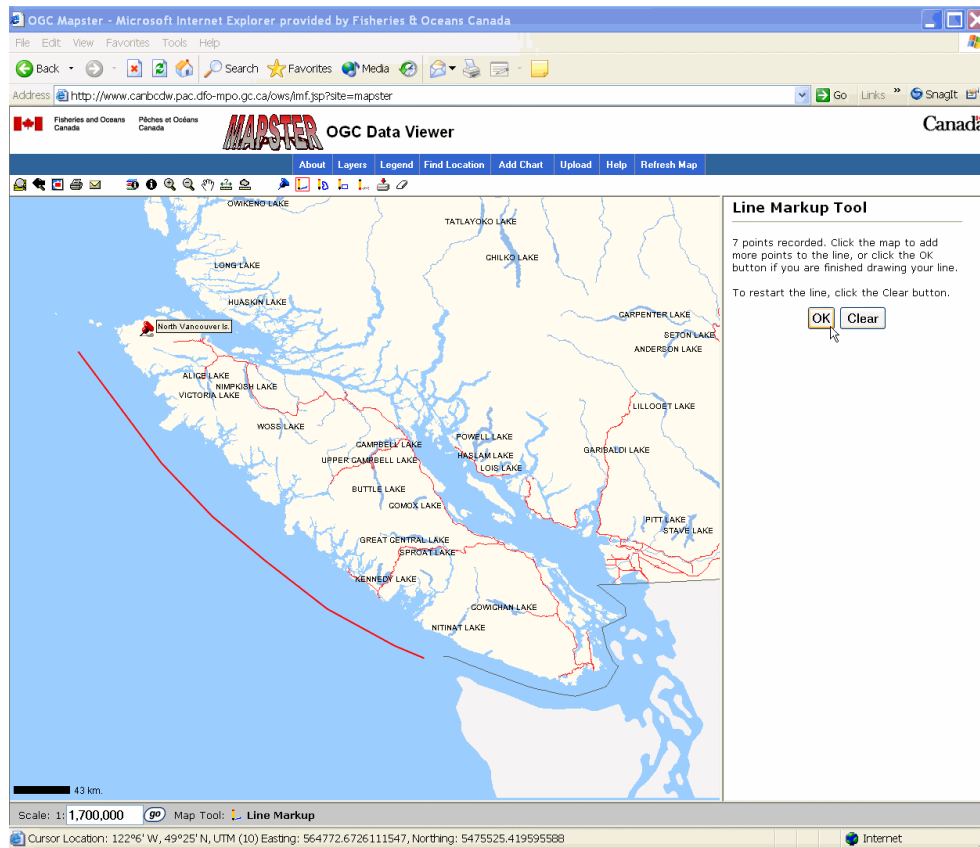

All features currently drawn on the markup layer can be removed completely using the Clear tool. Click on the Clear tool   to remove the point and line features currently on the map.

3. Polygon Features

Polygons can be added to the map using the polygon markup tool or the rectangle markup tool.

Similar to the Line Markup tool, the Polygon Markup tool allows users to digitize a series of points to create a polygon. Activate the Polygon Markup tool ![icon] and click on the map to draw a polygon around Vancouver Island. After each click on the map, the information frame is updated to inform the user how many points have been recorded. Continue clicking on the map until you have completed your polygon. When you are finished, click on the OK button. If you would like to redigitize the polygon, click on the Clear button and redraw your polygon.
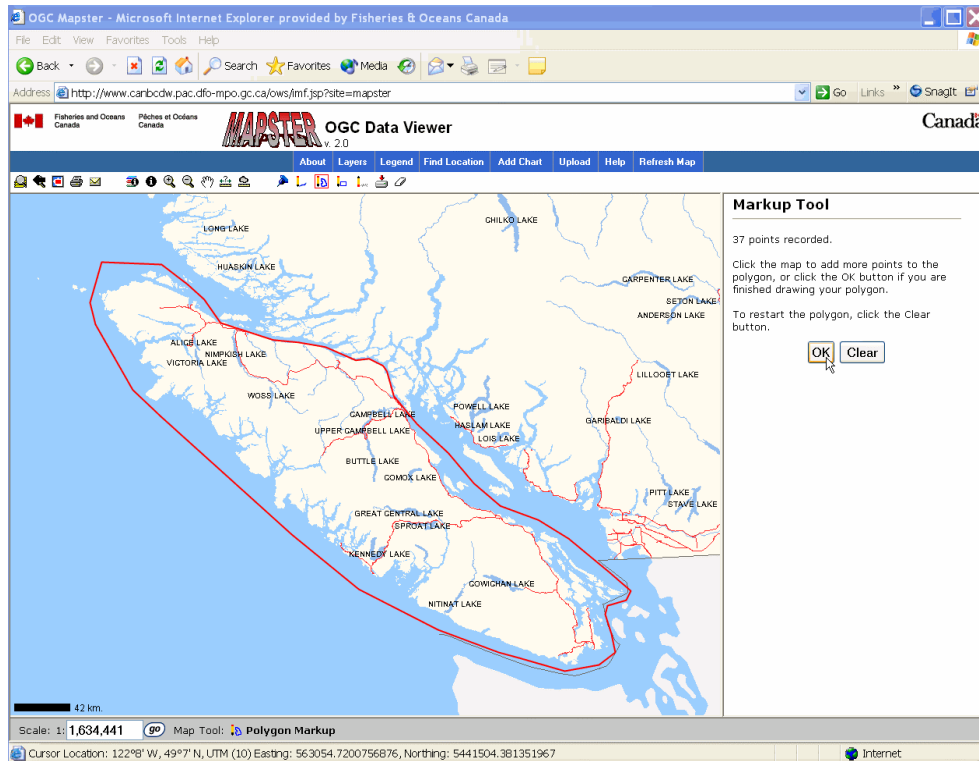

To draw a rectangle, click on the Rectangle Markup tool ![icon]. Click on the map and holding the left mouse down, drag a rectangle in the area of Howe Sound. Release the mouse button. A rectangle will be created in the location that you have drawn the box.

