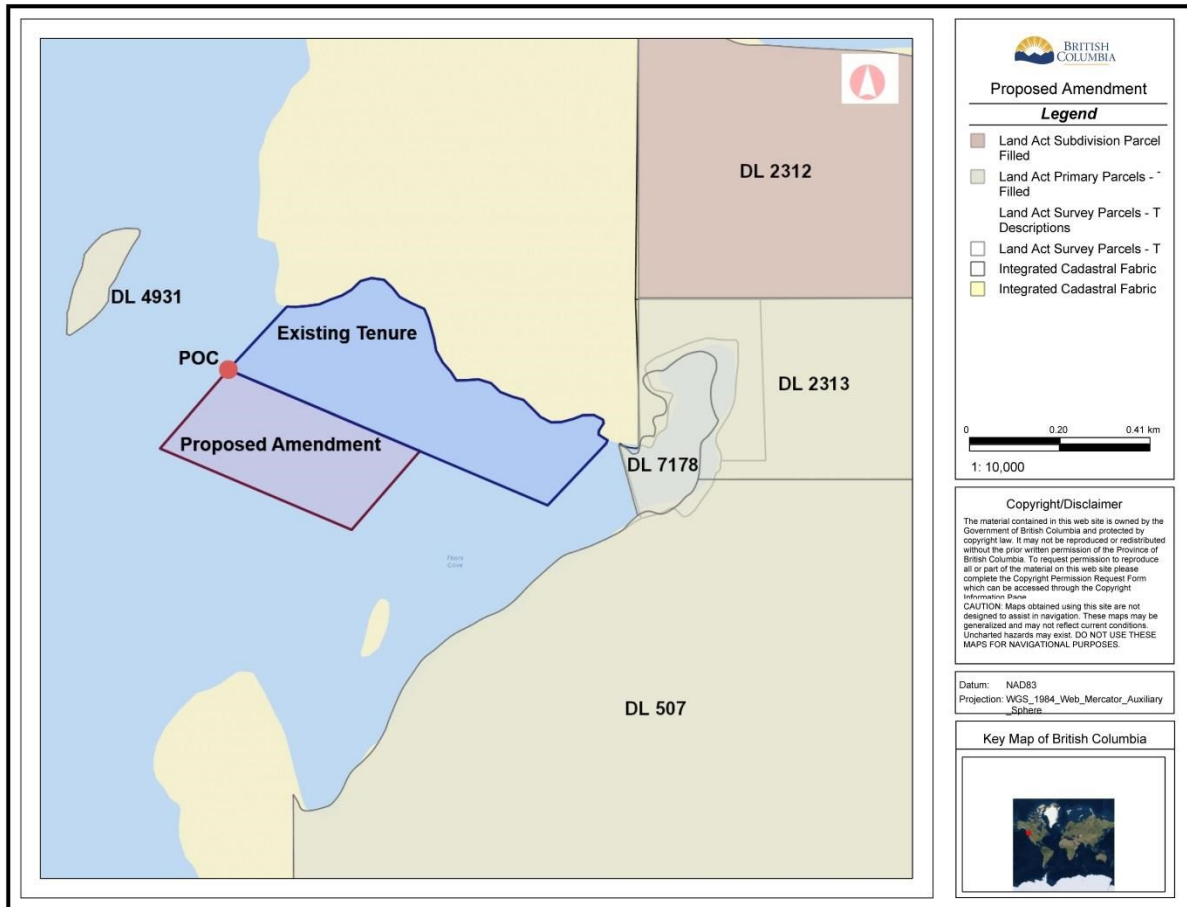


Instructional Guide to Using iMapBC for Aquaculture Application Maps



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Introduction

Understanding the requirements of an aquaculture application, researching the availability of a proposed area, and preparing well-drawn maps of your aquaculture application will assist in the review and assessment of an application. Please review the pre-application recommendations in the guidebook to assist you in the application process:

<https://www2.gov.bc.ca/gov/content/industry/crown-land-water/crown-land/crown-land-uses/aquaculture>

This guidance document provides some basic steps to help determine the availability of an area. These instructions are to provide a quick look at existing interests in your application area. Once an application is submitted, a much more in-depth review is done by the appropriate Provincial and Federal agencies.

The guidebook also shows how to get information about the application area, how to create and print four of the required maps, and how to create shapefiles and save them to your computer for the application area using [iMapBC](#). Please note that different maps are required for different aquaculture application forms so please check your application form to find which maps are required.

Further information on iMapBC's functionality and tools are available through the iMapBC website found on the BC Geographic Data and Services webpage found [here](#).

The polygon shape created in this document is purely for instructional purposes and does not reflect any particular Crown land application or tenure in existence.

Section 1: IDENTIFYING EXISTING INTERESTS IN A PROPOSED AREA

Before submitting an application for an aquaculture facility, it is important to review the application area. This includes identifying the ownership and any encumbrances (conflicts or constraints) in the proposed area as well as nearby areas.

There are several databases available to research interests in a proposed area:

Natural Resources Online Services (NROS):

<https://portal.nrs.gov.bc.ca/web/client/home> <https://portal.nrs.gov.bc.ca/web/client/-/mapping-tools>

iMapBC:

<http://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc>

Marine Plan Partnership for the North Pacific Coast (MaPP):

<http://mappocean.org/>

A) Locate the Area of interest in iMapBC

Open iMapBC at <http://maps.gov.bc.ca/ess/hm/imap4m/>

i) Find an area by zooming to it

Navigation tools are found in the **Home** tab.

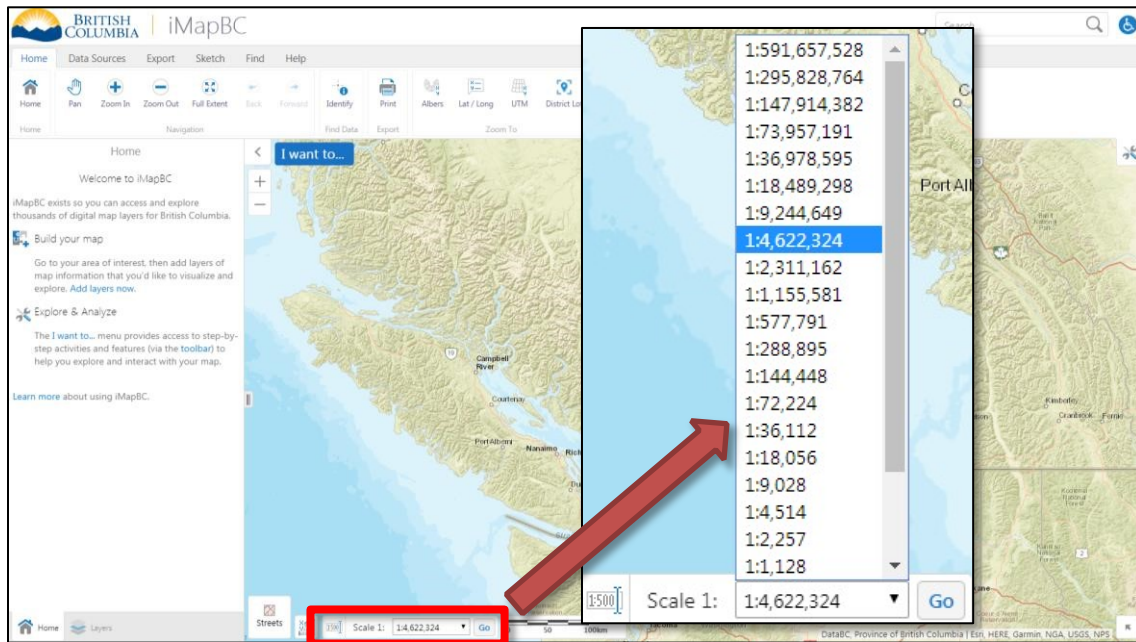


Use the **Pan Tool** to move around the map while using the mouse wheel to zoom in and out



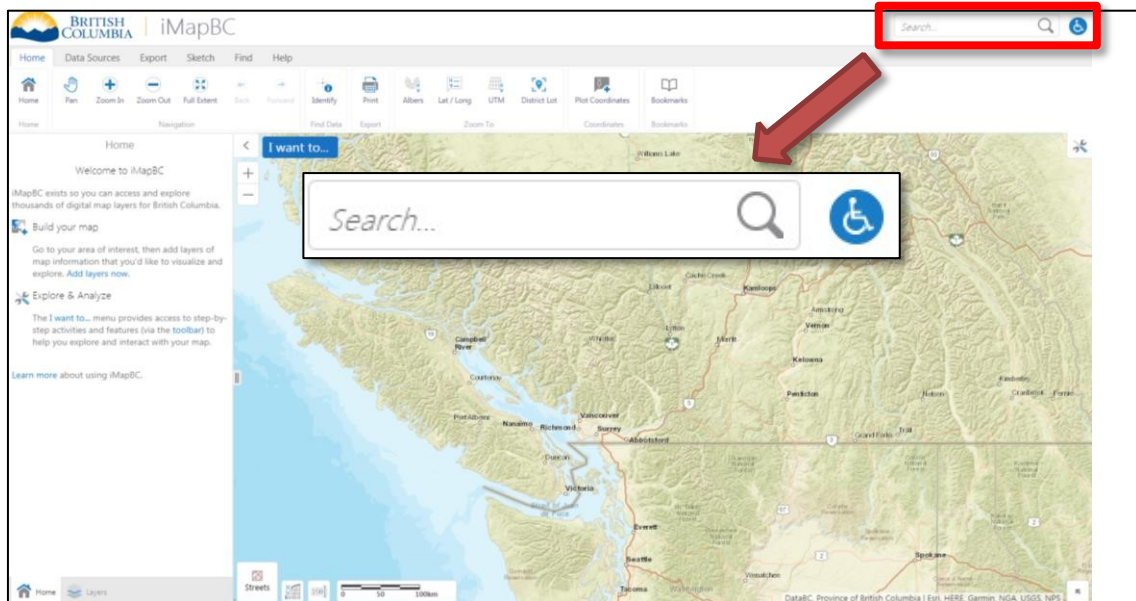
Use the **Zoom In** and **Zoom Out** tools to draw a box around an area you want to zoom to

You may select a specific scale by clicking the **scale** symbol  at the bottom of the screen.

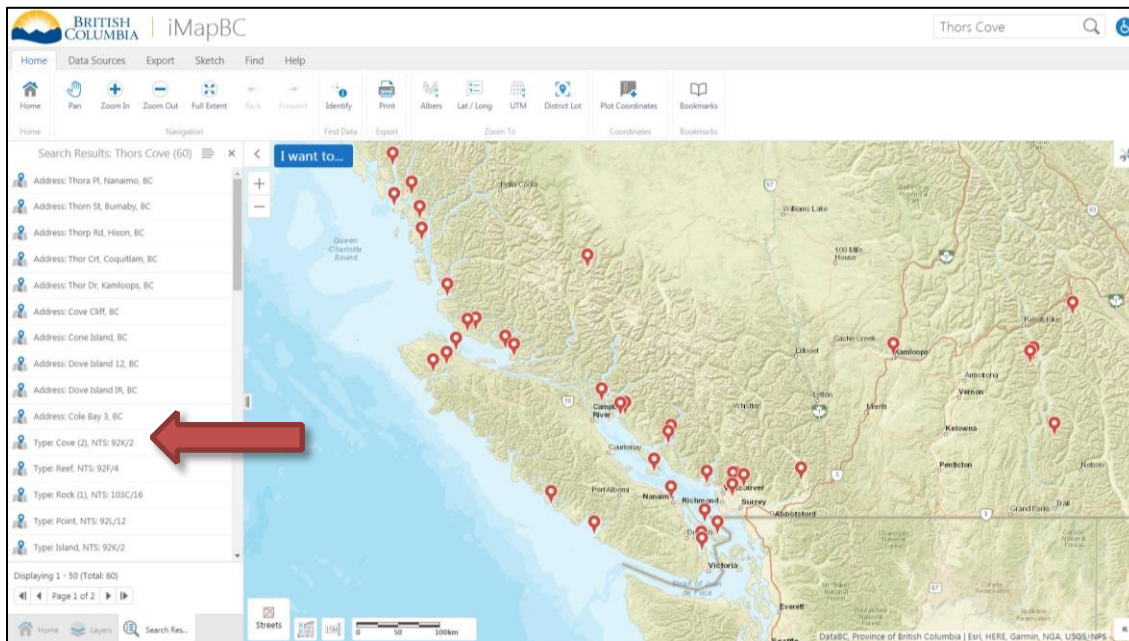


With scale, the bigger the number the more area you can see. 1:5,000 may show part of a bay, while 1:125,000 may show the entire bay and surrounding area.

ii) Search by address or geographic name



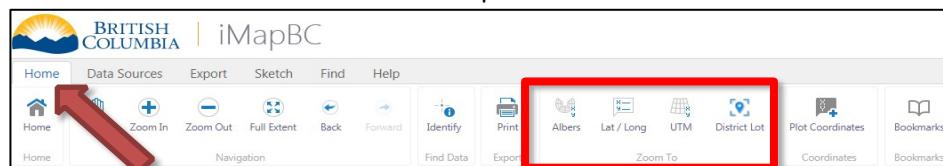
Enter in a geographic name or address in the top right search bar. Click on the magnifying glass to view the results of the search on the left side of the screen.