2.2 Saving Features to a File

Using the Save Markup tool, users have the ability to save markup features as ESRI shapefiles. These files can then be used in other GIS/GPS/CAD systems. When you have finished adding features using the markup tools, you can save the features currently visible on the markup layer to a local or networked drive. These features will be saved in separate shapefiles according to their feature type (point, line and polygon). Note: These features will be saved in the BC Albers map projection.

16

If you are finished adding features to the map, click the Save Markup tool ![icon]. In the information frame, a message will be returned letting you know if the shapefile operation has been successful. If successful, you will see a link to download the zip file. It is advised that you download this file immediately as the directory where this file is temporarily stored is emptied regularly. Click on the link "download the zip file".
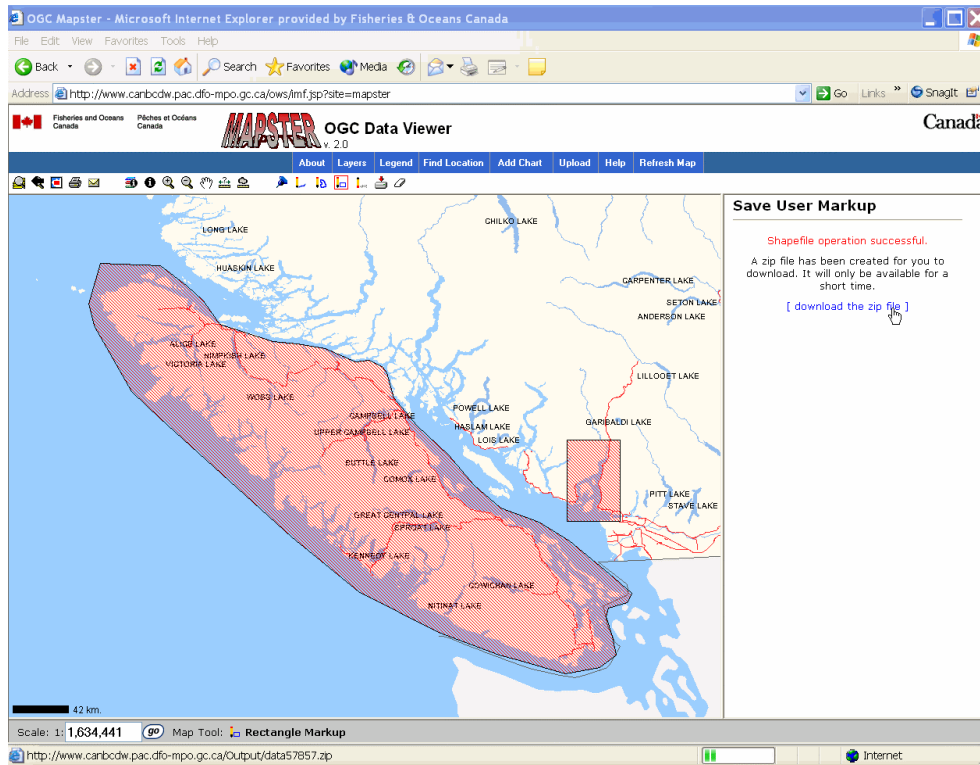
A new "File Download" window will open prompting you to open or save your file. Click the Save button. A "Save As" window will then open providing options for saving the zip file to a desired location. Name your WinZip file (e.g. markuptest), choose a favourite location to save the zip file and click on the Save button. To open this file, use your file system manager (e.g. Windows Explorer) to navigate to the location where you saved the zip file. Unzip the file and extract the shapefiles to a folder. Note: There are three separate files that make up the shapefile (.dbf, .shp and .shx) which must always remain together in the same folder. Note: It is advised that you rename these shapefiles to something meaningful (e.g. van_island). Remember to rename all three files with the same name (e.g. van_island.dbf, van_island.shp and van_island.shx).

This shapefile contains the two polygons from the markup layer. Do not delete these shapefiles at this point as you will use these them later in the tutorial (Section 3.2 Adding Shapefiles to the Map).

Once the polygons features have been saved, users can remove them from the markup layer by clicking on the Clear tool.

2.3 Map Output

Once you have finished adding layers and markup features, you may choose to share your map with others. In MAPSTER 2.0, you can do this by either saving and printing your map as a .pdf document or sending your map as an email attachment.

1. Printing a Map

With the print tool, users can create a simple layout for their map. This layout will include a title, legend, scale and scale bar. Click on the Full Extent tool to return to the full view of the Pacific Region. Turn on the DFO Staffed Site layer (Hint: This layer is located under Thematic Layers/DFO Pacific Region Facilities). Click on the print tool ⏚. The information frame will display instructions on saving a scaled map. Type a title for your map (e.g. DFO Staffed Sites) and using the drop down box, select a map scale. When you are finished, click the OK button.

After a moment or two, the information frame will indicate if your map has been successfully created as a .pdf document. If you have Adobe Acrobat Reader currently installed on your computer, you can choose to open and view the map immediately by clicking on the link "open map". If you would like to save the .pdf file to your local computer, right click on the "open map" link and click on "Save As".
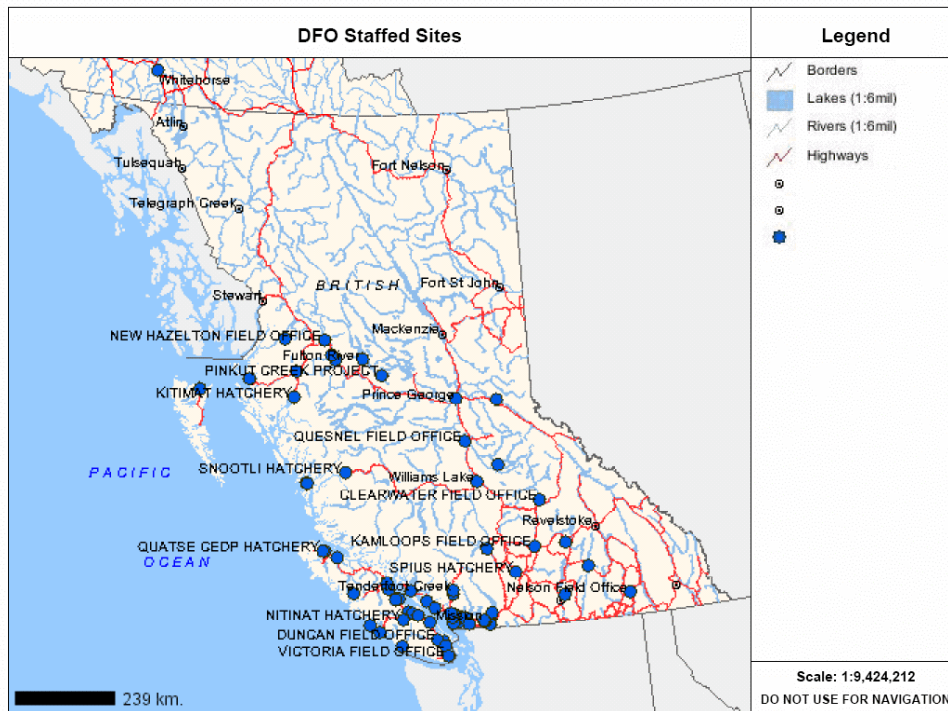
Example Map Layout:

2. Emailing a Map

Another option for distributing your map is through email. Using the email tool, users can send a .pdf file of the map along with a brief email message. Click on the email tool ✉. The information frame will be updated allowing you to type in the email addresses for the recipient and the sender. For test purposes, type your email address in both the "to" and "from" boxes along with a brief message. Click on the Send button.

When you open your mailbox, you should find this email. Along with the map and text message, a standard message will be imcluded to convey when and how the map attachment was created.

Press 'Control and F5' on the keyboard to refresh the application.

3. Advanced Features

3.1 Adding CHS charts to the map

Canadian Hydrographic Services (CHS) Marine Charts can be viewed in MAPSTER as raster images. As there are many charts covering the BC coast, users may be unsure which chart they would like to view. To address this problem, users are provided with a number of ways to locate charts and add them to the map.

To begin, click on the Add Charts tab. In the information frame, the user is presented with three options for locating charts and adding them to the map. They include:

- Entering a chart number.

- Interactively selecting a location on the map using the Chart Tool

- Entering a place name.
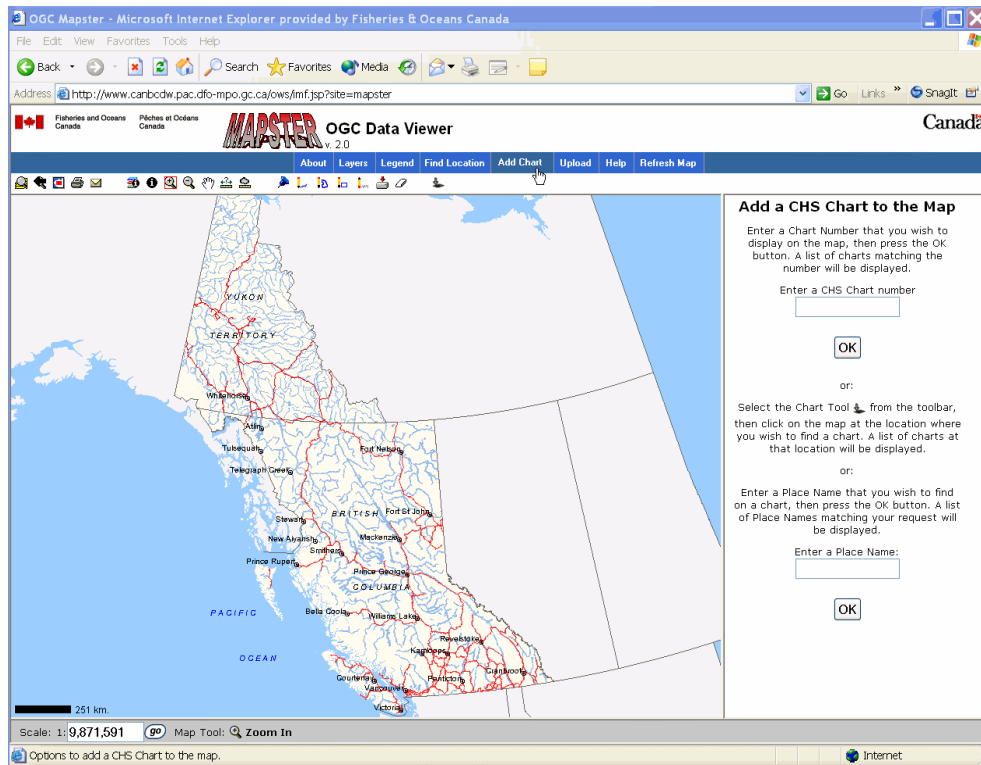
1. Entering a chart number