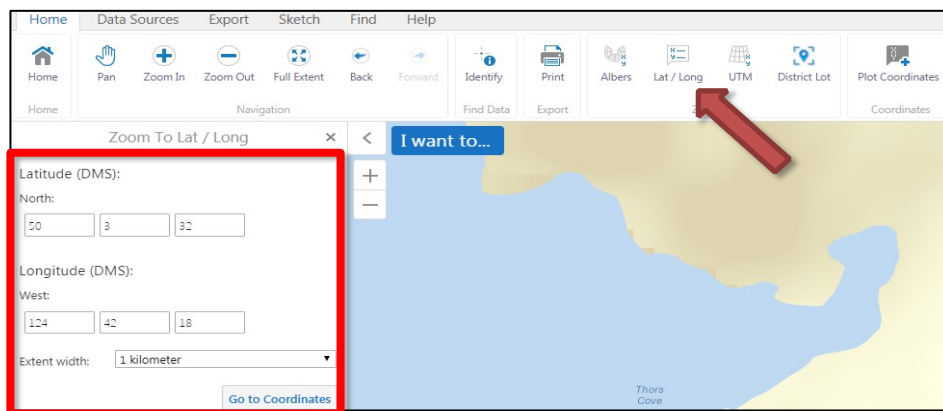
Click on a result to zoom to that area

iii) Find an area by coordinates

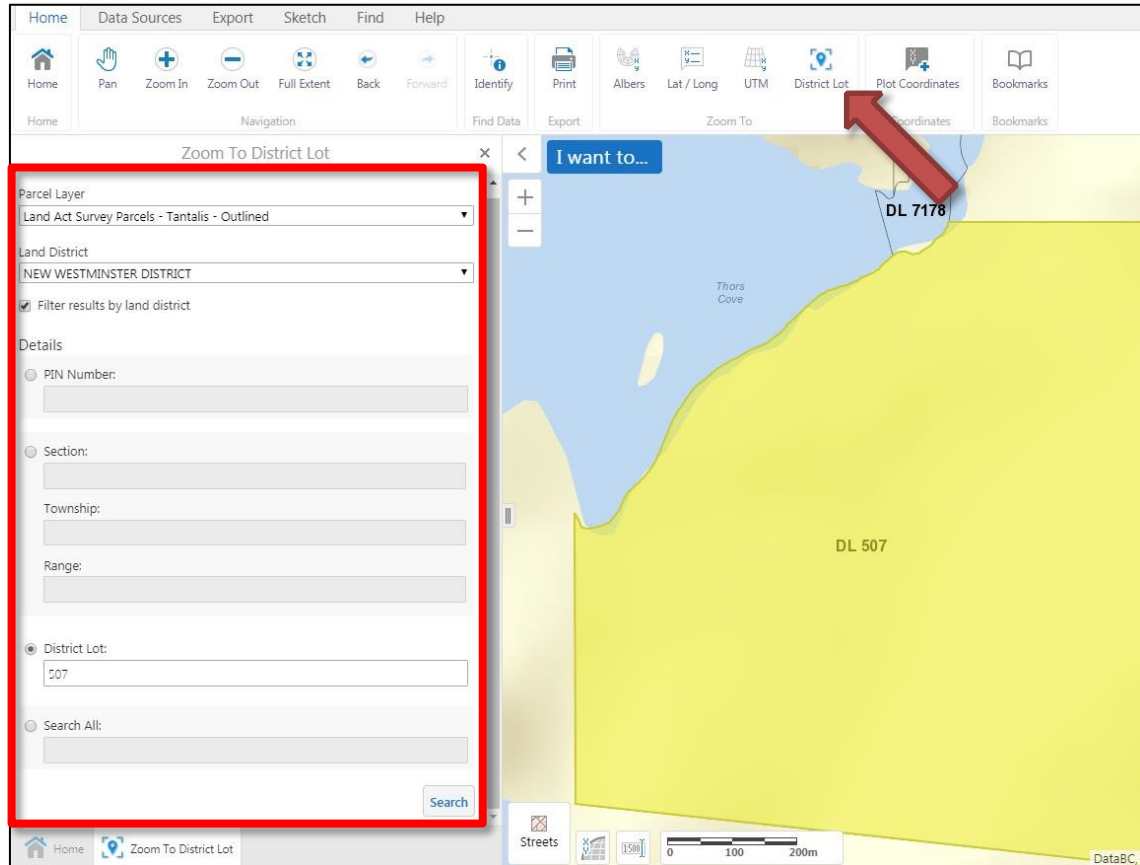
Open the **Home** tab and look at the **Zoom To** options



Select Lat/Long, Albers or UTM and fill in the coordinates in the left hand menu.



iv) Locate area by District Lot or Survey PIN

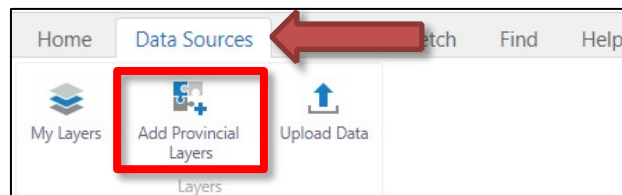


B) Add Provincial Spatial Layers

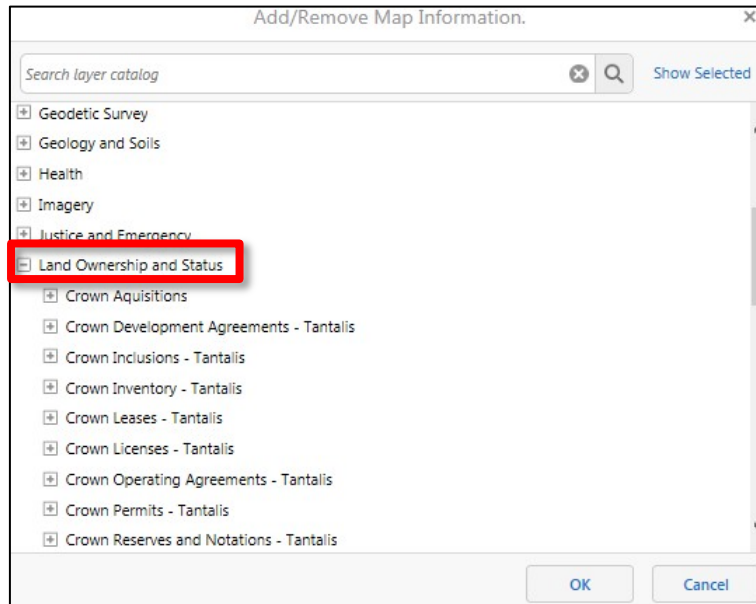
Once you have located your area of interest, you can add spatial layers to show how the land is currently being used and what encumbrances (conflicts and constraints) may exist.

i) How to add layers

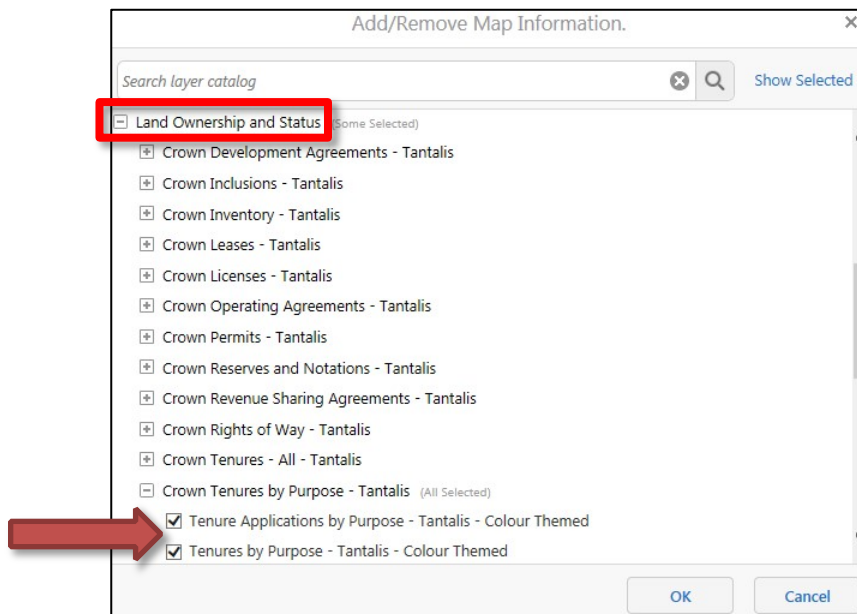
Open the **Data Sources** tab and click **Add Provincial Layers** to open up the layer catalog.



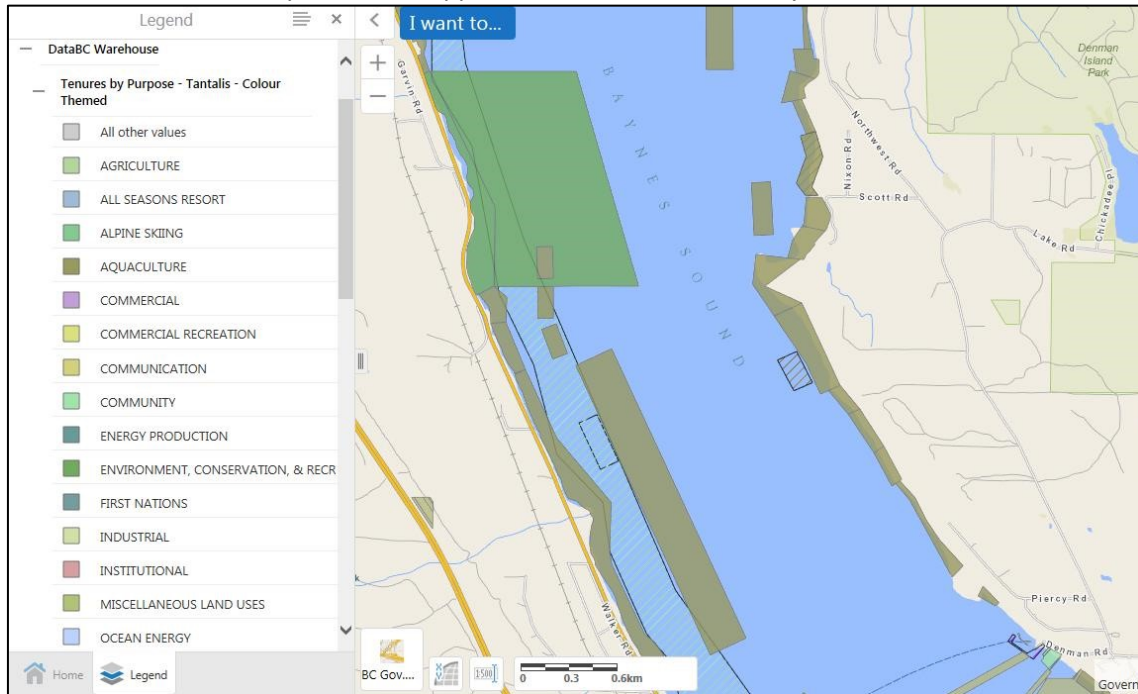
The catalog will open to display major categories of spatial information. By clicking on the + symbols, you can open sub-layers to add. Scroll down the layer catalog to find the **Land Ownership and Status** folder.



Press the + beside **Land Ownership and Status**, scroll down to **Crown Tenures by Purpose - Tantalís** and press the + beside that. Add a check mark to **Tenure Applications by Purpose - Tantalís - Colour Themed** and **Tenures by Purpose - Tantalís - Colour Themed**. Press **OK** to display the layers. This will show where other people have started applications or are currently using public land and for what general purpose.



Example: Tenure Applications and Tenures in Baynes Sound



In this example, there are a number of aquaculture tenures and applications that already exist; you would need to apply for public land outside these tenures. Similarly, you cannot apply to use private land or Crown land that is dedicated for another purpose such as parkland.

These are the minimum recommended layers you should turn on when exploring and drawing your area of interest. These layers are:

Administrative Boundaries

- Provincial Parks, Eco Reserve, etc. – Tantalus
 - Provincial Parks, Eco Reserves and Protected Areas – All – Tantalus- Colour Filled
 - National Parks – Colour Filled

Base Maps

- Local and Regional Greenspaces
 - Local and Regional Greenspaces – Colour Filled

Land Ownership and Status - *existing interests in public land*

- Crown Tenures by Purpose -Tantalis
 - Tenure Applications by Purpose – Tantalis - Colour Themed
 - Tenures by Purpose – Tantalis – Colour Themed
- Integrated Cadastral Fabric – *surveyed and titled parcels on Crown and private land*
 - Integrated Cadastral Fabric – Outlined
 - Integrated Cadastral Fabric – Private Ownership
- Land Act Survey Parcels – Tantalis – *for drawing your shape boundary*
 - Land Act Survey Parcels – Tantalis – Legal Descriptions
 - Land Act Survey Parcels – Tantalis – Outlined

Parks Recreation and Tourism

- National Parks
 - National Parks – Colour Filled

The spatial layers listed below will be helpful in answering questions on your aquaculture application. For example, finding which regional district your area of interest is in. These layers are:

Administrative Boundaries

- ABMS – Municipalities
 - Municipalities – ABMS – Outlined
- ABMS – Regional Districts
 - Regional Districts – ABMS – Outlined
- Indian Reserves including Band Names
 - Indian Reserves including Band Names – Outlined
 - *to identify how close your application is to First Nation's Reserves*

Base Maps

- Base Mapping – 20K
 - Water – River, Canal, etc. – Outlined – 20K
 - *This layer can be used to help you draw your boundary if there are no survey lots or cadastral lines in your area of interest.*

Land Ownership and Status

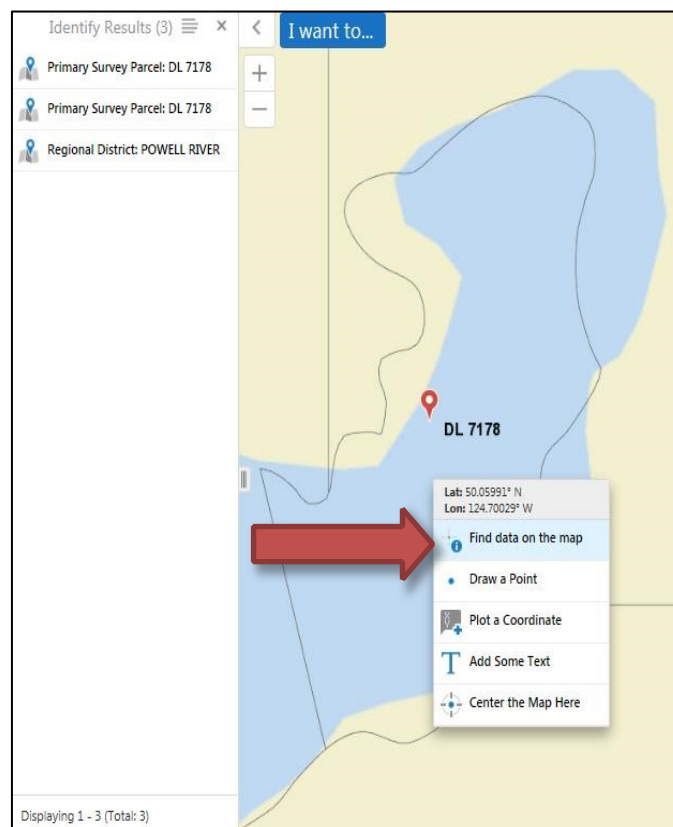
- Integrated Cadastral Fabric
 - Integrated Cadastral Fabric – Private Ownership
 - identifies upland owners with riparian rights
- Land Act Surveyed Rights of Way Parcels-
 - Tantalís
 - Land Act Surveyed Rights of Way Parcels – Tantalís - Outlined



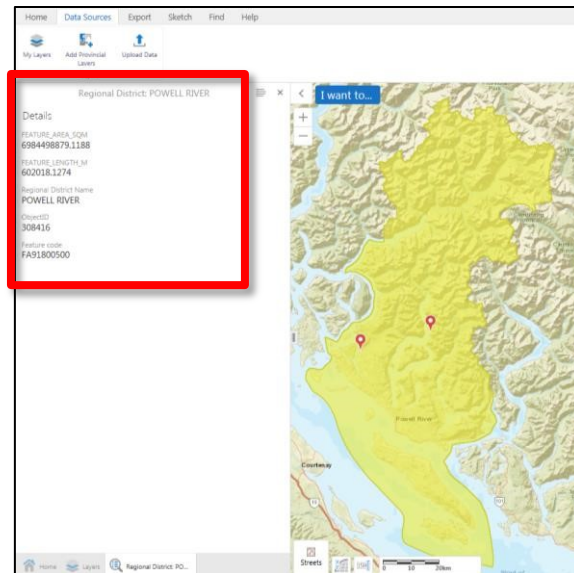
Checking through these layers may save you time and effort in your application because they will show where you can and cannot apply as well as what special authorizations you may need to apply for.

ii) How to find more information about an area

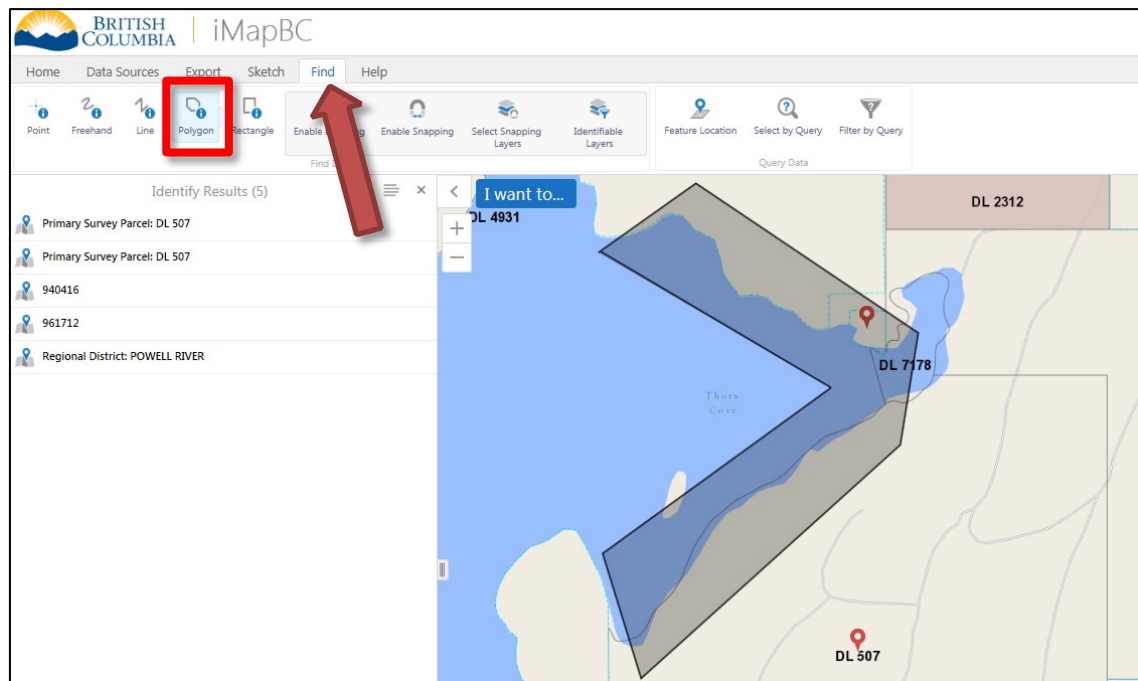
Once you have your layers added, you can get information from them (query them) by **right clicking** and selecting **Find data on the map**



The menu on the left will change to **Identify Results**, by clicking on one of the results, you can get more details. In this case, the area of interest is within the Powell River Regional District.

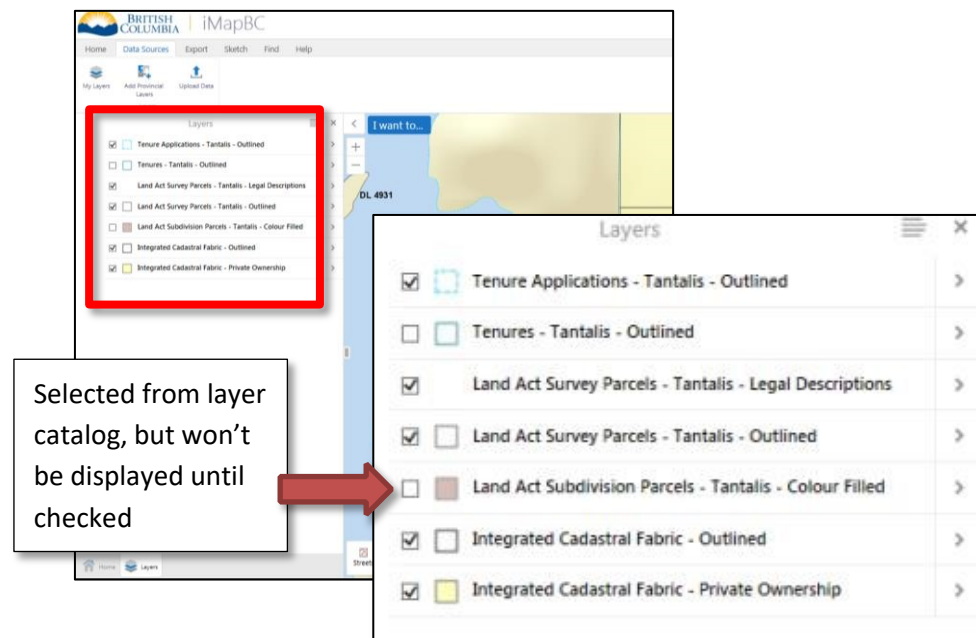


In the **Find** tab you will see more advanced options, like the **polygon tool**, for finding data. Please see the [iMapBC Training Manual](#) under the heading “Reference Materials” for more detailed instructions.





The more layers you select the busier your map will be and the more results you will identify. You can manage this by hiding layers that you aren't currently interested in. You can hide layers by unchecking them in the layer menu on the left side of the main screen.



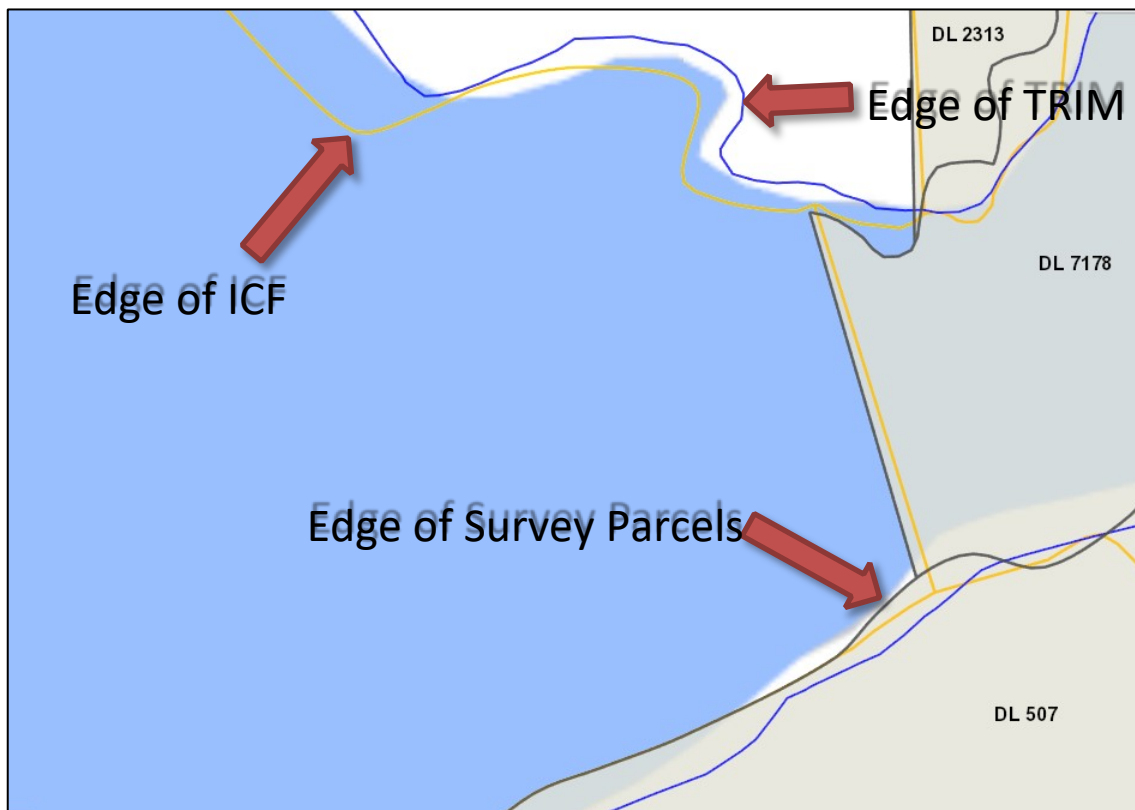
Section 2: CREATE REQUIRED MAPS

Section 1 provided direction on how to add provincial data layers to see if there are any existing encumbrances in or near your application area. Once an available area is found, the next step is to create the required maps for your specific application. You may create these maps using *any software* you are comfortable with, as long as they meet the application requirements. This guide shows how to use iMapBC as the mapping software. Please refer to Section 4 for instructions to print these maps.

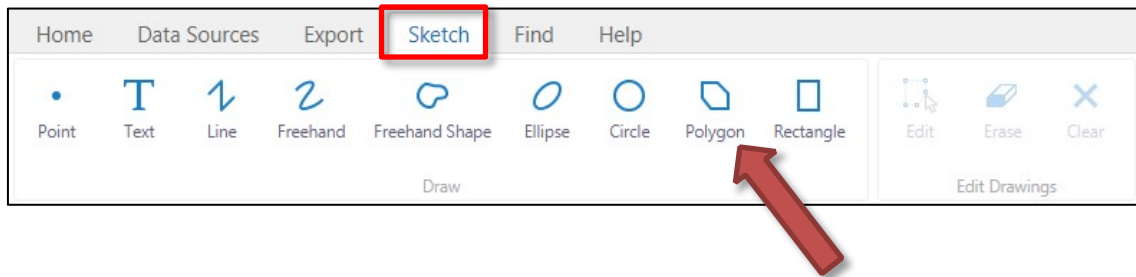
A) Create the Application Area Map

Before drawing your shape, notice the differences between the Integrated Cadastral Fabric (ICF), the Survey Parcels and the Terrain Resource Information Management (TRIM) base in the picture below. These differences are due to the way the data was collected and when.

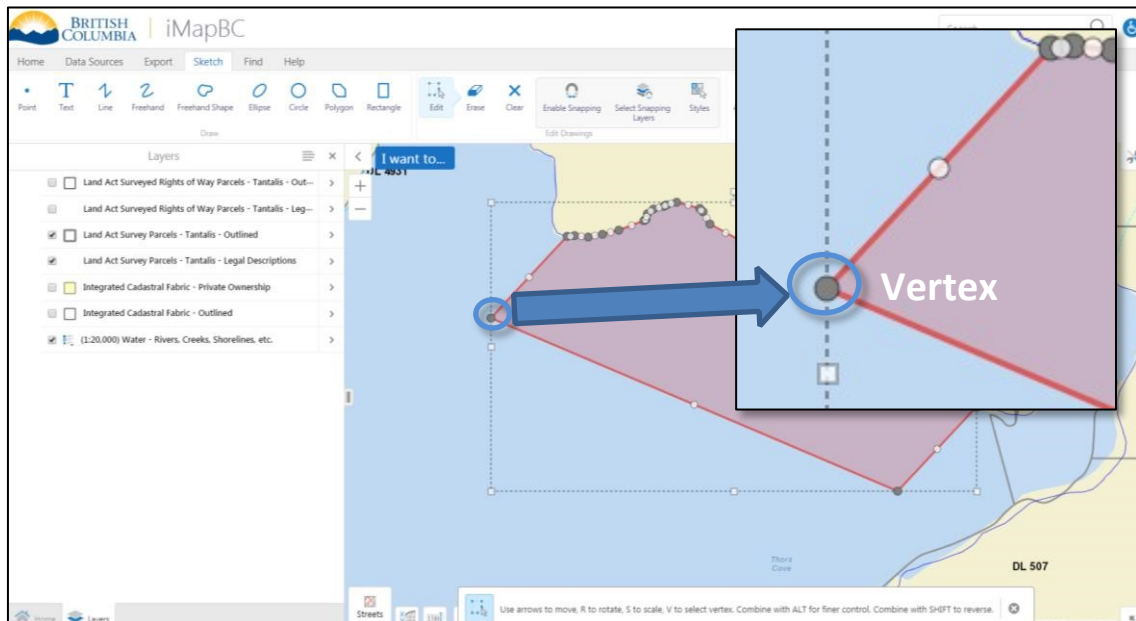
When drawing your application area, you should match the edge of your shape to the edge of the **Land Act Survey Parcel**. If there are no survey parcels in your area, then align to the **Integrated Cadastral Fabric (ICF)**. If neither of those two layers exists in your area of interest, then align your shape to the **(1:20,000) Water – Rivers, Canals, etc...** layer, also known as **TRIM** lines.