In the information frame, type the four digit CHS number (e.g. 3475) into the text box entitled "Enter a CHS Chart number". Click the OK button. All charts and maps matching the desired CHS number will be listed. Many charts contain large scale inset maps which will be listed with their title and scale. The main chart should have the smallest scale. Click on the chart number with the smallest scale listed. Note: 1:18 000 is a smaller scale than 1:9 000. The map redraws with the chart present.
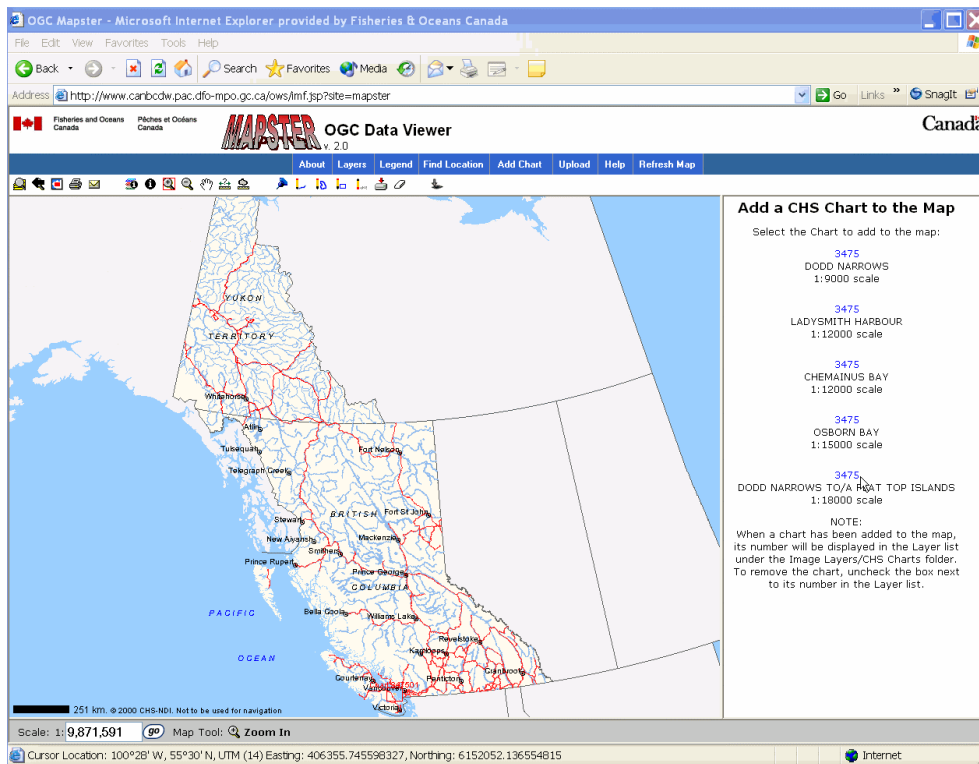
The geographic extent of the chart is indicated on the map with a red box and text label. Click on the Zoom In tool and zoom in on the chart. The resolution of the chart image will improve with each use of the Zoom In tool. Note: Refer to Section 1.0 - Navigating the Map for details on using the Zoom In tool.

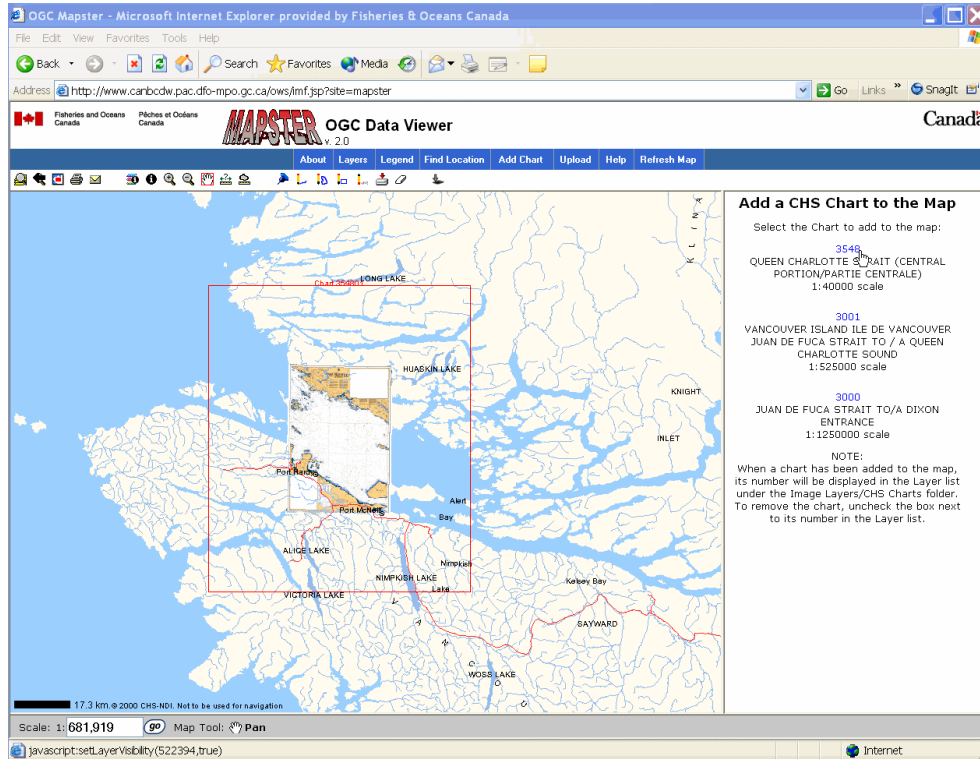Press 'Control and F5' on your keyboard to refresh the application.

2. Interactively selecting a location on the map using the Chart Tool

When the Add Chart tab is selected, a new tool is added to the toolbar. The "Chart Tool" enables users to click on the map at the location where they wish to display a chart.

Since this method uses the map to locate a chart, it may be useful to change the extent of the map so more detail is visible for a certain area. Activate the Zoom In tool and zoom the map to the north end of Vancouver Island.

Click the Chart Tool ⚓ and click on the map just offshore of Port Hardy. A list of charts for that location is displayed in the information frame. Note: The chart tool remains active so you can click on the map in another location to get a new list of charts.