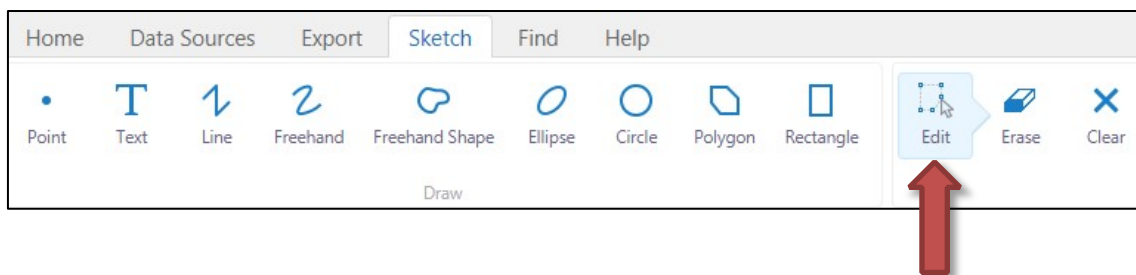
To create the application area map, you will be using the tools found in the **Sketch** tab.



Select the **Polygon** tool and click once at a corner of your area of interest. Every click puts down a point (vertex) which you can change later if it's in the wrong place. When you have a complete shape, **double click** at the last location to finish the shape.

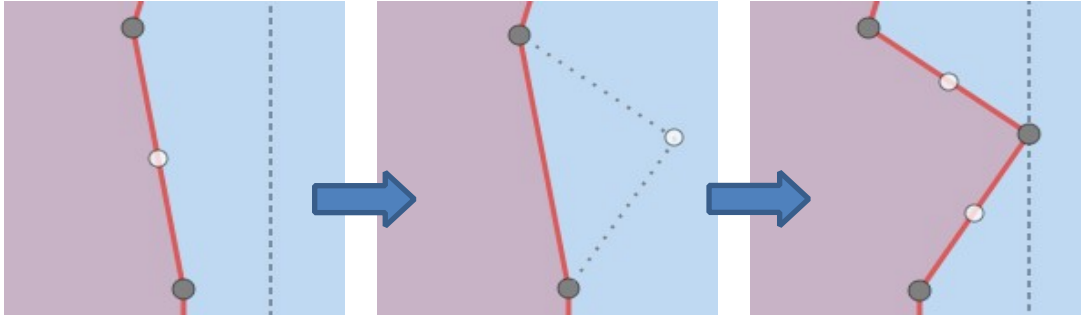


After finishing your drawing, if you would like to see the points (vertices) again, click on the **Edit** tool and then click on the shape. The vertices will be small dark circles as in the picture above.




While using the **Edit** tool, you may add more vertices by clicking, holding and dragging the little white circle shown between vertices. You can also change existing vertices by clicking and dragging them.

Example of creating a vertex

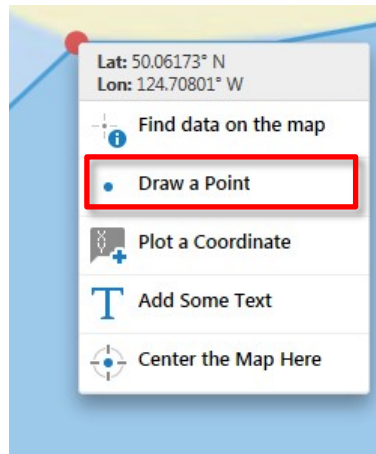


PT

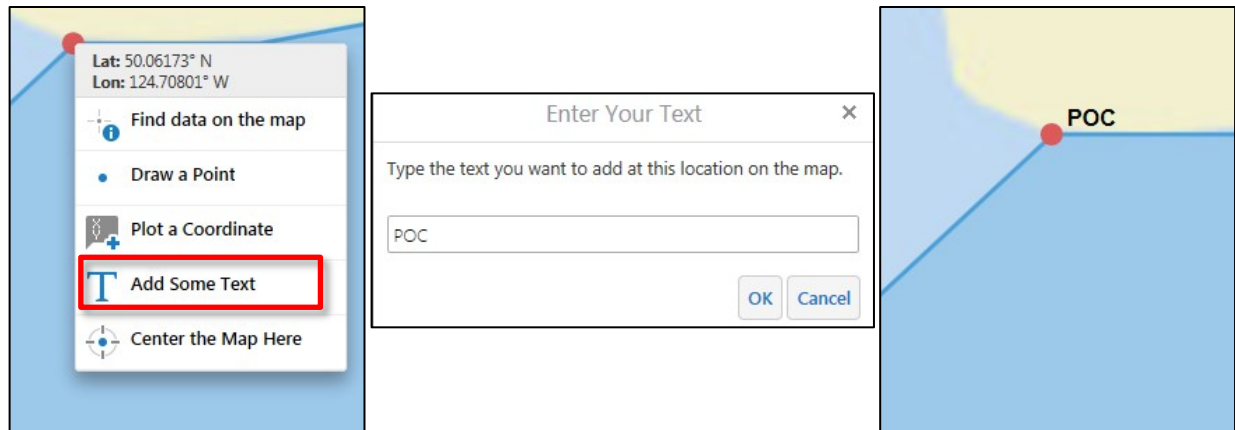
To end the edit of the polygon, click on  **Edit** in the **Markup** tab.

Your application area map requires a **Point of Commencement (POC)**, a reference point to help you describe your shape in words. Section 3 and Appendix A for a more detailed description.

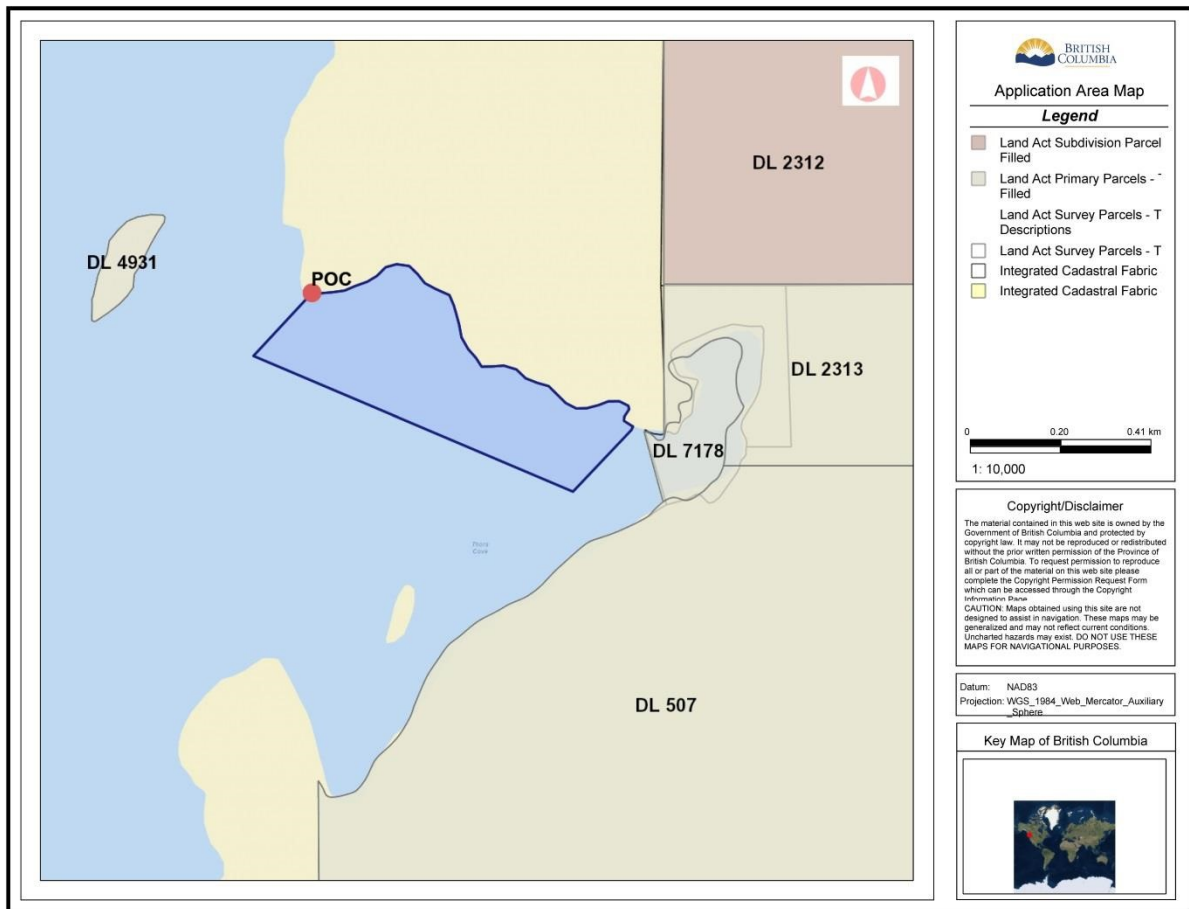
When you are finished drawing your shape, you should pick a corner to be used as your POC. Right click on the corner of your shape and select “Draw a Point”.



You can right click near the POC and select “Add Some Text” to add a “POC” label. To change the position of the point or modify the text you can use the **Edit Tool**. You can then increase the size or change the colour of the text or point using the **Style** tools.




A sample application area map



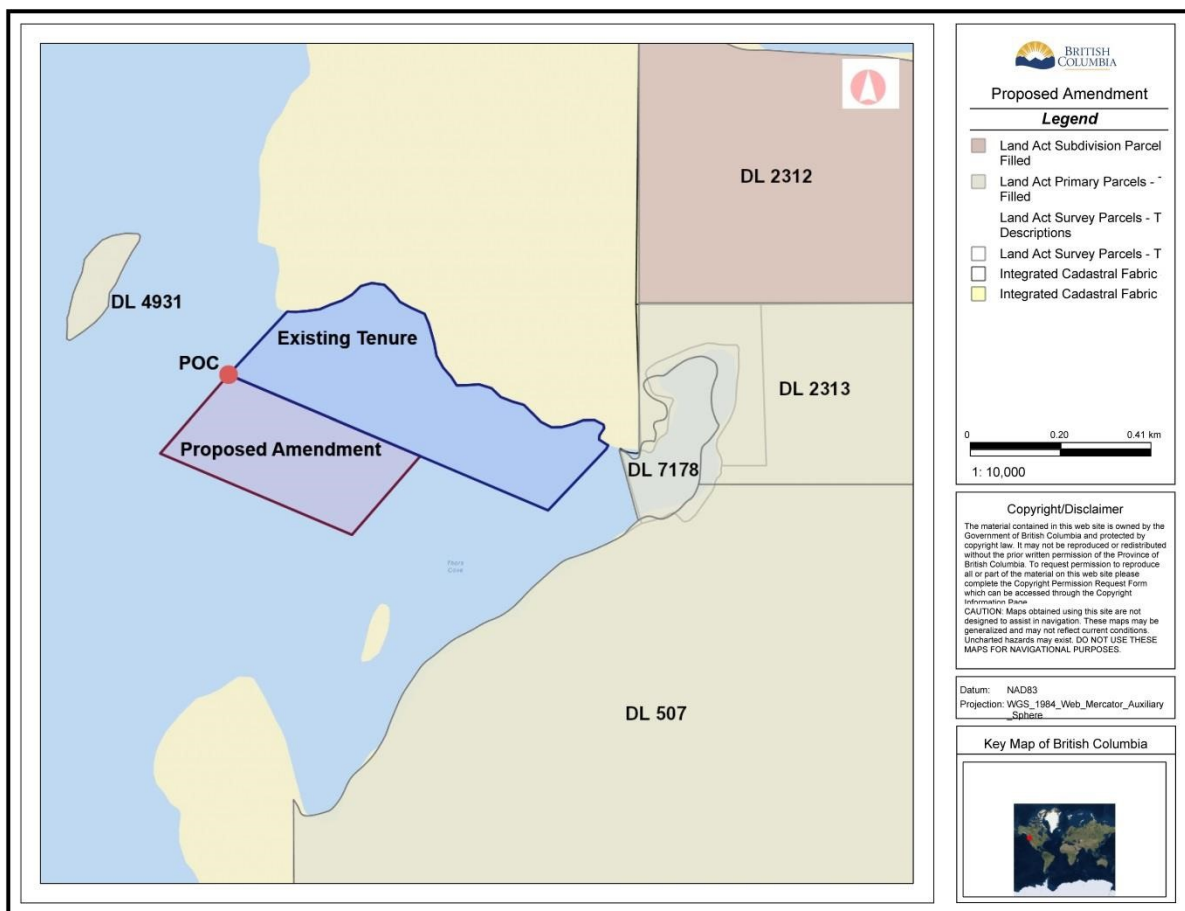
See more detailed reference guides at: <http://www2.gov.bc.ca/gov/content/data/geographicdata-services/web-based-mapping/imapbc> for guides on how to change the colours and patterns in layers as well as turn on layer labels.

B) Create an Amendment Application Area Map

If you are submitting an amendment to your existing tenure, you will need to create an amendment map following the same procedure as in Section 2 Part A “Creating an Application Area Map”. An additional step however is to first make sure to have your Crown Tenures layer turned on so that you can see your existing tenure. This way you can match the edges of your existing application to your proposed amendment.

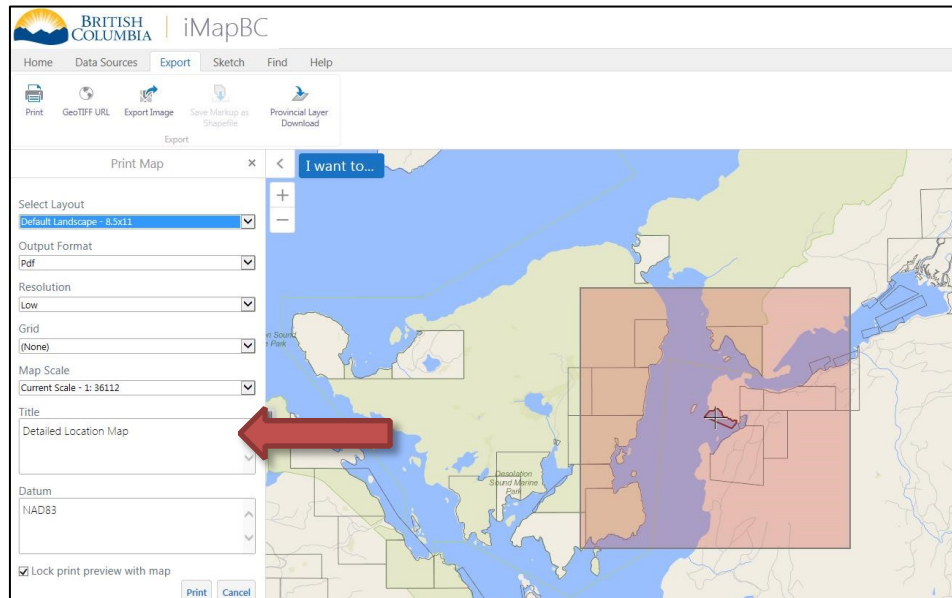
Be sure to label the tenures with the  tool to make it clear which is the amendment and which is the existing tenure.

Sample Amendment Map

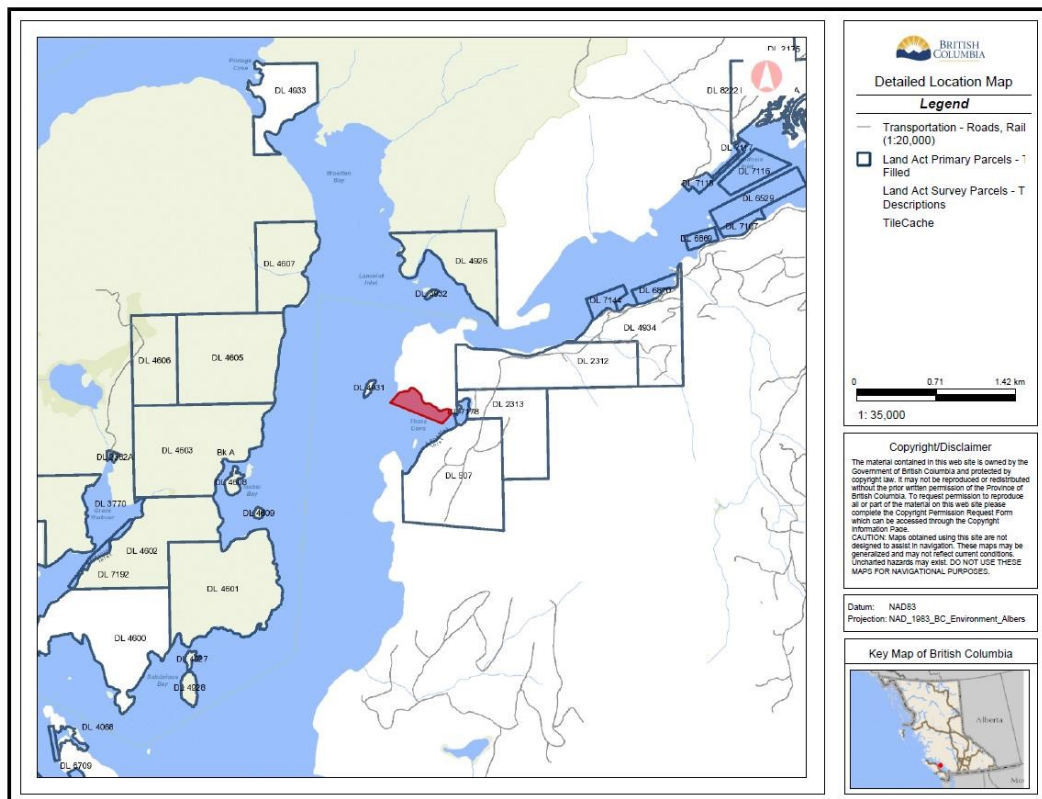


C) Create the Detailed Location Map

If your application type requires a “Detailed Location Map” (Part I of application), you may ‘zoom out’ from your application area map you created. Change the scale to between 1:20,000 and 1:40,000. In this example the scale was set to 1:35,000.



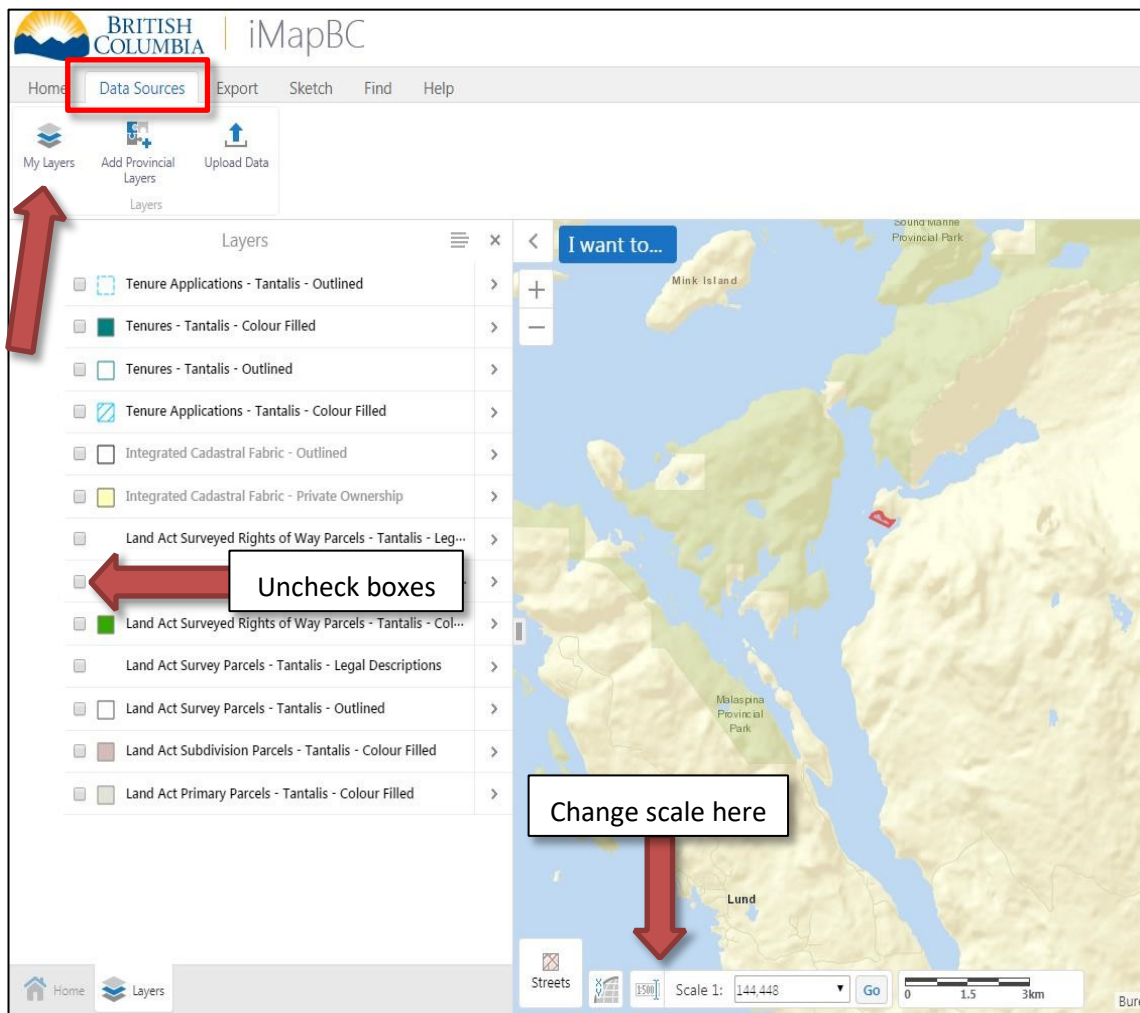
Example Detailed Location Map



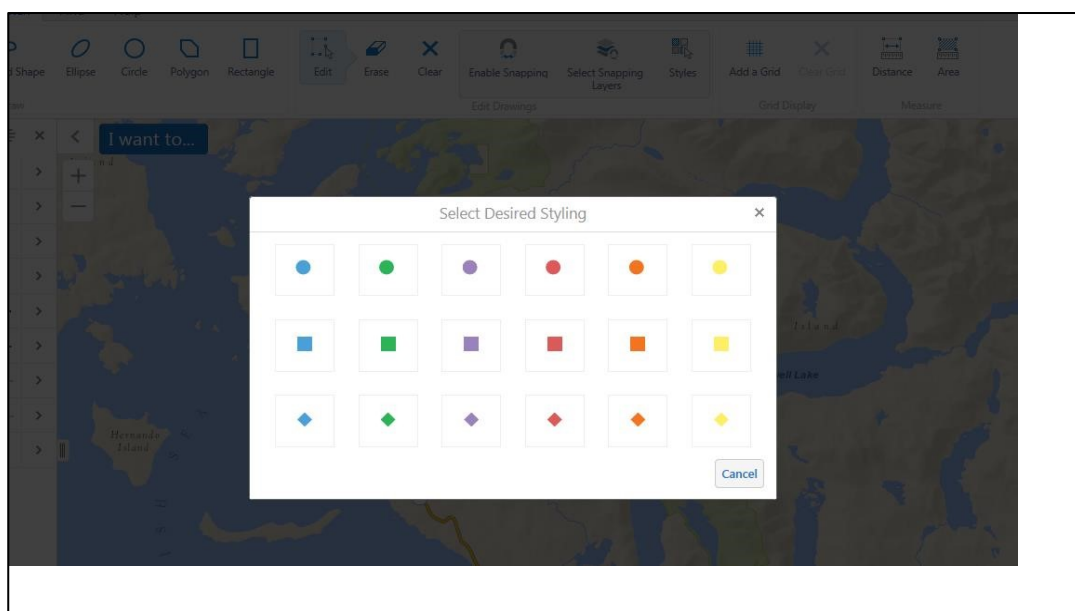
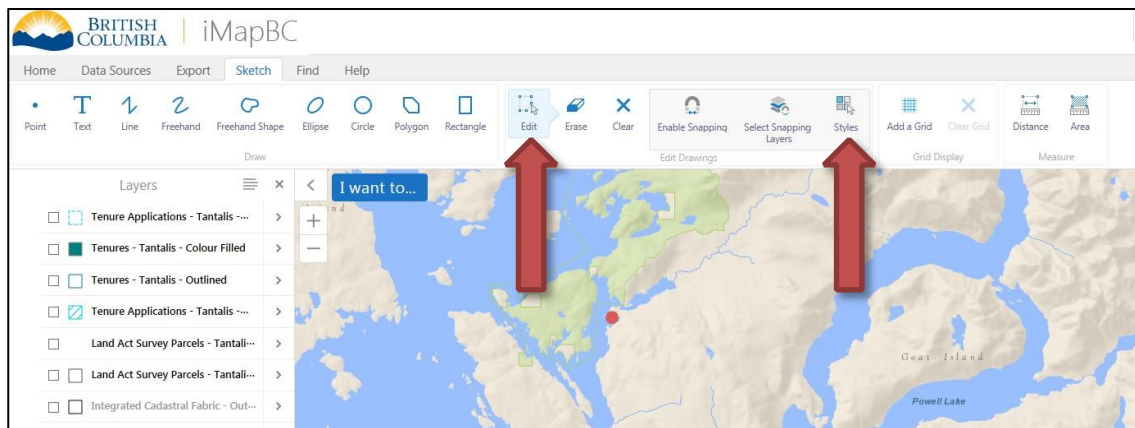
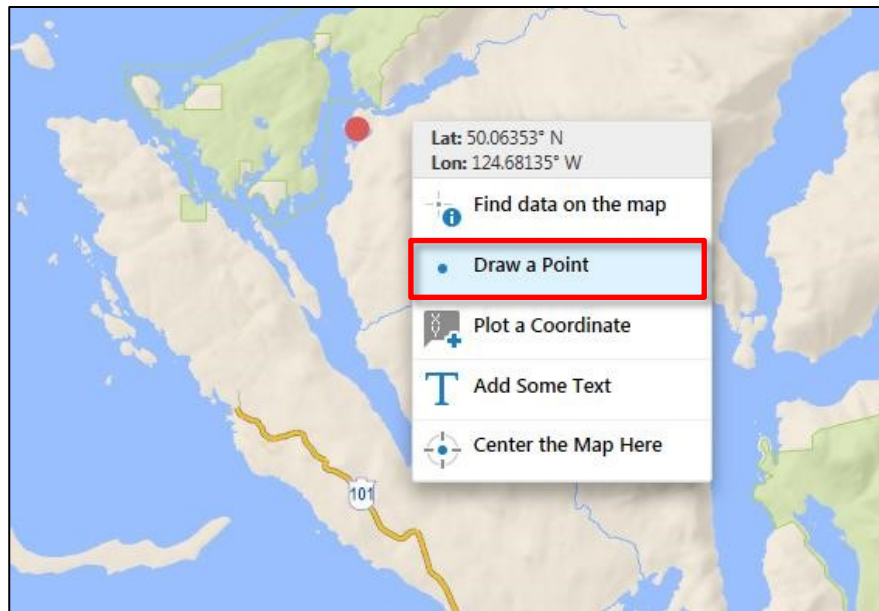
D) Create the General Location Map

Using the Application Area Map or the Detailed Location Map, you may zoom to a scale of 1:100,000 to create the General Location Map.