Click on chart number 3548 in the list. The map redraws with chart 3548 present. Click on the Zoom In tool and zoom the map to the extent of the chart.
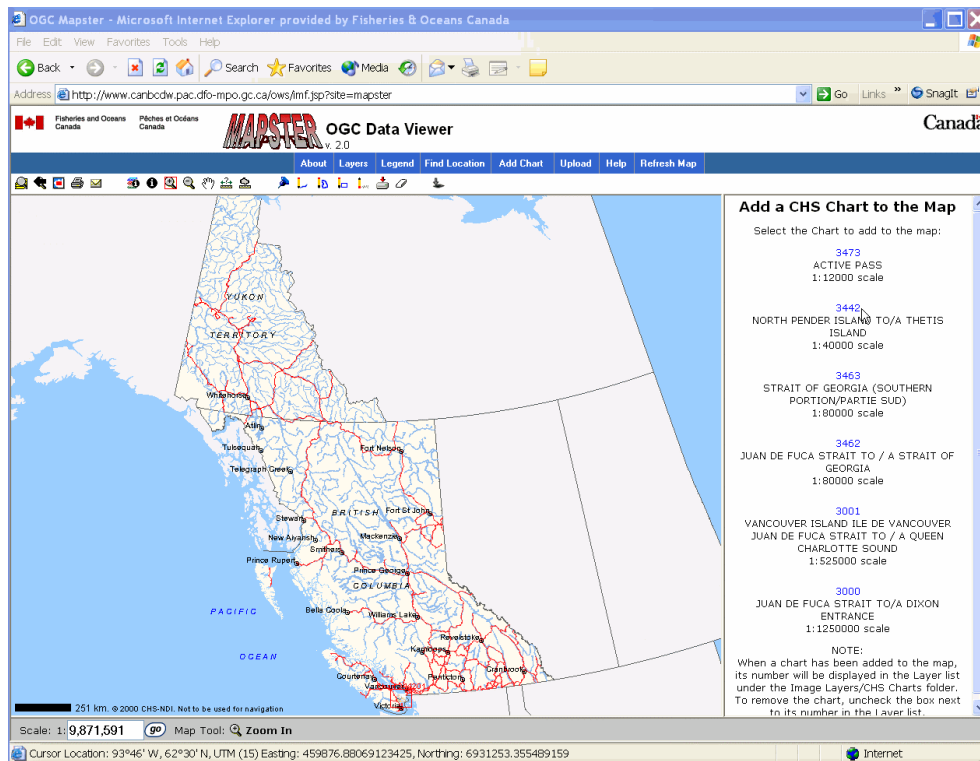

Press 'Control and F5' on your keyboard to refresh the screen.

3. Entering a location name.

The third method listed in the Add Chart information frame is the option to locate and display a chart by place name. In the text box entitled "Enter a Place Name:", type the name of a place (e.g. Active Pass) and click the OK Button. The information frame will update giving the user the option to confirm the Active Pass selection or to perform a new query. Click on the Active Pass place name. If more than one place in BC shares the same name, a list of place names that match the requested text string will appear. Since Active Pass appears on more than one CHS chart, a list of charts containing this place name is returned.

Click on chart number 3442. The map redraws with chart 3442 present. Click on the Zoom In tool and zoom the map to the extent of the chart.

Press 'Control and F5' on your keyboard to refresh the screen.

3.2 Adding Shapefiles to the Map

Users now have the ability to integrate their own spatial data with the layers available in MAPSTER 2.0. This data can come from a variety of sources (such as GPS data) and must be available in ESRI's shapefile format. Shapefiles may not exceed 4Mb and the user must know the shapefile's map projection (e.g. UTM, BC Albers, etc.)

To add a shapefile into a map, click on the Upload tab. The information frame will update and prompt the user for shapefile information. First, select the three files that make up the shapefile set. If you have completed Section 2.2 of this tutorial (Saving Features to a File), enter the path and filename of the markup features that you created previously (e.g. van_island). Remember to enter the file with the correct extension (.shp, .dbf and .shx) for each of the three filenames.

Next, use the drop down boxes to select the correct feature type and map projection for the file that you are uploading. If you are using Section 2.2's van_island shapefile, select polygon as the feature type and BC Albers as the map projection.

Type in a title for the shapefile that your are adding and select a colour for the symbology (for Section 2.2's example, use the title "VI_polys" and the colour "light blue"). Note: The layer that you are adding should not have the same title as any other existing layer on this site.

Finally, use the drop down box to select a layer position. Use "Below all other layers" for the tutorial example and click on the OK button. Note: Uploaded shapefiles can be placed in any position on the layer list to enhance the visibility of the data.

Upload Shapefile

Creates a layer on the map from a shapefile that you upload.
You can upload shapefile sets that are a maximum of 4Mb in
size. You must know the source projection of the shapefile, and
choose the correct projection and feature type below in order
for the layer to display correctly.

Select the three files that make up the shapefile set from your
local disk. Make sure that you choose the file with the correct
extension for each of the entry areas below.

Shapefile (shp):
D:\test\van_island.shp [Browse...]

Shapefile (shx):
D:\test\van_island.shx [Browse...]

Shapefile (dbf):
D:\test\van_island.dbf [Browse...]

Shapefile feature type:
Polygon ▾

Shapefile source projection: Choose the spatial reference
system used by your shapefile. The projection of the shapefile
doesn't need to be the same as the map in this application.
BC Albers ▾

Title for layer: The title is used to list your layer in the layers
list. It should not be the same as any other existing layer on
this site.
VI_polys

Symbol color:
Light Blue ▾

Layer position: Use this setting to set the drawing order of your
layer.
Below all other layers ▾

[OK]