For this map, you do not need to see the base layers required on the application area map. Turn off extra layers by clicking on the **Data Sources** tab, then click **My Layers** and *unselect* all layers, your shape should be the only layer visible on the base map.

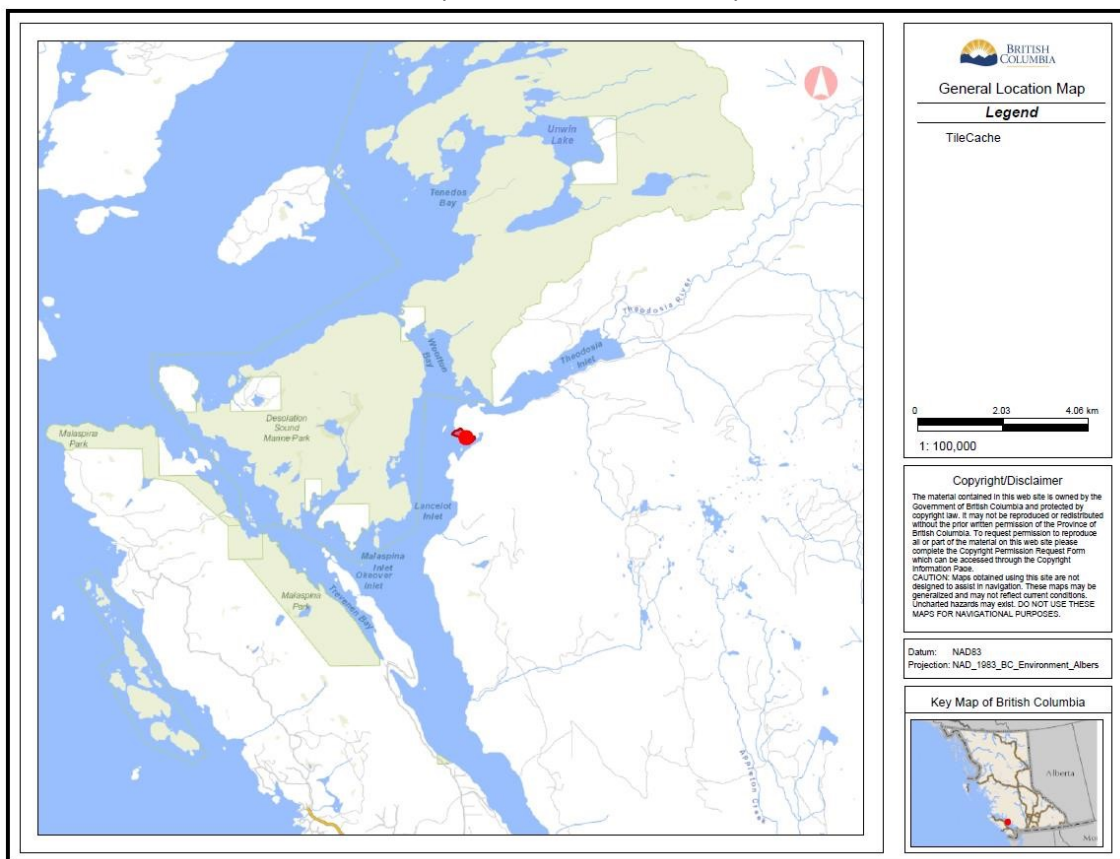


At this scale, you may not be able to see your shape. To draw attention to where your area of interest is you can **right click** on your site location, and select **Draw a Point**. Use the **Edit** tool and the **Style** menu to change the colour, size and shape of the point to something that stands out.



You can export or print the map using the steps found in Section 4 of this guide. This will allow you to produce something like the map below.

Example General Location Map



Section 3: CREATE METES AND BOUNDS OR CORNER POINTS DESCRIPTION

As noted in the application form, the application area map needs to be accompanied by either a shapefile or metes and bounds. Section 5 explains how to use iMapBC to create a shapefile.

Metes and bounds (distance and direction) describe the location of a parcel by beginning at a well-defined point (point of commencement) and following the boundaries in a clockwise direction.

See Appendix A for a more detailed explanation of Metes and Bounds.

It is not possible at this time to create a true metes and bounds using iMapBC. However, recording the coordinates of the Point of Commencement and corner points of your application is also acceptable.

Required information for application:

- Point of Commencement (POC)
 - This is a coordinate that will be used as a starting point to describe where your area is and its dimensions. If possible, the POC should be the corner of a known surveyed lot: “South West corner of DL 225, Sayward District”
 - The POC can be also described in relation to corner point of a surveyed lot: “20m west of northwest corner of DL 7178, New Westminster District”
 - The coordinates of your vertices (corner points) and length in metres of the edges of the shape
- OR
- Metes and bounds

Please record the coordinates/metes and bounds in a separate document. When your proposed area is drawn using more advanced software, there may be minor changes in coordinates or side lengths.

Example of Corner Points Document

Application Area Map Corner Points from iMapBC

Point of Commencement (POC):

20m west of northwest corner of DL 7178, New Westminster District

50° 3' 35.8951" N; 124° 42' 5.7746" W

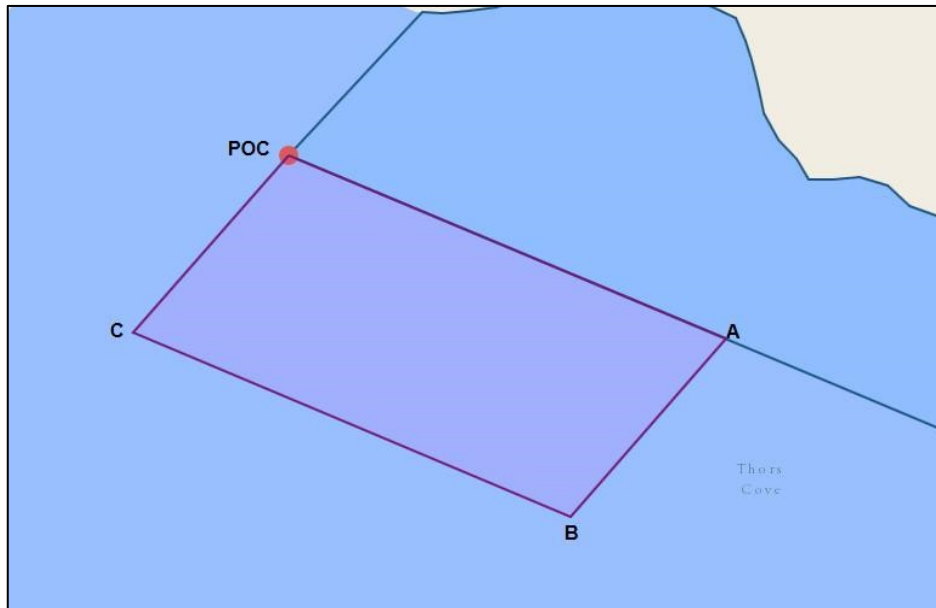
Corner points (Clockwise from POC):

A) 50° 3' 33.0176" N; 124° 42' 9.9278" W

B) 50° 3' 39.3263" N; 124° 42' 33.0824" W

C) 50° 3' 42.2860" N; 124° 42' 28.7955" W

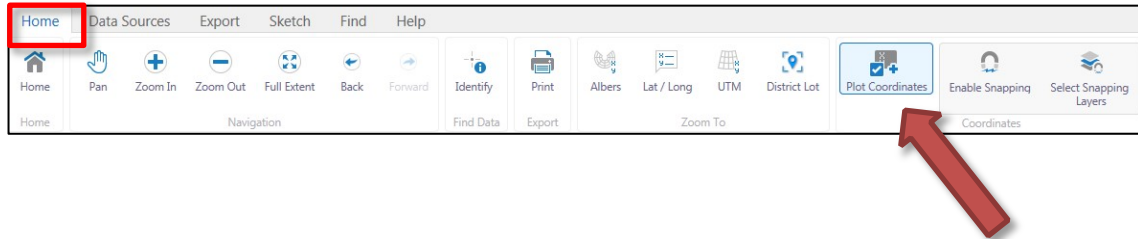
Approximate Dimensions: 120m X 500m X 125m



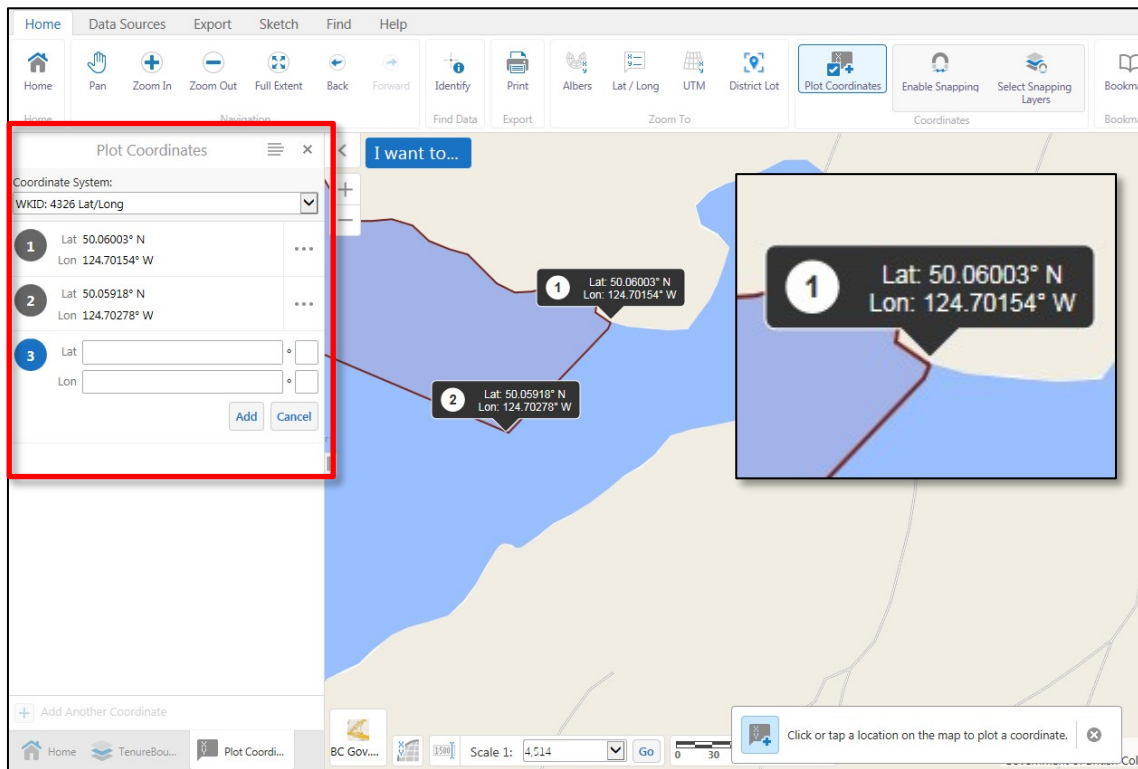
When creating a Metes and Bounds or Coordinates sheet, make sure to note which direction you are listing your points from i.e. POC to A to B to C is clockwise, or East from POC to A

A) Find Coordinates by Identifying the Corner Points of a Drawn Shape

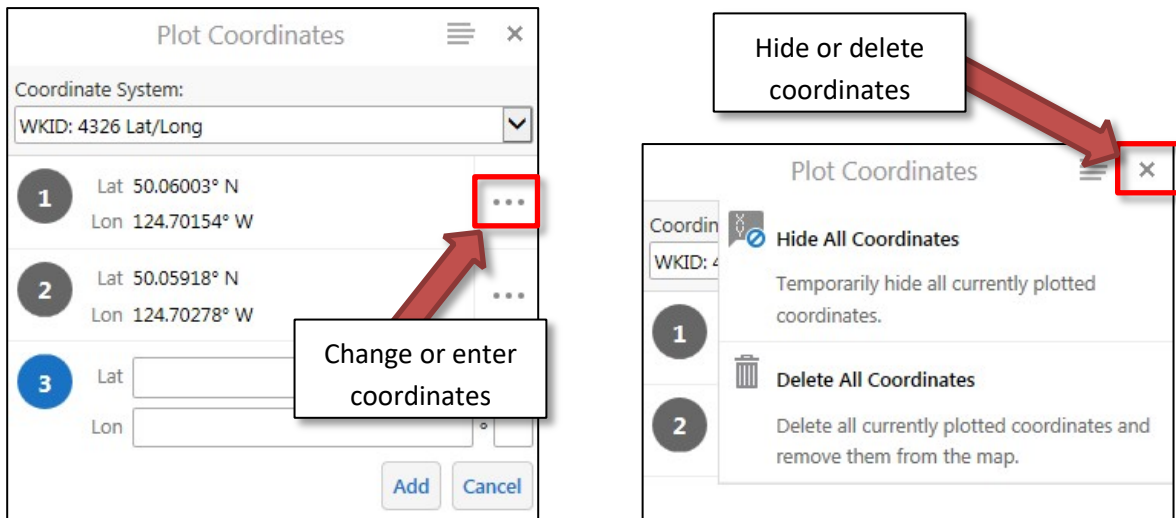
Once the application area has been drawn, you find the coordinates of a point on the map using the **Plot Coordinates** tool found in the **Home** tab, and then left click on a point of interest.