If you have correctly uploaded the shapefile, you will be notified in the information frame that the file has been loaded successfully. To view the new layer, click on the Layers tab and open the new folder called Uploaded Layers. Click the checkbox on the left of the new layer to display it on the map.
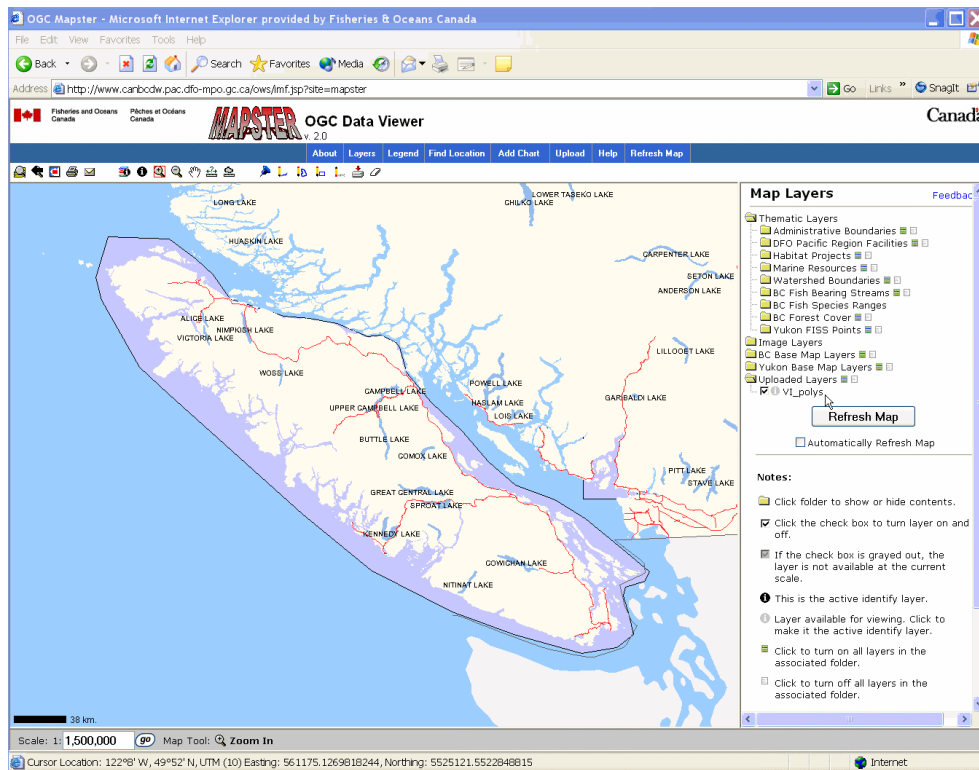
Press 'Control and F5' on your keyboard to refresh the screen.

3.3 Accessing Information from the Maps

What sets a GIS apart from a paper map is its ability to store descriptive information on the map features. MAPSTER provides two tools to access this information; the *Identify* tool, which enables users to extract information from a single layer on the map, and the *Identify Visible* tool, which retrieves information from multiple layers.

1. Identify Tool

Use the Layers tab to add the DFO Hatchery/Spawning Channel layer to the map. (Hint: This layer is located under the folders Thematic Layers/DFO Pacific Region Facilities). Using the pan tool, reposition the map to centre the map on the Yukon. In the scale bar, change the scale of the map to 1:5 million. Note: If you are unsure how to do this, refer to Section 1.0 - Navigating the map of this tutorial.

To obtain information from the DFO Hatchery/Spawning Channel layer using the Identify tool, you must first make this the Active Identify layer. In the information frame, click on the small grey letter ⓘ between the check box and the layer name. The letter will change to black.

Click on the Identify tool ❶ in the toolbar and then click on the hatchery point in Whitehorse.
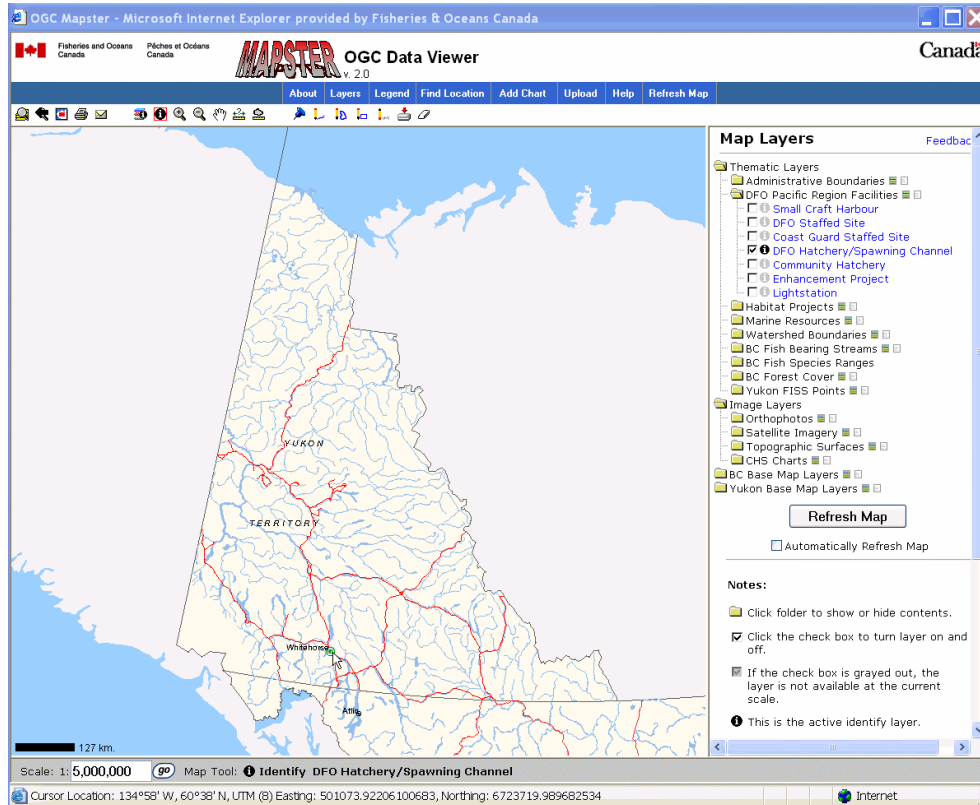
The results from the Identify tool will appear in the information frame. The geographic coordinates of the click location are displayed in BC Albers, UTM and Geographic coordinates. The name, type, ID, location and comments are then listed for the hatchery.