Finding coordinates of corner points



Using the Plot Coordinates menu on the left, you can change the format of your coordinates, (Decimal Degrees, Decimal Minutes, Albers, UTM, etc.), delete labels or enter your own coordinates by clicking on the 3 dots. You can hide or delete all coordinate labels by clicking on the bar icon:



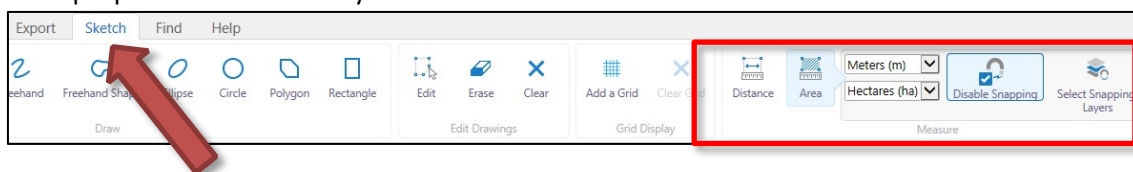
New applications require you to give the GPS coordinates for the centre of the application area. For an amendment to an existing application, you need to record the centre of the *combined* existing and proposed areas.

When you have identified the coordinates, record the information on a separate document.

The map you submit with your application must not have coordinates visible.

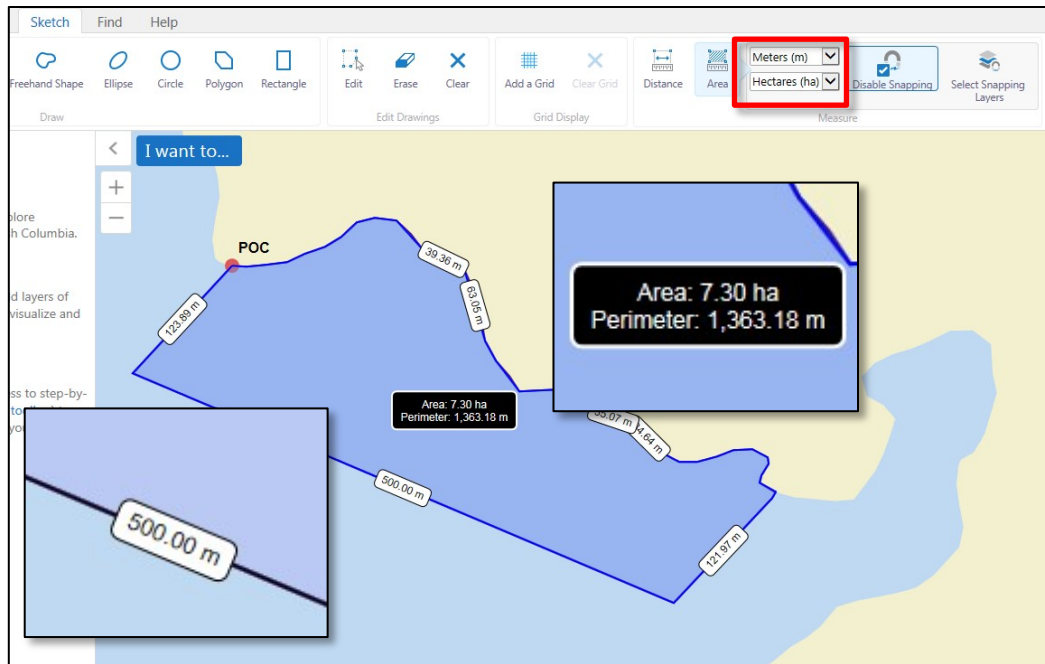
B) Determine the Length of Sides and Area

As well as corner points, you are asked to list the length of segments and the area (in hectares) for the proposed area boundary.



Click on the **Sketch** tab, click on the **Area** tool then click on **Enable Snapping**. Click on a corner point and trace your drawing clicking on corner points. To finish your measurement, **double click** the left mouse button.

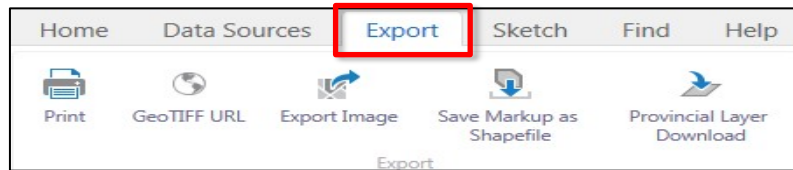
On the screen, you will see the length of each line as well as a box showing the total area. Record this information on a separate document. The measurement units can be changed by clicking the down arrow in the Measurement box. For example the units in the picture below have been set as metres and hectares.



Record the area and segment lengths on the document with the coordinates but do not keep the distance labels on the map. The Province will compute more accurate distances after finalizing your proposed area in the provincial spatial database.

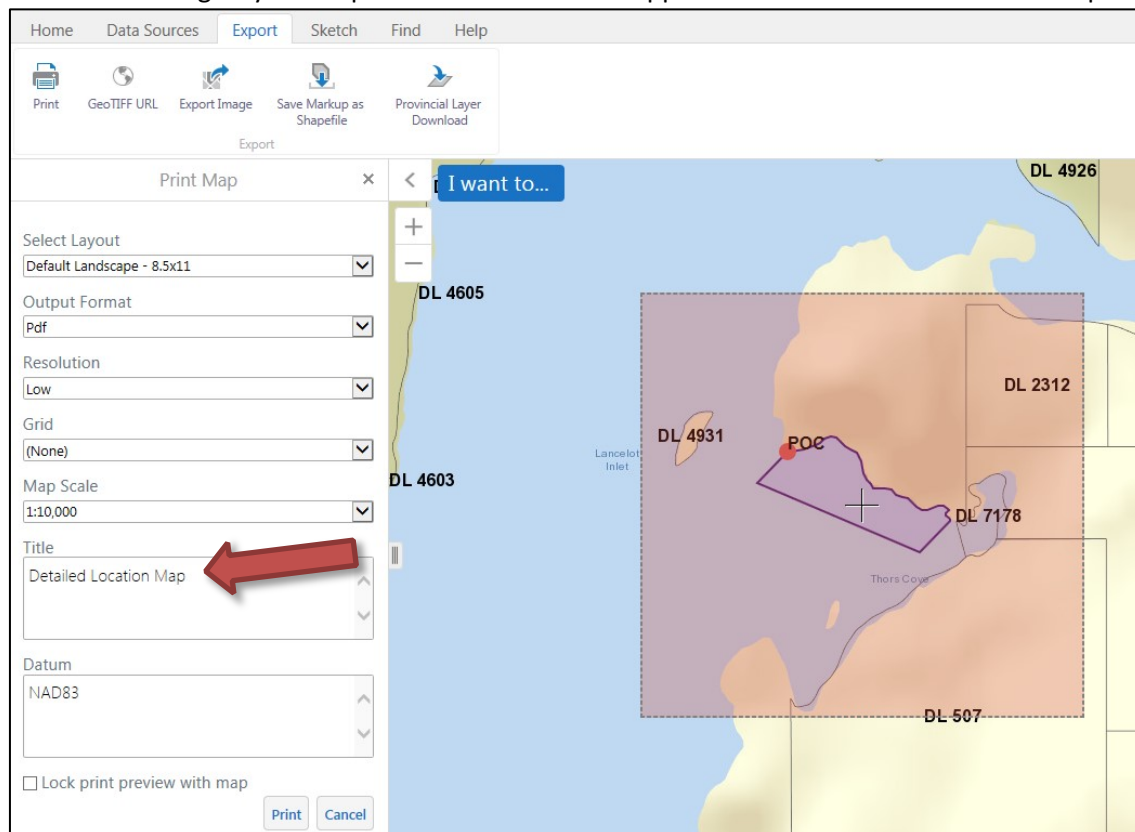
Section 4: PRINT A MAP ‘

The Export tab contains different ways to share your map and drawings.



The **Print** button creates a complete map as a standalone file such as a Pdf, Tiff or Jpeg. This option allows you to change the print resolution, add a mapping grid, change title and more. This is the simplest way to submit a complete map if you are a new iMapBC user.

Remember to give your map a title as noted in the application i.e. “Detailed Location Map”.



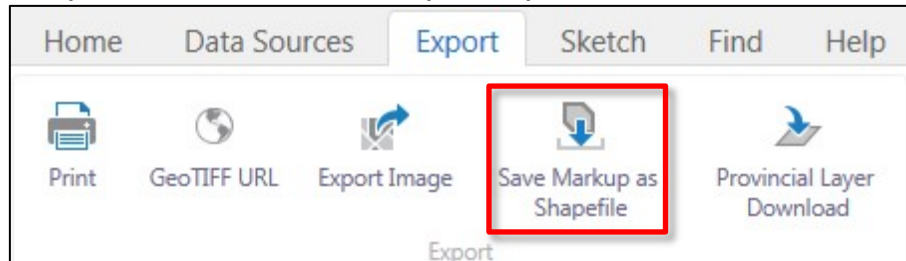
If saving as a PDF, click “Open File” when the Print Request window shows. Your PDF may open inside your internet browser. Move the mouse cursor to the bottom of the screen to display a tool bar and then click the icon that resembles a floppy disk to save it to your hard drive.



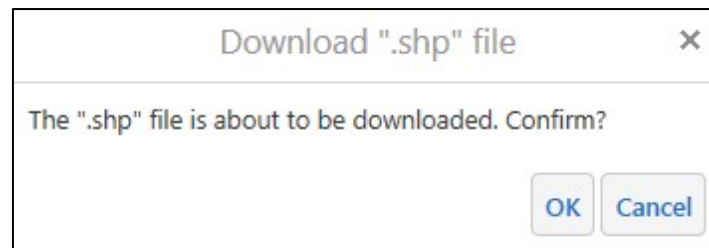
Section 5: CREATE AND SAVE SHAPE FILES

As outlined in the application form, it is recommended to create and submit a shapefile along with the required maps. Shapefiles are common spatial files manipulated with programs like ArcMap, QGIS and MapInfo. ***Submission of a shapefile may facilitate the review of the application.***

Select the **Export** tab and click **Save Markup as Shapefile**



The tool will automatically create a Polygon shape file and have it compressed as a Zip File. If you are using Google Chrome the following screen will be displayed. Press OK to save it to your computer's download folder.



In Internet Explorer:



Go to the folder containing your shapefile, depending on your operating system and versions it may look like the picture below. If you are submitting the .zip file as part of an email submission, then the zip extension will need to be **renamed**. i.e. “Extract.zip” to “Extract.zap”.

The Province of BC has firewalls to reject .zip files.

You can also send the individual shapefiles. To do this you need to extract them from the zip folder. Right click on the file you downloaded to ‘unzip’ or ‘extract’ the file.

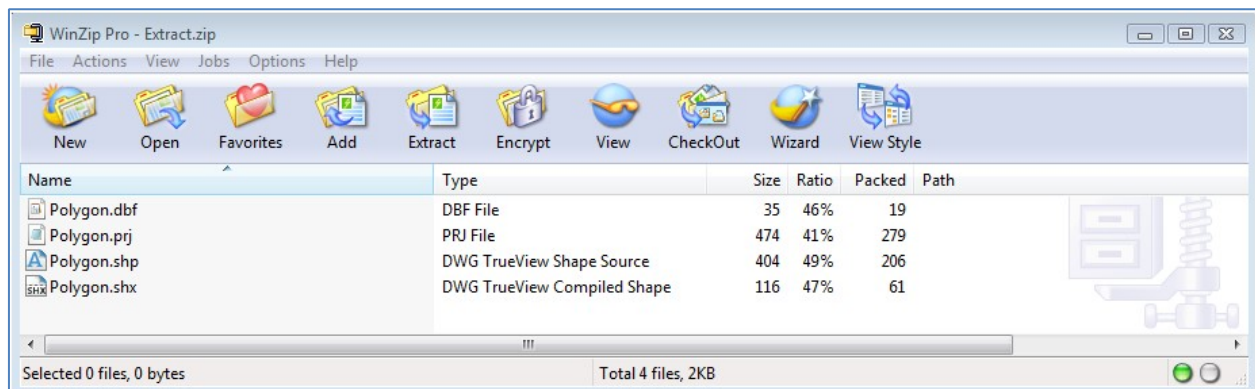
Name	Date modified	Type	Size
 Export.zip	2018-05-30 9:12 AM	Compressed (zipped) Folder	2 KB

If you cannot unzip the file, you may need to download an extraction program such as

7-Zip : <https://www.7-zip.org/>

WinZip: <http://www.winzip.com/win/en/>

This is a picture of the contents of “Export.Zip”. Click extract to save the files to a folder on your computer to send them with your application.



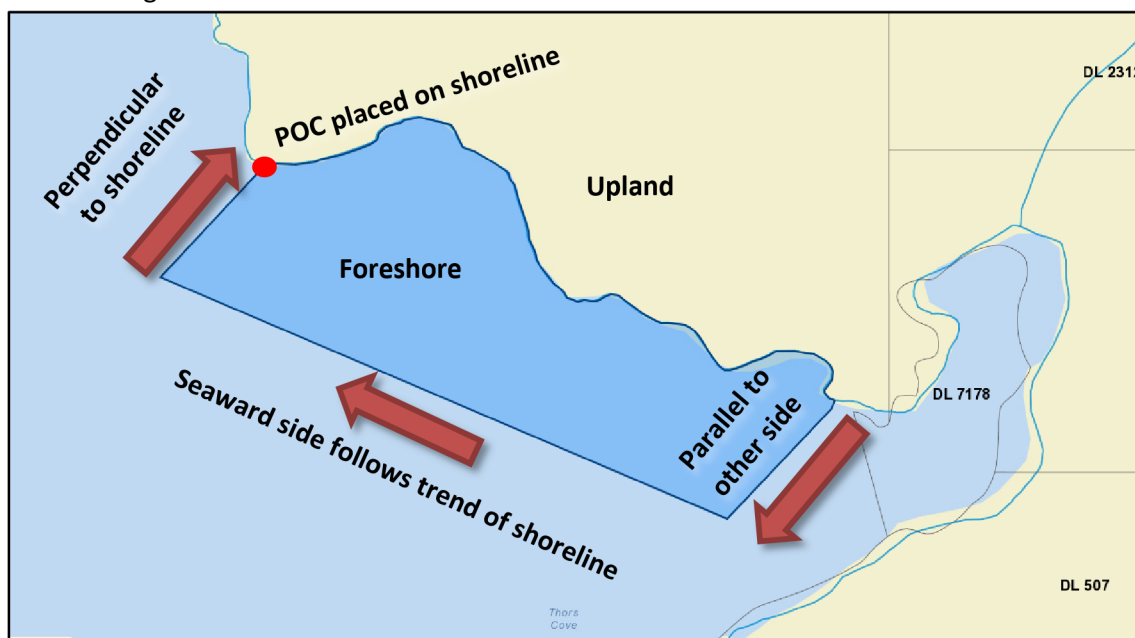
Appendix A – Metes & Bounds Description

Metes and Bounds description of the application area if unsurveyed:

- All descriptions for an unsurveyed application site should be tied to a known survey point, usually the corner of a survey lot. The first point of the description is known as the Point of Commencement (PoC). If the location of your parcel of interest is too remote and there are no surveyed parcels in the vicinity, then the POC can be the GPS coordinates of one of the corner points of your area of interest.
- Metes and bounds descriptions should be described in a clockwise manner with the PoC being the first position on the shoreline of the unsurveyed parcel.

Guidelines for drawing shapes

- As a rule of thumb, make your shape rectangular if possible, with sides being parallel to each other and perpendicular to the general trend of the shoreline. Draw the seaward side parallel to the general trend of the shoreline.



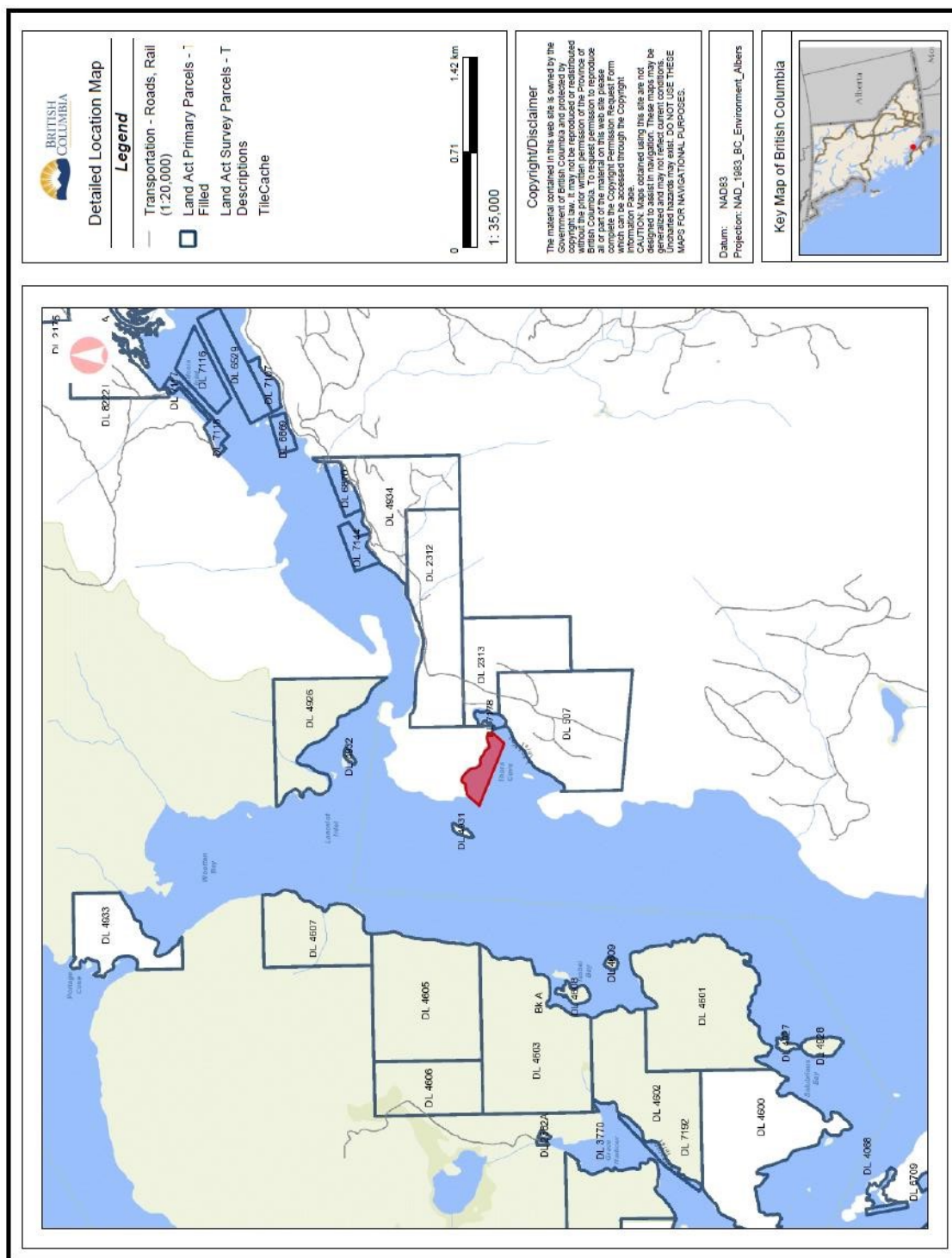
- Unless you are intending to use upland (ie building a shed), then make sure your shape does not overlap the upland. This means aligning the edges of your shape to the survey/Cadastral/TRIM lines so it is clear that your intention is to use only the foreshore.
- In narrow bodies of water, you must leave space for boats to navigate through. Draw your shape so that it does not extend the entire width of a navigable body of water.

Appendix B – Example Maps

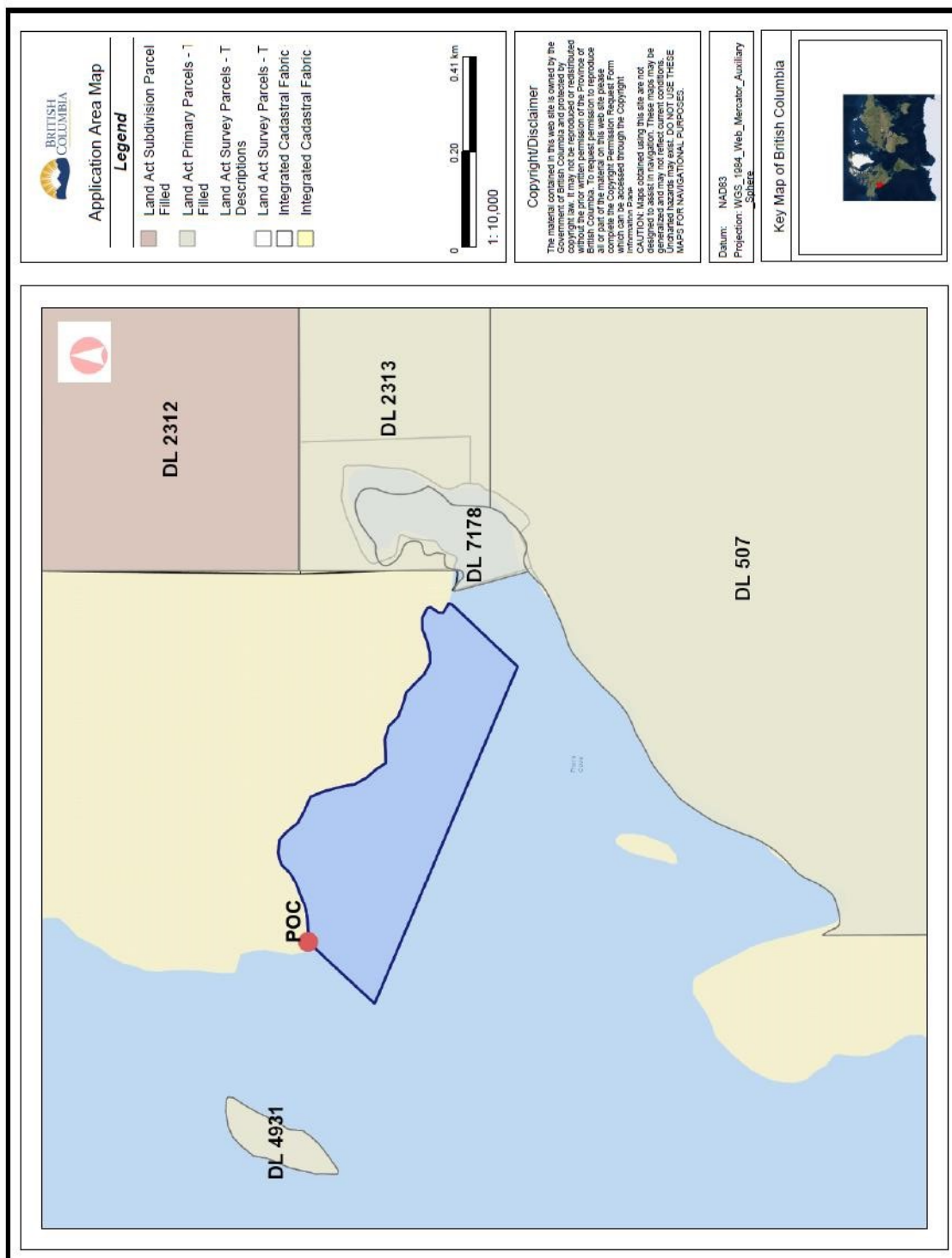
General Location Map



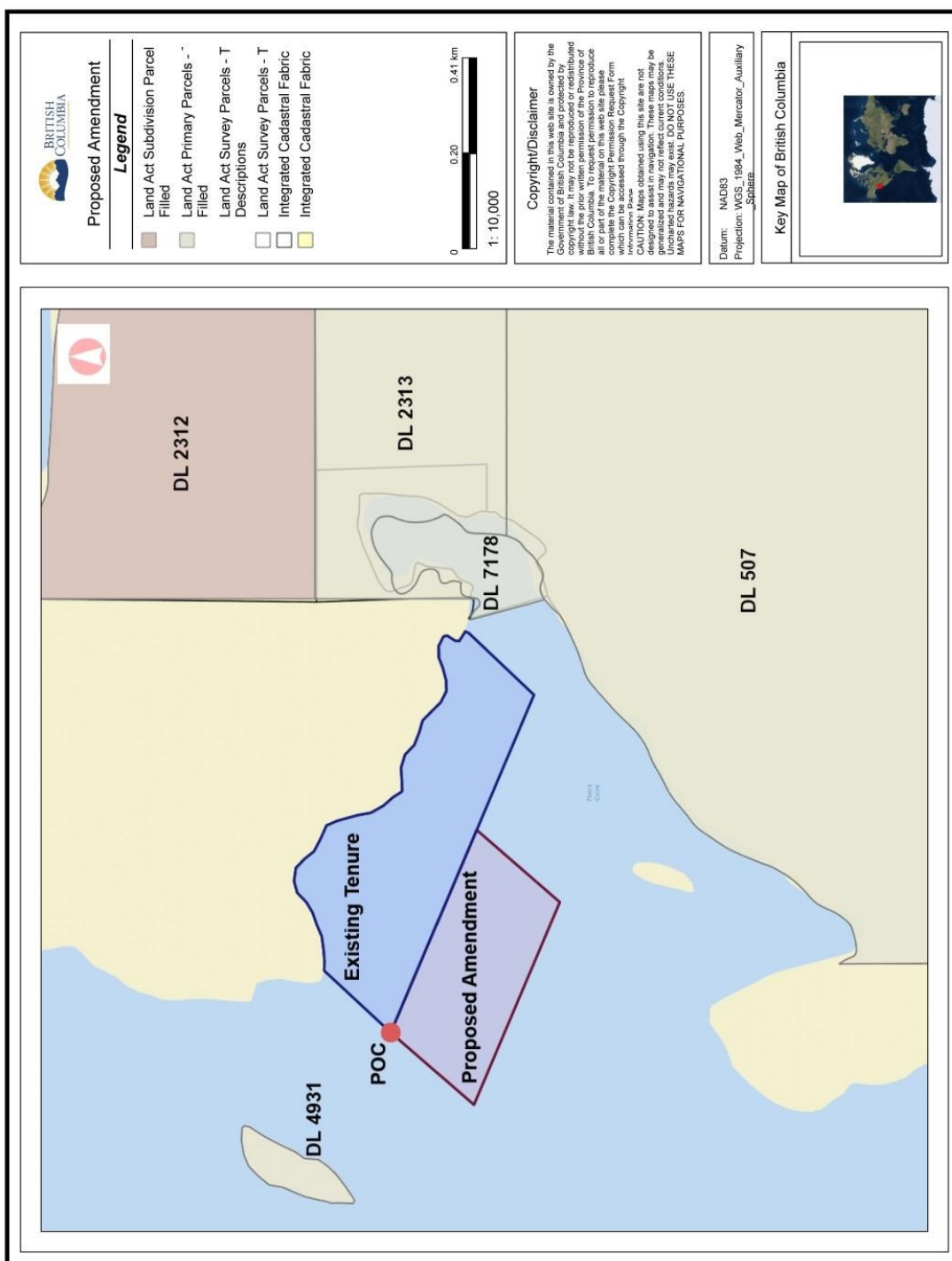
Detailed Location Map



Application Area Map



Amendment Application Area Map



Corner Point Description (to accompany the application area map)

Application Area Map Corner Points from iMapBC

Point of Commencement (POC):

20m west of northwest corner of DL 7178, New Westminster District

50° 3' 35.8951" N; 124° 42' 5.7746"W

Corner points (Clockwise from POC):

A) 50° 3' 33.0176" N; 124° 42' 9.9278"W

B) 50° 3' 39.3263" N; 124° 42' 33.0824"W

C) 50° 3' 42.2860" N; 124° 42' 28.7955"W

Approximate Dimensions: 120m X 500m X 125m

Metes and Bounds Description (to accompany the application area map)

Application Area Map Metes and Bounds Description

From the northwest corner of DL 7178, New Westminster District, proceed 20 meters west to **Point of Commencement (POC)**:

50° 3' 35.8951" N ; 124° 42' 5.7746"W

Then proceed:

121 m at 221.9 °

500 m at 291.9 °

124 m at 41.9 °

Then follow high water line of shore to return to Point of Commencement.