In the information frame, there is also a hyperlink to a Release Report for the DFO Hatchery/Spawning Channel selected. Click on the Release Report hyperlink. A new window opens with a Release Report for the Hatchery/Spawning Channel. The records in the Release Report are organized by species. Details of a particular year's release can be accessed through hyperlinks in the Release Report.

Press 'Control and F5' on your keyboard to refresh the application.

2. Identify Visible Tool

Click on the Find Location tab. In the information frame, select the DFO Statistical Area option and zoom to Stat Area 4. Use the pan tool to centre the map on Prince Rupert and in the scale bar, change the scale of the map to 1:50 000.

Click on the Layers tab and open the Watershed Boundaries folder (Hint: This folder is located under the Thematics Layer folder). Turn on all layers in this folder. This can be done by clicking on the checkbox to the left of each layer name or by clicking on the green icon located on the right side of the Watershed Boundaries folder name. Click the Refresh Map button.

Click on the Identify Visible Tool and then click on a stream in the Prince Rupert area. The information frame will display the geographic coordinates of the click location in BC Albers, UTM and Geographic coordinates,. As well, the Identify Visible tool "drills down" through the map features and retrieves descriptive information for any features found at the location of the mouse click.

At this scale, the basemaps shown on the map comes from 1:20 000 TRIM data. This data resides on the Province of BC's, Ministry of Sustainable Resources Management (MSRM) servers and is drawn into MAPSTER using the Open GIS Consortium (OGC) Web Map Service specification. The TRIM feature attribute information is displayed for the stream selected, along with details on the various watershed boundaries.

Press 'Control and F5' on your keyboard to refresh the application.

3.4 Measurement Tools

Often it is useful to generate linear or area measurements from a map. MAPSTER has the ability to perform these tasks using the *Measure* and *Measure Area* tools. Note: Measurements obtained from these tools should not be considered highly accurate or precise but acceptable for rough estimates and comparisons.

1. Linear Measurements using the Measure tool

From the map layers, add FISS Steelhead Distribution to the map. (Hint: This layer is located in the folders under Thematic Layers/Fish Bearing Streams.)

Click on the Find Location tab. In the information frame, select the Canadian Place Name option and zoom to a map width of 25 kilometres around the district municipality of Lillooet. Note: If you are unsure how to do this, refer to Section 1.0 - Navigating the Map of this tutorial.

Measure the distance of steelhead distribution along Seton River between Seton Lake and the Fraser River. To do this, click on the Measure tool ⚒ and on the map, click on the lake outlet of Seton Lake. The information frame will now contain the position of this location. Move your cursor east and click on another location along Seton River. The information frame will update to include the position of your last click. The distance (km) and true course (°) will also appear in the information frame. You can continue taking measurements from your last click point towards the point of confluence between Seton River and the Fraser River. The total measured distance is listed just above the "Clear Points" button. When you are finished, click on the Clear Points button.
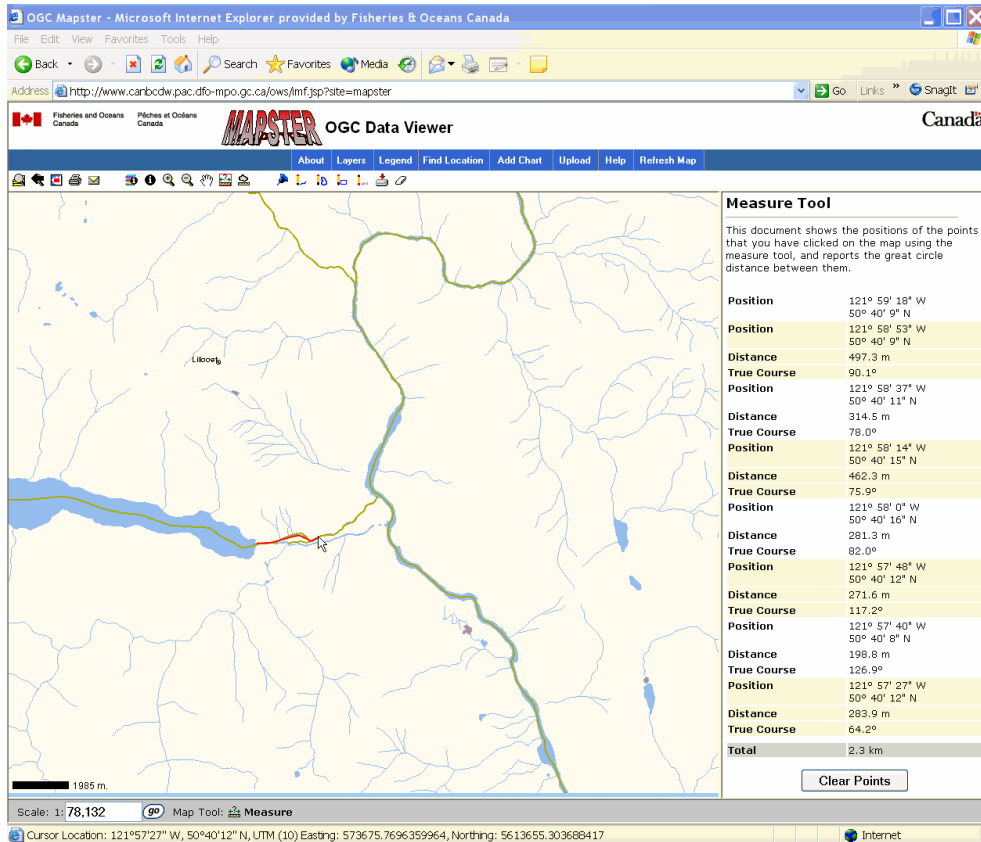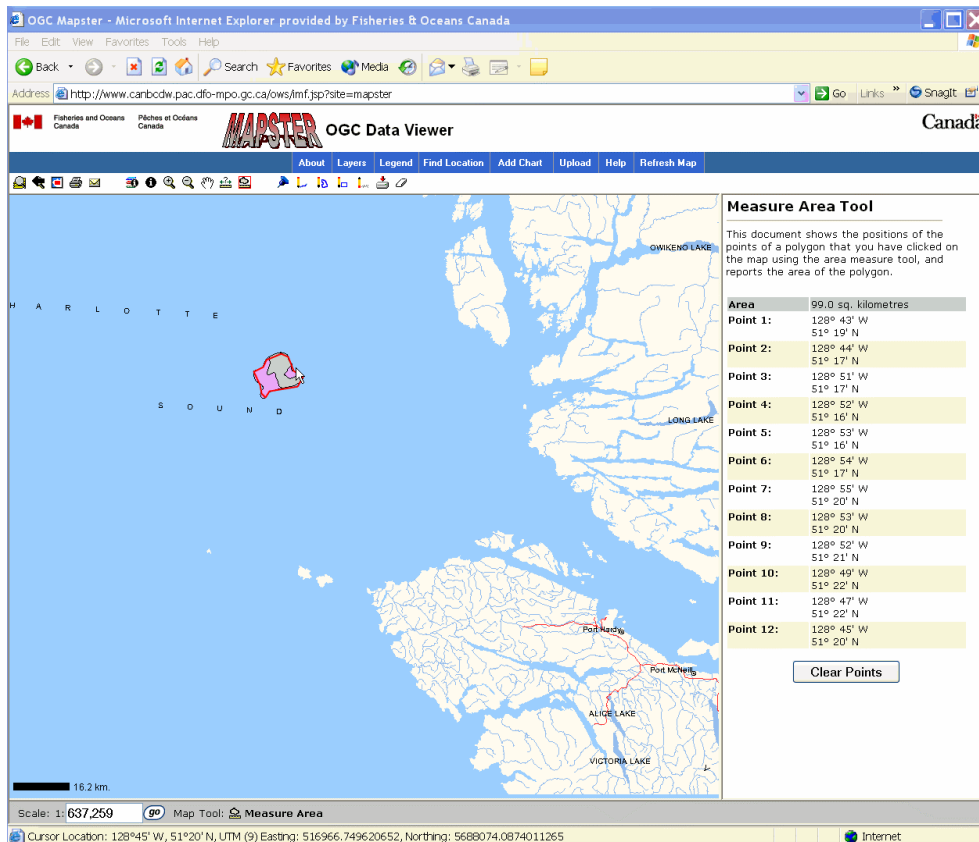
Note: Before removing the Steelhead Fish Distribution Layer from the map, you may want to check the FISS and Escapement reports using the Identify Visible tool. If you are unsure how to do this, refer to Section 3.3 - Accessing Information from the Map of this tutorial.

Press 'Control and F5' on your keyboard to refresh the application.

2. Polygon Measurements using the Measure Area tool

From the map layers, add Spongereefs to the map. (Hint: This layer is located in the folders under Thematic Layers/Marine Resources). The spongereefs are located to the east of Haida Gwaii. Use the Zoom In tool and zoom into the most southerly sponge reef (located just north of Vancouver Island).

To generate an estimate of the spongereef's area, click on the Measure Area tool ![icon]. On the map, click along the perimeter of the sponge reef. The information frame will update providing the geographic coordinates of the position of each click. Continue to click on the map until you have formed a polygon around this spongereef and generated a final area measurement. Note: Area values are displayed in the grey highlighted area above the point coordinate list. If you would like to create a new polygon at a different location or redraw your current polygon, select the Clear Points button and start again.

Press 'Control and F5' on your keyboard to refresh the application.

4. GIS Unit Website

4.1 Website Links

1. If you don't already have the GIS Maps and Data web page open, click on the following link to open it: **http://www-heb.pac.dfo-mpo.gc.ca/maps/maps-data_e.htm**.

2. The GIS Maps and Data page is the main launching point for MAPSTER and several other Internet GIS applications. The HEB GIS Unit uses this page to announce new developments relating to our applications and data holdings. Click on the "What's New" link to get information on the latest developments.
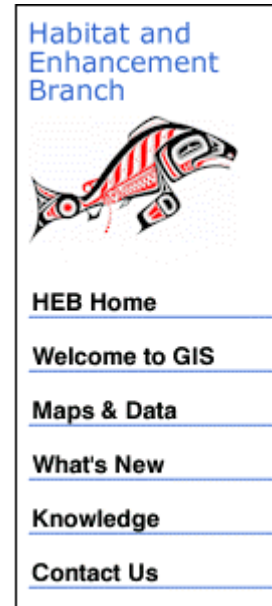
The GIS Maps and Data page also contains links to a tabular listing of all its spatial data holdings. Most of these data holdings can be viewed using MAPSTER, and many can be downloaded directly to your computer. The next section in the tutorial will familiarise you with these listings.

4.2 Spatial Data Holdings

On the GIS Maps and Data page, click on the "HEB GIS Unit Spatial Data Holdings" link. The data listings have been organised into three broad categories:

- Themes: Datasets displaying spatial information relating to a certain topic (e.g. fish distribution)

- Images: Orthophotos, satellite imagery and raster maps.

- Basemaps: Datasets containing geographic features for spatial reference.

Click on the Themes link to open the list of thematic datasets. Although the majority of the datasets on the list were created by the HEB GIS Unit, many were created by other organisations and loaned to DFO under data sharing agreements. The datasets are grouped by the organisation that created them.

Each row in the table contains information about one GIS dataset. The columns in the table contain hyperlinks to 1) view the dataset, 2) view details about the dataset, and 3) download the dataset.

- Click on the "Datasets" link. A thumbnail image of the GIS dataset will appear in a new window.

- Click on the "Details" link. A window opens with detailed information about the GIS dataset. This information is referred to as "Metadata".

- The Status column refers to the availability of the dataset for distribution. In the case of DFO datasets, many are available for download by clicking on the "Download" link.

- Requests for distribution of the datasets that are not DFO's should be forwarded to the organisation listed in the "contact" column.